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UNITED STATES GOVERNMENT

THROUGH

..... The Publishers

..... Feb. - 26 Apr., 1897

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LIII.

Nos. 196, 197, 198 and 199.

JANUARY, FEBRUARY, MARCH, AND APRIL, 1897.



WASHINGTON:
GOVERNMENT PRINTING OFFICE,
1897.

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1347, 1951 — 1956

1956

The Publishers

Vol. LIII.

No. 196.

CONSULAR REPORTS.

JANUARY, 1897.

COMMERCE, MANUFACTURES, ETC.

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WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880-81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885-86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Slave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

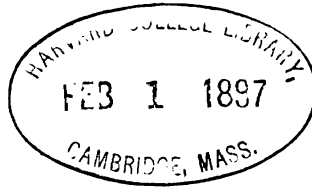
Vol. 13 (1896).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."



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VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—Countries with fixed currencies.

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver...	Peso	\$.96, 5	Gold—Argentine (\$4.82,4) and $\frac{1}{2}$ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown.....	.20, 3	Gold—20 crowns (\$4.05,2) and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19, 3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis .....	.54, 6	Gold—5, 10, and 20 milreis; silver— $\frac{1}{2}$, 1, and 2 milreis.
British North America (except Newfoundland))	do.....	Dollar.....	1.00	
Chile‡	Gold and silver...	Peso .....	.91, 2	Gold—escudo (\$1.82,4), doubloon (\$4.56,1), and condor (\$9.12,8); silver—peso and divisions.
Cuba.....	do.....	do.....	.92, 6	Gold—doubloon (\$5.01,7); silver—peso.
Denmark.....	Gold	Crown.....	.26, 8	Gold—10 and 20 crowns.
Egypt.....	do.....	Pound (100 piasters).	4.94, 3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	do.....	Mark.....	.19, 3	Gold—10 and 20 marks (\$1.93 and \$3.85,9).
France.....	Gold and silver...	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold	Mark.....	.23, 8	Gold—5, 10, and 20 marks.
Great Britain.....	do.....	Pound sterling.....	4.86, 6 $\frac{1}{2}$	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver...	Drachma.....	.19, 3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	do.....	Gourde.....	.96, 5	Silver—gourde.
Italy.....	do.....	Lira.....	.19, 3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold	Dollar.....	1.00	
Netherlands‡	Gold and silver...	Florin.....	.40, 2	Gold—10 florins; silver— $\frac{1}{2}$, 1, and 2 $\frac{1}{2}$ florins.
Newfoundland.....	Gold	Dollar.....	1.01, 4	Gold—\$2 (\$2.02, 7).
Portugal.....	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver...	Peseta.....	.19, 3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold	Crown .....	.26, 8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver...	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold	Piaster.....	.04, 4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver...	Bolivar.....	.19, 3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—Countries with fluctuating currencies, 1874-'90.

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver.....	Florin.....	\$0.47,6	\$0.45,3	\$0.45,3	\$0.41,3	\$0.40,1	\$0.39,8
Bolivia.....	do.....	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America.....	do.....	Peso.....	.96,5	.91,8	.91,8	.83,6		
China.....	Silver.....	Haikwan tael.....	1.61	1.61				
Colombia.....	do.....	Peso.....	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador.....	do.....	do.....	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†.....	Gold.....	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India.....	Silver.....	Rupce.....	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan.....	{ Gold.....	Yen.....	.99,7	.99,7	.99,7	.99,7		
	{ Silver.....						.87,6	.86,9
Mexico.....	do.....	Dollar.....	1.04,7‡	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands †.....	Gold and silver.	Florin.....	.40,5	.38,5	.38,5	.40,2		
Peru.....	Silver.....	Sol.....	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia.....	do.....	Ruble.....	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli.....	do.....	Mahhub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver.....	Florin.....	\$0.39,3	\$0.37,1	\$0.35,9	\$0.34,5	\$0.33,6	\$0.42
Bolivia.....	do.....	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America.....	do.....	Peso.....				.69,9	.68	.85
Colombia.....	do.....	do.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador.....	do.....	do.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†.....	Gold.....	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India.....	Silver.....	Rupce.....	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan.....	{ Gold.....	Yen.....			.99,7	.99,7	.99,7	.99,7
	{ Silver.....		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico.....	do.....	Dollar.....	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru.....	Silver.....	Sol.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia.....	do.....	Ruble.....	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli.....	do.....	Mahhub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1832. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at \$4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—Quarterly valuations of fluctuating currencies.

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano.	\$0.61,3	\$0.61	\$0.60,4	\$0.53,1	\$0.51,6	\$0.46,5	\$0.45,7	\$0.46,4
Central America.....	Silver peso.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
	Shanghai tael.....	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
China*.....	Haikwan tael.....	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tientsin tael.....								.72,7
	Chefoo tael.....								.71,7
Colombia.....	Silver peso.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador.....	do.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India.....	Silver rupee.....	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†.....	Silver yen.....	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico.....	Silver dollar.....	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru.....	Silver sol.....	.61,3	.61	.60,4	.53,1				
Russia‡.....	Silver ruble.....	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli.....	Silver mahbub.....	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela‡.....	Silver bolivar.....					.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano	\$0.45,5	\$0.44,1	\$0.48,6	.48,6	\$0.49,1	\$0.49,3	\$0.49,7	\$0.49
Central America.....	Silver peso.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
	Amoy tael.....								.79,3
	Canton tael.....								.79
	Chefoo tael.....	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3	.76,9	.75,8
	Chinkiang tael.....								.77,4
	Fuchau tael.....								.73,3
	Haikwan tael.....	.74,9	.75,6	.80	.80,0	.80,8	.81,2	.81,9	.80,6
China*.....	Hankow tael.....								.74,2
	Ningpo tael.....								.76,2
	Niuchwang tael.....								.74,3
	Shanghai tael.....	.67,3	.65,2	.71,8	.71,8	.72,5	.72,9	.73,5	.72,4
	Swatow tael.....								.73,2
	Takao tael.....								.79,8
	Tientsin tael.....	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3	.78	.76,8
Colombia.....	Silver peso.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
Ecuador.....	do.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
India.....	Silver rupee.....	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4	.23,6	.23,3
Japan†.....	Silver yen.....	.49,1	.47,6	.52,4	.52,4	.52,9	.53,2	.53,2	.52,8
Mexico.....	Silver dollar.....	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6	.54	.53,2
Persia.....	Silver kran.....			.08,9	.09,0	.09	.09,1	.09,2	.09
Peru.....	Silver sol.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
Russia‡.....	Silver ruble.....	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5	.39,8	.39,2
Tripoli.....	Silver mahbub.....	.41,1	3-9,8	.43,8	.43,8	.44,3	.44,5	.44,9	.44,2

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1893.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6007 bushels.
Are.....	Metric.....	0.02471 acre.
Arrobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentine Republic.....	25.3175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Bari.....	Argentine Republic and Mexico.....	20.0787 gallons.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Berkovet.....	Russia.....	361.12 pounds.
Bongkal.....	India.....	832 grains.
Bonw.....	Sumatra.....	7,096.5 square meters.
Bu.....	Japan.....	0.1 inch.
Butt (wine).....	Spain.....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (Cantar).....	Malta.....	175 pounds.
Carga.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333½ (1½) pounds.
Do.....	Japan.....	1.31 pounds.
Do.....	Java, Siam, Malacca.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Do.....	Double or metric.....	220.46 pounds.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3,098 pounds.
Do.....	Siam (Koyan).....	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra.....	Argentine Republic.....	4 2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cubic meter.....	Metric.....	35.3 cubic feet.
Cwt. (hundredweight).....	British.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	Half ounce.
Dun.....	Japan.....	1 inch.
Egyptian weights and measures.....	(See CONSULAR REPORTS No. 144.)	
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.
Do.....	Mexico.....	1.54728 bushels.
Do.....	Morocco.....	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do.....	Uruguay (double).....	7.776 bushels.
Do.....	Uruguay (single).....	3 888 bushels.
Do.....	Venezuela.....	1.599 bushels.
Fanega (liquid).....	Spain.....	16 gallons.
Feddan.....	Egypt.....	1 03 acres.
Frail (raisins).....	Spain.....	50 pounds.
Frasco.....	Argentine Republic.....	2.5096 quarts.
Do.....	Mexico.....	2.5 quarts.
Fuder.....	Luxemburg.....	264 17 gallons.
Garnice.....	Russian Poland.....	0.88 gallon.
Gram.....	Metric.....	15 432 grains.
Hectare.....	do.....	2.471 acres.
Hectoliter:		
Dry.....	do.....	2.838 bushels.
Liquid.....	do.....	26.417 gallons.
Joch.....	Austria-Hungary.....	1.422 acres.
Ken.....	Japan.....	4 yards.
Kilogram (kilo).....	Metric.....	2.2046 pounds.
Kilometer.....	do.....	0 621376 mile.
Klafter.....	Russia.....	216 cubic feet.
Kota.....	Japan.....	5.13 bushels.
Korree.....	Russia.....	3 5 bushels.
Last.....	Belgium and Holland.....	85.134 bushels.
Do.....	England (dry malt).....	82.52 bushels.
Do.....	Germany.....	2 metric tons (4,480 pounds).
Do.....	Prussia.....	112.29 bushels.
Do.....	Russian Poland.....	11 3/8 bushels.
Do.....	Spain (salt).....	4.760 pounds.
League (land).....	Paraguay.....	4.633 acres.
Li.....	China.....	2,115 feet.
Libra (pound).....	Castilian.....	7,100 grains (troy).
Do.....	Argentine Republic.....	1.0127 pounds.
Do.....	Central America.....	1.043 pounds.
Do.....	Chile.....	1.014 pounds.
Do.....	Cuba.....	1.0161 pounds.
Do.....	Mexico.....	1.01465 pounds.
Do.....	Peru.....	1.0143 pounds.
Do.....	Portugal.....	1.011 pounds.
Do.....	Uruguay.....	1.0143 pounds.
Do.....	Venezuela.....	1.0161 pounds.
Liter.....	Metric.....	1.0567 quarts.
Livre (pound).....	Greece.....	1.1 pounds.
Do.....	Guiana.....	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load.....	England (timber).....	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica.....	1½ acres.
Marc.....	Bolivia.....	0.507 pound.
Maund.....	India.....	82½ pounds.
Meter.....	Metric.....	39.37 inches.
Mil.....	Denmark.....	4.68 miles.
Do.....	Denmark (geographical).....	4.61 miles.
Morgen.....	Prussia.....	0.63 acre.
Oke.....	Egypt.....	2.7225 pounds.
Do.....	Greece.....	2.84 pounds.
Do.....	Hungary.....	3.0817 pounds.
Do.....	Turkey.....	2.85418 pounds.
Do.....	Hungary and Wallachia.....	2.5 pints.
Pic.....	Egypt.....	21¼ inches.
Picul.....	Borneo and Celebes.....	135.64 pounds.
Do.....	China, Japan, and Sumatra.....	133½ pounds.
Do.....	Java.....	135.1 pounds.
Do.....	Philippine Islands (hemp).....	139.45 pounds.
Do.....	Philippine Islands (sugar).....	140 pounds.
Pie.....	Argentine Republic.....	0.9478 foot.
Do.....	Castilian.....	0.91407 foot.
Pik.....	Turkey.....	27.9 inches.
Pood.....	Russia.....	36.112 pounds.
Pund (pound).....	Denmark and Sweden.....	1.102 pounds.
Quarter.....	Great Britain.....	8.252 bushels.
Do.....	London (coal).....	36 bushels.
Quintal.....	Argentine Republic.....	101.42 pounds.
Do.....	Brazil.....	130.06 pounds.
Do.....	Castile, Chile, Mexico, and Peru.....	101.61 pounds.
Do.....	Greece.....	123.2 pounds.
Do.....	Newfoundland (fish).....	112 pounds.
Do.....	Paraguay.....	100 pounds.
Do.....	Syria.....	125 pounds.
Do.....	Metric.....	220.46 pounds.
Rottle.....	Palestine.....	6 pounds.
Do.....	Syria.....	5¼ pounds.
Sagen.....	Russia.....	7 feet.
Salm.....	Malta.....	490 pounds.
Se.....	Japan.....	3.6 feet.
Seer.....	India.....	1 pound 13 ounces.
Shaku.....	Japan.....	10 inches.
Sho.....	do.....	1.6 quarts.
Standard (St. Petersburg).....	Lumber measure.....	165 cubic feet.
Stone.....	British.....	14 pounds.
Suerte.....	Uruguay.....	2,700 cuadras (see cuadro).
Tael.....	Cochin China.....	590.75 grains (troy).
Tan.....	Japan.....	0.25 acre.
To.....	do.....	2 pecks.
Ton.....	Space measure.....	40 cubic feet.
Tonde (cereals).....	Denmark.....	3.94783 bushels.
Tondeland.....	do.....	1.36 acres.
Tsubo.....	Japan.....	6 feet square.
Tsun.....	China.....	1.41 inches.
Tunna.....	Sweden.....	4.5 bushels.
Tunmland.....	do.....	1.22 acres.
Yara.....	Argentine Republic.....	34.1208 inches.
Do.....	Castile.....	0.914117 yard.
Do.....	Central America.....	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara.....	Chile and Peru.....	33.367 inches.
Do.....	Cuba.....	33.384 inches.
Do.....	Curaçao.....	33.375 inches.
Do.....	Mexico.....	33 inches.
Do.....	Paraguay.....	34 inches.
Do.....	Venezuela.....	33.384 inches.
Vedro.....	Russia.....	2.707 gallons.
Vergees.....	Isle of Jersey.....	71.1 square rods.
Verst.....	Russia.....	0.663 mile.
Vloeka.....	Russian Poland.....	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
 Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
 Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
 Gram equals 15.432 grains.
 Decagram (10 grams) equals 0.3527 ounce.
 Hectogram (100 grams) equals 3.5274 ounces.
 Kilogram (1,000 grams) equals 2.2046 pounds.
 Myriagram (10,000 grams) equals 22.046 pounds.
 Quintal (100,000 grams) equals 220.46 pounds.
 Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
 Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
 Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
 Liter equals 0.908 quart.
 Decaliter (10 liters) equals 9.08 quarts.
 Hectoliter (100 liters) equals 2.838 bushels.
 Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
 Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
 Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
 Liter equals 1.0567 quarts.
 Decaliter (10 liters) equals 2.6418 gallons.
 Hectoliter (100 liters) equals 26.418 gallons.
 Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

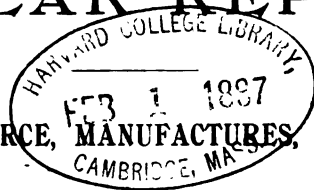
Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
 Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
 Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
 Meter equals 39.37 inches.
 Decameter (10 meters) equals 393.7 inches.
 Hectometer (100 meters) equals 328 feet 1 inch.
 Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
 Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
 Are (100 square meters) equals 119.6 square yards.
 Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.



VOL. LIII.

JANUARY, 1897.

No. 196.

LAND TAXATION AND LABOR LAWS IN NEW ZEALAND.*

Notwithstanding my report on land taxation in New Zealand, made to the Department of State and printed in CONSULAR REPORTS No. 163 (April, 1894), I have had many hundreds of letters, asking for additional information, from all classes of citizens—doctors, lawyers, legislators, would-be immigrants, farmers, and nearly all kinds of social reformers. I have endeavored to reply briefly to each inquiry, but it has been a severe task on my time and energy; I therefore avail myself of this opportunity to give the details of each different system under which land may be obtained in this colony. While doing so, I wish it distinctly understood that, although the terms look more than reasonable, I can not encourage any man to leave the United States in search of a home here, for the following reasons, viz :

If a man has money, he can find better land, more accessible to market, and much richer and more easily cultivated in the United States than he can here. Most of the land in this country is covered with timber and a dense undergrowth. To cut and burn the bush and sow the land in grass costs not less than £3 to £3 10s. (about \$17.50) per acre. This does not by any means include grubbing out the stumps, which are, in most instances, allowed to remain for a few years till they are pretty well decayed, when, if the land is required for agricultural purposes, they are taken out; but if not so required, they are generally permitted to remain for an indefinite period. The above cost does, however, include the fencing.

Every practical man, and especially every farmer, who has undertaken to build himself a home in the forest, will readily realize what a prolonged and desperate struggle it is; nor need he be told that it is no easier to do so in New Zealand than it is in our own country.

* This report was prepared by Consul Connolly as supplementary to his former report on the same subject printed in CONSULAR REPORTS No. 163 (April, 1894), and in compliance with instructions from the Department of State, in consequence of the large number of requests received by the Department for additional information.

While the conditions upon which land may be obtained are undoubtedly favorable, a man should have sufficient means to enable him to live while he is clearing and grassing his land, and then he should have enough left to stock what he has cleared, as, otherwise, his labor is lost. If a man has sufficient means to enable him to do all this, he can find better and more profitable employment for it in the United States.

In addition to the drawbacks already mentioned, there is the want of a local market, which he can not avail himself of to any extent here; and by the time he has sent his products to England, which is fully 16,000 miles away, there is very little return for his time and labor, in consequence of the great distance, freight, insurance and commissions, and other leakages of various kinds. Add the discomfort and serious inconvenience of bad roads, for in the north of the North Island of New Zealand it would be difficult in the winter season to find worse roads in any country in the world. The reason of this is that the country referred to consists largely of yellow clay and pumice, and that, for a hundred miles at a stretch, there is little or no good road material.

But, notwithstanding these sometimes hard and uninviting conditions, if a small farmer should happen to get hold of a piece of good land—a thing which it is very difficult to do at times—he is as happy as most men of his class anywhere in the world. The conditions of life are not so desperately hard as they are in many of the countries of the Old World. The climate is comparatively mild and temperate, there being no great extremes of heat or cold except in the southern portion of the Middle Island, where sometimes there is considerable frost and snow in winter. These conditions are largely enhanced by reason of the fact that no man pays any taxes to the State (customs duties excepted) until he is worth over \$2,500; neither does he pay anything for education, or for any other purpose in the way of taxes to the State, but he is not, of course, exempt from taxation for local purposes, such as highway improvements in the country, and, if in the city, if he be a property holder, he has, of course, to contribute toward the maintenance of the city government. It is an undoubted fact that it has been the aim of the Government for many years past to relieve as much as possible the congestion in the large cities by affording every possible facility toward placing men on the vacant lands of the country. This accounts for the numerous systems under which land may be taken up. The whole aim has been to encourage the occupation of the land and thereby stimulate a spirit of thrift and manly independence in those who are otherwise almost wholly dependent. That there have been many failures in pursuit of this object is admitted, for it is a most difficult matter to make a sturdy farmer out of every social reformer who wants to put everybody on the land but himself. I am assured that nearly all the failures among those who have taken up land, under one or another of the many land-occupation schemes in vogue here, came, and still continue to come, from among those who have been most clamorous for radical reforms in the land laws of the colony.

This is not to be wondered at when we reflect that men unaccustomed to the hardships of country life have for the first time, perhaps, taken an axe, spade, or other farm implement in their hands and begun a struggle for which they are physically incapacitated. But it is to their credit, it may be said, that a large percentage of the genuine workers among the unemployed and laboring element generally who have gone upon the land have remained and manfully struggled and succeeded in accomplishing that which they set out to do. Through sheer force of character and unceasing perseverance, many a man who is now living in comparative independence, cultivating his own piece of land and rearing and educating his family, could never have known the blessings of such a home were it not for the bounty of a thoughtful Government, which placed the land so easily within his reach. What if there are a few failures among the agitator, corner-orator, and ne'er-do-weel class who could not make a success of anything in life, if, through such means as have been adopted by the New Zealand Government, hundreds of worthy, industrious men have been created into honest, sturdy farmers to the one who, through inexperience or want of desire, has failed?

It may not be generally known that by treaty with the British Government all the lands of the colony were vested in the Maoris (natives), and can not be alienated except by their consent; but early in the history of the colony, the "Pakeha" (European), with his usual earth hunger, began to manifest his superior intelligence over the poor unsophisticated Maori by acquiring large areas of the very best land in the colony for almost nothing. Thus, from the very beginning of British settlement and for twenty or thirty years afterwards, this scheme of despoiling the natives of their birthright continued until the most fertile and easily developed lands had been alienated. The population being sparse, this condition of affairs was not noticeable till immigration set in on an extensive scale, when it was found that the eyes had been picked out of the colony—so far as good and easily cultivated land was concerned. It is true there was any quantity of land still available, but the best lands had been largely acquired both by individuals and companies—sometimes in blocks of 100,000 acres and over. It is charged against the church missionaries that they were as great sinners in the acquisition of valuable lands as were the laymen.

Most of the lands thus acquired remain unimproved—held, for the most part, by wealthy people for speculative purposes. However, as population increased, the demand for good land became greater, till, finally, the people became thoroughly aroused and exasperated at the "dog-in-the-manger" policy pursued by the large holders, and a course of action was determinedly resolved upon, having for its aim the passing of legislation which would bring about a radical change in the land policy of the country. It was this unsatisfactory state of things that induced nearly all the subsequent land legislation which had for its purpose the "bursting up" of those immense estates and thereby afford every man in the colony who desired it a piece of land upon which to build himself a home.

Of course, as might naturally have been expected, a cry of alarm went up and this class of legislation was condemned far and wide as being revolutionary and un-English and those who favored such laws were denounced as "socialists" and "spoliators." Be this as it may, the people adhered to their settled policy, and the hand of the clock has not been turned back as yet—the course of legislation still goes on.

The honest convictions of those who were disinterested spectators and had a knowledge of the facts were, and still are, that no moral wrong had been committed in compelling the selfish large landholders to either sell, improve, or subdivide their holdings. In my own judgment, the real trouble has been that the progress made was, in many respects, in advance of the demands of the people. The situations changed with such rapidity that they were unable to grasp the full import of the new laws which were daily being thrust upon them. And in this they were not so much to blame, if they, at times, manifested some concern, for the entire fundamental law of the colony had undergone almost a complete change, especially in respect to land and labor legislation.

Now, however, the people are rapidly beginning to realize the beneficial effects of the new era that had been inaugurated a few years back and are becoming reconciled to the innovations they were wont to condemn heretofore.

This restoration of confidence is the result of largely increased and continued prosperity, which, in a measure, they attribute to the new order of things, and, in this, they are to some extent warranted, for there is no doubt there has been considerable improvement in nearly every branch of trade and industry.

In any case, there was ample justification for the changes which were made in the land laws, while the wisdom of the alteration in the incidence of taxation from land and personal property to land and income tax has now been fully demonstrated.

I. LAND TENURE.

But before proceeding further with this feature of the subject, I desire to submit here a few selected articles from the New Zealand Official Year Book, which is printed and published under Government authority and compiled by the administrative heads of the lands and other departments.

SELECTED ARTICLES FROM THE NEW ZEALAND OFFICIAL YEAR BOOK, 1895.

SECTION I.—THE LAND SYSTEM OF NEW ZEALAND.

By S. Percy Smith, F. R. G. S., secretary for Crown lands and surveyor-general.

The Crown lands of New Zealand are administered under "the land act, 1892," and the regulations made thereunder.

The distinguishing features of the present land system are the outcome of ideas which have been gradually coming to maturity for some years past in this colony. These features involve the principle of State ownership of the soil, with a perpetual tenancy in the occupier. This, whatever may be the difference in detail, is the prevailing characteristic of the several systems under which land may now be selected. In New Zealand, this tendency to State ownership has taken a more pronounced form than in any other of the Australasian colonies, and the duration of the leases has become so extended as to warrant the name, frequently given to them, of "everlasting leases." In point of fact, most of the Crown lands are now disposed of for terms of 999 years. The rentals are based on the assessed value of the land at the time of disposal, without increase or recurring valuations. Under this system there is a fixity of tenure practically equal to freehold, and which, like freehold, necessarily carries with it the power of sale, sublease, mortgage, or disposition by will. Since all lands held under the Crown "by lease in perpetuity" are subject to the land tax, the necessity for the periodical revaluations under the perpetual-lease system is done away with, the State reaping the advantage of the unearned increment through the before-mentioned tax. At the same time, the improvements made in the soil by cultivation, etc., are secured to the tenant.

The advantages of this system to the selector are manifest. When it is taken into consideration that, with few exceptions, the Crown lands are, in their prairie condition, incapable of producing anything until brought into cultivation, the advantage to the settler of setting free his capital to develop the capabilities of the soil, rather than having to expend it in the purchase of a freehold, is very apparent. One of the most striking benefits of this system is the advantage it gives to the poor man, who, with little more capital than his strong right arm, is enabled to make a home for himself, which, under the freehold system, he is frequently unable to accomplish.

The values placed on the Crown lands are, as a rule, low, for the State does not so much seek to raise a revenue directly therefrom as to encourage the occupation of the lands by the people; this secures indirectly an increased revenue, besides other advantages, resulting from a numerous rural population.

Again, underlying the whole of the New Zealand land system is a further application of the principle of "the land for the people," viz, the restriction in area which any man may hold. This subject has been forced upon the attention of the legislature by defects in former systems, under which one individual with means at his command could appropriate large areas, to the exclusion of his poorer fellow-settler. Under conditions where the price at which the land is offered is fixed and where choice of selection is by ballot, the poor settler has the same chance as the rich one and may, should he wish it, hold as much land. The limit that a selector may hold is so fixed as to encourage the class of small farmers, and up to that limit the amount he may select is left entirely to himself. The act defines the amount of land anyone may select at 640 acres of first-class or 2,000 acres of second-class land, inclusive of any land he may already hold. These limits apply to lands which are thrown open for "free selection," as it is termed, but in some cases, where found desirable, the limit is by regulation made much smaller.

In addition to the many advantages offered by the "lease-in-perpetuity" system, the land act provides others to meet the wants of different classes. The rule is almost invariable that land thrown open for so-called "free selection" is offered to the public under three different tenures, and the choice left entirely to the would-be settler. The three tenures are:

- (1) For cash, in which one-fourth of the purchase-money is paid down at once, and the remainder within thirty days. The title does not issue until certain improvements have been made on the land.
- (2) Lease with a purchasing clause, at a 5-per-cent rental on the value of the land; the lease being for twenty-five years, with the right to purchase at the original upset price at any time after the first ten years.
- (3) Lease in perpetuity, at a rental of 4 per cent on the capital value, as already described above.

The present land laws have been in force since the 1st of November, 1892, and, therefore, the returns of the Department of Lands and Survey for the year ending the 31st of March, 1895, will give a fair idea of the proportions in which lands are selected under the three tenures above described during the past two and a half years. The figures given below include the "special settlements," all of which must by law be held on lease in perpetuity:

- (1) Selected for cash, 1,542; area, 110,570 acres.
- (2) Occupation with right of purchase, 1,060; area, 236,270 acres.
- (3) Lease in perpetuity, 3,224; area, 634,086 acres.

"The land act, 1892," provides for a special class of settlement, which has found favor with the public to a very considerable extent during the last two years. This is known as the "small-farm association" system. It provides that, where not less than twelve individuals have associated themselves together for mutual help, such an association can, with the approval of the Minister of Lands, select a block of land of not more than 11,000 acres, but there must be a selector to each 200 acres in the block. The extreme limit that one person may hold is fixed at 320 acres. Settlements of this class are held on "lease in perpetuity" for 999 years, in the same way as lands under the same tenure when thrown open for free selection. The conditions of residence and improvement are the same. The system offers many advantages to the settler, so long as the blocks of land are judiciously chosen, having regard to quality of land, access, markets, and the probability of employment being obtained in the neighborhood. In the eagerness to obtain lands on such easy terms, these points have, in the past, not received sufficient attention by some of the associations, and in consequence their success remains to be proved.

The following figures show the extent to which settlers have availed themselves of this class of settlement during the three years ending the 31st of March, 1895; the figures represent approved applications only: Thirteen hundred and ninety selectors have taken up 277,579 acres in various parts of the colony, but principally in the Wellington district.

The "village-settlement system" of New Zealand has become widely known in the Australian colonies, and has excited much inquiry, with a view to its adoption in other parts. It is believed, however, that this and the "small-farm association" settlements referred to above are often confounded in the minds of the public, for of recent years there has been no very great extension of village settlements in this colony. (For details, see Mr. March's article, post.) The system was initiated in 1886 by the late Hon. John Ballance, with the intention of assisting the poorer classes to settle on the land. It became immediately very popular, and by its means a considerable number of people were settled on the land, who might otherwise never have become landholders. The features of the system were, originally, the possession of a small farm, not exceeding 50 acres in extent, held under a perpetual lease for terms of thirty years, with recurring valuations at the end of each term. The rental was 5 per cent on a capital value of not less than £1 an acre. Residence and improvement of the soil were compulsory. The new and important feature in the village-settlement scheme, however, was the advance by the State of a sum not exceeding £2 10s. per acre, up to 20 acres, for the purpose of enabling the settler to cultivate the land, and of a further sum not exceeding £20 to build a house with, on which he paid interest at the rate of 5 per cent. Road works were also very frequently undertaken in the neighborhood of these settlements, and have been of very great help to the settlers. Under this system, a number of settlements were formed, and, where the sites were chosen judiciously, a large measure of success has resulted therefrom.

The present law admits of similar village settlements, but the area which a selector may hold has been increased to 100 acres, and the tenure changed to a "lease in perpetuity" for 999 years, on a 4 per cent rental. Advances for clearing and house building have, however, practically ceased, and, indeed, few settlements have lately been started, one of the principal reasons being the dearth of suitable lands on which to plant them. Crown lands adapted to the special features of "village settlements" are scarce.

A modification of the system has been introduced, however, which, so far as can be judged at present, will eventually, to a considerable extent, take its place. In order to find work for the unemployed, considerable areas of forest-clad Crown lands have been set aside, and small contracts for the clearing, burning, and sowing these with grass have been let. The intention is to subdivide all these areas into small farms, to be let on "lease in perpetuity," at a rental sufficient to cover the cost of clearing, etc., together with a fair rental of the land. Up to the 31st of March, 1895, eighteen settlements have been allocated, covering an area of 21,202 acres, situated in various parts of the colony. At that date, 193 settlers had been allotted sections, and they had felled 4,048 acres of bush and grassed 1,469 acres. The amount paid to the settlers up to the 31st of March was £5,698, and the value of improvements on the land (including the Government advances) was £6,964. The size of holdings averages about 100 acres. With respect to other methods of dealing with the Crown estate, the "digest of the land laws" appended hereto will give sufficient particulars.

THE LAND FOR SETTLEMENTS ACTS, 1892 AND 1894.

Allusion has already been made to the dearth of Crown lands suitable for small settlements in localities where they are most needed, *i. e.*, in settled districts, where the lands are frequently held in large estates, whose owners employ a good deal of labor. Not only is this the case in many parts of the colony, but there is also a want of land where the sons of settlers can obtain farms not far from the homes of their parents. To meet this want, the Hon. J. McKenzie, the present Minister of Lands, introduced into the legislature, in the session of 1892, a bill intitled "the land for settlements act," which authorized the purchase from private individuals of suitable properties for subdivision into small farms not exceeding 320 acres in extent. Under the provisions of this act, several properties have been acquired and subsequently divided into small farms and leased in perpetuity at a 5 per cent rental, on a capital value fixed at a sufficient rate to cover first cost, together with survey, administration, and roads (if required). The process of acquisition is as follows: Whenever a property is offered to the Government, if it is so situated as to meet the object of the act, a report on it is obtained by a qualified Government officer, and, should his report be favorable, the question of purchase is then referred to a board of land-purchase commissioners, composed of three Government officers whose training and duties qualify them to advise the Government as to whether the purchase is a suitable one, and as to the price which should be given for the property. It is only on the advice of this board that the Government acts. In nearly all cases the properties acquired have been improved farms, situated in settled districts, where the tenants have some chance of obtaining employment in the vicinity. The amount which may be expended per annum under the act of 1892 was £50,000; but the act of 1894 extended this amount to £250,000, and it also provided that the limit of land which might be selected should be the same as under "the land act, 1892." The act also provides for the exchange of high-lying pastoral Crown lands for low-lying agricultural lands suitable for small holdings. A new feature was introduced into the act of 1894—namely, the power of compulsory taking of lands in cases where the board could not agree with the owner as to price, etc., and where the governor in council decides that the possession of the land for purposes of subdivision is otherwise desirable. The amount payable to the owner is decided by a compensation court with full powers. Up to the 31st of March, 1895, thirteen estates had been purchased, or arranged for, at a cost of over £167,000, which covered an area of 43,923 acres. At the same date there were living on those estates which had been subdivided and selected ninety-six persons, in the place of a few shepherds or overseers, who only occasionally visited these places formerly. This extension of the provisions of the previous act should prove beneficial in providing homes for a large class of persons, who, from inexperience or other reasons, are in a measure prohibited from occupying the waste lands of the Crown; and, moreover, as the properties acquired are all more or less improved, they seem to afford to the

small-farmer class of the Old Country an opening for building up homes for themselves where their previous experience will be of use, instead of having to learn—often by sad experience—the methods adapted to a new and wild country.

VILLAGE-HOMESTEAD SETTLEMENTS.

By J. E. March, superintendent.

Very few subjects have occupied so much public attention, and there are few on which there has been such a diversity of opinion, as the village-homestead settlement scheme initiated by the late Hon. Mr. Ballance. Not only has this been the case in New Zealand, but beyond the colony as well. Thus, in the early part of 1891, the Hon. Mr. Copley, commissioner of Crown lands in South Australia, paid an official and special visit to New Zealand, the object being, as stated in his report, "to inquire into the working of the village-homestead special settlements, concerning which so many conflicting statements had been made in South Australia."

Again, at the end of 1893, the Hon. Mr. McIntyre, commissioner of Crown lands, Victoria, paid an official visit to this colony for the purpose of "inquiring into the system of land settlement and inspecting the village settlements." In his report, dated Melbourne, 19th of February, 1894, the Hon. Mr. McIntyre says: "From my personal observation, and from the information I was enabled to obtain through the documents placed at my disposal, I think I am perfectly justified in stating that the success of the village-settlement movement in New Zealand has been proved. It has got beyond the experimental stage; and the system, if I mistake not, is firmly grafted on the land policy of that country. Any apprehensions which I may have entertained of the ultimate success of our Victorian village settlements have entirely disappeared in the light of the experience gained in New Zealand."

The plan of forming village settlements was first commenced in the provincial district of Canterbury by the Hon. Mr. Rolleston. It was on a small scale, but it worked admirably. In 1874 and 1875, there was a difficulty in finding quarters or employment for immigrants, who had arrived in Canterbury in considerable numbers, and it was decided to try the experiment of settling them on the land in districts where they were likely to obtain work. The course adopted was briefly as follows: On the line of railway, or adjacent thereto, as at Rakaia, Orari, and Arowhenua, blocks of Government land were laid off into sections, varying in area from one-quarter to 5 acres. Assistance was given to the extent of £10 toward the erection of a small hut or cottage. The terms of occupation were as follows: For the first year, rent free, and for the second and third years, a rental of 2s. per week was charged, to recoup the Treasury the amount advanced.

In the formation of some of these settlements, notably at Geraldine, Timaru, and Waimate, the idea was not to permanently locate the immigrants, on whose behalf the plan had been adopted, but merely allow them to occupy the land temporarily; and it was considered that in three years they would be enabled to find situations or places elsewhere. All traces of the settlements formed in the localities named have long since disappeared.

The land comprised in the village settlements formed at Rakaia, Arowhenua, Beaconsfield, and other districts in Canterbury was sold to the original settlers on the deferred-payment system.

From 1876 to 1886, a period of ten years, very little was done in extending the system, but in the latter year the late Hon. Mr. Ballance, then Minister of Lands, introduced regulations for the formation of village-homestead special settlements. These were of a liberal character, and the assistance granted by way of loans for dwelling houses, bush felling, grassing, etc., enabled an industrious man to make and establish a comfortable home, while he was precluded from parting with the freehold.

A large number of settlements were thus formed, and, generally speaking, the settlers and their families have comfortable homes and look healthy and contented; the financial results prove conclusively that the settlements are successful.

During the period from October, 1887, to January, 1891, no new village-homestead settlements were formed; on the contrary, it was decided early in 1888 to withdraw all the unselected sections in the settlements already formed from occupation under that system and to open the land under ordinary conditions of settlement, namely, for cash, deferred payment, or perpetual lease.

The original system was again introduced by the Hon. Mr. McKenzie, Minister of Lands, in March, 1891, with a modification in the amount to be advanced, which was limited to a sum not exceeding £10, to assist a selector in the erection of a dwelling house on his section.

Considerable progress has been made under the ordinary village system of land settlement, and during the past year 295 new selectors have taken up sections of land, representing an area in the aggregate of 7,616 acres. No monetary advances, however, have been made in these cases. Without doubt the system is one which fosters a spirit of independence and habits of industry and self-help. It has had a most beneficial effect in the colony, having been the means of providing settled and comfortable homes for many people, who previously found that rent and the cost of living absorbed all their earnings.

The success, however, is best shown by the financial results. During the past year twenty-four new settlements have been formed, namely, seven in the North Island and seventeen in the Middle Island. Two hundred and ninety-five new selectors have taken up sections of land representing, in the aggregate, 7,616 acres. The position of these settlements on the 31st of March, 1895, was as under:

Number of settlements in the colony.....	144
Number settled on the land, including wives and families.....	4,561
Area occupied (acres).....	33,804
Amount advanced for cottages, bush felling, and clearing.....	£25,778
Amount paid by settlers as rent and interest from the commencement of the system..	£17,620
Value of improvements now on the land.....	£92,834
And if the amount advanced is deducted, there remains as representing the value of the work done by the settlers.....	£67,056

These figures prove conclusively that the system is one to encourage and extend.

PURCHASE OF NATIVE LANDS BY GOVERNMENT.

From about the year 1823 (which is the date of the first recorded deed) until the 6th of February, 1846, the date of the treaty of Waitangi, lands in New Zealand were acquired by direct purchase from the Maoris by individual members of the white races. During the years 1837 to 1839, or about the time that it became probable that the sovereignty of the islands would be assumed by the Queen, the greater number of these purchases were made, and they extended to most parts of the country. These purchases are technically known as "the old land claims," and their total number (including preemptive claims), as estimated by Commissioner F. Dillon Bell in 1862, was 1,376, covering an area of about 10,322,453, out of which large area grants were recommended for 292,475 acres. These figures have been slightly added to since, but not to any very large extent. The large area shown above was reduced on survey to about 474,000 acres, situated principally to the north of Auckland. The difference between the amount granted and the total area surveyed became what are termed "surplus lands of the Crown." It was held that the native title had been fully extinguished over the whole area surveyed; but, as by statute the claimants could only be granted 2,560 acres each, the balance became vested in the Crown on the assumption of the sovereignty, owing to the native title having been fully extinguished.

In many cases the titles did not issue to those to whom the land was awarded, as they were compensated by scrip issued by the Government, with the understanding that such scrip was

to be exercised in the purchase of Crown lands in the neighborhood of Auckland, to which place it was desirable—so soon as the capital was founded—to draw a population. The lands thus paid for in scrip became Crown lands, and these, together with the surplus lands, have from time to time been disposed of and settled on. The amount of scrip, etc., issued up to 1862 was over £109,000.

On the signing of the treaty of Waitangi on the 6th of February, 1840, the preemptive right of purchase from the Maoris was ceded to the Queen, and consequently private purchase ceased. This remained the law until the passing of "the native land act, 1862," when the Crown relinquished its right of preemption, while at the same time the purchase of native lands for the Crown did not abate, but continued side by side with the private purchases up to the passing of "the native land court act, 1894."

From time to time since 1840 various sums were appropriated by Government or by Parliament for the acquisition of a Crown estate. Up to the date of passing of "the native land act, 1862," these operations were conducted by officers of the Government specially appointed, who, from a knowledge of the Maoris, their customs and disposition, were successful in securing large areas of land for settlement. It must be conceded that their operations as a whole were successful, and that the number of disputed cases arising out of their labors was exceedingly small. The Waitara purchase is, however, here excluded, for there were reasons of general policy affecting that sale which did not prevail in other cases. This purchase was the ostensible cause of the war of 1860 and following years, but the motives which led to it were far deeper than the mere purchase of a few acres—there was a great principle at stake.

The difference effected in the mode of purchase by "the native land act, 1862," was this: Previously, the title of the Maoris who were to receive payment for the land was decided by the land purchase officers; but the act quoted set up a court, presided over by able judges, who determined the titles, which were afterwards registered in a special court. Purchases have since been effected with the registered owners.

It is difficult to obtain figures showing the actual area acquired by the Crown from the Maoris up to 1870, but in round numbers it was 6,000,000 acres in the North Island; while the whole of the Middle Island, with the exception of reserves for the original native owners, was acquired prior to the passing of "the native lands act, 1862." Stewart Island was purchased from the native owners by deed dated 29th of June, 1864.

The native rebellion of 1860–69 brought native land purchases, for the time being, practically to a standstill.

The immigration and public works acts of 1870 and 1873 appropriated £200,000 and £500,000, respectively, for the purchase of lands in the North Island; and these amounts have, up to the 31st of March, 1895, been augmented by further annual appropriations from the public funds and other loan moneys, covering altogether a total expenditure since 1870 of £1,497,422, with the following results: Area finally acquired in the North Island from natives, from 1870 to the 31st of March, 1895, 5,958,415 acres; area under negotiation in the North Island on 31st of March, 1895, 2,030,199 acres; interests therein finally acquired, 561,423 acres.

DIGEST OF THE LAND LAWS.

Administration.

The Crown lands are administered, under the authority of "the land act, 1892," by the Honorable the Minister of Lands at Wellington. For convenience, the colony is divided into ten land districts, each being under the local direction of a commissioner and a land board. The commissioner's office is known as the principal land office, and in some of the larger districts there are one or more suboffices. It is with these land offices the selector has to transact all business, from the first consultation of the maps to the final receipt of the Crown title.

Land districts and principal land offices.

The names of the land districts and of the towns where each principal office is situated are, beginning with the most northerly and taking them geographically, as under:

Land district.	Town where principal land office is situated.	Land district.	Town where principal land office is situated.
Auckland.....	Auckland.	Marlborough.....	Blenheim.
Taranaki.....	New Plymouth.	Westland.....	Hokitika.
Hawke's Bay.....	Napier.	Canterbury.....	Christ Church.
Wellington.....	Wellington.	Otago.....	Dunedin.
Nelson.....	Nelson.	Southland.....	Invercargill.

Classification of lands, etc.

Crown lands are divided into three classes:

- (1) Town and village lands, the upset prices of which are, respectively, not less than £20 and £3 per acre; such lands are sold by auction.
- (2) Suburban lands, the upset price of which may not be less than £2 an acre; these lands are also sold at auction.
- (3) Rural lands, which may be disposed of at not less than £1 per acre for first-class, and 5s. an acre for second-class lands; such lands may be sold or leased by auction, or sold or leased on application.

No rural section may be larger than 640 acres in extent if first-class land, or 2,000 acres if second-class land, whether offered by auction or application. No person can select more than 640 acres of first-class or 2,000 acres of second-class land, including therein any land which he then holds. Pastoral runs are limited to areas which will carry 20,000 sheep or 4,000 cattle. No person can select more than one run.

Mode of acquiring Crown lands.

Crown lands may be acquired as follows:

- (1) By auction, after survey, in which case one-fifth of the price is paid down at the time of sale, the balance within thirty days.
- (2) By application, after the lands have been notified as open for selection, in which case the applicant fills up a form (to be obtained at any of the land offices) and makes the declaration and deposit required by the particular system he wishes to select under.

All applications, whether for surveyed or unsurveyed lands, are deemed to be simultaneous if made on the same day, and, if there be more than one applicant for the same land, the right of selection is determined by ballot.

Lands thrown open for application may be either surveyed or unsurveyed, and those not selected the first day remain open.

The optional system of selection.

Lands for selection are notified as open for application on and after a stated day, and, at the option of the applicant, may be obtained on any of the three following tenures: (a) Cash; (b) occupation with the right of purchase; (c) lease in perpetuity.

(a) Cash.

If the land is surveyed, one-fifth of the price is to be paid down at the time of application, and the balance within thirty days; or, if the land is not completely surveyed, the survey fee is paid on application, and goes toward the purchase of the land; the balance must be paid within thirty days of notice that the survey is completed.

A certificate of occupation will issue to the purchaser on final payment, which will be exchanged for a Crown title so soon as the board is satisfied that the improvements mentioned below have been completed.

(b) Occupation with right of purchase.

Lands selected on this tenure are held under a license for twenty-five years. At any time subsequent to the first ten years, and after having resided and made the improvements hereinafter described, the licensee can, on payment of the upset price of the land, acquire the freehold. If the land be not purchased, the license may be exchanged for a lease in perpetuity.

The rent is 5 per cent on the cash price of the land; a half year's rent has to be paid in with the application, if surveyed land, which represents the half year's rent due in advance on the 1st day of January or July following the selection. If the land is unsurveyed, the cost of survey is to be deposited, and is credited to the selector as so much rent paid in advance, counted from the 1st day of January or July following thirty days' notice of the completion of survey.

Residence and improvement of the land are compulsory, as hereinafter described.

(c) Leases in perpetuity.

Lands selected on this tenure are leased for 999 years, subject to the conditions of residence and improvements described below. The rental is 4 per cent on the cash price of the land, and applications are dealt with in the same way as under the previous tenure (b), but there is at no time a right of purchase.

Two or more persons may make a joint application to hold as tenants in common under either of the two last-named tenures.

Residence and improvements.

Under the two last-mentioned tenures, the conditions as to residence and improvements are:

Residence—

- (1) Must commence on bush or swamp lands within four years, and in open or partly open land within one year, from the date of selection.
- (2) Must be continuous for six years on bush or swamp land, and for seven years on open or partly open land, on lands occupied with a right of purchase.
- (3) Must be continuous for a term of ten years on lease-in-perpetuity lands.

The board has power to dispense with residence in certain cases, such as where the selector is residing on adjacent lands, or is a youth or unmarried woman living with parents, and in a few other cases.

Residence implies the erection of a habitable house to be approved of by the board.

Improvements which must be made are as follows:

- (1) Cash-tenure lands must be improved within seven years to an amount of £1 an acre for first-class land, and 10s. an acre for second-class land.
- (2) Lands held on lease with right of purchase or on lease in perpetuity must be improved to an amount equal to 10 per cent of the value of the land within one year from the date of the license or lease; within two years must be improved to the amount of another 10 per cent; within six years must be improved to the value of another 10 per cent, making 30 per cent in all within the six years. In addition to the above, the land must be further improved to an amount of £1 an acre for first-class land, and on second-class land to an amount equal to the net price of the land, but not more than 10s. an acre.

Improvements may consist of reclamation from swamps, clearing of bush, planting with trees or hedges, cultivation of gardens, fencing, draining, making roads, wells, water tanks, water races, sheep dips, embankments or protective works, or in any way improving the character or fertility of the soil, or the erection of any building, etc.; and cultivation includes the clearing of land for cropping or clearing and plowing for laying down with artificial grasses, etc.

Special-settlement associations.

Under the existing regulations any number of persons, not less than twelve, may apply for a block of land of not less than 1,000 acres or more than 11,000 acres in extent, but the

number of members must be such that there shall be one for every 200 acres in the block, and no one can hold more than 320 acres, except in swamp lands, where the area may be 500 acres.

The capital value of lands within a special settlement is fixed after survey by special valuation, but may not be less than 10s. an acre; the rental is not less than 4 per cent on the capital value, and the tenure is a lease in perpetuity.

Residence, occupation, and improvements are generally the same as already described, and applications have to be made in manner prescribed by regulations.

Applicants should apply to a commissioner for a copy of the regulations, as they are liable to change at any time.

Village settlements.

Village settlements are disposed of under regulations made from time to time by the governor, but the main features are as follows:

Such settlements may be divided into—

(1) Village allotments not exceeding 1 acre each, which are disposed of either by auction among the applicants or by application, as already described, with option of tenure, the cash price being not less than £3 per allotment.

(2) Homestead allotments not exceeding 100 acres each, which are leased in perpetuity at a 4 per cent rental on a capital value of not less than 10s. per acre.

Residence, improvements, and applications are the same as already described. The leases are exempt from liability to be seized or sold for debt or bankruptcy.

The colonial treasurer is empowered in certain cases to advance small sums for the purpose of enabling selectors to profitably occupy their allotments.

Small grazing runs.

Small grazing runs are divided into two classes: First-class, not exceeding 5,000 acres; second-class, not exceeding 20,000 acres in area. The rental in both cases is not less than 2½ per cent on the capital value per acre, but such capital value can not be less than 5s. per acre. Small grazing runs are leased for terms of twenty-one years, with right of renewal for another twenty-one years, at a rent of 2½ per cent on the then value of the land. The runs are declared open for selection and applications and declarations on forms provided have to be filled in and left at the land office, together with the deposit of one half year's rent, which represents that due on the 1st day of March or September following the selection.

No holder of a pastoral run and no holder of freehold or leasehold land of any kind whatever over 1,000 acres in area, exclusive of the small grazing run applied for, may be a selector under this system and only one small grazing run can be held by any one person.

The lease entitles the holder to the grazing rights, and to the cultivation of any part of the run, and to the reservation of 150 acres round his homestead through which no road may be taken; but the runs are subject to the mining laws.

Residence is compulsory, if bush or swamp land, within three years; if open, within one year; and must be continuous to the end of the term, but may in a few cases be relaxed. Improvements necessary are as follows: Within the first year, to the amount of one year's rent; within the second year, to another year's rent; and within six years, to the value of two other years' rent—making in all a sum equal to four years' rental, which must be expended within six years. In addition to these improvements, bush-covered first-class runs must be improved to an amount of 10s. an acre and second-class bush-clad runs to an amount of 5s. an acre.

These runs may be divided, after three years' compliance with the conditions, among the members of the selector's family.

Pastoral runs.

Pastoral country is let by auction for varying terms not exceeding twenty-one years; and, excepting in extraordinary circumstances, runs must not be of a greater extent than will carry 20,000 sheep or 4,000 head of cattle. Runs are classified from time to time by special com-

missioners into: (1) Pastoral lands, which are suitable only for depasturing more than 5,000 sheep; (2) pastoral agricultural lands, suitable for subdivision into areas of under 5,000 acres, which may be either let as pastoral runs, generally for short terms, or cut up for settlement in some other form. Leases of pastoral lands may not be resumed; leases of pastoral-agricultural lands may be resumed at any time after twelve months' notice, without compensation.

No one can hold more than one run; but in case of any one holding a run of a carrying capacity less than 10,000 sheep, he may take up additional country up to that limit.

Runs are offered at auction from time to time and half a year's rent has to be paid down at the time of sale, being the amount due in advance on the 1st day of March or September following the sale, and the purchaser has to make the declaration required by the act. All leases begin on the 1st day of March, and they entitle the holder to the grazing rights, but not to the soil, timber, or minerals; and the lease terminates over any part of the run which may be leased for some other purpose, purchased, or reserved. The tenant has to prevent the burning of timber or bush; in open country, to prevent the growth of gorse, broom, or sweet-brier; and to destroy the rabbits on his run. With the consent of the land board, the interest in a run may be transferred or mortgaged, but power of sale under a mortgage must be exercised within two years.

In case it is determined again to lease any run on expiry of the lease, the new lease must be offered by auction twelve months before the end of the term, and if, on leasing, it shall be purchased by some one other than the previous lessee, valuation for improvements, to be made by an appraiser, shall be paid by the incoming tenant, but to a value not greater than three times the annual rent—excepting in the case of a rabbit-proof fence, which is to be valued separately. If the run is not again leased, the value of the rabbit-proof fencing is paid by the Crown, but the tenant has no claim against the Crown beyond the value of the rabbit-proof fence; he may, however, within three months of sale, remove fences, buildings, etc. Runs may also be divided with the approval of the board.

Survey charges on unsurveyed lands.

The following is the scale of charges for surveys of unsurveyed lands: Not exceeding 30 acres, £6; exceeding 30 and up to 50 acres, 3s. 6d. per acre, but not less than £6; exceeding 50 and up to 100 acres, 3s. per acre, but not less than £8 15s.; exceeding 100 and up to 200 acres, 2s. 6d. per acre, but not less than £15; exceeding 200 and up to 300 acres, 2s. per acre, but not less than £25; exceeding 300 and up to 500 acres, 1s. 8d. per acre, but not less than £30; exceeding 500 and up to 1,000 acres, 1s. 4d. per acre, but not less than £41 10s.; exceeding 1,000 and up to 2,000 acres, 1s. per acre, but not less than £66 10s.

For the survey of any area of rural land, being open land, the scale of charges shall be two-thirds the foregoing rates.

SUMMARY OF THE MORE IMPORTANT SYSTEMS UNDER WHICH LAND MAY BE TAKEN UP.

Special-settlement associations.

Instructions for the guidance of persons who may propose to form themselves into associations for the purpose of selecting rural lands for settlement:

Every association should consist of not less than twelve persons.

The land selected to be in one block, and the area selected should be not less than 1,000 acres nor more than 11,000 acres.

No individual is entitled to more than 320 acres of ordinary rural land within said settlement or more than 500 acres of swamp land. In all cases there must be one selector to every 200 acres of ordinary land and one for every 500 acres of swamp land.

The cost of survey is paid by the association under direction of the surveyor-general; the cost of such survey shall not exceed 60 cents per acre.

All applications under this act must contain the names, occupations, and addresses of each individual and the number of acres required by each, the tenure to be "lease in perpetuity," and the rent 4 per cent of the capital value, which shall not, however, be less than \$2.50 per acre. The rent for the first two years may be added to the capital value of the land or may be paid off at any time at the option of the selector.

In the event of the death of a settler, his interest in the allotment may be allowed to revert to his legal representatives, who may, if they choose, dispose of it to a bona fide settler approved by the commissioner.

No person who is already the owner of any land in New Zealand is permitted to take up land under the provisions of this act.

Each person must make a statutory declaration that he is not the owner of any other land in the colony, and that he makes the application for himself, etc.

Every selector must make substantial improvements for the first two years to the value of 10 per cent of his land; and thereafter, within six years from the date of his license, another 10 per cent of the price of his land. And, in addition thereto, he shall, from the date of his license or lease, put improvements of a permanent character on first-class land equal to \$5 per acre and on second-class land equal to the net price of such land.

There are a variety of tenures under which this particular class of settlement is held, including sales for cash, deferred payments, perpetual lease, occupation with the right of purchase, and lease in perpetuity. During the year 1894-95, twenty-four new village homesteads and settlements were formed and ninety-five selectors took up an acreage on the average of 25 $\frac{3}{4}$ acres each.

On the 31st of March, there were 1,395 settlers, who, with their families, number a total of 4,561 souls.

The surveyor-general says, in his annual report to Parliament, that—

There is little doubt that such settlements can be made a success if the sites are judiciously chosen with respect to soil, access, and chance of employment in the neighborhood, and, in some cases, a little Government assistance to enable a few of the poorer ones to build.

Further reference to this system is made by the superintendent of the special-settlement associations in the preceding pages of this report.

Improved farm settlements.

This is a modification of the village-homestead system just referred to, and is intended to provide for a class of selectors who are unable to take advantage of the ordinary tenures under the land act. It is, in point of fact, a system whereby those with small means are enabled to make homes for themselves and to obtain assistance from the State in clearing their lands.

The number of applicants is limited only by the scarcity of land suitable and the funds that can be supplied.

When associations are formed for the purpose of taking up land under this system, the commissioner of Crown lands makes inquiries as to the suitability of the applicants and their inability to acquire land under any of the other systems for want of means.

The blocks of land set apart are divided into areas of from 10 to 200 acres, in accordance with the suitability of the country. The clearing of the land is let to parties or individuals, as may be found best, and either on individual sections or any part of the block at rates to be fixed by the chief surveyor, who is guided in each case by the ruling rates for such work. The clearing of 100 acres will be paid for by the Government; so far, this limit has not been approached. Grass seed will be provided, and, if necessary, \$50 will be advanced toward the erection of a house. Occupation for ten years is essential and must commence not later than three months after the first burning of the bush. The lands are let on lease in perpetuity at a 4 per cent rental or on occupation with a right to purchase at a 5 per cent rental, both being placed on the value of the land, together with the cost of clearing, weeding, grassing, or other expense advanced by the Government added.

Up to the end of last year, eighteen settlements had already been formed under these provisions, the area set aside being 21,202 acres, which has been allotted to 193 settlers. The area cleared is 4,048 acres and area grassed is 1,469 acres. The amount paid to selectors to the 31st of March, 1895, was £5,698 (\$28,490) and the value of improvements on the land, including the amount advanced by the Government, was £6,965 (\$34,825).

When not engaged in work connected with their sections, the settlers are employed, as far as possible, on cooperative road works in their neighborhood. "The system of employing the men for part of their time on road or other works, leaving them free to devote the rest of it to their own sections, is being introduced wherever possible and will become the rule."

The surveyor-general of the colony says, in his report to Parliament, while referring to this system, that—

It is too early to draw any conclusions as to the success of this class of settlement, but if the selectors can be found in partial employment to enable them to tide over the first few years, there seems no reason why a large number of people, who otherwise would have no chance of securing homes for themselves, should not do so under this system. Very much depends on the class of selector; those without previous experience to guide them are likely to have a hard struggle, but to men who are accustomed to bush farming, if they can manage to stock their lands, the system seems to open for them a chance of becoming settlers of a useful class.

As already stated, there is very little first-class land available in the colony; consequently, most of the land that is being settled is only second-class in quality and is expensive to clear and seed and stock with either sheep or cattle. It is, therefore, with a view to meet the requirements of all classes of people who desire to take up land that the Government has introduced the various systems in vogue here. The most popular system of land tenure is the 999-years' lease at an annual rental of 4 per cent on the value of the

land, without the right of revaluation by the Government during that period, no matter how valuable the land may become. . The next system which meets with the most popular favor is under 999-years' lease, with a right to purchase subject to the term of occupation and improvements being complied with.

Lands for settlement act.

In the South Island, the land was easily cleared and was taken up in immense areas by companies and individuals, and is still so held to a large extent, so much so that the Government felt compelled to interfere by passing an act called the "lands for settlement act," by which the Government can resume the ownership of any large blocks of land that may be suitable for settlement, paying the owners the value of the land as may be determined upon by arbitration. These lands are surveyed, roaded, etc., and subdivided into small farming areas to suit the requirements of those with some little means who desire to take up land. Under this system, the annual rental is 5 per cent on the value of the land, the Government reserving the right to revalue at certain stated periods.

There are several other systems of land tenure, but they are rapidly becoming obsolete in consequence of the more generous terms of the four acts just referred to.

Land in this country is not like that of our Western prairies, where all a man had to do was to stick in his plow and thus begin the work of cultivation without further difficulty. In New Zealand, it is quite a costly operation to prepare the land for cultivation. Each succeeding Government has realized this, all of whom have offered special inducements to settlers; but no previous Government went so far as the present rulers of the colony have gone in their efforts to make substantial small farmers of the unemployed and the landless generally.

Notwithstanding that the terms upon which land could be obtained were most liberal and encouraging, yet to a man without money the land was absolutely valueless. The Government recognized this almost immediately they took office and endeavored to overcome the difficulty by inaugurating what is now popularly known as the "cooperation system" of labor. By this means, men are enabled to take up land, working a portion of the time on cooperation works in the neighborhood—building roads and bridges and other work calculated to promote settlement and thereby reduce the number of the unemployed, and, at the same time, encourage a sense of self-reliance and industrial independence among the workers.

II. TAXATION AND LABOR.

Prior to the passage of the land and income tax of 1891-92, the country had passed through a series of years of severe industrial depression, which was caused chiefly through overspeculation. Millions of money had been borrowed and spent lavishly on railway building and other public works,

many of which proved to be of an unproductive and unremunerative character. During the progress of this spending and borrowing, a false and unsubstantial era of prosperity had been created, which only endured while the borrowed millions were available. The primary cause of the disaster which had now overtaken the colony was mainly attributable to the ill-advised course pursued in the disposition of the millions borrowed for public improvements. Had the original scheme been adhered to of building a main trunk line of railway through each island, and, as the exigencies of population and industrial development required it, building branch lines and feeders, much of the subsequent misery and depression would have been avoided.

Railways were built in every direction without regard to population or business. Members of Parliament compelled the then Premier to abandon his original plan, with the result that a number of political railways were built from which no adequate return could be expected in the state of the colony then; neither do some of them pay even now. I do not pretend to say that all the money was squandered, but I do say a number of useless public works were inaugurated which absorbed a large amount without even a remote chance of being productive.

In consequence of the large sums of money that were being spent by the Government in various undertakings, the whole people became excited and rushed headlong into borrowing for the purpose of engaging in new industrial enterprises. Vast areas of land were taken up by companies and individuals in anticipation of the "wild wave" of prosperity that was sure to follow the building of railways into all sorts of out-of-the-way places. Hundreds of thousands of pounds were borrowed to build harbors in open roadsteads where nature never intended a harbor should be.

Money was borrowed for roads and bridges, and whole districts were mortgaged to build harbors and wharves and other improvements in order to be prepared for the incoming rush. This buoyant spirit of enterprise and transient energy pervaded the whole colony for several years.

All went well till the public and private money was spent and that upon enterprises most of which were far in advance of the time and the necessities of the people. Many of them proved valueless and costly experiments, which to-day stand as enduring monuments to the folly and inexperience of the principal actors. Had there been an inflow of population, such, for instance, as we have in the United States, this country would not have suffered so much; but the immigration was very limited and the population of the colony small, so that when public works were suspended and the money exhausted and all kinds of public and private enterprise appeared to be nothing but failures, the people were thoroughly dismayed and thousands left the colony; in fact, nearly all who could, did so.

There was the accumulating interest on the public and private indebtedness to be paid. With a depressed and diminishing population, the outlook was anything but pleasant. The country was face to face with a large defi-

cit, and, what was more alarming still, a perceptible diminution in population and all kinds of trade and industry from which the national exchequer could be replenished.

It was now evident that those who had hitherto steered the ship of state could no longer stem the angry tide of popular disfavor into which they had fallen. Heroic measures were necessary to brighten the gloom of despondency which had now taken complete possession of a majority of the colonists. Something must be done to restore confidence in the power of the country to extricate itself from the unfortunate predicament, which, through want of ordinary foresight, experience, and business capacity, had brought it to its knees. Companies formed during flush times for speculative purposes came to grief, as did also individuals. The courts were full to overflowing with all kinds of bankrupts, and none knew where it was going to end.

As usual, when a crisis threatens, capital is timid, and, in this respect, New Zealand proved no exception to the rule. For some time, capital had withdrawn from nearly every class of industrial enterprise and speculative pursuits. Nor is this all. Having had control of the Government, it was not paying its fair proportion of the taxes. The people were, by this time, thoroughly aroused, and were prepared to accept the leadership of any man or adopt any measure that promised a way out of their difficulties.

It was about this time that Mr. John Ballance began to expose the true position of affairs to the people, and he did his work so effectively that the people rallied around him; he was elected and made Premier of the colony. This was the beginning of the end.

His unselfish devotion to the cause of the people was fully recognized and admitted at once. His honor, integrity, and individuality so impressed themselves upon the colony that whatever measures he proposed were invariably adopted. But, unfortunately for this country, he did not last long; from overexertion and worry, he sickened and died, and those who succeeded him, though honest and energetic, were not quite so experienced.

LABOR LEGISLATION.

Then began that era of democratic and semisocialistic land and labor legislation, including the extension of the franchise to women, which has brought New Zealand into almost universal notoriety, if not fame. It would be contrary to fact to say that all that has been done has been successful, for the reason that most of the legislation of recent years was crude and ill digested before its passage. Some of the labor legislation, especially, is extremely vexatious in its character, the idea being to make the life of the worker easier and happier—an idea with which no one can find fault, provided the interests of all concerned are properly safeguarded. Here, however, from the trend of legislation, it would appear that due consideration was only given to one side of the question, and with the result that the producing power of the people has been considerably curtailed in consequence of too many legally enforced holidays and half holidays and other useless

interference with the ordinary business pursuits and life of the people. Too much class legislation has not conduced to the promotion of that kindly feeling and mutual regard for each other's interests which should subsist between capital and labor.

I can not say that the apparent failure to give due consideration to the rights and interests of the monopolistic and capitalistic class was intentional. On the contrary, my experience and observation have taught me to believe that if there be any complaint in this respect, it is attributable more to ill-advised haste in passing measures calculated to correct existing abuses than to any desire to injure any class or interests. With the adoption of the one-man-one-vote principle, the middle and laboring classes became all powerful, and one of the first reforms advocated was a change in the incidence of taxation from a land, personal property, and improvement tax to a land and income tax, which was to be a panacea for most of the ills which afflicted the colony at that time. While this change did not prove a cure-all, yet it is admitted to be a beneficial step.

It was argued that an improvement and property tax was a tax on the industry and energy of the people, and so effectually was this idea advocated that the desired change was made, and with satisfactory results.

From the following figures, it will be seen that in three years, viz, from 1889 to 1892, the number of landholders, the value of whose land ranged from £100 (\$500) to £200,000 (\$1,000,000) had increased from 84,547 in 1889 to 91,501 in 1892. The total improved value of the land held by these 84,547 holders in 1889 was £84,208,230 (\$421,041,150), while in 1892, the number of holders had increased by 6,954 and the value of the improvements amounted to £92,371,166 (\$461,855,830), or an increase in improvements during this period of £8,162,936 (\$40,814,680).

In the face of these figures, there is little room for doubt as regards the wisdom of abolishing the improvement tax.

The holders of small areas, say from 5 acres and under 1,000 acres, increased proportionately both in number and value of improvements.

The farm-land improvements exempted by the act are defined to include houses and buildings, fencing, planting, draining of land, clearing from timber, scrub, or fern, laying down in grass or pasture, and any other improvements whatsoever, the benefit of which is unexhausted at the time of valuation.

In order to minimize the expense of collecting the taxes, the chief postmasters throughout the colony are authorized by the Government to receive and give receipts for all taxes paid to them.

The commissioner of taxes has special and almost unlimited power to prove the accuracy of returns for income, if he has any doubt as to their completeness.

Although every taxpayer has a right to bring any grievance he may have as regards his assessment before a board of review, whether it be land or income tax, the instances are rare indeed where those paying income tax

have availed themselves of this privilege. It is not so, however, with the land tax, as appeals to the boards of review are frequent. I do not presume there is any greater desire on the part of the citizens to pay the income tax more than any other form of taxes, but that it is the result of a disinclination to have their private affairs examined or looked into by others, notwithstanding that the proceedings are not public. In 1892, there were in all sixty-one boards of review and the total number of days on which they sat was about two hundred.

The members of these boards receive no remuneration for their services, the office being an honorary one, but, of course, all necessary expenses incurred by a reviewer in the performance of his duties are refunded.

But the fact that they receive no pay in no way interferes with the thoroughness of their work. This is testified to by the commissioner of taxes in his report to Parliament as follows:

The office is an important and responsible one, and I have much pleasure in bearing testimony to the extreme care and attention bestowed by the boards in the performance of their onerous and difficult duties.

And I myself must say that so far as I have been able to observe, I believe the members of the several boards of review have a high code of honor in the discharge of their duties, treating every case on its merits, without fear or favor, whether the applicant be rich or poor.

RESULTS OF LAND AND INCOME TAX.

The tax commissioner, in his report for 1893, further adds, in his reference to the small amount realized from the income tax, that—

It is desirable to draw attention to the fact that what may be deemed as a small result of the income tax for this colony is due in part to the high exemption of £300 (\$1,500) and largely to all income from the use or produce of land derived by the owner or occupier (this includes rent) and all interest from registered mortgages of land, being exempt from income. Land and mortgages and income therefrom contribute to the land tax alone. The allowance of an exemption of £300 (\$1,500) to each partner in a firm has caused a serious decrease in the income-tax revenue, the effect being to diminish tax paid by some firms by £30 (\$150) and more in certain cases.

A good idea may be obtained from the following figures, which represent the difference between the personal property tax of 1888 and the land and income tax which now prevails (I quote from the commissioner of taxes' report for 1893):

Under both systems the largest contributions were by graziers, sheep farmers, farmers, dairymen, etc., that is, by owners of country lands, the total for land and income tax being £89,341 (\$446,705) and for property tax (1888), £81,544 (\$407,720). The number of the property taxpayers was 8,611; the number of land taxpayers is 4,760, who are assessed for ordinary land tax £60,203 (\$301,015); 766 are assessed for graduated land tax, £28,015 (\$140,575), and 97 are assessed for income tax, £1,123 (\$5,615).

In considering these and other results, it should be remembered that some who pay graduated tax do not pay land tax, but it may be taken to be the

rule that the land taxpayers include those who pay graduated tax. Further, some of those who pay land tax also pay income tax.

Land companies (fifteen) were assessed in 1888, for property tax, £12,049 (\$60,245), and land companies (nineteen), last year, were assessed for land tax £16,579 (\$82,895) and graduated tax £15,232 (\$76,160), which, with income tax £396 (\$1,980), make up £32,207 (\$161,035), which shows an increase of £20,158 (\$100,790) in the present as compared with the late system. Fire and marine insurance companies contribute £8,279 (\$41,395), as against £6,652 (\$33,360) under the former system; mercantile companies, £16,302 (\$81,510), as against £9,384 (\$46,920); manufacturing companies, £7,549 (\$37,745), as against £3,784 (\$18,920).

In amounts paid by persons, the table shows that, as a rule, the totals contributed in the various classes under the two systems do not differ very materially, except as shown above. In the class including "working storemen, mechanics, laborers, shepherds, miners, sailors, etc., 2,242 of this class paid property tax of £4,053 (\$20,265) and 249 paid land and income tax of £543 (\$2,715)."

A careful perusal of the above comparisons between the property tax of 1888 and the land and income tax of 1891-92 will show that, in nearly every instance, there has been an increase of revenue from the sources that are best calculated to pay taxes and a perceptible decrease in the amount contributed by those who are less able to pay.

The value of the land assessed, as liable to pay land tax, is £55,105,290 (\$275,526,450), and the value liable to pay graduated land tax is £26,743,370 (\$133,716,850). The total estimated number of land taxpayers in the colony is 11,407, and of graduated land taxpayers, 1,319.

OWNERSHIP OF LANDS.

The commissioner of taxes, in closing his report, observes that "the figures set out in this report afford much information that should prove of advantage to those who may wish to study the manner in which the lands of the colony are owned. The tables have stated the results in a form readily understood, but anyone who wishes to draw deductions from them in support of any favorite theory will have to make a careful examination for that purpose. Contrasting the improved and the unimproved values should prove highly interesting to those who study some of the many important questions included under the comprehensive phrase 'land reform.'"

I append herewith a table showing "owners of land classified according to the improved and unimproved value of land owned by them," which must prove interesting to a large number of those who devote much attention to the relative positions of improved and unimproved lands for purposes of taxation.

I know of no country where the statistical information, as regards the improved and unimproved value of land, is more carefully compiled.

TABLE NO. 1.—*Owners of land classified according to the improved and unimproved value of land owned by them.*

Class.	Number of owners.	Improved value.	Number of owners.	Unimproved value.
Under £100.....	23,709	£950,421	45,192	£1,716,727
£100 and under £200.....	15,614	2,208,529	15,692	2,137,630
£200 and under £300.....	11,446	2,723,436	7,791	1,845,658
£300 and under £400.....	7,790	2,629,506	4,612	1,559,396
£400 and under £500.....	5,282	2,312,921	3,112	1,361,949
£500 and under £600.....	3,940	2,103,715	2,184	1,179,169
£600 and under £700.....	3,161	2,012,077	1,669	1,072,335
£700 and under £800.....	2,349	1,735,977	1,256	931,114
£800 and under £900.....	2,025	1,697,246	983	828,896
£900 and under £1,000.....	1,426	1,339,565	830	783,016
£1,000 and under £2,000.....	7,457	10,291,448	4,121	5,709,493
£2,000 and under £3,000.....	2,608	6,257,042	1,408	3,392,136
£3,000 and under £4,000.....	1,336	4,578,375	710	2,462,311
£4,000 and under £5,000.....	744	3,360,266	437	1,953,742
£5,000 and under £10,000.....	1,424	9,451,080	820	5,690,705
£10,000 and under £20,000.....	669	9,090,788	381	5,364,802
£20,000 and under £50,000.....	356	10,628,661	200	5,996,897
£50,000 and under £100,000.....	104	7,115,932	79	5,328,822
£100,000 and under £200,000.....	47	6,345,732	18	2,549,577
£200,000 and over.....	14	5,538,049	6	2,562,780
Total.....	91,501	92,371,166	91,501	54,427,175

TABLE NO. 2.—*Owners of land classified according to the improved value of land owned by them for 1889 and 1892.*

Class.	Year.	Number of owners.	Improved value.
Under £100.....	1892	23,709	£950,421
	1889	20,752	843,561
£100 and under £200.....	1892	15,614	2,208,529
	1889	15,069	2,115,529
£200 and under £300.....	1892	11,446	2,723,436
	1889	10,904	2,592,172
£300 and under £400.....	1892	7,790	2,629,506
	1889	7,270	2,469,159
£400 and under £500.....	1892	5,282	2,312,921
	1889	5,230	2,292,344
£500 and under £600.....	1892	3,940	2,103,715
	1889	3,594	1,937,442
£600 and under £700.....	1892	3,161	2,012,077
	1889	2,995	1,894,845
£700 and under £800.....	1892	2,349	1,735,977
	1889	2,232	1,666,184
£800 and under £900.....	1892	2,025	1,697,246
	1889	1,821	1,533,435
£900 and under £1,000.....	1892	1,426	1,339,565
	1889	1,394	1,306,615
£1,000 and under £2,000.....	1892	7,457	10,291,448
	1889	6,755	9,403,253
£2,000 and under £3,000.....	1892	2,608	6,257,042
	1889	2,299	5,578,261
£3,000 and under £4,000.....	1892	1,336	4,578,375
	1889	1,175	4,076,691
£4,000 and under £5,000.....	1892	744	3,360,266
	1889	704	3,133,151

TABLE NO. 2.—*Owners of land classified according to the improved value, etc.*—Continued.

Class.	Year.	Number of owners.	Improved value.
£5,000 and under £10,000.....	1892	1,424	£9,451,080
	1889	1,237	8,516,672
£10,000 and under £20,000.....	1892	669	9,090,788
	1889	623	8,417,460
£20,000 and under £50,000.....	1892	356	10,628,661
	1889	338	9,535,543
£50,000 and under £100,000.....	1892	104	7,115,932
	1889	107	7,107,479
£100,000 and under £200,000.....	1892	47	6,345,732
	1889	37	4,952,568
£200,000 and over.....	1892	14	5,538,049
	1889	11	4,835,862
Total.....	1892	*91,501	92,371,166
	1889	84,547	84,208,230

*In the 1892 total are included properties assessed to "owner," and also lands owned by friendly societies and other institutions that are exempt from taxation. These were not included in the 1889 total.

TABLE NO. 3.—*Owners of land classified according to the area owned by them, exclusive of land in boroughs and town districts, etc.*

Acres.	Number of owners.	Improved value.	Unimproved value.
5 and under 10.....	2,820	£678,032	£312,139
10 and under 20.....	3,015	806,959	401,425
20 and under 30.....	2,267	663,050	352,021
30 and under 40.....	1,428	532,242	292,753
40 and under 50.....	2,318	642,000	359,245
50 and under 60.....	2,412	813,165	469,106
60 and under 70.....	1,463	522,686	295,523
70 and under 80.....	1,162	582,378	373,015
80 and under 90.....	1,423	546,970	310,777
90 and under 100.....	1,061	561,973	332,253
100 and under 200.....	8,267	5,461,487	3,239,817
200 and under 320.....	4,575	4,688,671	2,861,409
320 and under 500.....	2,531	4,352,224	2,680,446
500 and under 640.....	1,022	2,377,803	1,470,907
640 and under 1,000.....	1,143	3,652,884	2,342,827
1,000 and under 2,000.....	992	5,121,688	3,381,176
2,000 and under 3,000.....	311	2,793,380	1,798,500
3,000 and under 4,000.....	146	1,706,128	1,150,432
4,000 and under 5,000.....	109	1,393,844	969,723
5,000 and under 6,000.....	66	1,047,158	717,983
6,000 and under 7,000.....	50	822,486	564,312
7,000 and under 8,000.....	38	727,542	477,931
8,000 and under 9,000.....	29	648,600	436,612
9,000 and under 10,000.....	25	778,427	537,801
10,000 and under 20,000.....	148	5,495,958	3,771,082
20,000 and under 30,000.....	45	2,743,301	1,839,700
30,000 and under 40,000.....	30	2,517,765	1,741,038
40,000 and under 50,000.....	9	987,659	719,708
50,000 and under 75,000.....	14	1,418,031	994,463
75,000 and under 100,000.....	6	1,086,623	859,028
100,000 and under 150,000.....	4	624,980	421,772
150,000 and over.....	6	2,583,281	1,853,538
Total.....	38,935	59,289,375	38,328,462

TABLE NO. 4.—Freeholders of land outside boroughs and town districts, etc., classified by area showing total value of each class for 1892, 1889, 1886, and 1883.

Acres.	Year.	Persons.		Companies.		Total.	
		Number.	Improved value.	Number.	Improved value.	Number.	Improved value.
5 and under 10.....	1892	2,809	£643,661	11	£34,371	2,820	£678,032
	1889	2,817	804,126	12	12,545	2,829	816,671
	1886	2,111	577,023	2	475	2,113	577,498
	1883	1,411	296,538	5	6,598	1,416	303,136
10 and under 20.....	1892	3,005	789,932	10	17,027	3,015	806,959
	1889	2,832	886,871	10	32,592	2,842	919,463
	1886	2,410	736,684	9	12,479	2,419	749,163
	1883	1,924	579,137	7	1,825	1,931	580,962
20 and under 30.....	1892	2,263	649,641	4	13,409	2,267	663,050
	1889	2,138	660,734	6	9,890	2,144	670,624
	1886	2,104	654,106	6	5,648	2,110	659,754
	1883	1,854	580,810	6	1,820	1,860	582,630
30 and under 40.....	1892	1,422	520,407	6	11,835	1,428	532,242
	1889	1,370	538,270	7	12,576	1,377	550,846
	1886	1,235	509,064	6	27,268	1,241	536,332
	1883	1,075	445,492	1	2,980	1,076	448,472
40 and under 50.....	1892	2,314	638,448	4	3,552	2,318	642,000
	1889	2,180	608,961	1	2,720	2,181	611,681
	1886	2,217	626,664	1	2,500	2,218	629,164
	1883	1,991	538,389	3	1,570	1,994	539,959
50 and under 60.....	1892	2,410	789,334	2	23,831	2,412	813,165
	1889	2,448	831,515	6	27,987	2,454	859,502
	1886	2,324	832,984	1	672	2,325	833,656
	1883	2,187	799,878	1	98	2,188	799,976
60 and under 70.....	1892	1,460	519,853	3	2,833	1,463	522,686
	1889	1,403	463,728	6	22,098	1,409	485,826
	1886	1,411	517,734	3	4,010	1,414	521,744
	1883	1,277	456,756	1	1,000	1,278	457,756
70 and under 80.....	1892	1,157	560,673	5	21,705	1,162	582,378
	1889	1,164	531,498	.....	.....	1,164	531,498
	1886	1,028	525,239	.....	.....	1,028	525,239
	1883	970	507,416	1	770	971	508,186
80 and under 90.....	1892	1,422	540,408	1	6,562	1,423	546,970
	1889	1,346	489,775	3	8,315	1,349	498,090
	1886	1,337	516,489	2	18,780	1,339	535,269
	1883	1,274	502,925	.....	.....	1,274	502,925
90 and under 100.....	1892	1,061	561,973	.....	.....	1,061	561,973
	1889	1,054	513,053	2	12,850	1,056	525,903
	1886	866	457,338	2	9,132	868	466,470
	1883	777	442,874	1	100	778	442,974
100 and under 200.....	1892	8,258	5,388,920	9	72,567	8,267	5,461,487
	1889	8,188	4,731,707	13	20,732	8,201	4,752,439
	1886	7,280	4,795,828	8	61,542	7,288	4,857,370
	1883	6,745	4,791,026	6	10,429	6,751	4,801,455
200 and under 320.....	1892	4,571	4,683,222	4	5,449	4,575	4,688,671
	1889	4,313	4,011,809	5	9,924	4,318	4,021,733
	1886	4,154	4,211,058	4	10,472	4,158	4,221,530
	1883	3,887	4,342,292	3	5,270	3,890	4,347,562
320 and under 500.....	1892	2,526	4,321,466	5	30,758	2,531	4,352,224
	1889	2,280	3,572,757	8	26,731	2,288	3,599,488
	1886	2,117	3,615,055	2	12,154	2,119	3,627,209
	1883	1,953	3,503,704	4	92,509	1,957	3,596,213
500 and under 640.....	1892	1,021	2,374,303	1	3,500	1,022	2,377,803
	1889	896	1,755,929	5	113,843	901	1,869,772
	1886	861	2,038,443	2	18,188	863	2,056,631
	1883	737	1,777,274	1	500	738	1,777,774

TABLE No. 4.—Freeholders of land outside boroughs and town districts, etc.—Continued.

Acres.	Year.	Persons.		Companies.		Total.	
		Number.	Improved value.	Number.	Improved value.	Number.	Improved value.
640 and under 1,000.....	1892	1,137	£3,631,542	6	£21,342	1,143	£3,652,884
	1889	1,025	3,041,737	10	74,695	1,035	3,116,432
	1886	1,039	3,347,702	4	30,307	1,043	3,378,009
	1883	926	3,344,357	5	29,197	931	3,373,554
1,000 and under 2,000.....	1892	584	5,096,060	8	25,628	992	5,121,688
	1889	891	4,311,976	15	122,307	906	4,434,283
	1886	906	4,516,147	10	48,404	916	4,564,551
	1883	812	4,322,082	4	9,932	816	4,332,014
2,000 and under 3,000.....	1892	305	2,670,177	6	33,203	311	2,703,380
	1889	277	2,253,539	2	43,642	279	2,297,181
	1886	266	2,255,589	3	57,130	269	2,312,719
	1883	243	2,331,213	2	40,400	245	2,371,613
3,000 and under 4,000.....	1892	145	1,701,342	1	4,786	146	1,706,128
	1889	139	1,323,460	1	14,848	140	1,338,308
	1886	142	1,461,593	2	12,984	144	1,474,577
	1883	142	1,583,515	4	30,935	146	1,614,450
4,000 and under 5,000.....	1892	107	1,373,167	2	20,677	109	1,393,844
	1889	86	1,152,765	2	6,918	88	1,159,683
	1886	94	1,337,228	2	32,919	96	1,370,147
	1883	73	1,138,590	1	5,500	74	1,144,090
5,000 and under 6,000.....	1892	62	961,129	4	86,029	66	1,047,158
	1889	72	1,176,177	3	52,729	75	1,228,906
	1886	72	1,248,956	3	48,868	75	1,297,824
	1883	65	1,202,475	3	61,938	68	1,264,413
6,000 and under 7,000.....	1892	50	822,486	.....	.....	50	822,486
	1889	48	863,542	.....	.....	48	863,542
	1886	49	946,998	1	14,920	50	961,918
	1883	47	944,148	1	6,649	48	950,797
7,000 and under 8,000.....	1892	38	727,542	.....	.....	38	727,542
	1889	40	744,074	1	22,367	41	766,441
	1886	42	791,001	3	65,237	45	856,238
	1883	37	886,206	.....	.....	37	886,206
8,000 and under 9,000.....	1892	28	646,060	1	2,540	29	648,600
	1889	33	601,438	.....	.....	33	601,438
	1886	29	702,608	3	51,596	32	754,204
	1883	26	782,846	1	4,900	27	787,806
9,000 and under 10,000.....	1892	21	705,024	4	73,403	25	778,427
	1889	22	475,778	2	63,380	24	539,158
	1886	15	349,992	3	85,795	18	435,787
	1883	21	555,236	2	60,966	23	616,202
10,000 and under 20,000.....	1892	139	5,190,809	9	305,149	148	5,495,958
	1889	124	4,305,326	10	233,016	134	4,538,342
	1886	141	5,005,603	10	319,057	151	5,324,660
	1883	138	5,171,761	3	71,486	141	5,243,247
20,000 and under 30,000.....	1892	42	2,451,129	3	292,172	45	2,743,301
	1889	45	2,504,936	5	324,787	50	2,829,723
	1886	42	2,348,237	1	15,288	43	2,363,525
	1883	46	2,652,992	3	35,821	49	2,688,813
30,000 and under 40,000.....	1892	24	1,936,353	6	521,412	30	2,457,765
	1889	22	1,668,081	4	236,538	26	1,904,619
	1886	26	1,809,375	5	268,951	31	2,078,326
	1883	23	2,058,685	.....	.....	23	2,058,685
40,000 and under 50,000.....	1892	7	741,417	2	246,242	9	987,659
	1889	10	795,193	3	187,369	13	982,562
	1886	4	470,543	1	81,492	5	552,035
	1883	8	632,825	3	153,874	11	786,699

TABLE NO. 4.—Freeholders of land outside boroughs and town districts, etc.—Continued.

Acres.	Year.	Persons.		Companies.		Total.	
		Number.	Improved value.	Number.	Improved value.	Number.	Improved value.
50,000 and under 75,000.....	1892	12	£1,159,281	2	£258,750	14	£1,418,031
	1889	11	948,547	1	161,498	12	1,110,045
	1886	14	1,594,675	5	638,670	19	2,233,345
	1883	9	1,096,423	3	541,916	12	1,638,339
	1892	5	1,075,583	1	11,040	6	1,086,623
75,000 and under 100,000.....	1889	4	864,824	2	226,971	6	1,091,795
	1886	3	675,388	3	614,798	6	1,290,186
	1883	6	1,146,797	1	370,777	7	1,517,574
	1892	1	22,677	3	602,303	4	624,980
	1889	1	38,219	1	140,351	2	178,570
100,000 and under 150,000....	1886	1	42,828	1	319,513	2	362,341
	1883	.....	.....	2	604,035	2	604,035
	1892	.....	.....	6	2,583,281	6	2,583,281
	1889	.....	.....	7	2,811,639	7	2,811,639
	1886	.....	.....	2	1,251,268	2	1,251,268
150,000 and over.....	1883	.....	.....	2	1,782,295	2	1,782,295

SUMMARY OF ABOVE.

5 and under 100.....	1892	19,323	6,214,330	46	135,125	19,369	6,349,455
	1889	18,752	6,337,531	53	141,573	18,805	6,479,104
	1886	17,043	5,953,325	32	80,964	17,075	6,034,289
	1883	14,740	5,150,215	26	16,761	14,766	5,166,976
100 and under 1,000.....	1892	17,513	20,399,453	25	133,616	17,538	20,533,069
	1889	16,702	17,113,939	41	245,925	16,743	17,359,864
	1886	15,451	18,008,086	20	132,663	15,471	18,140,749
	1883	14,248	17,758,653	19	137,905	14,267	17,896,558
	1,000 and under 10,000.....	1892	1,740	14,702,987	26	246,266	1,766	14,949,253
10,000 and under 50,000.....	1889	1,608	12,902,749	26	326,191	1,634	13,228,940
	1886	1,615	13,610,112	30	417,853	1,645	14,027,965
	1883	1,466	13,746,311	18	221,280	1,484	13,967,591
	1892	212	10,379,708	20	1,364,975	232	11,744,683
	1889	201	9,333,536	22	981,710	223	10,315,246
50,000 and over.....	1886	213	9,633,758	17	684,788	230	10,318,546
	1883	215	10,516,263	9	261,181	224	10,777,444
	1892	18	2,257,541	12	3,455,374	30	5,712,915
	1889	16	1,851,590	11	3,340,459	27	5,192,049
	1886	18	2,312,891	11	2,284,249	29	5,137,140
Total.....	1883	15	2,243,220	8	3,299,023	23	5,542,243
	1892	38,806	53,954,019	129	5,335,356	38,935	59,289,375
	1889	37,279	47,539,345	153	5,035,858	37,432	52,575,203
	1886	34,340	49,518,172	110	4,140,517	34,450	53,658,689
	1883	30,684	49,414,662	80	3,936,150	30,764	53,350,812

NOTE.—Total number of freeholders in colony: 1882 assessment—71,240, of whom 30,764 own 5 acres and over of country land, that is, outside boroughs and town districts, and exclusive of land classed as township lands; 1885 assessment—80,527, of whom 34,450 own 5 acres and over of country land; 1888 assessment—84,547, of whom 37,432 own 5 acres and over of country land; 1891 assessment—91,501, of whom 38,935 own 5 acres and over of country land.

In 1893, 15,320 persons paid £242,349 (\$1,211,745) land and income tax and 488 companies paid £131,739 (\$658,695), or a total of \$1,870,440; while in 1889, 25,841 persons paid £246,262 (\$1,231,310) and 486 companies paid £107,905 (\$539,525) property tax, a total under the latter tax of

\$1,770,853, which is \$99,605 less than the amount collected under the land and income tax of 1893.

Under the land and income tax system, there has been a steady increase year by year in the revenue derived from this source.

AMENDMENTS.

An amendment to the land and income tax bill was passed last year, which imposed a special tax on nonresident agents doing business in the colony. Formerly, commercial agents had to pay the ordinary income tax on the profits derived from business done in the colony; but, after some consideration, it was deemed more desirable to charge a lump sum for the privilege of doing business through agents or commercial travelers, and, accordingly, a sum of £50 (\$250) has to be paid by all nonresident agents before they can do business here. On payment of this sum, a special license is issued which entitles the holder to pursue his calling for twelve months. Every such nonresident agent is liable to a penalty of not exceeding \$100 per day for each day he exposes his wares or solicits trade without having a license.

ADDITIONAL EXEMPTIONS AND AMENDMENTS.

In addition to the exemptions specified in the assessment acts, which will be referred to later on, the following paragraph has been added and exempts from taxation the following:

All land owned and mortgages held by or on behalf of any religious body, the proceeds of which land or mortgages are devoted to the support of aged or infirm ministers or of widows or orphan children of ministers.

All land owned and mortgages held by any building society duly registered or constituted under the building-societies act are declared exempt from the operations of the land and income tax assessment; provided that annual dividends or profits credited to any member or shareholder in any such society shall be deemed to be part of the income of such member or shareholder; and any such society shall, when requested by the commissioner of taxes, forward to him a statement of such dividends or profits. The commissioner has full power to compel any person, company, or corporation to produce, either in writing or orally, as may be deemed necessary, all books, papers, instruments of any kind, accounts, trade lists, stock sheets, or other documents or writings that may be regarded as useful in getting at the facts in each particular case. Failure to comply with the law in this respect is punishable by a fine of not less than \$10 nor more than \$500 for each offense. Even those owners of land and mortgages who are exempt from the operations of the assessment acts must, under penalty, make returns to the commissioner when required.

Where any tax has not been assessed and remains unpaid in consequence of any person or company having neglected (whether willfully or not) to make full and complete returns of land, mortgages, or income, or by reason of such person or company having claimed deductions which they were

not entitled to claim, an additional 10 per cent is added as a fine. Assessments on land are made after deducting all improvements. Any person not domiciled in the colony is not entitled to the exemption of £300 (\$1,500) provided for in the income-tax act; it matters not though he should be in partnership with persons resident in the colony.

Losses made in business outside the colony are not recognized or considered by the tax department.

AMENDED SCALE OF GRADUATED TAX.

Schedule B of the principal act, which forms a part of this report, is amended as under in Schedule B of the principal act referring to graduated tax:

Graduated land tax.

Where the value is £5,000 (\$25,000) and less than £10,000 (\$50,000), one-eighth of 1d. (one-fourth of 1 cent) in the pound.

Where the value is £10,000 (\$50,000) and less than £15,000 (\$75,000), one-fourth of 1d. (one-half of 1 cent) in the pound.

Where the value is £15,000 (\$75,000) and less than £20,000 (\$100,000), three-eighths of 1d. (three-fourths of 1 cent) in the pound.

Where the value is £20,000 (\$100,000) and less than £25,000 (\$125,000), one-half of 1d. (1 cent) in the pound.

Where the value is £25,000 (\$125,000) and less than £30,000 (\$150,000), five-eighths of 1d. ($1\frac{1}{4}$ cents) in the pound.

Where the value is £30,000 (\$150,000) and less than £40,000 (\$200,000), three-fourths of 1d. ($1\frac{1}{2}$ cents) in the pound.

Where the value is £40,000 (\$200,000) and less than £50,000 (\$250,000), seven-eighths of 1d. ($1\frac{3}{4}$ cents) in the pound.

Where the value is £50,000 (\$250,000) and less than £70,000 (\$350,000), 1d. (2 cents) in the pound.

Where the value is £70,000 (\$350,000) and less than £90,000 (\$450,000), $1\frac{1}{8}$ d. ($2\frac{1}{4}$ cents) in the pound.

Where the value is £90,000 (\$450,000) and less than £110,000 (\$550,000), $1\frac{1}{4}$ d. ($2\frac{1}{2}$ cents) in the pound.

Where the value is £110,000 (\$550,000) and less than £130,000 (\$650,000), $1\frac{3}{8}$ d. ($2\frac{3}{4}$ cents) in the pound.

Where the value is £130,000 (\$650,000) and less than £150,000 (\$750,000), $1\frac{1}{2}$ d. (3 cents) in the pound.

Where the value is £150,000 (\$750,000) and less than £170,000 (\$850,000), $1\frac{5}{8}$ d. ($3\frac{1}{4}$ cents) in the pound.

Where the value is £170,000 (\$850,000) and less than £190,000 (\$950,000), $1\frac{3}{4}$ d. ($3\frac{1}{2}$ cents) in the pound.

Where the value is £190,000 (\$950,000) and less than £210,000 (\$1,050,000), $1\frac{7}{8}$ d. ($3\frac{3}{4}$ cents) in the pound.

Where the value is £210,000 (\$1,050,000) or exceeds that sum, 2d. (4 cents) in the pound.

HOW LARGE HOLDINGS WERE BROKEN UP.

The following figures will show the necessity of imposing the graduated land tax, especially in a country like this, with an increasing population and a very limited area of good, cultivable land available for settlement purposes:

In 1892, thirty-two companies owned between them 2,402,752 acres; six of these companies held over 150,000 acres each, or a total of 1,321,036 acres. The ascertained improved value of this vast area (nearly 2,500,000 acres) was £4,820,349 (\$24,006,745) and the unimproved value for the same year was £3,274,271 (\$16,371,355), or \$7,635,390 less than the improved value.

Nearly all of these lands were held for speculative purposes, and were not cultivated or improved as they should have been, and, consequently, they were not contributing even a reasonable proportion toward the expenses of government. Owing to the pursuit of this policy by the large holders, the influx of population was checked and the settlement of the land seriously retarded. With the period of stagnation and depression, already referred to, which ensued, to which the faulty land system of the country largely contributed, reasonable people will scarcely argue, or think it strange—especially if they have any knowledge of the facts—that the colonists at last realized that the time was ripe to make a change which would legally force the holders of large estates to either improve, sell, or subdivide their holdings.

Of course, as might be expected, there was a determined effort made to resist any legislation in this direction, but the people would not be denied.

With the graduated and absentee tax, the landlord class felt that they must do something to relieve the burdens thus imposed. They recognized, after the battle was over, that it was an unmistakable victory for the people, and, accordingly, took immediate steps to meet the requirements of the law by improving their land or selling it, either to the Government or to individual purchasers. A number of estates were disposed of privately. Some were subdivided, while a large percentage of them were sold outright to the Government.

This process has continued from the imposition of the tax to the present, so that now the number of large estates is considerably reduced, and, needless to say, with corresponding benefit to the country.

To facilitate the desire of those who held large areas to dispose of all or a portion of their interests and at the same time to assist the home seekers of the country, the Government passed an act, already alluded to in this report, called "the lands for settlement act." This act was criticised adversely by many, as it was alleged that it opened the door to fraudulent transactions and that it gave too much power to the Minister of Lands for the time being, which, if not exercised with caution, honesty, and intelligence, might involve the country in serious loss. The opposition to this act, so far as its administration up to the present is concerned, was utterly groundless.

The utmost care in purchasing large estates for settlement purposes is observed. The Government have a number of practical expert valuers who report on properties which are found to be suitable for agricultural purposes.

The property is subdivided, roaded, and improved otherwise, after which it is offered to the public in small areas at an annual rental of 5 per cent on the capital value of the land. The money paid for these estates is borrowed by the Government at 3 per cent, thus leaving a difference of 2 per cent, which more than pays the cost of administration and leaves some profit in addition. But should the lands thus purchased by the Government not be taken up, it will be easily seen that a loss must result. However, it is not anticipated that any serious loss will be made in this respect, as the lands are usually overapplied for as soon as the roads are built, the farms surveyed, and everything is ready for settlement. This particular act, when honestly administered, as it is now, has many merits—it relieves the large landowner from the burdens of the graduated tax, it increases the wealth-producing and taxpaying power of the people by making the earth yield what nature intended it should yield, and it provides homes for many thousands of people upon most reasonable terms who could not otherwise even hope for a home of their own for years to come. I wish to quote here the Minister of Lands' latest report to Parliament on this particular act:

The lands for settlement act, 1894.—In brief, the estates purchased to the 31st of March last numbered twenty-eight, containing 86,919 acres, the cost for purchase amounting to £377,553 (\$1,887,765), to which has to be added £11,761 (\$58,805), the cost of roading, surveys, administration, etc.

Up to the 31st of March, nineteen estates had been subdivided into various sized farms to suit local requirements and offered to the public, with the result that the greater part of them had been selected and numerous settlers are now resident.

At the date of the return there had been erected 133 houses, occupied by 643 souls, who had made improvements valued at £13,022 (\$65,110). The rentals are bringing in 4.76 per cent on the sum sunk in the estates, viz, £209,559 (\$1,047,795), which leaves a surplus after paying interest on the money raised for their purchase.

The commissioners report very favorably of the amount of improvements made and the general compliance with the conditions of the leases. Out of 397 selectors who have taken up land since the initiation of the scheme, 12 have forfeited their rights through breach of the conditions and two of these farms have since been reselected, while the others will be occupied as soon as thrown open again. Out of the total area purchased, 11,895 acres have not yet been selected, but there is no reason to believe that much of this will remain on hand long when the conditions are more favorable; indeed, it is known that most of it will be selected as soon as the various causes which at present prevent selection are removed.

These estates offered to the sons of farmers in their vicinity an excellent opportunity to acquire land near their parents, from whom they can obtain help, while at the same time this class of settler is the best that can be secured in the interests of the estates themselves.

He goes on to say:

Any scheme which will secure the right class of tenants will be a great step in advance, for, in dealing with these high-priced lands, want of experience or means on the part of the tenant will very soon depreciate the value of the estates, and perhaps prevent their letting again at the same rates.

The lands acquired under this act are generally first-class agricultural lands, and there is little room for argument as regards the great advantage it affords those who are desirous of obtaining small farms upon which to build homes for themselves and their families.

LAND AND INCOME TAX.

The land and income tax has now become the accepted and settled policy of the country so far as taxation is concerned. With the abolition of the property and improvement tax for State purposes, improvements have increased very largely all over the colony. Both the press and the people seem reconciled to the present system, but it has taken some time for the wealthy and well-to-do generally to cease their opposition to the new conditions.

Labor is relieved from taxation—except in the matter of customs duties, toward which all have to contribute—up to \$2,500 in landed property and \$1,500 as regards income. This is a pretty large margin in a country where the population is limited, not being quite 700,000 all told, and the national debt large, viz, £42,271,889 (\$211,394,445). This statement, to the average reader, will look even worse when I state that there is no great concentration of the goods of this world, but, on the contrary, that there is a fairly generous diffusion of the wealth of the country among all classes.

I do not wish to convey the idea that there are no unemployed or poor people here, for they are as abundant in this colony as they are anywhere else in proportion to population. The only difference in this respect between New Zealand and other countries is that the conditions of life are easier here, and, consequently, the degrees of poverty, misery, and wretchedness are not so acute. A genial climate, a young country, and a rich soil all contribute toward making the hardships of life less severe and easier to endure.

The great objection urged against the new taxation was the high exemption. It was claimed at the time that the burden of finding money to carry on the affairs of the country had been thrown upon the shoulders of a few, who had by industry, self-denial, and thrift accumulated a little property, thus punishing them for doing that which is the plain duty of all men, namely, to so shape the course of life as to make them independent. But arguments of this kind were disregarded; democracy was triumphant and in no mood to listen to specious statements and special pleading, which they had frequently heard before.

On the other hand, it was contended that a man should be grateful for being so blessed as to be in a position so advantageous as to include him among those whose income was over \$1,500 per annum, and whose landed estate exceeded \$2,500 in value. Indeed, it was urged by a considerable section that it was a humane and Christian duty which those whose labors the fickle goddess had favored owed to their less favored fellow-strugglers. It is needless to say the latter sentiment prevailed, but not without a most determined effort on the part of those most affected by the change.

Income tax.—Around this particular tax, the battle raged most fiercely. It was denounced as being inquisitorial, destructive of the first principles of frugality and thrift—in fact, all the elements of evil lurked in the shadow of the words “income tax.” A united attempt was made to resist this “iniquitous” tax, but all to no purpose. It is safe to say that nearly every man whose income exceeded the limit of the exemption was arrayed against

the passage of the income tax, but, like the land and graduated tax, its friends were stronger than its enemies. And now, after about six years of experience, there is scarcely a murmur from those who so violently opposed it at the beginning. I have devoted some time, since receiving instructions from the Department of State to prepare this report, to ascertain from a number of those who are large contributors under this tax what their views now are after their experience of the past few years, and I am pleased to say that, with few exceptions, they are for the most part prepared to admit it is a just tax and that they have no desire to return to the old system which prevailed prior to 1891-92. The more liberal and fair-minded—those who recognize their responsibility as citizens to the State—frankly admit that the income tax is a fair and an unembarrassing tax to those who have to pay it. As one prominent man expressed it, while I was discussing the subject with him: "I was originally opposed to this tax, but now, after a fair trial of it, I am not only convinced it is a legitimate tax, but I believe it to be a just and reasonable one, because it reaches a class who are always prepared to shirk their duty in this respect and who never willingly contribute their fair proportion toward the maintenance of the Government." It must not be presumed that men are more willing to pay taxes here than they are elsewhere, but some of them have the honesty to admit that their opposition to almost every form of taxation is based upon purely selfish motives and a desire to shift the burdens, without scruple or compunction, upon the shoulders of others.

In New Zealand, the land and income tax is now popular; it is accepted in lieu of the property tax; it is a success.

Local bodies rating act.—Under this act, local bodies, such as municipal corporations, road boards, borough councils, hospital and charitable aid boards, and county councils have a different method of raising revenue to that which obtains for State purposes.

The revenue raised by local bodies during the years 1893-94 was equal to 19s. 5d. (\$4.72) per head of the mean population. This, of course, is exclusive of State taxes.

Municipal taxes are levied, not on the ground value and improvements, if there be improvements, but on the rental value of buildings; but if there are no improvements or buildings on a city allotment, then, of course, the land is taxed. The following extract from the "rating act of 1876" explains the principal feature of the system:

The ratable value of any property means the rent at which such property would let from year to year, deducting therefrom 20 per cent in case of houses, buildings, and other perishable property and 10 per cent in case of land and other hereditaments, but shall in no case be less than 5 per cent of the fee simple thereof.

Without a special act of Parliament no city council can make a levy in excess of 2s. 0½d. (49 cents) per \$4.86.

A very charitable provision is made in the rating act, which reads as follows:

Upon the petition of any person praying for a remission of any rates upon the ground of extreme individual poverty, arising from accident or continued illness or other cause beyond

the control of such person, the council may, if it thinks fit, upon being satisfied after full inquiry that the allegations in such petition are true, remit the payment of any rates by the petitioner, either wholly or in part or for such term as the council thinks fit.

There is no doubt this merciful provision is frequently taken advantage of by those who, through no fault of their own, are overtaken by misfortune. To unduly press them at such a time would only intensify their hardship.

New local bodies rating act on unimproved values (passed July 10, 1896).— This act should gladden the heart of the average "single taxer," for the reason that it goes a long way in that direction; at least in so far as it applies to taxation for local purposes—that is to say, town boards, boroughs, road boards and county councils, etc. By the provisions of this act, 25 per cent of the ratepayers of any defined district, where the total number of ratepayers on the roll does not exceed one hundred, may petition the chairman of any road board, county council, or mayor of a borough to call an election for the purpose of determining whether taxes shall be levied under the old system, viz, land and improvement, or under this act, which provides that taxpayers may elect to levy taxes on the unimproved value only.

Twenty per cent of the ratepayers of any district, when the number on the roll exceeds one hundred, but does not exceed three hundred, and 15 per cent where the total number of ratepayers exceeds three hundred, may petition in like manner. The election must be held twenty-one days after due notice.

The ballot papers for this purpose shall, according to the act, read as follows:

Proposal that the rating on unimproved value act, 1896, be adopted in the (name of district), and that henceforth property be rated on the unimproved value thereof.

- (1) I vote for the above proposal.
- (2) I vote against the above proposal.

A majority of the number of votes cast is necessary to the adoption of the proposal, provided that at least one-third of the ratepayers on the roll shall have recorded their votes. Should the vote be favorable, no steps can be taken to rescind the same for a period of three years. Should the result of the ballot be unfavorable, no vote can be taken for three years from that date. At the end of three years, the contest may be renewed for or against, under the above conditions.

As soon as conveniently may be after an adopting proposal is carried in any district, a valuation roll of the ratable property in the district must be prepared by the local authority; provided that, instead of setting forth the capital value (which means the gross value of the land, including improvements), the roll and all notices of assessment shall set forth the gross value, the value of improvements, and the unimproved value of all ratable property in the district; and the rates, when levied, must be on the unimproved value only.

The value of the different classes of property, namely, gross value, improved and unimproved value, must be given in parallel columns, evidently

for the purposes of comparison and to assist the officers in arriving at satisfactory results.

Any person objecting to the assessment of the gross value, or to the value of improvements, or the unimproved value, may apply in the ordinary way to the assessment court for redress. But, should such objection be sustained, the gross value of the reduced assessment shall be adjusted to equal the value of improvements, plus the unimproved value.

It is provided that in all cases where, by any act, a limit of rating power is imposed upon any local authority, and in all cases of special and annually recurring rates, or of any rates the amount of which is fixed for any definite period of time, the following provisions are made to apply for the purposes of taxing on the unimproved value under this act :

When such rating power or rate has reference to the annual value, a rating power or rate equal to 1s. (24 cents) in the pound sterling (\$4.86) on the annual value shall be deemed to be equivalent to a rating power or rate of 3 farthings ($1\frac{3}{4}$ cents) in the pound on the gross value, and so on—a greater or smaller sum in the like proportion for a greater or smaller rating power or rate than 1s. in the pound on the annual value.

The rates levied on the unimproved value under this act must be so adjusted as to equal, as near as may be, but not to exceed, in their producing capacity the rates made and levied under the old system. Evidently this provision has been introduced for the purpose of encouraging the taxpayer to adopt the new system of taxing on unimproved values only. The provisions of this act do not apply to cities, but only to towns, boroughs, road boards, and county councils. The principal reason why the large cities are not included is that the members representing city constituencies in the legislature would not favor it, believing it to be inapplicable for purposes of taxation in large centers of population.

It will also be observed that its acceptance by the local bodies is not compulsory—had it been otherwise, it would not have passed the legislature—but being optional, no serious objections were offered to its passage.

I can not, of course, say anything as yet as to the extent to which the local bodies may avail themselves of its provisions, as it has only just passed. Neither can I offer any opinion as to its popularity and adaptability as a system of taxation.

There are a large number of single-tax advocates in the colony who have been, for a considerable time, endeavoring to get some such measure passed as a sort of entering wedge or prelude to a more comprehensive scheme of single tax, and I believe I am right in saying it is to their persistent advocacy the passage of this measure is mainly attributable.

It will be an interesting study to watch—and I shall endeavor to do so—the progress this single-tax “infant” may make with the local bodies of New Zealand.

TEXT OF THE PRINCIPAL LAND ACT, ETC.

In my last report on this subject, I endeavored to condense the principal act, but with due regard to intelligibility. I found, however, after the

report had been circulated, that it was unsatisfactory to a large number of people, as evidenced by the numerous inquiries received asking for further details of the law. Therefore, in order to afford all an adequate idea of the land and income tax act, I have deemed it better to forward the act itself with this report for the purpose of having it embodied therein and thereby avoid the unsatisfactory results of my former effort.

In the preceding pages of this report, I have given the substance of the amendments made to the original act since it came into operation.

With a view to placing the readers of this report in a position to fully understand each particular item and subject mentioned in detail in the principal act, I forward a comprehensive memorandum issued by the tax department for the convenience of taxpayers. Reference to this index will enable the reader to read the principal act with greater intelligence and satisfaction. I also send the forms sent out by the commissioner of taxes to each taxpayer, in the following order:

- (1) Income-tax form.
- (2) Land and mortgage form, including ordinary land and graduated tax.
- (3) Returns to be prepared by gold-mining companies.
- (4) Statement of income by business, manufacturing, or trading concerns.

By perusing these forms, it will be seen how complete and comprehensive are the details and machinery for extracting the fullest information and money from the taxpayer.

My aim has been throughout this work to give as many details as possible. This will, to some extent, account for, and, perhaps, in a small degree, excuse, the length of the report.

CONCLUSION.

I have been a studious observer of every phase of social life and legislative change that has taken place in this colony during the past seven years. I arrived at the very beginning of the experimental era—and it is no misnomer to call much of the legislation of the past few years experimental in the truest sense. But while it is so, there is a most gratifying feature which compensates for the violence done to the feelings of those whose motto has been “let us permit matters to remain as they are, they suit us well enough.” That the legislative innovations of the immediate past have shocked the sensibilities of a large number of prominent and well-to-do colonists is unquestionably true, but, at the same time, as against any inconvenience they may have experienced on this account, there is the fact of increased prosperity in nearly every branch of trade and industrial life throughout the country, farm products are fetching satisfactory prices, manufacturing industries are running full time and paying good wages and fair interest on the capital invested, labor is remuneratively employed, interest on money has fallen from 6 and 7 per cent to 4 and 5 per cent (this of itself, is sufficient to prove that money is abundant). Millions of English capital are flowing in for the development of the gold fields of the colony, and the credit of the country

at no period of its history stood so high on the English market as it does to-day.

I may also mention that, through the genuine encouragement given by the Government to the small-farmer class, the waste lands of the country are being rapidly taken up wherever land is found suitable for farming or grazing purposes.

Notwithstanding the admitted prosperity of the colony and the fact that the Government have had a substantial surplus over expenditure now for a number of years, the national debt continues to increase. But the increased indebtedness is not of the usual character, for the reason that the country has security for nearly all the money borrowed in recent years. Money had to be borrowed under Government guaranty to save the Bank of New Zealand from closing its doors. This was done to avert financial disaster, and if the Government had not come to the rescue at the critical moment it would have brought the colony to its knees. The Government holds the principal assets of the bank as security, and these are presumed to be ample.

Money has been borrowed to purchase large estates for the purposes of settlement. Those who take up land under this system, as already stated, pay an annual rental sufficient to cover the interest on the purchase money and the cost of administration. The land is always vested in the Government and this must be regarded as a good asset. One million and a half sterling was borrowed last year in England at 3 per cent per annum. This £1,500,000 loan is called the "advances to settlers loan." This money is lent out to farmers at 4 per cent per annum. One per cent is considered sufficient to cover the cost of administration. The Government have special valuers, who are men of experience in their respective districts, and who report upon all properties upon which it is sought to obtain an advance. These valuers submit their reports to a board known as the "advances to settlers loan board," who either approve or reject the application. This loan has been a great boon to struggling small farmers, who were paying as high as 8 per cent on their mortgages.

Immediately this money became available, interest came tumbling down to 4 per cent for good freehold security, so that, taking the increased indebtedness for the purposes mentioned, it can scarcely be called a real increase in the national debt, because of the class of security available to meet the obligations thus incurred.

Of course, it must be admitted that there is an element of risk in all kinds of borrowing, but, in this instance, every precaution seems to have been taken to prevent any loss being made. I need scarcely add that the large landholders, the mortgage companies, and the money lenders generally did not favor this kind of legislation, particularly the cheap advances to settlers, but their opposition was utterly futile. With the advent of the one-man-one-vote and the extension of the franchise to women, the power of corporate wealth in this country appears to have been irrevocably destroyed. Whether this be for good or evil, I am not, of course, in a position to say. I can say, however, that no ill effects of the change are apparent up to the present; on

the contrary, the country is more prosperous and at least as honestly and as economically administered as it was under the old régime.

To say that this country is, in my opinion, more truly democratic than any country in the world would be merely stating a simple truth; and to say that the present Government is a workingman's Government is equally true. A great deal of the legislation of recent years, however, is in advance of the requirements and ideas of the people, with the result that some of it has proved to be annoying and irksome to many. This is especially true of some of the labor laws. The Government are honestly endeavoring to place the masses in possession of their legitimate rights with as little friction as possible, and at the same time with due regard to vested interests and the propriety of things generally. But while struggling thus with the duties and responsibilities of their official positions, the members of the Ministry are torn asunder by the clamorous and impracticable demands of the unreasonable and irresponsible. The sympathies of the Government are unmistakably with the people, but the honor, the dignity, and the welfare of the country will not permit them to depart from a course too inconsistent with the sense of obligation, fair dealing, integrity, and responsibility which are the admitted characteristics and duty of all civilized governments.

The great danger at the present moment is too much legislation in one direction. This is the one thing wherein the Government find it really hard to resist the demands of organized labor. There is, however, a very gratifying disposition manifesting itself among the more reasonable members of the labor societies to let well enough alone for the present—a disposition it is much to be hoped may extend throughout the whole body of the workers. If not, I have no hesitation in predicting a serious revulsion of public sentiment and sympathy within the next few years. Labor has had a good innings; common sense should suggest moderation, now that so much has already been accomplished in the short space of four or five years. I do not mean that, by any chance, the people would revert to the old order of things, but they would call a halt in the trend of legislation if no steps are taken in this direction in the near future.

The leveling process, which began here about seven years ago, has now reached a point where prudence, good taste, and a due regard for the rights of others might fairly suggest a respite, and that, too, without loss of dignity or interest to any class. Indeed, for the well-being of the nation as a whole, it would seem to be desirable that for security and the uninterrupted maintenance of public confidence in the integrity and stability of government—such as it now enjoys to the fullest extent—wisdom should suggest a modification of the pace. People, as a rule, have no objection to the process of evolution by easy stages, but they have a pronounced dislike to being hustled or unduly hurried, and that is why I believe discretion to be necessary in the legislation of the immediate future in New Zealand.

JNO. D. CONNOLLY,

AUCKLAND, *September 3, 1896.*

Consul.

THE
LAND AND INCOME ASSESSMENT ACTS

OF 1891 AND 1892,

TOGETHER WITH

THE REGULATIONS MADE THEREUNDER.

PUBLISHED IN CLASSIFIED FORM FOR CONVENIENCE OF REFERENCE.

WELLINGTON:
BY AUTHORITY: GEORGE DIDSBURY, GOVERNMENT PRINTER.
1892.

LAND AND INCOME ASSESSMENT ACTS OF 1891 AND 1892.

“The Land and Income Assessment Act, 1891,” and “The Land and Income Assessment Act Amendment Act, 1892,” and the regulations made by the Governor in Council dated the 31st October, 1891, and the 26th March, 1892, are published in classified form for the convenience of those requiring to refer to them. The Act of 1892 is distinguished from the Act of 1891 by a black rule in the margin, opposite extracts from the amending Act. Those parts of the Act of 1891 that have been repealed are printed in erasure type.* The regulations of the 26th March, 1892, which deal more particularly with the assessment of income, are distinguished from the regulations of the 31st October, 1891, by a light rule in the margin. Forms of returns, notices, &c., prescribed by regulations, are not reprinted.

C. M. CROMBIE,
Commissioner of Taxes.

LAND AND INCOME-TAX OFFICE,
Wellington, 23rd November, 1892.

*These parts of the act are inclosed in brackets [].

LAND AND INCOME ASSESSMENT ACTS OF 1891 AND 1892.

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AN ACT to regulate the Assessment of Land and Income for the Purpose of Taxation. Title.

[8th September, 1891.

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

1. The Short Title of this Act is "The Land and Income Assessment Act, 1891." Short Title.

AN ACT to amend "The Land and Income Assessment Act, 1891."

[11th October, 1892.

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

1. The Short Title of this Act is "The Land and Income Assessment Act Amendment Act, 1892." Short Title.

2. In this Act, unless inconsistent with the context, the expression "the said Act" means "The Land and Income Assessment Act, 1891," and includes regulations made thereunder. Interpretation.

PRELIMINARY.

2. On such day after the commencement of this Act as the Governor in Council shall by Proclamation determine, "The Property Assessment Act, 1885," and "The Property Assessment Act 1885 Amendment Act, 1886," shall be and the same are hereby repealed. This repeal shall not—

Repeal of Acts relating to property tax.

Affect the past operation of the Acts hereby repealed, or the validity or invalidity of anything done or suffered, or the payment or recovery of any duty or property-tax which may have, or may hereafter, become payable to Her Majesty under the said Acts, or any of them, or any Act read and construed therewith; nor

Interfere with the institution or prosecution of any proceeding in respect of any offence committed, or the recovery of any penalty or forfeiture incurred, against or under the said Acts, or any of them:

Provided that in case such Acts shall not be so repealed before the date fixed thereunder for making a general triennial assessment of property, it shall not be lawful to make any such assessment, nor shall any person be required to make statements of property for the purposes of any such triennial assessment under the said Acts; but nothing herein shall exempt any person or company from any other duty or liability imposed by or under the said Acts or either of them. Saving.

3. In this Act, and in any regulations made thereunder, if not inconsistent with the context,— Interpretation.

"Assessment" means estimate of the value of any land or the interest therein, either with improvements or without improvements, or the value of such improvements alone, or of any income liable to taxation under this Act, as well as the amount of tax imposed thereon

respectively, and includes all matters comprised in any return required by or under this Act:

“Company” means and includes every corporate body not being a friendly society:

II. The following amendments are hereby made in the said Act:

Definition of “company.”

(1.) The definition of “company” in the third section of the said Act means, and shall be deemed to have meant and included, from the time the said Act came into operation, any corporate body not being a friendly society, and any association consisting of more than ten persons carrying on or engaged in any business, trade, manufacture, adventure, or concern.

“Friendly society” includes all societies registered under the Acts relating to friendly societies, industrial and provident societies, and trade unions respectively:

“Income,” when used alone, means any gains or profits derived or received by any company or person in any year, or by any means, or from any source, which is made the subject of taxation under this Act:

“Land” means and includes all lands, tenements, buildings, and hereditaments, whether corporeal or incorporeal, and also includes all chattel interests in land:

“Maori” means an aboriginal inhabitant of New Zealand, and includes any half-caste living as a member of a Native tribe according to their customs and usages:

“Owner,” in respect of land, means the person or company for the time being who is seised, possessed of, or entitled, at law or in equity, to any land, or the rents and profits thereof, or who, if the land were let to a tenant, would be entitled to receive the rents and profits thereof, whether as trustee, mortgagee in possession, or otherwise:

Definition of “owner.”

(2.) The definition of “owner” in the third section of the said Act means, and shall be deemed to have meant and included from the time the said Act came into operation, any person or company who, whether beneficially or in trust or as mortgagee in possession or otherwise, is—

(a.) Seised or entitled at law or in equity to an estate of freehold in possession of land or, howsoever entitled, to the rents and profits of land in possession; or

(b.) Who, if the land was let, would be entitled at law or in equity to receive the rents thereof in possession;

(c.) Possessed of or entitled at law or in equity to a leasehold estate in land in possession;

And each and every such persons or companies shall be liable to be assessed upon the actual value as defined by section one of Schedule A to the said Act, and shall be liable for the payment of the whole tax upon all such land:

Provided that, where any land is subject to any lease or tenancy, then the owner shall be assessed upon such land subject to the lease or tenancy; and the owner of such leasehold or tenancy shall be assessed upon the value of his interest therein.

“Prescribed” means anything prescribed by regulations:

“Tax” means the duty upon land, mortgages, or income, or any additional charge in respect thereof, to be assessed, collected, or enforced under the provisions of this Act:

“This Act” includes any regulations made under the provisions thereof, and also the Schedules to this Act.

Regulations.

1. These regulations shall come into force on the date when the same shall be published in the *New Zealand Gazette*.

2. In these regulations, unless inconsistent with the context,—

Interpretation.

“Company” means and includes every corporate body not being a friendly society :

“Land” means and includes all lands, tenements, buildings, and hereditaments, whether corporeal or incorporeal, and also includes all chattel interests in land :

“Notice” means a notice in writing given by causing the same to be personally served on any person, or by leaving the same at his usual or last-known place of abode or business in the colony, or by forwarding the same by post addressed to such usual or last-known place of abode or business ; and, in the case of a company means a notice given by being served upon or delivered to “the public officer” of such company at the address for service given under the Act, or if there shall be no such address for service, then by serving, leaving, or forwarding the same as aforesaid at or to any office or place where the company carries on business in New Zealand :

“Owner” in respect of land means the person or company for the time being who is seised, possessed of, or entitled at law or in equity to any land, or the rents and profits thereof, or who, if the land were let to a tenant, would be entitled to receive the rents and profits thereof, whether as trustee, mortgagee in possession, or otherwise :

“Publicly notified,” “public notice,” means a notice published in some newspaper circulating in the locality where anything is required to be so notified or notice thereof to be given :

“Public officer” means the public officer of a company to be from time to time appointed for the purposes of “The Land and Income Assessment Act, 1891 :”

“The Act” means “The Land and Income Assessment Act, 1891 :”

“Writing” includes printing, and any matter partly written and partly printed :

And generally, wherever by the Act an interpretation is given to any word or expression, the like interpretation shall be adopted in these regulations, unless there be something in the context inconsistent therewith or repugnant thereto.

PART I.

ADMINISTRATION OF ACT.

Appointments, &c.

4. For the due administration of this Act the Governor may from time to time appoint a fit and proper person, to be called the Commissioner of Taxes (hereinafter referred to as “the Commissioner”), and a like person to be Deputy Commissioner of Taxes ; and the Governor may from time to time remove or suspend such Commissioner or Deputy Commissioner.

Power to appoint Commissioner and Deputy Commissioner.

The persons holding the offices of Property-tax Commissioner and Deputy Property-tax Commissioner, under “The Property Assessment Act, 1885,” at the commencement of this Act shall be deemed, without further appointment, to hold the respective offices of Commissioner of Taxes and Deputy Commis-

Persons in office now to remain in office.

sioner of Taxes under this Act, but without prejudice to the provisions hereinafter contained.

Powers of Deputy Commissioner.

5. The Deputy Commissioner shall, under the control of the Commissioner, perform such general official duties as he shall be called upon to perform under this Act, and shall act as the Deputy of the Commissioner in case of the illness, absence, or other temporary incapacity of the Commissioner, and while so acting shall have and may exercise all the powers, duties, and functions of such Commissioner under this Act, and shall act in his name and behalf.

Powers and duties of Property-tax Commissioner to vest in Commissioner under this Act.

6. Upon the repeal of the Acts mentioned in the second section of this Act taking effect, all duties, powers, and authorities imposed upon or vested in the Property-tax Commissioner under any Act then in force shall be and the same are hereby imposed upon and vested in the Commissioner appointed under this Act, and all the provisions of any such Act, so far as applicable, shall, *mutatis mutandis*, extend and apply to such last-mentioned Commissioner accordingly, and until such repeal shall take effect all such duties, powers, and authorities shall continue to be performed and exercised by the Property-tax Commissioner.

For the purposes of "The Rating Act, 1882," and its amendments, or of any other Act in force at the commencement of this Act under which it shall be necessary to make any valuation roll or rolls, or any assessment of land, or any interest therein, the Commissioner may, from the assessments and rolls made and prepared under this Act, make and prepare such statements of values and valuation-rolls of rateable property, or assessments of land or any interest therein, as may be requisite or necessary, in order to comply with the said Acts or any of them.

Power to appoint other officers.

7. The Governor may from time to time appoint such Assessors, Clerks, Receivers, and other officers as he may deem necessary to assist in carrying out the provisions of this Act.

A notification in the *Gazette* that any person therein named has been so appointed shall be conclusive evidence of such appointment without further proof.

All persons holding permanent offices in the department of the Property-tax Commissioner on the commencement of this Act shall, without further appointment, be deemed to hold like offices in the department of the Commissioner appointed under this Act.

Secrecy to be maintained.

8. Subject to this Act, every person whomsoever appointed or employed under this Act—

(1.) Shall maintain, and aid in maintaining, the secrecy of all matters in relation to income that may come to his knowledge in the performance of his official duties, and shall not communicate any such matter to any person whomsoever, except for the purpose of carrying into effect the provisions of this Act:

Oath of office.

(2.) Shall, before he begins to act in the execution of this Act, take and subscribe such oath of fidelity and secrecy as may be prescribed, which oath may be administered by the Commissioner or Deputy Commissioner, or by any Resident Magistrate or Justice of the Peace.

Penalty for contravening intent of oath.

9. Every person who wilfully acts in contravention of the true intent of the oath which he has taken under this Act shall be liable, on summary conviction before a Resident Magistrate, if he shall elect to be tried before him, or, if he shall not so elect, then upon conviction before the Supreme Court or District Court, to imprisonment for any term not exceeding twelve months, with or without hard labour.

If any person acts under this Act before he has taken the oath required to be taken by such person respectively, he shall, on conviction, be liable to a penalty of not less than ten nor more than one hundred pounds.

Regulations.

3. Every person appointed or employed under the Act shall, before he be appointed to act in the execution thereof, take and subscribe the oath of fidelity and secrecy. All persons appointed to take oath,

5. A notification in the *New Zealand Gazette* that any person therein named has been appointed for the purposes of the Act shall be conclusive evidence of such appointment without any further proof; and the production by any such person of a printed copy of the *Gazette* containing such notification, and his statement that he is the person named therein, shall be *prima facie* evidence that he is authorised to act in the capacity mentioned in such notification. Gazette notice evidence of appointment.

6. Any Assessor may be appointed for such one or more districts or parts of the colony as the Commissioner thinks fit, and shall perform therein or in respect thereof all such duties as the Commissioner from time to time directs. Assessor may be appointed for more than one district.

7. The printed or stamped signature of the Commissioner shall in all cases be sufficient, and any book, document, or writing bearing or purporting to bear his signature, either in writing, or printing, or by stamp, shall be deemed to have been duly signed by him, and judicial notice shall be taken of such signature accordingly. Signature of Commissioner.

Regulations.

10. The Governor in Council may from time to time make regulations, not inconsistent with this Act, for the following purposes or any of them, and may from time to time alter or revoke the same, that is to say:— Regulations for administration of Act to be made by Governor in Council.

- (1.) Prescribing the duties of all officers and persons appointed under this Act or engaged in its administration; and the forms of assessment-rolls, registers, notices, and other instruments mentioned in this Act or necessary to give effect thereto:
- (2.) Prescribing the forms of returns to be made to the Commissioner under this Act, and the contents thereof, and by whom the same shall be made, and the time of making the same:
- (3.) Providing, where there is no provision in this Act, or no sufficient provision in respect of any matter or thing necessary to give effect to this Act, in what manner and form the want of provision or insufficient provision shall be supplied:
- (4.) For any purpose, whether general or to meet particular cases, that may be convenient for the administration of this Act, or that may be desirable or necessary to carry out the objects and purposes hereof, or which it is by this Act declared may be provided for by regulations:
- (5.) Providing that, for avoiding duplicate taxation in any case where it shall appear that any mortgage and income derived therefrom have been assessed for tax which has been paid in respect of the same year or period, the Commissioner may make such allowance or refund as he shall deem just, and in such manner as shall be prescribed:
- (6.) Imposing a penalty, not exceeding fifty pounds, for any breach of any such regulations.

11. All such regulations shall be gazetted, and, when so gazetted, shall have the force of law, and shall be laid before each House of the General Assembly within fourteen days after the same shall have been made if the Assembly be then sitting, and, if not, then within ten days after the next meeting of such Assembly. Regulations to be gazetted and have force of law.

Governor in Council may extend time for doing acts.

12. If any act, matter, or thing required by or under this Act to be made or done at or within a fixed time cannot be, or is not, so made or done, the Governor, by Order in Council, may from time to time appoint a further or other time for making or doing the same, whether the time within which the same ought to have been done has or has not elapsed or expired.

Any act, matter, or thing made or done within the time prescribed by such Order in Council shall be as valid as if it had been made or done within the time fixed by or under this Act.

Public Officers of Companies—Agents and Trustees.

Companies to be represented by a public officer.

13. Every company carrying on business in New Zealand shall at all times be represented by a person residing in the colony, who shall be duly appointed by the company, or by some agent or attorney having power to appoint such person for the purposes of this Act; and the following provisions shall have effect:—

- (1.) Such person shall be called the "public officer" of the company for the purposes of this Act, and shall be appointed within three months after the commencement of this Act, or after the company shall commence to carry on business in New Zealand, whichever shall last happen.
- (2.) The office of public officer shall be kept constantly filled by making fresh appointments thereto as may be necessary, and no appointment shall be deemed duly made until after notice thereof in writing specifying the name of the officer, and an address for service, has been given to the Commissioner.
- (3.) Every company failing or neglecting to make an appointment to the office of a public officer when necessary shall be liable to a penalty not exceeding fifty pounds a day for every day during which such neglect shall continue.
- (4.) Every public officer shall be answerable for the doing of all such acts, matters, or things as are required to be done by virtue of this Act in order to the assessment of the company under this Act and paying the tax payable in respect thereof.
- (5.) Everything done by any such public officer, which he is required to do in his representative capacity, shall be deemed to have been done by such company; and any service made at the address for service, or on the public officer, or upon any person acting or appearing to act in the business of such company shall be sufficient for all the purposes of this Act, and it shall not in any case be necessary for the Commissioner to prove that any such officer or person is or was the public officer of the company or acting in its business.
- (6.) The absence of, or non-appointment of, a public officer shall not exonerate any company from the necessity of complying with any of the provisions of this Act; but every such company shall be liable to the provisions of this Act as if there were no requirement to appoint such officer.

Liabilities of agents and trustees.

14. Every agent for every person permanently or temporarily absent from or not resident in the colony, and every trustee,—

- (1.) Shall be answerable for the doing of all such acts, matters, or things as are required to be done by virtue of this Act in order to the assessment of the land, mortgage, or income which he represents, or which is the subject of his trust, or which is received by him or comes to his hand, and for the paying the tax in respect thereof:

- (2.) Is hereby authorised to recover, from any person in whose behalf he is compelled to pay any tax, the amount so paid by him:
- (3.) Is hereby authorised and required, from and after the thirty-first day of March ensuing next after the commencement of this Act, to retain, from time to time, in each year, out of any money which shall come to him in his representative character, so much as shall be sufficient to pay the tax for the then current year in respect of any land, mortgages, or income subject to such tax, estimating the amount thereof at the same amount as was paid in respect of the same subject or matter in the year then last preceding; and is hereby indemnified for all payments which he shall make in pursuance of this Act:
- (4.) Is hereby made personally liable for the tax payable in respect of any land, mortgage, or income if, while such tax remains unpaid,—
 - (a.) He shall alienate, charge, or dispose of such land or mortgage; or
 - (b.) Dispose of any fund or money which shall come to him in his representative character; and shall not be otherwise personally liable for any tax imposed upon him under this section.
- (5.) The Commissioner or any other person or authority empowered under this Act shall have such and the like remedies against all land or other property of any kind vested in or under the control or management of any agent or trustee as he would have against the land or property of an individual, and in as full and ample a manner.
- (6.) For the purposes of this Act "trustee" includes executor, administrator or guardian, committee, or receiver, the Public Trustee, and any person having or taking upon himself the possession, administration, or control of land, mortgage, or income affected by any express trust, or having by law the possession, control, or management of the land, mortgage, or income of a person under any legal disability.
- (3.) In subsection (6) of section fourteen of the said Act the word "mortgage" is inserted, after the word "land," where it first occurs in the said subsection.

Amendment in section 14.

PART II.

NATURE OF THE TAXATION.

15. Subject to the provisions of this Act taxation shall be levied at stated rates in the pound sterling, in accordance with an annual Act to be passed for that purpose, upon—

On what taxation to be levied.

- (1.) All land situate in New Zealand, and on every mortgage of land, in the manner provided in the Schedules "A" and "B" to this Act;
- (2.) All income derived or received in New Zealand from business, employment, or emolument, in the manner provided in the several Schedules "C," "D," "E," and "F," to this Act.

General Exemptions from Tax.

16. Land owned and income derived or received as hereinafter mentioned shall be exempt from taxation under this Act, subject, however, to the provisions hereof:—

Exemption from tax.

- (1.) All land owned by any person or body corporate or unincorporate, and

Land.

used or occupied by such person or body solely for any of the purposes herein-after mentioned:—

- (a.) A place of worship, or a place of residence for the clergy or ministers of any religious body;
- (b.) Any public school established under "The Education Act, 1877," and all land and buildings used for any school which is not carried on exclusively for pecuniary gain or profit, but so that not more than fifteen acres be used and occupied by or for the purposes of any one such school;
- (c.) The site of any university or college, or school, incorporated by any Act or Ordinance; or the site of a public library, athenæum, or mechanics' institute, or any public museum, or any school of mines;
- (d.) A public cemetery or burial-ground;
- (e.) The ground or place of meeting for any agricultural society being the property of the society;
- (f.) A place of meeting for the purposes of a friendly society, or of a masonic lodge, or of any building society registered under the Acts in force relating to building societies;
- (g.) Public charitable institutions constituted under "The Hospitals and Charitable Institutions Act, 1885," and charitable institutions not carried on for gain or profit;
- (h.) Public gardens, domains, or recreation or other public reserves not occupied by a tenant, and all public roads or streets;
- (i.) Owned and occupied by Maoris only, and not leased to or occupied by any person other than the Maori owner;
- (j.) Any public railway, including the land occupied and used as permanent-way, and for yards, stations, sheds, and all buildings used for the purposes of traffic only, but not further or otherwise.

Lands of the Crown, of Government Railways, and of local bodies not liable.

No lands vested in Her Majesty or in the New Zealand Railway Commissioners, nor any land vested in any corporate or other body for the purposes of or in relation to local self-government, or for any public educational or public charitable purpose, shall be liable to taxation under this Act, except where there is a tenant or occupier liable to pay such tax.

Income.

- (2.) All income derived or received in the following manner:—
 - (a.) The general revenues received by or on behalf of Her Majesty the Queen in New Zealand;
 - (b.) By the Governor of the colony, so far as respects the emolument of his office as Governor;
 - (c.) The revenues received by any County Council, Borough Council, Town Board, Road Board, Harbour Board, public university, or public school, Education Board, School Commissioners, Licensing Committee, and every other local authority receiving revenue of any kind for the purposes of or in relation to local self-government;
 - (d.) By friendly societies and building societies, and by all public bodies and societies not carrying on any business or not being engaged in any trade, adventure, or concern for the purposes of gain to be divided among the shareholders or members thereof;
 - (e.) By the owner or occupier of land in New Zealand *from or out of land*, or from the use or produce of such land derived by such owner or occupier, or from mortgages of [such] land *in New Zealand*, except where otherwise specially provided.
- (4.) Subclause (e) of paragraph (2) of section 16 of the said Act is hereby amended by inserting after the words "New Zealand," in such sub-

clause, the words "from or out of land," and by striking out the word "such," in the third line, and by inserting after the word "land," in the same line, the words "in New Zealand."

3. The following additional exemptions from liability to tax under the said Act are hereby declared:— Additional exemptions from liability to tax.

- (1.) All land owned and mortgages held by any friendly society within the meaning of the said Act, or by any trustee on behalf of any such society :
- (2.) All land and mortgages of any savings-bank constituted under "The Savings-Bank Act, 1858," vested in or held by any vice-president of any such bank, or vested in or held by any trustees or other person for or on behalf of any such bank, and all income derived or received by or on behalf of any such bank :
- (3.) All land owned and mortgages held by the Commissioners of Sinking Funds under "The Public Debts Sinking Funds Act, 1868," or by the trustees of any sinking fund of or belonging to any local authority or body the revenues of which are exempt from taxation under the said Act :
- (4.) All mortgages held, and all income received or derived, by or on behalf of any public charitable institution, whether formed under "The Hospitals and Charitable Institutions Act, 1885," or any other Act for the time being in force, or howsoever formed, if carried on for any public charitable purpose, and not for any gain or profit.

PART III.

ASSESSMENT OF LAND AND INCOME.

17. Every person and company shall be liable for the payment of the whole amount of tax assessed upon land and mortgages, and upon income owned by or belonging to or received by such person or company, subject to the following provisions and the terms of this Act:— How land and income to be assessed.

- (1.) Returns shall be made to the Commissioner as prescribed for the purpose of enabling assessments to be prepared—
 - (a.) As to land and mortgages, triennially by every person and annually by every company;
 - (b.) As to income, annually by every person and company;
 - (c.) [The first year for which assessments shall be made in each of the above cases shall commence on the first day of April, one thousand eight hundred and ninety-two; and returns and assessments may be required and made under this Act although the year to which they respectively relate has not arrived; but nothing herein shall prevent the Commissioner from requiring further or fuller returns at any time or as at any date, in such manner as may be prescribed.]

4. Paragraph (c) of subsection 1 of section seventeen of the said Act is hereby repealed, and in lieu thereof the following provisions are enacted, and shall be deemed to have formed part of the said Act and to have been in force when the said Act came into operation:— Amendment of law as to time and mode of making assessments and returns.

- (c.) The first year for which assessments shall be made in each of the above cases shall commence on the first day of April, one thousand eight hundred and ninety-two, and all subsequent triennial and annual periods shall be reckoned from that date, subject, however, as hereinafter provided, that is to say:—

Triennial re-
turns of land and
mortgages by
persons

Annual returns
of land and mort-
gages by compa-
nies.

Returns of in-
come.

Returns of land
mortgages and
income for year
1892.

Further provi-
sions as to assess-
ments.

“(1.) Returns of land owned and mortgages held by a person shall be made as at noon on the first day of the month of November immediately preceding the commencement of the triennial period to which such return relates.

“(2.) Returns of land owned and mortgages held by a company shall for the first year of the triennial period commencing on the first day of April, one thousand eight hundred and ninety-two, be made as at noon on the first day of the month of November immediately preceding the commencement of the year to which such return relates, and as at noon on the first day of the month of April in each succeeding year of such period.

“(3.) Returns of income to be made by every person and company shall be based upon the amount of income which was derived or received by the person or company making the return during the year ending on the thirty-first day of the month of March immediately preceding the commencement of the year of assessment: Provided that, where the income of a person or company cannot be conveniently returned as of the date hereinbefore provided, it shall be optional for the Commissioner to accept returns made up to the date of the annual balance of such person or company; and the Commissioner may, if he accepts the date of such annual balance for the purpose of the return to be made by such person or company, accept an estimated return of income for assessment, such assessment to be adjusted by the Commissioner upon such annual balance being completed.

“(4.) With respect to returns of land and mortgages by every person and company under this Act to enable assessments to be made hereunder for the annual or triennial periods commencing on the first day of April, one thousand eight hundred and ninety-two, the time as at which such returns shall be made shall be twelve o'clock noon on the first day of November, one thousand eight hundred and ninety-one:

“With respect to returns of income by every person and company under this Act to enable assessments to be made hereunder for the annual period commencing on the first day of April, one thousand eight hundred and ninety-two, such returns shall be made on such day after the first day of April, one thousand eight hundred and ninety-two, as the Commissioner shall prescribe, but such returns shall be based on the income derived or received by any such person or company for the year ending the thirty-first day of March, one thousand eight hundred and ninety-two.”

“(d.) Subject to this Act returns may be required from any person or company at the time and in the manner required by or under any notice given by the Commissioner for that purpose, although the period or year for which assessments are required to be made has not commenced; and all the provisions of this Act shall extend and apply to such returns and the person or company liable to make the same; and assessments may be made upon or in respect of such returns as if the same had been required to be made or made within the year or period for which assessments are required to be made; and all proceedings may be had and taken, and all acts and things done, for the purpose of giving effect to this Act accordingly; but nothing herein shall prevent the Commissioner from requiring from any

person or company any further or fuller returns at any time, or as at any date, in such manner as may be prescribed, or from making any assessment upon any such return in such manner as may be necessary to give effect to this Act.

“Nothing contained in this section shall be deemed to interfere with or control any special powers of assessment conferred by this Act.”

- (2.) The Commissioner shall cause assessments to be prepared at such time or times and in such manner as shall be prescribed for the purpose of ascertaining the amount upon which tax shall be levied under this Act, and such assessments shall be entered in rolls and registers in accordance with regulations.
- (3.) Every agent for every person permanently or temporarily absent from or not resident in the colony, and every trustee, shall be assessed separately in respect of any land or mortgage or income for which he is agent or trustee, and shall be chargeable with the tax payable in respect thereof in the same manner as if such land, mortgage, or income were his own.

And he shall be assessed in respect thereof in his representative capacity, and each such assessment shall be kept separate and distinct from his individual assessment.

- (4.) If a mortgagee of land is not resident in New Zealand and has no known agent, the mortgagor shall be deemed to be the agent of the mortgagee, and liable to be assessed for and pay tax, subject to the provisions hereinafter contained.
- (5.) Joint tenants in common, and trustees in respect of the same interest, shall be assessed jointly, and shall be severally and jointly liable for the due furnishing of returns of the land or any mortgage they own jointly or in common, or any income receivable by them, and for the payment of any tax due thereon, and be liable in respect of any default therein respectively.

5. (1.) Where land or mortgages are owned or held by persons or companies in tenancy in common, joint tenancy, partnership, or on a joint account, then every tenant in common, joint tenant, partner, or person or company owning or holding on a joint account shall be assessed and liable for the whole tax payable in respect of such land or mortgages, without regard to the shares or interests of the tenants in common, joint tenants, partners, or persons or companies entitled upon a joint account in such land or mortgages.

Provision as to assessment of land and mortgages held by or belonging to tenants in common, joint tenants, or partners.

And such land or mortgages shall, for the purposes of the said Act and this Act, be assessed as if owned or held by one person or company; and one deduction only in respect of improvements, and one exemption only in respect of all such land and mortgages, shall be allowed in cases where such deduction and exemption are sanctioned by law.

(2.) Where tax shall be paid under this provision by any tenant in common, joint tenant, partner, or person or company owning or holding on a joint account, then the person or company so paying shall be entitled to contribution from every co-worker, partner, co-holder, or person or company owning or holding on a joint account in proportion to the relative shares to which such co-owners, partners, or co-holders, or persons or companies owning or holding on a joint account are entitled in the land or mortgage in respect of which the tax has been paid.

Provision for contribution between parties entitled

Regulations may be prescribed for the purpose of adjusting and settling how returns and assessments shall be made and contribution fixed and recov-

ered under this section, and for any other purpose necessary to give effect thereto.

Money received, and money, land, or mortgages acquired, for investment in colony between certain periods to be liable to tax.

18. Every person arriving in the colony at any time during the triennial period intervening between the appointed times for furnishing returns of land and mortgages, and every person who, at any time during such period, acquires land or any mortgage through any gift or succession, or in consequence of marriage, or by any other means, or who brings into or receives in the colony any money or securities for money which is invested on mortgage, or is received or held in the colony for the purposes of such investment, shall and is hereby required, without notice, to furnish returns thereof as owner, trustee, or agent, in manner hereinbefore required, as if at twelve o'clock noon on the first day of April ensuing next after his arrival in the colony, or to his acquiring the land, or receiving the money, or securities for money, as the case may be; subject, in case of neglect or failure to do so, to the penalties imposed by this Act in respect of persons failing or neglecting to furnish returns.

Assessment of companies or persons outside the colony carrying on business in the colony.

19. Where a company or person outside the colony (herein termed "the principal") who, by means of a company registered in the colony or carrying on business therein, or by means of any person in the colony (herein termed "the agent"), sells or disposes of, in the colony, goods, wares, merchandise, or other personal property for the principal (whether the moneys arising therefrom are paid or received by the principal directly or otherwise), then all income resulting therefrom to the principal shall, for the purposes of obtaining income-tax, be deemed to be income derived from business by the agent; and the following provisions shall apply:—

- (1.) The agent shall, as regards such income, make the returns, be assessed, be liable to income-tax, and otherwise be subject to the provisions of the said Act and to this Act, and to do all acts and things thereunder, as if such income was actually the income of the agent: Provided that nothing herein contained shall exempt or discharge the principal from liability to pay income-tax upon such income.
- (2.) Regulations may be prescribed for the purpose of making, obtaining, adjusting, and settling returns by or with any such agent in such manner and form, with such particulars and with such proof, as may be thought fit, and for the purpose of making, completing, and enforcing assessments under this section, and otherwise generally for the purpose of giving effect thereto: Provided that nothing herein contained shall limit or control the general power of making regulations under the said Act.

Regulations.

Notice of date for making returns.

8. The commissioner shall give not less than fourteen days' public notice of the day on or before which returns of land and mortgages of land shall be furnished or made by every person or company.

By whom returns have to be made.

9. A return of land and mortgages of land shall be furnished to the Commissioner for the purposes of the Act, either by posting the same to the Commissioner or by delivering the same at his office, on or before such day as may be publicly notified under these regulations, as follows:—

- (a.) By every person or company who is the owner of any land in New Zealand, and by every person who is an owner or holder of a mortgage or mortgages of land in New Zealand:
- (b.) By every attorney or agent for any person permanently or temporarily absent from the colony who is the owner of any land in New Zealand,

or who is the holder or owner of a mortgage or mortgages of land in New Zealand :

- (c.) By the Public Trustee, and every other trustee, executor, administrator, guardian, committee, or receiver entitled to or having the possession, administration, or control of land in New Zealand, or the management or control of any mortgage or mortgages of land in New Zealand where such land or mortgages is or are affected by any express trust, or where the person beneficially entitled thereto is under any legal disability.

But where the Commissioner, in exercise of any power vested in him by the Act or these regulations, gives any special notice, such notice may prescribe the time within which the act therein mentioned may be done, being not less than fourteen days from the service of such notice.

Special notice by Commissioner.

10. Every person or company hereinbefore mentioned, or that may be required or empowered by the Act to make or furnish any return of land or mortgages of land in New Zealand, and whether as the owner of such land or the holder of such mortgages, or as the agent, attorney, or trustee of such owner, holder, or any person under legal disability, or as the public officer of any company, is hereby required to make or furnish the same in accordance with the Act and these regulations:

Returns to be made in accordance with Act and regulations.

Provided that no person or company being the holder or occupier of Crown lands for mining purposes within the meaning of "The Mining Act, 1891," shall be required to make a return of land so held or occupied by such person or company.

Provision re mining leases.

12. When a return is made by an agent for any person absent from or not residing in the colony, or by a trustee, such return shall be made for each person or company represented by such agent, attorney, or trustee; and shall be distinct from each other, and from the return of any such agent, attorney, or trustee in his individual capacity.

Agents or Trustees to make returns.

But trustees in respect of the same interest, joint tenants, and tenants in common shall be severally and jointly responsible for the due furnishing of returns of land, or of any mortgage, owned or held jointly or in common.

Trustees to make returns.

14. Every return shall be signed by the person making it, or by the public officer of the company, as the case may be; and, if any person shall be unable to write, his signature, which shall be made by his mark, shall be attested by a witness, who shall sign as such.

Returns to be signed.

15. Such observations and directions may be indorsed or noted on any form of return as the Commissioner may think fit, and references to such observations and directions may be inserted in the form or be appended thereto.

Directions may be noted on return.

16. Every corporate or other body formed for the purposes of or in relation to local self-government, or for any public, educational, or charitable purpose, and every other person or body who may be the owner of land declared to be exempt from taxation by the Act, shall nevertheless be liable to make returns of land owned by such person or body when required to do so by a notice given under these regulations.

Owners of land exempt from taxation may be called upon to make returns.

17. Where the lessee or sub-lessee of any land has an interest in the improvements thereon, deduction for which he is entitled to claim, the deduction to be allowed for such improvements, whether as to the limit up to £3,000 in respect of the ordinary tax on land, or as to all improvements in respect of the graduated tax on land, shall be apportioned both as between the owner, the original lessee, and the sub-lessee (if any), by the Assessor, on the basis of the interest of such persons in such improvements, subject to the several rights of objection provided by the Act and these regulations.

Apportionment of improvements between owner and leaseholder.

Date for making returns by persons.

18. The time as at which returns of the land and mortgages of land owned or held by any person shall be made for the purpose of enabling assessments under the Act to be prepared for the triennial period commencing the 1st day of April, 1892, shall be at 12 o'clock noon on the 1st day of November, 1891; and like returns shall be made in every third year as at such day as may be prescribed under these regulations.

Date for making returns by companies.

19. The time as at which returns of land and of mortgages of land owned or held by any company shall be made for the year commencing the 1st day of April, 1892, shall be at 12 o'clock noon on the 1st day of November, 1891; and like returns shall be made in every year as at such day as may be prescribed under these regulations.

Commissioner may accept special form of return.

20. The Commissioner may require or accept a special form of return where, in his opinion, special circumstances shall render it desirable.

Duty cast upon persons of obtaining forms.

21. No person required to furnish a return shall be exempted from any penalty he may have incurred by failure so to do by reason of his having received no notice to furnish the same, or by reason of his not having been supplied with a form of return; but every such person shall himself obtain all forms of returns which he shall be required to furnish.

And the fact that any person or company is not specifically required by or under these regulations to make returns shall not exempt such person or company from any liability imposed upon a person or a company by the Act to furnish a return or otherwise comply with such Act.

Assessor may enter upon premises, and put questions.

22. Any Assessor may from time to time, at any reasonable hour during the day-time, enter upon any land or premises in the district for which he has been appointed, or upon any part of such land or premises, for the purpose of assessing or valuing the same or the improvements thereon, or for any other of the purposes of the Act or these regulations, and may put to the occupier or owner or any person employed thereon any questions touching such land or premises, or the particulars which such owner is required to return concerning such land, or any other matter or thing information concerning which such Assessor may require to enable him to make his assessment.

Commissioner or Deputy Commissioner may enter premises.

23. The Commissioner or Deputy Commissioner may enter upon and inspect any land or premises for the purposes of valuing the same, or any improvements thereon, or for any other purpose of the Act.

Commissioner may direct fresh assessment to be made.

24. If the Commissioner thinks any assessment made by any Assessor is unfair or incorrect, the Commissioner may direct another assessment to be made in place thereof.

Commissioner may authorise any one to enter upon land.

25. The Commissioner may from time to time authorise any person to enter upon any land for the purpose of inspecting and valuing the same or any part thereof, or the improvements thereon, for the purposes of the Act, and such person shall have the right for the purposes aforesaid to enter upon such land or premises at any reasonable hour during the day-time.

Assessments to be made from owners' returns and Assessors' Looks.

26. The assessments of land and mortgages of land shall be made by the Commissioner from the returns to be made by owners and the assessments by Assessors.

Assessment to be made though period has not commenced.

27. Every assessment may be so made by the Commissioner for the period hereinbefore mentioned, although the period or year to which such assessment relates has not commenced, and all the provisions of the Act shall apply to the returns required to be made under these regulations and to the assessments to be made thereon as if the same had been made or required to be made within the year or period to which they relate.

29. Upon the completion of the assessment-rolls the Commissioner shall cause to be given to each person or company whose name appears thereon as liable to taxation a notice in writing of the making of the assessments. Notice to be given.

30. Should the Commissioner fail to make any assessment or to do any other thing in the execution of the Act within the time prescribed, he shall, as soon as may be after the time at which such thing should have been done, perform or cause the same to be performed, and the performance of any such thing as aforesaid at any other than the prescribed time shall, notwithstanding such failure, be valid and effectual. Failure to make assessment within prescribed time not to invalidate same.

2. The Commissioner shall give not less than fourteen days' public notice of the day on or before which returns of income within the meaning of the said Act shall be furnished or made by every person or company. Commissioner to give fourteen days' notice requiring returns of income.

3. A return of income derived or received by any person or company in any year from any source which is made the subject of taxation under the said Act shall be furnished to the Commissioner for the purposes of the Act, either by posting the same to the Commissioner or by delivering the same at his office, on or before such day as may be publicly notified under these regulations as follows:— How returns of income to be furnished.

- (a.) By every person or company who or which derives or receives any such income as aforesaid: By whom returns of income have to be made.
- (b.) By every attorney or agent for any person permanently or temporarily absent from the colony who derives and receives any such income as aforesaid:
- (c.) By the Public Trustee, and every other trustee, executor, administrator, guardian, committee, or receiver, entitled to or having the possession, administration, control, or management of any such income as aforesaid, where the same is affected by any express trust, or where the person beneficially entitled thereto is under any legal disability.

But where the Commissioner, in exercise of any power vested in him by the Act or these regulations, gives any special notice, such notice may prescribe the time within which the act therein mentioned may be done. Special notice.

4. Every person or company hereinbefore mentioned or that may be required or empowered by the Act to make or furnish any return of income as aforesaid, and every person acting as the agent, attorney, or trustee of any person, or as the public officer of any company, is hereby respectively required to make or furnish the same in accordance with the Act and these regulations. Returns to be made in accordance with Act and regulations.

6. Partnership returns shall be made by the partner who shall be first named in the partnership deed, agreement, or articles, and, where there shall be no such deed, agreement or articles, then by the partner who shall be named singly or with precedence to the other partner or partners, in the usual name, style, or firm of such co-partnership, or, where such precedent partner shall not be an acting partner resident in New Zealand, then by the precedent acting partner or any sole acting partner resident in New Zealand. Partnership returns.

7. Where no such partner shall be resident in New Zealand, then the return shall be prepared and delivered by their agent, manager, or chief representative resident in New Zealand for such partners jointly. Where no partner resident in colony.

8. The form of return of income required by the Act to be made by or on behalf of a company shall be accompanied by the balance-sheet of such company issued to the shareholders thereof, or prepared for issue as aforesaid, last prior to the date to which such return relates; and to every return made on behalf of a company there shall be added a declaration by the public officer furnishing it that the same and the balance-sheet and particulars accompanying it are true and accurate in all respects. Return by a company.

List of employés.

10. The list of persons employed by any local authority, company, or persons to be furnished as required by section four of Schedule F to the said Act shall be made by the persons liable to make the same on or before the eighteenth day of April in each year.

By whom list to be furnished.

In the case of a local authority such list shall be so furnished by the secretary, clerk, or other officer fulfilling the duties of secretary or clerk; and if there shall be no such officer, then by the Chairman of the local authority.

In the case of a company such list shall be furnished by the public officer thereof; and in the case of a person such list shall be furnished by the employer of the person or persons to whom the list relates.

Commissioner may require production of books and documents.

11. If the Commissioner shall not be satisfied with any return furnished by any person or company under these regulations, or desire further information in respect thereof, he may, in writing, require any such person or company to amend such return, or furnish further particulars, either general or special; or, if the Commissioner thinks fit, he may require any such person or company to produce for examination by the Commissioner, or any person appointed by him for that purpose, at such place and time as may be appointed by the Commissioner in that behalf, any books, accounts, trade-lists or stock-sheets, papers, documents, writings, or instruments that may be considered desirable or necessary to enable the true income of any such person or company to be ascertained for the purposes of the said Act.

Penalty.

For any breach of this regulation every person or public officer shall be liable to a penalty not exceeding fifty pounds.

Date of income returns.

12. The first returns of income derived or received by any person or company made for the purpose of assessments under the said Act shall be for the year commencing on the first day of April, 1892, but shall be based on the income derived or received for the year ending on the thirty-first day of March, 1892, and thereafter such returns shall be made annually for each succeeding year commencing on the first day of April in each year in respect of the income received for the year ending on the last-preceding thirty-first day of March. The first of such returns shall be made on such day after the first day of April, 1892, as the Commissioner shall prescribe under these regulations, and for each succeeding year on such date after the first day of April therein as the Commissioner shall prescribe as aforesaid.

Register.

13. Upon the completion of the assessment of income particulars thereof shall be entered in a register to be made and kept by the Commissioner.

Notice of assessment of income to be given.

15. The Commissioner shall cause to be given to each person or company whose name appears in such register as liable to taxation a notice in writing of the making of the assessments.

Board of Review to determine objections.

16. Upon any objection to an assessment of income being made, the Board of Review to whom the same has been referred by the Commissioner shall hear and determine the same, and shall either confirm such assessment, or alter, vary, increase, or reduce the same, as it thinks fit.

Duties of Chairman.

17. The Chairman of the Board shall note the decision of the Board in respect to any such objection upon the return or other document submitted to it, and, after initialling or identifying the same, shall transmit such return or document to the Commissioner, who shall enter the necessary particulars thereof on the register in such manner as he thinks fit.

Notice of and Objections to Assessments.

Notice of every assessment to be sent to persons affected.

19. (1.) Upon the completion of the assessment-rolls the Commissioner shall cause to be given to each person or company whose name appears thereon as liable to taxation a notice in writing of the making of the assessments.

(2.) Such notice shall be in such form and contain such particulars as may be prescribed. But the omission to give any such notice shall not invalidate any assessment. Omission of notice not to invalidate assessment.

(3.) Objections to any assessment under this Act may be made by any person or company feeling aggrieved by reason of any assessment in which he personally or the company is interested, or by the Commissioner, in such manner and on such terms and conditions as shall be prescribed. How objections to be made to assessment

(4.) Where no objections are made to any assessment-roll or register, or where objections have been allowed or withdrawn, such roll or register, signed by the Commissioner, shall be the assessment-roll or register in respect of the land, mortgages, or income therein mentioned as the case may be. What constitutes assessment-roll or register.

Regulations.

31. Any person or company feeling aggrieved by reason of any assessment in which he personally or the company is interested may object to such assessment. Persons or companies may object.

32. The Commissioner shall give notice in such form as he thinks fit that all objections to the assessments made are to be sent in to him on or previous to a day to be appointed in the notice; and no objection other than one made by the Commissioner shall be entertained which is not lodged with him on or before the last day appointed for lodging objections. Commissioner to give notice of date for receiving objections.

33. Every such objection shall be in writing under the hand of the objector, and shall be delivered or posted to the Commissioner on or before the last day appointed for receiving objections. Objections to be made in writing.

34. The Commissioner shall consider the objections, and may make such inquiries thereon or relating thereto as he thinks fit, and, if he thinks that any objection should be allowed, he may alter or amend the assessment accordingly; but, if not, then such objection shall be heard and determined by a Board of Review as hereinafter prescribed. Commissioner may allow objections. Board of Review to deal with objections disallowed.

35. If any person or company entitled to lodge an objection to any assessment fails to do so, or fails to prove his or its objection, such person or company shall pay any tax that may be imposed upon the land or mortgages assessed to him or the company, although such land or mortgages may not belong to such person or company. Tax to be paid by person or company failing to sustain objection.

36. The Commissioner may object to any assessment of land, and in every such case he shall send notice of the objection to the person or company to be affected thereby. Commissioner may object to any assessment.

37. When objections have been lodged with the Commissioner he shall, on or before the day appointed for the review of the assessments, deliver or transmit such original objections as may not have been allowed, or withdrawn, to a Board of Review (hereinafter referred to as "the Board"), who are to hear and determine the same. Commissioner to transmit objections to Board of Review.

Review of Assessments.

20. The Governor shall from time to time appoint fit and proper persons to constitute Boards of Review of Assessments under this Act (hereinafter termed "the Board"), and may remove any such persons from his office; and every Board shall hold office for three years commencing from the first day of January, one thousand eight hundred and ninety-two, and so on for each subsequent period of three years, subject, however, to this Act. Boards of Review to be appointed.

In case of the death, resignation, or removal of any member of the Board, the Governor may appoint a fit and proper person to fill the vacancy so occasioned, and the person so appointed shall only hold office for the period for

which his predecessor would have held office, but subject to the provisions of this Act.

No person holding any office under this Act shall be capable of holding the office of Reviewer in conjunction therewith.

Powers and duties of Boards.

21. The duties imposed upon Boards, and the mode, terms, and conditions on which the same shall be exercised and performed, shall be prescribed by regulations, and, in addition thereto,—

- (1.) Every Board shall, in respect of the examination of witnesses, their expenses, the production of papers and documents, and the payment of costs, have all the powers and authorities conferred by "The Commissioners' Powers Act, 1867," as amended by "The Commissioners' Powers Act 1867 Amendment Act, 1872," on members of a commission appointed by the Governor in Council.
- (2.) Every Board shall have full power of hearing and determining all objections to the assessments before it; and shall make such order as to costs as it shall deem just.
- (3.) The decision of the Board on all objections coming before it, and on all other matters coming within its cognisance relating to the assessments, shall be final and conclusive; and, in respect of land, the decision of the Board shall be recorded on the roll, and such roll shall be signed by the Chairman of the Board.

Objections to assessments of income to be heard before Resident Magistrate.

7. After the passing of this Act objections to assessment of income received or derived by any person or company shall be heard and determined by a Resident Magistrate and not by a Board of Review, and all the provisions of the said Act as to the powers, duties, and functions of a Board of Review in such cases shall, *mutatis mutandis*, be exercised and performed by such Resident Magistrate, with such necessary modifications or additions as may from time to time be prescribed.

Members of Boards of Review and Resident Magistrates not disqualified by reason of liability to be assessed for tax.

8. No member of any Board of Review and no Resident Magistrate shall, solely on account of his liability to be assessed under the said Act or this Act, or of his liability to tax under any Act for the time being in force, be deemed to be interested in any matter upon which he may be called upon to adjudicate or determine as such member or Magistrate.

Regulations.

Fourteen days' notice to be given of sitting of Board.

38. The Commissioner shall give at least fourteen days' notice of the date and place where each Board shall sit for the purpose of reviewing assessments under the Act; and the first meeting of each Board shall be held at the date and place so appointed.

Board to appoint Chairman.

39. At the first meeting of every Board the Reviewers shall appoint their Chairman.

Quorum of Board.

40. Any three Reviewers shall form a Board, and any two of such three shall be a quorum, and competent to do any act, matter, or thing required by the Act to be done by the Board.

Time and place of meeting.

41. Every Board shall from time to time appoint the time and place of any meeting subsequent to the first meeting, and may from time to time adjourn any such meeting in respect of time and place as they shall think most convenient.

Board meetings to be considered public, except when considering matters relating to income.

42. The meetings of the Board shall be deemed to be public, except when considering matters relating to the assessment of income or objections thereto, in any of which cases the Board, of its own motion or at the request of any objector, may at any time, or from time to time, exclude from any such meeting, or require to withdraw therefrom, all or any persons whomsoever.

43. If, on the day appointed for the meeting of any Board, a quorum of members is not present, the meeting shall stand adjourned until the next day, and so from day to day till a quorum is formed. If quorum not present.

44. The Commissioner or Deputy-Commissioner may appear personally before any Board or by his solicitor, and the Assessor or other officer may appear in person in support of the assessment, and any person objecting to such assessment may appear in person or by his solicitor or agent. Who may appear before Board.

45. The Board shall hear and determine all objections referred to them as above provided, and may alter the assessment-rolls accordingly; and may also make such alterations in the descriptions of land as may be necessary to render such descriptions more clear for the identification of the land. Duties of Board.

46. The Chairman of the Board shall initial all the alterations, insertions, and erasures, if any, made by the Board in each assessment-roll, and shall sign the roll, and deliver or transmit it to the Commissioner. Duties of Chairman.

47. The assessment-roll so signed, or so corrected and signed, shall be the assessment-roll for the district to which it relates. Assessment-roll.

Assessment-rolls and Registers.

22. (1). Assessment-rolls and registers, and all entries made therein, or a copy of or extract from such roll or register, certified by the Commissioner or Deputy Commissioner to be a true copy or extract, or any return of any kind made by any person or company, by the production thereof alone, and without any further evidence, shall be received as *prima facie* evidence of the facts therein mentioned. Rolls and registers to be evidence.

(2). Any return made or purporting to be made or signed by or on behalf of any person, or by the public officer of any company, for the purposes of this Act, shall for all purposes be taken and deemed to be duly signed by the person or by the public officer of the company affected, as the case may be, unless such person or public officer shall prove that such return was not made or signed as aforesaid. Returns made by persons or companies to be deemed duly made.

(3). The validity of any assessment-roll or register shall not be affected by reason that any of the provisions of this Act have not been complied with. Irregularity not to vitiate assessment.

6. Section twenty-two of the said Act shall be read as if the following subsections formed part thereof:— Power to Commissioner to amend and alter assessment-rolls or registers.

“(4.) The Commissioner may from time to time, in respect of any assessment-roll or register,—

“(a.) Place thereon the name of any person or company of whose liability to taxation he is satisfied, and remove therefrom the name of any person or company not so liable;

“(b.) Add to any roll or register the value of any land, or the value of any mortgages, or the amount of any income omitted to be assessed or returned by any person or company at the time and in the manner required by law;

“(c.) Place thereon the value of any land, or the value of any mortgages, or the amount of any income owned, held, or received, or receivable by any person or company which he is satisfied is liable to be assessed for taxation, and remove therefrom the value of any land, or the value of any mortgage, or the amount of any income which he is satisfied ought not to be assessed for taxation.

“(5.) The Commissioner shall not (unless with the consent of the person or company affected) add any name to, or place the value of any land, or the value of any mortgages, or the amount of any income upon any assessment-roll or register, under the power hereinbefore conferred upon him, until the

expiration of one month after he has given notice thereof to the person or company affected thereby; and every such person or company shall be entitled to object, and to have the objection heard before any Resident Magistrate, as provided in the twenty-third section of this Act."

Alterations may be made by Commissioner.

23. The Commissioner may make any alteration in any assessment-roll or register rendered necessary by any new returns authorised to be demanded from time to time under this Act, or which may be necessary in order to the assessment of any land, mortgages, or income omitted in whole or in part to be returned or assessed for the purposes of this Act, or in order to determine the mortgages or outgoings for which any person or company is allowed to claim deduction, in such manner and upon such terms and conditions as to objections as may be prescribed.

Hearing of objections thereto.

Such objections shall be heard before any Resident Magistrate, who for the purposes of this section shall have all the powers and authorities of a Board of Review, and the Chairman thereof, which are or may be conferred by or under this Act.

Provision for adjustment in cases where land or mortgages sold or disposed of before commencement of new year of taxation.

9. Any person or company, being the owner of any land or the mortgagee of any land liable to tax under the said Act, who in any manner ceases to be the owner of such land, or ceases to be the mortgagee of any such land, may, at any time before the first day of April next ensuing after such cesser, give notice in writing of the facts to the Commissioner, who, after such inquiry therein as he thinks fit, and subject to the provisions of the said Act as amended by this Act, shall adjust the liability occasioned by the altered state of facts so that taxation may be imposed on the person or company liable thereto; and the Commissioner may, subject as aforesaid, make such alterations in any assessment-roll or other record, and may do such other acts and things as may be necessary to give effect to this provision, in such manner and upon such terms and conditions as may be prescribed from time to time.

Every such adjustment or alteration shall take effect as from the first day of April next succeeding the date or time when the transaction necessitating such adjustment or alteration has taken place.

These provisions shall extend and apply to any part alienation or disposal of any estate or interest in any land or mortgage, and such provisions shall, *mutatis mutandis*, be construed accordingly.

"The Land and Income Assessment Act, 1891," to apply for the purpose of affixing value in certain cases under law relating to stamp duties and duties upon estates of deceased persons.

18. The provisions of any Act in force relating to stamp duties, or the duties upon the estates of deceased persons, which provide that the amount of duty payable upon or in respect of any property shall be ascertained in accordance with the value thereof as assessed under "The Property Assessment Act, 1885," or under any Act repealed by that Act, shall be deemed to include "The Land and Income Assessment Act, 1891," as from the date of the passing thereof; and, whenever it shall be necessary to determine the amount of duty payable after the date of the passing of the last-mentioned Act on or in respect of any such property, the same shall be calculated on the value of the owner's interest in such property, as appearing in any assessment-roll for the time being in force under the said Act, including therein the value of the owner's interest in all improvements erected or made on any land at the date of the last assessment thereof under the said Act, and on all the owner's interest in the improvements erected or made thereon since such last assessment.

General application of above Act to Acts in force.

And generally where, in any unrepealed Act, any reference is made to "The Property Assessment Act, 1885," or any amendment thereof, such reference shall be construed as referring to "The Land and Income Assessment Act, 1891," as amended by this Act.

Regulation.

18. Except as expressly provided by the said Act and the foregoing regulations, the regulations made and issued under the said Act on the thirty-first day of October last past shall extend and apply to the assessments of income, whether of persons or of companies, to be made for the purposes of the said Act, and to the returns to be made by persons or companies, and generally in all other respects such last-mentioned regulations shall, *mutatis mutandis*, apply to the matters provided for in these regulations.

Regulations of 31st October to apply.

PART IV.

PROCEDURE TO ENFORCE TAXATION.

24. Not less than fourteen days' public notice shall be given by the Commissioner that the tax will be payable on a day to be stated in such notice, and, if any tax shall remain unpaid at the expiration of fourteen days after the due date, ten per centum on the amount of the tax unpaid, or on any part unpaid of such tax, shall be added thereto.

Notice of due date of tax to be given.

25. Such tax, together with such addition, shall be recoverable, in any Court of competent jurisdiction, by the Commissioner, on behalf of the Crown, by suit in his own name.

Tax to be recovered by Commissioner.

With respect to suits and proceedings in a District Court or in a Resident Magistrate's Court for the recovery of tax, the following provisions shall have effect:—

Procedure in local Courts.

- (1.) When a summons for the recovery of tax is issued and served, then, unless, eight days before the day appointed for hearing, a statement in writing by or on behalf of the defendant, showing a defence on the merits, shall be made to the Clerk of the Court in which the summons was issued, judgment shall be given for the amount claimed without allowing any defence, and without the necessity of the Commissioner or any one on his behalf appearing in Court or proving the liability of the defendant and the non-payment of the tax.
- (2.) In all such cases the summons shall be served upon the defendant at least thirty days before the day appointed for hearing.
- (3.) It shall be sufficient, in any such suit or proceeding, if the particulars of demand state the amount sought to be recovered, the date on which the same was payable, with such further and other particulars as the Commissioner thinks necessary to fully inform the defendant of the nature of the demand.

26. For the purpose of enforcing the assessment of land, mortgages, or income in certain cases, the Commissioner shall have the following powers:—

Power to the Commissioner to enforce assessments in certain cases.

- (1.) Where any person has died leaving any land, or possessed of or entitled to any mortgage, which has not been assessed or returned for assessment, or where the person so dying shall not have returned the full value of his land or mortgages, at any date or time when the returns ought to have been made, the Commissioner may take such and the like proceedings in respect of any such land or mortgages as he could do under section twenty-three, which shall extend and apply to such cases.

Land and mortgages.

- (2.) Where any person shall have died who was possessed of or entitled to an income in his lifetime which was not returned or assessed under this Act, the Commissioner shall have and may exercise the like

Income.

remedies in respect of or against the executors or administrators of such person who shall have died as aforesaid as he would have had against him in his lifetime; and such executors or administrators are required to make such returns as the Commissioner shall require, unless he shall be satisfied it is not in their power to do so.

Against personal representatives.

(3.) The tax to be recoverable against the legal personal representatives of any such person, or his estate, in any such case shall be assessed and levied for the whole or part (as the case may be) of the period or periods during which such land and mortgages or income have not been so assessed or returned for assessment, and shall be assessed and levied at the rate of tax payable in respect of the year or years for which tax ought to have been paid; and the amount payable and to be recovered shall be treble the amount of the tax so assessed and levied.

No lapse of time to be a bar to proceedings.

(4.) No time or period which has elapsed shall be deemed to prevent the operation of this section, but the Commissioner may take any such proceeding, or exercise or enforce any power, authority, or remedy for the purpose of giving effect to this Act, and recover the tax due or that ought to have been paid in any of the cases aforesaid as he has or can or may exercise in any other case.

Provision if too little tax has been paid.

27. If, after any tax has been paid under this Act, it is discovered that too little in amount has been paid, the person or company liable for the tax shall forthwith pay such additional amount; and the amount so payable shall be recoverable in any Court of competent jurisdiction by the Commissioner on behalf of the Crown, by suit in his own name.

Provision if too much tax has been paid.

28. If, after any tax has been paid under this Act, it is discovered that too much in amount has been paid, the Commissioner, upon being satisfied that too much in amount has been paid, shall order the amount overpaid to be returned to the person or company entitled to receive the same.

Statutes of limitation not to bar remedy.

29. No statute of limitations, now or hereafter in force, shall bar or affect any action or remedy for recovery of tax under this Act; and nothing herein-

Act not to limit operation of "The Crown Suits Act, 1881."

before contained shall prevent the enforcement of any right or remedy conferred on Her Majesty, or on her behalf, by or under "The Crown Suits Act, 1881."

Power to purchase land at value stated in return in certain events.

[30. The Governor in Council, on the recommendation of the Commissioner, may, at any time during a triennial period, whenever he deems it expedient for the protection of the revenue, purchase and take for Her Majesty any land, or any interest therein, mentioned in any return made under this Act, and may pay to the person or company making such return, and to whom the said property or the interest therein belongs, the sum at which such land is valued in such return, together with ten pounds for every one hundred pounds of such value, unless such person or company shall, within thirty days after notice shall have been given by the Commissioner to such person or company, consent to have the same assessed, for the purposes of this Act, at the value which the Commissioner shall think was the fair actual value thereof at the date as at which the return relating thereto was made or ought to have been made under this Act:]

Right of appeal.

[Provided that the person or company affected shall have the right to appeal to the Board of Review to determine such fair actual value.]

Commissioner may be required to reduce assessment or purchase land.

[31. If any person, at any time during a triennial period, shall be dissatisfied with the amount at which the whole or any portion of his land is assessed, he shall be entitled to call upon the Commissioner either to reduce the assessment to the sum at which it was valued in the return of such person, or else to purchase such land at the sum at which the same was valued in such return; and

the Commissioner shall, at his discretion, reduce the assessment accordingly, or shall, upon obtaining the consent of the Governor in Council, and upon having the land duly conveyed or assured to the Crown, purchase the same as hereinbefore provided.]

[32. The Colonial Treasurer, upon the Governor's warrant, may issue and pay out of the Consolidated Fund, without any specific appropriation, any moneys required to be expended for the purposes of the last two preceding sections hereof.] Colonial Treasurer to pay purchase-money.

[33. Any land or interest therein purchased under section thirty shall belong to Her Majesty from the date of the payment of the purchase money thereof, and the title thereto shall absolutely vest in Her Majesty, without any conveyance or transfer, from the date of the gazetting of a notice by the Governor that he has so purchased it as aforesaid; and the same shall be sold or otherwise dealt with in such manner as the Governor in Council may direct, and the Governor is hereby empowered, in the name of Her Majesty, to convey, assure, or otherwise transfer the same to the purchaser thereof.] Land acquired may be sold, &c., as directed by Governor in Council.

12. Sections thirty, thirty-one, thirty-two, and thirty-three of the said Act are hereby repealed. Repeal of sections 30 to 33 of principal Act.

13. If the Commissioner is of opinion that any land included in any return or assessed upon the assessment-roll was not returned or assessed at its fair actual value (and notwithstanding that a Board of Review has given its decision upon the assessment)— Power to require owner to assent to assessment of land; otherwise power to Governor to acquire same for Her Majesty.

(a.) He may, during the twelve months after the signing of the assessment-roll by the Chairman of the Board of Review or by the Commissioner give notice to the owner by registered letter that he requires the owner to consent to such land being assessed at such sum as the Commissioner may be of opinion was the fair actual value of such land at the date as at which the return or assessment was made, and which sum shall be specified in the notice, and that, failing such consent being given within thirty days after such notice, the Commissioner will recommend the Governor to acquire such land on behalf of Her Majesty at the sum at which such land was entered in the return of such owner, with ten pounds for every one hundred pounds of such value added. Procedure thereon.

(b.) The owner may within the said thirty days, but not afterwards, consent to the land being assessed as specified in such notice, or at any other amount agreed to by the Commissioner and such owner. If the owner shall within the said thirty days consent to have such value altered in accordance with such notice, or with any agreement made as aforesaid, then the Commissioner may assess the land in accordance with such notice or agreement, and alter the assessment-roll accordingly.

(c.) If the owner does not consent, or make any such agreement as aforesaid, then the Governor may, within a reasonable time, by Order in Council, declare that such land is vested in Her Majesty, and the effect of such Order in Council shall be to vest the land in Her Majesty for the same estate or interest therein as such owner was entitled to.

(d.) If the Governor in Council exercises the power aforesaid, then any money payable to the owner may be paid to such owner, or, if he refuses or neglects to receive the same, or is absent from the colony, or is under any legal disability, or if the Commissioner is in doubt as to who is entitled to such money, then such money shall be paid

into the Public Trust Office in trust for such owner, and if so paid the owner or person entitled thereto may, upon petition to the Supreme Court, or a Judge thereof, and upon establishing his title thereto, obtain payment of such money.

- (e.) Provided that the owner of any land who may have received any such notice from the Commissioner as aforesaid shall, within the said thirty days, have the right to appeal to a Resident Magistrate to determine the fair actual value of the land affected by such notice; and for the purpose of hearing and determining such appeal a Resident Magistrate shall have all the jurisdiction, power, and authority of a Board of Review, or the Chairman thereof, under the said Act, all the provisions of which, or of any regulations from time to time in force thereunder, relating to a Board of Review or the Chairman thereof, shall, *mutatis mutandis*, extend and apply to such Resident Magistrate.

The value of any land so fixed by a Resident Magistrate shall be deemed to be the fair actual value thereof as aforesaid, and the Commissioner may alter any assessment-roll in accordance with the decision of the Resident Magistrate on such appeal.

Power of owner of land to require assessment to be reduced, otherwise may require Governor to acquire land for Her Majesty.

14. The owner of any land (other than the owner of a leasehold interest therein), who is not satisfied with the value of such land as assessed upon the assessment-roll (whether such value shall have been determined by a Board of Review or not) may, within twenty-eight days after the Board of Review for the district where such land is situate has closed its sittings, give notice to the Commissioner that such owner requires the Commissioner to reduce the assessment of such land to the amount specified in the return made by such owner, or, if the Commissioner will not make such reduction, then requiring the Commissioner to acquire such land at the sum mentioned in the owner's return of such land:

Provided always that no owner of land who has failed to make the return of such land within the time prescribed shall be entitled to take advantage of this section.

Procedure thereon.

The Commissioner shall, upon receiving such notice—

- (a.) Either make the reduction required, or
 (b.) With the approval of the Governor in Council, acquire such land at the value specified in the return made by the owner.
 (c.) If the Governor in Council does not approve of the acquisition of such land, then the Commissioner shall reduce the assessment to the amount specified in the return made by the owner, and shall alter the assessment-roll accordingly.
 (d.) If the Governor in Council approves of the acquisition of the land, then the owner shall convey the land to Her Majesty, and thereafter shall be entitled to receive from the Commissioner the purchase-money aforesaid. If the owner refuses or fails to convey the land to Her Majesty, then the Governor may by Order in Council declare such land to be vested in Her Majesty, and the effect of such Order in Council shall be to vest the land in Her Majesty for the same estate or interest therein as such owner was entitled to.

If the owner refuses or neglects to accept the purchase-money, or is absent from the colony, or under any legal disability, or if the Commissioner is in doubt as to who is entitled to the purchase-money, then such money shall be paid into the Public Trust Office in trust for such owner, and if so paid the owner, or person entitled thereto may, upon petition to the Supreme Court or a Judge thereof, or if

the sum be under one hundred pounds, then upon application to the Resident Magistrate of the district, and upon establishing his title thereto, obtain payment of such money with any interest which may have accrued thereon.

- (e.) Any reductions in value made by the Commissioner under the provisions of this section shall apply to the valuation-rolls of local bodies, and the Commissioner shall direct that the valuation-roll be amended accordingly.

15. The Colonial Treasurer shall, upon the Governor's warrant, pay out of the Consolidated Fund, without specific appropriations, all moneys required to be expended under section thirteen or section fourteen of this Act. Colonial Treasurer to pay purchase-money.

16. Whenever land shall become vested in Her Majesty under the powers conferred by this Act, then the possession of such land shall be deemed to be in Her Majesty, and every person on such land shall be deemed to be an intruder thereon, unless such person proves a title to such possession as against Her Majesty. Any land acquired under this Act may be sold and disposed of in such manner as the Governor in Council may direct, and the Governor may, in the name of Her Majesty, convey, transfer, or otherwise assure such land in pursuance of any such sale or disposition. How land acquired may be disposed of.

10. In any case where it shall be shown to the satisfaction of the Commissioner— Provision for relief.

(1.) That any person liable to the payment of tax has become bankrupt within the meaning of any law for the time being in force relating to bankruptcy; or In cases of bankruptcy.

(2.) That any person or company liable to tax has suffered loss so that the exaction of the full amount of tax in any case would entail hardship of such a nature as to render it just and equitable that relief from such tax should be given; Where exaction of tax would entail hardship.

then, and in any of such cases, the Commissioner may release any such person or company wholly or in part from liability to tax, and may make such entries or alterations in any assessment-roll or register in force as may be necessary for that purpose.

PART V.

GENERAL PROVISIONS.

34. If any owner of land has no known agent in the colony, or is unknown, or cannot after due inquiry be found, a summons or writ issued in respect of any tax and posted upon a conspicuous part of such land shall be a sufficient service. Summons to unknown owner may be posted on land.

35. Judgment for the amount of tax due may be given, in any Court of competent jurisdiction, against the owner of any land, if he is unknown, under the designation of "the owner" of such land, on the Court being satisfied that such owner is absent or unknown, or cannot after due inquiry be found, and upon proof of service of summons as above provided. Judgment may be given against owner.

36. If the owner of any land liable to taxation fails or neglects within the time limited in that behalf to pay the tax imposed on such land, and such land is in the occupation of any tenant, mediate or immediate, of such owner, or if such land shall be subject to mortgage, the Commissioner shall have such and the like remedies against such tenant or mortgagee as he would have against the owner. Remedy against tenant or mortgagee if owner fails to pay.

37. Every person who, under the provisions of this Act, has been compelled to pay any tax in respect of land or mortgage for or on behalf of any other person shall be entitled to recover from the actual owner of such land or mort- Person paying tax may recover from person liable.

gage the amount of any such tax so paid by him, together with all costs of proceedings attending the recovery thereof; and in the case of a mortgage the amount of tax so paid may be added to the principal secured by the mortgage, and shall be charged with interest accordingly, or, at the option of the person paying the same, may be recovered as a debt due to him.

Remedy in case of persons under disability.

38. Where any person chargeable with tax is under any legal disability, or where any person so chargeable dies, in every such case the trustee of such person, upon default of payment, shall be and is hereby made liable to and charged with the payments which the said person under disability ought to have made or the person so dying was chargeable with.

And, if such trustee neglect or refuse to pay as aforesaid, it shall be lawful to proceed against him in like manner as against any other person making default of payment of the said tax.

And all trustees making payment as aforesaid shall be allowed every sum paid for such persons under disability in their accounts, and shall be allowed to deduct all such payments out of the assets of the person so dying.

In this section the word "trustee" shall be deemed to include the parents of an infant.

Married women liable to tax.

39. Any married woman seised, possessed, or entitled to any land, mortgage, or income to or for her sole or separate use, shall be chargeable with and liable to pay tax in like manner as if she were sole and unmarried.

Covenants to evade tax void.

40. Every covenant or agreement heretofore made or hereafter to be made between landlord and tenant, mortgagor and mortgagee, or between any other persons, altering or attempting to alter the nature of the estate or interest in any land or mortgage for the purpose of defeating or in any other manner evading the payment of tax imposed under this Act, or which shall be in any manner contrary to the true intent of this Act, or calculated to prevent its operation in any respect, shall, so far as regards any such covenant or agreement, be void and of no effect as between the parties thereto.

Tax to be a first charge on land.

41. The tax on land payable under this Act shall be a first charge on the land in respect of which it is payable, and shall have priority over all charges, liens, mortgages, rates, or other encumbrances whatsoever; and, notwithstanding any sale, transfer, or conveyance of any land, it shall continue to be liable, in the hands of any purchaser or holder thereof, for the payment of any tax due or owing in respect thereof so long as such tax remains unpaid.

Commissioner or officers may appear in proceedings.

42. The Commissioner or Deputy Commissioner may appear in any action, or in any other proceeding whatsoever had or taken under this Act, or before any Board, either personally or by solicitor, or by some officer in the public service of the colony; and the appearance of any such officer, and his statement that he so appears by authority of the Commissioner, shall be sufficient evidence of such authority for all purposes.

Penalty for making false returns or evading tax.

43. If any person, whether or not liable to taxation under this Act,—
- (1.) Being within or having an agent within the Colony of New Zealand, fails or neglects to furnish, on or before the prescribed day, any return required by or under this Act, or, within a reasonable time, any further or fuller return required by the Commissioner, unless such person shall prove that such failure or neglect was not wilful;
 - (2.) Knowingly and wilfully makes or delivers any false return, or makes any false answer, whether verbal or in writing, in relation to his land, mortgages, or income, or any matter or thing affecting his liability to or exemption from tax; or
 - (3.) By any falsehood, wilful neglect, fraud, art, or contrivance whatsoever used or practised, or by or under any instrument made, signed, exe-

cuted, taken, or received, evades or attempts to evade assessment of any land, mortgage, or income, whether liable to taxation or not, or the payment of any tax under this Act,—

every such person shall, on proof thereof before any two Justices of the Peace, be assessed and charged treble the amount of the tax of which such person has sought to evade the payment, in addition to any tax for which such person would have been otherwise liable; and every such person shall also be liable to a penalty of not less than five pounds nor more than one hundred pounds.

Any person aiding and assisting, in any manner whatsoever, to commit any offence within the meaning of this section shall, upon conviction, be liable to a penalty of not less than five pounds nor more than fifty pounds.

The word "person" in this section includes the public officer of a company, and the agent or trustee of any person or company.

44. (1.) Whenever, upon any information against a principal offender under the last-preceding section, the Justices before whom the same shall be heard shall hold the matter of the information to be proved, there shall be two convictions, the first in the common form, adjudging the defendant to pay the penalty imposed and such costs as shall be allowed, and the second adjudging the defendant to pay treble the amount of the tax of which he has sought to evade the payment. Procedure to recover penalty.

(2.) Such first conviction shall be forthwith enforceable in the manner directed by "The Justices of the Peace Act, 1882;" but such second conviction shall not be formally drawn up until the amount of the tax of which the defendant has sought to evade payment shall have been ascertained by the Commissioner, who shall proceed to ascertain and fix the same within three months from the date of the conviction.

(3.) The Commissioner shall give notice to the defendant of the amount so ascertained, and, if the defendant shall, within fourteen days from the giving of such notice, object to such amount, he shall be entitled to have such objection heard in the manner provided by regulations.

(4.) At any time after such amount shall have been ascertained by the Commissioner or, upon objection, by any authority empowered to determine the same, the second conviction may be formally drawn up adjudging the defendant to pay treble the amount so ascertained or determined, and shall be forthwith enforceable in the manner directed by "The Justices of the Peace Act, 1882."

45. If any person obstructs any officer acting in the discharge of his duty under this Act, or refuses or neglects to answer questions put by any such officer relating to any land, mortgage, or income belonging to such person, or as to any deductions claimed or allowed in respect of such land, mortgages, or income, or any part thereof, or gives any false or evasive answer, he shall, in any such cases, be guilty of an offence, and on conviction shall be liable to a penalty not exceeding fifty pounds. Penalty for obstructing officers.

46. If any person, in any declaration made under or authorised by this Act, knowingly and wilfully declares to any matter or thing which is false or untrue, every such person so offending shall be deemed guilty of perjury, and liable to be dealt with accordingly. False declaration punishable as perjury.

47. (1.) All penalties imposed under this Act shall be recoverable only in a summary way, before any Resident Magistrate or two or more Justices of the Peace, in the manner prescribed by "The Justices of the Peace Act, 1882," upon the information of a person or persons appointed by the Governor either generally or for the purpose of any particular case; and when recovered shall be paid into the Consolidated Fund. Procedure to recover penalties.

Not prejudiced by irregularity. (2.) No proceeding for or in respect of any penalty imposed by this Act shall be prejudiced or affected by reason of any irregularity in any assessment made under this Act, or of any informality therein, or in any notice or other proceeding in relation thereto.

Power to remit or compound for penalties. (3.) The Governor may, at his discretion, mitigate or stay or compound proceedings for any penalty, and may reward any person who informs of any offence against this Act or assists in the recovery of any penalty.

Offences may be prosecuted within three years. 48. Notwithstanding anything in "The Justices of the Peace Act, 1882," or any other Act, any information or complaint to be heard in a summary way under that Act, or for the recovery of any penalty under this Act, may be laid at any time within three years next after the date of the offence committed or the penalty incurred.

Provisions of this Act to be read as if same had been part of principal Act. 20. Except where any provision of this Act expresses a different intention, then the provisions of this Act shall be deemed to have been in operation when "The Land and Income Assessment Act, 1891," came into operation and to have formed part thereof; and, except where the context manifests a different intention, the expression "this Act," wherever used herein, shall include the said Act as amended hereby.

The validity of regulations made and things done under the principal Act provided for. 21. For the purpose of conclusively settling any doubts as to the validity or regularity of anything heretofore done or that may hereafter be done under the said Act it is hereby declared as follows:—

- (1.) All regulations made under the said Act prior to the passing of this Act, and all notices given, forms prescribed, times fixed, acts, things, and proceedings done or taken by the Commissioner or any Board of Review, and all returns of land, mortgages, or income, or any of them, heretofore made or required to be made or purporting to have been so required, shall be and be deemed to have been valid and lawfully made, given, prescribed, fixed, done, taken, and required, as the case may be.
- (2.) All assessments of the land, or mortgages, or income of any person or company respectively heretofore made or purporting to be made or hereafter to be made in accordance with the said Act or the said regulations for the triennial or the annual periods commencing on the first day of April, one thousand eight hundred and ninety-two, upon such returns or assessments as aforesaid, and all assessment-rolls or registers made and completed, or hereafter to be made and completed, in respect of the said periods or either of them, shall respectively be and be deemed to have been valid so far as the validity thereof depends on compliance with or conformity to the said Act as amended by this Act or the said regulations hereinbefore mentioned.
- (3.) All statements of values supplied, and all valuation-rolls furnished by the Commissioner to any local authority or body under "The Rating Act, 1882," and all rates made or to be made thereon, shall respectively be deemed to have been and to be lawfully supplied, furnished, and made, and to have been and to be good and valid in all respects.
- (4.) All penalties and obligations incurred or accrued under the said Act, or any such regulations as aforesaid, prior to the passing of this Act, or which would have been incurred or have accrued had this Act then been in force, are hereby declared to be and to have been incurred and to have accrued and to be enforceable as from the date or time when the same were incurred or accrued or would have been incurred or accrued as effectually as if this Act had been in force at such last-mentioned date or time.

SCHEDULES.

Schedule.

SCHEDULE A.

Schedule A.

(1.) *The ordinary Tax on Land.*

1. Every person and company being the owner of land shall be liable to tax in accordance with this Act, and such tax shall be assessed and levied upon the actual value of such land; but the value of improvements upon all land owned by any person or company up to three thousand pounds shall be deducted from such assessed value, and any mortgage then due or owing upon such land shall also be deducted from such value.

Tax to be assessed on the actual value of land.

“Actual value” means the capital value for which the fee-simple of land with all improvements (if any) could be purchased for cash:

Meaning of “actual value.”

“Improvements” includes houses and buildings, fencing, planting, draining of land, clearing from timber, scrub, or fern, laying down in grass or pasture, and any other improvements whatsoever, the benefit of which is unexhausted at the time of valuation.

Meaning of “improvements.”

2. When the assessed value of *the mortgages and* all the land of any owner, less the value of improvements thereon up to three thousand pounds, and the amount due or owing on mortgage as aforesaid does not exceed one thousand five hundred pounds, there shall be deducted by way of exemption a sum of five hundred pounds, after which the amount of such exemption shall diminish by one pound for every two pounds that the assessed value of the property increases, so as to leave no exemption on assessed values of more than two thousand five hundred pounds:

Deduction of £500 in certain cases.

17. The following amendments are hereby made in the Schedules to the said Act:—

Amendments in Schedules to above Act:

(1.) In the first part of Schedule A,—

In section two of the said Schedule the words “the mortgages and” shall be inserted after the words “value of” in the first line of such section.

Provided that only one exemption shall be allowed to an owner of land when such value and the amount due or owing to him on mortgage do not together exceed two thousand five hundred pounds, but if the assessed value of such land and mortgage, less deductions, shall exceed two thousand five hundred pounds then no exemption shall be allowed:

Proviso.

Provided, further, that where the owner of any land or mortgage which does not produce a larger income than [one hundred and twenty] *two hundred* pounds per annum shall be incapacitated by age, ill-health, or other causes from earning further income from business or employment, a further exemption, which, together with the sum of five hundred pounds hereinbefore mentioned, shall not exceed two thousand pounds, may be allowed to such owner by the Commissioner, on his being satisfied that the payment of tax in full would entail hardship on such owner.

Further proviso.

The words “one hundred and twenty,” in the last proviso of section two of the said Schedule, are hereby repealed, and in lieu thereof the words “two hundred” are inserted:

3. Every purchaser of Crown land on credit or deferred payments, and the assignee or transferee of any such purchaser, shall be deemed to be the owner of such land for the purposes of this Act, and shall pay the tax in respect thereof:

Purchasers of Crown lands on credit liable to tax.

Provided that every such purchaser may deduct the amount due or payable to the Crown by way of purchase-money from the assessed value of such land as if it were a mortgage thereon.

Leaseholds liable to tax.

4. The owner of any leasehold interest in land other than in Part VI. of "The Land Act, 1885," shall be liable to taxation under this Act upon the value of his interest in such land.

Apportionment of deduction for improvements.

The deduction of three thousand pounds for improvements shall, as between the owner and the lessee, be made in proportion to the interest of each of them in such improvements; and such proportion shall be ascertained and determined both as between the owner and the original lessee, or any sub-lessee, in such manner as shall be prescribed.

Exempt lands in hands of tenants liable to tax.

5. Where any land is wholly exempt from liability to tax, every person or company being in occupation of such land as tenant, or otherwise using or occupying the same, shall be liable to tax on the assessed value of the interest held by such person or company in such land.

Occupiers of land for mining purposes liable as upon income from business.

[6. Every person being the holder or occupier of any Crown lands for "mining purposes" within the meaning of "The Mining Act, 1886," shall be liable to tax as upon income from business, and not upon the assessed value of his interest in such land.]

[This provision shall extend to any company being the holder or occupier of land for the purposes aforesaid.]

Section six of the said Schedule is hereby repealed, and in lieu thereof the following new section is inserted:

"Every person or company, being the holder or occupier of any Crown lands for 'mining purposes' within the meaning of any Act under which such lands are held or occupied, shall be liable to tax as upon income derived from business, and not upon the assessed value of the interest in such land."

(2.) *The Tax on Mortgages.*

Mortgagees to be taxed on mortgages.

1. Every person or company other than a banking company being a mortgagee of land shall be liable to taxation in respect of every mortgage held by such mortgagee, and every such mortgage shall be assessed as if it were land, but at the actual value of such mortgage to the mortgagee; and, if any difference shall arise as to such value for the purposes of this Act, the same shall be decided by the Commissioner in such manner as may be prescribed; and a mortgagee shall be entitled to the exemption of five hundred pounds hereinbefore provided for, but not further:

(2.) In the second part of Schedule A,—

The following proviso is inserted to stand as the first proviso:—

Provided that so much of the moneys which a building society, registered under any Act in force relating to building societies, has received on deposit at interest and invested on mortgage of land in New Zealand, shall be deducted in any return of such mortgages made by such society under the said Act: Provided, further, that all building societies not receiving exemptions on their deposit accounts shall have exemptions on their mortgage accounts up to the sum of six thousand pounds.

Income-tax on loan, building, and investment companies.

Provided that no company now or hereafter registered in New Zealand under any Act of the General Assembly whose sole or principal business is the business of a loan, building, and investment company, and the head office and management of which is situated and conducted in New Zealand, shall be lia-

ble to pay by way of tax on mortgages a sum that shall be greater than an income-tax of one shilling and sixpence in the pound sterling on the income from mortgages owned by such company in the year in respect of which such tax is payable.

2. No mortgagee shall be entitled to exemption from tax by reason only that the land included in such mortgage is exempt from taxation.

Mortgagee not exempt in certain cases.

3. No mortgage shall be liable to the graduated tax imposed upon land under Schedule B to this Act.

Mortgagee not to be liable to graduated tax on land.

4. If any owner of land shall be required under this Act to pay tax on account of his land which may be subject to any mortgage, such owner may require the mortgagee, not being a banking company, to register such mortgage in accordance with law; and if the mortgagee shall for the space of twenty-one days after being so required neglect to register such mortgage he shall be liable to such owner for the tax paid on account of such mortgage as if such mortgage had been duly registered.

Registration of mortgage.

[5. "Mortgage" means any charge whatsoever upon land, or any interest therein, duly registered or recorded in the manner required by law against or in respect of such land or interest, and whether created by deed, will, or any other instrument or in any other manner.]

Meaning of "mortgage."

["Mortgagee" includes the person or company entitled to a mortgage or any part thereof, and to receive the interest or any part thereof payable in respect of any mortgage.]

Meaning of "mortgagee."

The definitions of "mortgage" and "mortgagee" herein are hereby repealed, and in lieu thereof the following definitions are enacted:—

Definition of "mortgage" and "mortgagee."

"Mortgage" includes any charge whatsoever upon land, or any interest therein, registered under any law in force relating to the registration of title to land, or of deeds, or instruments, and whether created by deed, will, or any other instrument, or in any other manner.

"Mortgagee" includes the person or company entitled at law or in equity to a mortgage or any part thereof."

The foregoing definitions of the expressions "mortgage" and "mortgagee," shall extend to all Parts or Schedules of the said Act as amended by this Act.

The following additional section is added to the said Schedule:—

"7. Where land is sold on time or deferred payment by any owner other than the Crown, and money is owing to the vendor in respect of such land, the amount so owing shall, for the purposes of this Act, be deemed to be a registered mortgage and shall be stated by the vendor accordingly in any return made by him under this Act, and the amount so owing may be deducted by the purchaser as if it were secured to the vendor upon a registered mortgage.

Land sold on time or deferred payment.

SCHEDULE B.

Schedule B.

The Graduated Tax on Land.

In addition to the tax imposed under Schedule A, when the assessed value of land, after allowing for all improvements thereon, is of the value mentioned in the first column of this Schedule, and is less than the amount mentioned in the second column thereof, every person and company being the owner of such

Persons and companies to be liable to graduated tax on land.

land shall be liable to a further graduated annual tax at the rate mentioned in the third column of this Schedule.

First Column.	Second Column.	Third Column : Rate of Graduated Tax.
Scale of taxation. Where the value is £5,000	and is less than £10,000	one-eighth of a penny in the pound sterling.
Where the value is £10,000	and is less than £20,000	two-eighths of a penny in the pound sterling.
Where the value is £20,000	and is less than £30,000	three-eighths of a penny in the pound sterling.
Where the value is £30,000	and is less than £40,000	four-eighths of a penny in the pound sterling.
Where the value is £40,000	and is less than £50,000	five-eighths of a penny in the pound sterling.
Where the value is £50,000	and is less than £70,000	six-eighths of a penny in the pound sterling.
Where the value is £70,000	and is less than £90,000	seven-eighths of a penny in the pound sterling.
Where the value is £90,000	and is less than £110,000	one penny in the pound sterling.
Where the value is £110,000	and is less than £130,000	one penny and one-eighth of a penny in the pound sterling.
Where the value is £130,000	and is less than £150,000	one penny and two-eighths of a penny in the pound sterling.
Where the value is £150,000	and is less than £170,000	one penny and three-eighths of a penny in the pound sterling.
Where the value is £170,000	and is less than £190,000	one penny and four-eighths of a penny in the pound sterling.
Where the value is £190,000	and is less than £210,000	one penny and five-eighths of a penny in the pound sterling.
Where the value is £210,000	or exceeds that sum.....	one penny and six-eighths of a penny in the pound sterling.

Tax on absentees' land.

Provided that, in the case of any person who has been absent from or resident out of the colony for a period of three years or over that period prior to the passing of the annual Act imposing the tax, the scale of taxation set forth in this Schedule shall be increased by twenty per centum in each case where it is applicable.

Graduated tax to be assessed on value of land less improvements.

And all graduated tax as aforesaid shall be assessed and levied on the amount of the assessed value of the land less all improvements thereon.

Meaning of "improvements."

"Improvements" include houses and buildings, fencing, planting, draining of land, clearing from timber, scrub, or fern, laying down in grass or pasture, and any other improvements whatsoever, the benefit of which is unexhausted at the time of valuation.

No deduction in respect of mortgages.

No deduction shall be allowed under this Act in respect of any mortgage from the value of the land upon which such graduated tax is payable in so far as such graduated tax is concerned.

Schedule C.

SCHEDULE C.

INCOME OF COMPANIES.

What companies liable to income-tax

1. Every company carrying on any business, adventure, or concern in New Zealand (other than a company wholly or mainly carrying on the business of life insurance) shall be liable to the tax on income, which shall be assessed and paid by such company in respect of the gains and profits derived or received from such business in each year ending on the thirty-first day of March.

The income of the company shall include dividends earned, sums carried to reserve fund, and any other profits made or income derived [and not divided among shareholders or persons entitled to such gains or profits] during such year as aforesaid, and, in the case of banking companies, shall include income derived or received from mortgages: Meaning of "income."

(3.) In Schedule C,—

In the second paragraph to section one of the said Schedule the words "and not divided among shareholders or persons entitled to such gains and profits" are hereby repealed.

Provided that every person or company engaged in business as owner or charterer of shipping shall be assessed for taxation upon its income on such terms and conditions as may be prescribed by regulations, and such assessment shall be subject to all rights of objection and review as provided by this Act: Assessment of shipping companies.

Provided also that in the case of insurance companies regulations may prescribe means for determining what portion of the income of such companies shall be deemed to be the income of such companies in New Zealand, and such income only shall be liable to be assessed for income-tax under this Act. Assessment of insurance companies.

In the second proviso to section one of the said Schedule the expression "insurance companies" shall be construed to include companies carrying on business as fire, marine, accident, fidelity, or guarantee insurance companies, or for any one or more of such objects; and, generally, every company carrying on business for insurance against loss, risk, or damage, and not otherwise liable to tax. Amendment of section 1 as to "insurance companies."

2. In any case where a company has at any time heretofore borrowed or shall at any time hereafter borrow money on debentures, such company shall be deemed to be the agent of every holder of such debentures, whether such holder be or be not resident in New Zealand, and such company shall be liable to pay tax accordingly on behalf of every holder of such debentures, and shall be entitled to deduct in each year from any instalment of interest payable by it upon the amount of such debentures any tax so paid, whether coupons for such interest have been issued with such debentures or not. But no such debenture-holders shall be allowed any deduction by way of exemption from assessment. Certain companies to be deemed agents of holders of debentures.

To section two of the said Schedule the following provisos are added:—

"Provided that where a company has borrowed money in the manner hereinbefore mentioned upon debentures, neither the company nor the debenture-holder shall be liable to be assessed for income-tax in respect of so much of the money so borrowed as the company proves, to the satisfaction of the Commissioner at the date for making the annual return of income, was invested by such company on mortgages of land in New Zealand duly registered, and also that such mortgages of land had been assessed for land-tax under Schedule A of this Act, and that the then holder of any such debenture was residing beyond New Zealand; and such regulations shall from time to time be prescribed as may be necessary to give effect to this provision. Amendment of section 2 where a company has borrowed money on debentures.

"Provided also that where a company has borrowed, or may hereafter borrow, money on debentures, and the land in New Zealand owned by such company is in any way charged as security for the moneys payable under such debentures, the amount so charged shall be deemed to be a mortgage of land, and may be deducted in any annual or other return to be made by the company, and such amount shall be returned by the company as agent for the debenture-holders, and the company shall be liable to be assessed and to pay tax accordingly on behalf of the holders of such debentures, but no such debenture-holders shall be

allowed any deduction by way of exemption. The interest accruing due upon debentures so deducted shall not be assessed as liable to income-tax either by the company or the debenture-holders. No deduction shall be allowed under this provision unless and until the company proves to the satisfaction of the Commissioner that the amount claimed to be deducted as aforesaid was a charge upon the land of the company."

Company not entitled to exemption in respect of income-tax.

3. No company shall be entitled to any exemption in respect of the assessment for tax on income, but the person receiving any income in respect of any share or interest in any company shall not be liable to tax thereon.

How life-insurance companies to be liable.

4. In respect of companies or associations carrying on the business of life insurance in New Zealand (including the department created under "The Government Insurance and Annuities Act, 1874"), tax shall be assessed and paid upon the income derived by each such company or department from investments of any kind other than investments in land or upon mortgages of land.

Schedule D.

SCHEDULE D.

INCOME FROM BUSINESS.

Persons liable to tax from business.

1. Every person shall be liable to tax in respect of income derived from business on the full amount of the balance of the profits or gains of such business.

Meaning of expression.

["Income derived from business" means the gains or profits derived or received in New Zealand from any trade, manufacture, adventure, or concern in the nature of trade, whether the same shall be respectively carried on in New Zealand or elsewhere, in each year ending on the thirty-first day of March, and not taxed under any other Schedule of this Act, and shall include income so derived or received from any pastoral lands of the Crown in New Zealand held by any person under lease or license issued by or on behalf of the Crown.]

(4.) In Schedule D,—

The definition of "income derived from business" in the first section of the said Schedule is hereby repealed, and in lieu thereof the following is enacted:—

"Income derived from business" includes, but without limiting the meaning of those words, the gains or profits derived or received in the colony by any person in or out of the colony in each year ending the thirty-first day of March, from the following sources:—

- (a.) From any trade, business, manufacture, adventure, undertaking, or concern of whatsoever nature:
- (b.) From the purchase, sale, or other disposition of real or personal property, or of any right, estate, or interest therein:
- (c.) From loans, investments, or deposits of money whatever may be their nature, and howsoever made, and from any contract whatever under which income is derived or received, except investments made upon mortgages of land in the colony:
- (d.) Income from pastoral lands of the Crown in the colony held under lease or license issued by or on behalf of the Crown:
- (e.) From every source or kind whatsoever (including income derived or received from lands or mortgages) outside the

Extended meaning of "income from business."

colony whereby income is derived or received in New Zealand by any person:

But shall not include income liable to tax under any other Schedule of this Act or expressly exempt from taxation under this Act.

[2. Tax shall be assessed and paid by every person upon the income derived from business as aforesaid, and, when the taxable amount of income so derived has been ascertained in accordance with this Act, every person or firm of partners engaged in any business shall be entitled to a deduction by way of exemption of three hundred pounds; and no person, whether in partnership or carrying on business alone, shall be allowed more than one such exemption either in respect of business, or employment, or emolument.] Deduction from taxable amount by way of exemption.

Section two of the said Schedule is hereby repealed, and in lieu thereof the following provision is enacted:—

“(2.) Tax shall be assessed and paid by every person upon the income derived from business as aforesaid, and, when the taxable amount of income so derived has been ascertained in accordance with this Act, every person, whether carrying on business alone or in partnership, shall be entitled to a deduction by way of exemption of three hundred pounds; but no person shall be allowed more than one such exemption either in respect of income derived from business, or in respect of income derived from employment or emolument.” Deduction from taxable amount by way of exemption in cases of income from business.

SCHEDULE E.

Schedule E.

INCOME FROM EMPLOYMENT OR EMOLUMENT.

1. Every person shall be liable to tax in respect of income derived from employment or emolument and not derived from business as aforesaid. Persons liable to tax from employment or emolument.

“Incomes derived from employment or emolument” means the gains or profits derived or received in New Zealand in each year ending on the thirty-first day of March, and whether such person is residing in New Zealand or elsewhere, from the exercise of any profession, employment, or vocation of any kind not otherwise liable to taxation under this Act, or from any salary, wages, allowances, pension, stipend, or charge or annuity of any kind not charged on land. Meaning of expression.

[2. Tax shall be assessed and paid by every person upon the income derived from employment or emolument as aforesaid, and, when the taxable amount of income so derived has been ascertained in accordance with this Act, every person or firm of partners engaged in any employment or receiving any emolument shall be entitled to a deduction by way of exemption of three hundred pounds; and no person, whether in partnership or engaged in such employment alone, shall be allowed more than one such exemption either in respect of business, employment, or emolument.] Deduction from taxable amount by way of exemption.

(5.) In Schedule E,—

Section two of the said Schedule is hereby repealed, and in lieu thereof the following is inserted:—

“(2.) Tax shall be assessed and paid by every person upon the income derived from employment or emolument as aforesaid, and, where the taxable amount of income so derived has been ascertained in accordance with this Act, every person, whether engaged in any Deduction from taxable amount by way of exemption in cases of income from employment or emolument.

employment or receiving any emolument either alone or in partnership shall be entitled to a deduction by way of exemption of three hundred pounds; but no person shall be allowed more than one such exemption either in respect of income derived from employment or emolument, or in respect of income derived from business."

Schedule F.

SCHEDULE F.

MISCELLANEOUS RULES AS TO ASSESSMENT OF INCOME.

Losses, &c., to be deducted from gross amount of income.

1. All losses and outgoings actually incurred by any person or company in production of the income shall be deducted from the gross amount of his income:

For what matters no deduction to be allowed.

2. But, in estimating the balance of the income liable to tax in the case of any business, employment, or emolument, no sum shall be deducted therefrom for—

- (a.) Any sum expended for repairs of premises occupied for the purposes of the business or employment, nor for any sum expended for the supply of or repairs to or alterations in any implements, utensils, or machinery employed or used for the purposes of such business or employment, beyond the sum usually expended in any year for such purposes;
- (b.) Nor on account of loss not connected with or arising out of such business or employment; nor on account of any capital withdrawn therefrom, nor for any sum used or intended to be used as capital in such business or employment, nor for any capital used in the improvement of premises occupied for the purposes of such business or employment;
- (c.) Nor on account of any interest which might have been made on such sums if laid out at interest;
- (d.) Nor for any bad debts, except bad debts proved to be such to the satisfaction of the Commissioner;
- (e.) Nor for any average loss beyond the actual amount of loss after adjustment, nor for any sum recoverable under any insurance or contract of indemnity;
- (f.) Any disbursements or expenses whatever not being money wholly and exclusively laid out or expended for the purposes of such business or employment;
- (g.) Any disbursements or expenses of maintenance of the parties, their families, or domestic establishments;
- (h.) Nor for the rent or value of any dwelling-house or domestic offices, or any part of such dwelling-house or domestic offices, except such part thereof as may be used for the purposes of such business or employment not exceeding such proportion of the said rent or value as may be allowed by the Commissioner;
- (i.) Nor for any sums expended in any other domestic or private purposes distinct from the purposes of such business or employment.

Computations of tax to be made separately.

3. The computation of tax arising in respect of any business or any employment carried on by two or more persons jointly shall be made and stated separately and distinctly from any other tax chargeable on the same persons or any of them.

(6.) In Schedule F,—

The following provision shall be read as part of the third section of the said Schedule :— Amendment of section 3 as to partners.

“ Persons carrying on any business or employment in partnership shall be liable to make a joint return as such partners in respect of the business or employment which they carry on or are engaged in, with such particulars as may from time to time be prescribed.

4. Every company and local authority, and every person carrying on business or engaged in any employment, shall, in such manner and form as may be prescribed, from time to time furnish the Commissioner with lists of all persons employed by them, and the salary, wages, stipend, or other allowances or emolument paid or allowed to each such person. Companies, &c., to furnish lists of persons employed.

5. Allowances made to any person by way of house-rent, and all amounts received or receivable by way of extra salary, bonus, allowance, or emolument, shall be taken into account as part of the annual income liable to taxation. Certain allowances to be taken into account as income.

6. When any person or company occupies for the purposes of business or employment any land in respect of which tax on land is payable by him or it under this Act for the same period, such person or company shall be entitled, in any return of income derived or received from such business or employment for such period, to deduct a sum equal to five per centum on the amount on which such person or company is liable to pay tax on such land, *under Schedule A to this Act.* Deduction allowed in case where land occupied for business or employment has paid tax on land.

At the end of section six of the said Schedule the following words are added: “ under Schedule A to this Act.” Amendment of section 6.

7. Any person who has effected or may hereafter effect an insurance on his own life for his own benefit, or for the benefit of his wife and children, or one or some of them, with any company or association carrying on the business of life insurance, shall be entitled to deduct from his income as an outgoing the amount of premiums paid in any year in respect of such insurance: Provided that no greater deduction than fifty pounds shall be allowed in any year in respect of all premiums paid for such insurance. Deduction of amount paid as life-insurance premium allowed.

The following provision shall be read as part of section seven of the said Schedule :— Addition to section 7 as to deductions for life-insurance premiums.

“ Where a person carries on business or is engaged in any employment in partnership with one or more other person or persons, and is in receipt of no other income than that derived from such business or employment, the amount paid in respect of his life insurance, as hereinbefore provided, may be deducted as an outgoing from such business or employment, or from the gross amount of the partnership income, as the case may be.

“ The provisions of this section shall apply to any insurance effected with the Government Insurance Commissioner under any Act or authority relating to such insurance.”

LAND AND INCOME ASSESSMENT ACT, 1891.

MEMORANDUM AS TO THE ASSESSMENT OF INCOME.

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MEMORANDUM AS TO ASSESSMENT OF INCOME.

(1) Income tax in any year is payable on the amount of income derived during the twelve months previous to such year. The returns required to be made by the 1st of June, 1895, will show the amount of income derived during the year ending the 31st of March, 1895. The tax payable on the amounts shown in these returns, therefore, will be paid in the financial year ending the 31st of March, 1896. Forms of return are obtainable at any postal money-order office.

When the date of the annual balance does not fall on the 31st of March return may be made at the date of such balance, provided it is not more than three months distant from the 31st of March. In all other cases an estimated return should be made, subject to revision when the balance sheet is completed.

(2) Income is defined in the land and income assessment act of 1891 as meaning "any gains or profits derived or received by any company or person in any year, or by any means or from any source made the subject of taxation under this act." The profits for the year and the gross income required to be stated in the return must not be taken to be the money actually received, or the cash receipts merely, but all sales or fees for services, whether for cash or on credit, from which losses, outgoings, and expenses will be deducted. Income derived and received in or from the colony, and income received in the colony although derived from a source beyond the colony, are alike liable to taxation. Thus, a resident in New Zealand receiving income from any place outside of New Zealand should include it in his return, except in cases provided for in clause 9; and any person or company deriving income from the colony, notwithstanding that the actual profits are only ascertained at a point beyond the colony, should make a return of profits so derived.

(3) The following is the definition of income derived from business:

"'Income derived from business' includes, but without limiting the meaning of those words, the gains or profits derived or received in or from the colony by any person, firm, or

company in or out of the colony in each year ending the 31st of March, from the following sources:

“(a) From any trade, business, manufacture, adventure, undertaking, or concern of whatsoever nature.

“(b) From the purchase, sale, or other disposition of real or personal property, or of any right, estate, or interest therein.

“(c) From loans, investments, or deposits of money, whatever may be their nature, and howsoever made, and from any contract whatever under which income is derived or received, except investments made upon mortgages of land in the colony.

“(d) Income from pastoral lands of the Crown in the colony held under lease or license issued by or on behalf of the Crown.

“(e) From every source or kind whatsoever (including income derived or received from lands or mortgages) outside the colony whereby income is derived or received in New Zealand by any person.

“But shall not include income liable to tax under any other schedule of this act, or expressly exempt from taxation under this act.”

(4) The following is the definition of income derived from employment or emolument:

“Income derived from employment or emolument’ means the gains or profits derived or received in New Zealand in each year ending on the 31st of March, and whether such person is residing in New Zealand or elsewhere, from the exercise of any profession, employment, or vocation of any kind not otherwise liable to taxation under this act, or from any salary, wages, allowances, pension, stipend, or charge, or annuity of any kind not charged on land.”

(5) A deduction of £300 by way of exemption is allowed from the income of every resident in the colony. No such allowance is, however, made in the case of a person not domiciled or not permanently resident in New Zealand. This deduction, when allowable, is made in the income-tax office, and should not be deducted by the taxpayer when filling in his return.

(6) In assessing firms and individual partners for income tax the exemption for each partner will be allowed in the firm’s assessment, and each partner will pay in full on his income other than that derived from the firm, if he has any; but if the income from the firm is not sufficient to allow of the full deduction of the exemption for each partner the remainder of the exemption will be deducted from the partner’s individual income. If the share of income of any partner does not amount to £300 no deduction by way of exemption greater than the share of such partner in the income can be deducted on his account in the firm’s assessment.

(7) Income derived from land in New Zealand, except from land described in the next succeeding clause, should not be included in the return of income; but income received in the colony from land outside New Zealand should be included. The same rule applies to rents, and to any profit derived from the use or produce of land.

(8) Income from pastoral lands of the Crown in the colony held under lease or license issued by or on behalf of the Crown, and income from Crown lands held or occupied for any kind of mining, is liable to income tax, and should be returned, the land and the interests of lessees or occupiers therein being exempt from land tax.

(9) A pension derived from the Crown in Great Britain or from any British possession need not be included in a return of income if income tax has been paid thereon in the place from which it is derived.

(10) A deduction from income can not be claimed for or on account of depreciation in the value of premises, land, or buildings.

(11) The deduction which can be allowed for depreciation of machinery and plant is an amount which represents the diminished value by reason of wear and tear during the year of any machinery or plant, such wear and tear being of a kind which can not be made good by repairs.

The cost of repairing and maintaining plant, machinery, and buildings in a state of efficiency will be allowed, and, in some cases, a deduction may be claimed for the cost of replacing worn-out machinery and buildings. The outlay in the purchase and erection of new and additional plant, machinery, and buildings can not be allowed as a deduction from income, such expenditure being a charge against capital. The same applies to expenditure on improvements.

(12) Profits made by dealing in live stock, grain, wool, meat, or any other produce must be returned as income.

(13) From the gross income may be deducted losses, outgoing, and expenses incurred in New Zealand in the production of such gross income, but not further or otherwise; but certain deductions can not be allowed, and some of these are stated at length in part 2, Schedule F, which is as follows:

“But in estimating the balance of income liable to tax in the case of any business, employment, or emolument, no sum shall be deducted therefrom for—

“(a) Any sum expended for repairs of premises occupied for the purposes of the business or employment, nor for any sum expended for the supply of or repairs to or alterations in any implements, utensils, or machinery employed or used for the purposes of such business or employment, beyond the sums usually expended in any year for such purposes; provided that the commissioner may allow such deduction for depreciation of any implements, utensils, or machinery as he may consider just in respect of the diminished value during any year by reason of fair wear and tear not being of a kind that could be made good by repairs or by the implements, utensils, or machinery being rendered obsolete or useless.

“(b) Nor on account of loss not connected with or arising out of such business or employment; nor on account of any capital withdrawn therefrom, nor for any sum used or intended to be used as capital in such business or employment, nor for any capital used in the improvement of premises occupied for the purposes of such business or employment.

“(c) Nor on account of any interest which might have been made on such sums if laid out at interest.

“(d) Nor for any bad debts, except bad debts proved to be such to the satisfaction of the commissioner.

“(e) Nor for any average loss beyond the actual amount of loss after adjustment, nor for any sum recoverable under any insurance or contract of indemnity.

“(f) Any disbursements or expenses whatever, not being money wholly and exclusively laid out or expended for the purposes of such business or employment.

“(g) Any disbursements or expenses of maintenance of the parties, their families, or domestic establishments.

“(h) Nor for the rent or value of any dwelling house or domestic offices, or any part of such dwelling house or domestic offices, except such part thereof as may be used for the purposes of such business or employment, not exceeding such proportion of the said rent or value as may be allowed by the commissioner.

“(i) Nor for any sums expended in any other domestic or private purposes distinct from the purposes of such business or employment.

“(j) Nor for the amount of any land tax or income tax paid under any act.

“(k) Losses, outgoing, and expenses in connection with income derived from land or mortgages shall not be deducted from the gross amount of income derived from business, employment, or emolument; provided always that, if such losses, outgoing, and expenses are difficult of apportionment between land or mortgages, and business, employment, or emolument, they may be adjusted in such manner as the commissioner may think fit.

“(l) In estimating the balance of the income liable to tax in the case of any business, employment, or emolument, no sum shall be deducted therefrom for any interest payable in respect of any mortgage, unless such mortgage is secured upon the premises actually used for the purposes of such business, employment, or emolument.”

(14) Hotel keepers, boarding-school proprietors, storekeepers, tradesmen, and others, whose household expenses, including cost of board of themselves and families and of maintenance of their domestic establishment, are not kept distinct from the outgoings in connection with their business, should reduce their claim for deductions by such a sum as will cover the cost of such domestic establishment if maintained separately. This expenditure is not deductible from income—see paragraph 13 (g).

(15) The amount of debts proved to be bad and actually written off during the year for which the return is made may be claimed as a deduction in the return of income, but nothing should be deducted by way of a general estimate or reserve for bad and doubtful debts. A list of all deductions claimed for bad debts must be supplied to the commissioner on its being demanded, and also any evidence he may require to prove that the debts are actually bad and became so during the year.

(16) Interest paid on bank overdraft and other advances required and obtained for the purpose of carrying on business only may be deducted.

(17) Interest paid on mortgages of premises used by the owner for purposes of business or employment may be deducted in a return of income, but interest on any other mortgage may not be deducted.

(18) Interest received on mortgages of land in New Zealand should not be included as income, the mortgages being liable to land tax.

(19) Interest received on mortgages of land outside New Zealand should be included as income.

(20) Interest received from money on deposit or from any source other than mortgages of land in New Zealand should be included as income.

(21) In making deductions from income neither income tax nor land tax paid should be included as expenses or outgoings incurred in the production of income.

(22) In making up the return of income all profits made by the use or produce of land in the colony must be omitted on the one side, and all outgoings and expenses incurred in connection with land in the colony must be omitted on the other. (Vide paragraph 8 for exceptions.)

(23) A person or company can not claim to deduct any sum written off the good-will account, for any diminution in the good will must be held to be a loss of capital, and not a decrease of income.

(24) Calls paid on account of shares in registered companies, or losses made on investment in shares, can not be deducted from income, and dividends, excepting dividends paid or profits credited by any building society, should not be included in income.

(25) The deduction to be allowed when premises are occupied by the owner for purposes of business or employment is to be calculated at 5 per cent on the amount on which the owner is liable to pay land tax in respect of such premises; this is not to be taken to be 5 per cent on the value of the property, but 5 per cent on the sum on which land tax is payable in respect of the property—that is, after deducting the improvements and mortgages, and exemption in cases where one has been allowed. When portion of the premises only are occupied by the owner for purposes of business or employment, a deduction can only be allowed in respect of the portion so occupied. This allowance will be made in the income-tax office, and should not be included in the deductions in the return.

(26) Where a person pays rent for the premises used for business or employment he is entitled to deduct the rent in his return of income, but he can not deduct the rent paid for a private residence or for such part of his premises as may be used as a residence, or for any portion relet.

(27) The return of a firm should be distinct from that of the individual partners, and should include all the gains and profits of the firm.

(28) Sums drawn by members of a firm as salary or wages can not be deducted as outgoings or expenses of the firm in its return of income, and neither can any individual drawings by or any sums credited to partners out of profits.

(29) Partners in a firm should make separate individual returns of income derived from any source other than from the firm, but no income from the firm should be included in the separate return.

(30) Fees, commissions, bonus, or extra allowance paid in consideration for work done or services rendered should be included in income, and, on the other hand, may be deducted in the return of income of the person or company making the payment.

(31) The annual value of a free residence and money received by way of house allowance in lieu of a residence are not assessable for income tax and should not be included in a return of income.

(32) Sums set aside to form an insurance fund are not deductible.

(33) Amounts paid, not exceeding £50 in the year for which the return is made, for life-insurance premium on the life of the person for whom the return is made, for his own benefit or for the benefit of his wife or children, are deducted in an assessment of income. This allowance will be made in the income-tax office, and should not be included in the deductions in the return, on the face of which the actual amounts paid should be stated.

(34) Where a person has no income apart from that derived from a business carried on in partnership, the deduction as above for life insurance will be made in the assessment of the partnership.

(35) Interest on capital employed in business should not be included in deductions.

(36) In order to obtain information as to persons receiving salaries, a schedule has been inserted in the return of income on which should be stated the names, occupations, and addresses of employés; but it is not necessary to give the names, etc., of those whose total annual payment does not exceed £160. This, however, does not relieve an employee from making a return if the income amounts to £200.

(37) If a person is engaged in more than one business, he may claim to set off the losses in one business against the profits in another, and he will be liable to taxation on the balance of income. In filling up his return he should state the particulars for each business separately. A loss made in business can not, however, be deducted from income derived from employment or emolument.

(38) Losses made in a previous year can not be carried forward and deducted from the profits of the year for which the income is returned.

(39) Annual or other dividends paid or profits credited to any member or shareholder in any building society are part of the income of such member or shareholder, and should be included in his return of income. The societies themselves are exempt from tax.

(40) Under section 5 of the act of 1893 a person or company may be required by the commissioner to make a new or further or fuller return of income.

(41) Power is given by section 6 of the act of 1893 to the commissioner, or any person appointed by him, to require, for the purpose of obtaining full information as to land or income, the production at his office or at any place appointed by him of any deeds, instruments, books, accounts, trade lists, stock sheets, etc. He may also require information to be given to him verbally or in writing, and may require any person or the public officer of any company to attend at the office of the commissioner, or at any place appointed by him, to be examined as to land or income. The attendance of any person whom the commissioner may deem able to furnish information as to the land or income of any other person or of any company may also be required.

(42) Section 7 provides a penalty of not less than £2 and not more than £100 for failure, without reasonable excuse, to comply with the provisions of sections 5 and 6 of the act of 1893.

JOHN MCGOWAN,
Commissioner of Taxes.

LAND AND INCOME TAX OFFICE,
Wellington, February 11, 1895.

INCOME-TAX RETURNS.

All Letters, &c., should be addressed "The Commissioner of Taxes, Wellington," and not to any name. Letters so addressed go free by post.

Form C.

PERSON OR FIRM.

"THE LAND AND INCOME ASSESSMENT ACT, 1891."

In pursuance of the above act, and of the regulations made thereunder, every person in receipt of income within the meaning of the said act is required to fill up the following return as far as is applicable to his particular case, and deliver the same at, or forward it by post to, the office of the commissioner of taxes, Wellington, on or before the 1st day of July, 1896.

JOHN MCGOWAN,
Commissioner of Taxes.

NOTE.—Any person failing or neglecting to furnish a return at the prescribed time, or any person making a false return, is liable to a penalty of not less than £5 nor more than £100, and to pay treble extra duty.

RETURN OF THE INCOME OF

Write clearly and legibly.

Name in full: _____.

Postal address: _____.

Occupation: _____.

made in pursuance of "the land and income assessment act, 1891," and the regulations thereunder.

INCOME DERIVED DURING THE YEAR ENDING 31ST MARCH, 1896.

	Amounts. £
GROSS INCOME FROM BUSINESS.	
1. From interest of money deposited or lodged with any bank, society, company, firm, or person.....
2. From interest on bonds, debentures, or like instruments.....
3. From annuities or other annual payments.....
4. From the trade, business, manufacture, or concern of —, carried on by me at — (as per details shown under head "statement of gross income.").....
5. From pastoral lands of the Crown.....
6. From mining on Crown lands.....
7. From dividends paid or profits credited by any building society.....
8. From any source not coming within any of the foregoing heads (state source).....
Total.....	£.....
N. B.—Dividends and debenture interest received from companies trading within the colony should not be included as income.	
Income derived from any source whatsoever beyond the colony and received in the colony should be included in this return.	
<i>Deductions (as per details shown under head "deductions from gross income").</i>	
Losses, outgoing, and expenses incurred in the production of the gross income stated above.....	£.....
Net income derived from business.....	£.....

	Amounts.
	£
GROSS INCOME FROM EMPLOYMENT OR EMOLUMENT.	
1. From the profession, employment, or vocation of.....	.....
2. From salary, wages, allowances, bonus, pension, stipend, fees, charge, or annuity of any kind.....	.....
3. From commissions or share of profits by way of or in lieu of salary.....	.....
4. From any other source not coming within any of the foregoing heads (state source).....	.....
Total	£
<i>Deductions.</i>	
Losses, outgoing, and expenses incurred in the production of the gross income stated above.....	£
Net income derived from employment or emolument	£

I claim deduction on account of amount actually paid by me during the year as life insurance premiums on my own life.....£.....
 N. B.—This deduction is limited to £50, and if the amount paid be less than that sum, the exact figures should be entered.
 NOTE.—The exemption of £300 allowed by law will be deducted in the office of the commissioner of taxes.

I, the person making the foregoing return, do solemnly and sincerely declare that the same, and the statements therein referred to or accompanying such return, contain true and accurate details of the several matters and things set forth, and in particular contain a true and accurate account of all income derived by me during the year ending 31st March, 1896; and the deductions claimed by me are those which I am legally entitled to deduct. And I make this declaration under the provisions of "the land and income assessment act, 1891."

Dated this — day of —, 189 .

[Usual signature:] ————

NOTE.—Any change of address should be at once notified to the department.

I claim to have a deduction made from net income shown under foregoing head "deductions" on account of liability to pay land tax in respect of land occupied for business or employment, such deduction being equal to 5 per cent on the amount upon which I am liable to pay land tax on such land under Schedule A, "land and income assessment act, 1891."

Assessment No.	Description of land used as place of business or employment.	Unimproved value.	Amount of mortgage.	Amount on which land tax payable.

N. B.—No deduction can be claimed by the owner in respect of premises or portion of premises let to a tenant.

Names, addresses, and shares of partners.

(To be filled up in the case of returns made by or on account of a firm.)

Name in full of each partner	Address.	Share or interest in firm.

Statement to be made by persons acting as attorneys or agents.

Description of every person for whom I act as attorney or agent where principal is permanently or temporarily absent from the colony and is in receipt of income liable to taxation.

Name in full.	Occupation.	Residence.
.....
.....
.....

Statement to be made by Government departments, local authorities, persons, firms, companies, banks, and societies employing officers, managers, travelers, clerks, foremen, workmen, servants, and others in New Zealand, whether paid by salary, weekly wage, or otherwise.

List of persons in my service or employ during year ending 31st March, 1896.

Name in full.	In what capacity employed.	Place of residence.	Amount of pay received, including salary, wages, bonus, commissions, and allowances, but excluding house allowances.
.....
.....
.....

NOTE.—In the case of any person the total payment to whom does not exceed £160 a year, an entry need not be made.

If there should not be sufficient space in any of the above forms, a sheet giving the required information may be attached.

Statement of gross income from business and deductions therefrom.

(NOTE.—This may be taken for twelve months ending at date of stock taking or annual balance nearest to 31st March.)

For the year ending ———, 189 .

	Amount. £	Total. £
Sales both for cash and on credit for twelve months ending at date of stock taking (include goods supplied for proprietor's own use and goods used in the business or upon buildings, plants, fixtures, etc.).....
Stock in hand at date of stock taking on expiry of the twelve months.....
Less: Stock in hand at the commencement of the twelve months.....
Purchases, etc., for twelve months ending at date of stock taking (at cost laid down on the premises).....
Labor and materials used in manufactures..... (This should only appear in case of a manufacturing business.)
Other income from business, viz, commissions, etc., as follows:
.....
.....
.....
.....
Gross income.....	£.....
Gross income should correspond with amount shown under head 'gross income from employment or emolument.'

	Amount. £	Total. £
DEDUCTIONS FROM GROSS INCOME.		
Salaries and wages (not to include any sums drawn by proprietors or any sums claimed under above heading "labor and materials").....		
Rent (include only rent of premises or portion of premises used exclusively for the purpose of the business), not to include rental value of buildings owned by proprietors of the business.....		
Rates on business premises (not to include payments for land or income tax).....		
Fire insurance (on business premises and stock only).....		
Interest, exchange, and discounts allowed, less amounts received (not to include interest on mortgages, except mortgages on premises used for business or employment).....		
Printing, stationery, advertising, stamps, and telegrams.....		
Traveling expenses, incurred in the business only.....		
Repairs or maintenance (not to include additions or improvements to property or plant).....		
Sundry petty expenses, incurred in the business only.....		
Bad debts (to include those proved to be bad during the year and actually written off, and no others).....		
Other items (to include deductions in respect of heads of income):		
Total deductions.....	£	
N. B.—Total deductions should correspond with amount shown under head "deductions."		
Net income.....	£	

LAND AND MORTGAGE RETURNS.

All letters, &c., should be addressed "The Commissioner of Taxes, Wellington," and not to any name. Letters so addressed go free by post.

"THE LAND AND INCOME ASSESSMENT ACT, 1891."

In pursuance of the above act and of the regulations made thereunder, every owner of land and every owner of mortgages is required to fill up the following return as far as the same is applicable to his particular case, and deliver the same at, or forward it by return post to, the office of the commissioner of taxes, Wellington.

JOHN MCGOWAN,
Commissioner of Taxes.

NOTE.—Any person failing or neglecting to furnish a return or any person making a false return is liable to a penalty of not less than £5 nor more than £100 and to pay treble extra duty.

RETURN OF THE LAND AND MORTGAGES OF

Name in full: _____
 Postal address: _____
 Occupation: _____

Write clearly and legibly.

made in pursuance of "the land and income assessment act, 1891," and the regulations thereunder, so far as respects all land owned by me, and all mortgages held by me, as at noon on the 31st day of March, 1896, according to the several particulars hereinafter set forth and of deductions made at such date as are allowed by law.

Ordinary Tax.

Land owned by me (particulars follow) according to its unimproved value.....	£.....
Mortgages of land held by me (particulars follow) according to the actual value thereof to me as mortgagee, amounting to.....	£.....
Total land and mortgages.....	£.....
Deduct amount due or owing by me on mortgage of above land (particulars follow)..	£.....
Balance.....	£.....

The deduction by way of exemption allowed by law will be made in the tax office.

Graduated Tax.

Land owned by me, according to its unimproved value, included in the particulars following..... £.....

I, the person making the foregoing return, do solemnly and sincerely declare that the same, and the statements therein referred to or accompanying such return, contain true and accurate details of the several matters and things set forth, and in particular contain a true and accurate account of all land in New Zealand owned by me as at noon on the 31st day of March, 1896, and of all mortgages of land in New Zealand held by me on the same date, and that the mortgages for which I claim deduction are mortgages which I am legally entitled to deduct. And I make this declaration under the provisions of "the land and income assessment act, 1891."

Dated this — day of —, 1896.

[Usual signature:] ——— ———.

NOTES.

In respect of properties under lease the owner and lessee will each be assessable upon the value of his interest in the improved land.

Care should be taken to distinguish clearly between mortgages owing by and owing to by placing them under their respective headings in the spaces provided for that purpose.

The name, occupation, and address of the owner should be correctly and clearly stated, and the declaration in all cases signed and dated. Any change of address should be at once notified to the department.

An exemption of £500 is allowed where the value of the land, less improvements and mortgages due upon such land plus mortgages due to the owner, does not exceed £1,500. Between that sum and £2,500 the £500 diminishes by £1 for every £2 the value of land and mortgages rises. Beyond £2,500 no exemption is allowed.

Particulars of money lent by me secured on registered mortgage and any amount owing to me in respect of land sold on time or deferred payment.

Persons to whom the money is lent.			Amount of mortgage.	Amount owing on 31st March, 1896, not including interest (the actual value of the mortgage to be inserted).
Name.	Occupation.	Address.		
			£	£
.....
.....
.....
.....

Particulars of money owing by me secured on registered mortgage and any amount owing by me on land purchased on time or deferred payment.

Person to whom the money is owing.			Amount of mortgage.	Amount owing on 31st March, 1896, not including interest.
Name.	Occupation.	Address.		
			£	£

NOTE.—In the case of mortgagees who are not resident in New Zealand, the names and addresses of their agents should also be stated.

Particulars of land owned by me.

Assessment No.	Local district or borough.	Freehold or leasehold.	No. of section or allotment.	Street or particular locality.	Area.			Unimproved value.
					A.	R.	P.	
								£

NOTE.—The unimproved value of each property should be shown separately; in the case of leased properties, the owner's or leaseholder's interest in the land should be stated.

RETURNS FROM GOLD-MINING COMPANIES.

All Letters, &c., should be addressed "The Commissioner of Taxes, Wellington," and not to any name. Letters so addressed go free by post.

Form G.

GOLD-MINING COMPANY.

"THE LAND AND INCOME ASSESSMENT ACT, 1891."

In pursuance of the above act, and of the regulations made thereunder, every company in receipt of income within the meaning of the said act is required to fill up the following return as far as is applicable to its particular case, and deliver the same at, or forward it by post to, the office of the commissioner of taxes, Wellington, on or before 1st day of July, 1896.

JOHN MCGOWAN,
Commissioner of Taxes.

NOTE.—Any company failing or neglecting to furnish a return at the prescribed time or any company making a false return is liable to a penalty of not less than £5 or more than £100 and to pay treble extra duty.

RETURN OF DIVIDENDS.

Name of company in full: _____.

Postal address: _____.

made in pursuance of "the land and income assessment act, 1891," and its amendments and the regulations thereunder.

Dividends paid during the year ending 31st March, 1896: £_____.

I, _____, being the duly appointed public officer of the above-named company, and in that capacity duly authorized to make the above return, do solemnly and sincerely declare that I am well acquainted with the affairs of the said company, and that the said return contains a true and accurate statement of the dividends paid by the company for the year ending the 31st March, 1896; and that a copy of a balance sheet hereto attached is a true copy of the balance sheet of the said company issued to shareholders, or prepared for issue, last prior to the date of this return.

Dated this _____ day of _____, 1896.

[Usual signature:] _____.

RETURN AS AGENT FOR HOLDERS OF DEBENTURES.

Return of the income received or receivable for the year ending the 31st March, 1896, by the holders of debentures issued by the _____ Company, Limited, in respect of money borrowed on debentures by the company: £_____.

I, _____, being the duly appointed public officer of the above-named company, and in that capacity duly authorized to make the above return, do solemnly and sincerely declare that I am well acquainted with the affairs of the said company, and that the said return contains a true and accurate statement of the income for the year ending the 31st March, 1896, of the debenture holders in respect of money lent to the said company on debentures.

Dated this _____ day of _____, 1896.

[Usual signature:] _____.

Statement to be made by Government departments, local authorities, persons, firms, companies, and societies employing officers, managers, travelers, clerks, foremen, workmen, servants, and others in New Zealand, whether paid by salary, weekly wage, or otherwise.

LIST OF PERSONS IN THE SERVICE OR EMPLOY OF THE COMPANY.

Name in full.	In what capacity employed.	Place of residence.	Amount of pay received, including salary, wages, bonus, commissions, and allowances.
.....
.....
.....
.....

In the case of any person the total payment to whom does not exceed £160 a year, an entry need not be made.

LIST OF DIRECTORS, AUDITORS, AND OTHERS TO WHOM ANY PAYMENT HAS BEEN MADE.

Name in full.	In what capacity employed.	Address.	Amount of fees, salary, bonus, etc.
.....
.....
.....
.....

All amounts should be entered in this list.

If there should not be sufficient space in either of the above forms, a sheet giving the required information may be attached.

STATEMENT OF INCOME FOR A BUSINESS, MANUFACTURING, OR TRADING CONCERN.

NOTE.—This may be taken for twelve months ending at date of stock taking or annual balance nearest to 31st March, 1894.

STATEMENT UNDER THE LAND AND INCOME ASSESSMENT ACTS OF THE INCOME OF

Name in full: _____.

Postal address: _____.

Occupation: _____.

For the year ending: _____.

Sales for twelve months ending at date of stock taking (include goods supplied for proprietor's own use and goods used in the business or upon buildings, plant, fixtures, etc.).....			
Stock in hand at date of stock taking on expiry of the twelve months... Less: Stock in hand at the commencement of the twelve months..... Purchases for twelve months ending at date of stock taking (at cost laid down on the premises)..... Labor and materials used in manufactures.....			
Other income from business, viz, commissions, etc. : Gross income.....		£	
<i>Deductions from gross income.</i>			
Salaries and wages (not to include any sums drawn by proprietors)..... Rent (include only rent of premises or portion of premises used exclusively for the purposes of the business)..... Insurance (on business premises and stock only)..... Rates on business premises (not to include payments for land or income tax)..... Interest, exchange, and discounts allowed, less amounts received..... Printing, stationery, advertising, stamps, and telegrams..... Traveling expenses, incurred in the business only..... Repairs or maintenance (not to include additions or improvements to property or plant)..... Sundry petty expenses, incurred in the business only..... Bad debts (to include those proved to be bad during the year and actually written off, and no others)..... Other items:			
Total deductions.....		£	

[Date:] _____, 189 .

[Signature:] _____.

UNITED STATES TRADE WITH NEW ZEALAND.

So far as my observation has served me, I am convinced it is almost useless for United States exporters to continue to send out pamphlets, circulars, price lists, in fact, literature of any kind, and expect practical results to follow. The foreign importer rarely looks at such literature, and if he does, it is only, in nine times out of ten, to throw all such matter into the waste basket. I do not say this happens in every instance, but I am convinced very little trade follows such efforts.

Send competent, intelligent, experienced business men of good address and presence, with samples and price lists, with liberty to make concessions when circumstances arise which render such a course necessary, and I am satisfied an increase of trade will follow a liberal and intelligent effort of this kind. I have made it my business to interview and converse with most of the wholesale men in this city and many of the principal retail merchants on the subject of personal representation versus "trade circulars and literature" as the best agency for the extension of trade, and all unhesitatingly confirm my theory that one practical man, with a thorough knowledge of his work, going through the colony with samples and price lists for about two or three months in the year is worth more to our commerce than all the trade literature that might be dumped in here for five years. It requires no stretch of imagination to see the force of my argument as to what a man can accomplish by being present with his wares and prepared to explain matters to an intending customer with whom he has had some social intercourse, some agreeable conversation, and an interchange of ideas generally, as compared with the cold facts as set forth in some pamphlet or circular. I am certain all who have given the matter any thought will agree with the foregoing suggestions, especially if they have had any experience with foreign buyers. Once a man has succeeded in placing an order with a new purchaser, both the agent and the firm he represents should deal honorably and fairly with their new customer, as otherwise there can be no continuance of trade or confidence. One shady transaction perpetrated upon the foreign importer does more injury to our foreign trader than I could attempt to paint here. No amount of explanation or expressions of regret will restore that confidence which is so essential to continued friendship and mutual business relations.

TASTES OF CUSTOMERS MUST BE CONSIDERED.

It is useless for manufacturers and exporters to dogmatically insist that they are offering a superior article, and that, therefore, the foreign consumers are bound to buy their goods. A more grievous error than this it is difficult to imagine. Let us take, for example, a certain firm's felt hats; I do not believe the best salesman in the world could sell a gross of these hats in this country, not so much because they are dearer (although that is, of course, a serious drawback) as it is that the people are not accustomed to wear them. I merely mention this one article to illustrate the point I am endeavoring to make. Therefore, in my judgment, what is necessary to overcome this difficulty is to adopt the same means as other manufacturing nations, viz, by making an intelligent effort to manufacture articles specially suitable to the habits, customs, and tastes of the people in shape, price, and quality. This is how the Germans have succeeded in building up a large trade with these colonies, even in the face of the keenest competition on the part of English goods and the natural sympathies of the colonists for English manufactures.

Those who do not cater to the taste of their customers can not expect to build up a trade, and even if they succeed temporarily, it is unreasonable to presume that they could continue to do so unless they paid due attention to

the peculiar requirements of such customers. If, then, our manufacturers are desirous of increasing their export trade, let them send out intelligent representatives who have a special knowledge of their work—men who will be capable of judging, men of technical abilities and practical experience, who will note prices, processes of manufacture, and quality of material, taking samples of manufactured articles, also of raw and unmanufactured materials. Such a man, if he be well informed, will soon determine whether he could compete with those who are now supplying the people's wants. In proof of this, I need only state what is happening in this colony at present. It is a well-known fact that goods which find a ready sale—I am speaking now of dry goods more particularly—in the large centers of population in this colony, can not be disposed of at all in other parts, the principal reason being the difference in climate. In Dunedin, for instance, which is the principal southern city, the people will not have the same material in their wares as those living in the northern metropolis (Auckland), the reason being that Dunedin is pretty cold in the winter time, while in Auckland it is mild and pleasant. But, notwithstanding the difference in climate and the frequent representations made by wholesale and retail business people, the manufacturers, with dogged persistence and indifference, continued to disregard the warning voices and admonitions of their agents and customers. Now, however, they are brought face to face with the stern realities of the situation.

German agents have made several trips through this country, inspecting the stocks and prices of the wholesale and retail houses, and taking numerous samples with them of such articles as found ready sale in the different communities and were regarded as being useful and popular. These articles were copied carefully, and, in some instances, improved upon, and offered at less cost than the people had been in the habit of paying for them, and, of course, with the natural result that a large percentage of that trade now finds its way to Germany to the serious detriment of the English houses and all other competitors. Yet people marvel at the extraordinary extension and activity of German foreign commerce. Is it any wonder, when such systematic and practical methods are pursued? Talk will not expand our trade; we must have more practical effort. We must assist our merchant marine, and we must manufacture articles to suit the requirements of those to whom we desire to sell. Of what use is it to tell a man, "This is a better article than you have been accustomed to," when the reply is, "It may be, but it does not suit my taste; consequently, I will not buy it?"

I might write pages on this feature of the subject, but I think I have written sufficient to demonstrate the necessity, or at least the desirability, of pursuing more liberal and more united methods for the expansion of our foreign commerce than we have hitherto done. I am, of course, aware of the view the manufacturers will, in most instances, take of these suggestions. They will urge that they can not increase or change their plant to meet the peculiar tastes and requirements of every country; that, to do so, would cost more money than the trade is worth, etc. I admit the force of the argument

if they do not look beyond the present, but it is illogical if they hope to build up an outside trade. England did not succeed in building up her immense and incomparable commercial intercourse with the nations of the world without making great sacrifices, both national and individual. But, notwithstanding this, where the prospects warranted it, her people persevered, incurring losses and endeavoring to suit tastes until they succeeded in establishing themselves, and when once a Britisher has accomplished this, all who have tried have found him extremely difficult to dislodge. If other nations are so anxious to increase their export trade by such means as I have described, surely we are in a position to do equally as much in the same direction. It may cost considerable money and time to commence with, yet it should not be so expensive if we take into consideration the intelligence of the average American merchant and workman. But admitting, for argument's sake, that it is necessary to spend money in gaining a thorough knowledge of the requirements of the people with a view to establishing trade with them, it will ultimately result in a large and permanent increase in our foreign trade. What if it does cost a little extra, it will all come back again.

It may be well, in some instances, for two or three branches of trade to combine with a view to minimize the expense, provided always the representative sent has the practical and technical knowledge required. One dollar so expended is worth, in my opinion, more in obtaining practical and useful information than all the pamphlets, circulars, and trade literature generally that can be sent out of the United States during the next six months.

There is just one more matter to which I desire to refer, namely, the exchange between New Zealand and New York. A large wholesale and manufacturing stationer here (whose principals are in Glasgow) ordered a supply of goods from New York. The New York firm drew on their New Zealand customer at ninety days, and in remitting the amount of the draft to New York, it cost the New Zealander at the rate of $4\frac{1}{2}$ per cent, whereas if the New York firm had taken payment in London it would have cost only three-fourths of 1 per cent. It must be apparent to all that such expense in the way of exchange is ruinous; indeed, it is almost prohibitive, and yet, this wholesale merchant informed me that he made a greater profit on the goods than if he had purchased them in London, because of their superiority. You will easily see how difficult it is for our people to compete with a nation like England under such circumstances, and when we do successfully compete, it is because of the superior excellence of our goods. If we can compete under such adverse conditions, are we not justified in putting forth every legitimate and intelligent effort in our power to improve our position?

I certainly feel it my duty to invite attention to this particular barrier against the extension of our commerce in these seas, and the cooperation of business interests in the United States in removing a most serious drawback to American export trade with Australasia. If payment could be made in London, it must tend to increase trade and give the importers more profit,

which means more encouragement to buy from us and thereby largely increase the volume of our foreign business.

All trade circulars should designate some banker to whom money could be forwarded from foreign countries in payment of goods ordered. Also, when an intending customer sends a letter from a reputable local banker that the would-be purchaser is in good standing from a commercial point of view and capable of paying for the goods he has ordered, it is invariably safe to fill such order and draw upon the customer in the ordinary way for the cost of the goods. The observance of this rule will result in great convenience to the foreign importer and advantage to the American exporter.

Another matter to which I desire to direct attention is that the New Zealand Government has imposed a tax of \$250 on all commercial travelers representing foreign houses in the colony. This must be paid before they are permitted to solicit trade.

I would suggest that United States consulates be supplied with directories of the principal cities of the United States. Every consular officer will testify to the convenience which a directory of many of the principal business centers would prove to him when plied with questions and inquiries relative to business houses, etc. In any case, a directory of New York and San Francisco is extremely necessary for the convenience of this office. Other consulates will no doubt request the directories of other cities.

JNO. D. CONNOLLY,

Consul.

AUCKLAND, *July 9, 1896.*

BANKING IN NEW SOUTH WALES.

The numerous inquiries from the United States regarding the banking facilities of Australasia and the methods by which these great financial concerns are carried on, indicate a considerable interest in that question among our people and I have been at no little pains to study it in order that I might give some information on the subject. However, as I am not a banker, I appealed to a friend, Mr. Robert Osbiston, who is an expert in the practical operations of banking, to aid me in placing the subject in a clear light before our people. Mr. Osbiston has had a long experience in the banks of London, and is now editor of the journal of the Institute of Bankers of Sydney, called the *Banker's Magazine*. I think I shall better perform my duty by inclosing, without alteration, the following statement prepared at my request by Mr. Osbiston, and just received from that gentleman:

THE BANKING SYSTEM OF NEW SOUTH WALES.

Exclusive of the savings banks, there are thirteen proprietary banks doing business in New South Wales, of which four have their chief offices in Sydney, five in the other Australian colonies, and four in London. The branches of these banks in this colony number,

No. 196—7.

other than mere agencies, 442, viz: Local banks, 342; intercolonial, 7; and Anglo-Australian, 93. The thirteen banks are:

Local (with chief offices in Sydney).—Bank of New South Wales,* incorporated under special act, 1850; Commercial Banking Company of Sydney, Limited,* and Australian Joint Stock Bank, Limited,* incorporated under New South Wales companies act, 1874; City Bank of Sydney, incorporated under special act, 1864.

Intercolonial (with chief offices in other colonies).—Commercial Bank of Australia, Limited, and National Bank of Australasia, Limited, incorporated under Victorian companies act, 1890; Queensland National Bank, Limited, and Bank of North Queensland, Limited, incorporated under Queensland companies act, 1863; Bank of New Zealand, incorporated under special act, 1861.

Anglo-Australian (with chief offices in London).—Bank of Australasia, incorporated under royal charter, 1835; Union Bank of Australia, Limited, incorporated under English companies act, 1862-1879; London Bank of Australia, Limited, and English, Scottish, and Australian Bank, Limited, incorporated under English companies act, 1862-1890.

In addition to the above-named banks, the Comptoir National d'Escompte de Paris, a very large French institution, with its chief office in Paris, has a branch in Sydney, as has also the Cheque Bank, Limited.

The capital arrangements of the thirteen banks are mostly in a transitional state, a considerable amount being still in process of being called up. The average amount of capital called up, however, was returned at the 31st of December, 1895, as £19,801,759. This amount varies from day to day, and is, moreover, so interwoven with the neighboring colonies and England, where the banks do business, as to form no reliable indication of the actual volume of banking capital hypothecated to this colony. The dividends distributed are in some cases only to preferential shareholders and in others the dividend is passed altogether. The Bank of New South Wales, within the twelve months antecedent to the last return, paid 9 per cent, the Commercial Banking Company of Sydney 8 per cent, the Bank of Australasia 5 per cent, the Union Bank 5 per cent, the Australian Joint Stock Bank 4 per cent, the City Bank 5 per cent, and the Queensland National Bank 3 per cent.

Under the provisions of a local banking law, the "banks of issue" (the group of thirteen institutions before referred to) are required to furnish quarterly sworn returns of business done actually within the colony of New South Wales. The returns thus furnished are to represent the average liabilities and assets for the period with which they deal. These averages are based on the weekly accounts, and include various headings, of which the notes in circulation, the deposits, the discounts and other advances, and the coin and bullion held are the most important. These different headings are taken seriatim herein as showing the totals sworn to at the quarter ended 31st of December, 1895.

Notes in circulation.—The only bank of the thirteen named above having no issue of notes in New South Wales is the Queensland National. The total circulation of the remaining twelve was £1,223,864. In New South Wales, the bank note has a powerful hold upon the masses—it is generally preferred to sovereigns, and the circulation of the banks may be taken as a de facto absorption by the masses. This country would readily employ bank notes of a lower denomination than £1, the present minimum. The average circulation is at present subject to a Government duty of 2 per cent. A feature of the Australasian bank-note issues is their gradual diminution, a result probably due to the great and unusual facilities afforded by the banks for the opening of petty accounts and the consequent extension of the check system.

Deposits.—The returns, at the period stated, quoted the total of deposits held as £30,085,406, of which £10,222,436 were not bearing interest and £19,862,970 were bearing interest. A noteworthy movement, with regard to these two classes of deposits, has been strongly in

* These banks, as well as some of the intercolonial and Anglo-Australian institutions, are in reality of a far more remote origin than the periods indicated by their present incorporation, the Bank of New South Wales, for instance, having enjoyed an unbroken record of nearly eighty years.

evidence in the later returns of the banks. This is shown in the rapid augmentation of "free" balances of customers, *i. e.*, moneys not bearing interest. The immediate cause of this is doubtless the existing low rates of interest allowed by the banks on deposits for fixed periods and the consequent reluctance of customers so to deposit their money. The augmentation referred to, between the September and December quarters of 1895, amounted to £720,000, the fixed deposits remaining, meanwhile, virtually stationary. It may be here remarked that in the comparative absence of any great assortment of marketable securities, the fixed deposits of the banks are a favorite means of investment with the people of this colony.

Discounts and other advances.—These items aggregated £38,502,387 on the 31st of December, 1895. Advances of all kinds have for some time past been steadily declining, the total decrease during 1895 amounting to £1,298,629. This movement can only be due to a contraction of business which has steadily manifested itself since the crash of 1893. Discounts do not form so heavy a percentage of banking business in this country as in England, France, and the settled countries of Europe, nor are advances against scrip so common. Advances against real estate and other kinds of property fully make up for these deficiencies.

Coin and bullion.—This amounted, on the 31st of December last, to £7,516,280, equal to 23.91 per cent of the total liabilities of the banks and no less than 65 per cent of their liabilities payable on demand. This latter percentage has, indeed, been an increasing one from the ante-crisis period, until its maximum of 75.6 was reached in the September quarter of 1894. Thereafter a decline set in, although, even at its December, 1895, ratio of 65 per cent, the position indicates an enormous degree of banking strength.

The present rates of interest allowed by the banks on fixed deposits are: On deposits for six months, $1\frac{1}{2}$ per cent; on deposits for twelve months, 3 per cent. In certain exceptional cases, deposits are received for a longer period than twelve months and at slightly higher rates.

The rates charged on advances are approximately as under: Discounts, three months, at 5 to 6 per cent; above three months, at $5\frac{1}{2}$ to $6\frac{1}{2}$ per cent; overdrafts, say 7 per cent.

In Sydney, there is no bank clearing house as understood in New York, London, etc. We have a system, however, of check clearances, which assimilates somewhat to the clearing house, and is known as the Banks' Exchange Settlement, or Bankers' Pool. This system came into operation in January, 1894, and is based upon the principle of a gold "pool" of £700,000, toward which each of the thirteen banks contributes according to the magnitude of its transactions. The gold thus pooled is never allowed to fall short of £700,000, nor is that amount exceeded; it remains, in short, undisturbed in the vaults of the banks under the charge of three trustees. While the gold thus remains stationary, no contributing bank is allowed to let its daily credit balance fall below 25 per cent of its fixed share in the pool. This system includes the clearance of country as well as metropolitan checks. The total amount of checks exchanged last year exceeded \$109,000,000. As the banks do not pass through the "pool" such of their own checks as may be deposited with them by their own customers, this total falls far short of the actual clearances for the year, which has been estimated to reach no less than £240,000,000.

Reference has been made to the enormous amount of metallic reserves held by the banks. This feature of colonial banking has been much discussed and, to some extent, criticised by a section of the Sydney press. It is alleged, with reason, that these nonproductive reserves are very costly, and that, therefore, they militate against borrowers. A plan for centralizing these reserves into a common pool, with the object of making them productive, has been broached and considered, but the banks, at least, although mainly interested, have not evinced any warm approval of the scheme. Apparently banking must needs remain costly to this and neighboring colonies until, in the course of their inevitable development, they establish larger local exchanges and a more pronounced centralization of their money markets. As the Australian colonies are not contiguous to any large monetary center, such as New York, Chicago, and even London, in their relation to cheaply banked Canada, they must perform provide centers of their own, and this can only be accomplished in the slow processes of time. Meanwhile, scrip security can not be depended upon as being, at all times and under all circum-

stances, immediately convertible, as in London, New York, etc., and, as an indispensable alternative, large coin reserves must be held by the banks. These reserves are, however, under the exigencies of the times, unduly inflated.

The volume of exchange business between the United States and New South Wales is not at present of such a magnitude as to form an active market in bills upon the two countries. As a matter of fact, although some of the banks draw direct upon certain of the largest cities of America, these transactions really centralize for settlement in London. Of course, drafts for moderate amounts are freely obtainable for personal expenses and other small disbursements, in addition to which circular notes are issued; but, in the case of large commercial commitments, the drafts are almost invariably drawn direct upon London and marked subject to negotiation in America. It follows that at times persons transferring funds to America are subjected to a slightly heavier charge than in the case of moneys remitted direct to London, but this, of course, depends upon the course of exchange between American bank places and London, the rate of which sometimes results in a premium on the sale of the drafts referred to. The gold shipments hence to San Francisco, noticeable from time to time, are almost exclusively on English account, not colonial. It sometimes happens that payments for American produce due from England can be more advantageously effected by the direct shipment of gold hence, rather than from London, and, under cable advice from that center, certain of the banks, principally the large Anglo-Australian institutions, occasionally so ship gold. Of course, as the commerce of the United States with the Australian colonies increases, exchange transactions will multiply, and the practice of drawing direct upon the great centers of the Union will come more into vogue.

By far the most active exchange business of the banks is naturally with London. The present buying and selling rates of the banks on that city are quoted as under: Buying—on demand, par; sixty days' sight, one-fourth of 1 per cent discount. Selling—on demand, 1¼ per cent premium; sixty days' sight, three-fourths of 1 per cent premium.

The rates of exchange on London are largely governed by the seasonal movements of wool and other produce to Europe. The bills arising therefrom serve to place down in London large sums of money at the disposal of the banks, and their selling rates at these periods naturally tend toward ease. Against this tendency, however, is to be set the large semiannual service of interest, amounting to upwards of £2,000,000 per annum on the external debt of New South Wales. The net result of these influences and counter influences is that exchange on London is generally in active request by the banks. The large monthly coinage of sovereigns by the Sydney mint (which absorbs most of the Queensland gold as well as our own) to a large extent drifts toward London, thus tending to replenish the banks' resources at that center.

The savings banks of the colony are the Government, or post-office, banks and the Savings Bank of New South Wales. The former receives from the public deposits at interest of from 1s. upwards to a maximum of £200, beyond which no single depositor is entitled to interest. The maximum rate of interest is at present 4 per cent per annum, but this rate is to be reduced at and from the end of the present half year to 3 per cent. The funds of the post-office banks, in one form or another, are under the direct control of the Government. The balance due to all depositors at the close of 1895 was £4,121,700.

The Savings Bank of New South Wales is an institution of which Sir George R. Dibbs, ex-Premier of this colony, is the managing trustee. It was established in 1832. The president of the bank is his excellency the governor for the time being. The total amount of deposits held by this bank on the 31st of December, 1895, was £3,951,874. The bank issues annually an admirably arranged statement of its affairs, from which all essential particulars of its business, down to the minutest detail, can be seen at a glance. From the latest of these statements, the following particulars are taken: The average rate of interest realized on mortgages during 1895 was 5.78 per cent, compared with 5.81 for the previous year; debentures yielded 5.26 per cent; bank deposits, 4.4 per cent, as against 4.73 per cent; and treasury bills, 4.25 per cent, the general average on investments during 1895 being 4.67 per cent, as compared with 4.91 per cent in 1894. The rate of interest allowed on depositors'

accounts closed during the year is $3\frac{1}{2}$ per cent, while on deposits in the bank up to the 31st of December the rate of interest is fixed by the trustees when the yearly accounts are made up. In this institution, also, the amount at interest in every single account is not allowed to exceed the sum of £200. The bank has twelve branches scattered throughout the colony.

The combined deposits held by these two savings banks thus amounted, on the 31st of December, 1895, to £8,073,574, as compared with £4,730,469 in December, 1890. The deposits in the banks of issue, similarly compared, show the following results: In 1890, £35,460,118; in 1895, £30,085,406. The movement of balances appears, therefore, to have been strongly toward the savings banks. It should be added that the prevailing spirit of legislation points to the speedy amalgamation of both savings banks.

The present tendency of banking resources in this colony is toward accumulation, and, as a consequence, both borrowing and lending rates are weakening. One circumstance, checking this movement somewhat, is found in the case of certain of the reconstructed banks. These institutions mostly engaged in 1893, when money was scarce and dear, to pay interest fixed for years at $4\frac{1}{2}$ per cent to their depositors. Events have shown this rate to be altogether out of proportion to current terms, and in this colony at present we have two sets of banks—one still borrowing at $4\frac{1}{2}$ per cent and the other at less than 3 per cent. The result, it is to be feared, is that borrowers do not in all cases obtain the full benefit of declining rates. The substantial fact remains, however, that loanable capital is abundant, and these conditions should not fail ultimately to attract it toward the fuller development of the staple industries of the colony.

Visitors from America to this colony should take care to provide themselves with the most convertible form of money. Drafts on London may occasion some difficulty, especially if only the first of exchange or original be presented, the Sydney banks looking for the complete set before entertaining any request for negotiation. Even then, the question of identification may give rise to trouble. Direct drafts on Sydney can readily be obtained in New York, Philadelphia, Chicago, San Francisco, and other cities, and with these there is no trouble. Circular notes, Bank of England notes, greenbacks, and United States coin are, of course, readily convertible, but a direct draft appears to afford the best medium.

MAY 4, 1896.

ROBERT OSBISTON.

As it will be observed, from the above résumé, that the banking methods in Australia differ considerably from ours, a few observations, in terms common to our people, may justify the use of a little more space.

The magnitude of the banking "crisis" in this country was noted in my report on the "Financial crisis of 1893," published in CONSULAR REPORTS No. 168 (September, 1894) and was commented on freely by the press of the country. But as gigantic as the financial institutions appear, and are, considering the population of the country, when the subject is somewhat analyzed, so as to bring it in form admitting comparison, this appearance materially changes.

The twenty-four banks now conducting the monetary affairs of Australasia have an aggregate paid-up capital approximating \$83,000,000, with liabilities of over \$500,000,000, while among the available assets, which seem to be ample, they hold \$100,000,000 in coin.

But it must be remembered that this vast capital, while largely centralized in management, is well distributed over the whole seven colonies, as each of these great banks have numerous branches scattered throughout the country. I do not know the total number of branches of the twenty-four financial institutions, but I see advertised, in the Australian Pastoralist's Review, two hundred branches of the Bank of New South Wales, well dis-

tributed over the colonies. The Commercial Banking Company of Sydney, Limited, has one hundred and five branches in Sydney and at other points in the colony of New South Wales. The Union Bank of Australia, Limited, has ninety-four branches, some in each colony; while the Bank of Australasia has one hundred and fifty branches well distributed throughout the whole of Australasia.

From the advertisements of these four banks, I would feel quite safe in concluding that the twenty-four banks of Australasia must have a total of at least two thousand four hundred branches; so there would be, as would appear to the casual observer in our country, a total of two thousand four hundred banks in the country.

Then, as the minimum of our three thousand seven hundred national banks is \$50,000 paid-up capital, the average capital seems to be greater in the United States than in Australia, at least this would be so, if the so-called "banks" throughout this country were really banks, instead of so many of them being branches.

The methods, too, differ greatly from ours. The head office is presided over by a manager who is really but chairman of a committee chosen by the directors, and this board, constantly in attendance, constitutes the real authority. The head, or so-called general manager, has very limited discretionary authority, as nearly all questions relating to loans, investments, etc., are submitted for the discussion and decision of the board.

The managers of the branches have very small authority or responsibility. The clientage is well known at headquarters, and for any deviation from the common practice, instructions are asked and sent from the central office.

Here, banking has become a profession, with a sort of civil-service system prevailing throughout the country. Each great bank has a regular staff, the members of which are fixtures, transferable at the will of the "board," but rarely removed except for excellent cause. A position in a bank means a position for life. The staff is trained by life experience. Only young men are employed and they are advanced for good service. The oldest "managers" of to-day entered the service of the same bank when mere boys. As all, or about all, who are now engaged in or by the banks were "evolved" by that process, they naturally think that a more efficient service is thus secured and wiser financiers produced.

"Accommodations" at banks are also granted by very different methods here from what they are with us. There is very little of the system of John Smith taking his two neighbors to the bank and getting a loan for ninety days on "personal security;" as a fact, this practice is almost or quite unknown. Nearly all loans here are either on real estate, called simply "land," or they are secured by liens on the stock, crops, or coming wool clip. The last named are the most common, and a greater portion of the loans are made for from six months to a year, with privilege of renewal, if things are satisfactory.

Many of the loans are carried on for years, with payments made as the stock or wool clip is sold.

In the practical operations of the banks here, the loaning branch of the business amounts to a vast system of overdrafts, and in this they would seem to us more like loan associations than banks.

SYDNEY, *May 8, 1896.*

GEO. W. BELL,
Consul.

“SQUATTERS” AND STATION LIFE IN AUSTRALIA.

What a “ranchman” is to us in Texas, New Mexico, or southern California, a “squatter” is to Australia, and a “ranch” in America corresponds to a “station” in Australia. The land owned and leased from the Government of Victoria occupies a vast territory. There are held by the different squatters of the colony, freehold property to the extent of 7,107,234 acres. These are divided among 868 owners. In addition to this freehold property, the squatters also lease from the Government pastoral lands, grazing lands, swamp lands, and mallee lands. The lands thus leased from the Government aggregate 19,733,184 acres and yield a yearly income of £88,107 (\$428,772.71). The Government taxes the freehold property, provided it aggregates in value over \$12,500, at the rate of 1¼ per cent on its assessed valuation, and in assessing the property, \$12,500 is always first deducted from its value. For instance, if a property is valued at \$25,000, it is only taxed on a valuation of \$12,500; if it is only valued at \$12,500, it escapes taxation. There is property for taxation belonging to the squatters estimated at \$60,000,000. The Government also imposes a sheep tax at the rate of \$5 to every 100 sheep.

There were estimated to be in the colony at the close of 1895, 13,180,943 sheep, and, adding to these the horses, cows, and pigs, the total live stock aggregated 15,783,978. Nearly all this live stock, excepting, of course, the small numbers owned by the farmers and private individuals, is the property of the squatters, and the income derived by them from their business of sheep raising is something immense.

The mallee lands leased by the Government to the squatters are what was once the site of a dense forest; the trees have been “burnt,” “rung” and left to die, or have been cut down, and the land is full of roots. This heretofore rendered the land unfit for use of any kind; but of late years, they have imported huge steam plows which tear these roots bodily from the ground, with the result that the land is now available for grazing purposes, and, in addition, is capable of producing excellent wheat.

A few words regarding the rates paid for labor on stations. These rates include board and lodging, the men sleeping together in a hut and being provided with good living. A stockman receives from \$100 to \$250 per annum; a boundary rider, the same; a shepherd, from \$65 to \$325; hut keepers, from \$125 to \$200. Generally useful men receive from \$2.50 to \$5 per week; sheep washers, from \$3.75 to \$7.50 per week; and shearers, from \$3.75 to \$5 per 100 sheep shorn. Considering that some of these

shearers shear their 200 sheep per day, it can be seen that they make rather good wages during the shearing season.

Let me give a description of a visit to a station in Victoria. This station is not by any means the largest in Victoria, but for the improvements to the property, the irrigation, and the general care expended, it may safely be said to be one of the show stations of the colony. Tooloowoomba is the name of the station, and it comprises about 70,000 acres freehold. Mr. Howe, the proprietor, rents from the Government about 30,000 acres more. This latter land he rents with the understanding that when he has rented it ten years, he shall have the privilege of purchasing it from the Government at the rate of from \$7.50 to \$10 per acre, it being understood that the amount he has paid for rental shall apply on account of the purchase; so that, at the end of the ten years, if he elects to purchase the property, there will be a comparatively small amount to be paid. The estate has 26 miles of river frontage, the river being very winding, running thoroughly through the estate, so that they are never at a loss for water. At many stations the want of water during the summer season is a serious matter, it being a common occurrence for squatters to lose numbers of their stock from this great need. About half a mile from the house is situated the "hut," or the men's quarters. Here are 100 or 150 workmen, who live well and are comfortably housed. A cook presides over the hut. About 2 miles further, right through the bush, is an extensive open field, in the midst of which is built the wool sheds. There are pens adjacent into which the sheep are driven previous to being shorn. The wool sheds are very extensive, and are capable of accommodating 300 shearers at once. Mr. Howe has about 70,000 sheep which are dispersed in flocks about the estate, the largest flock of about 6,000 being on a mountain side in a large paddock. When the shearing season arrives, these separate flocks are driven by the shepherds and sheep dogs to the wool sheds and there are washed and shorn. There is also here an apparatus for giving the sheep an enforced bath in a preparation for curing "tick," a disease prevalent among the sheep. They walk along through a sort of passageway and suddenly find themselves submerged in a bath of this preparation. It contains a strong alkali, warranted to destroy the "tick." Foot rot is also very prevalent among the sheep, and it is a common sight at the wool shed to see men cutting away the feet of the sheep till at last the poor animal is allowed to escape maimed and bleeding. Often this foot rot gets beyond control, and, extending up the leg, incapacitates the sheep from action, so that he ultimately dies from starvation.

Mr. Howe's sheep are the finest in the colony, and it is owing to his excellent breeding. Six or eight years ago he visited Vermont and brought over a flock of 100 choice American merinoes. These have now increased to 1,000 or 1,500, and, in addition, he crossbred the American rams to Australian ewes and thus produced a wool the texture of which is unsurpassed. Mr. Howe's annual income from the sale of his wool amounts, on an average, to \$80,000. Of course, his wool clip differs according to the weather and the condition of the sheep during the different seasons; but the above is a fair average.

It has been wondered how it is that Australia can produce wool, and for that matter, sheep, so much more cheaply than America, and the answer to that is very simple. First, the advantage lies in the climate. Here, you have a climate where the sheep can, and do, safely spend every night during the year in the open air and without covering. Then, the pasturage is unlimited, and, virtually, free. The cost of labor is cheaper than with us, and station living is cheaper, and all these things combine to cheapen the animal. You can purchase at a retail butcher's here in Melbourne prime lamb and mutton at from 5 to 6 cents per pound.

One thing the squatter has to guard against and ever be on the watch for is a bush fire. They are like our prairie fires. In the summer season, the grass becomes dry and inflammable, and the squatter is awakened in the night by a fire roaring on some part of the station. Then all hands must turn out to fight the flames, and it is often days before they succeed in stopping them; it is generally done by clearing a broad space, so that when the fire reaches this space, it has nothing to feed on.

In addition to wool, the squatters raise wheat and barley, though, as a rule, the larger squatters do not care to devote their time to farming, preferring to give all their attention to sheep raising. A rule that is universally adopted by the squatters is to rent their land for wheat growing on shares, the squatter furnishing the land and the seed and some neighboring farmer doing all the work. In this way, Mr. Howe raised on his land last year some 7,000 bushels of wheat.

The acreage of land under cultivation for wheat in the colony is 1,408,777 acres, yielding on an average for the last eight years 8 bushels to the acre. During the past year, however, the yield was very small, it being 4.02 bushels to the acre. On the 1st of January, 1896, there was on hand in the colony of old wheat, 2,009,368 bushels; add to this the harvest for the year 1895-96 (5,656,415 bushels) and it will show that there was on hand 7,665,783 bushels. The consumption of the colony is at the rate of 6 bushels to the acre, and as the crop this past year only yielded 4.02 bushels to the acre, it will readily be seen that they are short of their requirements nearly 2 bushels to the acre. To meet this deficiency, the first for a great many years, large imports were made from the United States. These shipments were made from San Francisco, with the exception of one or two vessels from New York.

Mr. Howe does not go in for cattle raising to any extent; in fact, you do not find ranches here that will compare with our great cattle ranches of Texas, where 50,000 head of cattle scatter and spread over the land. This station has perhaps 200 head of cattle and possibly 100 horses; but these are all for use and are sturdy, hardy animals, well trained to their work. A good horse can be bought here for \$25, while a sound carriage horse brings only \$50.

Mr. Howe divides his time equally between Melbourne and the station. He has a man in charge of the station at an annual salary of \$1,500 as man-

ager, whose duty it is to oversee everything. He is expected to be everywhere, perhaps to be roused from sleep to fight a fire 5 miles off, or possibly to go 10 miles in the other direction to rescue wounded sheep. There is one individual who always finds a welcome at a station in Australia and who never fails to apply for it, and that is the "sundowner," as the "tramp" is called here; whether it is that the squatter fears him, dreading that he may set fire to his bush or not, I can not say; but certain it is he is never turned away from the hut and is always given food and lodging, and, if he will take it, work.

The life of a squatter is certainly one of freedom and independence. He has every need at his command raised on his station, with the exception of groceries (of which he lays in a large stock twice a year), and he is thoroughly independent of the outside world. He is free from care and worry, and rarely keeps any money at the station except at "paying-off time," when he brings the requisite amount from the bank in town. He is surrounded by every comfort, and surely a man can take his ease and thoroughly enjoy life while his flocks and herds are constantly adding to his income.

DANIEL W. MARATTA,

MELBOURNE, *June 20, 1896.*

Consul-General.

AUSTRALASIAN WOOL CLIP OF 1896-97.

In my last report on the wool question* and in a subsequent report on "Squatters and station life in Australia," I went into the question of sheep raising and wool producing, giving the number of sheep in the colony and various other statistical facts connected with the production of wool.

It will, therefore, be unnecessary for me to repeat any of those facts, but I deem it advisable to send another report on the wool question, and deal with the outlook for the immediate future. Wool is, perhaps, the most important of any of the Australian products, and a subject which can not fail to be of interest to the people of the United States. It is my intention, therefore, in this report, to confine myself to the outlook for the season upon which we are entering, and give the general views on the subject both from a colonial and English point of view, including the prospects of the clip, and any other points that may be material to the subject.

As I predicted in my last report on this subject, the clip for the season upon which we are just entering will show a decrease from that of last year. This is owing both to the effects of the recent drought in many parts of the Australian continent, the poor lambing of last year, a rather poor season since, and a lambing this year even worse than last year. The clip for the season of 1895-96 was 1,842,303 bales and for the season of 1894-95, 1,961,229 bales. These figures include the total clip of Australia and New Zealand. Of this quantity, Victoria produced in the season 1895-96, 462,635 bales,

*Printed in CONSULAR REPORTS No. 189 (July, 1896), p. 287.

and in that of 1894-95, 486,359 bales. It is roughly estimated by the leading wool houses here that the present season's clip will fall short of last year by about 100,000 bales.

For the season of 1895-96, which closed June 30, the clip of the Australian colonies and New Zealand showed a deficiency of 120,000 bales (averaging 340 pounds each), while for the ten previous seasons there was an increase of 85,000 bales, so that the importance of the decrease is much greater.

Regarding the quantity of wool to be offered for sale in the colonies, this depends a good deal upon prices. If prices are good, an increased number of growers are induced to realize in the colonies, while poor prices here influence many to try the London market, hoping to gain an improvement. However, taking all the circumstances into consideration, it is likely that the colonial sales will be quite as important as last year. Further, I am assured by growers and others likely to be well posted on the subject that the number of buyers in the colonial markets at the approaching sales will be augmented, and this will necessarily tend to make the market firmer.

As to the quality. This will greatly vary, according to the season experienced in various districts or localities; but the probabilities point to a lighter, drier, and rather less burry clip than usual. It will cover a very wide selection. The past season has been of such a "patchy" character that many brands will show marked improvements, while others are bound to be poor and starved. There is so little of new wool yet to hand that examination and comparison are so far impossible. In the western district of Victoria, where most of the wool for the United States is grown, the season has been a favorable one and the clip is expected to be quite up to last year both in quantity and quality.

The present range of prices may be said to equal those at the close of the last selling season in February. For the bulk of wools, prices at the present writing are perhaps a trifle above those of last season; but, on the other hand, values of wools suitable for the United States are, for most descriptions, rather under the rates paid last season. No important change, perhaps, may be expected between now and the opening of the Melbourne selling season on the 7th of October next.

To all intents and purposes, there is no old wool now on hand, the last of the stock having been closed out by small colonial buyers during the last three months. The dates of the opening sales are as follows: Sydney, September 15; Adelaide, September 24; Melbourne, October 7. These dates are subject to alteration should there be any serious delays in the arrival of the new clip. At the sales here on October 7, it is anticipated there will be a larger gathering of buyers than for some seasons past. Many continental and English representatives are expected to put in an appearance, and I also learn that there will be quite a gathering of American buyers, chiefly from the cities of New York and Boston; the presence of these buyers can not but impress the market, and it may turn out that better prices will be realized.

The June-July series of London colonial wool sales closed firmly on July 21, without exhibiting any material change in the condition as shown by the latest cable advices. Generally speaking, the market is below the closing rates of the previous series, except in the case of the fine, medium, and coarse crossbreds, which are reported firm at the full rates of the previous sales. Of the 302,000 bales available, 230,000 bales have been sold, 105,000 bales have been taken by the Continent, and 2,000 bales for America. Some 72,000 bales have been held over. At the corresponding series in 1895, no less than 358,000 bales were sold. This was the series in which the American revival showed itself. The hand-to-mouth nature of present transactions is thus well exemplified. The trade bought 129,000 bales less in July, 1896, than they did in July, 1895. The reported short stocks in second hands can be thoroughly credited. Although 72,000 bales will go to swell the offerings of September, the position remains sound and a hopeful view can be indulged in. The final returns of the Australian wool shipment for the year ended June 30 have now been received and the results are somewhat under expectations. I give below tables compiled by Messrs. Dalgety & Co., and Messrs. Goldsbrough, Mort & Co. These two firms, who may be said to control the wool trade of the Australian colonies, differ a little in the short-ages given. The former company gives the total shipments of the year as 1,842,303 bales, as against 1,961,229 bales for the same period ending 1895, and the latter gives 1,837,232 and 1,951,890 bales, respectively. Truth may possibly lie between these figures; but there are authorities of note who regard the higher of the two results as still below the actual shortage. Accepting these figures, and taking the average, we get a total shortage of 116,793 bales.

For a considerable time past, it was thought that the exports would show a falling off of fully 130,000 bales, but a factor which tended to swell the shipments was not allowed the prominence it deserved. I refer to the increased quantity of fellmongered wool produced, owing to boiling-down operations, etc. A deficiency of 116,000 bales, however, can not be regarded otherwise than as a very serious one, and it offers a solid basis for the rumors of a much larger shortage, which were previously in circulation. Below I give a table of Australasian wool exports from July 1, 1895, to June 30, 1896 (Messrs. Goldsbrough, Mort & Co., Limited):

Colony.	1895-96.	1894-95.	Increase.	Decrease.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Victoria.....	461,213	485,693		24,480
New South Wales.....	683,125	754,434		71,309
South Australia.....	178,244	172,808	5,436	
Queensland.....	117,827	148,960		31,133
West Australia.....	21,102	19,719	1,383	
Tasmania.....	9,667	14,788		5,121
New Zealand.....	366,054	355,488	10,566	
Total.....	1,837,232	1,951,890	17,385	132,043
Net decrease.....				114,658

The position of the wool market is becoming exceedingly interesting. The June-July series has closed firmly and the important event now looming in the future is the September sales, which commence on the 22d of that month. Some time has yet to elapse before these auctions grow into reality, and, in the meantime, it may not be amiss to sum up the salient points of the position. Foremost is the strong present and prospective statistical position, so far, at least, as the Australian clip is concerned. The heavy shortage of the past year is sure to be succeeded by another large deficit. Different authorities fix it at various estimates, varying from 80,000 to 100,000 bales. The heavy loss of breeding ewes and young stock can not be made up without the aid of that dominating element—time; and the unfriendly season, which is even yet being experienced in some of the northern areas of New South Wales and parts of Queensland, has permitted only an indifferent recovery to be made. The returns of stock from a large number of stations show a material reduction on those of last year. An important factor, which went toward swelling the supply of the staple last year will this season be quite wanting, viz, the large number of skins which resulted from boiling down, making the output of scoured wool much larger than usual. These extended boiling-down operations have been discontinued, owing to lack of stock, which is now required to put on flockless pastures. To arrive at the correct deficiency in the staple, the falling off in this branch of the industry would have to be included in the estimate. The weak spot in the demand is found in the United States, and until some working arrangement is arrived at with respect to the currency and the continuance or otherwise of “free wool,” no revival can be expected from that part of the world. Possibly speculation may come to the rescue, and should this ensue, improved rates may once more be secured.

The past week has witnessed the arrival in Melbourne of some of the earliest installments of the new clip, intended for sale in this market. As I said before, no further auction sales are likely to be held in Melbourne before the opening sale of the season on Wednesday, October 7. By the French steamer arriving early in September, a number of continental buyers are expected, and on their arrival will be determined the dates of the important sales in Sydney. Useful rains have fallen in New South Wales during the past week. Where rain was most needed, half an inch to an inch fell. The season in that district, however, is still a bad one, though the rainfall will give temporary relief. Of course, there are many parts of New South Wales and Queensland where the season is a magnificent one, but in the southwest portion of New South Wales, and from Wentworth to Broken Hill, the drought is, generally speaking, very severe. In view of the great interest taken by sheep farmers in the results of the late sheep show held at Denilquin, in New South Wales, the particulars of the weights cut by the Woorong ewes show as follows: Seven ewes cut 17 pounds, 16½ pounds, 16 pounds, 15¾ pounds, 15½ pounds, 15 pounds, and 14 pounds, or an average of 15¾ pounds. For purely grass-fed, two-teeth sheep, unhusked or in any way pampered, these are splendid weights.

As bearing upon the question of supplies likely to be available, the London cables advise that the fresh arrivals to date already amount to 236,000 bales. Of these, however, 40,000 bales have been forwarded directly to the manufacturing districts. The list of the new arrivals will be kept open till the opening date of sales, September 22. In addition to the net quantities of new arrivals, whatever they may be, there are 72,000 bales held over from the July sales, so that already there are 268,000 bales available for sale in London, with five weeks' arrivals to be added to them. It must be borne in mind, however, that the arrivals during the next five weeks are likely to be smaller than at any other time throughout the year. For the September sales of last year, which opened two days later, the new arrivals were only 261,000 bales, and the quantity brought forward from July, 33,000 bales, or 294,000 bales in all. Of these, 67,000 bales were forwarded to the manufacturing districts, leaving 227,000 bales available for sale. It will be seen, therefore, that now, five weeks before the opening day of the sale, there are available in London 41,000 bales more than last year. If, however, we make a comparison with the September sales of 1894, the statistical position this year does not appear so unfavorable. The following table shows the supplies for the September sales for the two previous years and for this year, the figures for this year being only up to August 18 and having five weeks yet to run.

September-October wool sales.

Supplies.	1896 (Sept. 22.)	1895 (Sept. 24.)	1894 (Sept. 18.)
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Held over from July.....	72,000	33,000	76,000
Fresh arrivals.....	236,000	261,000	288,000
Total gross supplies.....	*308,000	294,000	364,000
Less forwarded direct to manufacturing districts	*40,000	67,000	71,000
Grand total.....	*268,000	227,000	293,000

*1896 figures to August 18.

DANIEL W. MARATTA,

MELBOURNE, August 25, 1896.

Consul-General.

WINE-GROWING INDUSTRY OF VICTORIA.

Of the different industries of this colony, it seems to me there is none from which a trade bids fair to develop with the United States that is more prominent than the wine-growing industry, and a description of it may be of interest.

The drawback hitherto to a trade between the two countries in this line has been, on the one hand, the high duties imposed in the United States on wines, especially on those containing a certain amount of spirits, and, on the other hand, the fact of this being a new country and the wines not being introduced into the American markets.

Now, however, that the industry has become so fully developed here and the wine growing so extensive, there is no reason why a good trade between the two countries should not ensue. A wine is grown here, which may be classed under the heading of claret, which is a good ordinary table wine, comparing favorably with the wine which is served by the hotels and restaurants in Paris, which sells at from 15 to 25 cents per gallon. This wine would perhaps not find a sale in the United States, as the wine made in California would meet the demand at very nearly the same price and the duty would be avoided; but I am sure that there is a future for the better class of Australian wines with the consumers of America—wines that will compare creditably with the bordeaux and burgundy wines of France (which sell in New York for \$3 and \$4 per bottle) and that are sold here at 35 and 50 cents per bottle. Even after paying the duty, these wines would compete with the wines now imported from France, and could be laid down in New York at about half the price. The fact is, the Australian wines have never been properly introduced in America, the growers here considering the duty a deterrent and hesitating to send their wines. An American firm doing business here some two years ago did send on some 30 cases as a sample lot, and these were eagerly taken up by private parties, who all expressed themselves as being much pleased with the quality and flavor of the wines and urged that some New York house should take the agency and supply them with these Australian wines, but, so far, no further steps have been taken.

Certain it is, however, that some of the wines grown here—the clarets, hocks, chablis, and burgundy—have a bouquet and flavor approaching the high standard of the French wines, and if some of our large wine dealers in New York would interest themselves in the matter and introduce Australian wines to American consumers, they might find themselves amply repaid. There are, perhaps, forty or fifty wine growers in this colony having large vineyards and making more or less of all grades of wine. A description of one will answer for all, and an account of a visit to the Great Western Vineyard will be given later in this article.

The quantity of native wines annually consumed in this colony is about 300,000 gallons, about half of this quantity being sold in the wood. The principal wines manufactured here are claret, burgundy, hock, chablis, reisling, shiraz, hermitage, chasselas, sauvignon, tokay, port, and sherry. One firm here makes a port and sherry which experts have pronounced equal to the Spanish wines of the same name. Some of these wines are the blends of two or three kinds of grapes, while others are made from the juice of one grape alone. The names of the principal varieties of grapes are the burgundy, mataro, pineau (Gree & Noir), hermitage, chasselas, tokay, reisling, and sauvignon. Many of the wines made take their names from the grapes, and for cheapness they may be said to come within the reach of all.

While a trade has not yet been opened up with America, there has been a trade established with England, France, and Germany, and large quantities of Australian wines now annually find their way to the United Kingdom. Mr. P. B. Burgoyne, an expert, has been sent here by the English and French

buyers, and, through him, quantities of native wines are shipped. The customs returns for the year 1895 show that there were exported from this port (Melbourne) 16,650 gallons of bottled wines, 345,417 gallons in the wood, and 3,122 gallons of champagne. The values of these wines were \$40,155 for the bottled wines, \$293,070 for those shipped in the wood, and \$31,415 for the champagne. The wine growers of this colony are progressive men, and lose no opportunity to introduce their wines to the public. Many of them have taken the first prizes at the different exhibitions of Europe for the character and quality of their wines, and one firm here took the prize given by the Emperor of Germany at the Melbourne International Exhibition of 1880-81, consisting of a massive set of plate, valued at \$6,000.

These wines of the better quality are sold to the public by the dozen at the following prices: Burgundy, tokay, hermitage, chasselas (quarts), at from \$3 to \$7.50; while reisling, sauvignon, chablis, hock, and claret range in prices (for quarts), per dozen, from \$5 to \$9. The wines sold at these prices are from three to eight years old, while those sold in the wood bring (in hogsheads of 60 gallons, quarter casks of 30 gallons, or kegs of 15 gallons) from \$1.35 to \$3.15 per gallon.

To show how the wines are esteemed in England, I quote an extract from the London *Lancet*. It says:

Australia is rapidly rising to the level of France and Germany in the matter of wines; every year sees an advance. We now get from there wine of excellent quality. The wine now submitted to us is of the French class, full bodied and of good flavor and bouquet, and compares favorably with any French wine of even higher price with which we are acquainted. Our analysis gave, in 100 parts by weight: Extract, 2.45; mineral matter containing phosphates and iron, 0.26; alcohol, 8.35, equal to 18 per cent of proof spirit. Nothing but prejudice can retard the general use of such wine in England.

The same paper refers to some of the red wines as being a trifle too strong for a dinner wine, but adds that they might well take the place of costly French wines for after-dinner use. The writer adds: "I have drunk Cham-bertin & Marcobrum at double the price and do not think they can compare with the Australian wines."

It is a pleasant sight to see an Australian vineyard. The grapes do not grow as they do with us—in spreading vines. Here they grow in hillocks, so to speak, each vine being separate and twined to an upright set in the ground. The space occupied by each vine is not as great as that occupied by a cornstalk, and yet how richly and luxuriantly grow the grapes, hanging all over the vine in ripe clusters, in bunches oftentimes weighing from 2 to 4 pounds. A stony hillside yields the best grapes—land where you would not think anything would grow and soil that would seem only fit for thorns and thistles.

The California wines have not been imported into this country. Probably it would not pay, as undoubtedly they make good wines here, and then, too, here, as it is with us, the duty is almost prohibitive. A pure grape brandy, made at the Stanford vineyards (California), has, however, been imported here, and is largely advertised and is finding quite a sale.

Let me now describe a visit to the Great Western Vineyard, which is situated at Great Western, about 150 miles from Melbourne, and speak of its capacity, its cellars, and the process of wine making in general.

The Great Western Vineyard was purchased by the present owner, Mr. Hans Irvine, eight years ago from Mr. Joseph Best. At the time of the purchase, Mr. Irvine found the cellars full of old wines, as there was, practically speaking, no available market and the old growers did not know how to dispose of their wines. Mr. Irvine cleared out the cellars, increased the vineyards, added to the cellars, and the vine-growing industry took a fresh start. Planting went on steadily until the acreage is now almost trebled. Mr. Irvine is certainly the man for the place, being energetic and progressive. He has visited England and France to ascertain the right type of wine required for the home market. He has been foremost in advising the growers of the state of the markets and the European methods of vine culture and wine making. He has imported from Rheims three Frenchmen, who formerly worked in the cellars of Pommery & Co. and who are thoroughly skilled in the manufacture of champagne; he has increased the tunnels or cellars (which are some 50 feet below the surface) till you can walk over a mile through the different passages. In short, he has made the place just what it should be—a well-equipped wine cellar, modeled after the cellars of Rheims and Spernay. The gardens which surround the house are bordered by the vineyards, and the house is nestled in a setting of emerald green.

In the making of wines, roughly speaking, the difference between champagne and still wines is that, in the latter, all fermentation takes place in the wood before bottling it, whereas in the former, a certain amount of fermentation takes place after bottling. It is this which generates the natural carbonic-acid gas which gives the foam and sparkle to champagne.

The process of making clarets and hocks is simple, compared with that of champagne making, which, it has been well said, essentially demands labor, skill, minute precaution, and careful observation. It is this which makes champagne so dear in price.

For ordinary still wines, the juice flows from the press into the vats, and after having been allowed to clear, is transferred to casks of different sizes, and goes through the ordinary fermentations until it is racked and fined and bottled off. In champagne, latent fermentation is secured by transferring the wine to a cooler cellar, as it is essential it should retain a larger proportion of its natural saccharine matter to insure its future effervescence. To accurately describe the process of making champagne, the juice of the grape flows from the vats or presses into huge casks and there remains for about one year, during which time, of course, fermentation has been going on. It is then drawn off and bottled and the cork secured to the neck by a strong metal clasp. Then the bottles are stacked in long rows to about the height of a man, each bottle being placed on an incline with the neck down. It is now that the trouble and labor commence. Standing in the champagne

cellar of the Great Western Vineyard, one faintly sees by the light through the doorway excavated on the hillside, long, black rows of bottles in vistas which vanish in the gloom. There are 30,000 dozens of champagne here. Dark figures, dimly illuminated by the candles they carry, are apparently going through a sort of Indian-club exercise. As we approach, we find a man removing bottles from the stacks with each hand and giving them sharp turns with the wrists before placing them on another pile. For two or three months the champagne is so turned while the saccharine matter is fermenting, and, little by little, becomes alcohol, and carbonic-acid gas is generated; a loose sediment is also forming and the turning and twisting are to prevent this clinging to the sides of the bottle. In due time, the bottles are placed on "shaking tables"—frames holding 10 or 12 dozens, in which they can be kept with necks downward at varying angles. Here, for months, they are daily turned ever so little, until all the sediment has collected about the cork in the neck of the bottle and looks like so much mud; then, the process of disgorging takes place. The workman holds the bottle over a large tub and removes the cork, when all this refuse or sediment immediately flies out (and a little of the wine as well) and the wine is left absolutely pure. The contents of the tub into which the sediment flies is not lost, as it is in turn rebottled and makes an inferior kind of wine (called, in France, "tisane," and drunk by the poorer class of people). The bottle is then quickly placed on an ingenious machine, which temporarily closes the neck and retains the gas until it is refilled from other bottles that have been disgorged. It is at this stage of the champagne making that what is known as the "dosage" takes place. Every bottle receives a dose of liqueur composed of sugar candy and brandy, which makes the wine more or less sweet.

The Russians like the sweetest wine, the percentage of sweetening for wine going to Russia being as high as 25 per cent, while the English prefer it dry, the sweetening for English wines being only 1 per cent. Here in Victoria, the wine is given from 1 to 4 per cent of sweetening. After disgorging and sweetening, the bottles are quickly recorked. The corks, to half their length, are compressed by a machine to sizes sufficiently small to allow them to enter the neck of the bottles while a sort of hammer descending drives them home. A metal plaque bearing the impress of the maker is then placed at the head of each cork, a wire top over this, a twist with a pair of pincers, and the final manipulation of the champagne is accomplished. It is stacked and reposes until completely matured, and it is then labeled and sent forth to the various markets. Every now and then, as we walk between the large stacks of wine, we hear a sharp report like a pistol shot. These noises are caused by exploding bottles. The fermentation in these has been too strong or there has been some defect in the glass of the bottles and so the bottles burst. The loss by this at the Great Western Vineyard is from 7 to 10 per cent. In France it is often much greater, in some vintages being as high as 25 per cent. This loss is another reason of the dearness of champagne compared with other wines. The bottles are

only used once, as the great pressure of the fermentation weakens them and they can never be trusted afterwards. A champagne bottle is the very strongest made, weighing nearly 2 pounds. Champagne corks are of a special variety and cost 6 cents each delivered at the vineyard. The cost of labor, bottles, corks, and loss in bursting must always make champagne a dear wine.

The cellars of the Great Western Vineyard already extend under the gardens and house, and, with the extensions being constantly made, will soon cover miles. As it is, the long passages cut out of the decomposed granite appear to extend for miles, and one can compare them to nothing but the catacombs of Rome and Paris. Many casks and 20,000 dozens of wine are here stacked in the bins cut in the walls of the passages—champagne, hock, and claret. A special merit claimed for the Great Western wine is that it goes through a second course of maturing in the bottle after it has matured in the wood. Mr. Irvine critically examines bottle after bottle by the light of the candle he carries, and will not place any wine on the market till he considers it perfect.

Retracing our steps up two flights of stairs, we are in the surface cellar once more. Here are the presses and great vats holding 1,200 gallons each. All the wine here is hock or claret. The capacity of this cellar is 120,000 gallons. The grapes are received in the top story and shot down into the presses, which are worked by leverage. There is no treading the grapes, as in the time of Virgil, when the red juice foamed "round the white feet of laughing girls," though Mr. Irvine tells me he once saw such a sight in South Australia, where a number of barefooted girls stamped out the juice of the grapes, which ran into the vats beneath. Next to the cellars are the offices, and a large storeroom in which are stored corks, wires, and a great quantity of bottles ready for use.

At one time, the Government here allowed a small subsidy to the principal wine growers, though of late years this has not been paid, with the single exception of one vineyard, which is a sort of training school in viticulture. This institution receives a subsidy of \$750 per year, and young men are received and thoroughly instructed in all that tends to make one a successful wine grower. The vineyard is large and extensive; thoroughly practical men are employed as instructors. Fine wines are grown there, and there is every facility for thoroughly acquiring the trade.

DANIEL W. MARATTA,

MELBOURNE, *May 17, 1896.*

Consul-General.

NEW SEWERAGE OF THE CITY OF MELBOURNE.

The city of Melbourne is laid out after the plan of the city of London, that is to say, the city of Melbourne proper occupies but a small territory and it is the suburbs which go to make up the population. The city proper extends from Flinders street to Victoria street from north to south, and from

Spencer street to Spring street from east to west, and covers a territory less than a mile in extent in either direction. Surrounding the city, are the cities and towns of Fitzroy, Collingwood, Richmond, Hawthorn, South Yarra, Prahran, Windsor, St. Kilda, Albert Park, North, South, East, and West Melbourne, Port Melbourne, Brunswick, Carlton, Footscray, and others. All these combined make Melbourne, with a population of about 430,000. The population has decreased of late years, many of the inhabitants having gone to seek their fortunes in Western Australia. Some five or six years ago, the population was estimated at nearly 500,000, but the unusual depression and general lack of business have tended to reduce the population to the present figure.

During the fifty-six years of its existence, the city has never built a sewer, and the consequence has been that, as the city grew, the imperative need of a complete and proper system of sewerage became apparent. The matter was mooted from time to time, but it was not until the year 1889 that active steps were taken. Then, the Melbourne and metropolitan board of works sent to England and invited the presence here of an expert civil engineer, Mr. James Mansergh, to make a detailed report as to the best method of building a sewerage system for the city. Melbourne lies at the head of a landlocked bay some 45 or 50 miles from the sea. It was not practicable to discharge the sewage into this bay, as there was only a narrow outlet into the ocean, and it was feared that, in the course of a few years, it would accumulate to the detriment of health and navigation. Neither was it considered feasible to build a sewer to the sea, on account of the great distance and the attendant expense.

It was, therefore, deemed advisable to construct a sewage farm at a distance of 20 miles from the city, and there burn the refuse, and it was to this end that Mr. Mansergh's report was requested. Mr. Mansergh spent some two months here and submitted several reports, from which the present system was finally elaborated, it being a combination of his several reports, with improvements suggested by Mr. William Thwaites, the engineer in charge of the work here. Heretofore, small sewers had been built in some of the streets which emptied into the River Yarra. The liquid refuse was conducted in the first instance into the street channels; it consisted of urine, a small quantity of night soil, kitchen water, bath water, soap suds from the washing of clothes, drainage from stables and sheds, waste liquids and washings of trades and factories, mixed to a varying degree with the surface water from the streets and house roofs.

The River Yarra flows very sluggishly as it approaches the sea, the result being that it is rendered exceedingly foul, unhealthy, and unsightly. In examining the outfall of these small sewers, Mr. Mansergh found that the liquid discharged was to all appearances quite as offensive and polluted a compound as the sewage of a fully water-closeted town. The greatest pollution of the air, however, was produced by emanations from the pans for night soil. The closets are frequently close to the dwellings and are not ventilated. The pans are not cleansed in any way and in many instances are not

emptied with sufficient frequency. Hence, intolerable odors arise during the process of emptying these receptacles into the night carts. The residue left in every pan after emptying produces offensive effluvia, which remains till the residue has dried and crusted.

Accustomed as we have been to water-closets at home, we find the appliances in vogue in Melbourne disgusting. People who have never known what it is to live unsurrounded by cess pits, privies, night-soil pans, or ill-kept earth closets, will wonder how Melbourne could have existed under such conditions when these things have been swept away and decent water-closets have taken their place. In submitting his report, Mr. Mansergh determined the sizes of the internal sewers as follows:

(1) That they should suffice, without any alteration, for a long term of years and so avoid disturbance within the metropolitan district.

(2) That they should provide the above-named margin of carrying power for rainfall in addition to sewage proper.

(3) That by reason of their surplus storage capacity, overflow should rarely occur in rainstorms, as time will be given for the pumping power to overtake the discharge.

Mr. Mansergh proposed the construction of the sewers on the basis of what will be the city's need at the expiration of fifty years, when the population will probably be 1,700,000.

Mr. Mansergh estimated that the scheme he proposed would cost £5,800,000 (\$28,225,700); but this scheme was modified by the board of works here and the chief engineer, so that the amount finally appropriated for the work was £3,500,000 (\$17,032,750). The work is already more than half completed, and what has been done includes the hardest part of the work, such as tunneling the river for the main sewer. The total amount thus far expended has been £1,800,000 (\$8,759,700). It is, therefore, contended that the amount appropriated will be ample to cover the total cost of the work, allowing for all contingencies. Of course, before the whole system is complete many years must elapse; but the board expect to have the sewers in a state to open up, so that connections may be made with all the houses in the city, early in 1897. The board raised the money in England by issuing bonds bearing 4 and 5 per cent interest. As the money was raised in times of depression, the bonds were not all floated at par.

At the sewage farm, the outfalls end with their inverts at the highest point on the land selected in each case, and as there will always be a certain depth of sewage running in them a greater area will be commanded than would be due to the invert level. Small tanks, with simple screening apparatus, will be constructed at the point of discharge, and from them, open or lightly covered channels or carriers of gradually diminishing size will be contoured with suitable gradients along the high sides of the land, so as to deliver an adequate proportion of the sewage to every part, and from them it will be distributed in as simple a manner as possible over the whole area. Within a radius of 3 miles from the center of the city it is imperative for every

householder to connect his house with the sewers; beyond 3 miles, it is for the present optional with the householders

The sewers are designed to carry 30 cubic feet of sewage per head per diem from the centers of population to the pumping station, which will be situated near the junction of Stoney Creek and the River Yarra.

The amount of rain water allowed to enter the sewers will be reduced to a minimum; only exceptionally polluted surfaces will be provided for, such as cab stands, stables, cow yards, etc. All the polluted house water from water-closets, urinals, kitchen sinks, baths, washhouses, etc., will be discharged directly into the sewer.

The sewage will be collected at the pumping station by sewers running along the main valley lines of the metropolitan area and the shores of Hobson's Bay, which will pick up in their course the flow of all the subsidiary drains.

At the pumping station the heavy matter will be separated from the fluid portion by means of strainers, which will be cleansed from time to time, and the material retained by them, mixed with ashes from the boilers, and burnt in a refuse destructor, which will also afford the means of destroying the local refuse of Footscray and Williamstown, the two nearest towns.

The liquid sewage will be lifted from the pumping station about 110 feet from the outfall sewer through three lines of 6-foot wrought-iron pipes, about $2\frac{1}{2}$ miles long. The outfall sewer will ultimately be 11 feet in diameter, with a fall of 2 feet to the mile and capable of discharging 18,000 cubic feet a minute; it will discharge on the sewage farm, which covers an area of about 8,800 acres, situated on the western side of the River Werribee, about 20 miles from Melbourne. It is intended to provide settling reservoirs for separating the sludge from the general body of the sewage and distributing the water over specially prepared areas, the effluent from which will be distributed by broad irrigation over the remainder of the farm.

The board of works have gone about the building of this sewer in a proper manner. Contracts have been made for doing the different work; but the contractors are rigidly held to their contracts. A defective piece of piping is at once rejected and the utmost care is taken to see that the mason work of the cisterns is all properly done.

As mentioned before, the work is more than half completed. Throughout the entire city the piping has been laid, 9-inch to 15-inch pipe carrying the refuse to the main sewer. The plan has been to take a block at a time and lay the piping at a depth of about 12 feet and make connections with the houses. The character of the soil and the entire absence of frost from the ground have rendered the work comparatively easy, blasting having been necessary only occasionally. The contractors have put on a double set of workmen, a night force coming on at 7 o'clock and working steadily through the night. The contractors are liable, and must exercise every care in the performance of their work; in fact, the same conditions prevail that are usual in all cities on work of this kind. The workmen engaged in laying

the pipes through the streets are paid from \$1 to \$1.50 per day for eight hours' work, and the wages of the men at work in the tunnels and the main sewer run from \$1.25 to \$3 per day.

The board have issued specifications for the supply and delivery of steam-plowing gear in full working order at the sewage farm. The boilers of these engines must be tested by 240 pounds on the square inch by hydraulic pressure, and the requirements usual in like cases prevail. Cultivators, steam harrows, crosskill rollers, oliver plow, and ditching plow are also called for in the specifications. There follow specifications for water-closet pans, engines, and boilers for the pumping stations; in fact, the board undertake the supply of every requisite necessary to the completion of the work and the connection of the houses with the main sewer. The board also protect the workmen, and in any case in which the contractor fails to pay them their wages, the board is empowered to do it and deduct it from the money of the contractor.

A few words in description of the sewage farm. The total area of the farm is 8,847 acres, subdivided in the following manner:

	Acres.
Available for irrigation.....	7,523
Tree plantations.....	357
Private roads in the farm.....	230
Township north boundary of farm.....	29
Township near mouth of Werribee River.....	73
Board's sheds and offices.....	16
Not suitable for irrigation, but available for grazing purposes.....	619
Total.....	8,847

The methods adopted for dealing with sewage in connection with land are arranged under three heads:

(1) Chemical precipitation and subsequent treatment by irrigation on the land.

(2) Purification by broad irrigation.

(3) Purification by intermittent downward filtration.

The first and third systems are only admissible where the value of the land is prohibitive. The best purification, the least expensive in maintenance, and the one giving the most profitable results is by the second system. The ratio adopted is 1 acre for every 100 persons. The sewage farm as purchased for these different ratios would be suitable for the following populations: Ratio of 1 acre for 80 persons, 707,760 people; 1 acre for 100 persons, 884,700 people; 1 acre for 110 persons, 973,170 people. It is, therefore, evident that the farm is only suitable for broad irrigation for less than 1,000,000 people, for which population the rest of the scheme is being designed. The estimated cost of the farm at Werribee is \$285 per acre, including improvements. The actual work of preparation is steadily proceeding. The preparing and draining of the ground is being confined to the central block on the farm, which will provide for the requirements of several of the suburban towns. The drainage from other suburban towns will be begun as soon as

the river tunnel is completed, probably about October next, and thus one by one the different cities and towns will be dealt with till the system is complete. The farm is rented to tenants, who raise market produce and vegetables, and it is desirable that as many tenants as possible should be established on the farm. The work to be carried out by the board at the farm during the next two years will consist of—

(1) The completion of the main carriers and subcarriers through the central portion of the farm.

(2) The continuous preparation of the 20-acre blocks, which will be sown with permanent grasses, chiefly lucern and prairie grass.

(3) Erection of a jetty in Port Philip Bay and the provision of the necessary tramway plant for the farm.

As soon as sewage can be discharged on the 2,000 acres, lucern and prairie grass can be grown on them, and if the board can obtain \$30 per acre per annum for them it will be in a splendid financial condition.

The total area to which sewerage is to be applied under the act covers 85,502 acres; but the net area available for population is only 77,933 acres, and this latter area can be sewered when the population demands it. The area which could be covered by sewers, viz, 32,484 acres, does not amount to more than 43 per cent of the area available for population, while the area which should be covered at as early a date as possible amounts to only 21,163 acres.

The valuations of property in Melbourne have altered so during the past few years that it is extremely difficult to establish a rate. The valuations for the year 1895-96 are below those for 1886-87. Unfortunately, during the period of inflated values, the water rate was decreased from 8d. (16 cents) in the pound to 6d. (12 cents) and by the board's act. No matter how the values may fall, this rate can not be altered. As the water rate can not be varied, the whole variation must take place in the sewerage rate. The reduction during the past twelve months in the value of real estate has been £857,000 (\$4,170,590), but it seems scarcely conceivable that any further great reduction will take place, though it is possible in the great reaction from excessive valuations. During the year 1896-97, if the water revenue does not sink below £147,000 (\$715,373) and another loan of £500,000 (\$2,433,250) be floated, the sum to be provided for by rates will be £95,000 (\$462,317), by which time the sewerage expenditure will have reached £2,300,000 (\$11,192,950), or nearly sufficient to provide for the twelve central municipalities. No rate had been necessary up to June, 1895, when £1,300,000 (\$6,326,450) had been expended on sewerage, the surplus revenue from water having met the interest, management, and maintenance charges. At the present time, however, the sewerage expenditure has been increased to £1,800,000 (\$8,759,700), and as there has been no reticulation in operation there will be a deficiency of about £29,000 (\$141,128), which can be met by a rate of 1¾d. on the whole area. To meet the requirements of the years 1896-97, a rate of 3d. (6 cents) over the whole area and 6d. (12 cents) on the reticulated areas will be required.

The main sewer is constructed in a like manner to those of the large cities at home, and a man can walk through it standing upright. It is thoroughly well built and the mason work is of the very best. It is built from the city under the river (for this it was necessary to go very deep) and extends out to the sewage farm. At the building of the sewer under the river some months ago, a serious accident took place, causing a heavy loss of life; the water from the river burst through into the tunnel and drowned the workmen before they could be rescued.

The board have reason to congratulate themselves on the great saving which they have accomplished in performing the work. At the lowest estimate they have saved £1,500,000 (\$7,299,750) on Mr. Mansergh's figures, and yet the work has been performed to the entire satisfaction of all concerned.

The estimated average cost of house connections will be \$75 each; but the ratepayers are now paying £70,360 (\$342,406) per annum for the existing night-soil service, and it is considered that their payments will not be materially increased. If the board adopts the proposed system of contracting with householders to carry out the internal fittings and receive deferred payments, the cost to the ratepayers will be both reduced in amount and lightened in incidence.

Up to the present time, the board has laid 140 miles out of a total of about 800 miles.

The unexpended balance of £1,800,000 (\$8,759,700) the engineer in chief considers will be ample to deal with all the requirements of the existing population as originally estimated, and will also provide for reticulating rights of way and constructing the house branches up to the building line, which expenditure was not included in the original estimate.

In summing up, let me give some exact figures. The following estimate was submitted by the board on October 10, 1894:

Description.	Amount.	
Farm purchase.....	£153,000	\$744,574
Outfall sewer and rising.....	360,000	1,751,940
Pumping station and buildings.....	80,000	389,320
Engines.....	120,000	583,980
Main sewers.....	914,452	4,450,180
Branch sewers.....	590,000	2,871,235
Reticulation pipe sewers.....	1,073,600	5,224,674
Farm preparation.....	160,000	773,640
Total.....	3,451,052	16,794,544

As mentioned before, the amount appropriated was £3,500,000 (\$17,032,750), and the amount expended up to date (with the work more than half completed) is £1,700,000 (\$8,273,050). Making allowances to provide for the future forecast population, it is estimated that the total cost will be about £6,000,000 (\$29,199,000). It has been determined to construct the main sewers on the basis of a population of 1,000,000, at the rate of 30

cubic feet per head per day on the separate system, and that the mains and submains be supplemented in the future, from time to time, as the necessity arises; but at the same time, it is proposed that the sewers in Melbourne be constructed of the same size and capacity as in Mr. Mansergh's scheme, as it is considered that the population ratio is already small enough, being only forty per acre.

The work on the sewers was begun on May 19, 1892, when the Earl of Hopetoun, the then governor of the colony, turned the first sod. His lordship identified himself thus with the work and was at all times interested in it and in its ultimate completion.

To sum up and recapitulate the work done thus far, the sewage farm has been plowed, harrowed, and prepared for reception of sewage to the extent of 2,000 acres, and almost all the residue of the land has been divided by fences and let to tenants for cultivation or grazing at rentals which give a fair return of percentage on invested capital; many cottages are already erected, and water from the metropolitan supply is furnished to each cottage at the rate of £1 (\$4.86) per year; the main outfall sewer—16 miles in length, from the sewer farm to the head of the rising main, of concrete and brick, semicircular where open and circular of 11 feet diameter where closed, and with three aqueducts over the river and two intersecting creeks—has been extended into the farm, with distributing head connected with two main sewage carriers; the rising main, 227 chains long, in two tubes of wrought-iron pipes, through which the sewage will be raised 120 feet into the outfall sewer, is completed and connected with the pumping wells; the pumping engines are delivered at the pumping station and the engine house is built for their reception; store sheds are erected and the store yard is leveled and ready for use. In constructing the main sewers across the delta between the River Yarra at Spottiswood and the lagoon at Port Melbourne through strata of alluvial or marine silt, serious difficulty has been experienced by the contractors. The reticulation of streets with sewerage pipes and the connecting of the houses with the sewers throughout the city is nearly completed; there only remains some of the small streets, lanes, and rights of way to be done. It is anticipated that the sewers in and immediately surrounding the city will be ready for use in the present year. The several amounts, as needed, have been raised in London and the bonds have been floated at rates varying from 98 to 101 per cent. These bonds generally carry 4½ per cent interest and their present price on the London and Melbourne markets is 104 to 108 per cent, according to the time they have to run. To quote and apply the words of Lord Rosebery in addressing the members of the London county council at the close of their first year's proceedings: "What has sustained you in this work has been neither fee, nor fame, nor praise; it has been the pure impulse of a clear duty and a generous ideal." So of the work here, it may be added—a distinct appreciation of the work in which they are engaged, the blessings of increased comfort, salubrity, and life, while the work confers the merit of removing what is

the only physical blot upon the fair fame of this beautiful and healthy metropolis, and a consciousness of the higher and broader capacity for usefulness which will remain to the board here when the huge task shall have been completed.

In closing my report, I desire to acknowledge the obligations I am under to the Melbourne and metropolitan board of works for voting to furnish me information, etc., and to the engineer in chief, Mr. William Thwaites, to whose courtesy I am indebted for much valuable information.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *July 16, 1896.*

SAXON LAND CREDIT ASSOCIATION.

A report on the Saxon Land Credit Association, of Saxony, Germany, for lending money to farmers at low rates of interest, by Commercial Agent Peters, of Plauen, which was printed in CONSULAR REPORTS NO. 192 (September, 1896), pages 87-103, inclusive, excited widespread interest in the United States and elicited requests for additional information, to which Mr. Peters replies, through the Department of State, under date of October 2 and October 15, 1896. In his letter of October 2, addressed to the editor of the Times, of Bethlehem, Pa., Mr. Peters says:

I see by a cutting from your paper of the 12th of September that you have, under the head of "Cheap money for the farmers," published part of my dispatch to the Department of State.

So important is the subject to the interest of our farmers that I venture to forward you a few remarks on the subject of cooperation among that class in order to bring their securities before the public and obtain loans at the lowest possible interest.

My report to the Department of State gives the rules and regulations under which such a land credit association has been formed in Saxony; the same rules, modified in form so as to comply with our laws, could be used in the formation of an association of a like nature in America.

In the Saxon association, every member is liable for the debts of the association. I do not think this unlimited liability is in conformity with our idea of sound business principles. The member should be responsible, but his responsibility should be specific, say to five or ten times the value of his shares in the association.

One valuable article in the laws of the Saxon association is that there shall be a sinking fund which will (and this is reckoned exactly), in time, varying from ten to fifty years, liquidate each mortgage, the time depending upon the amount of interest paid by the member borrowing.

The value of such a law can easily be appreciated. The question is, how to bring the subject before the farmers of our country so that they will see the advantage of an association. There is but one way, and that is

through the press of the country. If you gentlemen of the press will take the matter in hand and start the ball, it will roll, for a system that has proved such a marked success in the Old World should also be a success in ours.

Owing to the financial strain under which they have for years been struggling, many of our farmers find that it is not only impossible to pay high rates of interest, but that every year sees them in a worse position. Is it, then, a wonder that they embrace every scheme that has the slightest color of a chance of alleviating their present wants? I think I have pointed out a way by which they can reestablish themselves and shake off the burden they have borne, and do it honestly and not at the expense of their fellow-citizens.

It has been preached to the South and West that the East and North are joined in a monopoly of money to bleed the South and West and keep them in a bondage of debt, but it may be assumed that the Eastern capitalist would be as willing to lend his money in the South and West as in the East or North at the market rates of the great financial centers if he were as sure of his security. The manager of a great financial institution has not the time to go about looking for small loans; he must place his investments in large blocks.

A practical substitute might be found by the farmers themselves if they would join hands in forming an association, such as the Saxon Land Credit Association, and, in order that it may be organized, I suggest that in every county of every State of the Union, the farmers gather together and elect delegates, and that these delegates, from among their number, shall elect delegates to a State assembly. Every State assembly could then elect delegates to a national assembly, which would organize and make the laws governing a national land credit association, which would, in time, lift the load of debt from the shoulders of the farmers of America.

The same question existed in Europe as now exists in America; it was settled by mutual trust and cooperation. Why should not the plan have the same success in the United States? I believe it would, if we could only find some public-spirited writers who would lend their pens to the elucidation of the question.

In regard to the Saxon association, it may be well to say that the public and the state have such a belief in its financial soundness and the integrity of its officers that they allow, under the law, the investment of school funds, church funds, and trust funds to be made in the debentures of the association.

Commercial Agent Peters's letter of October 15 is addressed to the editor of the Farmers' Voice, of Chicago, Ill. In it, he says:

I beg to acknowledge the receipt of your favor of the 26th of September last, in which you ask me for some information touching my report on the Saxon Land Credit Association.

The report is a translation of the rules and regulations of the association in Saxony, which has done so much for the farmers and small landholders in that Kingdom, and which would, I am sure, be of the greatest possible benefit to the farmers of our country if they organize an association on the same lines.

Almost the same conditions exist to-day with us as existed in Rhenish Prussia in 1850, when Friedrich Raiffeisen, a mayor of the town of Flamersfeld, started his system. His object was to rescue the small farmers from the oppressive grip of the money lender, in which he succeeded so marvelously that the Prussian Government, in 1860, sent a special commission to examine and report upon his plan.

The Raiffeisen system is one by which the farmers, in local associations formed for the purpose of mutual help, pledge their entire assets as security for the debts and obligations of the association, and lend, from the general fund of the association, to members who require financial help.

Formerly, they were local and private organizations, and while there is no question that they did much good, they also did some harm, not to the public, but to their own members, who placed too much trust in their officers, who, in some cases, used the funds of the association for their private use, with the result that some of the local associations were ruined. I believe that now all the Raiffeisen associations are under the control of the Government, in so far that they are open to Government inspection. This had the very best result, and makes them, financially, much sounder.

It was from this system, inaugurated by Raiffeisen, that the Saxon Land Credit Association sprung, and on which I have made my report, finding that it was the best system known for the farmer and for the public who might invest in the debentures of the association.

What our farmers require, to relieve them of the present financial strain under which they are living, is the power to borrow at the lowest possible interest consistent with their securities and the financial conditions in the great centers of the world. So long as they must borrow from the local money lender, they must pay a high rate of interest for accommodation. It is this high rate of interest under which our farmers are now striving and falling that is responsible for the general unrest and dissatisfaction. Remove the high rate of interest, give them the same opportunity to use their credit as men engaged in other business, exchange the present mortgage on the farm for one with a reasonable interest, which the farmer can pay and have something left for the savings bank, and we will restore happiness and prosperity.

This question has been solved by the farmers and landholders of Europe, and the solution of the problem did not consist in the issue by the government of a mass of debased currency circulated among the people at a fictitious value. The end was reached by the farmers and landholders by their own force and cooperation, by the founding of associations which, in time, became a power in the land, and whose financial strength was measured by millions of undoubted securities which the public was only too glad to invest in.

What has been done in Europe, and proved through the test of time to be good, we can also do. If the public of Europe has responded, our public will also respond and purchase the debentures of the organization. I hope to see the national land association of the farmers of America.

If you will read the report I have written on the Land Credit Association of Saxony, you will see that the plan is quite simple and within the reach of every farmer in the United States; if you will examine the quotations of the debentures of the various associations in Europe, you will find that they all stand high.

The solution of the question is simply to bring together the entire assets of our farming people as a unit and borrow on the security in the cheapest money markets of the world the funds required.

How this is done, you will see in the rules and regulations of the Saxon Land Credit Association.

I believe that the capitalists and investors of the United States will give such an association their support.

There is a vast amount of money in the United States that is seeking investment at reasonable interest which would be used in the purchase of the debentures of such an association.

Large amounts of money have been sent to the West and South to local bankers and agents from the investors in the North and East and Europe. The local banker guaranties to his clients 6, 7, and 8 per cent; now, what the farmer wants is to get rid of this middleman and go directly to the capitalist to borrow and save the other 5 or 6 per cent that the local money lender makes. To do this, the farmer must have someone to negotiate the loan and that someone should be the president of the national land association of the farmers of America.

If the plan of organization is carried out in our country, it will be found that in a few years the association will not be a borrower, but from its own funds, earned in legitimate banking, it will lend such amounts as its members may from time to time require.

TETANUS ANTITOXIN.

One by one the diseases which have hitherto defied the skill of physicians are yielding to the persistent attack of modern science. Since the successful treatment of diphtheria by subcutaneous injections of antitoxic serum was demonstrated—hardly three years ago—it has been confidently predicted that sooner or later all diseases which result from the action of a poison secreted in the blood by a special and characteristic bacillus would be conquered by similar means.

From the evidence now presented, it would appear that tetanus, one of the most sinister and stubborn of human maladies, if not already conquered, is in a fair way to be successfully overcome. In the *Deutsche Medicinische Wochenschrift* (Berlin) for October 23, appears a joint announcement by

Prof. Dr. von Behring, of diphtheria-antitoxin fame, and Professor Knorr, of Marburg, describing the qualities and best methods of using the new tetanus antitoxin, which is now prepared under Government supervision as a commercial product by the Farbwerke at Hoechst-on-Main, and offered for use by medical practitioners under the same conditions as diphtheria antitoxin from the same source.

Tetanus, as is well known, is an exceedingly painful and hitherto usually fatal disease caused by blood poisoning, generally the result of a wound. It is believed by physicians to be caused by the introduction into the system of a minute organism which rises from the ground in certain localities, so that the prevalence of tetanus varies greatly even in different districts of the same country. At all events, the disease has its characteristic microbe, which has been recognized, isolated, described, and reproduced by artificial culture. The distinctive symptom of tetanus is a persistent spasm of the voluntary muscles, aggravated by light, noise, or other disturbing influence to which the patient may be subjected. These spasms may affect any muscular portion of the body, but when, as is often the case, the maxillary muscles are principally attacked, the resulting malady is known as lockjaw.

The tetanus antitoxin described by Professor Behring and Dr. Knorr is similar in nature, action, and in the methods of its preparation to the antitoxin of diphtheria. It is prepared and put up for use in two forms, viz, as a dry powder, which is used for the treatment of developed cases of tetanus in men and animals, and as a liquid solution, which is employed for prophylactic purposes. Its strength or degree of efficiency is measured, like that of antidiphtheric serum, by antitoxic units. The dry antitoxin is designated as a hundredfold normal antitoxin—that is, 1 gram of the preparation contains 100 units of antitoxic power; in other words, is sufficient to neutralize 100 grams of the normal poison of tetanus. It is put up for commerce in vials containing 5 grams each, and the contents of one such vial are theoretically sufficient for the cure of a developed case of tetanus. It is dissolved in 50 cubic centimeters of sterilized water at a temperature of 40° C. and injected hypodermically at a single dose. In the treatment of horses, the injection is made into a vein, by which the full action of the antitoxin is accelerated by about twenty-four hours, and this method of injection may even be employed with human patients in very severe cases or where the treatment is commenced at a late and perilous stage of the disease. To insure favorable results, the injection should be made, if possible, within thirty-six hours after the presence of tetanus is definitely indicated. The liquid solution is protected from contamination by germs in the atmosphere by a small admixture of phenol. The dry preparation, on the other hand, requires no such antiseptic while in that form, but when dissolved in water it becomes subject to deterioration, which may be prevented by the addition of 1 per cent of chloroform.

The tetanus solution is of fivefold strength, that is, 1 gram of the liquid contains five antitoxic units, and in this form it is put up in sealed 5-gram vials. In presence of wounds which give reason to fear lockjaw or other

form of tetanus, a small subcutaneous injection of the solution is made, the quantity used being proportionate to the condition of the patient and the time that has elapsed since the injury was received. In all cases, the wound should be antiseptically treated, so as to prevent as far as possible the further generation of poison in the blood.

Tetanus is a disease of seldom occurrence in this section of Germany, and opportunities to test the remedy in actual practice are comparatively rare. One such case has been recently treated at the Hospital of the Holy Spirit, in Frankfort, the record of which is officially and minutely given.

On the 19th of September last, a coppersmith (L. M.), 25 years of age and resident in Frankfort, experienced after exposure to thorough wetting severe pains and stiffness in the muscles of the neck and throat. Two days after the first symptoms appeared he came under treatment by a physician, who kept the patient in bed and administered chloral and salicylate of soda. The symptoms of tetanus continued to develop, and on the night of the 29th of September became so marked and violent that on the following day the patient was transferred to the hospital. A careful examination revealed a small cut or scratch under the right ear, then nearly healed, and so slight in outward appearance that it had passed almost unnoticed. At the time of admission to the hospital the patient was growing rapidly worse. The chin was twisted far to the left, the head drawn backward and immovable, and the muscles of the body, especially the back and abdomen, were hard and tensely drawn. The patient was isolated in a dark room and treated with subcutaneous injections of morphine, which gave no relief. The slightest noise or disturbance, such as the entrance of the physician or nurse into the darkened room, induced severe spasms, and the condition of the sufferer continued to grow steadily worse. At 4 o'clock in the afternoon of October 1 a prolonged spasm of intense severity left no further doubt of a fully developed case of tetanus, and half an hour later 5 grams of the hundred-unit antitoxin, dissolved in 50 grams of water, were injected hypodermically at three places on the breast.

During the evening of the same day, a slight but definite improvement was observed, and this continued throughout the following day, the spasms being fewer and of shorter duration than before the antitoxin had been administered. This condition was maintained from the 3d to the 6th of October, when the acute symptoms gradually returned and by 9 o'clock in the evening, became so severe that a second dose of 4 grams of normal antitoxin was administered as before, with the result that before the next morning the muscles began to relax, the spasms became lighter and less frequent, and from that time, improvement was so rapid and sustained that on the 23d of October, sixteen days after the second injection of antitoxin, the patient was convalescent, and, at his own request, was discharged from the hospital.

This, in the opinion of the physicians in charge, was a typical and conclusive case, in which life could not have been saved by any other treatment previously known, and in which the course of the disease might unquestionably have been arrested and greatly shortened had the antitoxin been used

when the patient first came under medical treatment instead of ten days later, when the case had become one of acute and fully developed tetanus.

It is, of course, too soon to estimate the exact prophylactic or therapeutic value of the new remedy. That can only be determined by a long series of observations in actual practice, which will be made as rapidly as the comparative rarity of the disease itself will permit. Thus far, the antitoxin has been used experimentally, both in this country and in France, with horses, cattle, guinea pigs, mice, etc., and from these tests, and the hospital case above described, the indications are that its use entails no injurious result. The antitoxin is prepared with extreme care, subjected to rigid inspection and control at the imperial testing laboratory at Steglitz, and with this guaranty is placed within reach of bacteriologists and medical practitioners in all countries.

FRANK H. MASON,
Consul-General.

FRANKFORT, *November 16, 1896.*

ELECTRICITY ON FARMS.

The following is a description of an electrical plant as introduced on a farm in Mecklenburg:

The motive power is furnished by a small brook, which passes the farm at a distance of about 650 feet and drives a turbine wheel. About 1,650 feet above the wheelhouse, a dam has been erected in the brook for the purpose of obtaining the necessary fall and forcing the water into a canal leading to the turbine. This canal is partly cut into the ground and partly banked, so that at the turbine, a fall of $5\frac{3}{4}$ feet is obtained. The volume of water changes from 18 cubic feet a second in very dry seasons to 106 to 141 cubic feet a second in very wet seasons. With an average of 35 cubic feet, the turbine is guaranteed to furnish 16 horsepower, while in reality it furnishes 18 and at high water 21 to 22 horsepower. The turbine drives a Schubert dynamo machine, which develops all the electricity needed. From this dynamo, the current goes to the so-called switch board, whence it is distributed to the various stations. Wires of different sizes, strung on poles, conduct light and power currents to the yard, thence to the dwelling and main building, stables, barns, other farm buildings, and garden. There are in the dwelling and main building one hundred incandescent lights; in the other buildings, seventy; and in the yard and garden, twelve, besides two arc lamps. In the turbine house, there is also an accumulator—a battery consisting of sixty-six large glass cells, with plates of lead in diffused sulphuric acid, which serves to accumulate electricity. During the day, when the machines are not in operation on the yard, this accumulator is loaded and contains then sufficient electricity to feed the lights from evening, after working hours, till the next morning. A small machine can also be attached to the accumulator and worked from its power. By careful handling, the accumulator has furnished sufficient electricity to last five days without being

reloaded. To operate the machinery, there are two electric motors, one of 10 horsepower and the other of $2\frac{1}{2}$ horsepower. The small motor is fixed and drives the pumps for the stables, a straw cutter, a turning lathe, a grindstone, and a large band saw, which can cut logs of thickness up to $17\frac{3}{4}$ inches, the latter, however, only with the aid of the larger motor. The larger motor is mounted on iron wheels, and, together with the thrashing machine, can be put into any barn, to be connected there with the electric current by a small cable. The silos are built in a semicircle around the last barn and can be reached, to a distance of 500 feet, by cable attachments. The distance of the motor from the turbine is then about 1,800 feet. The system of handling the motors is so simple that any farm hand can readily understand it. The turning of a lever admits the electric current, which immediately puts the motor in operation to its full power. One machinist, who is stationed at the turbine house, superintends the entire plant, handles the turbine and dynamo, and, from time to time, inspects the motors when in operation. One intelligent farm hand can attend the thrashing machine and the large motor.

LIGHTS.

The burning time of the electric lights during the year is as follows:

Situation.	Number of lamps.	Total burning hours.	Situation.	Number of lamps.	Total burning hours.
Sheep's pen.....	3	1,200	Inspector and assistant	10	10,000
Horse stable.....	7	6,100	Other buildings.....	11	1,500
Cow stable.....	7	3,000	Turbine house.....	3	2,800
Pigs' pen.....	3	2,100	Dwelling and main building.....	100	65,000
Cattle stable.....	14	10,800	Yard (arc lamps).....	2	20,000
Repair shop.....	1	700	Total.....	173	120,000
Yard and garden.....	11	6,800			

MACHINERY.

Owing to loss of power in the conduits, an average of 16 horsepower is required for thrashing, 12 horsepower for sawing, and 3 horsepower for running the small motor. With an average crop of 6,600 cwts. of winter grain and 7,700 cwts. of summer grain and to furnish the needed quantity of wood, the following power is required:

Description.	Hours.	Horse-power.
Thrashing.....	800	16=12,800
Sawing logs.....	300	12= 3,600
Kindling wood.....	100	3= 300
Pumps.....	720	3= 2,160
Straw cutter.....	630	3= 1,890
Repair shop and small jobs.....		1,250
Total.....		22,000
Add for lights.....		12,000
Total horsepower used.....		34,000

COST OF THE WORKS.

Earthwork, including dam and bridge.....	\$1,904
Turbine, including freight and mounting.....	1,428
Machinery building, including foundation.....	1,190
Electrical plant.....	7,140
Sundry expenses.....	714
Total.....	12,376

The cost of the electrical plant is distributed as follows:

Machinery, including accumulator.....	\$3,332
Mounting, freight, and expenses.....	1,190
Wires, lamps, fixtures, and apparatus.....	2,618
Total.....	7,140

WORKING EXPENSES OF THE PLANT.

Interest on the total cost of \$12,376 at 4 per cent.....	\$495.04
Interest on earthwork of \$1,904, 2 per cent extra.....	38.08
Interest on machinery building of \$1,190, 1 per cent extra.....	11.90
Interest on wires, lamps, and apparatus of \$2,618, 2 per cent extra.....	52.36
Amortization on machinery, including turbine, of \$4,760, 10 per cent.....	476.00
Other expenses.....	69.02

Or an average of about 9¼ per cent on the entire cost of \$12,376.....	1,142.40
Salary of machinist.....	285.60
Total.....	1,428.00

Therefore, the 34,000 horsepower used during the year cost \$1,428, or about 4½ cents per horsepower per hour; and, as ten incandescent lamps represent 1 horsepower, the burning hour per lamp costs about four-tenths of a cent. As, with an average working time of nine and one-half hours, 70,000 horsepower could easily be developed during the year, if there were any use therefor, the cost per horsepower could be reduced one-half.

FORMER WORKING EXPENSES.

Formerly, 8,360 cwts. of grain were thrashed by steam, requiring four hundred hours, or forty-five days, and 5,940 cwts. by a Goepel machine, requiring eight horses and six hundred hours, or seventy days. The time occupied for pumping and straw cutting was about the same. For sawing logs into boards and kindling wood, \$238 a year were paid on an average. The summary is therefore as follows:

Thrashing by steam, 400 hours, at \$1.428 per hour, including coal and board of machinists.....	\$571.20
1 team of horses for carrying coal and water, 45 days, at \$2.856.....	128.52
Thrashing by Goepel machine, 2 teams, 70 days, at \$5.712.....	399.84
Pumping, 720 hours (80 days), half team, at \$1.428.....	114.24
Straw cutting, 630 hours (70 days), half team, at \$1.428.....	99.96
Sawing.....	238.00
Lights (petroleum and candles).....	138.04
Rebate on fire-insurance premium.....	23.80
Total.....	1,713.60

This shows a difference of \$285.60 a year in favor of the electric plant. Another advantage is, that now four horses can be dispensed with and the remaining horses are always ready for use. How great this advantage is, especially during the harvest, or while the fields are being manured and prepared for the winter, need hardly be mentioned. Other advantages are, that the electric light is cleaner, safer, and more agreeable. The fact that power is always ready enables the farmer to employ his hands at once in thrashing in case bad weather or some other reason prevents them from working in the fields.

The disadvantages are, that in a dry summer the water may run low and thus occasion interruptions in the running of the machinery; but, as during the dry season few lights are needed and the large motor is not used, this disadvantage is really trifling. Sufficient water can always be stored to furnish power for loading the accumulator and working the small motor. In winter, disturbances may be caused by the clogging of ice, which, however, if occurring at all, can easily be remedied by a few hours' work.

The currents used are all of low tension and harmless to human life. High-tension currents require more precaution, but could be used to more advantage on larger farms. The cost of the machinery would be considerably greater, but a saving would be effected in the wiring, because high-tension currents require thinner wires than low-tension currents. Furthermore, the loss of power in the former is very small, being less than 5 per cent at a distance of $1\frac{1}{4}$ miles, while the loss in the latter is 5 per cent at a distance of 656 feet, 10 per cent at 984 feet, 15 per cent at 1,312 feet, and 25 per cent at 1,968 feet. High-tension currents could also be used for driving plowing and other agricultural machines at a greater distance from the farm.

JULIUS MUTH,
Consul.

MAGDEBURG, *December 7, 1896.*

NOTES. .

Electric Tramways and Railways in Ireland.—Consul Ashby writes from Dublin, November 17, 1896:

Referring to my report of June 18, 1896,* and my supplemental report of June 29, 1896,* wherein I called attention to the probability that in the near future electric traction would become general upon the tramways in Ireland, I have now to report that the Dublin United Tramways have published notices of their intention to proceed in Parliament, session of 1897, with bills to permit extensive construction of new lines and to substitute electric traction for horse power upon the existing lines. The company have also given notice of their intention to proceed before the privy council, Easter sittings, 1897, for authority to extend, vary, and enlarge existing tramway lines with such changes at passing places or crossings as may be necessary. All of these notices are the legal preliminaries toward the adoption of electricity as the means of traction upon existing lines and such new extensions as they may make. The new extensions contemplate a large number of lines connecting the various suburban districts with each other and with the city proper. The Dublin, Wicklow, and Wexford Railway Company have also given notice of their intention to proceed in the parliamentary session of 1897 with bills to allow extensions of their system of railways and with power to substitute electricity as the motive power upon their system to such extent as they may choose. This company now operates about 140 miles of railway. It is said that it is the intention of the company to substitute at an early date electric traction for both passenger and goods trains on their line from Westland Row (Dublin) to Bray, a distance of about 14 miles, most of the way lying through populous suburban towns. It is alleged that the competition of the Southern District Electrical Tramway, which parallels this line for 8 miles, has made this change necessary, as this line, which was opened in May, has already seriously interfered with the earnings of the railway and is constantly growing in favor with the suburban population. The municipal council of Bray is also favorably considering the construction of an electric tramway. Bray is a fashionable seaside resort, with a constant population of about 10,000, and has at present no tramway system. I also understand that the Tramways Company of Belfast intend to apply to Parliament for power to substitute electric traction on the tramways of that city. Should the action of Parliament be favorable to these various projects, there should be a good Irish demand for electrical goods.

* Printed in CONSULAR REPORTS No. 191 (August, 1896), pp. 764-768.

American Barley in British Breweries.—A large brewer in Dundee, writes Consul Savage, November 25, 1896, informs me that he recently purchased a quantity of California "Chevalier" barley of the 1895 crop for use in his business. He submitted a sample to me, which shows that the barley in question contains a number of half and split grains, which he claims is a common fault with American barley, and he informs me that in the process of making the barley into malt, these half and split grains decay and cause mold, which, especially in mild weather, has a tendency to spread and thus damage more or less of the whole of the green malt on the growing floor. He further states that, barring the defect referred to, the barley malted better than almost any other class of barley he has used, and that a London brewing expert, to whom he sent a sample, reported very highly in regard to the same. The price of California "Chevalier" on dock at Leith was \$7.05 per 448 pounds, whereas for English barley of not so good quality, he is paying from \$9.14 to \$9.73 free on board Dundee. It will therefore be seen that, if this defect could be overcome, even at an increased cost in the thrashing of the grain, by reason of exercising greater care, where I presume the damage is done, the American farmer would be able to realize a higher price for his grain and also command a much more extensive market.

Shipbuilding in Glasgow.—Under date of December 14, 1896, Consul Morse transmits the following statistics covering shipbuilding on the Clyde:

I have the honor to report that shipbuilding on the Clyde has increased over last year. Sailing vessels built, 97, of 46,814 tons; steam vessels built, 280, of 374,027 tons; total tonnage in 1896, 420,841; total tonnage in 1895, 360,152.

Opening for American Fire Apparatus in Switzerland.—Consul Germain writes from Zurich, December 12, 1896:

In September, 1895, I received a catalogue from the Vajen & Bader Company, Indianapolis, Ind., describing their patent fireman's smoke protector. I submitted it to the chief of the Zurich fire department, who, at that period, did not seem to interest himself in this life-saving appliance. A few days ago, however, I received a communication from him advising me that he had called the attention of the Swiss board of fire commissioners to the above-named article, and they had concluded to supply all of the Swiss fire departments with this smoke protector if, upon trial, it proves practical. Mr. Schiess has this day ordered one smoke protector to experiment with. As soon as it arrives and trials have been made, I shall report results. Mr. Schiess also informs me that he wishes to be put in communication with American manufacturers of firemen's portable electric lamps and other firemen's electrical appliances and supplies, and the object of this is to ask the Department, if deemed expedient, to call the attention of our manufacturers in the above

lines to this probable outlet and say that Mr. H. Schiess, Feuerwehr-Inspector (chief of the fire department), at Zurich, is desirous to give American fire appliances, electrical and others, as well as firemen's life-protecting inventions, a trial with a view to business. Mr. Schiess invites correspondence. I would therefore advise the sending of descriptive catalogues and price lists to the above-named gentleman, gotten up, if possible, in the German or French language. All the fire departments of Switzerland belong to the Union of Swiss Fire Departments, and whatever new fire appliances one department should conclude to supply themselves with will be followed, if proven satisfactory, with orders from the other Swiss fire departments. I may add that no steam or chemical fire engines are in use in Switzerland, and that the old hand engines are still being used. With proper efforts, perhaps, this also opens a new ground to prospect.

Fire Engines in Martinique.—Referring, in his annual report, to the antiquated fire engines and apparatus in Martinique, Consul Tucker, of St. Pierre, says that in an interview with the mayor of that city (population 30,000) that official complained of the impossibility of obtaining reliable information from catalogues printed in English—alluding more particularly to steam fire engines, the city being desirous of purchasing one of these. He would also be glad to receive catalogues (in French) of all sorts of stationery. To send catalogues printed in English to this French colony, as is constantly being done, is simply a waste of stamps and material, adds the consul.

Process for Detecting Adulterations in Silk and Wool.—A newly discovered and almost infallible method of detecting adulterations in silk and wool, writes Consul Sawter, of Glauchau, Germany, November 2, 1896, has recently been receiving much attention and experiment in Germany. The materials employed in adulterating silk and wool are, as a rule, cotton, linen, and china grass, and so reliable and exact is this new system of detection, when used, that even 1 per cent of any of the above-named spurious substitutes is immediately discovered and recognized. The method is as follows: A small piece of the suspicious material is taken and well cleaned, particular care being exercised to remove from the sample every particle of starch or gum dressing, a precaution which is most important to insure the success of the experiment. The prepared specimen of silk or wool is then steeped for from six to ten hours in sulphuric acid, with which some water is used to reduce its strength. After this part of the process and the required delay, the acid fluid is poured off and the acid-soaked piece of cloth or silk placed in a porcelain vessel, to which is added sufficient alkali to turn a piece of litmus paper a deep violet in color; upon this is poured a few drops of a weak solution of archil, or orchil—a violet dye obtained from several species of lichen. The concoction is then heated for

some minutes to 82° Celsius. If, after carefully observing all the above-mentioned directions, 1 per cent or fraction thereof of spurious part composition or vegetable fiber exists, the violet hue produced by the archil will have disappeared; if, on the other hand, the violet effect remains, it is considered absolute evidence and proof of the addition of vegetable fiber in adulteration of the material tried in whatever per cent is indicated by the experiment.

Commerce of Switzerland with France.—In a dispatch dated November 24, 1896, Consul Germain, of Zurich, says:

French statistics show that for the ten months ended October 31, 1896, Switzerland's exports to France foot up \$12,712,400, as against \$10,930,800 for the same period of 1895. Those of France to Switzerland for the same period amount to \$29,905,000, as against \$25,516,600, the figures of last year. The Swiss export increase, amounting to about \$1,800,000, was due principally to the increased sales of the following articles: Silk goods, cheese, watches, jewelry, cotton goods (inclusive of embroideries), machinery, chemical products, and wood. The French export increase is credited to the enhanced Swiss demand for sugar, wine, cattle, copper, woolen goods, watches, machinery, fancy Paris articles, etc. This is a good showing for Switzerland, since Swiss exports to France for the first ten months of 1895 showed an increase of but \$600,000 over 1894, and those of France to Switzerland, \$4,200,000 for the same period. Both states exported an excess of 17 per cent over last year's figures, while Switzerland's increase in 1895 over 1894 was but 6 per cent and that of France 20 per cent.

Cable to Manaus, Brazil.—Consul Mathews writes from Para, November 17, 1896:

The cable to Manaus, which was laid last February at a cost of £210,000, was in operation only thirty-one days, since which time it has been impossible to send messages. The contractors were under agreement to operate the cable for thirty days free of breakage before they could receive remuneration, which they gained by only one day. Since that time, it has never been repaired so that they could send messages, notwithstanding they have been almost continually at work upon it. They now have it repaired above Obiduo and will reach Manaus certainly by the last of December. It is claimed by engineers that the cable up the Amazon can not be made a success on account of the very strong current and the many obstructions found in the bed of the Amazon River. They are now laying the cable near the bank in the shallow water, where it is believed by many it will prove more successful. The general opinion when the cable was first projected to Manaus was that it would be a serious blow to Para, and would materially affect her commercial importance. But in contemplation of that, the rubber crop of the islands of the Lower Amazon was increased 33 per cent over the previous

year, thus providing a reserve supply and proving beyond a doubt that Para's commercial future is secure and will not in any way be jeopardized by the cable to Manaus. The banking facilities of Manaus are very poor and the greater portion of the exchange to cover business done there is placed with the banks of Para. That will be changed when the cable is established and they can have exchange quotations from Rio de Janeiro daily to guide them.

American Settlers in Brazil.—Consul Mathews writes from Para, November 17, 1896:

For the benefit of those who constantly write letters inquiring what Americans can do in Brazil without capital, but with "energy and push," and as a warning to my indigent countrymen, a class arriving here every month in the year, I beg to submit the following information: No Americans coming to Para without the means to maintain themselves while acquiring the language and seeking employment can have much chance of success. A knowledge of the Portuguese language is absolutely necessary to enable one to find employment. Para, like all commercial centers, has more applicants than positions. Salaries are small and living the most expensive in the world. Nearly everything consumed here is imported and pays a very high import duty. Salaries paid clerks are from \$15 to \$45 per month. The uncertain and ever-changing value of the money has a very injurious effect upon trade. None suffer more from it than they who work for wages, for while the cost of living is made dearer by the financial condition of the country, salaries undergo little or no change as the money fluctuates in value. As to outdoor labor, no white American who exposes himself, as he would be compelled to do, to the sun's burning rays and daily rains that fall here during the wet season could hope to escape the yellow fever and perhaps death. It is true, money is plentiful and the exportation of natural products guaranties a permanent prosperity to this part of Brazil; but no one can successfully deal in rubber unless he has a large capital. The competition among the rubber buyers is very great, and on that account the business is surrounded with greater difficulties now than formerly. In the rubber field, men without money can play no part, unless they become rubber gatherers, in which case they would have ten chances for death against one for life. On some of the rivers, 50 per cent of the natives die who go there.

The value of the milreis is the lowest in the history of Brazil, as it now requires over $6\frac{1}{2}$ milreis to buy \$1 (United States), which, in the middle of the coffee and rubber season, is an unlooked-for condition. None of the brokers have been able to assign a reason for the present rate of exchange. No one seems to be able or willing to forecast the future. The uncertainty and the fluctuating value of money prevent merchants from buying more than is absolutely necessary. Agents representing foreign houses are continually complaining about the difficulty of obtaining orders. But I believe that the money will improve in value in the near future, and business also.

Rubber Exports of Nicaragua.—Consul O'Hara, of San Juan del Norte, under date of November 9, 1896, writes:

Referring to the note at the bottom of page 243 of the October, 1896, number of CONSULAR REPORTS, I beg to state that the tabulated statement shows the value of rubber shipped during each calendar year mentioned. The report was made August 5, and the value of rubber reported for 1896, viz, \$62,118.35, was that of rubber shipped from San Juan del Norte to the United States between January 1 and June 30, 1896, being for six months, which was not stated in the table and hence caused what looked like a discrepancy. The value of rubber shipped from the port to the United States during the fiscal year ended June 30, 1896, was \$134,584.25, as reported in my dispatch of August 5, and also in my dispatch of July 11, printed in the same number of CONSULAR REPORTS on pages 248 and 249.

Writing November 11, 1896, Consul O'Hara says:

Referring to my dispatch of August 5, I have the honor to report that by Presidential decree of September 22, the decree of July 13, prohibiting the exportation of rubber from Nicaragua from January 1, 1897, has been amended so as to permit the exportation of rubber until January 1, 1898. The decree provides that all rubber exported during the year 1897 shall be subject to the payment of an export tax of 10 cents in Nicaraguan currency (4.9 cents in United States currency) per libra (1.043 pounds).

Under date of November 14, 1896, Consul O'Hara transmits an extract from the Bluefields Recorder of November 7, which says:

Rubber growers and others engaged in the business will be interested to learn that a new and less destructive method of getting rubber has recently been discovered. Heretofore the trees have been cut down or the liquid made to exude from incisions at the foot of the tree, but it has been found that the leaves of the rubber tree yield a purer and more abundant supply.

Freight by Sailing Vessels to Nicaragua.—Under date of October 17, 1896, Consul O'Hara writes from San Juan del Norte:

Although an Atlas Line steamer arrives here from New York every fourteen days, much of the freight from New York is now brought by schooners. A schooner of 205 tons burden was chartered recently for \$1,600 (United States currency), the charter party providing for twelve lay days and demurrage of \$25 a day. The cargo consisted of kerosene, lumber, soft coal, and two steam boilers and was valued at \$5,351 (United States currency). The vessel was here eighteen days. The same vessel is reported to have sailed yesterday from New York with a full cargo for this port of kerosene, fence wire, flour, and provisions. The last vessel that came from New York was here twenty-eight days. The number of lay days was not expressly agreed upon, the charter party providing that the question of demurrage should be determined according to the "usage of the port." The master of the vessel will insist hereafter upon something more definite, for, said he, "as nearly as I can find out, the only usage or custom at Greytown is to

unload as best you can, and one might be here three months and not be able to collect a cent demurrage." The cargo consisted of 200 tons of coal, 2 iron-hull lighters, 4,953 pieces of lumber and timber, and 5,068 packages of general merchandise. The list of articles comprising the miscellaneous cargo will serve to show what is imported here. The list is as follows: Alcohol, axes, axe handles, axles, bacon, beer, blacking, bluing, boiler tubes, brooms, candy, canned goods, condensed milk, cartridges, castings, cutlery, corned beef, corn, corn meal, cheese, codfish, crackers, cod-liver oil, coffee mills, coffee hullers, dry goods, drugs, edge tools, earthenware, furniture, flour, fish, florida water, glassware, glue, gunpowder, hardware, harness, hay, hops, herrings, hams, inks, iron tubes, iron pipes, iron kettles, kerosene, lard, lamp chimneys, manila paper, medicines, machinery, mule carts, nails, oakum, oil stoves, oats, oleomargarine, onions, perfumery, pease, pepper, potatoes, peanuts, pork, pilot bread, patent medicines, paints, photographers' materials, pianos, salt, starch, sugar, soaps, sarsaparilla, shoes, scrub brushes, straw paper, straw hats, sewing machines, school furniture, scales, sadirons, staples, solder, shaft couplings, sheet iron, sheet steel, tobacco, twine, trunks, tinware, tea, tallow candles, toilet brushes, telegraph climbers, vermouth, whiting, whisky, and zinc.

Mahogany Trade between Boston and Nicaragua.—Consul O'Hara, under date of October 12, 1896, says:

The administrator of taxes for the district of Zelaya reports that during the six months ended June 30, 1896, G. & D. Emery, of Boston, Mass., cut and shipped 3,349 mahogany logs, for which the Nicaraguan Government received \$1 gold per log. Mention is made of the Emery concession in the report of Señor Don Santiago Callejas, a translation of which was forwarded to the Department with my dispatch of December 30, 1895.* The shipments of mahogany from this coast for the ensuing two months will be unusually heavy. The British Trade Journal of September 1 reports the arrival in England during the last week in August of 202 logs of Nicaraguan mahogany. The logs were shipped from Boston.

Failure of the Bluefields Banana Company.—In a report dated November 16, 1896, Consul O'Hara, of San Juan del Norte, says:

The failure of the Bluefields Banana Company is announced. I have no definite information regarding the assets and liabilities of the company. For some years, the company has been engaged in the steamship business between Bluefields and New Orleans, and is said to own about twenty-two banana plantations on the Bluefields River. The company, I believe, is a corporation organized under the laws of Texas, its principal stockholders being citizens of that State. It is generally believed that the creditors will eventually

* Printed in CONSULAR REPORTS No. 187 (April, 1896), p. 523.

be paid in full. The failure of the company and the withdrawal of its steamships from the fruit trade will naturally give Bluefields a temporary backset, but it is extremely improbable that the company's banana plantations will be permitted to go to waste. Should these plantations be kept in their present condition, there is no apparent reason why there should be any material decrease in the shipment of bananas from Bluefields.

Fiber Bast in Santo Domingo.—In compliance with a request from the Department of Agriculture, the consul at Santo Domingo has reported upon a sample of fiber bast sent to him for that purpose. In his report, dated December 3, 1896, the consul says:

After diligent and careful inquiry, I find that the bast, of which I inclose specimens, is known in Santo Domingo as the bark of the majagua tree, and is used by the natives in the manufacture of cord and rope. I have seen a lady's hat made of the same fibrous material. I am informed that the tree grows in this Republic in considerable quantities, but that the bast or fiber is not exported in commercial quantities to the United States or elsewhere.

A copy of the report from the consul at Santo Domingo and the samples of the fiber were sent to the Department of Agriculture.

Spanish Census Statistics—Under date of Corunna, October 11, 1896, Consul Harmony supplies the following:

Very interesting statistics have just been published by the Spanish Government. The following extracts are suggestive:

According to the last census, out of 19,000,000 inhabitants 8,727,519 persons have no profession whatever. Agriculture employs 4,033,491 men and 828,531 women. There are 97,257 persons holding office and 64,000 on the retired list, 44,564 schoolmasters or teachers (of whom 19,940 are females), 30,179 medical doctors, 91,227 mendicants (of whom 51,948 are females), 43,328 members of the clergy, and 28,549 nuns. The number of absolutely unlettered persons is 6,104,470, including 2,686,615 females.

Spanish Bullfights.—In a report undated, but received at the Department November 27, 1896, Consul-General Bowen, of Barcelona, says:

During the latest bullfight season, from April 5 to October 20, 1896, there were 478 bullfights in Spain, and 1,218 bulls, valued at \$300,000, and 5,730 horses, valued at \$200,000, were killed. The number of matadores, the principal fighters who kill the bulls, was 23, and they were paid for their services in all 1,329,000 pesetas (about \$221,500). The less renowned matadores received from \$300 to \$400 for each fight in which they took part, while the most renowned received from \$500 to \$850. The famous Guerrita appeared in 68 fights, killed 174 bulls, and received in all \$51,000; Bombita fought 43 times, killed 112 bulls, and was paid \$21,000; Mazzantini was in the ring 29 times, killed 68 bulls, and made \$21,700. They were the favor-

ite matadores. Some only appeared in the ring once or twice, and they were those who received the smallest remuneration. It can not be truthfully said that the interest in bullfights is diminishing in Spain; on the contrary, it seems even more intense than ever.

Trade in Tobacco at Gibraltar.—Under date of September 1, 1896, Consul Sprague informs the Department of State that the governor of Gibraltar has issued a proclamation giving publicity to an ordinance which regulates the trade in tobacco at that port under special conditions. Commenting on the ordinance, the consul writes:

It is evident that the ordinance has been framed with the express object of favoring Spain by endeavoring to prevent in future any attempts to smuggle tobacco into her territory from this port and fortress. Such Spanish subjects who may have been accustomed to lead a somewhat reckless and illegal occupation in the tobacco traffic will now be forced to seek some other means of a more legitimate character for earning their livelihood. Spain has reestablished the custom-house at the Spanish lines, but under certain regulations. Until these are fully ascertained, it will be impossible to express any opinion as to what advantages the new régime may offer to those engaged in the general local retail trade of Gibraltar.

Under date of September 12, 1896, Consul Sprague transmits the following further information relative to the tobacco ordinance:

The ordinance lately passed and published by the local authorities to regulate in future the trade of tobacco at Gibraltar has created so much dissatisfaction among the commercial community and general traders at this port that they have unanimously decided to memorialize the British Government with a view to its repeal. This memorial is now in the public exchange building for signature, to be forwarded without delay to the Imperial Government.

Pearl Fisheries of Mozambique.—Consul Hollis writes from Mozambique, October 26, 1896:

In CONSULAR REPORTS for August, 1896, just received, on page 648, I note that Vice-Consul Wilbor, at Lisbon, has reported that "some years ago a concession was granted by the Portuguese Government for a company of pearl divers to operate off the coast of Mozambique." This refers, I think, to a concession granted some six or seven years ago to an American to exploit the pearl fisheries of the Bazaruto Islands, which are situated a few miles from the coast and about midway between Inhambane and Beira. Bad management, lack of funds, heavy expenses, and political difficulties combined to kill the enterprise. The Bazaruto kaffirs still continue to fish for pearls; but, as they roast the oysters, instead of letting them rot, the pearls are always more or less damaged by heat. The Bazaruto pearls, as well as

a few that are obtained near the mouth of the Rovuma, are shipped by the Indian traders to Bombay and Zanzibar. This industry is very small, however. There is no local market for pearls here.

Steam Communication between Belize and New York.—Under date of December 3, 1896, Consul Morlan, of Belize, British Honduras, reports that the colonial government has made a contract with the Atlas Line to run fortnightly steamers between New York and Belize, calling at Jamaica each way. The government, in lieu of subsidy, remits light and harbor dues. It is hoped by this means to encourage the immigration of laborers to develop the agricultural resources of the colony. The first steamer of a direct German line from Hamburg has arrived, bringing considerable cargo. If this line succeeds, it will mean considerable increase in the importation of goods, principally at the expense of the trade with Great Britain.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of December to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Carlo Gardini, Bologna.....	Oct. 2, 1896	Hemp cultivation in Bologna...	Department of Agriculture.
Thomas C. Heenan, Odessa.....	Oct. 8, 1896	Agriculture and agricultural implements in Russia.	Do.
James C. Monaghan, Chemnitz.	Sept. 26, 1896	Insurance against loss of work..	Department of Labor.
Irving B. Richman, St. Gall.....	Nov. 16, 1896	.....do.....	Do.
B. H. Ridgely, Geneva.....	Oct. 27, 1896	Swiss vintage of 1896.....	Department of Agriculture.
George Horton, Athens.....	Nov. 7, 1896	Opening for American wheat in Greece.	Do.
Julius Muth, Magdeburg.....	Oct. 23, 1896	Beet-sugar crop of Europe.....	Do.
Louis Stern, Bamberg.....	Sept. 14, 1896	German hop trade.....	Do.

FOREIGN REPORTS AND PUBLICATIONS.

British Trade Returns.—The accounts of trade and navigation of the United Kingdom for the month of November, 1896, and for the eleven months ended November 30, 1895 and 1896, make the following showing of imports and exports:

Imports.

Articles.	1895.	1896.	Increase.	Decrease.
<i>Month of November.</i>				
Animals, living, for food.....	\$4,269,940	\$3,715,631		\$554,319
Articles of food and drink :				
Duty free.....	61,601,043	68,547,115	\$6,946,072	
Dutiable.....	12,861,639	13,971,391	1,109,752	
Tobacco.....	1,209,785	1,899,132	689,347	
Metals.....	7,242,496	7,696,477	453,981	
Chemicals, dyes, and tannics.....	2,247,486	1,821,906		425,580
Oils.....	3,972,748	3,931,266		41,482
Raw materials :				
For textiles.....	37,496,520	47,741,572	10,245,052	
For other industries.....	19,947,560	19,047,595		899,965
Manufactured articles.....	31,366,939	30,789,828		587,111
Miscellaneous goods.....	7,227,609	7,137,842		89,767
Parcel post.....	396,163	539,515	143,352	
Total.....	189,839,928	206,839,270	16,999,342	
<i>Eleven months ended November 30.</i>				
Animals, living, for food.....	40,326,841	47,637,356	7,310,515	
Articles of food and drink :				
Duty free.....	625,127,805	639,641,416	14,513,611	
Dutiable.....	110,005,210	112,864,316	2,859,106	
Tobacco.....	14,785,210	19,323,069	4,537,859	
Metals.....	82,198,685	90,618,863	8,420,178	
Chemicals, dyes, and tannics.....	29,535,265	30,864,360	1,329,095	
Oils.....	35,617,046	36,795,524	1,178,478	
Raw materials :				
For textiles.....	304,803,744	316,468,492	11,664,748	
For other industries.....	197,849,319	212,760,251	14,910,932	
Manufactured articles.....	339,856,182	364,118,513	24,262,331	
Miscellaneous goods.....	63,517,660	65,481,207	1,963,547	
Parcel post.....	4,429,520	4,871,791	442,271	
Total.....	1,848,052,487	1,941,445,158	93,392,671	

Exports.

Articles.	1895.	1896.	Increase.	Decrease.
<i>Month of November.</i>				
Animals, living.....	\$320,656	\$407,686	\$87,030	
Articles of food and drink.....	5,476,754	5,336,422		\$140,262
Raw materials.....	7,255,450	7,006,655		248,795
Manufactured and partly manufactured articles:				
Textiles and yarns.....	40,863,494	37,102,110		3,761,384
Metals and metal goods.....	12,937,483	13,239,649	302,166	
Machinery and millwork.....	6,452,071	6,831,374	379,303	
Apparel and personal effects.....	3,986,968	3,520,893		466,075
Chemicals, chemical products, and medicinal preparations.....	3,589,511	2,880,958		708,553
All other.....	13,589,293	13,054,576		534,717
Total manufactures.....	81,418,820	76,629,560		4,789,260
Parcel post.....	621,350	843,801	222,451	
Total British products.....	95,093,030	90,224,194		4,868,836
Foreign products.....	21,237,747	21,317,367	79,920	
Total exports.....	116,330,777	111,541,561		4,789,216
<i>Eleven months ended November 30.</i>				
Animals, living.....	3,514,499	4,111,477	596,978	
Articles of food and drink.....	49,406,737	50,479,333	1,072,596	
Raw materials.....	82,628,537	78,948,530		3,680,007
Manufactured and partly manufactured articles:				
Textiles and yarns.....	452,098,940	470,328,212	18,229,272	
Metals and metal goods.....	126,666,717	149,691,715	23,024,998	
Machinery and millwork.....	67,611,110	75,508,127	7,897,017	
Apparel and haberdashery.....	41,272,183	46,509,432	5,237,249	
Chemicals, chemical products, and medicinal preparations.....	37,111,102	36,563,727		547,375
All other.....	141,213,800	149,289,124	8,075,324	
Total manufactures.....	865,973,852	927,890,337	61,916,485	
Parcel post.....	5,790,733	7,404,599	1,613,160	
Total British products.....	1,007,315,064	1,068,834,276	61,519,212	
Foreign products.....	267,381,652	247,479,302		19,902,350
Total exports.....	1,274,696,716	1,316,313,578	41,616,862	

Résumé for the eleven months.

Description.	1895.	1896.	Increase.
Imports.....	\$1,848,052,487	\$1,941,445,158	\$93,392,671
Exports.....	1,274,696,716	1,316,313,578	41,616,862
Excess of imports.....	573,355,771	625,131,580	

Vol. LIII.

No. 197.

CONSULAR REPORTS.

FEBRUARY, 1897.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880-81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885-86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Austrian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—Countries with fixed currencies.

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*...	Gold and silver...	Peso	\$0.96, 5	Gold—Argentine (\$4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown .....	.20, 3	Gold—20 crowns (\$4.05,2) and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19, 3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis .....	.54, 6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do.....	Dollar.....	1.00	
Chile‡.....	Gold and silver...	Peso .....	.91, 2	Gold—escudo (\$1.82,4), doubloon (\$4.56,1), and condor (\$0.12,8); silver—peso and divisions.
Cuba.....	do.....	do.....	.92, 6	Gold—doubloon (\$5.01,7); silver—peso.
Denmark.....	Gold	Crown.....	.26, 8	Gold—10 and 20 crowns.
Egypt.....	do.....	Pound (100 piasters).	4.94, 3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	do.....	Mark.....	.19, 3	Gold—10 and 20 marks (\$1.93 and \$3.85,9).
France.....	Gold and silver...	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold	Mark.....	.23, 8	Gold—5, 10, and 20 marks.
Great Britain.....	do.....	Pound sterling...	4.86, 6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver...	Drachma.....	.19, 3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	do.....	Gourde.....	.96, 5	Silver—gourde.
Italy.....	do.....	Lira.....	.19, 3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold	Dollar.....	1.00	
Netherlands‡.....	Gold and silver...	Florin.....	.40, 2	Gold—10 florins; silver—½, 1, and 2 ½ florins.
Newfoundland.....	Gold	Dollar.....	1.01, 4	Gold—\$2 (\$2.02, 7).
Portugal.....	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver...	Peseta.....	.19, 3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold	Crown.....	.26, 8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver...	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold	Piaster.....	.04, 4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver...	Bolivar.....	.19, 3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—Countries with fluctuating currencies, 1874 '90.

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver	Florin	\$0.47,6	\$0.45,3	\$0.45,3	\$0.41,3	\$0.40,1	\$0.39,8
Bolivia	do.	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do.	Peso	.96,5	.91,8	.91,8	.83,6		
China	Silver	Haikwan tael.	1.61	1.61				
Colombia	do.	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do.	do.	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee.	.48,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	{ Gold	Yen	.99,7	.99,7	.99,7	.99,7		
	{ Silver							.87,6	.86,9
Mexico	do.	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands †	Gold and silver.	Florin	.40,5	.38,5	.38,5	.40,2		
Peru	Silver	Sol.	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do.	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do.	Mahhub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver	Florin	\$0.39,3	\$0.37,1	\$0.35,9	\$0.34,5	\$0.33,6	\$0.42
Bolivia	do.	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do.	Peso				.69,9	.68	.85
Colombia	do.	do.	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do.	do.	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee.	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	{ Gold	Yen	.85,8	.81	.78,4	.75,3	.73,4	.91,7
	{ Silver									.86,4	.81,6	.79	.75,9	.73,9	.92,3
Mexico	do.	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol.	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do.	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do.	Mahhub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1832. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at \$4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—Quarterly valuations of fluctuating currencies.

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano	\$0.61,3	\$0.61	\$0.60,4	\$0.53,1	\$0.51,6	\$0.46,5	\$0.45,7	\$0.46,4
Central America.....	Silver peso.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
	Shanghai tael.....	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
China*.....	Haikwan tael.....	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tientsin tael.....								.72,7
	Chefoo tael.....								.71,7
Colombia.....	Silver peso.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador.....	do.....	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India.....	Silver rupee.....	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†.....	Silver yen.....	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico.....	Silver dollar.....	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru.....	Silver sol.....	.61,3	.61	.60,4	.53,1				
Russia‡.....	Silver ruble.....	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli.....	Silver mahbub.....	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela‡.....	Silver bolivar.....					.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano	\$0.45,5	\$0.44,1	\$0.48,6	.48,6	\$0.49,1	\$0.49,3	\$0.49,7	\$0.49
Central America.....	Silver peso.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
	Amoy tael.....								.79,3
	Canton tael.....								.79
	Chefoo tael.....	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3	.76,9	.75,8
	Chinkiang tael.....								.77,4
	Fuchau tael.....								.73,3
	Haikwan tael.....	.74,9	.75,6	.80	.80,0	.80,8	.81,2	.81,9	.80,6
China*.....	Hankow tael.....								.74,2
	Ningpo tael.....								.76,2
	Niuchwang tael.....								.74,3
	Shanghai tael.....	.67,3	.65,2	.71,8	.71,8	.72,5	.72,9	.73,5	.72,4
	Swatow tael.....								.73,2
	Takao tael.....								.79,8
	Tientsin tael.....	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3	.78	.76,8
Colombia.....	Silver peso.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
Ecuador.....	do.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
India.....	Silver rupee.....	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4	.23,6	.23,3
Japan†.....	Silver yen.....	.49,1	.47,6	.52,4	.52,4	.52,9	.53,2	.53,2	.52,8
Mexico.....	Silver dollar.....	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6	.54	.53,2
Persia.....	Silver kran.....					.09,0	.09,1	.09,2	.09
Peru.....	Silver sol.....	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7	.49
Russia‡.....	Silver ruble.....	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5	.39,8	.39,2
Tripoli.....	Silver mahbub.....	.41,1	3-9,8	.43,8	.43,8	.44,3	.44,5	.44,9	.44,2

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different parts of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1893.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Are.....	Metric.....	0.02471 acre.
Arobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentine Republic.....	25.3175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	.....do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Baril.....	Argentine Republic and Mexico.....	20.0787 gallons.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Berkovet.....	Russia.....	361.12 pounds.
Bongkal.....	India.....	832 grains.
Bonw.....	Sumatra.....	7,096.5 square meters.
Bu.....	Japan.....	0.1 inch.
Butt (wine).....	Spain.....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (Cantar).....	Malta.....	175 pounds.
Carga.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333½ (1½) pounds.
Do.....	Japan.....	1.31 pounds.
Do.....	Java, Siam, Malacca.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Do.....	Double or metric.....	220.46 pounds.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3,098 pounds.
Do.....	Siam (Koyan).....	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra.....	Argentine Republic.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cubic meter.....	Metric.....	35.3 cubic feet.
Cwt. (hundredweight).....	British.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	Half ounce.
Dun.....	Japan.....	1 inch.
Egyptian weights and measures.....	(See CONSULAR REPORTS No. 144.)	
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.
Do.....	Mexico.....	1.54728 bushels.
Do.....	Morocco.....	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do.....	Uruguay (double).....	7.776 bushels.
Do.....	Uruguay (single).....	3.888 bushels.
Do.....	Venezuela.....	1.599 bushels.
Fanega (liquid).....	Spain.....	16 gallons.
Feddan.....	Egypt.....	1.03 acres.
Frail (raisins).....	Spain.....	50 pounds.
Frasco.....	Argentine Republic.....	2.5096 quarts.
Do.....	Mexico.....	2.5 quarts.
Fuder.....	Luxemburg.....	264.17 gallons.
Garnice.....	Russian Poland.....	0.88 gallon.
Gram.....	Metric.....	15.432 grains.
Hectare.....	do.....	2.471 acres.
Hectoliter:		
Dry.....	do.....	2.838 bushels.
Liquid.....	do.....	26.417 gallons.
Joch.....	Austria-Hungary.....	1.422 acres.
Ken.....	Japan.....	4 yards.
Kilogram (kilo).....	Metric.....	2.2046 pounds.
Kilometer.....	do.....	0.621376 mile.
Klafter.....	Russia.....	216 cubic feet.
Kota.....	Japan.....	5.13 bushels.
Korree.....	Russia.....	3.5 bushels.
Last.....	Belgium and Holland.....	85.134 bushels.
Do.....	England (dry malt).....	82.52 bushels.
Do.....	Germany.....	2 metric tons (4,480 pounds).
Do.....	Prussia.....	112.29 bushels.
Do.....	Russian Poland.....	113½ bushels.
Do.....	Spain (salt).....	4,760 pounds.
League (land).....	Paraguay.....	4,633 acres.
Li.....	China.....	2,115 feet.
Libra (pound).....	Castilian.....	7,100 grains (troy).
Do.....	Argentine Republic.....	1.0127 pounds.
Do.....	Central America.....	1.043 pounds.
Do.....	Chile.....	1.014 pounds.
Do.....	Cuba.....	1.0161 pounds.
Do.....	Mexico.....	1.01465 pounds.
Do.....	Peru.....	1.0143 pounds.
Do.....	Portugal.....	1.011 pounds.
Do.....	Uruguay.....	1.0143 pounds.
Do.....	Venezuela.....	1.0161 pounds.
Liter.....	Metric.....	1.0567 quarts.
Livre (pound).....	Greece.....	1.1 pounds.
Do.....	Guiana.....	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load.....	England (timber).....	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana.....	Costa Rica.....	1½ acres.
Marc.....	Bolivia.....	0.507 pound.
Maund.....	India.....	82½ pounds.
Meter.....	Metric.....	39.37 inches.
Mil.....	Denmark.....	4.68 miles.
Do.....	Denmark (geographical).....	4.61 miles.
Morgen.....	Prussia.....	0.63 acre.
Oke.....	Egypt.....	2.7225 pounds.
Do.....	Greece.....	2.84 pounds.
Do.....	Hungary.....	3.0817 pounds.
Do.....	Turkey.....	2.85418 pounds.
Do.....	Hungary and Wallachia.....	2.5 pints.
Pic.....	Egypt.....	21¼ inches.
Picul.....	Borneo and Celebes.....	135.64 pounds.
Do.....	China, Japan, and Sumatra.....	133½ pounds.
Do.....	Java.....	135.1 pounds.
Do.....	Philippine Islands (hemp).....	139.45 pounds.
Do.....	Philippine Islands (sugar).....	140 pounds.
Pie.....	Argentine Republic.....	0.9478 foot.
Do.....	Castilian.....	0.91407 foot.
Pik.....	Turkey.....	27.9 inches.
Pood.....	Russia.....	36.112 pounds.
Pund (pound).....	Denmark and Sweden.....	1.102 pounds.
Quarter.....	Great Britain.....	8.252 bushels.
Do.....	London (coal).....	36 bushels.
Quintal.....	Argentine Republic.....	101.42 pounds.
Do.....	Brazil.....	130.06 pounds.
Do.....	Castile, Chile, Mexico, and Peru.....	101.61 pounds.
Do.....	Greece.....	123.2 pounds.
Do.....	Newfoundland (fish).....	112 pounds.
Do.....	Paraguay.....	100 pounds.
Do.....	Syria.....	125 pounds.
Do.....	Metric.....	220.46 pounds.
Rottle.....	Palestine.....	6 pounds.
Do.....	Syria.....	5½ pounds.
Sagen.....	Russia.....	7 feet.
Salm.....	Malta.....	490 pounds.
Se.....	Japan.....	3.6 feet.
Seer.....	India.....	1 pound 13 ounces.
Shaku.....	Japan.....	10 inches.
Sho.....	do.....	1.6 quarts.
Standard (St. Petersburg).....	Lumber measure.....	165 cubic feet.
Stone.....	British.....	14 pounds.
Suerte.....	Uruguay.....	2,700 cuadras (<i>see</i> cuadro).
Tael.....	Cochin China.....	590.75 grains (troy).
Tan.....	Japan.....	0.25 acre.
To.....	do.....	2 pecks.
Ton.....	Space measure.....	40 cubic feet.
Tonde (cereals).....	Denmark.....	3.94783 bushels.
Tondeland.....	do.....	1.36 acres.
Tsubo.....	Japan.....	6 feet square.
Tsun.....	China.....	1.41 inches.
Tunna.....	Sweden.....	4.5 bushels.
Tunnland.....	do.....	1.22 acres.
Vara.....	Argentine Republic.....	34.1208 inches.
Do.....	Castile.....	0.914117 yard.
Do.....	Central America.....	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara.....	Chile and Peru.....	33.367 inches.
Do.....	Cuba.....	33.384 inches.
Do.....	Curaçao.....	33.375 inches.
Do.....	Mexico.....	33 inches.
Do.....	Paraguay.....	34 inches.
Do.....	Venezuela.....	33.384 inches.
Vedro.....	Russia.....	2.707 gallons.
Verges.....	Isle of Jersey.....	71.1 square rods.
Verst.....	Russia.....	0.663 mile.
Vlocka.....	Russian Poland.....	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
 Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
 Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
 Gram equals 15.432 grains.
 Decagram (10 grams) equals 0.3527 ounce.
 Hectogram (100 grams) equals 3.5274 ounces.
 Kilogram (1,000 grams) equals 2.2046 pounds.
 Myriagram (10,000 grams) equals 22.046 pounds.
 Quintal (100,000 grams) equals 220.46 pounds.
 Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
 Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
 Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
 Liter equals 0.908 quart.
 Decaliter (10 liters) equals 9.08 quarts.
 Hectoliter (100 liters) equals 2.838 bushels.
 Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

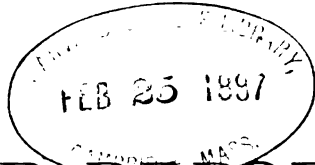
Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
 Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
 Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
 Liter equals 1.0567 quarts.
 Decaliter (10 liters) equals 2.6418 gallons.
 Hectoliter (100 liters) equals 26.418 gallons.
 Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
 Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
 Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
 Meter equals 39.37 inches.
 Decameter (10 meters) equals 393.7 inches.
 Hectometer (100 meters) equals 328 feet 1 inch.
 Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
 Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
 Are (100 square meters) equals 119.6 square yards.
 Hectare (10,000 square meters) equals 2.471 acres.



CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LIII.

FEBRUARY, 1897.

No. 197.

THE PARIS EXPOSITION OF 1900.

I have the honor to transmit a report on the international exposition to be held at Paris in 1900. The report not only sets forth the general scope and character of the exposition, its organization, the financial arrangements, and the special features by which it will be characterized, but it gives in detail the systems of classification and awards adopted, and all the regulations affecting foreign exhibitors.

This exposition will afford unrivaled opportunities to make known to the world the resources of the United States and their achievements and facilities in the various fields of production. It is earnestly to be hoped that these opportunities will be improved to the fullest extent, and that not only will adequate provision be made for such representation by our Government as is in keeping with its importance, but that individual manufacturers and producers will make a full exhibit of the leading products of American genius and skill. Judging from the number of inquiries already received at this office regarding the exposition, a widespread interest in it exists in the United States, and I would respectfully ask that, for the benefit of intending American exhibitors, the promptest and largest publicity practicable may be given to the information herewith transmitted.

SITE OF THE EXPOSITION.

Preparations for the exposition are now well advanced. The preliminary studies are made with great care and thoroughness, and the general scheme of the exposition is now well defined. The works of demolition and construction, for which the period of a little more than three years remaining will barely suffice, have begun and will be vigorously prosecuted from this time forward. The exposition will open April 15 and will close November 5, 1900. The site will comprise the public grounds on both sides of the Seine from the Place de la Concorde, the great monumental square in the very

center of the city, to a point beyond the Pont d'Jéna, embracing the Champ de Mars, the Trocadéro Palace and Park (site of the Exposition of 1889), the Esplanade des Invalides, the Quai d'Orsay, the Quai de la Conférence, the Cour la Reine, and a large section of the Champs Elysées, including the site of the Palais de l'Industrie, the great building erected for the International Exposition of 1855, the first of the series. No other city in the world contains, in its very center, an equal area available for a great exposition. Not only does this site leave nothing to be desired in point of convenience and accessibility, but divided as it is throughout its entire length by the Seine, winding between magnificent quays and bordered by stately edifices and historic monuments, it lends itself admirably to the works of decoration and embellishment, in which the French people are past masters, and which are indispensable to a successful exposition.

ARCHITECTURAL PLANS.

All the details of the architecture are not yet worked out. The unique palace of the Trocadéro, erected for the Exposition of 1878 and utilized a second time in 1889, will be used, as well as several of the great exposition halls of 1889 in the Champ de Mars, but all of them will undergo more or less modification. The Eiffel Tower will be preserved, but it is probable that some new and striking features will be added to it. The Palais de l'Industrie, which housed the entire Exposition of 1855, and in which the annual salon of the Société des Artistes Français is held, will disappear, however, and on its site will be erected a magnificent edifice to serve as the Fine Arts Hall during the exposition, and to remain as a permanent monument. Demolition is already in progress. To the west of the Fine Arts Hall, on the same side of the Champs Elysées, will rise the Hall of Liberal Arts, which is also to be a stately and permanent edifice. Between these great buildings will be constructed a broad avenue extending from the Champs Elysées to the Seine, at the point where a magnificent bridge is being constructed, named after Alexander III, Emperor of Russia, by whose son, the present Emperor, the corner stone was laid, with imposing ceremonies, during his recent visit to Paris. This bridge will have a pronounced artistic character, and, with the projected avenue, will connect the Champs Elysées and the Esplanade des Invalides, adding a new and impressive vista to the charms of the famous Parisian avenue, with the stately golden dome which crowns the tomb of the Great Napoleon in the background.

TRANSPORTATION FACILITIES, HOTELS, ETC.

The national and municipal authorities and the management of the exposition are preparing to cooperate in improving the transportation facilities and public conveniences of Paris, and in adding, before 1900, to the already numerous attractions of the city. A number of modern hotels, some of which are already under construction, and several handsome new theaters will be built, and the magnificent Opéra Comique, now in course of erection, will be completed. Public parks, gardens, and squares will be created

in all parts of the city—for example, at Upper St. Phillippe du Roule and in the St. Marguerite quarter. Rows of trees will be placed at the Place de Rennes and the banks of the Canal St. Martin will be covered with turf. The rows of trees in the Champs Elysées will be doubled and still more trees will be planted in the Avenue du Bois de Boulogne. The roads leading into the Bois from the Auteuil side will be arranged in terraces, covered with flowers, and overlooking the valley of the Seine. The park and gardens on the Butte Montmartre will be finished by that time. At night, the city will be brilliantly illuminated by an extensive system of electric lights as far as the outer boulevards and including the Bois de Boulogne and de Vincennes.

It is the avowed purpose to make the exposition surpass all its predecessors, both in France and elsewhere, not perhaps in extent or in architectural features, for it is conceded that in these respects there is little hope of eclipsing the great achievements at Chicago, but in its artistic aspects, in the logical, comprehensive, and scientific system of classification and award, and in the uniformity and harmony of the whole. In a word, the ambition of the projectors lies chiefly in the direction of artistic excellence and general ensemble.

OPPORTUNITIES FOR AMERICAN INDUSTRY AND ART.

The exposition will offer rare opportunities for American artists, inventors, manufacturers, and workers in every field of human effort to illustrate once more to the world the vastness of our resources, the superiority of many of our industrial implements and processes, and the variety and excellence of our productions. It is hoped that American manufacturers and producers in all lines will be fully represented. It is with a view to furnishing the information which every person who contemplates exhibiting will desire that this report has been prepared.

GENERAL PROJECT.

The first international exposition was held in 1855, the second in 1867, and the third and fourth, respectively, in 1878 and 1889. The interval between the first and second was twelve years; eleven years separated the second and third, and a like period the third and fourth. The exposition of 1889 was scarcely terminated when the public opinion of France spontaneously fixed 1900, the closing year of the century, then eleven years distant, as the date of its successor. In July, 1892, the official initiative was taken in the matter by M. Roche, then Minister of Commerce and Industry, in a formal communication to President Carnot, in which, among other things, he said :

These expositions are not only intervals of rest and recreation in the labor of the peoples; they appear from distance to distance as summits upon which we pause to survey the road traversed. Man emerges from them strengthened, full of vigor and animated by a profound faith in the future. This faith, which was the exclusive appanage of a few noble spirits in the last century, is become more diffused; it is the general religion of modern times, a fruitful cult in which the universal expositions take their place as useful and majestic solemnities, as

necessary manifestations of the existence of a laborious nation, animated by an irresistible expansion; as enterprises which recommend themselves less by the material benefits of every kind they confer, than by the vigorous impulsion they give to the human intellect. The year 1900 will be the end of a century of prodigious scientific and economic sweep; it will be also the threshold of an era of which savants and philosophers prophesy the grandeur, and of which the realities will surpass, without doubt, the wildest flights of our imagination.

Notwithstanding the cleverness and the science with which the retrospective reviews of 1889 were organized, a large field was left open for studies of the same kind. In the domain of the fine arts, for instance, it will be easy to emphasize the principal characteristics of the present artistic movement, and to contrast the art of the second half of the century with that of romanticism and classicism. In the fields of science, of industry, of agriculture, a comparison between the processes, the methods, and the products at the beginning and at the end of the century will furnish the most precious instruction, and afford, at the same time, the most powerful possible attraction. All branches of human activity will derive an equal profit from the balance sheet upon which will be exposed the moral and material conditions of contemporaneous life. The exposition of 1900 will constitute the synthesis, will determine the philosophy, of the twentieth century.

So much for the inspiration and theory of the exposition of 1900. On July 13, 1892, President Carnot issued a decree announcing "a universal exposition of works of art and of industrial and agricultural products," and fixing the date thereof. The preliminary studies were made and a financial scheme devised by a temporary commission. The permanent administration was placed in the hands of a commissary-general attached to the Ministry of Commerce, Industry, and Colonies, and assisted by a consultative body styled "Commission Supérieure de l'Exposition," selected from the Senate, the Chamber of Deputies, the Conseil d'État, the Conseil Générale de la Seine, the municipal council of Paris, the academies, learned bodies, colleges and universities, the chambers of commerce of the fourteen leading cities, leading financial institutions, various branches of the public service and the leading industries, such as agriculture, transportation, manufacturing, etc., together with representatives of the press, and all the surviving Ministers of Commerce who had held office since 1878. The service was organized as follows:

Secretariat general (general business, employees; medical, police, and fire service; press, complimentary admissions).

Architecture (erection of palaces and pavilions, control of metallic structures and of all devices erected by foreign nations, colonies, and industrial exhibitors).

Roads, streets, parks, gardens, water, and lighting.

Exploitations (French, foreign, and colonial sections, installations, fine arts, agriculture, catalogues, diplomas, and medals).

Finances.

Litigation.

Fêtes.

FINANCIAL ARRANGEMENTS.

One hundred million francs (\$20,000,000) was provided as a guaranty fund for the exposition. Of this amount, 20,000,000 francs was appropriated

by the National Government and 20,000,000 francs by the city of Paris, while 60,000,000 francs represent the net proceeds of an emission of 3,250,000 bonds of 20 francs each. These bonds were issued by the Government with the cooperation of five leading financial institutions—the *Crédit Lyonnais*, the *Crédit Foncier*, the *Comptoir National d'Escompte*, the *Société Générale pour Favoriser le Développement du Commerce et de l'Industrie en France*, and the *Société Générale de Crédit Industriel et Commercial*. These institutions underwrote bonds to the amount of 2,400,000 francs and receive a commission of 5 per cent on the sales. After providing for this commission and for the other expenses of the issue, there remain 60,000,000 francs which are deposited at the *Caisse des Dépôts et Consignations* until 1900, at $2\frac{1}{2}$ per cent interest, the Bank of France agreeing to make advances from time to time for preliminary expenses to the amount of 6,000,000 francs at $1\frac{1}{4}$ per cent interest upon the security of receipts of the *Caisse des Dépôts et Consignations* for deposits of the profits of the bonds.

The bonds bear no interest and are redeemable in tickets to the exposition. Each bond will entitle the holder to twenty tickets to the exposition, which, at 1 franc each, will equal the face value of the bond. In lieu of interest, the holder participates in twenty-nine drawings, comprising 4,313 prizes, aggregating 6,000,000 francs. Six drawings occurred in 1896, six each will take place during the years 1897, 1898, and 1899, and there will be six monthly drawings during the exposition. The prizes vary from 100 francs to 500,000 francs. The bonds are exempt from all taxation, although the prizes drawn are subject to a tax. The bonds also give the holders the right to considerable reductions in railway and steamboat fares in France or on the French lines on the Mediterranean during the exposition, or, in lieu thereof, to a 25 per cent reduction in the price of admission to any spectacle or entertainment on the exposition grounds. In the event that the exposition should not take place for any reason, the drawings will cease and the bonds will be redeemed at par, without interest, by the State. All prizes drawn before that date will remain acquired to the winners.

Any surplus that may remain, after the expenses of the exposition are defrayed, will be divided equally between the national and municipal treasuries.

GENERAL REGULATIONS.

The general regulations, as formulated by the commissary-general and the consultative commission and approved by the Minister of Commerce, Industry, Posts, and Telegraphs, were promulgated by President Casimir-Perrier, August 7, 1894. These regulations comprise one hundred and eight articles in twelve sections, and all provisions of the same which will affect intending American exhibitors are embraced in the summary which follows. In most respects, the regulations are similar to those of the exposition of 1889. A few radical innovations are made, however. The regulations are more elaborate and detailed than those of the last exposition, the administration having endeavored, so far as possible, to cover every detail of the great enterprise

which could be anticipated, and to leave for subsequent determination only matters of a special, secondary, or accessory character.

Section 1—Constitutive elements, general organization of services.—All nations are invited to participate on equal terms. To the contemporary exposition will be joined a retrospective centennial exposition, reviewing the progress accomplished since 1800 in the various branches of production. All machinery, so far as possible, will be operated on the grounds in full view of the public. Special expositions (historical, anthropological and ethnological, etc.), special competitions (agricultural implements, live animals, etc.), musical performances, and special congresses of various kinds will be held in connection with the exposition. Article XII, fixing the relations between the administration of the exposition and foreign exhibitors, is as follows:

Each foreign nation participating in the exposition will be represented by a commissioner or delegate, who will have the sole right to treat with the commissary-general, the director-general, and the directors as to all questions which concern his countrymen, and specially those relating to the distribution of space among the different countries, the erection of buildings, and the admission and installation of exhibits. Foreign exhibitors must correspond with the commissioners of their respective countries and can not communicate directly with the administration of the exposition. This regulation will be imperative, except as regards the retrospective centennial exposition.

This latter will be absolutely distinct from the foreign sections of the contemporary exposition, and the administration may treat directly with foreigners possessing objects desired for the collections of the history of labor for the century.

ADMISSION OF EXHIBITS.

The principal regulations as to the admission are:

Works of art.—The contemporary exposition will be open to the works of French and foreign artists executed since the 1st of May, 1889. Copies (even those representing a work in a different class from that of the original), paintings, designs or engravings unframed, engravings obtained by industrial processes, and sculptures in clay will not be admitted. Applications for admission will differ according to the class to which the proposed exhibit appertains and must conform to the models to be prescribed by the commissary-general. They will contain a designation of the work, giving its dimensions and mentioning the expositions at which it has been exhibited. Printed forms of application will be furnished gratuitously. No artist will be permitted to exhibit more than ten works. Artists of France and French colonies must file their applications between the 16th and 31st of May, 1899. Applications for the admission of the works of foreign artists must be made through the commissioner or delegate of the country of which the applicant is a citizen. They must receive the approval of the Minister of Beaux Arts not later than December 31, 1899, and will then be definitely acted upon by the commissary-general. Artists of countries not represented by a commissioner must file their applications with the commissary-general (service

des beaux arts) before December 1, 1899, and deposit their works at the Fine Arts Palace between December 5 and 20, 1899. They will be passed upon by a special jury, composed of Frenchmen and foreigners, appointed by the Minister of Beaux Arts and the Minister of Commerce and Industry, whose report must be submitted on or before December 31, 1899. The commissary-general will transmit the proper certificate to all artists whose works have been admitted. The latter must furnish, not later than February 15, 1900, a statement giving his full name, date and place of birth, names of his masters, mention of his recompenses at Paris exhibitions, subject and dimensions of his works, and names of their owners. Printed forms for this statement will be supplied. One or several special commissions will be created to prepare the centennial exposition. The commissary-general will decree, upon the recommendations of these commissions, a list of the works admitted to such exposition, and will cause certificates of admission to be delivered to the proper persons.

Industrial, agricultural, and miscellaneous objects.—All industrial and agricultural products will be admitted to the contemporary exposition except (1) those of an explosive and fulminant character; (2) primings, fireworks, matches, and analagous articles, except in a state of imitation and containing no inflammable material; (3) spirits, alcohols, essences, oils, corrosive matters, and all fluids or substances of an unwholesome or offensive character or which can alter or injure other exhibits, unless the same are inclosed in solid vessels, appropriate in form and of small dimensions. Applications for admissions of all products must be made on printed forms, which will be supplied gratuitously by the commissary-general. Applicants requiring gas, steam, or water will state in their applications the quantity needed. Those desiring to operate machinery will state the speed at which the same will be worked and the kind and quantity of motive power required. The admission of foreign products will be authorized by the commissary-general upon the propositions of the commissioners of the various countries, which must be filed on or before February 15, 1899, and for all articles which, for special reasons, are to be exhibited in a class section, on or before February 1, 1899. The committees of admission, each for its class, will prepare the organization of the centennial exposition, and the director-general of the exposition will decree the list of objects accepted and deliver certificates of admission.

SHIPMENT, RECEPTION, INSTALLATION, AND RESHIPMENT OF EXHIBITS.

(1) *Works of art.*—All works of art must be deposited at the Fine Arts building between February 15 and 20, 1900, under arrangements to be prescribed by the commissary-general. All expenses of packing, unpacking, repacking, transportation to and from the exposition grounds, and storage and preservation of cases will be at the charge of exhibitors so far as the contemporary exposition is concerned, but such expenses as to the centennial exposition may be assumed by the administration of beaux arts. All expenses of installation of exhibits, decoration of the halls and interior,

guardianship of the Fine Arts Hall, etc., will be assumed by the administration of beaux arts, save as to special arrangements made at the instance of the commissioners of foreign countries, which will be at their charge. No work admitted can be removed before the close of the exposition, whether it shall have been sold or not, except under special permit issued by the commissary-general at the instance of the director of beaux arts. All works exhibited must be removed within one month after the close of the exposition.

(2) *Industrial, agricultural, and miscellaneous exhibits.*—All objects admitted will be introduced into the exposition between December 1, 1899, and February 28, 1900, according to the regulations to be prescribed by the commissary-general. Due notice will be given of special tariffs made to exhibitors by railroad, steamboat, or other transportation companies. No charge will be made to exhibitors for space, water, gas, steam, or other motive power required by them, but connections with main gas, water, or steam pipes, counter and auxiliary shafting, etc., will be provided by exhibitors. All expenses of packing, unpacking, repacking, installation, storage, and preservation of cases and transportation to and from the grounds must be borne by exhibitors in the contemporary exposition. The expenses of installation will include the establishment of special passageways, the construction of all special partitions, ceilings, windows, platforms, railings, fixtures, etc., all of which must conform to the plans adopted by the exposition management. As to certain of these constructions, the administration reserves the right to execute them in whole or in part at the expense of the commissioner of the department or of the country to which they appertain. All or a part of such expenses in connection with the centennial exposition may be assumed by the administration. Workmen exhibiting on their own account in the contemporary exposition will be relieved of all expense on account of installation. No special construction within the exposition grounds will be authorized until the plans of the same, embracing also the approaches and the interior arrangements, have been approved by the management. A committee of installation will be created for each class of groups, works of art excepted, which will apportion the space among the exhibitors, prepare and submit to the administration plans of installation and decoration, supervise the execution of the same, provide for maintenance and guarding, and assess expenses upon exhibitors and collect the same. The commissioners of foreign countries will make their own installations in the positions erected by them and in the parts of the general building assigned to them, all plans for the same to be submitted for approval to the administration. All exhibits, without exception, must be made in the name of the person, firm, or company signing the application for the same, but the names of persons of every grade who may have contributed in any way to the preparation of the exhibit may be added. All exhibitors in the contemporary sections are expressly invited to mark their exhibits with the market prices of the same, but this is not compulsory. All exhibitors of dangerous, insalubrious, or objectionable articles of any kind must conform

strictly to the conditions prescribed for such exhibits, and all such articles must be removed at any time when required by the administration. No exhibit can be removed before the close of the exposition without a special permit, except those produced on the grounds under special authorization. All exhibits, installations, and special constructions of every kind must be removed, at the latest, six weeks after the close of the exposition, at which time the management will remove the same at the charge of the exhibitors. The materials will be placed in a public warehouse, and if the charges are not paid by June 30, 1901, the same will be sold and the net profits turned over to the assistance publique, or poor fund of the State.

REGULATIONS AS TO TARIFF DUTIES, INDIRECT TAXES, AND OCTROI, OR MUNICIPAL DUTIES, ON EXHIBITS.

The provisions under this head are very liberal as regards foreign exhibitors. The exposition grounds are constituted a bonded warehouse. Foreign exhibits may enter France through any custom-house. They should be accompanied by a bulletin from the shipper, attached to the bill of lading and indicating their nature, class, weight, and place of origin. These goods will be transported directly to the exposition grounds under the conditions of international or domestic transit at the choice of the shipper. They will be exempt from statistical dues and from inspection at the frontier. Seals will be affixed without charge. All foreign products will be taken in charge at the exposition grounds by the special customs agents, and, if finally entered for consumption, will be subject only, whatever their origin, to the duties imposed upon like products from the most-favored nation. Articles manufactured on the grounds from imported materials will be subject only to the duties to which such materials from the most-favored nation are liable. The manufacture of tobaccos by machines and apparatus exhibited will be authorized on the express condition that the goods so produced shall be subject to all the duties and excises prescribed by law. No foreign goods will be subject to indirect taxes or municipal dues (octroi) unless entered for consumption.

PROTECTION OF EXHIBITS.

No work of art or exhibit of any kind can be copied or reproduced except by a special permit of the exhibitor, approved by the administration. The taking of general photographs, however, will be authorized. Inventions susceptible of being patented, plans and specifications of machinery, etc., will be fully protected. The administration expressly disclaims all responsibility for damages to exhibits in the temporary sections by fire or otherwise, although every precaution will be taken for their protection. The administration will, however, be responsible for losses or damages in the retrospective sections, but only to the amounts agreed upon in advance with exhibitors and stated in their certificates of admission. The administration will provide a corps of guardians for the general surveillance of the buildings and grounds, but the commissioners of foreign countries will be required to

provide guards for their pavilions and for their space in the main buildings. These guardians will have to be named subject to the approval of the administration, which may, at the time, demand their revocation or dismiss them outright in case of drunkenness on duty or of detection in dishonesty. They must be uniformed, must clean the buildings or sections to which they are attached, and must conform to and enforce all police regulations.

CATALOGUES.

A general catalogue will be prepared in the French language, naming the works and productions of all nations on exhibition, with the names of exhibitors and the location of exhibits in the buildings or grounds. Each country will have the right to publish in French, as well as in its own language, at its own cost, risk, and peril, special catalogues for its buildings and sections, which, however, must contain no objectionable advertisements or other matter. The sale of these catalogues on the exposition grounds will be regulated by the administration, and will be subject to the payment of a royalty.

RECOMPENSES, DIPLOMAS, ETC.

All works and products exhibited will be passed upon, as in 1889, by an international jury, which will have three degrees of jurisdiction—juries of class, juries of group, superior jury.

The juries of class will be composed of full members and substitutes. The number of full jurors, French and foreign, will, as nearly as practicable, equal one-sixtieth of the whole number of exhibitors, and there will be one-third as many substitutes as full jurors. In the several classes, the number of full jurors will be, as nearly as may be, proportional to the number of exhibitors and the importance of the exhibits. The French jurors will be chosen in part from the higher grades of the public service, learned bodies, and educational institutions, but will consist, for the most part, of those who have received, either as exhibitors or as jurors named by the French Government, high recompenses at the international expositions of Paris, London, Vienna, Philadelphia, Sydney, Melbourne, Amsterdam, Antwerp, Barcelona, Brussels, or Chicago. Foreign jurors will be named by the commissioners of the respective countries, and their appointments must be signified to the commissary-general before the opening of the exposition. Excepting for the group of works of art, the juries of class will have the right to call, for consultation only, either as experts or associates, persons of special competence on any matter submitted for their judgment. Each jury of class will elect its own officers, but the president and vice-president must be of different nationality—the one a Frenchman, the other a foreigner.

The juries of group will consist of the presidents, vice-presidents, and rapporteurs of the juries of class, and of a president, two or three vice-presidents, and a secretary, who may be chosen outside of the juries of class.

The full composition of the superior jury is yet undetermined. Among the members *ex officio* will be the commissioner of every country represented

in the official catalogue by the names of more than five hundred exhibitors. The work of the international jury will be under the supervision of the commissary-general and the directors-general.

Each jury of class will proceed to the examination of objects exhibited, and will prepare—(1) a list of exhibitors hors concours (those who can not compete for recompenses as hereafter mentioned); (2) a list, by order of merit and without distinction of nationality, of recompenses proposed to be bestowed upon exhibitors; (3) a similar list to the preceding for the collaborators, engineers, foremen, and workmen who may have distinguished themselves particularly by the production of remarkable works figuring at the exposition. For art industries, the list of exhibitors to be recompensed will be divided into two sections—one devoted to the authors of designs, cartoons, sketches, etc., the other to the manufacturers. Two sections will also be devoted to the materials or processes of production and to the products, when these elements are found united in the same class. These lists, properly certified, will be submitted to the commissary-general not later than June 30th, failing in which they will be made by the jury of group.

The lists prepared by the juries of class, in the manner just indicated, will be revised by the juries of group, with a view to assuring unity and harmony in the distribution of awards. The revised lists will be submitted to the superior jury not later than July 31, 1900.

The superior jury will make the final revision of the lists by order of merit, and the distribution of awards will be made on or about September 1, 1900. For the temporary expositions and competitions in the groups of agriculture, horticulture, and food stuffs, the operations of the international jury will continue throughout the exposition. The juries of class will prepare the lists of awards at the end of each temporary exposition or contest, and these lists will be finally revised by the juries of group at the conclusion of the series of such expositions. All the deliberations of the international jury will be rigorously secret.

Each of the reporters of the class juries will, within six months after the close of the exposition, present to the commissary-general a report setting forth the principal facts established by the jury, describing the progress achieved since 1889, and reflecting the general conditions existing at the close of the nineteenth century.

These reports will be published by the Government, together with an official list of the awards.

Only diplomas will be granted as recompenses. They will be thus classified: Grand-prize diplomas, gold-medal diplomas, silver-medal diplomas, bronze-medal diplomas, honorable-mention diplomas.

No exhibitor acting as a juror and no firm or company represented on a jury by any member, stockholder, agent, or employee will be eligible to an award. Persons exhibiting in several classes may receive awards in each class, but no one shall receive more than one award in a single class. Exhibitors sharing jointly a show case or other space may compete for awards if their exhibits are strictly individual. Only one award can be made for a collective exhibit, but every person interested may receive a diploma bearing the names of all participating exhibitors. Commemorative diplomas may be awarded to all persons who have cooperated effectively in the retrospective exposition.

ADMISSIONS.

The regular price for the afternoon will be 1 franc (19.3 cents). For mornings, afternoons, and special days, the admission price may be increased. Season and monthly tickets will be offered at a reduction. Each exhibitor in the contemporary exposition will be given a complimentary season ticket, and the necessary employees at his exhibit will also receive complimentary admissions.

CONCESSIONS.

Concessions and privileges for entertainments, refreshment booths, etc., will be granted by the Minister of Commerce, Industry, Posts, and Telegraphs upon the recommendation of the commissary-general. All privileges for pecuniary benefit must pay a royalty or percentage of receipts to the exposition. No advertisements, catalogues, or prospectuses can be circulated in the exposition grounds except under special license, for which a suitable fee will be charged.

CLASSIFICATION OF EXHIBITS.

The vexed question of classification has been profoundly studied in all its aspects by M. Picard, the accomplished commissary-general, and by the superior commission. The difficulties—in fact, the utter impossibility—of devising a scheme of classification absolutely logical and entirely free from practical disadvantages were fully recognized. The commission examined with great care the classifications of all the international expositions of the past, both in France and other countries, and considered fully the various criticisms to which they have been subjected in the light of the actual results achieved. The report of the commissary-general upon this subject is an able and comprehensive paper, in which the various theories of classification are impartially discussed and the advantages and disadvantages of each fully set forth. Of the classification at the Philadelphia Exposition of 1876, it is said that, “while it was inspired by a lively appreciation of that which constitutes the value of man and the grandeur of the peoples, it would have been improved had it been less heterogeneous.” Of the classification at the Chicago World’s Fair it is said: “Notwithstanding its real merits, it can not be considered a model to imitate. It erred notably in the minute subdivision of the classes.”

For the classification at the approaching exposition, that of 1889 is taken as a point of departure, and such modifications have been made as were suggested by the legitimate criticisms of which it was the object and by the lessons taught by foreign expositions.

The post of honor is occupied by education—“the channel by which man enters into life, the source of all progress.” Next come works of art, and the third place is assigned to the instruments and general processes of letters, sciences, and arts. Then come “the great factors of contemporary production, the most powerful agents of industrial achievement at the end of the nineteenth century”—the material and general processes of mechanics, elec-

tricity, civil engineering, methods of transportation. Next follow the exploitation and the products, superficial or subterranean, of the earth—agriculture, horticulture, forestry, the chase, fisheries, placer mining, food stuffs, mines, and metallurgy. Next in order are the decoration and furnishing of public buildings and habitations, threads, yarns, tissues, textile fabrics, wearing apparel, chemical industries, various manufactures. "Social economy, to which have been reserved the developments worthy of its actual rôle, follows naturally the various branches of artistic, agricultural, and industrial production." It will embrace also hygiene and public or organized charity.

A new group has been created for the "moral and material work of colonization," and the series closes with the military and naval group.

In all, there will be eighteen groups and one hundred and twenty sections, as compared with twelve groups and nearly a thousand sections at Chicago.

An interesting innovation has been introduced in the classes of decorative arts, each of which will comprise two sections—one for the authors of designs, cartoons, sketches, etc., the other for the manufacturers. Each section will receive distinct awards, so that the artists will be recognized as exhibitors and not as collaborators.

In all departments of the exposition, so far as practicable, materials and processes will be found in contact with products. All machinery will be operated under the eye of the public, so that visitors may familiarize themselves with its practical workings and follow the successive transformations of the crude material until it assumes the form of the finished article. Exhibitors will not be required, however, to expose methods and processes of fabrication an important element of whose value is their secrecy.

In so far as compatible with the vast extent of the exposition grounds and the necessary dispersion of the exhibits among several main halls and the pavilions of different countries and of important exhibitors, the arrangement of the exposition will be such that all the products of a single country will be brought into juxtaposition, as well as those of different countries pertaining to one class of industry. Thus, in proceeding in one direction, the visitor may review successively the various exhibits of the United States or any other nation; proceeding in another direction, he may examine successively all the exhibits from the different countries of one general class, such as agriculture, electricity, etc. But where it is not practicable, in arranging the exposition, to consider both the nature of the products and their place of origin, the grouping will follow the nature, the destination, and utility of the objects, rather than the country of production. Under this plan, the different varieties of machinery will not be gathered together, but will be dispersed through the buildings and grounds. "If," says the commissary-general, "the visitors are deprived of the imposing spectacle which was afforded by the immense accumulations in the old gallery of machines, if the grand effect of mass and multiplicity due to such concentration is lost to them, they will no longer pass by engines and apparatus without suspecting their purpose or their manner of operation; the confusion of their minds

will be dissipated; they will comprehend and will be instructed, which is the chief object of these periodical assizes of industry."

The following shows the classification adopted, by groups and classes :

Group No. 1.—Education and instruction.

- (1) Infant, primary, and adult education.
- (2) Secondary instruction.
- (3) Superior education, scientific institutions.
- (4) Special artistic education.
- (5) Special agricultural training.
- (6) Industrial and commercial education.

Group No. 2.—Works of art.

- (7) Paintings, cartoons, designs.
- (8) Engraving, lithography.
- (9) Sculpture, medal and gem engraving.
- (10) Architecture.

Group No. 3.—Instruments and general processes of letters, sciences, and arts.

- (11) Typography, printing in general.
- (12) Photography in two categories, viz, professional and amateur.
- (13) Books, musical editions, bookbinding, posters, newspapers.
- (14) Maps, instruments of geography and cosmography, topography.
- (15) Instruments of precision, coins, medals.
- (16) Medicine, surgery.
- (17) Musical instruments.
- (18) Theatrical plants, materials, and accessories.

Group No. 4.—Materials and general processes of mechanics.

- (19) Steam engines.
- (20) Engines using other motive power (except electricity).
- (21) General mechanical apparatus.
- (22) Tools and implements of manufacturing.

Group No. 5.—Electricity.

- (23) Production and mechanical utilization of electricity.
- (24) Chemical electricity.
- (25) Electric lighting.
- (26) Telegraphy and telephones.
- (27) Different applications of electricity.

Group No. 6.—Civil engineering and transportation.

- (28) Materials and processes of civil engineering.
- (29) Models, plans, and designs of public works.
- (30) Coach and cart building.
- (31) Saddles and harness.
- (32) Railroad and tramway construction.
- (33) Shipbuilding.
- (34) Aërostation.

Group No. 7.—Agriculture.

- (35) Agricultural materials and processes.
- (36) Viticulture.
- (37) Agricultural industries.

- (38) Agricultural science, husbandry statistics.
- (39) Alimentary agricultural products of vegetable origin.
- (40) Alimentary agricultural products of animal origin.
- (41) Nonedible agricultural products of animal origin.
- (42) Useful insects and their products, hurtful insects and vegetable parasites.

Group No. 8.—Horticulture and arboriculture.

- (43) Materials and processes of horticulture and arboriculture.
- (44) Kitchen-garden plants.
- (45) Fruit trees, fruits.
- (46) Trees, shrubs, plants, ornamental flowers.
- (47) Conservatory plants.
- (48) Horticultural and nursery seeds and slips.

Group No. 9.—Forestry, the chase, fisheries, cueillettes.

- (49) Materials and processes of forestry.
- (50) Forestry products.
- (51) Sporting arms.
- (52) Products of the chase.
- (53) Fishing tackle and products, pisciculture.
- (54) Wild or noncultivated vegetable products, implements used in gathering the same.

Group No. 10.—Food stuffs.

- (55) Materials and processes of alimentary industries.
- (56) Farinaceous products and their derivatives.
- (57) Bread and pastry.
- (58) Preserved meats, fish, vegetables, and fruits.
- (59) Sugar, confectionery, condiments, stimulants.
- (60) Wines, spirits.
- (61) Miscellaneous beverages.

Group No. 11.—Mines and metallurgy.

- (62) Materials and processes and products of mines, ores, and quarries.
- (63) Materials and processes and products of large metallurgy.
- (64) Materials and processes and products of small metallurgy.

Group No. 12.—Decoration and furniture of public buildings and habitations.

- (65) Fixed ornamentation of public edifices and of dwelling houses.
- (66) Stained glass.
- (67) Wall paper.
- (68) Low-grade and high-grade furniture.
- (69) Carpets, tapestries, and other upholstery fabrics.
- (70) Temporary decorations and upholstery products.
- (71) Pottery.
- (72) Crystal and glass ware.
- (73) Heating and ventilating systems and apparatus.
- (74) Lighting apparatus other than electric.

Group No. 13.—Threads, yarns, textile fabrics, wearing apparel.

- (75) Plants, materials, and processes of spinning and rope making.
- (76) Plants, materials, and processes of weaving.
- (77) Bleaching, dyeing, printing, and finishing of textiles, plants, materials, and processes.
- (78) Materials and processes of needlework and the making of wearing apparel.

- (79) Cotton threads and fabrics.
- (80) Linen, hemp, etc., threads and tissues, rope products.
- (81) Woolen yarns and tissues.
- (82) Raw and manufactured silks.
- (83) Laces, embroideries, and trimmings.
- (84) Ready-made apparel for men, women, and children.
- (85) Miscellaneous attire.

Group No. 14.—Chemical industries.

- (86) Chemical and pharmaceutical arts.
- (87) Paper making.
- (88) Hides and skins and leather.
- (89) Perfumery.
- (90) Tobacco and match manufactures.

Group No. 15.—General manufactures.

- (91) Stationery.
- (92) Cutlery.
- (93) Gold and silver ware.
- (94) Jewelry.
- (95) Clocks, watches, and other timekeepers.
- (96) Bronze, cast iron, and forged iron, embossed metals.
- (97) Brushes, notions, basket work.
- (98) Rubber products, traveling and camping articles.
- (99) Toys and games.

Group No. 16.—Social economy, hygiene, organized charity.

- (100) Apprenticeship, protection of child labor.
- (101) Wages, profit sharing.
- (102) Wholesale and retail industries, cooperative associations of production and credit.
- (103) Cultivation of large and small farms, agricultural syndicates and banks.
- (104) Safety of workshops, labor regulations.
- (105) Workmen's dwellings.
- (106) Cooperative stores.
- (107) Institutions for the intellectual and moral development of workmen.
- (108) Savings banks, friendly societies.
- (109) Public and private efforts for improving the condition of the people.
- (110) Hygiene.
- (111) Public relief.

Group No. 17.—Colonization.

- (112) Modes of colonization.
- (113) Colonial plants and materials.
- (114) Special merchandise for exportation to colonies.

Group No. 18.—Military and naval.

- (115) Artillery armaments and plants.
- (116) Military engineering.
- (117) Naval engineering, hydraulics, torpedoes.
- (118) Maps, hydrography, sundry instruments.
- (119) Military and naval equipment and administration.
- (120) Hygiene and sanitary materials and services.

SAMUEL E. MORSS,
Consul-General.

PARIS, December 24, 1896.

SWITZERLAND AND THE PARIS EXPOSITION.

On December 7, 1896, the Swiss federal council at Berne sent to the Federal Assembly a message concerning the participation of Switzerland in the Paris exhibition of 1900. The message states that the Government has communicated with each of the cantons and also with a number of important Swiss societies, such as the Industrial Society, the Agricultural Society, and the Alpine Economic Society. The cantons, to a large extent, have replied that they doubt the practical utility of exhibitions, but that they presume that participation will be advisable in order to maintain the national dignity. The federal council state that Switzerland will, in all probability, be well represented in 1900 at Paris in the lines of fine arts, silk manufactures, watches, machines, embroidery, agriculture, milk and cheese, etc. It is thought that there will also be a reasonably complete exhibition of Swiss jewelry, music boxes, carved wood, conserved articles of food, etc. At present, some doubt exists regarding the exhibition of cotton and woollen stuffs and hosiery. The Basle manufacturers of colors derived from tar have decided not to exhibit, as also has the society of Swiss hotel proprietors. In general, it may be said, however, that Switzerland will make a finer exhibition of products at Paris in 1900 than she has at any previous international exhibition.

It is thought that Switzerland will exhibit nothing under groups 6 (means of transportation), 8 (horticulture), 9 (forests, game, and fish), 11 (mines and metallurgy). Group 1 (education and instruction) will probably contain little from Switzerland, the federal polytechnical school having so decided. For the Paris exhibition of 1889, the Federal Government of Switzerland voted a sum of \$85,000, and afterwards a supplementary sum of \$35,000. It is not as yet determined how much will be necessary to be voted for the exhibition of 1900, but the council have asked a preliminary sum of \$10,000. The commissioner for Switzerland will be announced in a short time.

IRVING B. RICHMAN,

ST. GALL, *December 28, 1896.*

Consul-General.

EXHIBITION OF STOCKHOLM, 1897.

I have the honor to submit a report upon the exhibition that, in conformity with the royal decree of June 7, 1895, will be opened at Stockholm on the 15th of May, 1897, and continue for about six months. Sweden, Norway, Denmark, Finland, and Russia are the countries participating in the exposition, while nearly all the European nations contribute to the art exhibition.

The chairman of the central committee is the Crown Prince and for the art exhibition the Prince Eugene.

No. 197—2.

The city of Stockholm is taking a lively interest in this effort to present a survey of her industries; the promoters are sanguine of a large attendance of Americans. All the important buildings are erected and nothing will be left undone to insure a pleasant impression on visitors. The location of the exhibition is a happy one. The exhibition will be well worth a visit on the part of Americans who are planning a trip abroad during the coming season. *Such as so intend may come by way of England, and thence cross the North Sea to Gothenburg, Sweden, and by the famous Gota Canal route to Stockholm or by rail direct from Gothenburg in eight or ten hours, or, by landing at Hamburg, continue the journey by rail and boat. Special rates and excursions will be offered during the coming summer.

The accommodations and scenery through Scandinavia are unexcelled, and when Stockholm is reached one is again in an almost American city.

INDUSTRIAL DEVELOPMENT OF SWEDEN.

A lifetime has passed since Sweden invited her neighbors to meet in her capital on the common ground of industrial enterprise. The first great Scandinavian exhibition took place in Stockholm in 1866, and the second and third having been held in Copenhagen in 1872 and 1888, Sweden is now energetically preparing for the fourth in Stockholm next year. In consequence of the length of time between the first Scandinavian exhibition in Stockholm in 1866 and the fourth in 1897, some comparisons may be made between the economic position of Sweden now and thirty years ago. The bare statistical figures are the best witnesses of the development during these thirty years.

Looking, in the first instance, at agriculture, the principal industry of Sweden, the cultivated area, which, in 1866, was 2,500,000 hectares (1 hectare=2.471 acres), has been increased to nearly 3,500,000 hectares. The grain crop has increased from 17,000,000 cwts. to 24,000,000 cwts., and the increase in the fodder crop is proportionately still larger.

Naturally promoted by inventions made in the country (as De Laval's separator, etc.) the natural by-trade of agriculture—dairy farming—has developed into one of the principal branches of the country's trade. Thus, while thirty years ago at least 5,000,000 kilograms (11,023,000 pounds) of butter were imported into Sweden every year, more than 25,000,000 kilograms (55,115,000 pounds) a year are now exported. Of cows, Sweden possessed about 1,300,000 in 1866, but at present 1,700,000, and, as a rule, the breed is now far superior to that of thirty years ago. The number of hogs has increased from 400,000 to 800,000, and, regarding their breed, the same is to be said as about the cows, etc.

The timber and mining trades show a rapid development. The value of the hewn timber export in 1866 scarcely exceeded 30,000,000 kronor (\$8,040,000), whereas it has now reached 120,000,000 kronor (\$32,160,000) or more, and Sweden is at present the principal wood-exporting country in the world. The largest sawmills in the world are to be found in Sweden, and at least

25,000 people are employed in them. At the same time, a considerable industry has developed in improved wood goods and products. These are exported to a value exceeding 20,000,000 kronor (\$5,360,000) a year.

Regarding the mining industry, only 500,000 tons of iron ore were extracted a lifetime ago, whereas now four times that, or 2,000,000 tons, a year is obtained. The output of pig iron did not then amount to 250,000 tons a year, whereas it is now 500,000 tons. The steel industry, however, shows a still larger development. While in 1860-1870 the production was only 7,000 tons a year, it is now 170,000 tons.

To show the industrial development that has taken place during these years, we may mention that at all works in the country, except dairies and sawmills, less than 40,000 people were employed in 1866, but at present there are at least 130,000. Foundries and mechanical works have, during the same period, increased their yearly output from 8,000,000 kronor to 53,000,000 kronor (\$2,104,000 to \$14,204,000); sugar works and refineries, from 13,000,000 kronor to 57,000,000 kronor (\$3,484,000 to \$15,276,000); and paper mills, from 3,000,000 kronor to 13,000,000 kronor (\$804,000 to \$3,488,000).

At present, the total production of all Swedish industries except dairies and sawmills may be estimated at 400,000,000 kronor (\$107,200,000) at least a year; thirty years ago it was scarcely one-fourth of this. The total value of goods imported into Sweden in 1866 was 200,000,000 kronor (\$53,600,000), whereas it is at present 700,000,000 kronor (\$187,600,000) at least.

The total tonnage of sailing vessels in the mercantile navy has only increased from 250,000 tons to 370,000 tons, but of steamers the increase has been from 14,000 tons to 180,000 tons. The total tonnage of vessels entered and cleared, during the same time, increased from 3,000,000 tons to 12,000,000 tons.

Thirty years ago, Sweden had but 1,500 kilometers (932 miles) of rail down; now, however, her railroads are 10,000 kilometers (6,214 miles) in length, which, in proportion to her population, is more than any other country in Europe. Sweden has already acquired no less than 100,000 kilometers (62,137 miles) of telephone lines, which figure is, in the absolute, surpassed in Europe only by that of the German Empire, and in proportion to the population it is probably unparalleled anywhere on earth.

As examples of the increased prosperity of the nation at large, we may mention that the consumption of wheat and rye, which in 1860-1870 was 126 kilograms (278 pounds) per head a year, it is at present 180 kilograms (397 pounds), and the consumption of sugar has increased from somewhat less than 4 kilograms (8.8 pounds) per head to 14 kilograms (31 pounds).

In 1866, deposits in the savings banks amounted to 38,000,000 kronor (\$10,184,000), whereas the latest returns show a balance of 350,000,000 kronor (\$93,800,000).

THOMAS B. O'NEIL,

STOCKHOLM, *November 24, 1896.*

Consul.

AN IMPROVED METHOD OF FILTRATION.

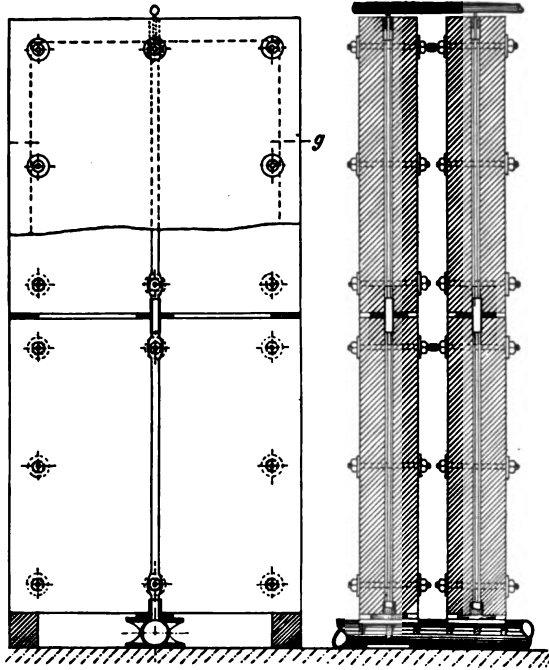
There is now in operation at the city of Worms, in this district, as well as at Kiel, Winterthur, Frankenhausen, Landsberg (near Berlin), and several other places in Germany an improved system of filtration for water, which should have an important interest for the numerous municipalities in the United States that are struggling with the problem of purifying river water on a large scale for household and manufacturing purposes.

Hitherto, the method most generally employed has been that of filtering through sand or gravel, and, for this purpose, a layer 30 to 40 inches thick of clean sand, mixed in some cases with charcoal, has been used. The sand, being loose and nonadhesive, lies, of course, at the bottom of the tank, and in this form entails two important economic disadvantages—first, the area of space required is large in proportion to the amount of water to be treated, and, second, all sediment in the water settles upon the sand which forms the bottom of the filter, and which soon becomes gorged and clogged so that the filter must be thrown out of use while it can be cleaned by mechanical means.

The new system, which the present report will briefly describe, is the invention of Director Fischer, for many years past waterworks engineer of the city of Worms, where the use of Rhine water for general purposes presented the same problem that confronts cities like Cincinnati, St. Louis, Cairo, and others which derive their water supply from the often turbid rivers of the Mississippi Valley. The germ, or fundamental idea, upon which the new system is based is the fact that clean, sharp sand, when mixed in due proportion with finely pulverized glass, which may be derived from the waste of glass works, old bottles, etc., forms a porous mass, which, by baking under a high temperature, may be hardened in any desired form. The inventor in this case hit upon the plan of molding this porous cement into hollow plates or plaques about 40 inches square and 8 inches thick, that is, with walls 3 inches in thickness and about 2 inches of hollow space at the center of the plaque.

In constructing the filtering plant, these plates are set upright in groups or batteries of any number, according to the desired size and capacity of the establishment, and are ranged along the lower portion of one or more tanks of hydraulic masonry, where they can be covered to a depth of 3 or 4 feet with the water to be filtered. The water is then forced by its own pressure through the porous walls of the plate into the interior hollow space, where it trickles down and is drawn off through pipes, laid at the bottom of the tank, to the reservoir which receives the filtered water. These discharge pipes are rigged with cocks so that each plate and group of plates may be isolated for cleaning or other purposes while the adjacent batteries are in operation. For greater economy of space and tubing, two tiers of plates are

set, one above another, as shown in the accompanying drawing, which gives a front and edge view of two pairs of plates, set in the usual manner, whereby both tiers are served by one set of discharge pipes. The water, in passing through the 3-inch walls of vitrified sand, is filtered as perfectly as by traversing 3 feet of loose sand or gravel in the ordinary sand-filtering process. The plates, being set upright and close to each other, increase from eight to ten fold the filtering surface that may be condensed within any given superficial area, thus securing an important economy of space within frost-proof constructions, and where, as is often the case, land is costly and difficult to obtain.



Nor is this the only, or even the principal, advantage of the new system. Every practical waterworks engineer knows the delays, labor, and expense involved by turning sand filters out of circuit and cleansing them of the mud and detritus which collect so rapidly at the bottom of the tank. With the plaque filter, the cleansing operation is easily and quickly performed by simply reversing the current of water, that is, turning it backward through the discharge pipes into the hollow plates, whence it percolates outward through the porous walls into the tank, dislodging readily the dirt that has collected on the outer surface. This falls to the bottom of the tank in which the plates are submerged, and is drawn off in liquid form, assisted, when the accumulation is large, by means of a hoe or shovel, and followed,

when the tank has become emptied, by flushing with a jet of water from a hose, which cleans thoroughly the surface of the plates and washes out the bottom of the tank itself. The discharge cocks are then closed and reversed, water turned again into the tank, and the process of filtration resumed.

The depth or "head" of water necessary to make the filtration sufficiently rapid is from 3 to 4 feet, and the reverse head, for cleaning the plates by turning the water backward through the discharge pipes, should be about 6 feet to give sufficient pressure for the best results. Thus constructed, the filtering plant at Worms, which may be taken as the original type and model of the system, has been in constant operation during the past four years, without accident or appreciable deterioration. From all testimony that can be obtained, the results at Worms, both as regards economy of construction and maintenance and speed and thoroughness of filtration effected, have been eminently satisfactory.

The tanks, as already indicated, are made of masonry laid in hydraulic cement, and if galvanized tubing is used, to obviate rusting, the life of such a plant may be indefinitely prolonged. The demonstrated success of the original filtering plant has led to the organized manufacture of the plates by the firm Bittel & Co., who have large works at Worms-on-Rhine, and furnish not only the prepared materials, but estimates and plans for filtering outfits for municipalities and manufacturing establishments, such as breweries and chemical and other works in which a large supply of limpid water is an essential requisite. Smaller installations are also furnished to works in which river water or spring water, strongly charged with oxides of iron, is used for generating steam.

According to an official report by M. Janssen, of the University of Brussels, who made an exhaustive study of the whole subject at Worms, that city began in 1889 the filtration of Rhine water for general purposes by the ordinary sand-filtering process, similar to that then used at Berlin. With a filtering surface of 1,300 square meters (approximately 13,000 square feet), 3,000 cubic meters (792,510 gallons) of water were filtered in twenty-four hours. This supply proved insufficient for the city, and it became necessary to construct an addition to the filtering plant, the cost of which, on the sand-filter plan, was estimated at \$30,000. It was then that the Fischer system was given a practical trial.

Instead of occupying new land and building additional constructions, one of the ten vaults containing the sand filters already in use was isolated, cleaned out, and the space filled with a battery of five hundred plates of the Fischer pattern. The whole cost of the change thus made was about \$9,600, and the new filters, occupying one-ninth as much space as the sand filters, doubled the filtering capacity of the entire installation. In other words, five hundred Fischer plates, costing, set up and ready for operation, \$9,600, and occupying only 130 square meters of space, filtered as much water as the sand filters which occupy 1,170 square meters of space and cost \$30,000. To

substitute the Fischer plates for sand throughout the entire establishment would be to increase the filtering surface from 1,300 to 10,000 square meters (approximately from 13,000 to 100,000 square feet) and multiply by ten the daily filtering capacity of the plant.

From a long series of analyses and careful observations made by the sanitary authorities at Worms, it appears that the efficiency of the two systems of filtering, which are there worked side by side, are practically identical, so far as regards their effect upon the chemical purity of the water, but the percentage of bacteria left by the Fischer process is somewhat greater than is left by the sand filter when clean and in good working condition. This, however, is not considered a defect of practical importance. The water delivered by the new filters at Worms, as well as at the other places where they are in daily use, is certified by high and impartial authority to be thoroughly purified and fitted for drinking, as well as for culinary and manufacturing purposes.

FRANK H. MASON,

FRANKFORT, *December 9, 1896.*

Consul-General.

A NEW CRISIS IN GERMAN SUGAR PRODUCTION.

When, on the 15th of May last, the German Parliament adopted the new sugar-tax amendment law, part of which went into immediate effect, the remainder becoming operative on the 1st of August last, it was supposed that the long-vexed problem of sugar legislation was settled and, for a series of years at least, definitely eliminated from German politics. But there has been called recently a meeting of sugar manufacturers for the declared purpose of preparing a new appeal, setting forth the present critical condition of the industry, and, according to so high an authority as the *Chemiker Zeitung*, petitioning for new legislation "to rescue the sugar-producing interest from the consequences of the very act passed for its salvation, and which have presented themselves promptly and in a most serious form."

The act of May last was enacted, as will be remembered—against the better judgment of many able members of the Reichstag—as a concession to the Agrarian party, representing the landowning and agricultural population, whose prosperity had been seriously compromised in recent years by the competition of low-priced foreign cereals, meats, and other farm products, the values of which are governed by the general law of supply and demand in the world's markets. Sugar was declared to be the last and only agricultural product in which there remained any profit for the German farmer, and it was recognized that whatever skillful legislation could do to preserve and protect that industry should, in justice to the suffering landowners, be given a prompt and thorough trial.

The sugar interest has passed through a severe crisis, caused by the enormous overproduction of 1894-95, and one of the obvious necessities of the situation was to restrict production and promote the export of German sugar. The new measure was drawn up with care and thoroughness by leading representatives of the sugar industry, and in its original form included the following provisions:

(1) A restriction of the annual production of sugar to 1,400,000 metric tons.

(2) A further "Contingentirung," or additional quota, to be distributed among the factories on the basis of the average annual production of each during the previous five years.

(3) A progressive tax on manufacture, the rate of which increased rapidly with the amount produced, so as to lay the heaviest burden upon the larger manufacturers and spare the small factories, many of which are owned and operated by beet-growing farmers.

(4) The payment of 4 marks (95 cents) per 100 kilograms (220.46 pounds) bounty on exported sugar as a "Kampfrämie," that is, a premium to enable German sugar exporters to compete against all comers in foreign markets.

(5) An advance of the import duty on sugar from 35 marks (\$8.33) to 45 marks (\$10.71) per 100 kilograms, and, finally, an increase in the tax on sugar consumed in Germany, so as to enable the Government to pay the increased bounty on exports.

Over this original plan, which seemed logical and well balanced, at least from the standpoint of its advocates, there was waged one of the fiercest and most determined contests in the annals of German legislation, and the act, as finally passed, had been changed and distorted by the greed of its supporters into a measure radically different from that which had been at first proposed. The limit of production had been raised from 1,400,000 to 1,700,000 tons per annum (raw-sugar equivalent), an amount that had been reached only once, and that in the disastrous campaign of 1894-95, which had led to the crisis of the year following. Overproduction, the principal danger to be feared, and if possible averted, was thus established by the new law as a permanent possibility. Furthermore, the contingent production authorized was to be double the increased home consumption, and this was distributed among the factories not on the basis of their average annual product for five years previous, but on the basis of the highest figures reached during two of the three preceding years. This naturally stimulated the factories to reach this year the highest possible output, so as to entitle themselves to the largest possible share of favors to come. The effect of this has been to give important advantages to the large and wealthy factories over the smaller ones owned by the farmers and capitalists of small means, and has thus led to bitter feeling and recriminations between the two classes of sugar manufacturers. The new law also fixed the internal revenue tax on manufacture so low as to have but little value to the State, the revenue yielded

being wholly out of proportion to the heavy export bounties to be paid, which have become, more than ever before, a burden to the treasury.

The effects of the new statute have now become apparent and ominous. The foreign sugar market responded to the increased export bounty by a proportionate decline in price, so that the German exporter now receives only the same price for his sugar as before, and of this price, the Germaft Government pays more and the foreign consumer less than hitherto, so that the net result has been not to encourage the German sugar industry, but to supply Great Britain, the United States, and other importing countries with cheaper sugar, and thus further demoralize and weaken the general market.

Moreover, there is in the question of European sugar production a distinct issue of international politics, which, on the part of France, and to some degree of Austria, almost outweighs the purely economic or commercial features of the subject. It was expected, or at least hoped, that the gradual extinction of export bounties decreed by the German law of 1892 would be followed by a similar reduction of such premiums by other producing countries, but this result did not follow. Efforts were made to reach an international agreement, but they all failed, and this failure led to the reversal of policy by Germany in the legislation of last spring. So, now, again, France has answered the enhanced German export bounties by a similar increase, and the other producing countries are reported as preparing to follow the same lead. The contest thus precipitated is one of far-reaching import, the naked issue being which country can afford to spend the most money to bolster up its sugar exports.

Finally, the effect of the new law has been to greatly stimulate the production of sugar in Germany. Many of the existing factories are enlarging their capacity and extending their operations, new factories, including some for the manufacture of sugar from imported molasses, are projected, and the makers of sugar machinery are unable to supply the increased demand for new equipments. The increased capacity is mainly on the part of wealthy and powerful companies, whose advantage over the smaller establishments is thus rapidly augmented.

The situation is, on the whole, so menacing that, according to definite reports, a majority of the German sugar manufacturers and beet growers would gladly go back, if such a thing were possible, to the conditions which existed prior to the enactment of last May. Since, however, this is not practicable, the Reichstag will be petitioned to make certain amendments in the existing statute, with the object of revising the method of "Contingentirung" so as to restrict instead of stimulating production, and to invite international negotiations for the gradual abolition of all export bounties, which have been proven to be simply a burden on the treasury which pays them for the benefit of nonproducing foreign countries.

Whether the German Parliament, after conceding, hardly six months ago, all that was asked of it, will consent to enter upon another legislative

contest over a subject which involves such hostility between parties and private interests, remains to be seen, and it may well be doubted whether France and other competing countries will be willing to withdraw from a conflict in which Germany has so lately, through her increased export bounties, thrown down the gage of battle.

If the attempt at revision fails before the Reichstag, there will then remain, in the opinion of practical men, but one way out of the dilemma—the organization of the whole German sugar-producing interest into a syndicate, similar to those which govern the production of coke, seed oils, potash salts, and other leading products in this country; an organization which shall, by its own regulations, carefully restrain overproduction and be content with what can be done to control prices of sugar by commercial action and by regulating the supply in home and foreign markets.

FRANK H. MASON,

FRANKFORT, *November 28, 1896.*

Consul-General.

GERMAN BEET-SUGAR RETURNS FOR 1895-96.

The following data are taken from the publications of the imperial statistical bureau and Licht's reports:

The beet-sugar "campaign" year 1895-96 in Germany proved more favorable than the preceding one. Although the area under cultivation had been reduced and the yield per hectare diminished, the saccharine contents of the beet were higher and the average price of raw sugar better than in 1894-95. Owing to the Cuban troubles, the price rose as high as 13.25 marks (\$3.15) per cwt. (110.23 pounds) and reached an average per year of 11.25 marks (\$2.68), against 9.55 marks (\$2.27) in 1894-95, or an increase of nearly 18 per cent. If the total sugar production of 1,615,111 tons (1,589,592 long tons) is multiplied by this average price of 11.25 marks (\$2.68) per cwt. (110.23 pounds), or 225 marks (\$53.55) per ton (0.9842 long ton), we find the total money value of the German raw-sugar crop to have been 363,400,000 marks (\$86,489,200), against 351,719,000 marks (\$83,709,000) in 1894-95. The total area under cultivation being 376,669 hectares (930,749 acres), each hectare (2.471 acres) yielded therefore a raw profit of 965.04 marks (\$229.68), against 796.75 marks (\$189.63) in 1894-95. The average agricultural expenses are estimated at 480 marks (\$114.24) per hectare (2.471 acres); the working expenses in the factory at 80 pfennigs (19 cents) per double cwt. (220.46 pounds) of beets, and 310 double cwts. (68,342 pounds) being produced per hectare, the working expenses per hectare are therefore 310 by 80 pfennigs, equal to 248 marks (\$59.02), which amount added to the above 480 marks (\$114.24) brings the total expenses to 728 marks (\$173.26), leaving a net profit per hectare (2.471 acres) of 965.04 marks (\$229.68) minus 728 marks (\$173.26), or 237.04 marks (\$56.42), against

53.55 marks (\$12.74) in 1894-95. Interest on the capital invested and amortization are not included in this calculation.

The area under cultivation was reduced from 441,441 hectares (1,090,800 acres) in 1894-95 to 376,669 hectares (930,749 acres), or about 14 $\frac{2}{3}$ per cent.

The yield per hectare (2.471 acres) was 31 tons (30.51 long tons), against 32.9 tons (32.38 long tons) in 1894-95; 43.94 per cent of the beets were grown by the factories and 56.06 per cent bought, against 41.64 per cent grown and 58.36 per cent bought in 1894-95.

The number of factories in operation was reduced from 405 in 1894-95 to 397—three new factories having been established and eleven closed, nine permanently and two temporarily.

The beet crop was 2,848,213 tons (2,803,210 long tons) less than in 1894-95, being 11,672,816 tons (11,488,385 long tons), against 14,521,029 tons (14,291,596 long tons) in 1894-95, or a decrease of 19.61 per cent.

The number of steam engines and horsepower used in the factories was 5,320 and 97,977, respectively, against 5,324 and 94,952 in 1894-95.

The average time required to manufacture the beets into raw sugar was seventy-five days, against ninety-nine days in 1894-95.

The saccharine contents were 13.19 per cent, against 12.2 per cent in 1894-95.

To manufacture 1 cwt. of raw sugar, 7.58 cwts. of beets were required, against 8.2 cwts. in 1894-95.

One hectare (2.471 acres) yielded 4.296 tons (4.228 long tons) of raw sugar, against 4.164 tons (4.098 long tons) in 1894-95.

The total production of raw sugar in Germany was 1,615,111 tons (1,589,592 long tons), against 1,841,461 tons (1,812,366 long tons) in 1894-95, a decrease of 226,350 tons (222,774 long tons), or 12.3 per cent.

The export decreased from 1,073,590 tons (1,056,627 long tons) in 1894-95 to 964,963 tons (949,717 long tons).

The home consumption increased from 623,874 tons (614,017 long tons) in 1894-95 to 730,784 tons (719,238 long tons), or 106,910 tons (105,221 long tons)=17.14 per cent. This increase is, however, only apparent, and was largely caused by the stipulations of the new sugar law, which increased the home-consumption tax from 18 marks (\$4.28) to 20 marks (\$4.76) per double cwt. (220.46 pounds) and thereby caused an extensive withdrawal of sugar from the bonded stores just prior to its going into effect.

The average consumption of sugar per head of population was 12.72 kilograms (28.04 pounds), against 10.7 kilograms (23.59 pounds) in 1894-95, which increase, however, for the reason just stated, should be discounted considerably.

The tax on sugar, less export bounties, yielded to the Government 103,701,000 marks (\$24,680,838), against 85,714,000 marks (\$20,399,932) in 1894-95; which equals a tax of 1.97 marks (47 cents) per head of population, against 1.65 marks (39 cents) in 1894-95.

The total raw-sugar production in Europe was as follows:

Countries.	1895-96.	1894-95.
	<i>Tons.</i>	<i>Tons.</i>
Germany.....	1,615,111	1,841,461
Austria-Hungary.....	791,405	1,055,821
France.....	667,853	792,511
Russia.....	783,489	615,058
Belgium.....	260,050	243,957
Holland.....	106,829	84,597
Denmark, Sweden, Italy, Roumania, and Spain.....	168,800	156,000
Total.....	*4,393,537	*4,789,405

*4,324,119 long tons and 4,713,732 long tons; by long tons is meant tons of 2,240 pounds.

MAGDEBURG, *December 14, 1896.*

JULIUS MUTH,

Consul.

CHAMPAGNE REEXPORTED TO ENGLAND.

On the 6th instant, I had the honor to report to the Department concerning the then largely advertised sale by auction of 10,000 dozen bottles of champagne reexported from New York. I now have pleasure in reporting the completion of the sale, which occurred on October 14, together with further particulars. As before stated, the sale of so immense a quantity (120,000 quart bottles) of champagne at one time created great excitement in the wine and spirit trade and it was feared the market might be injuriously affected. The bottles bore the labels of a New York wine house and the wine was of the production of Messrs. Piper-Heidsieck, premier quality, having been warehoused in New York early in 1894. So serious was the view taken of the matter by the French wine exporters and their agents that I am informed they gave warning to their English clients that the wine was not up to the standard consumed in England. Even Messrs. Piper-Heidsieck or their agents notified their English customers that the wine was not Piper-Heidsieck in the sense that the brand was understood in England. I am told that an agent of the house in London intimated that it ought never to have been exported. It is represented as containing from 10 to 12 per cent of liquor sweetening, which renders it entirely unvaluable for the English market.

The sampling of the wine by English connoisseurs has caused them to ask the question, whether this wine is of the average quality American consumers put into their stomachs.

Nevertheless, the sale was considered a success and the prices realized were considered satisfactory. A Bradford house sent in a bid for a large quantity at \$6.57 per dozen, which was not high enough to secure any of it. It is supposed it was purchased largely by speculative dealers for export to

other countries or for sale to foreigners resident in England who have a taste for sweet wine.

The wine was in quantities of 6,662 baskets of 1 dozen bottles each and 3,311 baskets of 2 dozen half bottles each, and was sold in lots of 10 dozen bottles and 20 dozen half bottles.

The first parcel of bottles offered was per *Manitoba* from New York, entered July 1, 1896, lying at the Metropolitan vaults. Lot 1 was knocked down at \$12.65 per dozen, the next three lots at \$10.70, after which five lots were taken out at \$9.75; there was then a drop to \$8.75 for several lots, after which \$8.50, then gradually down to \$7.80, \$7.55, and \$7.30, a considerable number of lots being taken out at the latter figure. The price rose again to \$7.55, which was the rule for some fifty lots, after which it advanced to \$7.80, \$8.03, and \$8.27 for the remainder, being the great bulk of this parcel.

The next parcel was the half bottles, which started at \$9.75 per 2 dozen, but speedily came down to \$9.25 and \$9, the bulk being taken out at the latter figure.

The second parcel of bottles, per *Mobile* from New York, entered September 24, 1896, started at \$8.27 for a considerable number of lots, and afterwards fluctuated between that figure and \$8.03, the larger proportion being sold at the latter.

The same wine in half bottles again started at \$9.25 for four lots in succession, and rapidly fell to \$9 and \$8.75, and so on to \$8.50, and ultimately to \$8.27, at which most of the remainder, being the bulk of the parcel, was disposed of. The sale occupied about two and a half hours.

From this it would appear the wine realized for the New York bankers who exported it from \$90,000 to \$100,000.

CLAUDE MEEKER,

BRADFORD, *October 21, 1896.*

Consul.

WEAVERS' WAGES IN BRADFORD.

For the information of manufacturers of the United States, I append the rate of wages agreed upon by the Bradford Chamber of Commerce for weavers in this district. While this scale is not obligatory, it is the one in general use. Any deviation from it is likely to be rather more than less, much depending upon circumstances.

Dress goods, linings, etc., 70-yards warp.

All weaves up to and including 8 shafts, woven with any one color of warp with white weft, per pick per one-fourth inch:

Up to and including 38-inch reed space.....	\$0.04
Above 38-inch, but not exceeding 47-inch, reed space.....	.05
Above 47-inch, but not exceeding 57-inch, reed space.....	.05
Above 57-inch, but not exceeding 66-inch, reed space.....	.05½
Above 66-inch, but not exceeding 76-inch, reed space.....	.06½

Extras.	Up to and including 57-inch reed space.	Above 57-inch reed space.
	Cents.	Cents.
White mohair and mixture or colored weft other than alpaca.....per pick.....	0½	1
Alpaca, gray :		
(a) Plain weave (1 by 1).....do.....	1½	2½
(b) Twills.....do.....	1	2
Single-twist botany warps :		
(a) Over 72 set, and with more than 18 picks per one-fourth inch.....do.....	1½	2
(b) All other single-twist worsted warps.....do.....	0½	1
Stripes in warp, up to 8 shafts, inclusive :		
(a) Up to 4 colors, inclusive.....do.....	0½	0½
(b) 5 colors or more.....do.....	0½	1
Drafted stripes, with or without extra shafts.....do.....	0½	1
Shafts above 8, whether dobbies or tappits.....per shaft.....	2	4
Boxes :		
(a) Up to and including 3 shuttles.....per pick.....	1	1½
(b) Above 3 shuttles.....do.....	1½	2
(c) Skip or drop.....do.....	1½	2½
Pick and pick looms.....do.....	1½	2½
(a) Jacquards.....do.....	1	1½
(b) Jacquards, with alpaca weft.....do.....	3	4
Cop weft.....do.....	0½	1
Weft of 16s count and thicker.....do.....	0½	1
1 weaver to 1 loom (for special weaves).....do.....		2½
Rollers or extra beams.....per piece.....	8	16
Below 9 picks.....do.....	4	8
Warps of 140 yards or shorter.....for the whole warp.....	12	12
1 end of warp in 1 reed.....per piece of 70 yards.....	6	12
Extra for finding pick, excepting all plain (1 by 1) weaves and goods made from alpaca.....per piece of 70 yards.....	6	12

Coatings, up to 84-inch reed space; speed, 120 to 130 picks per minute, 70 yards warp.

All weavers up to 8 shafts, 1 weaver to 2 looms, per pick, 7½ cents; all weavers up to 12 shafts, 1 weaver to 1 loom, 11 cents.

Extras.	1 weaver to—	
	1 loom.	2 looms.
	Cents.	Cents.
Plain drafted stripes:		
Up to 3 colors.....per pick.....	0½	0½
4 colors or more.....do.....	*1½	1½
Cross drafted stripes:		
Up to 3 colors.....do.....	*1½	1½
4 colors or more.....do.....	*2	2
Colored weft, except where color is paid for in the warp, as in the four preceding cases.....per pick.....	0½	0½
Boxes :		
Revolving.....do.....	2	2
Skip or drop.....do.....	2½	2½
Jacquards.....do.....	1½	1½
Looms running 110 to 119 picks per minute.....do.....	2	2

* There was a difference of opinion as to these three items; the chamber's representatives contended that they should be half a cent lower in each case.

Extras.	1 weaver to—	
	1 loom.	2 looms.
<i>Per piece.</i>	<i>Cents.</i>	<i>Cents.</i>
Above 8 shafts.....per shaft...		3
Above 12 shafts.....do.....	3	
Above 80 set.....each 5 sets...	2	2
Above 2 shuttles.....per shuttle...	18	18
A second beam.....	25	18
Below 9 picks.....	18	18
Warps shorter than 140 yards.....for the whole warp...	37	24

BRADFORD, *November 13, 1896.*CLAUDE MEEKER,
Consul.

SOUTH WALES COAL TRADE.

Enormous though the demand for South Wales coal certainly is, it never seems to get ahead of the supply; consequently, the fluctuations in prices are seldom very marked, but are notable for the lowness of the figures.

The wages of the operatives being governed by a "sliding scale," which manifests a tendency to slide downward, it is no wonder that among the multitude of counselors who are suggesting remedies the representatives of the wage earners should draft a scheme the avowed object of which is "to secure such prices for the coals as will guaranty reasonable profits to the owners or operators and fair wages to the workmen."

Wages are regulated according to a standard basis (which I have in a previous report explained) and the following table will show what has been the effect upon wages since the end of 1892:

Date.	Reductions.	Percentage above standard.
April 1, 1893.....	6¼	13¾
June 1, 1893.....	3¼	10
June 1, 1894.....	2½	27½
August 1, 1894.....	3¼	23¾
October 1, 1894.....	1¼	22½
December 1, 1894.....	1¼	21¼
February 1, 1895.....	1¼	20
April 1, 1895.....	1¼	18¾
June 1, 1895.....	1¼	17½
August 1, 1895.....	2½	15
October 1, 1895.....	2½	12½
February 1, 1896.....	1¼	11¼
October 1, 1896.....	1¼	10

	Advances.	Percentage above standard.
August 1, 1893.....	1¼	11¼
October 1, 1893.....	1¼	12½
December 1, 1893.....	7½	20
February 1, 1894.....	6¼	26¼
April 1, 1894.....	3¼	30
	No change.	
December 1, 1895 (no change on preceding audit).....		12½
June 1, 1896 (no change on preceding audit).....		11¼
August 1, 1896 (no change on preceding audit).....		11¼

Following are the "suggested terms of an alliance between the South Wales and Monmouthshire coal owners and colliery workers" which have been drawn up by the workmen's representatives on the sliding-scale committee and submitted to the employers as a basis for determining a selling price and for joint action against those firms which might "cut" that price, and so—by operation of the sliding scale—lower the workmen's wages, etc. :

(1) The object of the alliance shall be to secure such prices for coal as will guaranty a reasonable profit to the owner and fair wages to the workmen.

(2) It shall be a recognized principle of the alliance that both profits and wages shall always be so regulated as to insure only fair and reasonable prices for coal, so that the South Wales trade may not be endangered by such excessive charges as to directly invite outside British or foreign competition.

(3) The workmen shall be paid a minimum wage upon the standard rates of 1879.

(4) To secure the object of the alliance, there shall be an undertaking by both parties to support each other in any reasonable and proper manner for the purpose of enabling them to resist mutually the attempts of any who may try to make the South Wales and Monmouthshire mining industry inadequately remunerative to one or both parties either by selling coal below the price agreed upon or by directly or indirectly reducing wages below the standard rates recognized by the owners and the workmen at the other collieries working the same seams.

(5) It being well known that prices are now materially reduced by speculative middlemen, who contract to sell coal before they have purchased it, no employer shall make contracts with such middlemen, unless they have obtained a quotation prior to the sale.

(6) This undertaking shall include a pledge on the part of the owners not to employ any but skilled workmen, and on the part of the workmen not to work for any but associated coal owners or those who (although not members of the association for the time being) are prepared to sell coal at the prices agreed upon by the federated coal owners.

(7) Should it be necessary at any time for the maintenance of the principles of the alliance to call out the workmen employed by any colliery owner or owners, such workmen shall be jointly supported—by the owners making every effort to give employment elsewhere, and by the workmen giving financial support.

(8) It shall be distinctly understood that the alliance shall in no way interfere with the right of the employer to maintain entire control over the internal management of his own colliery; neither shall the alliance prevent in any way the employer from introducing any improved method of production, providing such method does not carry with it a reduction in the wages of the workmen or increased danger to life and limb.

(9) For the purpose of fixing the selling price of coal at a point that will permit the agreed-upon minimum wage, a computation shall be made of the average cost of production for the whole of the coal field for the last three years, either by taking the cost of production for each colliery or a selected number of collieries working the different seams, whichever may be

mutually agreed upon, and the average cost, taken with the minimum wage, shall establish a minimum selling price for the different kinds or seams of coal.

(10) The selling price of coal above this point to be fixed by the associated owners from time to time; and, for the purpose of maintaining the agreed-upon fixed price of coal above the minimum, the workmen agree to cooperate with the owners to prevent underselling upon the terms incorporated in the foregoing clauses.

(11) That the working of the double shift in mines, except in case of emergency, be considered a violation of the principle of this scheme.

(12) This alliance shall form part of the present sliding-scale agreement or any future sliding-scale agreement or other system of agreement that may be decided upon by South Wales and Monmouthshire coal owners and workmen, or their respective representatives, as a method for regulating wages and other matters pertaining to the mining industry.

A general meeting of the coal owners is to be held at an early date for the purpose of considering the scheme, which will probably be modified to some extent, judging from the criticisms already heaped upon it; but as its main object is said to be to protect by cooperation the joint interests of both employers and workmen, there can be no question that the operators will be only too glad to do whatever will commend itself to their wisdom in the interests of the coal trade. In fact, the workmen claim to have been requested by the employers to submit a scheme, and, read between the lines, it is evident that the men hope to put an end to the power of middlemen contracting to supply coal at certain prices before receiving from the operators quotations and thus arranging future deliveries on speculative lines. It is worthy of note that the workmen claim to have no desire to better themselves at the expense of the trade of the district, and that they are open to accept a better scheme from the employers. As to what steps the Coal Owners' Association will take it is impossible to say until after its promise to discuss the scheme in question has been fulfilled.

Another scheme has been devised, the author of which is a leading colliery proprietor (and a member of the British Parliament), Mr. David A. Thomas, who, according to to-day's press, has elaborated a project and presented the same privately to his fellow-operators for their consideration. Unless a breach of faith occurs (as was the case with regard to the scheme of the operatives), the details will not be made public until after their discussion in meeting assembled.

Far deeper interest is evinced in the scheme propounded by Mr. Thomas than in the other, and although many are disposed to criticise and prejudge it before they know exactly what it is, people generally are allowing the wish to be "father to the thought" and are eagerly hoping that it will result in reducing the "ruinous effects of competition" to a minimum, notwithstanding the recognized difficulty in formulating a practical scheme to raise and afterwards maintain prices artificially, to prevent jealousies among sellers, and to secure something like unanimity.

However, it is stated that the twenty leading coal firms in this district control more than 80 per cent of the total steam-coal production and that "the increased output of these twenty firms has been over 3,000,000 tons

during the past half dozen years," and that, of the 2,218,000 tons of increase shown in the coal export returns for the United Kingdom in 1895, as compared with 1891, no less than "2,060,000 tons is accounted for by the increase from the Bristol Channel ports." It requires no very deep powers of penetration to perceive that if the main object of the scheme—to enhance the prices—is to be attained, there must necessarily be more or less of restriction of output, and what particular arrangement is suggested for regulating the supply remains to be seen. Anyway, however ingenious the adopted scheme may be, this much is certain, that its success will be insured only by cooperation, than which nothing is more uncertain where there is keen competition.

ANTHONY HOWELLS,

CARDIFF, *October 12, 1896.*

Consul.

SOUTH WALES TIN-PLATE TRADE.

On Monday of this week, a step fraught with serious possibilities to all concerned was taken by the majority of the tin platers of South Wales, who gave notices to their employers to the effect that contracts would cease at the end of the current month.

For a long time past the men have chafed considerably under the stagnation of trade and the lowness of wages which have prevailed, but their union has not been successful hitherto in bringing them into line to enforce their demands or to prevent the scheme of a board of control resulting in a chimera. Now, however, the demand for a restoration of the 1874 list of wages is presented with a greater show of unanimity than has ever been witnessed before. This action was the outcome of a resolution on the part of the council of the union three months ago, and no effort has been spared to insure unanimity, with the result that the employees of 249 mills have joined the movement. The total number of mills in operation at present of the 502 mills in the trade is 310, hence the number of such not represented in this movement is 61. It is extremely difficult, therefore, to foretell the outcome, but the manufacturers evidently view the situation with alarm, for, in many instances, they had no sooner received the notices from the workmen than similar ones were handed by the employers to the foremen and others whose services may be dispensed with in the event of a stoppage of the mills.

Presumably the result will depend upon the course of trade during the current month and the state of the market at its close, and if the conditions will warrant their doing so, the employers will doubtless be glad to restore the list, as was done on the whole a year ago. The contention of the operatives, put into a sentence, is: "We ask for fair wages, and it is for the employers to secure fair prices."

The difference between the average wages now paid and those under the 1874 list is said to be 15 per cent, and it is contended that, American com-

petition notwithstanding, there should be no difficulty in advancing the prices of tin plates sufficiently to provide for an increase of 15 per cent on the labor cost, inasmuch as the price of plates would respond to the price of labor, as it has recently to the advanced price of steel.

I may add that on Saturday last, a general advance of 10 per cent on wages was accorded to the tin bar-steel workers, and this fact lends emphasis to the demand of the tin platers, who are consequently sanguine regarding their own demands. It is computed that an increase of 6 cents per box of tin plates would suffice to meet the labor demand for an advance of 15 per cent. The latest quotations for Bessemer steel coke are \$2.37 to \$2.61; Siemen's (coke finish), \$2.61 to \$2.67; terms, per double box, 28 by 20 C, \$4.19, \$4.44, \$5.34; best charcoal, \$3.34 to \$3.40, according to finish of brand; wasters, 12 to 24 cents per box less than primes—all delivered in dock.

The decrease in exports to the United States continues.

Exports of tin plate from Great Britain to the United States, 1892 to 1896 (in tons of 2,240 pounds.)

Month.	1896.	1895.	1894.	1893.	1892.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
January.....	11,861	18,626	18,296	23,498	17,564
February.....	6,980	23,201	13,413	20,190	22,268
March.....	8,903	18,743	16,907	31,334	22,789
April.....	10,903	15,946	13,210	31,651	31,061
May.....	9,222	18,118	21,291	26,988	23,799
June.....	11,753	13,760	17,247	26,759	23,550
July.....	13,930	16,445	17,805	22,248	24,750
August.....	8,814	23,531	19,125	15,784	24,221
September.....		17,507	17,672	13,789	22,535
October.....		19,805	24,854	13,861	19,901
November.....		16,186	22,382	15,495	20,634
December.....		21,033	24,677	14,031	23,417
Total.....	82,366	222,901	226,879	255,628	276,479

ANTHONY HOWELLS,

CARDIFF, *October 12, 1896.*

Consul.

ALIENS LAW OF THE SOUTH AFRICAN REPUBLIC.

I have the honor, at the request of Mr. G. I. Th. Beelaerts van Blokland, envoy extraordinary and minister plenipotentiary of the South African Republic, to transmit herewith a copy of the aliens law of the South African Republic, which will come into force on January 1, 1897, together with a translation of the same.

In handing me the above, Mr. Beelaerts van Blokland expresses the hope that it may be given publicity in the press of the United States.

WILLIAM E. QUINBY,

THE HAGUE, *December 7, 1896.*

Minister.

TEXT OF THE LAW.

Mr. Montagu White, the consul-general of the South African Republic, has issued the following translation of the aliens law of the South African Republic, which will come into force on January 1 next:

SOUTH AFRICAN REPUBLIC ALIENS LAW.

Whereas it having been found necessary to make regulations with regard to the admission of aliens into this Republic, it is hereby made known that, in accordance with article 6 of the Grondwet, the following regulations have been made:

ARTICLE 1. All foreigners will be admitted into this Republic, provided they are furnished with a proper foreign passport, given by, or on behalf of, the government of the country to which they belong and visaed by a consul or consular official of the Republic.

ART. 2. Such passport must show that the said foreigner has sufficient means of subsistence or can obtain such by his work.

ART. 3. Failing the possession of a passport, as aforementioned, foreigners may be admitted on letters of indication, or even on mere mention of their names, provided, however, they can prove their identity and can show that they can fulfil the conditions laid down in article 2 to the satisfaction of the authorities named hereafter.

ART. 4. Admission is granted by the field cornet at the place of first arrival, or, on crossing the frontier, by the official appointed by the Government, through the issue of a traveling and residing passport.

ART. 5. Such traveling and residing passport shall be valid for a period of three months, but can each time be renewed for a further three months by the field cornet of the place where the foreigner is residing. Such renewal can only be refused through nonfulfillment of the requirements laid down in article 2. The decision of the field cornet shall be subject to an appeal to the Government.

ART. 6. Foreigners who, when applying for a renewal of their traveling and residing passports, declare that they intend to settle in the Republic, need only renew their traveling and residing passports once a year; provided always that they give the required guaranty that they will be obedient to the laws of the country by making a sworn or other declaration to the satisfaction of the field cornet.

ART. 7. The above regulations shall not be applicable to foreigners who may be already residing in the Republic on the coming into force of this law, or who have been duly registered according to law at the field cornet's office, or who may so register themselves within one month.

ART. 8. Traveling and residing passports, as mentioned in this law, must be shown on demand to any landdrost, mining commissioner, resident justice of the peace, or field cornet.

ART. 9. Foreigners who are residing within the Republic contrary to the conditions of this law and who are not in possession of the necessary traveling and residing passports can be expelled from the country according to law No. 25 of 1896.

ART. 10. This law shall come into force on the 1st of January, 1897.

GOLD TRAFFIC AND GOLD MINING IN MADAGASCAR.

I have the honor to call attention to certain recent enactments, laws, or orders concerning gold export and buying which threaten to breed in the near future considerable trouble between the local authorities here and the foreign merchants.

The gold traffic has always been practically an illicit one, carried on sub rosa by all foreigners in Madagascar, irrespective of nationality or of moral

status, the gold being carried on board by parties shipping and entered on the purser's manifest as "specie."

A law was recently promulgated at Antananarivo by being published in the *Ny Gazety Malagasy*, of July 31, which, after making various provisions relative to gold mining and mining of precious metals and stones, affects most seriously this traffic in gold. Article 27 of said law provides for an annual license fee of 1,800 francs (\$347.40) for permission to carry on said traffic. It declares that miners who sell their own produce are not to be considered as engaging in said traffic, but provides further that every trader must keep such books as the administration shall prescribe, and that such books are open to and shall be visaed by the Government's agents. Article 32 provides a penalty of from 100 to 1,000 francs (\$19.30 to \$193) and imprisonment for from one to five days for such traders as do not keep such books or who refuse to exhibit them, with forfeiture of materials seized in the latter case. Article 34 provides a penalty of 1,000 to 25,000 francs (\$193 to \$4,825) and imprisonment for from three months to three years for such traders as without license engage in a traffic in gold, precious metals, or stones, and a like penalty for anyone engaging in the trade of buying such metals or stones in the rough from a person not holding a working permit or a vendor's license.

EDW. TELFAIR WETTER,

TAMATAVE, *August 18, 1896.*

Consul.

GOLD-MINING LAW OF MADAGASCAR.

The following is a translation of the law referred to in the foregoing report and transmitted by Consul Wetter under date of September 1, 1896:

MINING OF GOLD, PRECIOUS METALS, AND PRECIOUS STONES IN MADAGASCAR.

I, Ranavalomanjaka III, having succeeded to the title of my ancestors and, under the dominion of the French Republic, Queen of Madagascar and defender of the laws of my country, do promulgate the following law:

TITLE I.—GENERAL DISPOSITIONS.

ARTICLE 1. The present law is applicable to alluvions, pockets, beds, and lodges containing gold or other precious metals, such as silver and platinum and precious stones.

The mining of other mineral substances is regulated by special law.

If complex deposits containing both common and precious metals are discovered, the chief of the service of mines shall decide, after inquiry, as to which of the two laws must control their working.

ART. 2. French citizens, subjects, and protégés as well as foreigners are permitted to prospect for and to work mines; natives must be authorized by the governor of their province, under the approval of the resident.

French and native functionaries of the administration of Madagascar in active service are prohibited from engaging in prospecting for and in working mines.

ART. 3. Mining can be carried on only within the mining districts declared opened to public working.

Prospecting can be done in territory not declared opened to public working under the conditions set forth in the following title:

TITLE II.—PROSPECTING IN TERRITORY NOT DECLARED OPENED TO PUBLIC WORKING.

ART. 4. Anyone desirous of prospecting in territory not declared opened to public working must apply for a prospecting permit either to the service of mines at Tananarivo or to a resident. This permit is granted upon payment of the sum of 25 francs (\$4.83). It is valid for one year, and is renewable indefinitely under like procedure. It grants the right of prospecting beyond the declared districts and of setting up prospect signals.

ART. 5. A prospect signal is a stake 2 meters (6 feet $6\frac{3}{4}$ inches) high, to which a placard has been affixed, bearing, in the French language, the name of the discoverer, the place and date of his permit's issuance, the date of the setting up of the signal, and the notification that gold, the precious metals, and precious stones are the objects of his quest.

A signal can not be set up at a less distance than 5 kilometers (3.10688 miles) from every already established signal; it must be located on the outside of every mining district already declared opened to public working. Signals set up by the same discoverer must be distant at least 25 kilometers (15.5344 miles) from one another.

As soon as a signal is set up, the discoverer must give notice of it in writing to the resident of the province, who will inform the service of mines at Tananarivo thereof. The discoverer must indicate with all possible precision the place where the signal is set, failing which indication the notice can be held as void.

The notice is recorded in a special register, with notation of the date and hour of its receipt by the resident.

ART. 6. The discoverer has the sole right of digging within a circle of $2\frac{1}{2}$ kilometers (1.55344 miles) radius around each of the signals which he has set up, on condition of keeping outside of the circles already occupied by other discoverers and of the mining districts declared opened to public working.

It is forbidden to make any excavations (1) within the grounds of works of public utility; (2) in the roads and pathways and in their dependencies; (3) within a zone of 50 meters (164 feet $0\frac{1}{2}$ inch) around works of art; (4) within burial places and within a zone of 10 meters (32 feet 9.1 inches) around; (5) upon lands fenced in by walls and within a zone of 50 meters (164 feet $0\frac{1}{2}$ inch) around any houses and wells and of 10 meters (32 feet 9.1 inches) around any inclosures, without special authorization of the owner.

On uninclosed property, if the proprietor of the soil opposes the excavation, the same can not be undertaken but under authorization of the resident of the province.

ART. 7. The discoverer is responsible for any temporary or permanent damages sustained because of any excavation by the lands or husbandry. All damages of this nature give cause for an indemnity in double the accruing injury.

The competent judge shall be the justice of the peace whenever the dispute shall not have been raised wholly between natives.

TITLE III.—ESTABLISHMENT OF MINING DISTRICTS DECLARED OPENED TO PUBLIC WORKING.

ART. 8. Every prospector who has discovered a deposit outside of a declared mining district and who desires to work same must address on that subject a declaration to the service of mines at Tananarivo.

The declaration shall be recorded in a special register, with notation of the date and hour when it was received.

The service of mines shall proceed to an inquiry, in consequence whereof it will decide if there be cause either to declare one or more mining districts opened or to attach the discovered deposits to any of the already declared mining districts.

ART. 9. If one or more new mining districts are declared, the service of mines shall decide who are the persons that ought to enjoy, in each of said districts, the rights of discoverer as defined in article 11.

The service of mines fixes the dimensions and the rentals of mining lots (claims) in each district conformable to the following provisions:

Lots (claims) are divided into three classes:

(1) The lot in rich alluvions is a square 100 meters (328 feet 1 inch) each side; (2) the lot (claim) in less rich alluvions and in diamonds in rock is a rectangle 200 by 250 meters (636 feet 2 inches by 820 feet 2½ inches); (3) the lot (claim) in poor alluvions in deep placers and in lodes is a rectangle 240 meters by 1 kilometer (787 feet 4½ inches by 3,280 feet 10 inches). For each of these classes the monthly rental is fixed by the service of mines.

The rentals may be revised every two years in order to keep account of the ratio between the yield in gold, precious metals, or precious stones, which served as a basis for the previous fixing of prices and the actually proven yield during the last six months.

ART. 10. Each mining district is placed under the control of a commissioner of mines, whose powers are defined in articles 12, 15, 16, 21, 25, and 28 of the present law. The residents can be invested, by order of the resident-general, with the functions of commissioner of mines.

ART. 11. During the week which follows the installation of the commissioner of mines, the discoverers, nominated conformably to article 9, have the right to mark off for themselves, respectively, around the signals which they have set up and which they have described in their declarations, a number of contiguous lots (claims) which must not exceed eighty; the smaller dimension of the entire piece of ground must not be less than a quarter of the larger one. One of these lots (claims) which the discoverer has the right to designate will be exempted from rental for ten years.

ART. 12. During the three weeks following, the commissioner of mines will designate what sections of the mining district shall be placed under the different lot (claim) classifications. On the thirty-first day after his installation, he will declare that the mining district is actually opened to public working.

ART. 13. Anyone, other than the discoverer, who desires to obtain any mining lots (claims) must apply to the commissioner of mines for a corresponding number of permits and deposit the first month's rental thereon. The number of permits that can be granted to the same person can not exceed ten.

The application will be recorded in a special register, with notation of the hour and date when it was filed.

The permit is issued, according to the order of record, within the briefest delay. It contains mention of the date and hour of its issuance. Nevertheless the prospectors who shall have set up a prospecting signal within the mining district prior to the date of the first declaration of its opening have right of priority over other applicants.

ART. 14. Anyone provided with a certain number of permits of any of the three classes has the right to peg off an equal number of contiguous lots (claims) of that class within the regions designated therefor by the commissioner of mines. Any lot (claim) or group of lots (claims) belonging to the same person must have the boundaries established by stakes of a diameter of at least 5 centimeters (1.9685 inches) and extending above the soil at least 1 meter (39.37 inches). They can not be further than 25 meters (82 feet 0¼ inch) apart for lots (claims) of the first class, nor further than 50 meters (164 feet 0½ inch) for lots (claims) of the second and third classes. The corner stakes, of a height of 2 meters (6 feet 6¼ inches), must bear a placard indicating, in the French language, the number of lots (claims), the name of the occupant, the date and hour of the issuance of the corresponding permits, and the date of the location. Every lot pegged off must be declared to the commissioner of mines and will receive a class number, which must be inscribed upon the placards of the four corner posts.

ART. 15. If a contention arises between miners on account of the pegging off of a lot (claim), the contest must be brought before the commissioner of mines, who settles it, taking into consideration the seniority of date of the titles which he has delivered and the rights of priority which result therefrom. The pieces of ground which remain unoccupied between

the lots (claims) and whose dimensions are less than those of a full lot (claim), may be assigned to one of the occupants of the neighboring lots (claims) on condition that he takes out a special title for each such piece.

In case of rivalry for the assignment of these pieces of land, the commissioner of mines must proceed to sell same by auction to the holders of the contiguous lots (claims); the bids must be for a sum, to be immediately paid in, in excess of the rentals.

TITLE IV.—THE RÉGIME OF THE MINING DISTRICTS DECLARED OPENED TO PUBLIC WORKING.

Section I.—Duties and obligations of holders of mining lots (claims) toward the State.

ART. 16. If the holder of a mining lot (claim) fails to pay in advance the corresponding monthly rental, a delay of five days will be granted him; after this delay, the commissioner of mines will cause its sale at auction to be announced for the twenty-fifth day following, up to which date the miner has the rights to prevent the placing of his lot (claim) on sale by paying the rental due and a fine of 2 francs (39 cents) for each day of delay, failing which it escheats to the profit of the State.

In case no sale is made, the pegs are removed from the lot (claim) and the ground becomes again vacant.

ART. 17. Any miner can abandon his lot (claim) and peg off a new one on condition of making declaration thereof to the commissioner of mines. Abandoned lots (claims) are put up at auction in the before said manner.

ART. 18. Every lot (claim) is transferable; the new holder must provide himself with a corresponding permit. No transfer is valid prior to the date of its registry by the commissioner of mines.

ART. 19. On each sale a transfer duty is due of 4 per cent on the purchase price.

All titles issued by mining associations are subject to a transfer duty of 1 per cent for personal titles and an annual subscription duty of four-tenths of 1 per cent for titles to bearer.

Section II.—The registry of lots (claims).

ART. 20. The registry of the lots (claims) secures the following advantages:

(1) The registered lot is a fixture.

(2) Registered lots (claims) can be hypothecated like ordinary real estate. The registry of the mortgages must be made at the office of the commissioner of mines; the registration fee is 10 francs (\$1.93) per lot (claim).

(3) By derogation of article 16, the delay, after which the commissioner of mines must issue process for the payment of the rent, is extended to six months; if, after a delay of three months, the rentals due are not settled, the lot (claim) will be sold at auction; but the State can only deduct from the amount realized by the sale the rentals due and a fine of 50 francs (\$9.65), the residue being returned to the original holder.

ART. 21. Any miner can have his lots (claims) registered. The application, which will give cause for the collection of a fee of 5 francs (97 cents), will be examined within three months by the commissioner of mines. Before the end of the first month a notice designed for (general) information will be published within the mining district, at petitioner's expense, by means of posted placards.

A plat of the lot (claim) or group of lots (claims) must be drawn up at petitioner's expense. Contests may be set up by payment of a fee of 5 francs (97 cents). The three months' delay having expired, if no contest has been set up, the lot (claim) will be recorded in a special book and a certificate delivered to the applicant. The recording fee is 100 francs (\$19.30) per lot (claim).

If a contest has been set up, the litigation must be brought within a fortnight before the French tribunal of the district.

No lot (claim) can be recorded as long as there are any rentals or fines due upon it.

Section III.—Concessions.

ART. 22. Associations established for the working of mines can claim the conversion into concessions of each group of contiguous lots (claims) which they hold, on condition of having previously obtained the resident-general's approval of their corporation articles.

The formality of application and inquiry are the same as those provided for in the preceding article for the registry of lots (claims), except that the application is examined by the chief of the service of mines and that the publication includes, besides the posting of placards in the mining district, its insertion in the Official Journal of Madagascar.

Each concession must have a surface extent not smaller than 50 hectares (123.55 acres) or larger than 2,000 hectares (4,942 acres); the same association can not obtain more than ten concessions within the compass of the island.

ART. 23. The conversion of an ensemble of lots into a concession secures—

(1) All the advantages attaching to the registry of lots (claims), under the reservation that transfers of the concession shall be subject to the authorization of the resident-general.

(2) The right to choose between the surface rental established for lots (claims) and a special fiscal system, consisting of an annual surface tax equal to one-tenth of the monthly tax established for lots (claims) per hectare (2.471 acres) per year, and of an ad valorem tax of 5 per cent on the material extracted, to the extent of a total contribution equal to the half of the full surface tax. The fixed tax can not nevertheless fall below 5 francs (97 cents) per hectare (2.471 acres) per year.

ART. 24. The surface tax special to concessions is payable yearly in advance; the ad valorem tax is payable yearly, three months at the most after the expiration of the year upon whose production it is assessable.

The concession grantee must keep the books which are enjoined upon him by the administration for the purpose of controlling the production.

If one of the two taxes is not paid at due date, the procedure and consequence will be the same as that established by article 20 for registered lots (claims).

If the auction does not result in a sale, the concession is annulled and the ground can be again divided up into lots (claims).

Section IV.—Duties and obligations of those working mines toward third parties.

ART. 25. The ownership of the mine is distinct from that of the surface.

In the interior of every mining district, those who work mines have the right of establishing roadways and of using those which are established, to turn water courses and make canals, to cut timber, to occupy the ground inside and outside of their mining lots or concessions. In case of complaint by the proprietors or of the other miners, the performance of these operations will be made subject to an authorization from the commissioner of mines; in the carrying on of excavations, the limitations of article 6 must be observed.

Taxes concerning rights of way, water rights, timber rights, and the occupation of ground on Government lands will be made, under proposal of the commissioner of mines, the object of tariffs, confirmed by the resident-general after notice from the director of domains.

ART. 26. Every miner is responsible for the temporary and permanent damages caused by his mining to the owner of the soil and to other miners. All temporary and permanent damages sustained by the lands or husbandry because of that mining gives cause for an indemnity in double the accruing injury.

The competent judge shall be the French judge whenever the dispute shall not have been raised wholly between natives.

Section V.—The traffic in gold, in the other precious metals, and in precious stones.

ART. 27. The traffic in gold, in the other precious metals, and in precious stones in a rough state can not be carried on but by means of the payment of an exceptional license fee of 1,800 francs (\$347.40) per annum.

Miners who sell the product of their mines are not to be regarded as carrying on traffic.

Every trader in the before-named materials must keep the books which are enjoined upon him by the administration and hold them at the disposal of its appointed agents, who shall affix their "visas" thereto.

TITLE V.—PENALTIES.

ART. 28. Infractions of the provisions of the present law shall be denounced and verified the same as infractions in affairs of police. The commissioners of mines are officers of the police judiciary within the compass of their mining districts.

ART. 29. The procès-verbals against the offenders shall be drawn up by the officers of the police judiciary or be in their hands, confirmed under oath by the agents of the public force, within a month's time.

ART. 30. The procès-verbals shall, according to the situation of the places, be addressed in original to the public prosecutor attached to the tribunal of the first instance, or to the officer of the public administration attached to the justice of peace, with extended jurisdiction, who will be obliged to prosecute the offenders of his own accord before the correctional sittings of the bench, without prejudice to the damages of the parties.

ART. 31. Fines of from 5 to 100 francs (97 cents to \$19.30) and imprisonment for from one to five days may be imposed for infractions, other than those hereafter defined, of the provisions of the present law.

ART. 32. By a fine of from 100 to 1,000 francs (\$19.30 to \$193) and imprisonment for from one to five days are punished—

(1) Those who, without permits, engage in prospecting.

(2) Concession grantees and traders in precious substances who do not keep their books in a regular manner or refuse to show them to the agents of the administration. In the latter case, forfeiture of any precious substances seized will always be declared.

ART. 33. By a fine of from 100 to 1,000 francs (\$19.30 to \$193) and imprisonment for from fifteen days to two years are punished—

(1) Those who, in an unlawful way, set up, destroy, or displace prospecting signals.

(2) Those who, in an unlawful way, peg off or remove the pegs from off lots (claims).

(3) Those who falsify the dates inscribed upon their permits.

ART. 34. By a fine of from 1,000 to 25,000 francs (\$193 to \$4,825) and imprisonment for from three months to three years, are punished those who, without permits, engage in the mining of precious substances, or, without licenses, in the traffic in such substances. The same penalty is applicable to those who carry on the trade of buying precious metals or precious stones in a rough state from a person not provided with a working permit or a selling license. The forfeiture of any substances seized will always be declared.

ART. 35. The misdemeanors provided against in articles 31, 32, 33, and 34 are given over to the French jurisdiction. Malagasy jurisdiction takes cognizance only of cases wherein no European* is implicated.

ART. 36. In every case where the penalty of imprisonment and that of a fine are provided for by the present law, if there are any extenuating circumstances, the tribunals are authorized, even in the case of repetition of the offense, to reduce the imprisonment to even below six days and the fine to even below 16 francs (\$3.09); they may also pass sentence for one or the other of these penalties separately, but without such penalty being in any case below those of a police court.

ART. 37. Fines, as well as rentals and fees, are payable either in French specie or in rough gold, at the minimum standard of 90 per cent, valued at 2.70 francs (52 cents) per gram (15.432 grains).

* Malagasy text says "Vagaha" (foreigner); French text says "European."

UNITED STATES VERSUS ARGENTINE TOBACCO IN GORÉE-DAKAR.

In a former report, I took occasion to explain how American commerce in this part of Africa is in a very languishing condition, largely occasioned by the high-tariff policy, which practically almost excludes goods of American manufacture from those very extensive districts of the African continent which are now occupied or claimed by the French. French manufacturers, with the advantage of numerous subsidized steamship lines and a discriminating colonial duty of 7 per cent in their favor, have already crowded from this market nearly all goods of American production which can, with any sort of facility, be manufactured in France, and left the United States with only a mutilated indirect trade in staples which other countries have not hitherto produced to the same extent, such as tobacco, petroleum, and yellow-pine lumber.

Leaf tobacco from Kentucky and Tennessee has hitherto been the most important article among these staples, and the sales for quite a long period have amounted to thousands of casks annually. Owing, however, to the lack of shipping facilities in our home ports, the bulk of this and of the other articles of merchandise has been shipped here of late through European ports at an enormous expense, including storage in Europe, cost of transshipment, extra freight, extra insurance, shrinkage and loss of interest occasioned by delay, and commissions.

It is now seriously proposed to replace in the West African markets this large quantity of high-cost tobacco, which, notwithstanding the disadvantages of the long route, is still furnished from the United States, by tobacco from Argentina, which, besides having cheap and direct transit by French subsidized steam lines in its favor, will in part pay for the valuable manufactured goods which are exported from France to Argentina, and thus facilitate the dealings of the two countries with each other, but, of course, to the prejudice of the already existing foreign commerce of the United States.

I inclose a copy of an official letter, with the translation, on this subject. It is from the governor-general of French Northwest Africa to the president of the chamber of commerce at Gorée, which, besides indicating the situation as I have described it, gives the price at which it is proposed to sell the tobacco (about 6½ cents per pound) delivered here; and if it is found to answer the purpose, Kentucky and Tennessee tobacco, which costs, with the great expense of transit, much more, will have no further chance in the West African market.

I have not yet seen samples of the tobacco which it is proposed to export here from Argentina, and can not, therefore, give an opinion as to how imminent the danger is of a destructive competition from this quarter. I only

know that Argentina has been very successful in competing with breadstuffs and with meats, that the Corrientes district is in the right latitude for tobacco raising, and that the advantages of freight and exchange are in favor of Argentina. Not less than five large French steamers arrive at Gorée-Dakar every month from the Rio de la Plata.

GORÉE-DAKAR, *August 31, 1896.*

P. STRICKLAND,
Consul.

[Translation.]

MR. MATHIVEL TO THE GORÉE CHAMBER OF COMMERCE.

ST. LOUIS, *July 20, 1896.*

MONSIEUR THE PRESIDENT: The department, by a dispatch dated the 7th of the present month, informs the governor-general of Senegal and dependencies that Monsieur M. A. Frias, who lives on the Avenue Champs Elysées, in Paris, offers to the merchants of West Africa tobacco produced in the province of Corrientes, Argentina, delivered at a port of discharge in Africa, at the price of 750 francs per ton (about 6½ cents per pound)—tobacco which he believes would be preferred to other by the natives of West Africa.

I have the honor to request that you will bring this offer to the notice of the chamber of commerce at Gorée.

Very truly yours,

A. MATHIVEL.

RESTRICTION OF AMERICAN MEATS IN SWITZERLAND.

I was informed recently that the sale of American provisions, such as bacon, hams, sausages, etc., had been prohibited in Switzerland. Upon inquiry, however, I learned that this prohibition emanated from the Zurich cantonal authorities and applied to that canton only. To get at the real facts of the case, I addressed a communication to the cantonal government who, through the cantonal health department, answered my inquiry.

It seems that a concern in Basle is importing American salted beef and pork (as sides, hams, etc.) in the brine, and after being smoked by said concern, these are offered to the trade in quantities to suit by the issuance of circulars and price lists. Local dealers, I am convinced, fearing competition, have complained to the authorities.

Having found by experience that Italian salamy and other fine grades of sausages were sold at exorbitant figures in this market, and knowing that the same line of goods of an equal quality were manufactured and sold in America and could be laid down here at a much less figure than the Italian, I induced a Zurich house to make a trial. After ordering and receiving a 200-kilogram (481.2 pounds) trial shipment of salamy from Chicago, and disposing of the same promptly at a good profit, but at a much lower figure than the European article is sold for, he was getting ready to order a larger second invoice when the authorities, no doubt upon complaint of some local competitors, issued a circular to the health officers reminding them of the existing ordinance and requesting its strict enforcement.

I am aware that borax is sometimes used in the curing of meats to give the article a bright color, but it is not used in quantities large enough to become injurious to the consumer; further, the assertion that borax is used by American packers to refresh tainted meats is preposterous. At any rate, our packers' attention should be called to this, so they may have a chance to explain, and no meat product should be shipped to Switzerland without being first examined and stamped officially by the proper United States Department of Agriculture's meat inspectors, to conform with the Swiss requirements.

EUGENE GERMAIN,

ZURICH, *December 7, 1896.*

Consul.

[Translations.]

HEALTH OFFICE OF THE CANTON OF ZURICH,

Zurich, December 2, 1896.

Hon. EUGENE GERMAIN, *United States Consul, Zurich.*

Answering your favor of this date, we have the honor to inform you that no regulations have been made by the cantonal authorities with a view to restrict the importation and sale of foreign meats, and, as you state, especially aimed at American-cured meats, within the limits of the canton of Zurich. We, however, require that imported meats must, like the domestic product, be subjected to the existing sanitary police inspection.

On December 16, 1893, the government council prohibited the use of any chemicals except salt and saltpeter in the curing of meats and its products intended for sale and consumption in this canton. Of late, extensive importations of American meat were made, and more, we are informed, are on the way. It is an established fact that this meat has been treated, in some cases excessively, with borax. This treatment is in direct violation of our cantonal government ordinance dated December 16, 1893, and we therefore have issued a circular to the competent authorities, dated October 28, 1896, requesting the strict enforcement of above-cited ordinance.

KERN.

DECREE OF THE GOVERNMENT COUNCIL OF THE CANTON OF ZURICH, PROHIBITING THE USE OF CHEMICALS IN THE PROCESS OF CURING MEATS, DATED DECEMBER 16, 1893.

The government council, on motion of the cantonal health officer, decrees:

- (1) The use of chemicals, except salt and saltpeter, in the curing of meats and its products, intended for sale in this canton and subject to its sanitary regulations, is prohibited.
- (2) The health office shall be informed of this decision.

STUESSI,

Secretary of State.

CIRCULAR ADDRESSED TO THE LOCAL HEALTH OFFICERS FOR THEIR GUIDANCE AND THAT OF THE MEAT INSPECTORS.

S. Mory, of Basle, an importer of salted and cured meats, has circulated a price list among the butchers and dealers in provisions in this canton, offering several qualities of cured beef and pork, some of which is intended for the manufacture of sausages. The merchandise is of American origin.

In view of this fact, we request the local health authorities and the inspectors of meat to exercise special care in examining meat and meat products of foreign origin.

According to paragraph 18 of the cantonal regulations regarding the slaughtering of neat cattle and the sale of meat, dated June 17, 1882, meat imported from one township to another,

from another to this canton, or from a foreign country, must be accompanied by a meat inspector's certificate, and the meat itself must bear the inspector's official stamp. We are not aware in what manner meat is inspected in foreign countries, and especially how it is done in America, but it is a fact that imports of American origin show no sign of an official examination, bear no official stamp, and are mostly treated with borax and other bore preparations. The bore preparations have the property to restore meat already in course of decomposition to a fresh-looking appearance, and if eaten in great quantities or continuously are endangering the consumers' health.

The use of bore preparations for the preservation of meat and meat products is in direct contravention of the government council's decree dated December 16, 1893, which runs as follows:

"The use of chemicals, except salt and saltpeter, for the curing of meats and its products, intended for sale and subject to sanitary inspection, is prohibited."

It is clear that our regulations for the inspection of meat do not refer alone to cattle slaughtered within this canton's territory, but they are also binding and to be applied to meats of foreign origin consumed in the canton. The importers must conform thereto.

The health officers are therefore requested to inspect carefully the foreign imports, especially meat products of American origin, to require the production of a health certificate with each shipment, and see that the articles are lawfully stamped as prescribed.

If such certificates are omitted and if the use of borax or other chemical preparations are discovered in the meat, the shipments must be condemned and returned to the shippers, and if the inspection shows that the meat is in a decaying condition, it shall at once be confiscated and destroyed.

KERN.

ZURICH, *October 28, 1896.*

SWISS TRADE WITH THE ARGENTINE REPUBLIC.

The Swiss legation at Buenos Ayres has sent an elaborate report on the commerce of the Argentine Republic for 1895 to its Government. Our consul at Buenos Ayres, Mr. E. L. Baker, has already reported on the trade of that country during 1895.* I will therefore confine myself to translating that part of the report which shows Switzerland's direct commercial relation with the above-named country, because, in my opinion, it might serve to post our manufacturers as to what Switzerland can supply and induce them to make an effort to compete successfully in the same lines.

The Swiss exports and imports to and from the Argentine Republic for the years 1894 and 1895 were:

Description.	1894.	1895.	Increase.
Exports	\$1,014,044	\$1,045,685	\$31,641
Imports	553,253	656,059	102,806

IMPORTS OF THE ARGENTINE REPUBLIC FROM SWITZERLAND.

Shoes.—The imports of fine shoes of Swiss manufacture have somewhat increased, being \$48,958, as against \$47,794 in 1894. This increase is of little importance considering the amount proper, but it shows that the con-

* Report of Consul Baker printed in CONSULAR REPORTS No. 187 (April, 1896), p. 456.

tinuous decline of the past few years in the imports of this article has come to an end, and this favorable change is due to a reduction in the customs duties and the decline of the gold premium.

Watches.—During last year, the import duties on certain categories of watches were advanced, but in spite of this increase the import of Swiss watches was higher in 1895 than in 1894, being \$134,337 for 1895, as against \$124,356 for 1894. The official statistics of the Argentine Republic, however, show a decrease in the import of watches of about \$50,000, but as Switzerland supplies about 99 per cent of the entire imports, there must be an error somewhere in the Argentine figures.

Machinery.—The decline in the imports of this article continues, the value for 1895 having fallen to \$50,988, as against \$91,534 in the preceding year. Among the imports I note \$16,685 worth of milling machinery (\$22,052 in 1894), \$3,840 worth of steam boilers (\$8,820 in 1894), and \$40,463 worth of other machinery (\$60,664 in 1894). This retrograde movement is due to two successive crop failures and to the crisis prevailing in both the milling and the sugar industries, and has not only affected Swiss exports, but those of other countries as well.

Cheese.—Imports of this product continue to increase in value, and show a total of \$23,882, as against \$20,236 in the preceding year. The imports in that line increased sixfold in five years, and if the present import duty of 20 cents per kilogram (2.2 pounds) remains unchanged, a steady improvement may be safely expected. Swiss cheese of first quality is very much appreciated by the Argentine people and the local competition, which is formidable for other milk products, does not affect this trade. Swiss cheese, carefully packed, arrives generally in good condition, and exporters must only take care to forward their product so as not to reach destination during the excessive summer heat, that is, during the period from December to March. Packing cheese in zinc lining is highly recommended.

Tobacco, cigars, and cigarettes.—Swiss products of this class were imported in about the same quantity as in 1894 (\$80,578, against \$81,598). Imports of Swiss leaf tobacco have decreased from \$26,788 to \$20,398, while cigars and cigarettes increased from \$54,810 to \$60,180. This increase is not so high as it should be, compared with the total increase of cigar imports (about \$1,000,000), which is the more surprising because the very qualities which are manufactured in Switzerland have most profited by this improvement.

Swiss paper.—This import to the Republic decreased by 25 per cent compared with 1894.

Cotton yarns and weavings.—These have jumped from \$35,000 in value to nearly \$200,000, nearly all grades sharing equally in the increase. A prominent manufacturer of knit goods having made a trial with Swiss cotton yarns is well satisfied with the quality and pronounces it superior to the English article. He will now continue to purchase in Switzerland on a larger scale. A good business could be done here in colored tissues and heavy colored yarns, as well as in heavy printed tissues.

Embroideries, etc.—Of Swiss embroideries, \$140,000 worth was imported, which is about the same figure as in 1894.

Silk goods.—These declined from \$280,000 in 1894 to \$240,000 in 1895, the decrease affecting almost exclusively all-silk goods. A slight improvement is noticed in elastics, that is, from \$33,612 in 1894 to \$40,576 in 1895, while imports of Swiss knit goods have somewhat decreased.

Miscellaneous.—Among the other principal articles of imports into the Argentine Republic from Switzerland may be cited liquors, chocolate, colored photographs, pianos and organs, straw braids, confectionery, etc., all of which are very much favored. Still, their superiority over other foreign products command naturally higher prices, and, in consequence of the late crisis, as people look for cheap goods, competition is pretty sharp.

TRADE OUTLOOK.

The Argentine Republic, which has more than doubled its population during the last twenty-five years, is playing an important rôle on the world's market, both as seller and consumer. Buenos Ayres, its capital, the population of which will soon attain a million, one of the principal ports of the world, is about to become the commercial center not only of the Republic itself, but of a vast territory tributary thereto, and its importance will rapidly grow as soon as the railway over the Andes is opened to traffic. The country has, no doubt, a great future, and it is quite natural that the great commercial nations of the world leave nothing undone to keep up close commercial relations with this State.

ARGENTINE PRODUCTS IN SWITZERLAND.

During 1895, Switzerland imported \$656,059 worth of products from the Argentine Republic, the principal articles being: Wheat, 1,918 metric tons (of 2,204 pounds each); flour, 79 tons; corn, 9,347 tons; wool, 453 tons. Besides this, Switzerland imported direct sheep, leather, horsehair, leaf tobacco, and oats. Direct purchases from the Argentine markets save commissions, which are often onerous, and must consequently be highly recommended.

EUGENE GERMAIN,

ZURICH, *September 17, 1896.*

Consul.

NONALCOHOLIC LIQUORS IN SWITZERLAND.

Two concerns, one in this city and the other in Berne, have opened factories for the manufacture and sale of unfermented, nonalcoholic fruit and grape wines. Both houses are now in the market with this year's product, offering it in large as well as in small quantities to the public. Persons taking an interest in the production of this nonintoxicating liquor have requested an opinion from the manager of the Swiss agricultural experimental station, located at Waedensweil, in this canton. In order to reach every-

body, Professor Mueller-Thurgau, the superintendent of the station, has addressed a communication to the public through the press, a translation of which follows :

In view of the fact that a great number of people, outside of the ranks of total abstinence and temperance societies, are desirous of obtaining a beverage free from alcohol in place of alcoholic wines, and my opinion having been asked for on the subject, I now beg leave to state, for the benefit of whom it may concern, that it has been established beyond any doubt that fermented cider and wines can be replaced by fruit and grape juices entirely free of alcohol and of good palatable and keeping qualities.

This experimental station has made it a study to discover a process by which fruit and grape juices could be produced without the aid of fermentation, would keep any desired length of time, taste well, contain no alcohol whatever, and replace fermented wines and ciders. There are, of course, several methods to obtain this result, but one only has proven practical in our tests. It is well known that fermentation of fruits and grapes is caused by certain microbes (microscopic fungus) which exist already in the fruit before the crushing process and rapidly increases thereafter. It is also well known that by fermentation the sugar is decomposed and one of the products of its decomposition is alcohol. If, therefore, the microbes are killed in time, the fermentation is prevented, the sugar will not decompose, and no alcohol will be produced.

The sterilization of fruit and grape juice, that is, the annihilation of the microbes which cause fermentation, must, of course, be attended to before the latter have time to produce alcohol, which, in warm weather, occurs a few hours after the juice is extracted. Further, care must be taken that no other fermentation organisms contained in the air find their way into the juice, and if the process has been carefully observed, no alcohol will form and such juices will keep for years thereafter. In order to prevent the nonfermented wines from getting a cooked flavor, the heating process must be moderate. Minute examinations have shown that it suffices to heat the juice to a degree of 60° C. for fifteen minutes in order to kill the microbes contained therein. In order to obviate failure, it would be well to push the heating a few degrees higher and increase the time somewhat (say three minutes), not forgetting, however, that the liquor itself must reach the above-indicated temperature. The juice can be clarified, and is then ready for consumption.

It may be stated here that these nonfermented wines can not in any way be compared with fermented wine or with any other nonalcoholic beverages. The nonfermented wines contain a considerable quantity of nourishment. Not only do they contain more albumen, but also a considerable quantity of saccharine (1 liter of nonfermented grape juice, for instance, contains 150 to 200 grams of sugar), and just the kind of sugar most beneficial to the human body. These beverages are consequently not only table luxuries, but also a food product, and their manufacture enables us to keep in their natural state the juices of fruits and grapes, so important and useful to our health, and to have them at our disposition the year round.

EUGENE GERMAIN,

ZURICH, *October 14, 1896.*

Consul.

CALIFORNIA FRUITS IN EUROPE.

In the New York Sun of September 18, 1896, I find an interesting article on California fruits in England, from which I copy the following :

ANOTHER YEAR OF DISAPPOINTMENT FOR GROWERS AND SHIPPERS.

The shipments of California fruits to London this year began about the middle of the month of July, when a consignment of 4,000 boxes of pears and plums from Sacramento was

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transported over sea in the American Line steamship *St. Louis*. English buyers had been rendered cautious by their experiences in other years, and the prices obtained for the fruits in the London market were unsatisfactory to the sellers. Complaint was made that some of the boxes were damaged and that both the pears and the plums were too small to command good prices. The average selling price of the pears, which were Bartlett's, was from \$1.32 to \$1.92 per box of 50 pounds and the plums were sold for \$1.80 per crate. Making allowance for freight, insurance, and cost of handling, the prices realized were lower than those then prevalent here.

At the sale in London on the last day of July, the pears brought \$1.38 to \$1.80, while the plums brought \$2.28, an advance upon the price at the previous sale. Two weeks later, a consignment of 10,000 half cases from California, consisting of peaches, pears, and plums, arrived in London. They were of superior size and quality and in fine condition. Nevertheless, the selling price was very low. The peaches ranged from 84 cents to \$1.56, the plums from 72 cents to \$1.94, William pears from 72 to 84 cents, and Hardys were disposed of at \$1.44. Large lots were taken by German and Russian buyers. It was said that prices were depressed on account of the abundance of French and English fruits on the London market.

The fourth consignment, which consisted of 4,280 half cases, was offered in London on August 21. The prices were again poor, buyers declaring that the fruits were overripe. Pears, 78 cents to \$1.32; peaches, \$1.08 to \$1.68; and plums, \$1.26 to \$1.40.

A week later 5,000 half cases arrived in London from California. Prices were even lower than in the previous week, though the fruit was in good condition. Peaches, 72 cents to \$1.24; pears, 48 to 84 cents; plums, 48 cents to \$2.04 for very superior quality. There were again great quantities of French and English fruits in the London market.

In the first week of the present month of September a consignment of 5,000 half cases from California was put up at auction in London. The prices realized were better than at the previous week's sale, owing to a scarcity on the market. Peaches, \$1.08 to \$1.32; pears, 90 cents to \$1.32; plums, \$1.74. All the fruits were excellent, excepting a lot of Cleigean pears, which were small and hard and brought only 78 cents.

The reports of later sales are not at hand. The prices obtained at the several sales since the first consignment was delivered in July have certainly been discouraging to the California fruit raisers, as also to the exporters. Last year's prices were poor, and this year's prices also have been poor.

Much more money has been lost than made in the exportation of California fruits to London. A number of determined capitalists, however, are engaged in the trade, and some of them expect better times in it hereafter. They are deserving of success.

It is difficult to see how the risks and the expenses of the transportation of the more perishable fruits across the American continent and the Atlantic Ocean can be greatly reduced. Within a few years, there has, indeed, been a reduction in the cost of carriage from Sacramento to New York, but the companies have refused to further lower their freights. Upon steamships of two of the Atlantic lines there are refrigerating compartments for the service of the fruit exporters, but they have proved less profitable than had been expected.

There is always a demand in England for good and ripe and red American apples, the crop of which this year in all the apple-growing States, including the State of New York, is immense. There might also be profit for the peach growers of the East in sending more of their crop abroad, as the peaches grown here can be taken to London in better condition than those from California. The peach crop of this season is especially bountiful, and yet, for some reason, the retail price to the consumer in this city is far too high for the encouragement of the trade in peaches. There ought also to be a large market abroad for Eastern-grown pears. The agricultural commissioner for this State has manifested an especial interest in the subject, and he recently advised fruit growers to send exhibits to the International Horticultural Exhibition which is to be held at Hamburg next year. In a report to the State Department at Washington, the United States consul at Zurich speaks of the success that has attended the

introduction into France of American prunes, and gives his opinion that the trade can be greatly enlarged in other foreign countries. The United States consul at the German city of Chemnitz has striven energetically to enlarge the demand for American fruits, especially apples, in Germany, but he has not been sustained in a proper way. * * *

In the above, I notice that a number of determined capitalists are engaged in the trade and some of them expect better times in it hereafter.

Let me say, right here, that I have an idea that these capitalists are not fruit growers or dealers, and they have no money invested in fruit growing or in fruit shipments, except so far as their interest in transportation is concerned. They are either interested in the transportation business—and as the freight charges on every pound of fruit shipped from California have to be guaranteed, they are running no risks whatsoever, even should the fruit have to be dumped upon its arrival at the other end of the line—or else they are men handling the fruits on commission for the growers, and they, also, are secured against any loss, for the grower, should the fruit not fetch charges and commissions, has to foot the bill of losses.

Thirty years' experience in the trade of California fruits and products has taught me that the manner in which fruit is being handled in the United States, London, and other places can never prove anything but disastrous to the producers. These fruits are being consigned to parties whose only interest in them is the commission they earn.

Green fruits, being of a perishable nature, have to be disposed of on arrival at public auction and nothing prevents buyers of such commodities from combining and obtaining the fruits at their own figures. The consignee does not lay awake at night to find ways and means to guard against such combines, or, if the market is glutted with the same article on arrival of the fruit, to seek another market more profitable. He simply issues his catalogues, distributes them among would-be buyers, auctions off the fruits at a certain date, pays himself from the proceeds for advanced freight charges, commissions, and other incidentals first, and, if anything is left, remits the balance. But if, on the contrary, the fruit does not fetch the charges, which are enormous, he is secured and his draft for the deficit must be met on presentation.

No merchant, manufacturer, or grower has ever made any money by consigning his goods, as I call it, on a wild-goose chase, to strangers, and the longer he consigns, the nearer he will approach the poorhouse.

There are but two ways in which to dispose of products in Europe and obtain fair and sure returns therefor, and if any other method is resorted to, it will invariably prove disastrous. The first is to sell, if practicable, the products at home on a free-on-board basis and obtain the cash therefor on the spot. The other, especially in California products, to which I particularly refer, is for fruit growers to combine, appoint some men out of their own number who are personally and financially interested in the products to be shipped and send them to London, Hamburg, Paris, Berlin, and other important ports, and establish them there as their permanent resident agents. These men, as soon as they are advised by cable that shipments are on the way and of the varieties coming, must canvass the local market and at the same

time send subagents to inland towns to place the fruits so that they can at once be delivered or reshipped upon arrival; that is, green fruits should be handled in this manner. Dried fruits, which are of a less perishable nature, should be carried in stock the year round, and the trade supplied from the agencies in large as well as in small quantities at short notice. The agents, being on the ground, will keep in constant touch with the trade, remain posted on the supply and demand, and be able, at all times, to obtain full market prices for their wares. They will gather information as to crop prospects in other countries with which they have to compete and post their consignors from time to time as to what they may expect for their shipments.

They will also attend to collections and make prompt returns. There is no doubt in my mind but that Europe will take, at remunerative prices, all of our surplus stock of certain varieties of fruits, if it arrives in good condition, and the sooner we fall into line and do business as I suggest, the more quickly will we obtain a good permanent foothold abroad and receive fair returns for our products, the production of which can be enormously increased.

The Swiss industries have prospered—the industrials have become millionaires because they have adopted the right course in distributing their products. They have established branches, manned by their own people, at points all over the world, where the particular line of goods they manufacture or are dealing in has found a ready market. They supply these branch houses, are sure to be fairly dealt with, get returns for all the goods are sold for, and in this manner, can keep their factories going the year round. Not being posted at this end, they refuse to sell goods free on board shipping points in the currency of this country; they sell only at delivered prices, being continually kept posted by their branch houses, and in the currency only of the country in which the goods are delivered. The goods are consigned en bloc to their branch houses and by them billed, delivered, bills collected, and thus they obtain the full market values for their products on the markets to which they ship.

This city is a large manufacturing center. It is wonderful to see the substantial stone palaces and other modern improvements which have been built these last twenty years. Zurich has a population of 149,000, among whom, the tax lists show, are ninety-one millionaires. I can point out several of them having \$10,000,000 to \$25,000,000. How were these large fortunes made? Not by selling Swiss cheese or a few milch cows only, or from the large amount of money spent annually by thousands of tourists visiting this country, but by manufacturing goods and distributing them properly in the world's markets. What Switzerland and other European countries have done, the United States can also accomplish if similar means are adopted.

The great trouble and drawbacks the California green and dried fruits, honey, and other products have had to contend with, is that shipments were never properly distributed. Wholesale consignments, train loads after train

loads, were and are shipped East in season daily and dumped into Chicago, New York, and a few other of the principal Eastern markets. The consequence is that the markets have been and are being continually overstocked, and consignments slaughtered for what they will bring, often not realizing freight charges.

The supply and demand must always regulate a market, and it is, therefore, essential to increase the distributing points, scatter the shipments, and thus avoid sending to a market more than it can properly take care of. Hence, it is necessary for producers to organize, establish many distributing points over the home country and pursue the same policy in Europe. Local organizations working together, headed by a central State organization established on a good system and manned by the necessary force, can control the proper distribution of shipments, which one individual or a single local organization working independently can not do.

The United States can produce fruits enough to supply the world's demand if the stimulus of remunerative markets is provided. Its transportation facilities are unsurpassed, freight charges are reasonable, and the equipment of its railroads enables them to send shipments quickly to their destination. I notice in a recent paper received from California that the Southern Pacific Railroad has just issued a new through tariff on dried fruits from California terminals through to European ports, of which the following is a copy.

Through tariff on fruits from San Francisco, Oakland, San José, Stockton, Sacramento, Marysville, Los Angeles, and main-line intermediate points in California to the following-named points, per 100 pounds.

To—	In boxes.	In sacks.
London.....	\$1.10	\$1.30
Liverpool.....	1.10	1.30
Glasgow.....	1.15	1.35
Bordeaux.....	1.25	1.45
Havre.....	1.25	1.45
Hamburg.....	1.15	1.35
Bremen.....	1.15	1.35
Antwerp.....	1.10	1.30
Amsterdam.....	1.15	1.35
Rotterdam.....	1.15	1.35
Copenhagen.....	1.25	1.45
Stockholm.....	1.15	1.45

It is specified in the tariff that the rates are for each 100 pounds and in United States gold coin. Shipments of dried fruits in boxes or sacks, when shipped in mixed car loads, will take the car-load rate applicable to each. The rates apply only via the "Sunset" route to New York. The Southern Pacific will, on the rate quoted, arrange for the transportation by water from New York to the point of destination. This is done to encourage European shipments. I have no doubt but that the other transcontinental railroad companies will follow suit and grant similar privileges.

These charges are reasonable when we consider that nearly the same charges prevail for the same class of goods to eastern American markets.

Further, I think these charges cover marine insurance to destination, my opinion being based on the fact that all the Southern Pacific tariffs for shipments from California over the "Sunset" route via New Orleans and from there by steamer to New York include marine insurance charges.

With such a transportation tariff and a good European market for most of our California and Eastern dried fruits, if my suggestions are followed, I am convinced that our people will, by making proper efforts, find it to their advantage to push their surplus stock over here and sell it for what it is, and, as it should be, under its own labels and brands as the product of the United States, and not, as is now being done in some cases, as a European product.

EUGENE GERMAIN,

ZURICH, *October 7, 1896.*

Consul.

AMERICAN FRUIT IN GERMANY.

Thinking it may be of interest to our fruit growers, I have the honor to transmit herewith the translation of an extract from the Hamburgische Correspondent of November 16, 1896, entitled "American fruit in Germany."

W. HENRY ROBERTSON,

HAMBURG, *November 6, 1896.*

Consul.

[Translation.]

AMERICAN FRUIT IN GERMANY.

This autumn, the fruit crop in North America is so abundant that, up to date, over 600,000 barrels of fruit have already been shipped from the United States and Canada to Europe. At the same time in the previous year, the shipments to Europe amounted to only 40,000 barrels. Fresh fruit from America goes principally to England. Also, in Germany a large increase in the importation of American fruit is noticeable, but here, the importations consist principally of dried fruits, particularly evaporated and dried apples. Fresh apples, also, now arrive in large quantities. Up to the end of September of this year, 5,478,900 kilograms (12,053,580 pounds) of these had gone from the United States to Germany, against 2,897,700 kilograms (6,374,940 pounds) and 1,583,400 kilograms (3,483,480 pounds) in 1895 and 1894, respectively. The importations from the United States are to-day already greater with us than those from Austria-Hungary and Servia, which two countries have heretofore participated most in supplying Germany with dried fruits.

AMERICAN APPLES.

The efforts of United States consuls to introduce American apples into German markets have met with such success as even the most sanguine regard as unexpected. Six hundred thousand barrels, against 40,000 barrels for last year, have been laid down in Europe's docks. They are selling all

over the Empire at fair prices—\$3.50 to \$6 per barrel. They are meeting with such favor that the Empire's fruit-producing centers are alarmed. It is amusing to see efforts being made to sell the much inferior German apple at higher prices than are being asked and obtained for ours. The housewives here are having all they can do to get all they want. Car load after car load has come into Saxony to be bought up as soon as opened. The demand grows greater every day. If apples sent are all good and care is taken to keep them from freezing, there is no reason why a big business should not be done every fall—certainly, in every "big apple year." Pomologists here are putting their heads together to hold their own against the "invaders." The director of the Horticultural College in Friedberg delivered an address last week before a convention of fruit growers. While he confined himself to existing conditions in the Grand Duchy of Hesse, his address has gone all over Germany. Hesse alone has 7,000,000 fruit trees. Most of these were planted during the last twenty years. This encouraging increase is due to efforts made by the Upper Hessian Fruit-Growing Union. This organization supplements most satisfactorily all the good done by the schools. It has helped to carry into effect all that was urged by teachers; it has hired and sent out experts to aid the farming population; it has organized peripatetic fruit exhibitions, from which good results are recorded; it has helped sales by organized effort. The best and biggest factor, after all, in aiding Hesse in fruit raising is the Friedberg Horticultural School, with its 6 acres of young fruit trees and 4 acres of sample gardens and its 1,300 fruit trees. On the country roads are 7,700 fruit trees, giving, besides fruit, shade to 1,840 kilometers (1,150 miles) of roads.

The State gives annually 47,000 marks (over \$11,000) for the encouragement of fruit-tree planting. To this, must be added the work of ten thousand members in horticultural societies who spend at least 20,000 marks (\$5,000) more. What prospects await intelligent work in this direction is demonstrated by the recorded growth of fruit exports. There were sent out in barrels of double centners (212 pounds)—

Year.	Barrels.	Bottles.
1890.....	347	258
1891.....	439	1,138
1892.....	341	1,069
1893.....	447	1,644
1894.....	580	1,406
1895.....	923	2,645

West Africa took, in 1895, 1,915 barrels, against 991 barrels in 1894; East Africa took 859 barrels, against 203 barrels in the previous year. Belgium is the next biggest buyer. Fruit goes to Heligoland, Holland, England, Russia, Switzerland, France, and America. If properly, scientifically worked, there is every reason to believe that we can supply a large part of the world with the best fruits, raw and preserved. If intelligent efforts are

made, our apples must keep a place in this market. Neither Germany's nor Austria's best can compare with our Baldwins, Greenings, Kings, Spitzbergers, etc. The putting up and packing count a great deal in selling fruit. The barrels should be provided with a layer of straw at the bottom and top, and, if possible, along the sides. Then, too, if it does not take too much time and cost too much, each apple intended for export should be wrapped in paper.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *November 21, 1896.*

FRUIT CROP OF ITALY.

I have the honor to submit the following report on the Italian fruit trade of 1895-96, with prospects of the coming season, and beg to add that I am indebted to Messrs. F. S. Ciampa & Sons, of Sorrento, for the information contained therein. During the season of 1895-96, the quantity of green fruit exported from Sorrento to the United States may be approximately estimated as 150,000 boxes of oranges and 25,000 boxes of lemons.

The orange crop having turned out short, shipments to the United States were in moderate quantity and met with a good sale at fair prices, notwithstanding the fact that buyers on this side had to pay high rates.

The speculation in lemons resulted in a heavy loss to exporters from Sorrento and other Italian markets. This was due to the enormous shipments of Sicilian lemons, the majority unsound, which ruinously depreciated the market. These shipments were promoted by the large advances many firms in the United States made to Sicilian shippers in order to secure their consignments.

It is high time that this risky system of advancing money should cease, because it encourages dishonesty and acts injuriously on sound commerce. The exhaustive reports on this subject from our consuls at Messina and Palermo abundantly point out the ruinous losses that have been incurred by our countrymen through this system. Those who trade with other people's money have little or no interest in shipping good fruit, but look rather to the quantity, as the more they send, the more advances they receive.

With such methods of business, honest shippers of experience and reliability employing their own capital have no chance for competition and are bound to be sacrificed, as happened last season, when so much inferior fruit was thrown on the market.

There is great damage also done to the trade by the irregularity of the steamer service. Arrivals at New York ought to occur at regular intervals, as do the departures from Italy; instead of which we have "tramps" at twenty-five days, other steamers at fifteen to twenty days, and the fastest at ten to twelve days. In this manner, the last steamer often arrives about the same time as the first and consequently the market is glutted by the

large number of simultaneous arrivals. It would be of great advantage to the trade if the number of fast steamers were increased, as they would be preferred by the shippers and insure arrivals at regular intervals.

SEASON OF 1896-97.

The outlook for the new crop of Sorrento oranges promises well both as regards keeping, quality, size, and color. The quantity may be estimated at about two-thirds of an average crop. The "first cut" commenced on the 15th of November and the opening prices are the same as last year, averaging from 6 to 8 lire (\$1.15 to \$1.54) per box here. The first shipments are now being made by the fast steamers to reach New York for the Christmas trade.

The new crop of lemons exceeds that of last year and the quality is very fine. No estimate can be given of prices, as the gathering begins in May. The importation of American shooks, for making fruit boxes, from Bangor and Calais has developed enormously. The quantity imported and forthcoming both in Sicily, Sorrento, and Rodi may be taken as—tops, bottoms, and sides, 4,500,000 boxes; complete boxes, 300,000; total, 4,800,000 boxes. It is certain that this enormous quantity can not be exhausted in twelve months, owing to the strong competition of Trieste and Fiume in Austria, which causes holders of American shooks to sell at a loss.

The crop of walnuts this season, which promised to be large, has turned out inferior to last year, but the quality is, as usual, very fine. Opening prices were lower than last year, which facilitated exportation, but stocks unsold are now very limited and prices have increased 25 per cent.

The crop of long filberts is inferior to last year, but the quality is excellent at prices higher than before; exportation, in consequence, has been moderate. Long filberts are not grown in Sicily. They are dearer than the round variety and may be considered a specialty of this part of the country.

HENRY G. HUNTINGTON,

*Commercial Agent.*CASTELLAMARE DI STABIA, *December 1, 1896.*

ABUSES IN ITALIAN FRUIT SHIPMENTS.

I have the honor to send you herewith a clipping from the *Corriere di Catania*, with translation, in which is reprinted a circular letter of recent date from a fruit-importing house in Hamburg, Germany, regarding the bad practice of shipping enormous quantities of lemons which are entirely worthless for anything, and the effect upon prices even for good fruit shipped by honest shippers.

I have thought this to be of interest, as of late there has been a great deal said about this subject by the American fruit journals, and a pointed article

appeared in the September number of CONSULAR REPORTS from our consul at Messina, wherein he goes to the bottom of the evil and gives warning to American importers and bankers.

I am glad to say that this unprincipled shipping of bad fruit to the United States does not exist here in the measure it does at Messina and Palermo. There are fewer shippers here, and most of them I consider honorable and fair minded. Inspection, however, is a necessity, not only for the protection of the purchaser, but also to secure to the honest packer and shipper at least a reasonably fair market and just prices. Not only the enormous quantities, but chiefly the poor qualities shipped by unscrupulous parties have ruined the lemon market not only in the United States, but in other countries also.

THE ORANGE AND LEMON TRADE IN HAMBURG.

Under this title, the *Corrière di Catania* of the 8th of October, 1896, reprints a circular letter from the firm Ph. Astheimer & Son, of Hamburg, Germany, from which I have made the following extracts, translated by me from the Italian :

Importation of oranges and lemons from 1886.

Season.	From Italy.		From Spain.
	Oranges.	Lemons.	Oranges.
	<i>Boxes.</i>	<i>Boxes.</i>	<i>Boxes.*</i>
1886-87.....	72,815	43,631	147,726
1887-88.....	42,828	40,503	144,994
1888-89.....	83,765	46,409	166,598
1889-90.....	83,938	43,289	213,743
1890-91.....	88,665	43,791	153,112
1891-92.....	133,149	66,098	216,297
1892-93.....	124,815	79,721	133,369
1893-94.....	139,457	87,907	196,087
1894-95.....	323,819	95,251	26,355
1895-96.....	381,734	139,858	30,285

* Boxes of 420 to 714 pieces=70 to 100 kilograms.

Oranges.—This trade with Italy, as can be seen from the above table, has, from year to year, grown in importance, and particularly for oranges it will, without doubt, continue to increase, at least so long as no commercial treaty with Spain has been concluded.

There would have been a further increase of 100,000 boxes of oranges during the past season if the production in Sicily had not been short, and, in consequence, the larger shipments had not already ceased in the second half of the month of March.

The orange trade in the season just past has had an activity extraordinarily favorable, such as with us has not been the case in a long time. With the exception of the month of January—when, as is known by experience and as regards all merchandise, there was a weak demand and low prices—very satisfactory prices have been obtained during the entire season. These, from April until the close of the season, reached a height which has been rarely seen. The demand was caused partly by the fact that the arrivals during the winter were extraordinarily light; the business could follow its regular course unmolested, without there being any interruption whatever.

The shipments which arrived here before Christmas found, as usual, a very favorable market and brought very good prices. To this point we should like to call attention in particular, so that shippers will know how to regulate for the coming season, and not to let the favorable occasion escape, especially this year, in which, thanks to the abundant rains, it is to be foreseen that the shipments will commence sooner than usual.

The demand in the market is always greater for small oranges, and for these packages one can always count upon good prices, especially in the second half of the season.

During recent years has been introduced, and with greatest practice in Catania, the packing of oranges in half boxes. Even though this style of packing can be recommended toward the end of the season, when fruit does not keep so well, we believe it inadvisable to commence to make important shipments early, since the expenses to the exporters are higher, while the prices in our market are not correspondingly higher. Only later, during the advanced season, is noted the demand for half boxes.

As regards forecasts for the coming season, we are of opinion that the importations will increase, since the consumption of oranges increases from year to year. Should there come into force a commercial treaty with Spain, of which at present there is no prospect, it is understood the orange trade of Spain will assume greater development, to the detriment of that of Italy; but still, the exportation of the Spanish oranges would have the competition of the Italian fruit, which, in these last years, has acquired the upper hand in Germany, owing to the fact that the Italian oranges are in a great measure better and better keepers than the Spanish. At any rate, as we have said above, at present there is no danger of a treaty with Spain coming into force, and we are of the firm opinion that in the next season the orange trade with Italy will follow its normal course entirely unmolested.

Several weeks ago, treaties were concluded with the Spanish Government, by which was abolished the differential tariff of 50 per cent, which was a charge upon Spanish products on their introduction into Germany, of course against an equal concession by that Government; but, none the less, the difference of import duty in favor of the Italian citrous fruit is always very important. While for the Spanish citrous fruit 12 marks pays for every 100 kilograms, the import duty on the Italian is only 4 marks per 100 kilograms. With these conditions, the trade in Spanish oranges with Germany is well-nigh impossible, and the few thousand boxes which will be imported will serve only for further exportation to northern countries and Russia.

Lemons.—A season so unfortunate as the one just past has not been experienced for a long time. The reasons for this are to be looked for, however, in the place of production and the quality of the fruit, which leaves always much to be desired. The commerce had to suffer because of the great quantity of fruit, "inferior and not in condition to keep, almost worthless," which flooded not only our own, but all markets. It is clearly evident, also, that the prices of the good qualities have been damaged in consequence.

We regret being compelled to observe how many exporters must be without conscience to be capable of shipping lemons such as can not be put to any use, to the natural damage of the honest, well-intending exporters. If efforts are not made in time to put down this abuse, it will from year to year become more onerous, and the prospect for prices which leave a profit will in consequence disappear more and more.

In the beginning of the season, statements came from all the corners of Sicily that the production was bound to be very limited. Miracle! the harvest was most abundant, and the exportation for nearly all the markets had an expansion much greater than the preceding season; also, in Hamburg, about 50,000 boxes more were imported. It is, therefore, not to be wondered at if the prices remained in a great part upon a very low level. While the consumption of oranges is nearly unlimited, and every quantity, however large, easily finds its sale, the consumption of lemons, on the contrary, as is known from experience, has a fixed limit, and not even by means of the very lowest prices can it be forced.

It must be added that our market, during the course of the past season, showed itself more favorable and firm than the others, and such low prices as for a long time were

obtained—for example, in the American markets—were not known here at all. What will be the development of the trade of the coming season one can not tell beforehand.

If certain shippers continue the practice of exporting as many lemons as possible, without caring about the quality, bad results certainly can not be prevented.

HAMBURG, *October, 1896.*

I will add here, that as nearly as can be estimated now, the crops of the coming season will be about thus: Oranges, one-third more, and lemons, one-fifth more than last season.

LOUIS H. BRÜHL,
Consul.

CATANIA, *October 10, 1896.*

COST OF FRUIT GROWING IN ITALY.

In answer to inquiries from a fruit grower of Pomona, California, Consul Brühl, of Catania, Italy, under date of November 25, 1896, transmits the following information as to the cost of cultivating and handling oranges and lemons in his district:

(1) Cost of caring for orange and lemon groves: Including cultivation and fertilizing with stable manure, about $2\frac{1}{2}$ paper lire, which, at present rate of exchange, is equivalent to 46 cents (United States) per tree.

(2) Legal sizes of the boxes, as prescribed by the chamber of commerce:

(a) For oranges, three different sizes, according to the fruit packed, *i. e.*:

Outside measurement.	160 oranges (large) in box.		200 oranges (medium) in box.		300 oranges (small) in box.	
	Centimeters.	Inches.	Centimeters.	Inches.	Centimeters.	Inches.
Length.....	68	26	69	$26\frac{1}{2}$	68	26
Width.....	$36\frac{1}{2}$	$14\frac{1}{4}$	35	$13\frac{1}{2}$	36	$13\frac{3}{4}$
Depth.....	28	$10\frac{3}{4}$	26	10	28	$10\frac{3}{4}$

(b) For lemons—length, 70 centimeters ($26\frac{3}{4}$ inches); width, 36 centimeters ($13\frac{3}{4}$ inches); depth, 27 centimeters ($10\frac{1}{2}$ inches).

(3) Cost of picking and hauling to warehouses, according to the distance of the groves from town, per box: Lemons, 80 centesimi to 1 lire (15 to $18\frac{1}{2}$ cents), paper currency; oranges, 75 to 90 centesimi, paper (14 to $17\frac{1}{2}$ cents).

(4) Average amount expended from the time the fruit is delivered at the packing house to the time it is placed in the boxes, without counting cost of boxes, paper, and nails: Lemons, 6 cents per box; oranges, 5 cents per box.

(5) Cost of box, including nails and paper, 65 cents.

(6) Cost of transportation from the warehouses in Catania to the steamer, 2 cents (10 centesimi) per box.

PRINCIPAL CITROUS PRODUCTS OF SICILY.

Prominent among the products from the citrus fruits of this country are essential oils, the very primitive manufacture of which was so well described by Mr. Wallace S. Jones, our present consul-general at Rome, when he occupied this post. Since that time, several machines have been patented for the manufacture of the essence of bergamot, but until very recently the same old, uncleanly method of expressing the essence by hand in the hovel of the peasant, where it could and would take up every impurity, has prevailed. A new invention, I am glad to say, has been patented by Signore Serravallo, of this city, and after being submitted to the most rigorous tests, Messrs. Sanderson & Barrett, one of the largest manufacturing firms of essential oils in Sicily have purchased fifty-four of the machines and located them in a new factory especially built at Tremestieri, about 2 miles from the city. The construction is most ingenious, the motion reproducing that of the human fingers. After the lemon is cut and the pulp removed, the cells of the peel are gently, but thoroughly, broken and the exuding essence, averaging about ten drops to the rind of each lemon, collected upon sponges, which are kept thoroughly cleansed. The contents of these are from time to time automatically squeezed into basins placed beneath them.

Preparatory to shipment the essence is placed in large stand casks holding about 200 gallons, where it is allowed to settle. It is then drawn off, passed through filtering paper, and finally packed in tin-lined copper jars, generally of a net capacity of 25 pounds.

Messrs. Sanderson & Barrett, in taking this step toward cleanliness, have set an example which I trust will speedily meet with many emulators, and I hope that in a short time it can be said that the manufacture of all Sicilian essential oils will be conducted in such a way as to leave nothing to be desired from a sanitary point of view. With bergamot, it makes comparatively little difference under what condition it is produced, as it is used only in the manufacture of soap, colognes, and perfumes, but with lemon, orange, bitter orange, and mandarin, which enter largely into our food consumption, it will be a pleasure to the consumer to know that the extracts which give gusto to his puddings and his sweetmeats have been expressed by the polished fingers of mechanism and not by the hands of a Sicilian peasant family in a squalid hovel where pigs and poultry claim equal domain with humanity.

No houses in Messina have ever been able to manufacture sufficient upon the premises to supply the demand and have been compelled to buy from the peasants, who know full well that a pound of turpentine is many times cheaper than a pound of essence and never hesitate to adulterate their home product to as great a degree as they dare, so that the merchants themselves are often deceived. In order to guard against this in the future, Messrs. Sanderson & Barrett built their factory with the expectation of being able to produce all that they sell under their own supervision.

To manufacture essence at a profit, the pulp must also be used for raw and concentrated juice, and this requires great space for boilers, presses, etc. The average consumption of this factory is 500,000 lemons daily, and it has storage room for 1,200,000 of the fruit.

After the citrus pulp is brought from the essence machines, it is put under huge presses until every drop of juice is expressed. The raw product to make concentrated juice is then placed in vacuum pans or open caldrons and boiled down until it evaporates from one-sixth to one-tenth of its original volume, according to the degree of concentrated acidity required. It is estimated that 1 pipe (130 gallons) will contain the raw juice of 13,000 lemons, while a pipe of concentrated juice will require the product of 130,000 lemons. While the juice of the lemon is generally used, that of bergamot orange, although not possessing the acidity of the lemon, also very largely enters into the manufacture of this product.

CITRONS AND PEELS IN BRINE.

The preparation of these articles is the subject of many letters received at this consulate from California. The process is most simple. The fruit is cut in two and placed in pipes in layers, coarse salt being put between each layer to the quantity of 80 pounds to citrons and 60 pounds to lemons in each pipe and then sea water is poured in until it is completely full. It is allowed to stand for ten days and then emptied, the fruit washed and re-packed by the same method, when it is ready for shipment. Some packers allow the pipe to stand twenty days, simply renewing the water on the tenth day, but this method is not considered with favor. I am frank to confess, however, that this will never become a profitable industry among our lemon growers. Even here, there is such a small margin that no one can eke out an existence in handling salted fruits alone. To illustrate: At present, lemons in brine ready for shipment are quoted at 19 lire free on board. Deduct from this, 9 lire, the cost of the empty pipe, 2 lire shipping expenses and storage, 4 lire for cutting, brining, and portorage, and there remains but 4 lire, which represent the value of 3,000 lemons, it requiring that number to fill a pipe. Now, as 4 lire at to-day's exchange is only equal to about 71½ cents and lemons for brining are worth 3 lire per thousand, further comment as to the comparative economy in preparation is needless.

Another important question is the freight. Any of the lines will take a pipe of lemons in brine from Messina to the Atlantic ports for 8s. 6d. (\$2.07). Our railway companies would probably charge much more than that for a pipe from California to Chicago or New York.

Perhaps the many correspondents who have written to me in regard to this subject will look upon my views as pessimistic, but I simply give the figures, and it is much better to realize the truth before rather than after a costly experiment.

CHARLES M. CAUGHY,

MESSINA, *December 29, 1896.*

Consul.

TREATMENT OF VINE DISEASES IN ITALY.

I send herewith a translation of a publication by the chief of the royal Italian experimental cellars and vineyards at Noto, Italy, recommending a treatment for combatting the chlorosis (green sickness) or giallume (turning yellow) of the grapevines. It may be possible that this remedy is already known and practiced by our viticulturists, but I thought it would do no harm to bring it to their notice.

LOUIS H. BRÜHL,

Consul.

CATANIA, *November 19, 1896.*

[Translation.]

PRACTICAL INSTRUCTIONS FOR COMBATTING THE CHLOROSIS (GREEN SICKNESS) OR GIAL-
LUME (TURNING YELLOW) OF THE GRAPEVINES.

The director of the royal Italian experimental cellars and vineyards of Noto, Italy, publishes, under date of October 30, 1896, the following:

To cure the American vines, be they grafted or upon their own roots, of the chlorosis or the yellow sickness, the viticulturists are advised to follow the treatment proposed by Dr. Rasseguier, of France, which has also by us been found from experiment to be beneficial and economical.

Here is, in short, how it is necessary to proceed: Twenty-four hours previous, prepare the solution of sulphate of iron, in a receptacle of wood, iron, or earthenware, using 400 to 500 grams of the sulphate of iron for every liter of water. It is best to put the sulphate in a bag or small basket, leaving it suspended in the water until completely dissolved. This done, proceed with the application of the remedy. A laborer, who may be a boy or even a woman, provided with a bucket, with handle, containing the liquid, follows the pruners, wetting by means of a brush dipped into the solution all the surfaces of the cuts, and, where possible, the entire stump. Every time the brush is being dipped into the bucket, it is necessary to carefully stir the liquid, so that the iron salts, which has a tendency to settle, be uniformly distributed.

Conditions required for the success of the cure are:

It is necessary—

(1) That the treatment be made in time. In Sicily, the season most opportune, according to our experience, is during the first fifteen days of November. The treatments made much later give results for the most part incomplete or inappreciable.

(2) That the stage of the disease be not excessively advanced, in which case the vines are already anæmic (bloodless) and nearly dead.

(3) That the nature of the calcareous land, in which the cure is to be applied, be not of a nature decidedly productive of chlorosis.

(4) That the pruning and immediate brushing be done in dry, but not cold, weather, because the low temperature diminishes the absorption of the sulphate of iron solution.

If, within twenty-four hours after the treatment, a rain should come up, it is necessary to repeat the brushing over.

In performing the operation, it is recommended to the viticulturists to leave some rows untouched, in order to better observe afterwards in the spring the effect of the treatment, which should be repeated several years in succession, even if the result in consequence of the first be complete.

NOTO, *October 30, 1896.*

SUPPLY OF GREEK CURRANTS.

Consul Horton, of Athens, under date of November 3, 1896, furnishes the following as to the stock of Greek currants in 1896:

Stock of crop of 1894 on hand July 13, 1895, in tons: In England, 21,543; on the Continent, 10,765; in France, 5,100; in Russia, 6,000; in America, Australia, etc., 3,700; in Greece throughout, 20,400; total on hand of crop of 1894, 67,508 tons; crop of 1895, 165,000 tons; grand total, 232,508 tons; less Government drawback,* 11,508 tons; net supply for 1895-96, 221,000 tons.

Of this, the following stock was found on hand on July 13, 1896, in tons: In England, 13,100; on the Continent, 8,000; in France, 6,500; in Russia, 3,000; in America, Australia, etc., 4,400; in Greece throughout, 16,000; consumption, 170,000; total, 221,000 tons; crop of 1895, 165,000 tons; stock of old fruit in Greece on July 13, 1895, 20,400 tons; grand total, 185,400 tons.

Of this crop, the following shipments were made, in tons: To England, 58,600; to America and Canada, 14,400; to France, 26,140; to Continent, 38,700; to Australia, 1,792; to Russia, 24,260; Government drawback, 11,508; stock of old fruit in Greece on August 23, 1896, 10,000; total crop of 1895, 185,400 tons.

Probable crop of 1896, 145,000 tons; stock in foreign markets, 35,000 tons; stock in Greece, 16,000 tons; grand total, 196,000 tons; less Government drawback, 21,000 tons; supply for 1896-97, 175,000 tons, against 221,000 tons last year, being 46,000 tons less than that year.

In 1895-96, Russia drew 24,260 tons, but may import much less during 1896-97, owing to the heavy duty imposed by the Russian Government. Even should Russia import 15,760 tons and the American markets 9,000 to 10,000 tons less than last year, the supply will fall short of the quantity required to meet foreign demands and general consumption by 20,240 to 21,240 tons. To this factor must be added the growing activity of the Greek wine and cognac manufactories, which consume large quantities of the fresh and dried fruit.

Last year, the tax was largely paid in money, and for this reason did not greatly affect the quantity offered for export. This year it is being paid in kind and will very sensibly reduce the free supply. Last year the prices for the two grades of currants ordinarily shipped to the United States were as follows: First grade, 120 drachmas per 1,000 liters; second grade, 80 drachmas. The same grades this year have not fallen below 170 and 140 drachmas. On the whole, the Government plan of forcing the producers to apply a portion of the crop to manufacturing purposes seems to be operating favorably.

* By the Government drawback is meant the tax of 15 per cent, payable in money or currants, which the Government imposed to prevent overproduction. This measure is explained in the report of Consul Horton in CONSULAR REPORTS No. 185 (February, 1896).

The sale of the currants each autumn and its effect upon the paper currency of Greece is interesting from an economical standpoint. The paper drachma is the unit of the circulating medium, and its value varies directly in proportion to the amount of gold in the country. Invariably, in October and November, when gold begins to flow in from the sale of the currants, the paper drachma oscillates toward par and its purchasing power increases. Later in the year, when the gold has flowed back to the other countries of Europe for the purchase of imports, the payment on the public debt, etc., the drachma oscillates away from par. As the paper drachma is the only money seen by the people at large, it is very evident that they are directly interested in the amount of gold in the country. To this general statement, we may add that the paper drachma approaches nearest to par in those years when the proceeds from the currant crop and other sources are greatest. This year is a favorable one for Greece. In addition to the high price brought by the currants, a larger area than usual has been put into wheat, and the olive crop and several of the minor crops have been more than ordinarily successful. The paper drachma within the last few days has reached the favorable quotation of 1.65.* About this time last year the drachma was quoted at 1.76.†

ORANGE CULTIVATION IN MEXICO.

As the Mexican orange is rapidly making its way into our markets and in the future will be a prime factor in the commerce of the two countries, as well as filling in a "gap" between the crops of Florida and California, which heretofore has been largely done by more remote countries, I deem it proper to acquaint our orange dealers with the conditions and future outlook. This year nearly a thousand car loads will go to the United States.

In preparing this report, I have been greatly assisted by Mr. J. Yorba, a practical orange grower, formerly of California, but now a resident of this city. All values given are in Mexican money unless specifically stated otherwise. A Mexican dollar is worth 51 cents (United States).

It is generally supposed that the Spaniards introduced several varieties of fruit trees into this country, among them, perhaps, the sweet orange, yet to one who has traveled much in Mexico, after seeing the numerous forests of wild oranges, one inclines to the theory that the "ancients" knew of this fruit and that perhaps it was cultivated before the time of Cortez. However, works treating on the history of old or ancient Mexico do not describe oranges, yet it is to be presumed that the existing wild stock found generally in obscure and inaccessible regions of the tropics was placed there originally by the hand of man, and nature spread it widely, but gradually changed it from a sweet to a sour, or bitter, orange. When this work was started

* 1 gold franc costs 1.65 drachmas.

† 1 gold franc cost 1.75 drachmas.

no one knows. The Mexican orange comes under the family Aurantiacæ, genus citrus. Although fifty varieties are known to exist, there are but three kinds of oranges found in the markets of this country, classified as follows: The sweet orange, "naranja dulce;" the Chinese orange, "naranja de China" (Var. myrtle leaved); and the sour orange, "naranja de agria." The naranja de China (Chinese orange) is a small fruit, a little over 2 inches in diameter, spherical, slightly depressed at the apex, deep yellow in color, thin rind, with minute oil cells, and very delicious. Its tree is somewhat dwarfish, having small leaves 1 to 1½ inches long and resembling those of the myrtle. The sour orange has a roughish rind, rather thick, acrid, bitter pulp, and is generally large in size; its tree is large, having a hard wood, and, in many places, develops a trunk of great dimensions; the leaves are of a brilliant, agreeable green color, aromatic, lanceolated, and with a broadly winged petiole. The sweet orange is like the Mediterranean sweet (produced in Cordoba, Jalapa, Atonilco, Yautepec, and Atlixco), the Early Oblong (found in Rio Verde, Guadalajara, Yautepec, Montemorelos, and Hermosillo), and the navel, not quite perfected, of the size of the Riverside, has been found by the writer among the orchards of Yautepec. This species could be greatly improved and much accomplished with it by careful selection in its propagation; for instance, selecting shoots, cuttings, or seeds from trees where the incomplete navel and partially seedless variety is found, or budding or grafting with sound stock from California and Florida. Few are the countries that possess the natural advantages which subtropical and tropical Mexico has, and hardly any are gifted with the immense proportion of territory, comprising two-thirds of the Republic, suitable for orange culture. By careful selection, assorting, and packing of the fruit, Mexico, with its luscious and well-proportioned oranges, will always supply the United States of the north for the latter's early demand, as well as late consumption, and drive away any other importing means of supply.

The sweet orange is cultivated (partially) in Aguas Calientes, partido (county) of Calvillo; in Campeachy, partidos (counties) of Champoton and Hecel-Chacan; in Colima, partidos of Alvarez, Centro, and Colima; in Chiapas, departamentos (counties) of Chiapa, Chilon, Comitán, La Libertad, Alenque, Pichucalco, Simojovel, Soconusco, Mezcalapa, Tonalá, and Tuxtla; in Chihuahua, districts of Artiega, Bravos, and Guerrero; in the State of Durango, partidos of Durango, Mezquital, San Dimas, Santiago Papasquaro, and Tamazula; in Guanajuato, partidos of Abasolo, Dolores Hidalgo, Irapuato, Pénjamo, Romita, and San Francisco del Rincon; in Guerrero, distritos of Abasolo, Bravos, La Union, Mina, and Morelos; in Hidalgo, distritos of Atotonilco, Tulancingo, and Zacualtipan; in Jalisco, cantons Primero, Tercero, Cuarto, Quinto, Sexto, Octavo, Noveno, Decimo, Undecimo, and Duodécimo; in Mexico, distrito of Sultepec; in Michoacan, distritos of Apatzingan, Arrio, Coalcoman, Huatamo, Jiquilpan, Tacambaro, Uruapan, Zamora, and Zetacuaro; in Morelos, distritos of Cuernavaca, Jonacatepec, Juarez, Tetecala, and Yautepec; in Nuevo Leon, distrito Se-

gunda, Tercero, Cuarto, Quinto, Sexto, Octavo, Noveno, and Decimo; in Oaxaca, distritos of Choapam, Cuicatlan, Coixtlahuaca Del Centro, Ejutla, Etlá, Huajuapam, Jamiltepec, Juchitan, Juquila, Juxtlahuaca, Miahuatlan Nochixtlan, Ocotlan, Ochutla, Silacayoapam, Tehuantepec, Teotitlan, Tlacolula, Tlaxiaco, Tuxtepec, Villa Alta, Villa Alvarez, Villa Juarez, and Yautepec; in Puebla, distritos of Acatlan, Alatríste, Atlixco, Chiautla, Huauchinango, Huejotzingo, Matamoros, Tecali, Tehuacan, Tepeji, Tetela, Teziutlan, Tlaluqui, Zacapoaxtla, and Zacatlan; in Queretaro, distritos of Amealco, Jalpan, and Queretaro; in San Luis Potosi, partidos of Alaquines, Cerritos, Ciudad del Maiz, Ciudad de Valles, Rio Verde, Tamazunchale, and Tancanhuitz; in Sinaloa, distrito of Badiraguato, Concordia, Cosalá, Culiacan, Del Fuerte, Mocorito, Del Rosario, De San Ignacio, and De Sinaloa; in Sonora, distritos of Alamos, Altar, Arizpe, Guaymas, Hermosillo, Magdalena, Moctezuma, Sahuaripa, and Ures; in Tabasco, partidos of Balancan, Cárdenas, Comalcalco, Cunduacan, Frontera, Huimanguillo, Jalpa, Jonuta, Macuspana, Nacajuca, Tacotalpa, and Teapa; in Tamaulipas, distritos of Del Centro (Altamira and Quintero); in the Territory of Lower California, partido Del Centro and distrito Del Sur; in Tepic, partidos of Acaponeta, Ahuacatlan, San Blas, Santiago Ixcuenta, and Tepic; in Veracruz, Acayucan, Chicontepc, Coatepec, Cordoba, Cosamoloapam, Huatusco, Jalacingo, Jalapa, Minititlan, Misantla, Orizaba, Ozuluama, Papantla, Tantoyuca, Tuxpam, Tuxtlas, and Zongolica; in Yucatan, partidos of Izamal, Mérida, Motul, Tizimin, and Tixkokob; and in Zacatecas, in the partidos of Juchipila, Tlaltenango, and Villanueva.

Naranja de China is cultivated in the partidos of Calvillo, State of Aguas Calientes; in the partidos of Champoton and Hecelchacan, Campeachy; in the partidos of Alvarez, Colima and Medellín, Colima; in the departamentos of Chilon, Pechucalco, Socomisco and Tuxtla, Chiapas; in the partido of San Dimas and Tamazula, Durango; in the partidos of Abasolo, Comonfort, La Purisima, San Francisco del Rincon, Guanajuato, and Victoria, Guanajuato; in the districts of Bravos and Mina, Guerrero; in the districts of Tulancingo and Zacuatlipan, Hidalgo; in the Primero, Tercero, Cuarto, and Octavo cantons (counties) of Jalisco; in the district of Sultepec, Mexico; in the districts of La Piedad, Tacámbaro, Uruapan, Zamora, and Zitácuaro, Michoacan; in the district of Cuernavaca, Morelos; in the municipalities of Allende, Cadereyta, Juarez, Montemorelos, Rayones, Santa Catarina, and Santiago, Nuevo Leon; in the districts of Etlá, Huajuapam, Jamiltepec, Juchitan, and Villa Juarez, Oaxaca; in the districts of Tetela and Tlatlanqui, Puebla; in the district of Toliman, Querétaro; in the partidos of Cerritos, Ciudad del Maiz, and Rio Verde, San Luis Potosi; in the districts of Alamos and Ures, Sonora; in the partidos of Comalcalco, Huimanguillo, Macuspana, Tacotalpa, and Teapa, Tabasco; in the cantons of Casamaloapam, Jalacingo, Orizaba, Ozuluama, and Tuxpam, Veracruz; and in the partidos of Espita, Izamal, Maxcanú, Merida, Motul, Progreso, Sotuta, Tekax, Tizimin, and Tixkokob, Yucatan.

The *naranja agria* grows mostly wild in the partidos of Aguas Calientes, Calpalalpam, and Calvillo, Aguas Calientes; in the partidos of Champaton and Hecelchacan, Campeachy; in the district of Muzquiz, Coahuila; in the partidos of Alvarez, Del Centro, and Medellin, Colima; in the departments of Chiapa, Chilon, Comitán, La Libertad, Mescalapa, Pichucalco, San Cristobal, Simajovel, Soconusco, Tonalá, and Tuxtla, Chiapas; in the districts of Artiaga and Guerrero, Chihuahua; in the districts of Mixcoac, San Angel, and Tlalpam, Federal District; in the partidos of Durango and Tamazula, Durango; in the partidos of Abasolo, Acambaro, Allende, Cortazar, Dolores Hidalgo, Irapuato, La Purisima, Leon, Romita, San Francisco del Rincon, San Luis de la Paz, Santa Cruz, Silao, Valle de Santiago, Victoria, and Yuririapundaro, Guanajuato; in the districts to Abasolo, Bravos, La Union, Mina, Morelos, and Tabares, Guerrero; in the districts of Atotonilco, Huichapan, Tulancingo, and Zacualtipan, Hidalgo; in the first, second, third, fourth, fifth, sixth, eighth, ninth, tenth, eleventh, and twelfth districts, Jalisco; in the districts of Chalco, Sultepec, and Tlatnepantla, Mexico; in the districts of Apatzinagan, Ario, Coalcoman, Huetamo, Jiquilpan, La Piedad, Patzcuaro, Puruándiro, Tacambaro, Uruapan, Zamora, Zinapemaro, and Zitácuaro, Michoacan; in the districts of Jonacatepec and Morelos, Morelos; in the first, second, third, fourth, fifth, sixth, eighth, and ninth districts of Nuevo Leon; in the districts of Del Centro, Choapam, Coixtlahuaca, Cuicatlan, Etlá, Huajuápam, Jamiltepec, Juchitan, Juquila, Juxtlahuaca, Miahuatlan, Nochixtlan, Selacayoapam, Tehuantepec, Teotitlan, Teposcolula, Tlacolula, Tlaxiaco, Villa Alta, Villa Alvarez, and Villa Juarez, Oaxaca; in the district of Acatlan, Chiautla, Cholula, Huauchinango, Matamoros, Tecamachalco, Tehuacan, Tepeji, Tetela, Teziutlan, Tlatlauqui, and Zacatlan, Puebla; in the districts of Cade-reyta, Jálpan, San Juan del Rio, and Tolimán, Querétaro; in the partidos of Alaquines, Cerritos, Ciudad del Maiz, Ciudad de Valles, San Juan del Rio, San Luis Potosi, Tamazunchale, and Tancanhuitz, State of San Luis Potosi; in the districts of Badiraguato, Concordia, Culiacan, San Ignacio, and Sinaloa, Sinaloa; in the districts of Alamos, Altar, Arispe, Hermosillo, Magdalena, Moctezuma, Sahuaripa, and Ures, Sonora; in the partidos of Balancan, Cardenas, Comalcalco, Cunduacan, Frontera, Huimanguillo, Jalpa, Jonuta, Macuspana, Nacajuca, Tacotalpa, and Teapa, Tabasco; in the districts of Del Centro and Del Sur, Tamaulipas; in the partidos of Acaponeta, Ahuacatlan, Compostela, Santiago, Ixcuintla, and Tepic, Tepic; districts of Barron Escandon, Hidalgo, Juarez, and Zaragoza, Tlaxcala; in the cantons of Acayucan, Chicontepec, Coatepec, Cordoba, Cosamaloapam, Huatusco, Jalacingo, Jalapa, Minititlan, Orizaba, Ozuluama, Papantla, Tantoyuca, and Tuxpan, Veracruz; in the partidos of Espitla, Izamal, Mexcanu, Merida, Motul, Progreso, Sotuta, Tekax, Tizimin, and Tixkokob, Yucatan; and in the partidos of Jerez and Villa Nueva, Zacatecas.

PRODUCTION OF SWEET OR CHINESE ORANGES.

The annual production of the sweet and myrtle-leaved, or Chinese, oranges and their estimated value in Mexican currency are:

Places.	Quantities.	Value.
Aguas Calientes.....	178,000	\$850
Campeachy.....	158,000	136
Colima.....	14,418,000	5,830
Chiapas.....	4,736,000	10,345
Chihuahua.....	694,000	11,580
Durango.....	3,396,000	15,950
Guanajuato.....	1,051,000	3,727
Guerrero.....	514,000	2,344
Hidalgo.....	179,000	408
Jalisco.....	14,951,000	145,100
Michoacan.....	25,020,000	93,668
Morelos.....	5,160,000	42,634
Nuevo Leon.....	13,820,000	62,030
Oaxaca.....	13,110,000	43,786
Puebla.....	6,138,000	2,455
San Luis Potosi.....	33,270,000	110,562
Sinaloa.....	3,327,000	23,020
Sonora.....	28,625,000	241,425
Tabasco.....	446,000	998
Tauimalipas.....	4,150,000	7,350
Territory of Lower California.....	3,852,000	12,750
Tepic.....	650,000	2,583
Veracruz.....	4,125,000	13,969
Yucatan.....	5,350,000	16,872
Zacatecas.....	234,000	1,240

INCREASE IN ACREAGE UNDER CULTIVATION.

The greatest producing (and most important) districts having easy means of transportation are La Barca (110 car loads), Ocotlan (27 cars), and Guadalajara (30 cars), in the State of Jalisco; Yautepec (70 cars), Morelos; Linares (5 cars) and Montemorelos (113 cars), Nuevo Leon; Rio Verde (201 cars) and San Antonio (250 cars), San Luis Potosi; Guaymas (13 cars) and Hermosillo (210 cars), Sonora; Tula (20 cars), Tamaulipas; and Coatepec (20 cars) and Cordoba (20 cars), Veracruz. The production, which represents now more than 3,290 car loads, will be increased gradually to the extent of reaching more than that of California in a few years. In Montemorelos and Linares, during the last three years, more than fifty thousand trees have been planted, with several hundred grafted and budded with California and Florida stock. Near Hermosillo, Sonora, an irrigation canal is to be constructed that will open up several thousand acres of land adapted to orange culture. Notwithstanding the increase of yield, the consumption and demand of Mexican oranges will always be greater than the production. The Mexican people relish the fruit and especially on the holidays of the 16th of September, All Saints' Day, and the Posadas, vast quantities of it are brought into the principal cities for home consumption. Mexico City alone consumes annually more than 300 car loads of sweet, Chinese, and sour oranges, Puebla 70, and Guadalajara 30 car loads

BY-PRODUCTS OF MEXICAN ORANGES.

Few are the uses to which the products of the orange are utilized in Mexico. The orange leaves ("hojas") are the tea of the Indians and of the poor, and, in large cities, where they are peddled in the streets and sold in the markets in small bunches for 1 cent apiece, are consumed in large quantities. They are considered the best remedy for insomnia and restlessness and are also highly commended as a night drink for children. A fine wine is manufactured from the refuse oranges, purchased at 20 to 30 cents a hundred, in Cuautla, Morelos, and Guadalajara, which retails at 50 cents a bottle.

There are other valuable products which could be obtained, such as the distilled water of the blossoms, used for toilet purposes, worth \$4.50 a gallon; citric acid from the pulp of the sour oranges, worth \$1 a pound; a pomade, much used as a cosmetic, worth \$2.50 a pound; oil from the leaves and rind, which constitutes the main odorous ingredients of cologne waters and elixirs, worth \$3.50 to \$5 a pound; and the essential oils from the blossoms, leaves, and unripe fruit, known as Neroli pétale, Neroli bigarade, and essence de petit grain—high odors used by the perfumers, generally worth from \$5 to \$6 an ounce. The second oil mentioned could be manufactured at a small expense, the flowers costing not more than 12½ cents a pound, out of the numerous wild groves of sour oranges existing in the greater part of the tropical belt of Mexico.

EXPORTS TO THE UNITED STATES.

It was not till the Mexican railroad trunk lines tapped the border line of the United States that Mexico began to export her oranges to the former country. A few hundred boxes had been shipped from Sonora by the orange growers, soon after the inauguration of the Sonora Railway in 1883, as an experiment. This was a success; other shipments followed in the succeeding years and the quantity was increased to between 60 and 75 car loads for the season. In 1890, the La Barca and Rio Verde, and, later on, the Montemorelos growers added to the shipment and increased the number to 100 car loads a year. Last year, owing to the heavy frosts in Florida in the winter of 1894 and 1895, some orange buyers came down to Yautepec, La Barca, and Hermosillo, made contracts for deliveries at their packing houses at prices ranging from \$3.50 to \$9.50 (Mexican currency) per thousand oranges. This year, the prices were, at Yautepec, from \$6 to \$8.75; at La Barca and Guadalajara, from \$10 to \$15; and at Hermosillo, from \$18 to \$20. The shipments for the season of 1895 amounted to 400 car loads and these proved so profitable that new dealers turned to this country for a heavier supply than ever; these and those of other years have brought their experts in order to properly superintend the assorting and packing, many new facilities have been introduced by them to handle the business; and, with the cooperation of the railroad companies in furnishing ventilating cars, etc., this year's shipment will amount to not less than 700 car loads. This is considered a mere drop in the bucket to the yearly consumption of the United States, which amounts to 70,000 car loads, or 21,000,000 boxes; of these, 10,000,-

ooo boxes were formerly furnished by Florida and about 5,000,000 by California. The prices obtained in Chicago, Kansas City, St. Louis, and Cincinnati for Mexican oranges are from \$2.50 to \$3.50 (gold) per box, averaging from 176 to 200 oranges each. Shipments begin about September 1 and end December 15. It ordinarily takes twelve days, moderately fast freight, to send cars from shipping points to Chicago or Cincinnati; however, some cars have reached these points in eight days. The earliest shipping oranges are from Yautepec and Atlixco. The best shipping oranges are from Hermosillo, Montemorelos, Rio Verde, La Barca, and Guadalajara; the next grade are from Yautepec (excepting the wormy), Michoacan, and Atlixco, Puebla. The Coatepec, Veracruz, are moderately good, but the Orizaba and Cordoba are not good for shipping; in fact, many contend that they will not stand shipping at all. Colima and Tepic produce very fine oranges, suitable for exportation, but would require double handling from orchards, thereby curtailing the profits and endangering the fruit.

The boxes generally used for shipping are imported from the United States and are the Florida and an imitation of the California. One or two firms in this country have attempted to manufacture orange boxes, but have not succeeded as yet in producing a first-class quality. The cost of a box is 31 cents; of the wrapping paper, 15 cents per box (all of which is imported); cost of packing, 36 cents per box; freight and consular costs per box to Kansas City, St. Louis, Chicago, or Cincinnati, \$2.04; and United States duties, 16 cents (gold) per box.

CONDITIONS OF SUCCESSFUL CULTIVATION.

The Mexican orange planter is not particular regarding the soil he selects for his orchard; still, the trees seem to do well wherever planted, even on adobe soil. However, to improve the fruit in quality, one must secure a deep, rich, mellow loam, sufficiently porous to admit air to the fibrous roots and elevated enough to keep them out of stagnant water. Clays, loams, marls, and calcareous soils having the above conditions are tolerably suitable, and, moreover, such consisting of 10 per cent each of lime, potash, and clay and 70 per cent of sand, with a depth of not less than a meter, should be unsurpassingly adapted to the culture.

For a successful growth of the tree, and to produce good-sized, fine-appearing, and luscious fruit, a tract must be selected having a moderate amount of moisture. More than 50 inches of water during the year spoils the shape of the tree, giving it too many thin branches, and renders the fruit too sour, light, of a thick rind, uneatable, and, worse, unsalable. Between 40 and 50 inches of water evenly distributed in the wet season will give good results.

Situations south of latitude 20° 30' north, of altitudes between 100 and 3,000 feet above sea level, require no irrigation. On the Pacific side, below these elevations and same altitude and all situations higher than 4,000 feet, oranges require a copious amount of water during the dry season. The

orange tree, unlike other deciduous plants, requires plenty of moisture during the dry season, especially on lands lying north of latitude 20° north. On account of its numerous rootlets, which spread in the ground, forming a spongy mass of fibers that exhaust moisture rapidly, it may be called a surface feeder. The curling and wilting of the leaves and shrinkage of the fruit before maturity denote a deficiency of water. The tree should be irrigated twice a month during the dry season, and not any during the rainy season, unless two weeks elapse between rains.

Suitable climatic conditions must be obtained for extended commercial planting. Locations north of latitude 26° north on the Pacific Slope, $20^{\circ} 30'$ on the central plateaus and Gulf Slope, and those in Chiapas situated 3,500 feet above sea level must be protected from the north winds and frost, especially in the former, as in Chiapas it never freezes. On these situations, a southern exposure is preferable, and wherever there is a possibility of freezing a plat should be selected having a slight decline and a few feet above the lower surface of the valley, sheltered by a grove of trees, or backed on the north by high hills. All locations where heavy freezing or killing frosts are apt to prevail even once a year should be avoided. The tree thrives well in a temperature between 66° and 86° F., and the flower requires a mean temperature between 68° and 74° F. to develop successfully. The orange tree grows at an elevation from almost sea level to 5,500 feet, but the most proper altitude to produce good shipping fruit is that between 3,500 and 4,800 feet, south of latitude $22^{\circ} 30'$, and from 150 to 1,800 feet north of same latitude. In dry sections, a nearly level plat is preferable, yet in localities where rain is abundant a slope is most suitable. The Mexican orange tree requires no shade, but delights in sunshine, and where the writer has seen shaded and too much watered groves, the stems run up like whips.

Good orange lands can be procured in Lower California, Chihuahua, Coahuila, Sinaloa, and Durango for from \$5 to \$25 (Mexican currency) an acre; in Sonora, Nuevo Leon, Puebla, and San Luis Potosi, from \$25 to \$50 an acre; in Michoacan, from \$5 to \$50 an acre; in Morelos, Jalisco, and Veracruz, from \$100 to \$250 an acre; in Guerrero, Mexico, Tepic, Tamaulipas, Oaxaca, the Isthmus, and Chiapas, from \$4 to \$20 an acre. These prices are for small tracts, running from 100 to 500 acres; larger tracts can be obtained much cheaper.

PROPAGATION OF THE ORANGE.

Mexican growers propagate the orange from seed, but it can be reproduced more advantageously by budding, grafting, layering, inarching, and from cuttings. The fruit appears in the latter case in from four to five years, and in the former from seven to eight years. Budding, grafting, and inarching have to be practiced on grown-up trees, or on young trees 2 years old; sour stock is generally selected to be budded with fine species when the sap is abundant. The object of the process is both to improve the stock and accelerate the coming of the fruit. Propagation by cuttings can be effected

from both immature and mature growths. To produce good-sized, vigorous trees, sour stock must be utilized, but for a medium-sized tree of abundant fruit, selection is to be made of cuttings from a sweet stock. The immature cuttings from shoots or tree points with leaves should be set in pots containing some warm soil and left there for a year or two. For mature cuttings, branches 2 or more years old may be selected, placed in a trench between a row of trees until they take root, which will be within a year from setting. The best time to set the former is in the month of June, and the latter, in the fall of the year.

In propagating by seed, a well-ventilated place, yet free from cold winds, should be selected; the soil must be deep and susceptible of being irrigated. For this process, good, vigorous, large seeds must be chosen from healthy fruit and best plants. In May, the seed beds must be made, which shall be 4 feet wide by 20 feet long, with intervening walks between them 2 feet wide. The ground having been grubbed, is dug up fine with a coa, or spade, all roots taken up, and horse manure spread on the surface and then turned over with the rake. The seed beds must have a surface 4 to 6 inches higher than that of the walks. In June, the seeds, which have previously been kept in earth, are sown 4 inches apart by 8 inches between the rows. The rows can be run with the length of each seed bed, thereby producing 427 seedlings to the seed bed. Of seed, twice the number of plants required must be sown. Having soaked the seeds for twelve to twenty hours in lukewarm water previous to sowing them, the plants should come up in fifteen to twenty days. If the rainy season has not set in and on dry days during that season, the seed beds should be sprinkled every two days; but when the plant has made its appearance a generous application of water will be necessary every day, and decrease the amount as it grows. The weeds must be kept off the seed beds and the earth loosened around the seedlings or young plants. A good many planters start a closer nursery (*almaciga*) first, and then in six or eight months transfer half, if not all, of the seedlings to a permanent nursery (*plantel*) having a distance of 0.5 meter ($19\frac{3}{4}$ inches) apart. This system increases the cost of the trees and, practically speaking, does not materially help the seedlings. During the time (about two years) that the seedlings are growing the plat to be planted may be sown in corn, beans, yuca, peanuts, irish potatoes, sweet potatoes, pease, and *jicamaya*. Some of these plants enrich the soil, and the cultivation of the plat beforehand prepares the ground for the reception of the young trees, especially if the earth is well plowed at each harvest.

In May, the plat is plowed, cleared of all weeds, and fertilized with cheap manure having plenty of nitrogenous matter. This can always be procured from the adjoining farms or from decayed wood or vegetation. After the land has been well worked with the sulky plow, ditches are run with a deeper plow from one end of the plat to the other at a distance of 4 meters (13.08 feet) apart, and then cross ditches of the same distance. At the intersection of these ditches, holes 2 feet deep are made for the reception of the young

trees; this will give 254 trees to the acre, which can be decreased on a very rich soil, making the distance 5 meters apart. But as most growers have planted, and are still planting, at a shorter distance, it may not justify the new planters to reduce the number. In places where there is sufficient moisture from rain, the plat need not be plowed, but it requires lining and staking. Those seedlings which are about 1 meter high are selected, and in the months of July and August, one day after rain, late in the afternoon, are planted in the prepared holes. Care should be taken in transferring the young plants, that they are not in anywise injured either in leaf or root. Some prune the taproot with a sharp knife at the time of transplanting, and others, after that operation, top the seedling. The object of the first process is to bring forth smaller trees with fewer branches, but quicker production, and in the latter case the branches are stimulated, becoming vigorous, and the growth of the stem is forced from below. A ring (cajete) should be hoed around each tree, wide enough to admit manure and of connection with the ditches mentioned heretofore for irrigation purposes. If it does not rain the following day after transplanting, the plants should be irrigated, and afterwards as often as the plant requires it. A good many soak the young tree in water before transplanting, which must undoubtedly help it in its transition. Two or three days after, if the earth around the plant has settled, loose soil mixed with leaf mold or manure should supplant the loss. Small crops can be cultivated between the trees until they begin to yield, and, as stated before, they should be irrigated and also plowed (preserving the watering ditches) once or twice during the year. The trees must be made to grow straight and all branches and shoots below 5 feet must be carefully pruned off.

When the trees are mature, dead and ill-shaped branches should be removed with the pruning saw, the wound being trimmed with a knife and then tarred over; wax can be substituted for the tar if the former is not obtainable. This is done to prevent decay entering into the heart of the tree. These precautions have not been taken by the planters until the last few years. Since the ubiquitous American has shown himself in the field to look for pastures new in the orange supply and since the injury to Florida oranges, Mexican growers have paid greater attention to production by cleaning and pruning old trees and setting new orchards with more care.

HARVESTING THE CROP.

Maturity of crop varies very much in this country. In Campeachy, Chiapas, Oaxaca, Guerrero, Atlixco (Puebla), and Yautepec (Morelos) the fruit ripens as early as July and the season lasts until the 1st of December, while in Cordoba and Coatepec (Veracruz), in Michoacan and Jalisco until September, Rio Verde and Montemorelos following, and the Sonora crop comes in last, about November 10. Every attempt should be made by old and new planters to induce their orange trees to bear early crops. A good deal can be done in this direction by irrigation, careful pruning, by keeping back the

fruiting period or by picking the fruit early, so as to stimulate the inflorescence of the tree, and when a very early bearing orange tree is obtained, it should be propagated by budding and grafting. The earlier the orange fruit gets to the market the greater the prices obtained. A shipment of Yau-tepec oranges commanded, in the month of September, as high as \$3.50 (gold) a box in St. Louis and Cincinnati, notwithstanding that 10 per cent of them were wormy. The flower in the warmer climates appears in the latter part of October, and the season lasts throughout the whole orange territory until May. During these months the blossoms (azahar) can be collected by placing mats on the ground and by gently shaking the trees. From a full-grown tree not less than 10 to 15 pounds of fresh flowers should be obtained; some trees produce as high as 25 to 30 pounds. These should bring from 25 to 37½ cents a pound; by properly drying, which reduces their weight to half, 75 cents to \$1 a pound is paid by druggists and dealers.

The yield in Mexico varies very much—soil, climate, proper irrigation, pruning, and cultivation being important factors in determining the extent of the crops. In Atlixco, Yau-tepec, and Tacambaro, the trees average 860 oranges each; but in Atotonilco, Montemorelos, and Hermosillo the average yield is from 1,700 to 2,200 oranges per year, producing one crop a year. With the advantages of climate and soil, the tree in Mexico should yield from 5,000 to 8,000 oranges.

DEFECTIVE PACKING.

Principally through the careless collection, classification, and packing by the producers, the Mexican orange, up to a few years, has not sold in the United States on a large scale. In disposing of fruit beyond the home markets, close attention to three operations must be exercised, viz: For picking the fruit, ladders must be used for tall trees, and the oranges must be cut with scissors, leaving on a quarter of an inch of stem. The fruit must not be injured in any way, consequently the gatherers should not be allowed to drop it on the ground; the freighters should be admonished to handle it gently, and not allow it to get wet by rain, and the packing house should be located at a short distance from the orchards. The fruit is generally hauled in huacales (crates) costing 87½ cents apiece; these should be covered inside with banana leaves or some other kind of green material.

At the packing house, where the fruit is piled, a layer of thick straw should be placed on the floor. The packing house should be so arranged as to have the assorting machine in the middle and the operators all around it close to a huacal, which receives the fruit from the shoot as it is assorted. The main operators are the separators of the fruit, who stand on high stools next to the machine, separating all damaged fruit, including that which is in the least suspicious of being injured. The good fruit is sent along the revolving cylinders to be assorted and the rejected fruit (desecho) is thrown in a huacal placed opposite the separators, which is afterward sold for from \$2.50 to \$5 a thousand.

The assorting machines used for the last two seasons are manufactured by Messrs. Woodward & Jones and the different sizes which they assort consist of 96, 112, 150, 176, 200, and 250 oranges to the box. The 96 size is rather too large and the 250 size too small. The best selling sizes are 112, 150, 176, and 200. The greater proportion of the Mexican oranges takes in those sizes; not more than 5 or 8 per cent are found of the other sizes. Women will do better packing than men; after they are trained, experts prefer their work altogether. The box should be 2 cubic feet, inside measurement, and growers as well as shippers must not allow themselves to be imposed upon by agents or box manufacturers, as other dimensions will interfere with the packing, by reason of the orange being packed too tightly or too loosely. The ends of the boxes are solid, but the tops, bottoms, and sides are boarded up with laths 6 inches wide, a space of about 1 inch being left between the laths. The box is divided into two equal compartments by a solid piece of wood similar to the pieces used for the ends. The boxes are usually put together by the grower or shipper, the various pieces being imported from the United States already cut, as the box material furnished by manufacturers here is not yet of the best. One car of imported material will be sufficient to pack 4,000 boxes. Boxes come in free, but paper pays duties of 10 cents per kilogram.

Besides the above precautions to be taken, it will be well to add the following suggestions: The oranges intended for export must be gathered before they are ripe, about beginning to turn yellow, but they ought to be fully formed. They will ripen after they are gathered, and in the ripening process the green skin turns yellow. A dry day should be selected on which to gather the fruit, as it is very necessary that all the moisture about the skin must be evaporated before packing. Rain does not hurt the fruit while it is on the tree, but if it gets wet after being cut, it is liable to spoil. However, in Mexico it generally rains in the afternoons and the pickers have ample time to gather the fruit, by starting on the work at daybreak, before the rains can do any harm. Moreover, the oranges can be set in trays for a day or two, in the packing house or room near by, before packing; when they are dry, any defect or bruise is easily seen. Each orange must be wrapped in tissue paper, imported from Europe or the United States, and it should be cut into sixes (9 by 10 inches) sufficiently large to wrap up the oranges smoothly and evenly. The packing should be so close that the oranges will not shake about; indeed, in nailing the laths on top it is as well that they should slightly compress the fruit. Later on, it will dry and decrease in bulk. The oranges in each box should be of the same degree of ripeness, and, after the boxes are packed, they should be handled carefully for fear of bruising the fruit. The expense of packing the fruit consists of: Gathering the oranges, cut with scissors, 25 cents per carga of 4 gross; hauling same to the packing house, 12½ cents; packing, 4 cents per box; separating and assorting, 8 cents per box; nailing, 3 cents; and transportation to railroad station, 4 cents per box.

COST OF LAND AND CULTIVATION.

Thus, it has been shown what the fruit costs—\$4.50 (Mexican currency) per box to the shipper, placed in Kansas City, St. Louis, Chicago, and Cincinnati. It will not be amiss to add the cost of land and cultivation. For the benefit of those who do not possess large resources, an effort is herewith made to show how the best results are obtained on a small tract of land, say 11 acres, 10 acres in oranges:

Description.	Cost in Mexican currency.	Description.	Cost in Mexican currency.
Land (from \$25 to \$100 an acre).....	\$1,100.00	Seed beans \$3 and corn \$1, 6 years, 5 acres each.....	\$24.00
Houses, one of \$350, another of \$50.....	400.00	Harvesting and shelling beans and corn, 6 years.....	60.00
Farming implements.....	35.00	640 buds.....	16.00
Clearing of land.....	77.00	Manuring, 6 years.....	30.00
Plowing land, 10¼ acres, first year.....	21.50	Total.....	2,579.90
Garden and seeds, half acre.....	10.00		
Fencing and outhouses.....	60.00	<i>Production.</i>	
Nursery (3,516 seedlings).....	12.30	6 years' crops of corn, 300 cargas, at \$3.....	900.00
200 Riverside navel trees, at 80 cents each.....	160.00	6 years' crops of beans, 500 cargas, at \$5.....	2,500.00
Planting Riverside navel orange trees....	4.00	2 years' crops of Riverside navels, 120,000 at \$4 per 1,000.....	480.00
700 cuttings and planting in trench.....	14.00	1 year's crop from cuttings, 21,000 at \$4..	84.00
Transplanting cuttings, second year.....	14.00	Total.....	3,964.00
Transplanting 640 seedlings.....	12.80	Less expense and cost of land.....	2,579.90
Replacing, 10 per cent.....	1.30	Net profit at end of seventh year.....	1,384.10
Plowing 10 acres, 6 years.....	120.00		
Irrigation, 7 years.....	98.00		
Weeding and cultivating, 7 years (\$40)...	280.00		
Planting of corn, 6 years, 5 acres.....	15.00		
Planting of beans, 6 years, 5 acres.....	15.00		

From the eighth year forward, the plantation will average from 576 to 600 oranges per tree, and on the tenth year, 1,000 oranges per tree at a yearly expense of \$200 for the 10 acres. Two peons (day laborers) can do the general work of the plantation. These can be hired for from \$1.50 to \$2 per week each. From the tenth year on, a grower can have with all assurance a net income of \$6,000 per year out of such size plantation, if no plague or pest attacks the trees.

NO SERIOUS DISEASES TO COMBAT.

The tree in Mexico is not generally subject to any disease, nor is it affected by any pests. Chlorosis in the tree is evidence of too much water. By moderating the supply of water, it will stop. By spraying with a light solution of lime, the leaves and branches can be cleared of coccus and other insects. The scale bug, which did great injury to so many orchards in California, is not yet known among the orchards here. However, in Yautepec, a mosquito, which generally appears in great numbers after a very warm spring and late rains, bores into the fruit just at the time of turning yellow and deposits larvæ inside. These, in time, form several worms inside of the orange, and only experts can tell when the fruit is affected. Generally, a

deep yellow ring is found around where the hole is being made by the mosquito. Sometimes the puncture can be easily seen by the naked eye, but with the microscope it will be found always. These insects have been brought there by the introduction of mango, black zapote trees, and planting sugar cane among the orange trees. By careful cultivation, spraying at the proper time and whitewashing the trunks of the trees once every other year and not planting any other crop between the trees, all diseases and pests can be avoided and prevented. In some sections in California in years past, planters had some trouble with the worm, but by proper legislation, compelling them to spray their orchards, this defect in the fruit was obliterated. The same thing must and can be accomplished in Yautepec, the only affected district. The attention of the authorities has already been called to it.

The "creased" orange is very little known here. This defect is found in colder countries. Creased oranges will not stand transportation.

WILLIAM J. CRITTENDEN,

Vice and Deputy Consul-General.

CITY OF MEXICO, *October 20, 1896.*

AMERICAN BICYCLES IN GERMANY.

Do American bicycle manufacturers desire a market for their machines in Germany? There can be but one answer to the question. The market is one that will next year grow to very large proportions, and, by proper methods, American manufacturers can secure a very good share of it. They must, however, begin now to perfect their plans, for the campaign will open up very early next spring. It is predicted that next season will see in Germany as great enthusiasm for the sport as now exists in the United States. This is an opinion the writer shares and he believes also that given enterprise and right methods on the part of the American manufacturers, they can make it redound largely to their advantage.

That they may proceed more intelligently in the premises, it will be advantageous to describe the conditions existing in Germany. Many high-grade American machines are already represented in the Empire, but they have only met with a moderate degree of success. There are several reasons for this, but the principal one is that the machines are too expensive to compete with the best grades of German machines. For example, there are three particular machines which meet with the greatest success in Germany. The first is an Austrian machine, made of excellent material, of good, honest workmanship throughout, but weighing, on an average, 30 pounds. The best grade sells for 325 marks (about \$80); a second grade is also offered for about \$70. The second machine is of German make, is solidly, but clumsily, constructed and sells for 330 marks (about \$82). It also weighs about 30 pounds. The third machine is light-running, in the writer's opinion lightly constructed of material not first class, and sells for

\$70, with a second grade at somewhat less. It weighs about 28 pounds. Besides these, there are numerous other machines, some of them well but too heavily built, but mostly of an inferior quality of workmanship and material.

Any one of the so-called high-grade machines placed alongside any high-grade American machine loses vastly by the comparison, the superior lightness, elegance, and running qualities of the latter being at once apparent. With the exception of those Germans who absolutely refuse to have anything to do with a foreign-built article, this superiority is universally recognized. The price of 420 marks (\$100) is, however, the sticking point. Apart from the comparatively few with whom money is no object, but quality supreme, the intending bicycle buyer in Germany will turn aside, many times regretfully, from the American machine and buy the German article at 325 marks. There are many, however, who honestly believe that American machines are inferior to the heavy German makes. This arises through the persistent misrepresentations of some German manufacturers and dealers who are alarmed at the invasion of their home field.

Instigated no doubt by them, the *Radwelt* (Wheeling World), the organ of the bicycle industry in Germany, recently published a bitter article decrying American machines, asserting that the editor of the paper had recently taken a first-class American wheel apart and could therefore assure his readers that neither in material, solidity, nor durability was the American machine the equal of the German, and that since the industry had been established in Germany since 1885 and in the United States only since 1891 (sic) it must naturally follow that the American did not possess the same experience in the art of building machines. This, despite the fact that the German dealer imports his wooden rims from America, sometimes his tires, and one maker, every important part. The very fact of the superior lightness of the American machines is set forth by the German dealer as a disadvantage, yet he calmly sells women's machines of German make weighing 28 and 32 pounds and calls attention to their solidity. The women's American machine of 20-pounds weight he coolly pronounces unsafe, and yet it may be asserted that no German machine is submitted to factory tests half so severe as those which must be endured by the best American makes. Writing from personal observation, the writer can add that some dealers have even gone so far as to purchase third-class American machines, nearly worthless, which are exhibited as American makes of the highest grade, and comparisons are then drawn with standard German makes to the natural disadvantage of the American maker. In spite of all this, the merits of the American high-grade machine are gradually becoming recognized, but the high price remains the obstacle, and, in the opinion of the writer, will always prove a decided hindrance to any considerable development of the trade. It must be remembered that, in Germany, the average income is much smaller than in the United States, and that, in consequence, the difference between a machine costing 325 marks and one costing 425

marks is a much more deterrent factor than the difference between \$80 and \$100 at home.

Another obstacle in the way of the widespread purchase of American machines lies in the manner of sale prevailing here. When a German wishes to learn to ride a bicycle, he goes to some local dealer who engages to teach him to ride, charging him nothing if he buys a machine, and he has, as a rule, nothing but German machines, but demanding 30 marks should a wheel not be purchased. The result is that, in most cases, the purchaser contents himself with some one of the makes handled by his instructor.

Despite these various obstacles, the writer believes the American machines, and especially women's machines, can find a market here if certain suggestions are followed. In the first place, without reducing the quality of the wheel, the price must be lowered to at least 350 marks. This decrease from the regular price of 425 marks the manufacturer must divide with the local agent, so that the latter can make as much on the American machines as he could on the German. In the second place, the business should not be put into the hands of some German general agent in Hamburg, Berlin, or Frankfort, who may or may not interest himself in the establishment of local agencies. On the other hand, the American manufacturers, acting together, should establish their own general agency in one of the cities named, under one of their own men working under salary and commission. At this general agency, a good supply of machines should be carried and a large stock of machine parts. This salaried general agent, acting, as already suggested, for several houses, should then visit the different cities of Germany, seek out a good local agent, preferably a bright young rider who has had some experience in a bicycle shop or store (and they can be found by the score), and should give him the exclusive handling of the machines on commission, the price being fixed at not to exceed 350 marks. To this agent, half a dozen or more machines should be sent for sale and exhibition, and, in addition, a man's and a woman's machine (second hand) for teaching purposes. A list of addresses should then be furnished the general agent by the local agent, and to each one of these addresses should be sent catalogues, printed in German, with the further announcement that the machines may be seen at such and such a place and that the local agent will be glad to teach intending purchasers free of cost. Since the German dealers make a point against American machines to the effect that they can not be repaired in Germany should anything happen to them, it would also be well to state, further, that all necessary repairs could be procured through the local agent. This can be done through an arrangement with a local repair man, who can be found in every town, and who, as a rule, having once had explained to him by the general agent any peculiarities in the construction of the American wheel, is entirely competent to make repairs. In addition, the announcement must state the readiness of the manufacturer to give the strictest guaranty. With the selection of the proper man as general agent, this plan could not fail to be highly successful. As an example, the writer knows in his own circle of

acquaintance of at least six persons who, convinced by his assertions, would have bought American machines this fall could high-grade wheels have been had for 350 marks each, and had they been on sale in Brunswick.

If American manufacturers expect to make headway against the German makers in the latter's own field, they must be prepared to deliver superior workmanship and material at German prices. It might be added that the duty, which amounts to only 4 marks, is no obstacle.

E. W. S. TINGLE,
Consul.

BRUNSWICK, *November 9, 1896.*

GROWTH OF GERMAN LIFE INSURANCE COMPANIES.

The economical administration of the German life insurance companies is responsible in a large degree for the good financial showing these companies make in the published statement of their business and condition during the year 1895. There are in Germany forty-one life insurance companies; of these, twenty-two are mutual and nineteen joint-stock companies. The amount expended by these forty-one companies during the last calendar year for their management and agents' commissions was 25,789,000 marks (\$6,137,782), or 9½ per cent of the receipts from premiums and interest from investments.

The German life insurance companies enjoyed, in 1895, an all-round favorable development; 174,754 applications, to the value of \$158,929,736, were made, against 168,965 applications, valued at \$148,603,392, in 1894. From these applications, 134,725 policies, to the value of \$118,826,022, were written.

The twenty-two mutual companies wrote 65,228 policies, amounting to \$58,005,958, and the nineteen joint-stock companies, 69,497 policies, amounting to \$60,820,424.

The number of policies issued and the value thereof during the last five years has steadily increased.

Year.	Policies.	Amount.
1891.....	108,623	\$97,082,034
1892.....	119,645	107,720,232
1893.....	120,594	106,290,324
1894.....	131,248	112,076,580
1895.....	134,725	118,826,022

The policies becoming claims by deaths were fewer in 1895 than was anticipated. The amount set aside by the companies to meet such claims was \$3,332,000 more than was needed.

The total number of policies in force in 1895 in these forty-one companies was 1,458,908, representing in all \$1,256,710,448, a net increase over

the previous year of \$67,771,730, a greater increase than was shown in any previous year since 1890. The annual increases were :

1891.....	\$53,263,448
1892.....	61,553,702
1893.....	59,082,310
1894.....	63,433,664
1895.....	67,671,730

The assets of most of the German life insurance companies show an increase in keeping with the growth of the sums assured. The forty-one companies received in premiums in 1895, \$50,586,622, an increase of \$3,866,786 over 1894, and interest from investments, etc., amounting to \$13,720,938, an increase of \$905,590 over 1894.

These receipts were applied as follows :

Payment of death claims.....	\$15,628,746
Annuities and policies becoming claims during lifetime of insured.....	6,396,960
Purchasing and returning premiums to cancel policies.....	1,874,488
Reserves and security funds.....	24,052,756
Reinsuring in other companies.....	660,450
Management and agents' commissions.....	6,337,782

In spite of the decline of interest in sure investments, the German companies made a larger profit than in 1894. The surplus, after meeting all obligations and expenses in 1895, was \$10,121,188 (in 1894, \$9,746,814). This surplus was used as follows : Paid to assured holding policies sharing profits, \$8,804,810, or 87 per cent ; paid to shareholders and sureties, \$608,090, or 6 per cent ; to reserve funds, \$640,792, or 6½ per cent.

The security funds to meet the obligations of the forty-one companies amounted to \$386,601,726, or \$7.33 on each 100 marks (\$23.80) of insurances in force, an increase of \$19,760,664 over 1894.

These companies had, in 1895, investments amounting to \$437,904,706, as follows : Mortgages, \$321,795,278, or 73½ per cent ; advanced on policies, \$24,429,272, or 5.6 per cent ; State bonds, \$19,938,450, or 4.6 per cent ; real estate, \$10,673,348, or 2.4 per cent ; loans on securities, \$4,551,750, or 1 per cent, an increase of \$31,342,696 over 1894.

The German companies use great caution in selecting their investments, preferring the certainty of mortgages to uncertain stocks and speculative railroad shares subject to exchange fluctuations, investments which tempt some foreign insurance companies with the high rate of interest offered.

The progress of the German life insurance companies is therefore very noticeable, both in new business and in their financial standing. It must be remembered that the great American companies were prohibited from writing new insurances in Prussia during the year 1895. This must also, in a measure, account for the good showing of the German companies.

THOS. EWING MOORE,

Commercial Agent.

WEIMAR, *July 28, 1896.*

TYPHUS ANTITOXIN.

In the next number of the *Deutsche Medizinische Wochenschrift* (edited by Professor Eulenberg), Prof. R. Pfeiffer and Dr. W. Kolle, two well-known bacteriologists of Berlin, will publish the results of a number of experiments which they have made with a "typhus antitoxin," prepared by them after much study and trial in their respective laboratories. If the hopes of the two investigators are confirmed, the science of medicine in infectious diseases will have received another most valuable accession in this new discovery. The two experimenters believe that exemption from typhus germs, like immunity from cholera germs and other contagious diseases of like character, may be traced back to the existence in the blood of antityphoid substances, and from this standpoint the very successful results of the investigations made by these gentlemen have been gained. That this theory is most important and practical is realized when the vitality of the typhus bacillus, as discovered by Koch, Eberth, and Klebs, is given consideration. The typhoid bacillus is known to exist largely in well and spring waters, and the fact that these are frequently the direct cause of infection is widely recognized by authorities on bacteriology. Consequently, this latest important discovery is greeted with joy and great praise of Professor Pfeiffer and Dr. Kolle, whose untiring efforts of experiment with these bacilli of such infinitesimal organisms will prove in the future the means of preserving numberless lives from untimely demise, particularly as man is prone to attack from these bacilli during the best years of his development, *i. e.*, from the age of 20 to 25 years. The inoculations of typhus antitoxin can be easily and quickly executed and, it is thought, will prove of great value and benefit, especially in times of epidemic, when the needs for a prompt and efficacious life-saving remedy are most urgent.

Professor Pfeiffer and Dr. Kolle will very shortly publish the entire fruits of their experiments for the benefit of the medical fraternity in Europe and America.

GEO. SAWTER,

GLAUCHAU, *November 14, 1896.*

Consul.

 THE BOOK TRADE OF GERMANY.

One of the most curious organizations, curious on account of the age of its institution and its effects, is that of the German book trade. Even in this all-improving and changing century the principles of the organization and their result are the same as in olden times.

There are two principal points which are the cause of the flourishing state of the trade in Germany; they are the firmly established selling price and

the right of the retailer to return unsold books. The first, in connection with an extremely long credit, is a benefit known in no other trade, and is the most solid basis for each retailing house, because it excludes the combination of large capitalists of the book centers, such as Leipsic and Berlin. The facility to get an open account at the publishers has favored the spreading of many retailers, not only in large provincial towns, but even in the smallest market places. There are few towns in Germany of a thousand inhabitants which have not their bookseller, and even sometimes small villages have a retailer who is able to keep and to procure, besides his stationery, all books published in Germany. All of these merchants have a relatively higher standard of life and intellectual culture than their foreign colleagues, because nearly all of them have passed several years in the most famous houses before they began to think of their own establishments.

According to the statistical reports of 1896, there are in Germany 8,364 booksellers (exclusive of the bookbinders of small places, who also keep, besides their special business, stationery and books), that is, one bookseller for 5,000 inhabitants. Of this number, 1,923 are engaged only in publishing, 268 in fine arts and fine-art books, 301 in music, 5,014 combine retailing with publishing on second hand and stationery or fine arts or music or maps, and 858 are engaged in colportage business. Circulating libraries and newspapers are kept by 2,754 persons.

This great number of retailers, provided with the right of returning unsold books, gives the publishers (nearly 2,000 houses) the power of allowing a great discount to the retailers. While in other countries, one of the largest part of the publishing expenses consists of advertisements, the German publisher spends little or nothing in that line; he simply sends all novelties out "on sale" according to a scheme established with the retail trade, or to special wishes of the retailers, which he learns by means of his inexpensive circulars. The retailers, of course, to avoid unnecessary postage, only ask for those books they hope to sell by the exhibition of same in their windows or by sending them for examination to their customers.

In no other trade is so close an understanding cultivated as between the German bookseller and his educated customers. If any book is published, and the bookseller knows it suits Mr. A's taste or will benefit Mr. B, he sends the book out as soon as it arrives. In this way, each book is made much better known to the public than by expensive advertisements. There is naturally a large sale of good books in this way up to the time when the book is finally rejected by the public. If there are, therefore, a good many more books sold in this way than by any other means, even this method can not help to sell bad books; in this event, the publisher has only to regret his publishing fees, not extra fees.

In regard to the sale of books, every retailer is expected, in his own interest, to give the same his best attention, and in return he gets a considerably long credit. He has to pay for all books received between the 1st of January and December at the Easter fair of the next year (which term is gen-

erally at the end of April or beginning of May). The discounts on fixed accounts are different, depending upon the sort of books. On scientific works and school books, it is usually 25 per cent of the selling price; on gift books, novels, and juvenile books, 30 per cent; on periodicals, $33\frac{1}{3}$ to 40 per cent, but the last percentage is only given on short terms, generally for cash. Of ten or twelve copies ordered, one is gratis. For gift books, novels, juvenile books, with cash payments, special conditions, from $33\frac{1}{2}$ to 40 per cent, and on juvenile books even 50 per cent, are granted. The competition between juvenile-book publishers is so strong that most of the best houses give their books, if especially favored and recommended by retailers, with 50 per cent on sale and the right of exchanging unsold books.

It is not to be overlooked that, from the economic point of view, the present state of the German book trade, which favors the small shops by holding up a fixed selling price and allowing to a small business the enjoyment of the whole benefit of the discount, is the best, in so far as it allows a much larger number of established merchants to exist by this one trade than if some large capitalists in the book centers reduce all provincial merchants to poor stationers by their competition with lower prices and larger assortments.

The number of new publications in Germany in 1895 was as follows:

Description.	Number.	Description.	Number.
General bibliography, cyclopedias, collective works, letters of literary societies, university matters.....	395	History.....	809
Theology.....	2,180	World description and maps.....	1,214
Jurisprudence and politics.....	2,261	Science of war.....	717
Medicine.....	1,651	Trade and industry.....	1,229
Physical science and mathematics.....	1,286	Building and engineer science.....	615
Philosophy.....	225	House, country, and forest economy.....	1,756
Education, instructions, juveniles.....	3,732	Art.....	1,358
Philology and literature.....	1,361	Public letters and miscellaneous.....	1,951
		Total.....	23,607

The astonishing number of scientific books published in Germany can only be explained by the intelligent help of the retailers. Equally surprising is the enormous number of pamphlets, political and scientific books of smaller size, which are published. While in England and France, most works of this size find their place of untimely burial in the scientific magazines, the German publishing trade, besides starting with an enormous number of the said publications, finds in the assistance of its sure staff of retailers the courage even to reprint a large number of newspaper articles in book form.

The German book trade has its legal concentration and representation in the Boersen-Verein deutscher Buchhändler (Exchange Society of German Book Dealers) in Leipsic, consisting of 2,685 members. Its purpose is the furtherance of the welfare and the representation of the interests of the German book trade, especially in creating and sustaining institutions in behalf of reciprocal business and the settlement of regulations for the relations of

the book dealers among themselves, as well as the traffic of the book dealers with the public.

A special merit of the Boersen-Verein has been its effective influence on literature and trade legislation, especially its interest in the legislation as to the counterfeiting of books and in the law as to authors' rights, dated June 11, 1870. It also took part in the international literary convention held at Berne, Switzerland, on the 9th of September, 1886.

A product of its recent activity is the book-trade regulation which gives legally determinative trade customs. The chief point of this trade regulation is the obligation of all the 2,685 members and 1,220 book dealers to keep the shop price. Only for cash payments is permission given to offer a discount of 5 per cent, periodicals excepted. An exception is granted, according to old custom, to the two cities of Leipsic and Berlin, which, however, in turn have to give 10 per cent inside of the city. Each case of offense is immediately examined by the local and provincial societies, and where the accused does not vindicate himself, he is reported to the exchange society at Leipsic for further examination. If the offense is established, it is communicated by the exchange society to all its publisher members (and nearly all publishers belong to the society), who are bound to supply the guilty party nothing or to give him no discount, as the finding may be.

These measures of the publishers and the power of the exchange society are so effective, in spite of all backsliders and presumptive opposition of outlawed firms, that the institution flourishes.

The useful institutions of the exchange society (which owns a magnificent building at Leipsic) are the Exchange Paper and Advertiser for Book Dealers; the Order Institution of Booksellers, for forwarding correspondence; the Booksellers' Exchange, for settlements; and the established commission agencies. These all facilitate and make the procuring and payment for books cheaper than in any other country.

As soon as a work is in print, the publisher advertises it in the Boersenblatt to the booksellers, and by the direct transmission of circulars, which have to be handed en bloc to the Buchhändler-Bestell-Anstalt (Order Institution for Booksellers) at Leipsic, attends to the transmission to every bookseller on commission. The order, printed together with every notice, is filled out by the seller on commission according to his best judgment, ordering more or less volumes "on condition" as he expects to have customers by sending same for examination and by displaying in his windows. Novelties of prominent authors and pamphlets of momentary interest are sold only for cash or on fixed agreement, and in this case, the seller on commission considers very carefully whether any or how many volumes he may order; such cases, however, are exceptions.

These orders, as well as the orders on books given by the public to the seller, are sent by dozens and hundreds four to six times a week, according to the importance of the firm, to the commissioner of the house at Leipsic. All important and urgent orders are especially named by the bookseller to

the commissioner and are brought from the interested publisher by a messenger, and, according as desired, are forwarded as dispatch bales to the ordering firm on the night of the day on which the order arrived or the following morning. By this mode, the bookseller receives, even at Berlin and Breslau, his ordered goods on the second forenoon after sending his letter, which is much quicker than by transmission in single post parcels; and by packing all the parcels in a cheap dispatch bale, considerably lower rates are secured than by mail delivery. The amount of work done in gathering these orders is shown in the best way when it is considered that the larger part of the 5,000 retailers receive one dispatch bale weekly, larger firms two to three, and many firms daily from Leipsic. Not only the publications of the Leipsic firms are to be had in this way, but nearly all the greater publishers of Germany and Austria—even many of foreign countries—keep stocks of all current works at their agents.

To give an idea of the extent of such a Leipsic commission agency, I beg to mention that one firm (of course, one of the most important), employing 86 persons, represented, in 1892, 535 firms, viz, 424 firms in Germany, 96 in the rest of Europe, and 15 in other continents (5 of these in the United States).

All orders, business papers, and correspondence of various kinds from the booksellers of Germany and abroad, so far as they are represented at Leipsic, are daily sent to the Buchhändler-Bestell-Anstalt (Order Institution of Booksellers), where, by a well-educated staff of selectors, the same are exhibited for the firms concerned and placed in order and distributed. If the firms are not in Leipsic, their respective orders are turned over to their commission agents for further transmission. Much work and postage are saved in this manner by the Order Institution to these firms. Orders not urgent are carried twice a week by the Leipsic publishers or furnishing stocks of outside publishers to the commission agent of the provincial "sortimenter," and are delivered to them per dispatch bale. Similar institutions for the collective trade are also established in Berlin and Stuttgart, where North and South German sortimenters have a second commission agent.

In the same manner, payments are simplified. Almost without exception, the sortimenter extends the credit for all goods ordered in the course of the calendar year until the Easter fair of next year, at which time he can survey his obligations, after returning or crediting again all books not sold, so far as it is possible, by means of the bills of the publisher, which are generally printed for this purpose, and on which are named all novelties or salable works. He then transfers the amounts to a new list, in duplicate, on which are given the names of about two thousand publishers, and sends them with the payment directly to his commission agent.

Every commission agent writes the different lists of his principals on a general publisher's list, and makes the payments one week after in the Booksellers' Exchange to the Leipsic publishers and assignees of outside publishers, who represent the whole publishing trade. In this way the sortimenter saves an innumerable number of single postal money orders or exchange fees.

The publisher is also the banker of the sortimenter, paying cash at once for all shipments ordered for monthly payments. These cash orders enlarge from year to year. Periodicals are given only for cash payments, calculated for one quarter or one year in advance. Periodicals bought in this way may be exchanged for cash by mediation of the commission agent within two months after the beginning of the quarter. For books bought for cash, especially for novelties, a higher discount is granted, which causes more and more the sortimenters to supply all goods bought "on condition" at cash payments as soon as they have sold out what is expressly permitted by the above-named trade regulations of the exchange society. For all these labors, the sortimenter and commission agent pay, besides the settlements of the packing for the bales and other expenses, only a small fee of about 150 to 180 marks on a sale of about 100,000 marks per annum and a commission fee of one-half of 1 per cent of the cash goods which he bought from the publisher.

An important factor in facilitating "sortiment" dealing is the cash basis which began forty years ago. From the simplest beginnings it has become the most important factor for this flourishing business of the publishers and dealers.

These organizations (there are five or six very considerable ones in Leipzig and Berlin) buy all salable books in great quantities, keep them always bound in stock, and sell them for cash to the sortimenters for the usual cash discount of the publishers at a large sale in quarterly accounts. By their stock not represented at Leipzig, by large discounts, profitable payment conditions, free packing, and polite dealing, these cash sortimenter houses have become such a desirable source to buy from that to-day 8 to 10 per cent of all the wants of the book dealers go through the cash sortimenter, a factor with which every publisher of generally interesting literature has to reckon.

Each of these cash sortimenters publishes every year a catalogue of his stock. The catalogue in the year 1891 of one of the greatest firms contains 363 pages and 8,000 titles; the most comprehensive cash sortiment catalogues of the firm of F. Koehler, 1895-96, is even of still greater magnitude.

On account of the law of the German Empire as to "limited companies," several book companies have established themselves in Frankfort, Breslau, and other points for the purpose of having general headquarters. Some of them are flourishing, and besides the direct profit which they give to all members, they were also able to distribute a dividend of 6 per cent in 1895.

These simple but effective reasons for the flourishing state of the German book trade have caused in Italy, France, and England, where the sortiment trade is unfortunately depressed, a movement for the introduction of the system which obtains in the German organization. In fact, this very old German method has become so powerful and instructive as to furnish a plan that may well be imitated by the book dealers of all nations.

FREDERICK OPP,
Consul.

BRESLAU, *August 7, 1896.*

MANUFACTURE OF EXPLOSIVES IN GERMANY.

Events in the East, the war in Cuba, disturbances in South America, and the rumors of war to come have called Germany's explosives mills into great activity. War materials take rank among the most important exports of the Empire. Last year saw nearly twice as large quantities of war munitions in the export lists as in 1894. During the last three years, there went out:

Articles.	1893.		1894.		1895.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Explosives.....	<i>Double cent.</i> 22,675	\$809,000	<i>Double cent.</i> 40,272	\$1,746,000	<i>Double cent.</i> 50,450	\$1,809,000
Artillery fuses, powder, etc.....	82,123	3,700,000	85,503	3,451,000	92,309	4,165,000

In spite of the closest competition, this year's business will be better than last year's. Orders given last year are yet to be filled. The countries that take the most of these exports are Africa, China, the Argentine Republic, and Brazil. Hunting powder has hardly held its own. This is largely due to the fact that there is rather a decrease than increase in the world's demand. On an average, the German Empire, even in this article, has had a fair share of orders. China has taken, since 1894, the largest number of cartridges, fuses, and guns; then come Turkey and Spain in the order named, the latter ordering large quantities to Cuba. Belgium, Denmark, Norway, Bulgaria, Roumania, England, Austria-Hungary, Africa, East India, the Philippine Islands, the Argentine Republic, Brazil, Chile, Peru, Uruguay, Venezuela, Mexico, and the United States take large quantities annually. Munitions of war make up by far the largest part of these shipments. German hunting cartridges, especially those loaded with smokeless powder, are bought in large quantities. The explosives go in largest shipments to South Africa—to the Cape and Transvaal. Then come, in the order named, Russia, England, Mexico, Chile, Australia, Japan, China, Denmark, and Sweden. In these articles, the export is threefold greater to-day than it was two years ago. These are welcome results to factories that suffered from a falling off in sales of explosives, due to the law forbidding the use of explosives in coal mines. These losses are being made up by the use of patented explosives in the use of which danger in mines has been reduced to a minimum. It seems to me that United States manufacturers might make efforts to effect sales of these substances among the many nations enumerated above as Germany's best customers.

J. C. MONAGHAN,

Consul.

CHEMNITZ, July 14, 1896.

HOW GERMANS DYE COTTON.

A resident of this city (the famous dyer of blacks) owes his success to a system known to chemistry long before he made it the means of building up the largest and most interesting dyeing establishment of its kind in the world. He had hard work to get where he now is. He owes his wealth and name almost entirely to his own enterprise. Professors connected with the dyeing departments of Saxony's most famous technical schools assured me that he was the first who had the courage and enterprise to combine the practical chemist with the practical dyer. This he did some years ago, gaining results such as have secured him a position and name unprecedented in the history of textile dyeing. He dyes cotton, cotton and wool, cotton and silk, black, getting absolutely fast results. The method employed is known to chemists and dyers as the oxidation method. Hosiery, underwear, yarn, cloth, etc., are impregnated with a solution that, when exposed to dry warm air, oxidizes and turns green. The articles to be dyed are put on laths, run slowly through long chambers filled with warm air which is kept in circulation by means of revolving fans. It is a most interesting process, and one that might be introduced into our country with profit, the more so as cotton dyeing, with us, is practically in its infancy. Others oxidize, but this man does it on so huge a scale that he gets results attainable only in this way. His black has held most of the trade in fast blacks. Goods made in Great Britain, destined for the United States, have been dyed by him and sent back to Manchester or Liverpool to be shipped. The business in hosiery of this city is built up on this fast black. Efforts, I understand, are being made to induce the head of the famous house to visit the United States with a view to opening an establishment, similar to the one here, in some such city as Philadelphia, Providence, or Fort Wayne.

Another great factor that this German dyer found useful in forging his way to the front was the enterprise enlisted here and in the United States. Nothing new, if good, is or was for him too costly. Dealing with millions annually, determined to maintain the high standard always aimed at, he has an eye for any improvement, is in earnest and eager to give it a trial. His success illustrates, more forcibly perhaps than that of any man, the spirit of the new German Empire. He typifies its progress, its determination to break with the conservative methods of the past, its eagerness to excel, its fearlessness in facing all competition.

J. C. MONAGHAN,

CHEMNITZ, *July 20, 1896.*

Consul.

GERMAN EXPORTS IN 1895.

Germany's imports in 1895 dropped 40,000,000 marks (nearly \$9,520,000), as against 1894. She took from Austria 56,000,000 marks (\$13,328,000); Holland, 35,000,000 marks (\$8,330,000); and England, 30,000,000 marks (\$7,140,000); the United States, 21,000,000 marks (\$4,998,000) less than in the previous year. The most remarkable results relate to Roumania, which sent Germany in 1893 goods worth 84,000,000 marks (\$19,942,000); in 1894, 59,000,000 marks (\$14,042,118); while in 1895 she sent only 38,000,000 marks (\$9,044,000). Chile and Venezuela took less of the Empire's wares, while Argentina and Brazil took a great deal more. There was a large increase of imports from British Australia and the Dutch East Indies; from the latter, the imports more than doubled in two years. Imports from most European countries increased, France with an increase of 16,000,000 marks (\$3,808,000) and Russia 25,000,000 marks (\$5,950,000). The increase in the imports from Russia is small compared with what it was in 1893-94, the two preceding years, viz, 190,000,000 marks (\$45,200,000), due to the new commercial treaty. The exports show an increase of 373,000,000 marks (\$88,774,000) over 1894. All leading nations are in this list. The exports to the United States show the largest increase—97,000,000 marks (\$23,086,000) over 1894. The increase in the exports to Great Britain was 44,000,000 marks (\$10,472,000); to Austria-Hungary, 34,000,000 marks (\$8,092,000); to Switzerland, 31,000,000 marks (\$7,378,000); to Russia, 26,000,000 marks (\$6,188,000). The exports to France, which had fallen far in 1894, increased by 15,000,000 marks (\$3,570,000) in 1895, reaching thereby nearly the high mark of former years. The increase to Denmark was very large, viz, 17,000,000 marks (\$4,046,000). Exports to lands over the sea were large, especially to South American countries. Chile's increase was 22,000,000 marks (\$5,236,000), against decreases in the four or five preceding years; Brazil's increase was 18,000,000 marks (\$4,284,000); Argentina's, 7,000,000 marks (\$1,666,000); Mexico's, 5,000,000 marks (\$1,190,000). China took 7,000,000 marks (\$1,666,000), and Japan 9,000,000 marks (\$2,142,000) more than in 1894. Of the African states, the Transvaal makes the best showing, viz, in 1892 it took wares, etc., worth 1,000,000 marks (\$238,000); in 1893, 3,000,000 marks (\$714,000); in 1894, 5,000,000 marks (\$1,190,000); in 1895, 9,000,000 marks (\$2,142,000). Remarkable as are all these results, they are only what German push and perseverance warrant thoughtful observers to expect.

J. C. MONAGHAN,

CHEMNITZ, *October 10, 1896.**Consul.*

POTASH SALTS AS FERTILIZERS IN GERMANY.

The tendency to increase crops by artificial fertilizers is attracting the attention of cultivators more and more to the various potash salts. In an address recently delivered before the German Agricultural Society (Landwirtschaftsgesellschaft) at Eisenach, Professor Märcker, director of the agricultural chemical-test station at Halle, dwelt on the great importance of potash for the formation of coal hydrate in grains and named as suitable for this purpose the following natural salts, viz, kainite, krugit, karanit, and carnallite.

Kainite is by far the most important of the potash-containing minerals, the others being either produced in too small quantities to assume real importance or containing too little potash or too much chlorine. Kainite, as shown by chemical analysis, is composed as follows:

	Per cent.
Sulphate of potash.....	21.3
Chlorate of potash.....	2
Sulphate of magnesia.....	14.5
Chlorate of magnesia.....	12.4
Chlorate of soda (natron)	34.6
Sulphate of chalk.....	1.7
Water	12.7
Clay.....	0.8
Total	100

It contains, therefore, about 12.8 per cent of pure potash (corresponding to 24 per cent of sulphate of potash).

One drawback to kainite is its large percentage of chlorine compositions, which, according to the foregoing analysis, is 48 per cent. This would call for caution in its use, since too much chlorine has a negative effect on the development of plants.

Kainite stored for a certain length of time becomes a compact, hard mass. To prevent this it should be mixed with a small percentage of turf. It is evident that on a swampy meadow or too moist prairie soil, potash loses its effect; the level of the ground water must be lowered by means of canals, such as are employed in irrigation. A further condition to the effectiveness of potash fertilizers is the presence in the soil of sufficient chalk. The want of this can readily be supplied by the addition of marly iron or burnt chalk.

Regarding the best time for putting the fertilizing potash salts in the ground, it seems advisable to do so as soon before the sowing as possible. It should not, of course, be done immediately before the sowing, much less at the time the seeds are sown, for immediate contact of the salts with the grains will do the latter more harm than good. It depends also more or less on the humidity and composition of the soil, a sandy ground absorbing the water much quicker than a clayey one. The principle to go on must be

their widest distribution and dissolution on the surface before the beginning of vegetation. Fixed rules can not be given on this subject. It can be put down as a general rule that the drier a soil is the sooner the potash salts must be employed.

The chemical analysis of the most essential agricultural plants has given the following percentage of potash contained therein :

Plants.	Quantity.	Potash therein.
	<i>Pounds.</i>	<i>Pounds.</i>
Cattle turnips*.....	2,000	118.5
Potatoes*.....	7,500	46.9
Rye:		
Grain.....	1,000	5.8
Straw.....	2,000	17.2
Oats.....	1,000	4.8
Oat straw.....	1,500	24.5
Barley.....	800	3.8
Barley straw.....	1,200	12.8
Hay:		
Lupine.....	2,000	16
Clover.....	1,800	26.1
Meadow.....	3,000	48
Pease.....	800	8.1
Pea vines.....	1,600	15.8

* Turnips: Roots, 96 pounds; leaves, 22.5 pounds. Potatoes: Roots, 43.5 pounds; leaves, 3.4 pounds.

Therefore, the largest quantities of potash are found in cattle turnips, hay, and straw, while grains assimilate a much smaller percentage. It will be seen from these figures that the quantity of potash tilled into the soil must be in keeping with the crop to be grown upon it, viz, a hectare (2.471 acres) of ground to be planted in grain would require 200 pounds; prairie land and land planted with potatoes, 400 pounds; cattle turnips, 900 pounds of kainite. Fertilizing in this proportion would only be rational if all plants had like ability to absorb potash from the ground, but such is not the case. On the contrary, some plants absorb very large quantities, others very little, consequently the percentage of potash contained in the plants themselves is not the only factor to guide the farmer, their capacity for absorption should also be taken into account.

Of grains, barley needs the most potash fertilizing, then rye and wheat. Pease, oats, and potatoes, on the other hand, absorb potash readily and require less fertilizing. Of turnips and similar roots, less is known, but it is supposed they require much the same treatment as potatoes.

Regarding the employment of potash salts, the following rules are the result of careful observations:

In meadows and on turf or sandy prairies where hay is cultivated, potash salts are very effective, a failure being experienced only on very dry or very swampy soil. Very often prairies yielding small crops have, after being fertilized, given a very satisfactory increase of hay. A hectare of prairie requires from 400 to 600 kilograms (882 to 1,327 pounds) of potash (kainite),

to which 60 to 70 kilograms (132 to 154 pounds) of phosphate of lime may be added. This fertilizing must be repeated every year (the phosphate of lime every other year), as the potash contained in one crop proves that the stock can not suffice for more than one year.

In the matter of grains, the salts must be distributed as soon as possible, for if done at sowing time the growth of the grain would be delayed by too close contact with the potash. It is advisable to plow the salts under the surface. One hectare requires from 400 to 500 kilograms (882 to 1,102 pounds) of kainite and 70 to 80 kilograms (154 to 176 pounds) of acid phosphate in the form of Thomas phosphate meal or superphosphate in better ground. Barley requires a little more of both ingredients than wheat; oats a little less. It has been observed that potash prolongs the vegetation of these grains, and that heavier kernels as well as a richer straw crop are obtained. Lupine is, especially on light, sandy ground, very remunerative when potash is used as a fertilizer—400 to 500 kilograms (882 to 1,102 pounds) of kainite for 1 hectare of lupine—while phosphates may be saved.

Pease and beans, though needing less potash, have experienced good results by fertilizing. It is not necessary to use great quantities of kainite, but here 50 to 70 kilograms (110 to 154 pounds) of phosphate of lime will prove of great value.

Clover and like grasses thrive well upon a potash-phosphate fertilizer.

Potatoes require special care, as impure salts, with a large percentage of chlorate, may reduce the quantity of starch in the root, rendering the latter thereby less desirable for technical purposes, *i. e.*, the manufacture of spirits, etc. On the whole, potatoes seem to require only a proportionally small amount of potash, and it is not advisable to give them a strong fertilizing salt at the time of planting them, but rather to plant them on ground which the year before was fertilized with potash. The reduction of the starch caused by chlorate-bearing salts is rather considerable, *viz*: Carnallite causes a reduction of 4 per cent; kainite, 2 per cent; chlorate of potash, 1 to 1½ per cent; sulphate of potash magnesia, 0½ per cent. This would show that in no case should carnallite be used for potatoes. The taste of potatoes is also unfavorably influenced by the use of chlorate fertilizers, potatoes with too little starch having a soap-like taste. If potatoes be given potash at all, let it be in the form of sulphate of potash (free of chlorate).

The fertilization of cattle turnips may be viewed from the same standpoint as potatoes, only as they are not intended for human food, less precaution need be taken regarding the immediate use of potash salts. It seems that on light turf or sandy soil a greatly increased crop can be obtained through potash fertilizing, though the percentage of starch may be a little reduced. It is asserted that they can be better and longer preserved if they have been so fertilized.

Sugar beets require exactly the same fertilizing as potatoes.

The tobacco plant is easier affected by the disadvantageous influence of chlorine-bearing potash salts than potatoes or sugar beets, as its burning qual-

ity and flavor suffer under such influence. The pure chlorine-free potash salts are needed and can be given in spite of their higher price, which the valuable harvest abundantly repays.

For garden vegetables, cabbages, etc., potash fertilizing is very suitable. Asparagus, especially, is said to get a particular tenderness and flavor therefrom; 1,000 kilograms (2,204 pounds) of kainite or carnallite, with a like quantity of chile saltpeter, is said to double or treble the crop.

A last application for potash salts is for the conservation of stable and barn manure. Its use prevents, to a very large degree, the destruction of the organic substances and nitrogenous compositions which are the most effective parts of such manure. Manure treated with potash salts acts, when used, a little slower than ordinary manure. From three-fourths to 1 kilogram of kainite or carnallite is necessary to conserve the manure of one head of cattle or ten sheep per diem. It is advisable to strew it over the manure heap, rather than on the manure in the stable, where it might induce hoof inflammation in the cattle.

The German Agricultural Society, in 1895, produced and sold 433,000 tons of kainite, of which 190,000 tons were exported to foreign lands. In 1880, only 23,768 tons of kainite were used, against 293,000 tons in 1895.

The production of kainite and other potash minerals in Germany rose from 969,000 tons in 1884 to 1,526,200 tons in 1893. During the same period the production of chlorate of potash increased from 116,400 tons, valued at 15,610,000 marks (\$3,715,000), to 137,000 tons, valued at 17,305,000 marks (\$4,125,830).

In 1885, 68,982 tons of chlorate of potash, valued at 9,700,000 marks (\$2,308,000), were exported, and in 1894, 93,913 tons, valued at 13,500,000 marks (\$3,213,000), which was sent to the following countries:

Countries.	Quantity.		Value.
	Tons.	Marks.	
United States.....	42,138	6,000,000	
England.....	15,667	2,200,000	
France.....	10,434	1,500,000	
Belgium.....	8,353	1,200,000	
Sweden.....	8,160	1,200,000	

An advantage in potash salts is that, when they are employed, plants thrive with less humidity.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *May 23, 1896.*

GERMAN GLASS AND CERAMICS IN ENGLAND.

Large quantities of German glassware are annually imported into the United Kingdom. Take up a cup, saucer, bottle, or glass in a summer resort or bathing place in Great Britain and, ten to one, it will be marked "made in Germany." In 1889, Germany sent to England and her colonies, of such wares, \$2,380,000 worth; in 1895, nearly \$5,000,000 worth.*

The Thuringian cups and saucers, with colored landscapes, etc., were the objects most disliked by English houses making similar goods. Do what they would, it was impossible to compete with the German wares. This, to anyone familiar with Thuringia's and the Empire's "house industry," will not seem strange. Men and women, boys and girls, in their homes among the Thuringian hills, work on these cups, plates, and saucers at wages such as Americans or Englishmen would call starvation wages. Still, there is no starving; at least I have never seen any. The people pay their rent, eat wholesome food, live simply, and put away an odd penny for rainy days that seldom come. The system of invalid and old-age pensions put the workmen and workwomen of Germany outside the pale of actual want. Against labor so differentiated, organized, and cared for as is German labor, competition on the part of England will grow harder year after year.

J. C. MONAGHAN,

CHEMNITZ, *July 16, 1896.*

Consul.

THE COTTON INDUSTRY OF SAXONY.

It is interesting to note Saxony's growth as a spinner of cottons. In 1856, she had 133 concerns, with 554,000 spindles, that produced 19,300,000 pounds (average numbers 23s), employed 11,696 hands, of whom 2,427 were children, and paid in wages to men 12 marks (not quite \$3 per week), to women 6 marks (\$1.50). The mules (self-actors) had 460 spindles each and the spinning frames 180. The hours of labor were 84 per week or 14 per day. In 1896, she has 32 concerns, with 900,000 spindles, producing 80,000,000 pounds of yarn, running from the coarsest to 120s.† The mills of 1896 employ 8,500 hands, of whom only 87 are children under 14 years of age, the laws regulating the employment of children being rigidly enforced, exception being made in no case, unless where it is absolutely necessary, and then only after most careful investigation. The wages paid run from 16 to 24 marks (\$4 to \$6) for men and from 9 to 15 marks (\$2.20 to \$3.70)

* The total imports of china and earthen ware into the United Kingdom during the year 1895 amounted to only \$3,340,280, in which the imports from Germany figured for \$1,059,488, or about \$85,000 less than the imports from Holland.

† A man in Chemnitz has invented a mule for spinning cotton waste. It is made and managed very much like mules for spinning woolens. Asa Lees, of England, has invented a similar mule, said to be much better than the German.

for women. The self-actors have 900 to 1,200 spindles, the frames 480. A pair of self-actors (900 to 1,200 each mule) require to run them two spinners and two helpers; the latter put in the roving. These parties are all paid by what is turned off the pair of mules. They work 65 hours a week—not quite 11 hours a day. One pair of self-actors, spinning yarns from No. 6 to 60 (average 24) turns off from 1,500 to 4,500 pounds a week.

Everywhere, old mills are being enlarged and new ones are being built. Dividends that would delight our manufacturers are resulting. One concern near this city declared 22 per cent as its last year's dividend. Every effort is being made to make the Empire independent of England and other countries. Vapor has taken the place of steam in producing an artificial atmosphere. Schools all over the Empire are teaching a scientific knowledge of fibers, methods, etc. What is true of Saxony, is just as true of Baden, Bavaria, Wurtemberg, Prussia, Saxe-Meiningen, and Silesia.

J. C. MONAGHAN,

CHEMNITZ, *October 10, 1896.*

Consul.

LINEN INDUSTRY OF BOHEMIA.

While many parts of the Austro-Hungarian Empire are well known for their productiveness, others are frequently mentioned on account of their beautiful landscapes and scenery, in which lofty hills alternate in a grand and picturesque manner with deep valleys. The latter is true of northern Bohemia. Unfortunately, the beauty of the country is counterbalanced by the unfertile and hilly condition of the soil. Here, the large, waving corn fields of central Austria and of Hungary are replaced by flax fields clustering on the hillsides. In fact, the unfruitfulness of this part of Bohemia is such that it was unprofitable for the farmer of times gone by, when yet transportation charges were high and transportation itself difficult and slow, to grow grain, and he, at the time, turned his attention to the cultivation of flax, which, not requiring a rich soil, gave him a better opportunity of gathering large harvests.

Since then, a large number of the inhabitants of Bohemia have been engaged in the growing of this plant and in changing it into linen; and many a family is dependent upon this industry for the necessaries of life. It is for this reason that the condition of the linen industry is of great interest to the inhabitants of the entire Empire. The linen trade is to-day the only branch of the textile industry that presents a surplus at the end of the year in the balance of trade. Thus the imports of raw and manufactured cotton during the year 1895 amounted to \$30,042,387.36; exports, \$4,463,817.85; imports of raw and manufactured silk, to \$14,676,843.56; exports, \$9,225,730.01; imports of raw and manufactured wool, to \$29,925,072.04; exports, \$13,593,510.51; imports of flax, yarns, and manufactured linen, to \$6,703,120.90;

exports, \$7,276,668.57. Now, when we take into consideration the fact that the balance of trade of the Austro-Hungarian Empire has fallen from a surplus of \$54,000,000 in 1893 to a surplus of \$6,000,000 in 1895, an industry which presents a surplus at the end of a year must be of the greatest importance, and all economists and financiers of Austria-Hungary will give it their attention.

CONDITION OF THE INDUSTRY.

The end of the year 1894 saw the linen industry in a sore plight. The extremely high price of the raw material, as well as of the yarn, during the first quarter of the year 1894 had been followed by a very rapid fall, as will be seen by the following selling prices of flax on the dates given :

Description.	February.	September.	December.
Ostrow.....	\$0.093	\$0.078	\$0.065
Jaroslav.....	.098		.064
Line yarn, 40.....	.135	.113	.101
Tow yarn, 20.....	.158	.142	.137

Yarns, in fact, did not become salable until the last quarter of 1894, and the spinners saw the year 1895 coming on with a large stock on hand and prices going down more and more. At the same time, but few orders had been given. In consequence, a general reduction of the quantity to be produced was already thought of. In Bohemia, the falling of the price was so much more noticeable, as its spinning mills are dependent upon the exports of their products. Naturally, the export of yarns to Germany, its largest buyer, was reduced to a minimum, and that to the west did not become significant until the price of yarns had fallen to a level which had been thought impossible theretofore. This was during the spring of 1895. Since then prices have slowly recovered, though they have to-day not reached their former normal height. The loss sustained by the spinners on their stock is estimated at at least 1,000,000 florins.

This precipitous fall of the price of the yarn was of the greatest result to the weaver. Provided he had bought a large quantity of yarn at a seemingly moderate price, as was the case in many instances, he now found that he had bought far too dear, and was obliged to sell at a loss. Large orders expected from the United States were not forthcoming, and in March, 1895, any weaver was happy to work without a profit, as long as his costs were realized. But many a manufacturer was obliged to throw his goods on the market for whatever price they would bring. This condition was aggravated by the fact that cotton sold at an extremely low price, and people began to accustom themselves to buy the cheaper cotton goods. Another severe blow was dealt the linen industry by resolutions of the departments of war of Servia and Bulgaria, which had been large buyers from Bohemian merchants, to substitute cotton wearing apparel for linen fabrics. Roumania, on the

other hand, which as yet clothes its soldiery with linen, fills its demand from the large stores of German, English, and French establishments. At this place, I may mention that Austria itself has for some time ceased to be a consumer of linen for use by its Department of War and has introduced cotton goods in its place. This is of the utmost consequence, as the Bohemian linens surpass those of Scotland and Ireland in durability, but are inferior to those of the two countries in fineness of texture, bleaching, and dressing.

Through such measures, Bohemia is now obliged to compete where it is outclassed, though it makes every effort to perfect itself. It is at the present time compelled to turn its attention from the manufacture of coarse but durable linen to that of fine and beautiful fabrics.

Another cause of ill effect is the union goods, *i. e.*, goods woven of cotton and flax fibers. This texture is glued and dressed in so perfect a manner that it becomes difficult, in many cases, to decide whether the articles in question are pure linen or whether they are union goods. In such instances, recourse must be had to a magnifying glass of high power, with the aid of which it will be possible to discern the construction of the various fibers. On account of this great similarity to linen, it is not seldom that union goods are bought, the buyer being of the opinion that he is obtaining pure linen. Yet even where the quality is known, union goods, though not possessing the fine luster of linen, and not as easily washed, and though they allow dust to adhere more readily than linen does, have, nevertheless, on account of their comparative cheapness and their similarity to linen, frequently taken its place.

In general, the outlook is not the brightest, yet matters have assumed a somewhat better and more encouraging aspect during the past few months, as comparatively large orders have been received from the United States and from South America.

In consequence of this condition of affairs, manufacturers of linen goods have petitioned the Austro-Hungarian Government to pass laws looking to the correct marking of the texture woven and to take measures for the re-introduction of linen into the army. While the former petition will no doubt be granted in the near future, the latter has little probability of being answered in the affirmative. Aside from this, the manufacturers have taken great pains to replace linen in its formerly very important position. They were forced to send agents to various countries and study the taste of foreign nations. To reintroduce their goods into the dwellings of the laborers, they have conceived a somewhat ingenious plan. The farmer who sowed and harvested the flax no longer wore linen fabrics, but bought the cheaper cotton goods. To prove to the farmer that he was doing a foolish thing, the members of the Flachs und Leinen Verein, a society made up of the large growers of flax, of the spinners, and of the weavers, resolved to offer certain goods to the small growers for a percentage of the raw material. They therefore selected a collection of samples, adapted to the station and wishes of the intended consumers, and offered to pay 5 per cent of the total amount of

the raw material they bought with these goods. The farmers soon found that they were profiting by this measure, and linen goods to an extent were reintroduced into the houses of the poorer people, who have thereby become convinced of the greater durability and other superior qualities of the linen ware.

What the future has in store it is difficult to foretell. Large profits are, at any rate, out of the question. Unfortunately, the one who suffers most during such inauspicious conditions is the laborer.

REICHENBERG, *June 9, 1896.*

GEO. R. ERNST,
Consul.

THE SILK INDUSTRY IN RUSSIA.

Silk goods may be regarded as objects of luxury on account of their expensiveness; consequently, their sale is limited, yet they take the first place among spun stuffs, and the industry, wherever carried on, seems to pay good profits. In the United States, the silk industry is but little developed, and it would seem that if the American people would acquaint themselves with the most advanced methods of procedure in the industry, which is being simplified to a great degree not only in machinery, but in raising the silkworms, they would be able to manufacture enough of silk goods and so supply their vast home demands.

One of the difficulties of sericulture has been the raising and feeding of silkworms on mulberry leaves, which thrive only in mild climates. It has been found, however, that the silkworms can be successfully fed on the rhizocarpic plant called *Scorzonera hispanica*, which thrives well in colder climates, and makes possible the establishment of sericulture in the northern countries. Brilliant results from a three years' trial were acquired by the Moscow Imperial Society of Rural Industry. This society claims that this new branch of sericulture is very important for localities where cereals do not thrive, principally in the northern governments of Russia, not requiring any complicated conditions, while expenses are small at the beginning.

By this means the production of new cocoons from ready chrysalides can be made a common occupation for peasants. The work itself, not requiring great physical labor, can be done by women, and the rapid results give the producers a chance to earn money quickly.

The committee of the Russian silkworm breeders is taking great pains to instruct the people in sericulture, and it has just published a small book on the subject, which I have translated and send herewith, thinking it may be of interest and benefit to the people of the United States.

ST. PETERSBURG, *June 11, 1896.*

JOHN KAREL,
Consul-General.

[Translation.]

INTRODUCTORY EXPLANATION.

Successful efforts in feeding the silkworms on a rhizocarpic plant called *Scorzonera hispanica* have proved the possibility of establishing sericulture in northern climates. The brilliant results in the production of silk—acquired, after three years' trial, by Mrs. O. O. Tikhomirov, member of the committee of sericulture of the Moscow Imperial Society of Rural Industry, under the supervision of A. A. Tikhomirov, director of the same committee and professor of the Moscow University—will open a new and profitable branch of agriculture, especially important for localities where cereals do not thrive, principally in the northern governments of Russia. This new branch of sericulture, open to all, and requiring no complicated machinery, with minimum expenses at first and with a very small floating capital, can develop rapidly and become a common occupation for peasants for producing raw cocoons from ready chrysalides, provided that in each locality large establishments are organized to unwind the raw silk and breed chrysalides, which require more complicated apparatus, special knowledge, and large outlay. Such division of the silkworm industry will serve with great success for the development of sericulture.

The sale of raw silk in unlimited quantity can be considered guaranteed, as all our factories which prepare silk tissues from foreign raw silk will get raw silk of better quality, as can be seen from samples shown. As there will be no duty or customs expenses to be paid, it will, perhaps, be possible to raise, at the very beginning, the price of raw Russian silk. In Moscow, Sapojnikov's silk manufactory accepts cocoons in unlimited number, having their own silk-winding department. In St. Petersburg, it is to be hoped that N. M. Polovtsev's immense manufactory of reel silk will accept the whole quantity of raw silk produced, and will, perhaps, establish at the mill a section for unwinding cocoons. Thus, a definite sale of raw silk will be organized, and, therefore, there is a fair probability of developing the silkworm industry.

Our Minister of Agriculture, A. S. Ermolov, who always sympathizes with everything concerning the development of useful branches of agriculture, will, of course, help as much as possible. Thus, this new branch can be made of considerable assistance to the welfare of all landowners, including peasants.

The time for feeding the silkworms is from the beginning of May until mowing time. The work itself, not requiring great physical strength, can be done by women, and the rapid results of the work give the producer the chance of earning money quickly, which especially favors this industry.

BUILDINGS FOR FEEDING THE SILKWORMS.

Every building in which the air is dry and pure and where the temperature can be kept at 68° to 77° F. is good for feeding silkworms. It is desirable that the worms, during the five different periods of their existence, should be surrounded by an even temperature; therefore the supports for the shelves are put in the middle of the building, with a passage around them. The shelves must be movable, their size about 3½ feet each, at a distance of 18 inches one above the other, beginning from the floor, up to the ceiling. The shelves must be easily movable from their places, so that they can be raised or lowered. There must be several reserve shelves to facilitate the work of assorting the worms—called, also, the rarefaction of worms—during their growth, and also for cleaning away what remains under the worms. These shelves are made of wooden frames, from 1¾ to 3 inches wide, the middle either covered by an incompact material—unbleached calico, say—which is tied to the frame, or else the middle is made of net, strings, cord, cane, or metal, in order that the worms lying on the shelves can have plenty of air. The heating of such a building depends on the temperature outside, therefore it is necessary to watch the temperature inside as well as outside the building.

FEEDING THE SILKWORMS.

The eggs, or chrysalides, after wintering, are brought in for animation and are gradually surrounded by warmth, beginning with 46° F. They are put on the shelves in one row, the animation to be commenced only when the necessary quantity of leaves for feeding the worms is obtainable. For the first six days, a temperature from 46° to 55° F. must be kept; during the next two days, 64°; the following six days, 70°; and the remainder of the time, 76°. Provided the temperature does not exceed 68° or 70°, it is not difficult to regulate the worms according to their age. The places on the supports for the shelves, as well as the shelves themselves, must be of even size, so that the shelves may be interchangeable. Sorting of the worms, according to their virility, and placing them on different shelves are necessary in order that the passage of the worms from one state of existence to another may be simultaneous, so that the worms which have not fallen asleep should not trouble and interfere with those that have. Such assortment is very important for the further reason that, during their sleep, the worms throw off their skin, and the new skin, which is formed at every new age, is so tender that it is apt to be scratched if the active worms crawl over them. This assortment of the worms on the different shelves is also necessary for a simultaneous spinning of their cocoons. Each worm, before beginning to spin its cocoon, prepares a lair for itself in which it remains lying while making the cocoon. Having placed itself in such a lair, the worm cleans its intestines by throwing out its last excrement, preparing itself to become chrysalid; thus, if among the worms making cocoons some should be behind time, they, in throwing out their excrements, can spoil the work of the others, making spots on the cocoons already begun. Experience has shown with worms fed with the scorzonera that these spots do not spoil the cocoons, but when the worms are fed on mulberry leaves these spots do not come out, and the spotted cocoons are considered as garbage. Therefore, worms that are behind time are separated if there are many, but if few, they are destroyed. Calculations made show that for worms animated from $4\frac{1}{4}$ grams weight of eggs, apartments of the following dimensions are required: For worms of the first age, 3 feet square; during their first sleep, 10 feet square; during their second sleep, 30 feet square; during their third and fourth sleep, according to the size of the worms, from 12 to 16 feet; during the last stage, before cocooning, they occupy a place of 42 feet. Thus, the rarefaction of worms, beginning with their first age up to cocooning, is made by increasing the place occupied by them from 3 feet square to 42 feet. According to such calculations for animating and feeding worms gotten from $4\frac{1}{4}$ grams of eggs, it is necessary to have 42 feet of shelves, *i. e.*, twelve shelves of $3\frac{1}{2}$ feet each, and two reserve shelves. When the worms first begin to animate, they are taken off every hour and placed on other shelves, according to the quantity of the worms animated. On the shelves, one must write down each time how many worms animated and how distributed.

First of all, a sheet of common unglazed gray wrapping paper is laid on the shelf, and the worms are put thereon. The best way of removing the worms from the eggs is to carry them on the leaves they feed upon, because as soon as they smell the fresh leaf they readily go on; but for giving them fresh food subsequently, the following manner is very convenient: Fresh leaves are cut and put on a sheet of paper in which holes of the size of the worms are cut out; these sheets are then put on the worms, which crawl immediately through the holes on to the fresh leaves, and then the lower sheet of paper with old leaves and the worms' excrement is taken away. The holes on the paper are made with scissors in the usual manner.

The rarefaction of the worms is produced seven times during the first period of their existence; at the second period, they are rarefied the first day immediately after their awakening, changing the lower sheet of paper at the same time; the second day the rarefaction is done without changing their litter, the cut or chopped leaf being placed straight on the shelves without paper; the third day, the litter is changed toward evening and during all the subsequent periods of existence; as soon as the worms wake from sleep, the rarefaction and the change of litter is to be made. From the third period, rarefaction is made less frequently, but the litter is changed always according to requirements. Ordinary branches serve for

building the cocoons on. The size of these branches equal the distance between the shelves, *i. e.*, 18 inches high. Birch branches are best for such a purpose on account of having more numerous ramifications for the reception of cocoons. It is best to use one-year-old branches which have no odor. Such branches are put at the edges of the shelves, but when the litter is changed for the last time before the cocooning takes place, the worms are grouped more to the middle of the shelf. The cocoons are taken off on the ninth day; after that, the worms have changed into chrysalides.

At the beginning of the feeding the leaves must have a dry surface and be gathered twenty-four hours before they are given to the worms, and must be of the same temperature as that of the room in which the worms are kept—77° F. For each 66 grains troy of animated eggs the food should be regulated as follows:

Food is given four times—230 grains each time. On the second day, 3½ ounces avoirdupois; on the third day, 7¼ ounces; on the fourth, before the worms fall asleep, 3¾ ounces; and on the fifth day, the last day of the first period, 1 ounce for those that have remained behind, provided they are not to be destroyed.

On the first day of the second period, after the worms awaken, 10½ ounces; the second day, 17¾ ounces; the third day, 19 ounces; and on the fourth day, 5¼ ounces.

On the first day of the third period, after the awakening, 17½ ounces; on the second day, 3¼ pounds; on the third day, 3 pounds 10 ounces; on the fourth day, 2 pounds; and on the fifth day, for those that remain behind, 17½ ounces.

On the first day of the fourth period, after awakening, 3 pounds 9 ounces; on the second day, 3 pounds 11 ounces; on the third day, 8¼ pounds; on the fourth day, 9 pounds 5¾ ounces; on the fifth day, for those that remain behind, 4 pounds 11 ounces; and on the sixth day, 14¾ ounces.

On the first day of the fifth period, after the awakening, 5 pounds 11¼ ounces; the second day, 9 pounds 14½ ounces; the third day, 15 pounds 6½ ounces; the fourth day, 19 pounds 13½ ounces; the fifth day, 29 pounds 11 ounces; the sixth day, 35 pounds 13 ounces; the seventh day, 33 pounds; the eighth day, 24¾ pounds; the ninth day, 18 pounds 2¾ ounces; the tenth day, 8 pounds 13 ounces.

The total quantity of leaves required for feeding worms hatched from 66 grains of eggs, is, according to the age of the worms, the following: First period of existence, 17½ ounces, out of which remains 4½ ounces waste; second period, 3 pounds 5 ounces and 9 ounces waste; third period, 11 pounds and 1 pound 10½ ounces waste; fourth period, 77 pounds 13 ounces and 5 pounds waste; fifth period, 101½ pounds and 18 pounds 11½ ounces waste.

Thus, for worms animated from 66 grains of eggs, 275½ pounds of leaves are required; and, taking into consideration that the leaves lose weight by withering, it may be safely figured that from 290 to 325 pounds are required. The necessary quantity of leaves must be given in such a way that the worms should never be without food and that there should not be much excrement, which happens always when large quantities of leaves are given at once; it is better to give the same proportionately at two or three times. In the night, as well as in the daytime, worms should never be left without food, especially in the fifth period of their existence; food should be given them right along, as much as they can eat. But small interruptions are necessary, in order that the worms should digest well. Should small quantities of worms appear which are behind time in their development, it is better to destroy them, so as to have on the shelves worms of equal strength of every age.

Under favorable conditions, from 66 grains of eggs 21¾ pounds of raw cocoons and 5,000 worms can be produced, but there have been cases where 6,000 worms came out, in which case the quantity of cocoons also exceeded 21¾ pounds; but the normal hatch is from 9 to 11 pounds of cocoons from 66 grains of eggs. When the branches for the cocooning are ready and when the greater part of the worms have crept on to them, the remaining worms that are behind should be put in a separate place, because they not only dirty the cocoons but cause great garbage in general. Instead of branches for the cocooning, joiners' shavings

are sometimes used, and sometimes frames with strings drawn over them at such distances that the cocoons might be placed between them; but the two preceding methods are more convenient.

ANIMATION OF THE EGGS FROM BREEDING COCOONS.

On small farms, it is not advantageous to procure eggs from their own cocoons, as that requires complicated apparatus. Without knowledge and without special apparatus, it is difficult to acquire the results usually obtained by large silkworm-breeding farms. It is advisable, therefore, that small farms should secure their breeding eggs from the neighboring establishments and, if possible, animated worms of the first age. The silkworms improve, as well as all other animals, provided they are bred from the very best stock; thus, the best cocoons should be always picked out for breeding. The producer of the eggs for breeding purposes must subject the butterflies which lay these eggs to a microscopic analysis, as their diseases are transmitted to the breed, and this is the principal reason why the worms sicken, and is often the cause of the unsatisfactory result in the feeding of the worms.

If the approximate calculations concerning the quantity of leaves produced from 10 sages (77 feet) of land, planted with the scorzonera, pointed out in Mrs. Tikhomirov's report, are correct, then 10 square sages (77 feet) of land will furnish a sufficient quantity of leaves to feed 5,000 or 6,000 worms produced from 66 grains of eggs. As stated before, from 66 grains of eggs $18\frac{1}{8}$ pounds and even more of raw cocoons can be obtained, requiring from 290 to 325 pounds of leaves for food; consequently, a bed of soil 3 arshines (7 feet) long and three-fourths of an arshine (21 inches) wide must give 36 pounds of leaves, not from seed, but from the root of the second year's growth, because the leaves of the first year, procured from seed, are not good for feeding, being too juicy and not sufficiently fleshy, disarranging the digestion of the worms and causing looseness of the bowels. The leaves must be gathered twenty-four hours before feeding, and then only when their surface is quite dry, *i. e.*, not after rain nor with dew on them. If the leaves are dusty, they must be wiped. They must not be gathered when the sun is too hot, as a warm leaf withers very quickly. After being gathered, the leaves are stored where they can not get warm, and then cut or chopped for food; they must be of even temperature with that of the room where the worms are kept. Cold leaves spoil their digestion; leaves too warm cause abundant excrement. Leaves already prepared for food must be wrapped in linen, in order that they may keep their juice, because, when the leaves are withered, generally one-half has to be thrown away. It is better to cut off the leaves only from half of the root, and when new leaves begin to appear the leaves from the other half can be cut away. In order to secure scorzonera seed, the leaves must be cut and the flower branches left untouched. The seed of the scorzonera ripens about the same time (in September) as those of other vegetables in the northern countries, but sometimes they do not fully ripen in those countries. The roots of the scorzonera must not be planted in too richly manured soil, as the leaves become too juicy and cause indigestion to the worms. The best soil for the scorzonera is such as is used for potatoes; only, it must be planted a little deeper on account of the roots being quite long.

A trial has been made in feeding the worms with the scorzonera roots cut into fine slices, instead of the leaves, but no definite results have been obtained. It has been noticed that the worms eat the roots only partially, leaving the greater part of the flesh of the root untouched.

The first time the leaves are given to the animated worms, the tissue of the under part of the leaf is taken off, and then the worms begin to eat more quickly, being attracted by the fresh smell of the leaves. It is desirable at the beginning to wet the leaves or to cut or chop them before feeding, for the worms eat more freely of the freshly opened parts of the leaves, because, at the beginning, they only suck the juice, but, in general, the worm soon gets accustomed to the leaves of the scorzonera and enjoys them, leaving scarcely anything if fed by an experienced person, and the oftener the leaves are given the less remnants will be left. The same thing is observed with all herbivorous animals. If you give a horse or a cow all

the hay it requires for twenty-four hours at once, half of it, or a little less, will remain; but if you give the same quantity little by little, it will be wholly eaten. •

In order to be able to begin the feeding of worms early in the season, part of the scorzonera can be planted in the hothouse, because the worms in their first period of existence eat only small quantities of leaves, and before the third period arrives, the leaves from ordinary beds will be ready for use. If the roots are planted only to bear leaves, the seed bags must be cut out, as the leaves develop more luxuriantly and generally attain the size of 21 inches in length. If the leaves are grown in hothouses, or in boxes on the windows of the room where the worms are reared, the eggs can be animated in April. It is better that the roots of the scorzonera grown from seed be taken out of the ground the first winter and kept in cellars in wet sand, guarding them against mice, and in spring planted again. Although roots have sometimes wintered in the soil with satisfactory results, there is less risk if they are taken out.

Feeding worms with scorzonera leaves has some advantage over the feeding with mulberry leaves. First, the scorzonera can be grown everywhere, independently of climate and soil; second, the time of feeding worms with the scorzonera before the formation of cocoons is five days shorter than with the mulberry leaves; third, the spots made by the excrements of worms fed by the scorzonera do not spoil the cocoons, whereas the contrary is the case when mulberry leaves are used.

PRESERVATION AND SALE OF RAW COCOONS.

The cocoons are ready to be taken off on the twelfth or fifteenth day after the beginning of the cocooning. Two or three hundred raw cocoons weigh $14\frac{1}{2}$ ounces, and when unwound from 8 to 10 per cent of silk is produced, so that 1 pood (36 pounds) of raw cocoons give about 3 pounds 10 ounces of raw silk. Cocoons are sold raw, or dried, *i. e.*, killed and dried. Both processes require certain implements and therefore must be speedily sold when they are still alive, *i. e.*, raw. The raw cocoons are heavier than the dried ones by two-thirds of their weight.

After the cocoons have been taken from the cocoon branches, they must not be kept longer than eight days before they are dried, so that the butterflies will not come out, because that spoils the cocoon, for the butterfly coming out makes a hole in it. Such cocoons are of no value and are considered garbage. It must be remembered that on the twelfth or fifteenth day the cocoons are taken off and on the twentieth day the butterfly comes out. The raw (live) cocoons must be preserved with great care, in order that the live chrysalides, which are in the middle of the cocoons should not die, as they begin to decay and spoil the other cocoons lying near, making rusty spots. Therefore, the decayed cocoons must be carefully taken out, and also those on which rusty spots have appeared. All double and deformed cocoons and those which are not hard enough, must be also picked out, all these being considered garbage.

If the sale of raw cocoons should be disadvantageous on account of low prices, it is better to kill and dry the cocoons, so that they may not spoil. Of course, this would be advantageous only to parties having large quantities of cocoons on hand, either of their own or purchased from small peasant farmers.

It is desirable to form, in each district, large silkworm-rearing farms, which could help the smaller ones by supplying them with eggs, already tried, with leaves of the scorzonera, and even with worms of the younger age, and to buy from the peasants the raw cocoons. On large farms, all cocoons can either be used for unwinding silk in a raw state or they can be killed and dried. Greater similarity can also be easily attained, whereby greater quantities will find easy sale. According to official information, 8,000,000 rubles (\$4,120,000) worth of raw silk is annually imported into Russia, and of the silk from which tissues are manufactured in Russian mills, less than one-tenth are made from Russian silk. Owing to such a visible want in the production of Russian silk, the sale of this latter may be considered

guaranteed. Thus, all these conditions give hopes for a large development of the northern silkworm industry, with the aid of the leaf of the scorzonera, the cultivation of which is so easy, and in the near future may greatly develop in the hands of the peasants.

The root of scorzonera used for food is known under the common name of sweet black root, and forms a very nourishing and tasteful dish. This plant, by the development of its leaves, resembles the chicory plant, which also gives an abundance of leaves. The flowers of scorzonera can be placed among the melliferous flowers. Owing to such qualities, scorzonera comes to the relief of mulberry trees, which always suffer when deprived of their leaves; besides, the leaf of the scorzonera does not require such exclusive climatic conditions as those of the mulberry.

DISEASES OF THE WORMS.

If the silkworm producer does not follow the necessary rules above mentioned, generally speaking his worms will be always sickly, for the diseases of the worms are caused by bad nursing. The principal diseases of the worms are pebrine, pallor, muscardine, and the jaundice.

Pebrine.—Moths attacked with the pebrine produce eggs infected with the same disease. To avoid the use of such eggs, the cellular method, before mentioned, of procuring eggs was invented. This disease is not only hereditary, but even very contagious, so that if worms suffering from pebrine are placed in a room with those in good health, the latter can be infected, although they are placed on different shelves. The principal features of this disease are: An unequal and slow hatching of the worms (their hatching in the afternoon); great mortality during the first days after their coming out of the eggs; irregularity in their first sleep, increasing with each period; a great number of worms behind time; black spots on the body and the thorn of the worm and on the wings of the moth; a slow laying of the eggs by the moth and many yellow (unimpregnated) eggs among them. If the stomach of a large worm, sick with pebrine, is cut open and its silk-producing glands examined, small milk-white dots will be observed on its surface. A healthy worm is free from these spots; his glands are of the color of amber and quite transparent. Therefore, if a silkworm breeder has worms ill with the pebrine, he must not allow them to breed, but must kill all the cocoons produced by them, and buy, the following year, healthy cellular eggs, which, although dearer, will pay back all the expenses by giving a large harvest of cocoons and healthy moths, which can be allowed to breed. The worms and moths ill with the pebrine are attacked by a certain parasite, seen through the microscope. When cellular eggs are prepared, all possible attention is paid to see that this parasite does not exist in the moth.

Pallor.—This disease is considered more dangerous than the pebrine, as against pebrine a remedy has been found (cellular method of preparing eggs), but against pallor no remedy has been discovered. The great danger of this disease is that worms, quite healthy seemingly, even such as are produced from cellular eggs, suddenly fall ill with the pallor and the whole hatch perishes in a few days. It happens even, that worms beginning to cocoon fall ill with the pallor; in that case, they have strength enough to begin to make their cocoons, but they soon leave off the work they have begun and die, decay very soon, and completely spoil the cocoons, which become soft and rusty. The symptoms of this disease are: The worm loses its appetite, becomes drowsy, and is attacked with diarrhea; sometimes it ejects some liquid from its mouth; the whole body of the worm gets flabby, it begins to shrink little by little, and, while yet alive, begins to get black and soft. It happens that such worms, in falling from the cocoon branches on to the shelves, burst and fill the air with an offensive odor. Experienced silkworm breeders attribute this disease to the following reasons: (1) Bad preservation of the eggs during winter; (2) worms placed too near each other; (3) bad air and infrequent changing of the beds, and, in general, keeping the worms in a dirty place; (4) great heat during the feeding of the worms; (5) insufficient food, hungering of the worms, or the feeding of them with raw leaves wet by the rain, etc. It is impossible to cure the worms ill with the pallor, and therefore when such disease appears it is advisable to change their litter as often

as possible, taking away all the worms that are ill, and also the sheets of paper soiled with the excrement of the sick, and air the room as often as possible.

Muscardine or petrification.—The symptoms of this disease are: Worms attacked with the muscardine become pink at the first, then harden, and the body begins to be covered with white spots, as if sprinkled with chalk. Worms which have died of the muscardine shrivel and get so hard that they break. This disease is contagious, not hereditary, and therefore the shelves or anything that has been in use where the worms ill with this disease have been must never be used unless they have been carefully washed and cleaned. The walls and ceiling of the room where this disease has occurred must be whitewashed, washed with lye, and disinfected. The disinfection is done in the following manner: Into an earthenware jar about 1 vedro (2.707 gallons) of muriatic acid is poured; in this jar, another smaller earthen jar is placed by hanging, into which pieces of manganese are put. The jar with the acid is placed on a trivet and warmed with the aid of a spirit lamp. The doors and windows of the room are tightly closed and remain so during two days. This must be repeated two or three times, in order to be sure that the contagion has been extirpated.

Jaundice, or fattening.—This disease is not considered dangerous and generally appears in worms of the fifth period. The worms attacked with this disease get very stout, their skin stretches and shines, and the worms, becoming yellow and milk white, at last break and a liquid oozes out of the worm, fouling the food and litter, and decomposes very rapidly. Worms sick with the jaundice must be thrown out before they break.

GENERAL INSTRUCTIONS.

Every silkworm breeder who wishes to feed his worms in a proper way must observe the following rules:

- (1) He must first take care that the eggs designated for breeding should be good. The eggs must be carefully preserved during winter, or, failing in this, he must buy new eggs when the time for animating the worms is at hand.
- (2) He must prepare good premises wherein to feed the worms.
- (3) He must keep the premises clean during the whole time of the feeding.
- (4) He must air and ventilate the rooms.
- (5) He must keep even temperature in the room, approximating from 70° to 77° F.
- (6) He must not feed worms which have hatched later than five days after the hatching has begun.
- (7) He must feed worms often and not let them hunger.
- (8) At the beginning, the leaves must be young and finely cut; as the worms grow older, the leaves can be cut in larger pieces.
- (9) Dusty, wet, cold, rusty, withered, or spotted leaves must never be given to the worms.
- (10) The leaves must be kept separately, but never in the room where the worms are, and must not be given before six or eight hours after they are gathered.
- (11) He must feed the worms on shelves, on sheets of clean blotting paper (filter paper).
- (12) He must change the litter of the worms often.
- (13) Each time the litter is changed, he must throw away sick worms.
- (14) He must rarefy the worms as often as possible by taking them off on branches.
- (15) He must, after each period, equalize the worms.
- (16) He must never put worms of different periods together.
- (17) He must not disturb worms that are asleep.
- (18) He must prepare for the mature worms convenient, dry, and clean cocoon branches.
- (19) He must not take off the cocoons before six or seven days from the beginning of the cocooning, and cocoons for breeding purposes not before ten to eleven days.
- (20) He must assort the cocoons carefully.

In conclusion, attention must be called to the great service rendered by Prof. A. A. Tikhomirov in having shown the practicability of feeding silkworms by the scorzonera. Practical experiments, made under his supervision, prove to be of state importance. Owing to the labor of A. A. and O. O. Tikhomirov, a new branch of industry, called "northern sericulture," is opened up.

Now, sericulture, following a new course, becomes attainable to all, and, before long, it may not be necessary to pay 8,000,000 rubles (\$4,120,000) yearly for imported silk, and Russia may be able to export her own silk to the value of several million rubles.

COMMERCIAL AND TRADE SCHOOLS IN RUSSIA.

The Russian manufacturers, merchants, and business men in general are of one opinion that a knowledge of commercial sciences is getting to be more and more important for commercial business, and in that respect that they are, especially in southern Russia, far behind some of the other countries. There is not one Russian exporting firm in any of the ports of the Black and Azov seas—in fact, the whole business in southern Russia is in the hands of foreigners, and the reason is, that Russia has not enough persons with commercial education. They have come, therefore, to the conclusion that the present state of Russian trade and industry requires commercial and trade schools in the south of Russia.

During the last two years, many schools have been founded, and at present a number of new schools are being planned, all to be established and supported by commercial societies, towns, and private companies. According to a new law for commercial education, they will be permitted not only to supervise the management of school affairs, but also to take part in their practical direction.

In Kiev, the merchants raised the capital for a commercial high school of seven classes and for a three-class trade school. Trade classes will also be opened by means of a society organized for that purpose. In Kharkov, a society of merchants' clerks for mutual help is establishing a three-class trade school, and the question is raised of establishing trade classes. In Simbirsk, a commission of commercial delegates is working at regulations for a commercial school of three classes. Movements for establishing commercial schools of different types in Moscow, Yaroslav, Kazan, Tiflis, Archangel, Odessa, Rybinsk, Nijni-Novgorod, and Kashin have been started. In the city of St. Petersburg, a society has been organized for the purpose of promoting commercial education, and among the founders of this society are the largest and richest merchants. In Ekaterinoslav and Taganrog, it is proposed to establish commercial schools. In Nikolaev, it has been decided to organize for the time being a commercial school in which the foreign languages will be taught, the course of studies to be increased in the future. Trade classes for merchant clerks will be also opened there.

The means for the maintenance of these schools will be raised partly by the municipalities and partly by the representatives of commerce and trade.

The following table shows the studies and the number of hours devoted to them weekly in the full course of a commercial school :

Studies.	Classes.								Total.
	Preparatory.	I.	II.	III.	IV.	V.	Special.		
							I.	II.	
	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.
Religion.....	3	2	2	2	2	2	1	1	15
Languages :									
Russian.....	6	5	4	4	4	3	2	2	30
French.....	5	5	4	3	3	3	3	3	29
German.....	5	5	4	3	3	3	3	3	29
English.....			5	4	4	4	3	3	23
Arithmetic.....	6	5	3	2					16
Algebra.....				3	2	3			8
Geometry.....				2	2	2			6
Trigonometry.....						1			1
Physics.....					2	4	2		8
Cosmography (mathematical and physical).....							2		2
History.....				2	3	3	3		11
Geography.....		2	2	2	2				8
Natural history.....			2	2	2	2			8
Chemistry and mineralogy.....							2	3	5
History of commerce.....								2	2
Political economy.....							2	2	4
Jurisprudence.....							2	2	4
Commercial knowledge.....							2	3	5
Commercial arithmetic and bookkeeping.....							2	4	6
Commercial geography and statistics.....							2	2	4
Drawing.....	2	2	2	1	1				8
Penmanship.....	3	4	2						9

JOHN KAREL,

ST. PETERSBURG, *May 8, 1896.*

Consul-General.

SPANISH TRADE IN MANUFACTURES.

The existing tariff and customs laws of Spain became operative on the 1st of October, 1892. They were made with the object of protecting home industries, and they have, as a rule, given satisfaction to Spanish manufacturers; yet it is claimed that they should be revised so as to afford more protection to certain of the industries that have not made much headway.

The following table shows the importations and exportations of manufactured articles during the years 1890 and 1895. The values are stated in silver pesetas or their equivalent. In 1890, $5\frac{1}{4}$ silver pesetas equaled \$1. In 1895, the exchange was so high that it took 6 silver pesetas to equal \$1. All Spanish duties are paid in silver or (its equivalent) paper and all customs statistics

are stated in the same kind of currency. Spanish gold is, and has been since before 1890, practically out of circulation.

Imports and exports of manufactures.

Articles.	1890.	1895.
<i>Imports.</i>		
	<i>Pesetas.</i>	<i>Pesetas.</i>
Manufactured leather.....	33,890,000	4,343,000
Machinery.....	41,082,000	25,242,000
Woolen goods.....	22,499,000	14,238,000
Cotton goods.....	11,579,000	7,042,000
Copper articles.....	5,706,000	3,480,000
Silk goods.....	9,580,000	14,717,000
Glassware.....	5,119,000	3,982,000
Paper.....	4,611,000	2,584,000
Furniture.....	7,344,000	4,150,000
Hemp and linen goods.....	4,616,000	2,648,000
Perfumery.....	1,081,000	1,632,000
Toys.....	1,152,000	515,000
Total.....	148,259,000	74,873,000
Total in United States currency.....	\$28,239,800	\$12,478,833
<i>Exports.</i>		
Cotton goods.....	23,972,000	42,622,000
Corks.....	22,226,000	20,108,000
Boots and shoes.....	17,378,000	17,285,000
Paper.....	6,757,000	11,287,000
Soap.....	4,737,000	4,666,000
Woolen goods.....	3,292,000	3,233,000
Books.....	2,288,000	2,488,000
Cards.....	986,000	660,000
Silk goods.....	932,000	37,124,000
Total.....	82,568,000	103,473,000
Total in United States currency.....	\$15,822,500	\$17,245,500

That is to say, under the new tariff the importations of manufactured articles in 1895 were less by \$5,760,967 than under the old tariff of 1890 and the exportations were greater by \$1,423,000. What would seem, however, to be a very unsatisfactory result of the change in the tariff is that the combined importations and exportations of manufactured articles under the old tariff of 1890 amounted to \$14,337,967 more than the combined importations and exportations under the new tariff in 1895.

HERBERT W. BOWEN,

BARCELONA, May 23, 1896.

Consul-General.

SPANISH FISHERIES.

The latest, and, I think, the only official statement giving anything like an accurate idea of the importance and value of the fisheries of Spain was recently published in conformity with the royal order of June 20, 1894, which directed Lieutenant Vela, of the Spanish navy, to collect what infor-

mation he could obtain regarding the industry in Spain during the year 1892. The peninsula and adjacent islands, it appears, are divided into three fishery departments—Cadiz, in the south; Ferrol, in the north; and Cartagena, in the east.

DEPARTMENT OF CADIZ.

In this department, 3,120 boats and 15,735 fishermen were found to be employed. The value of the boats was 3,090,095 pesetas (\$515,016) and of the material used 1,582,301 pesetas (\$263,717). The provinces of the Cadiz department, the quantity of fish obtained in each province, and the value of the fish are set forth in the following table:

Provinces.	Quantity	Value.
	Kilograms.*	Pesetas.†
Cadiz.....	5,202,586	5,123,020
Algeciras.....	5,021,708	2,157,572
Malaga.....	2,531,551	1,071,045
Almeria.....	694,467	533,151
Seville.....	10,590	5,075
San Lucar.....	3,300,000	1,750,200
Huelva.....	6,064,601	2,075,754
Canaries.....	541,330	133,618
Grand Canary.....	4,495,820	1,261,420
Total.....	127,862,653	114,110,926

* 1 kilogram = 2.2046 pounds.

† 6 pesetas were about the equivalent of \$1 in 1892.

‡ 61,426,004 pounds

§ 2,351.821.

DEPARTMENT OF FERROL.

Boats, 7,082; fishermen, 35,864; value of boats, 4,924,549 pesetas (\$820,758); value of material used, 3,241,650 pesetas (\$540,275).

Provinces.	Quantity.	Value.
	Kilograms.	Pesetas.
Ferrol.....	5,297,852	1,307,039
Corunna.....	7,101,586	903,991
Villagracia.....	16,526,419	4,271,470
Vigo.....	2,251,513	2,427,801
Gijon.....	2,762,243	1,799,091
Santander.....	4,689,423	3,332,767
Bilbao.....	4,199,550	2,832,721
San Sebastian.....	4,573,827	2,271,614
Total.....	47,402,413	19,146,494

* 104,474,918 pounds.

† 3,191,082.

DEPARTMENT OF CARTAGENA.

Boats, 4,524; fishermen, 15,598; value of boats, 2,095,685 pesetas (\$349,280); value of material used, 1,802,433 pesetas (\$300,405).

Provinces.	Quantity.	Value.
	<i>Kilograms.</i>	<i>Pesetas.</i>
Cartagena.....	1,530,123	813,785
Alicante.....	1,124,216	644,477
Valencia.....	444,178	225,340
Tarragona.....	1,499,028	1,206,964
Barcelona.....	1,742,195	1,264,869
Mallorca.....	1,105,034	727,789
Mahon.....	104,138	100,449
Total.....	*7,548,912	†4,983,673

*16,637,820 pounds. †1830,612.

The following shows the totals in the three departments: Boats, 14,726; fishermen, 67,197; value of boats, \$1,685,054; value of material (nets, etc.), \$1,104,397; total number of pounds, 182,538,742; total value of fish caught, \$6,373,515.

The 82,813,978 kilograms (182,538,742 pounds) were disposed of in the following manner:

Kinds.	Quantity.	Kinds.	Quantity.
	<i>Kilograms.</i>		<i>Kilograms.</i>
Consumed fresh by the fishermen.....	5,702,289	Pickled.....	6,104,377
Consumed fresh by others in the provinces.....	24,378,787	Consumed in Spain outside of said provinces:	
Exported:		Fresh.....	20,944,157
Fresh.....	1,251,656	Salted.....	19,166,162
Salted.....	5,075,675	Pickled.....	3,809,100
Pickled.....	2,195,270	Amount of salt used.....	9,367,935
Salted.....	31,407,191		

Owing to the slowness of the Spanish trains, too heavy freight charges and octroi duties, and the lack of cheap ice and of suitable transportation boxes, comparatively small quantities of fresh fish are sent into the interior of Spain or exported to France. In 1885, there were 445 factories in operation for salting fish. These factories, valued at \$1,200,000, employed 16,500 workmen and turned out \$1,447,000 worth of salted fish.

The principal kinds of fish caught by Spanish fishermen are sardines, tunny fish (atun), cod (merluza), sea bream (besugo), dog fish (lija), anchovy, and horse mackerel (chicharro).

The number of factories engaged in preparing sardines is 409, employing 16,509 workingmen, and using, on an average, 14,535,947 kilograms of salt, 290,107 kilograms of oil, and 110,750 kilograms of vinegar. They do a business of nearly \$3,000,000 each year.

The bones of the tunny fish are made into guano, which sells at $6\frac{1}{4}$ pesetas (\$1.04) per quintal (101.61 pounds). The two principal fish-guano factories in Spain are located in the province of Huelva. One produces 1,000 quintals and the other 16,000 quintals a year.

HERBERT W. BOWEN,

BARCELONA, *September 24, 1896.*

Consul-General.

THE PROVINCE AND CITY OF MALAGA.

THE PROVINCE OF MALAGA.

According to historians, Malaga appears to have been used as a place for the salting of tunny fish, hence the Arabic word "melchh,"* of which Malaga is a corruption, melchh being described as town of salt. It is said to have been founded by one Tarapha, who came from Arabia 880 years before the Christian era.

The province of Malaga, under the ancient Kingdom of Granada, ranked as first class in all matters of civil jurisdiction. The captain-general resided at Granada, and was in command of the four districts into which this Kingdom is divided, namely, Granada, Jaen, Almeria, and Malaga.

Malaga continued in the possession of the Moors for 770 years and was recaptured in 1487 by Ferdinand, King of Castile. It lies between $36^{\circ} 42''$ north latitude, $43^{\circ} 6''$ west longitude (meridian of Madrid). Its area comprises 1,890 square miles and contains 109 towns and villages, with a total population of 595,984 (census of 1892).

This territory is rich in many valuable mineral ranges—iron, coal, copper, lead, zinc, nickel, and various other metals—and its renowned mineral wealth has not been overrated, either in extent or in the variety of its products. Fertile in soil and peculiarly blessed in climate, it yields all the products of the temperate and many of the semitropical regions. Its surface is rugged and broken and interspersed with hills, mountains, beautiful valleys, and streams.

The climate of this part of Andalusia is considered the most mild and salubrious. The average temperature is 76° in summer and 46° in winter. Frost is almost unknown, which makes Malaga a great resort for invalids. Roses bloom throughout the year and wild flowers grow in the greatest profusion and with remarkable luxuriance. The winds which generally prevail are north, or "terral," which is hot, dry, and disagreeable in summer, but considered salutary in purifying the atmosphere, and the "levante," or easterly, damp in winter and cool in summer, and the fresh and balmy westerly winds.

Any of the following might account for the derivation of the word "Malaga," but in the absence of proof one does as well as another, as all are appropriate: Melck, meaning being; Melchh, meaning salt; Maalaka, meaning hung up on a hillside; or the Spanish "Perchal" (as part of the city is now called) and meaning a place where fish are hung up to dry.

Malaga has suffered severely by the introduction of epidemics, owing to the lack of energy so far as regards sanitary precautions. In 1637, 1719, and 1741, the city was invaded by yellow fever and black vomit, when thousands of people were swept away; subsequently, by the appearance of the cholera in 1854, 1855, and 1860, which also caused great loss of life. The city is surrounded by lofty mountains and a series of precipices or declivities, which admit of being ascended. The "vega," or plain, extends throughout the eastern part, known as "La Hoya," or the lowest part of the field, which is irrigated from the waters of the River Guadalores. The land in the lowest part of the city spreads out in undulating fields and valleys, blending with each other, and of the greatest value for raisin culture and pasturage. The plain is exceedingly fertile and is readily converted into one huge cornfield.

PRODUCTS OF MALAGA PROVINCE.

Within this district is a concentration of some of the most picturesque scenery. The soil is so rich in its elements that vegetables may be had throughout the year. Many of the orchards are irrigated by the old Moorish system; an engine or wheel draws water from the wells, aided by old horses, mules, or donkeys.

Prickly pear.—The cactus grows wild, without the least cultivation, the finest of which is termed "higo chumbo," or prickly pear, and tastes somewhat like our banana. The crop of this fruit is large and a great relief to the poorer classes. It grows on hills and mountains, those of a rocky or stony nature being preferred. It is exceedingly cheap and one hundred may be had for 10 cents. They mature in August and the season lasts until November. Sirup is made from the fruit, which is highly recommended for throat disease.

General products.—The products of the district of Malaga include grapes, almonds, figs, oranges, prunes, lemons, wine, palm-leaf work, olives, olive oil, madder, locusts, flax, hemp, wheat, wool, and sugar cane; also, neat cattle, mules and donkeys, minerals (as before stated), together with fresh and salt fish in abundance. Since the inauguration of the railway from Malaga to Cordoba and Granada, northwest of the city, many articles are now brought from the interior and mountainous regions, where bituminous coal is also found. A railway to the east would bring increased mineral wealth and many other articles to the port, which should be one of the principal and first ports of the Mediterranean.

Raisins.—This section of Andalusia has been most remarkable for its large shipments of muscatel raisins, which form one of the leading branches of industry. Thousands of farmers and laborers are dependent on the shipments to the United States and England, which in years past exceeded 2,300,000 boxes annually, but since the appearance of the phylloxera, together with the shipments from Denia, east of this city, though of an inferior quality, the exportations from Smyrna and the California supply, the amount is now reduced to from 500,000 to 600,000 boxes.

A great many varieties of grapes have entirely disappeared, owing to the ravages of the phylloxera, and American vines have been planted in their place, making good the loss sustained.

The finest, or at least the most expensive brand of raisins, is the "Dehesa" raisins of Malaga, "dehesa" meaning pasture grounds. This district extends along the southern coast of Spain for a distance of 60 miles and is subdivided into several districts—Malaga, Algarrobo, Marbella, Ronda, and Albañol, besides Almeria. Grapes from the latter place are used only for edible purposes. The best part of the whole district, however, is found at Velez, Malaga proper, where the first raisin grape was planted by the Romans or Phœnicians.

Malaga has been known to export raisins since A. D. 1295, but must have been a raisin-producing district centuries before, and there is little doubt but that the industry is of Phœnician origin and has been practiced in this locality for 2,000 years or more. Under the Romans it was continued, but appears to have deteriorated and later on to have been abandoned altogether, as local tradition credits the Moors with having introduced the raisins into Velez Malaga. Vines are set 8 by 4 feet apart and the process of converting grapes into raisins takes about fifteen days of clear, fine weather in the months of August and September.

CITY OF MALAGA.

Malaga has greatly improved during the past five years by the building of the harbor, but I regret to say that the American colors are seldom, if ever, seen flying within its entrance, unless hoisted at the fore truck of some foreign steamer. The harbor is a good one, with every facility for the loading and unloading of the largest vessel and when the prolongation and improvements which are now going on are completed, no port could be better. A few miles from Malaga, at the towns of Marmolejo and Carratraca, are to be found the famous baths of mineral water, which are highly recommended by physicians for all maladies.

Of the old Moorish wall which surrounded the city of Malaga, but little remains except a few towers. The old fortress of Gibralfaro, with its hundred towers, formerly the royal residence, is well worthy of a few remarks, as, like the Alhambra, at Granada, it was the pride of the Moslems. Some historians attribute its foundation to the Phœnicians, others to the Greeks, long before the Moorish invasion. It is constructed on the top of a hill, overlooking the city, which rises abruptly from the sea to the height of nearly 1,000 feet, upon the side of which, and within its portals, lies the old town. It was rebuilt by the Moors in 787, but now is a scene of chaotic desolation. There is a project on the part of the Spanish Government to demolish the old town, but this innovation is yet to be seen.

There is a well built on this promontory, known as "Pozo de la Grulla," or crested crane, which is wonderful and worthy of a visit and is said to measure 1,200 feet in depth.

Another attractive feature for tourists is the great cathedral. This colossal monument stands high above all other edifices in the city. Its foundation was laid in 1528. Parts of it still remain in an unfinished condition. It contains many valuable pictures by Murillo, Cano, Cerezo, and other masters; many valuable paintings, however, were taken away by the French during the invasion of 1808-1810. The choir, finished in 1592, and 30 yards in length, also arrests the eye of the spectator.

The convent of La Victoria was founded by order of King Ferdinand, in commemoration of the recapture of Malaga, and the old banners taken from the Moors may be seen on entering the church.

In building the Hospital Civil, just outside the city, no expense has been spared to erect a substantial structure, one that should meet fully all the needs of the patients. It has wide, airy corridors and bright, well-lighted rooms looking out upon miles of beautiful landscape, and is situated in a desirable section, admitting a most perfect system of drainage.

There is also the auxiliary Hospital Noble, presented to the people of Malaga by the daughters of Dr. T. W. Noble, in memory of their father. The building is well constructed and faces the harbor. The hospital contains a school for destitute orphans and is in charge of the Sisters of Charity.

In conclusion, I would say that most of the Moorish mosques have long since been demolished or converted into churches, convents, and public and private buildings.

R. M. BARTLEMAN,

MALAGA, *September 30, 1896.*

Consul.

SHERRY VINTAGE OF 1896.

The wine crop in the sherry districts of this section of Spain (Cadiz) is about the average in quantity of recent years, though one or two districts report a falling off even from the vintage of last year, which was a short one. There is reason to believe, however, that this reported decrease is somewhat exaggerated. Although the time has not yet arrived for testing the young wines, it is the general expectation that they will prove to be of superior quality, owing to the unusually favorable weather conditions under which the grape crop has been produced and harvested.

The following are the official returns of the vintage in the district of Jeres de la Frontera, which is the principal sherry-growing district: Total production of "mostos," or young wines, 4,755,240 gallons; average production per hectare (about 2½ acres), 633.93 gallons; total weight of grapes sent to press, 27,557 tons; average yield of "mosto" per 100 kilograms (220.46 pounds) of grapes, 19.02 gallons; estimate of quality of crop, medium; value of the vintage per hectare, \$3 (Spanish); amount of wages paid per hectare, 50 cents (Spanish).

The total production, as above given, is equivalent to 36,024 butts of 132 gallons each. This is slightly below the total yield of 1895, but not suffi-

ciently so to justify the apprehension felt as to a steady decadence of the industry. Phylloxera prevails in some districts and the measures adopted to prevent its spread have not been very effective; but it is quite evident that more vineyards have been abandoned because of the poor returns received by grape growers than on account of the ravages of the insect plague.

CHAS. L. ADAMS,

CADIZ, *October 26, 1896.*

Consul.

OLIVE CROP OF SPAIN.

ANDALUSIA.

The olive crop of 1896 in Andalusia is a small one as compared with the 1895 crop, which reached a total harvest of 80,000 fanegas (160,000 bushels). The decrease for 1896 is variously estimated at from 30 to 50 per cent. This is, perhaps, an exaggeration. It is also reported from Seville, the principal olive market, that a considerable portion of the olives gathered this autumn are worm-eaten and inferior. No transactions of importance have yet taken place in the new crop which would furnish an indication as to the range of prices. It is probable that they will rule fully as high as last year, if not higher.

CHAS. L. ADAMS,

CADIZ, *November 18, 1896.*

Consul.

SEVILLE.

The current prices of olive oil of the crops of 1894 and 1895 averaged about as follows:

Size.	Price per fanega (16 gallons).	
	1894.	1895.
	<i>Pesetas.</i>	<i>Pesetas.</i>
70 to 80 per kilogram.....	86.50	85.50
80 to 90 per kilogram.....	73.75	70.00
90 to 100 per kilogram.....	60.50	58.50
100 to 110 per kilogram.....	56.50	46.50
110 to 120 per kilogram.....	41.50	36.00
120 to 130 per kilogram.....	31.80	29.00
130 to 140 per kilogram.....	25.50	23.50
140 to 150 per kilogram.....	22.30	21.00
150 to 160 per kilogram.....	20.50	17.50
160 to 180 per kilogram.....	17.60	18.00
180 to 200 per kilogram.....	15.50	15.50

In the absence of any official statistics of the yearly production of olive oil, the estimates vary considerably, but the average seems to be, for the year 1894, 78,000 fanegas (1,248,000 gallons); 1895, 140,000 fanegas (2,240,000 gallons).

The olives of the crop of 1894 were mostly of large and medium sizes; the fruit was generally much larger than that of 1895. The olives of 1895 were largely of medium and small sizes. About one-third of the crop, it is estimated, was injured by too much rain, much of it becoming worm-eaten. The larger the yield, the smaller the general size of the fruit.

SEVILLE, *June 19, 1896.*

SAMUEL B. CALDWELL,
Consular Agent.

PRODUCTIVE FORCES OF CUBA.

With an area about equal to that of the State of Pennsylvania, a length of 775 miles, and a width varying from 30 to 160 miles, Cuba stands in a geographical position which, together with her productive soil, mineral wealth, and climatic conditions, should entitle her to rank among the foremost communities of the world, a distinction to which I believe she will soon attain whenever a stable government and cheerful obedience to the powers that be present to the home seeker and investor conditions that will make home pleasant and capital secure.

Although founded and settled more than fifty years before the United States, Cuba has still 13,000,000 acres of primeval forests where the woodman's axe has never been heard. These forests are timbered, besides other woods, with mahogany, cedar, logwood, redwood, ebony, lignum-vitæ, and caiguaran, the latter being more durable in the ground than iron or steel.

The soil is a marvel of richness, and fertilizers of any kind are seldom used unless in the case of tobacco, even though the same crops be grown on the same field for a hundred years, as has already happened in some of the old sugar-cane fields. The mountains are of coral formation, while the lowlands of eastern Cuba, at least, seem to be composed largely of fossils of sea matter from prehistoric times, and are extremely rich in lime and phosphate, which accounts for their apparent inexhaustibleness.

If all the land suitable to the growth of sugar cane were devoted to that industry, it is estimated Cuba might supply the entire western hemisphere with sugar. The island has already produced in a single year for export 11,000,000 tons, while its capabilities have only been in the experimental stage.

The adaptabilities of the soil for tobacco culture has long been the envy of the world, until a cigar that has not some pretension of having at least a little Cuban tobacco stands condemned without a hearing.

Cuba takes great pride in the quality of her coffee, and until the rebellion of 1868 she raised a large quantity for export. It is the mountainous regions of Santiago, in the eastern part of the island, that are best adapted to this industry, but the insurrection beginning that year completely destroyed the coffee plantations. They were just getting nicely started again, when the present rebellion broke out, and there will probably be but a few, if any, coffee plantations remaining when the struggle ends. Coffee, unlike sugar,

can be raised profitably on a small scale and is eminently the poor man's crop.

Tropical fruits, such as oranges, lemons, pineapples, mangoes, guava, tamarinds, and many fruits with a local value, but too short lived for export, are here entirely at home and never catch the unlooked-for frosts, as so frequently happens in Florida. These fruits are indigenous to the soil and require but little labor to make them grow successfully.

The cereal crops never have, and probably never will have, a profitable cultivation on this island. Corn is raised on a small scale, while wheat and oats are never grown at all. No flour mill exists on the island, so far as I have been able to learn.

The lover of fresh vegetables, I think, is doomed to disappointment on coming to Cuba. Garden truck is always in season and can usually be had at some price, but that crisp freshness which we so much relish in our northern vegetables seems to be wanting, and vegetables being always in market, one soon tires of them. But, when our own ground is covered with snow and ice, they might be shipped north to some advantage.

In mineral wealth, Cuba is capable of taking high rank. Gold and silver have not been found in paying quantities. Copper was mined at Cobre by the natives before Columbus discovered the island, and there is strong proof that native copper was carried across to Florida and used by the Florida Indians hundreds of years ago. The mound-builders of that State buried with their dead copper ornaments and utensils hammered from native copper, which always has an admixture of more or less foreign matter. As no copper ore is found in Florida, nor in the United States for a long distance from there, and as that found in the United States or in Mexico does not correspond chemically with that buried with the mound-builders, it occurred to Prof. R. H. Sanders, of the Academy of Natural Sciences in Philadelphia, that it was possible that these mound-builders had water communication with Cuba, and got their copper from here. He therefore communicated with the writer and procured a sample of native Cuban copper, which proved, upon analysis, to be the identical kind used in the copper ornaments mentioned. In the early part of the present century, some English capitalists purchased these mines, which are 9 miles from Santiago. The books of this consulate show that from 1828 to 1840 an average of from \$2,000,000 to \$3,000,000 worth of copper ore was shipped annually to the United States from these mines. How much was shipped elsewhere, I have not the means of knowing.

These mines continued in successful operation until 1867, when a combination of circumstances, and not the poverty of the mines, closed them up, and the various shafts, from 900 to 1,200 feet deep, filled with water, all save 300 feet being below the level of the sea. In later years, considerable copper was taken from these mines by pumping the water from the shafts to tanks, into which iron scraps were thrown. The copper held in solution by the water, deposited on the scrap iron, which in time was broken off and the

iron used again. It is generally believed that large quantities of copper still remain unmined in this locality.

The iron mines of Cuba, all of which are located near Santiago, overshadow in importance all other industries on the eastern end of the island, constituting the only industry that has made any pretense of standing up against the shock of the present insurrection. The Juragua and Daiquiri iron companies (American), with a combined capital of over \$5,000,000, now operate mines in this vicinity and employ from 800 to 1,400 men, shipping to the United States from 30,000 to 50,000 tons of iron ore per month, the largest portion of which is used at Bethlehem, Steelton, Sparrow's Point, and Pittsburg. The ore of these mines is among the richest in the world, yielding from 62 to 67 per cent of pure iron, and is very free from sulphur and phosphorus. There are numerous undeveloped mines of equal richness and value in this region.

In the Sierra Maestra range, on the southern coast of Cuba, from Santiago west to Manzanillo, within a distance of about 100 miles, are found numerous deposits of manganese, an ore indispensable in the manufacture of steel. American capital opened a mine about 20 miles distant at a place called Ponupo, and built a railroad to it. After shipping one cargo, the mines were stopped by the insurgents. As nearly all the manganese used in the United States comes from the Black Sea regions of Europe and a smaller quantity from the northern part of South America, it is but reasonable to suppose that the products of these near-by mines will be in great demand when the conditions are such that they can be operated in safety.

Railroads and other highways, improved machinery, and more modern methods of doing business are among the wants of Cuba; and with the onward march of civilization these will be doubtless hers in the near future. Cuba, like other tropical and semitropical countries, is not given to manufacturing; her people would rather sell the products of the soil and mines and buy manufactured goods. The possibilities of the island are great, while its probabilities remain an unsolved problem.

PULASKI F. HYATT,

SANTIAGO DE CUBA, *January 8, 1897.*

Consul.

KEROSENE OUTPUT OF JAPAN.

I inclose in duplicate a clipping taken from the Japan Daily Mail of October 19, 1896, which is important as giving a statement of the output of the kerosene oil of Japan for the ten years 1884-1894, and as calling special attention to the great increase in the output of this oil since the introduction of American machinery.

It also calls attention to the fact that new companies are being started which will greatly increase this output in future.

I have reduced the quantities stated in the articles from "koku" to gallons. The Japanese names occurring above the columns of figures in the table given are the names of provinces on the northwestern coast of Japan, which is the oil region of the Empire.

N. W. McIVOR,
Consul-General.

KANAGAWA, October 22, 1896.

[From the Japan Daily Mail of October 19, 1896.]

KEROSENE IN JAPAN.

The existence of "inflammable water" in Echigo has been known for more than ten centuries, though the extraction of kerosene and its purification for purposes of illumination date only from the Meiji era. It was in 1888 that machines were introduced and the extraction of the oil regularly started. But for a long time no satisfactory result was obtained. The introduction of American kerosene machinery, a year or two ago, was the signal for a sudden development of the industry, as may be seen from the following table:

Year.	Echigo.	Totomi.	Ugo.	Shinano.	Ishikari.	Total.	
	<i>Koku.</i>	<i>Koku.</i>	<i>Koku.</i>	<i>Koku.</i>	<i>Koku.</i>	<i>Koku.</i>	<i>Gallons.</i>
1884.....	24,482	3,784	771	481	23	29,541	1,172,778
1885.....	25,923	3,630	805	425	48	30,931	1,227,961
1892.....	69,042	2,832	340	625	53	72,893	2,893,852
1893.....	80,259	2,507	118	402	78	83,364	3,309,551
1894.....	224,826	2,548	345	248	105	228,072	9,054,458

Japan imports kerosene from America and Russia to an extent of 5,000,000 to 6,000,000 yen per annum. Partly from a desire to meet this demand with home products, and also from the unusually satisfactory returns that some capitalists succeeded in making from this industry, kerosene extraction has become very brisk in Echigo. The latest returns of the Echigo petroleum companies record exceptional profits, the dividends declared by some being as much as 113 per cent, and none were less than 20 per cent. The attention of wealthy men being directed to the industry, several new companies were started lately with capitals ranging from 300,000 to 500,000 yen. The establishment of these companies has been a great desideratum, for owing to the nature of the industry the companies at work previously suffered severe strain, owing to their paltry capital. Kerosene is chiefly obtained in the five districts of Koshi, Naka, Higashi Kubiki, Mishima, and Kariba. The first district yields the largest amount of oil at present, owing to the employment of American machinery. At a depth less than 200 yards below sea level more than 30 koku (1 koku=39.7 gallons) can be daily extracted from some wells. The monthly output reaches about 20,000 koku at present. It is confidently expected that the introduction of similar improvements in other districts will be followed by a large increase in the total output of oil in Echigo.

RAILWAY AND ENGINEERING DEVELOPMENT IN SIAM.

I have the honor, through the Department of State, to call the attention of American railway promoters, financial agents, engineering experts, and manufacturers of railway and kindred products to the opportunity existing in Siam for investigation and possible development.

Unless action is taken upon my suggestions at an early date, the best opportunities will be seized by others.

At present, the British, German, and Danish interests are most active in securing concessions and organizing new schemes. European countries have had, so far, such a monopoly of this field that there has practically been no American competition and no advertising in America for proposals, tenders of bids, etc. In the two and a half years of my stay in Bangkok, not one American financial agent, railway or engineering promoter has visited Siam, although I have striven to make them understand in such ways as possible that they should at least visit the field. The energy they have displayed in Korea, Japan, and China should be extended to Siam. If American capitalists can obtain important concessions in Korea and China, they certainly should be able to do so in Siam. Bangkok is as easily reached from Hongkong or Singapore as Seoul from Yokohama, and more easily than Peking from Shanghai; the Government of Siam is as favorable to foreign interests as those of Korea and China, and there is no great difficulty in presenting any scheme, obtaining a hearing from the high officials, or securing a concession, provided it is reasonable and has not already been promised.

I would not paint too rosy a picture. This, of course, is an oriental kingdom, and one familiar with the Orient knows what that means. A plan that could be drawn up and agreed upon with all details settled in two weeks in America would perhaps require two months in Siam.

Looking first at what has been done in Siam, we note that the Korat railway line, running 165 miles northeast from Bangkok, is now about half completed. The only competitors for this contract, involving \$3,000,000 to \$5,000,000 (gold), were Englishmen and Germans. The former obtained it, and hence all the supplies came from England. It has now passed into the hands of Germans, and additional supplies are ordered from Germany. American contractors would have stood an equal chance had they been on the ground.

Looking, on the other hand, to what may be done, there are several important plans now projected which should interest American contractors, agents, and manufacturers. Chief of these is a line west and south from Bangkok to Ratburi and Petcharburee, a distance of about 100 miles, which may be continued, later on, down the Malay Peninsula. It is now reported that the Siamese Government will build this line from its own funds, beginning in January or February, 1897, but there is no reason why a portion of the materials, supplies, and equipment should not come from the United States. This is deemed one of the most important railway undertakings in southeastern Asia, and it may be a link in the proposed Siam-China line, reaching from the Bay of Bengal to the China Sea.

Other lines discussed are: (1) One of 600 miles north to Cheangmai continuing from the present Ayuthia line; (2) one to Anghin, 40 miles south-east from Bangkok, and possibly on to Chantaboon, 150 miles; (3) one to Petriew east, about 40 miles; (4) and other lesser and shorter routes, including electric lines.

Under the head of engineering propositions, it is certain that Bangkok must in the near future arrange for a permanent and healthful water supply

which would require an expenditure of \$1,000,000 or more. A system of sewerage is also a plain necessity and, on account of low ground, presents both an interesting and difficult problem. This would cost as much as waterworks. In addition to these, are lesser public works that must be undertaken if Siam would progress and Bangkok be converted into a healthful and prosperous capital.

Perhaps more important than even these railway schemes is the possible deepening of the bar at the mouth of the River Menam, 30 miles below Bangkok. At present, the Siamese Government is little interested in this improvement, although nearly one thousand steamers entered and cleared from this port in 1895. If an American contractor, with our latest dredgers and systems of building jetties, could show the Siamese Government how the work could be done cheaply and kept easily in good condition, he might be given the contract.

There are now in Bangkok special agents of British and German capitalists and manufacturers who are leaving no stone unturned to get every concession possible, as well as every contract open. For this, they deserve credit. I only suggest that American agents should be here to try for their share. They do it elsewhere; why not here? Let them bear in mind, however, that they must compete on the same basis with Europeans. There is absolutely no tendency to do business with Americans in preference to Europeans. The Siamese will deal either with those who have the most influence and backing or with those offering to do the most for the least money.

I have no sympathy for the statement made now and then that Asiatics prefer to do business with Americans; rather would I say that they are governed solely by the desire of getting the most out of any proposition possible for themselves, for which they can hardly be blamed.

All this lends strength to my repeated argument—there should be a strong American firm located in Bangkok, not only to do an extensive export and import business, but to keep in touch with new plans for development of the country.

By what I write I do not wish to give the impression that there are opportunities for employment here of men merely looking for positions—the opportunities are for men and companies having, or representing, capital.

The name and address of the Minister of Public Works, who has charge of most improvements, is His Royal Highness Prince Bidyalabph, Minister of Public Works, etc., Bangkok, Siam. He speaks and writes English.

Personal representatives should be sent here and dependence should not be placed on letters alone. These representatives should be thoroughly capable men who know their business and can show figures and data and plans without prolonged delay.

If the chances in Siam alone may not warrant sending special men here, there is abundant reason, in view of the trade awakening up and down this coast from Yokohama to Singapore, for sending capable representatives to the far East, who can include Siam in their itinerary.

The best season to visit Siam includes November, December, January, and February. The hottest and most disagreeable months are March, April, and May.

The necessity of avoiding the complaint of having left unsaid what should be known to those who might invest capital here compels me to add that it is at times alleged that the Siamese Government is lax in its business methods and that foreigners transacting business with it do not know what may turn up to hinder their progress or defeat their plans. On the other hand, these conditions, if they exist, do not deter Europeans by the score and European companies from doing all the business they can with Siam, and should not deter American interests. I would class these complaints as allegations rather than facts.

JOHN BARRETT,
Minister Resident.

BANGKOK, *September 30, 1896.*

GERMAN TRADE COMMISSION TO EASTERN ASIA.

The German Empire has assumed the expense and management of sending into eastern Asia a deputation of experts to study into and observe in detail the commercial, financial, and industrial conditions of that country. At a final meeting of the chosen representative members of the expedition recently called by the Secretary of the Interior, in Germany, preparations were completed and the entire tour of observation and study into Asia mapped out. The party of experts are announced to sail early next month from Bremen on the North German Lloyd steamer *Sachsen*. They will be met at their destination and afterwards accompanied upon their tour by Dr. Knappe, the German consul, who is at present stationed at Canton, China, an arrangement which is most excellent, since consuls from much experience and contact with the people of a country are perfectly in touch with their surroundings. Dr. Knappe is distinguished for his superior knowledge of the trade and business conditions and movements in Asia. He will conduct the members of the commission, day by day, to the various points of interest and study.

The expedition has received some opposition and discouragement from representative members of the chemical industry in Germany, who argue, and lay stress upon the fact, that they, by their special trade prestige and through their deputies located in Asia and in all parts of Japan, are as well informed upon the subject of trade and business conditions and movements in eastern Asia as any party of expeditionists especially appointed for the purpose could possibly be. Nevertheless, the projected tour is to be undertaken and systematically carried into effect, the members delegated having unanimously decided that a personal observation of products and markets upon the scene is apt to be better than secondary advice from the chemical agents in Asia, and would result in greater future benefits and success to all of their industrial interests. Saxony's board of trade is to be represented by six members

in the party, who will devote their time and energy to securing a new market for woolen goods.

Germany, in her efforts to establish a wide and great reputation for progressiveness, is not even satisfied with the extensive growth, in the last ten years, of her various industries. Trade demands from America and other large countries do not increase as she would desire, and ever alert and ready to promote her own best interests and the progress of the nation, this expedition into China has been arranged and actively furthered by the Government as a means of establishing mutual trade in a new field. From this enterprising standpoint, if Germany can find and control a larger market for her industries and products in Asia, it would seem that America would have to promptly look to her own laurels in this same direction.

It must be brought to mind that the Chinese Empire, whose population equals that of the whole European continent, now shows signs of throwing off some of the old methods of rigid rule by which it has been governed almost up to the present time and is stepping out from the seclusion which has characterized its administration in years past to its own serious detriment. The recent much-chronicled travels of China's viceroy, Li Hung Chang, may be regarded as very significant in this light. Hitherto, only a few of the ports were accessible to American and European traffic, but China has begun to realize that the policy which has been fatal to her interests heretofore must be set aside and palliative measures adopted to bring about the now much-desired closer touch with American and European countries. China has felt keenly her ignominious defeat by Japan in the late war, but Japan's victory proved thereby her superior methods, progressiveness, and culture, through the medium and influence of extensive international intercourse. What to-day has been averted from China might in a new war prove non-avertable, if China does not hasten to strengthen her interests and open up her portals to American and European commercial intercourse. What this procedure means to a country of such large resources as China, with a population of about 400,000,000, can not be adequately estimated at the present time, considering her present extremely primitive methods of intercourse with other countries.

The great future possibilities to be realized from these schemes of commercial expedition as already taken up by France and England, and now by Germany, can not be overestimated and should spur our great American country to a sense of realization of future benefits to her own great interests in the same direction. The subject should receive immediate attention and discussion and a like plan of scientific and commercial expedition be devised by the United States upon a scale of still greater strength.

In discussing the important question of finding larger markets for goods of American manufacture, Americans are overconfident in one sense and too apt to argue that if foreigners are not satisfied with American goods it is because they are lacking in good, up-to-date judgment—a method of argument which, if good logic, is not good business policy. Much of the success of

the English and German manufacturers in extending their foreign trade has been owing to their readiness to meet even the most trifling conditions which buyers impose as to style and character of the goods desired. Little success is to be obtained in attempting to gain a foothold upon foreign markets by seeking to force goods upon the people. Sufficient has been learned to demonstrate that where the proper effort is made to ascertain the peculiarities of the trade and cater to it, the results are highly satisfactory. The necessities of the case now demand that American manufacturers should spare no pains to increase their export trade, adapting their products to the exigencies, harmless whims, and tastes of foreign consumers.

GEO. SAWTER,

GLAUCHAU, *December 18, 1896.*

Consul.

SIBERIAN RAILROAD EXTENSION IN CHINA.*

At the beginning of the work on the Transsiberian Railway, the Transbaikal and Amoor section was planned to extend from Chita through Sretensk, on the shores of the River Shilka, to Pokrovskaja; thence, along the northern shore of the River Amoor to Khabarovsk, to join the Ussuri Railroad [running south to Vladivostock]. But investigation clearly showed that the construction of a line in that section involved such technical difficulties as would greatly increase the cost of the undertaking. Thus, for example, on the Sretensk-Khabarovsk section, 1,667 versts (1,105 miles) long, the cost per verst (0.663 mile) would amount to the sum of 90,000 rubles (\$46,260). This first raised the question of building the Transsiberian Railway through Chinese territory, and investigation made in Manchuria showed that it would not only cheapen and shorten the construction of the road, but would present other advantages. Negotiations were begun on this subject and the result was that the Chinese Government gave a concession to the Russo-Chinese Bank, and a new company, called the Eastern Chinese Railway Company, was formed, which is to construct and work a railway within Chinese territory. The articles of association of the new company were sanctioned by the Czar December 16, 1896, and by an imperial ordinance issued on the 23d of December, 1896.

The details of the arrangement are these: The association has been organized on the strength of the convention concluded August 27, 1896, by the Chinese Government with the Russo-Chinese Government Bank for the construction and exploitation of a railroad within the boundaries of China, from a point on the western frontier of the province of Heilung Chang to a point on the eastern frontier of Kirin, and to be connected with the branches of the Transsiberian Railway which the Russian Government intends to build. The company may, with the permission of the Chinese Government, work, in connection with the railroad or separately, coal mines and other mining, industrial, and commercial enterprises in China. In case

*The consul-general does not state from what source his information is derived.

such enterprises should be worked independently of the railroad, then the company must keep a separate set of books for each of them. The Russo-Chinese Bank takes upon itself the duty of organizing this company, and when the same is organized all the rights and duties concerning the construction and exploitation of the line granted by the above-mentioned convention are conferred upon the company. The company will be considered organized as soon as the Government Bank presents to the Minister of Finance proof that the founders of the company have paid in the first installment of the shares, and they should be paid in not later than two months after the confirmation of the articles of association. The balance of the shares should be paid in, according to their nominal value, not later than a year after the organization of the company. Shares can be held only by Russian and Chinese subjects. According to the convention, the company will own the Chinese Eastern Railway during eighty years after the opening of the whole line.

The Russian Government guaranties the resources of the company to the extent of making obligatory the payment of shares. The company takes upon itself, during the whole period of the concession, on the part of the Russian Government, the following obligations :

(1) The Chinese Eastern Railway, with its appurtenances and rolling stock, must be always kept in full order to satisfy all the requirements of operation in relation to safety, convenience, and constant movement of passengers and freights.

(2) The traffic on the Chinese Eastern Railway to be kept up in conformity with the traffic on the Russian railroads connecting with the Chinese railway named.

(3) All trains of the Russian Transbaikal and Ussuri railroads are to be met by the Chinese Eastern Railway and forwarded to their destination without delay.

(4) The company binds itself to transmit, with a speed not less than that used on the Siberian Railway, all passenger and freight trains in direct communication with it.

(5) The company binds itself to construct and use on the whole length of the road a telegraph line, connecting with the telegraph lines of the Russian railroads, and to receive and send, without delay, through dispatches going from one frontier station to another, as well as telegrams going from Russia to China and the reverse.

(6) If, after the development of the operation of the railway, its technical arrangements shall not satisfy the requirements of a regular and uninterrupted traffic of passengers and freights, then, as soon as the Russian railroads require the Chinese Eastern Railway to be reinforced, the latter must take suitable measures to improve its technical arrangements for the increase of its traffic. In case of a misunderstanding between the above-named railroads, the Chinese Eastern Railway agrees to submit to the decision of the Russian Minister of Finance. In case the means of the Chinese Eastern

Railway shall not be sufficient to carry out the necessary improvements, the administration of the road can apply for pecuniary assistance to the Minister of Finance of the Russian Government.

(7) For all transit transportation of passengers and freights, and for the telegraphic communications, there shall be established, according to an agreement made between the company and the Russian Government, a maximum tariff for the whole period of the concession, which can not be raised during the above period without the consent of the Russian Government. The limits for the tariffs of direct communication for railroad transportation, as well as for telegraphic communication, will be determined by mutual agreement between the administration of the company and the Russian Minister of Finance.

(8) Russian mail packages and officials accompanying the same are to be carried by the Chinese Eastern Railway Company free of charge. For this purpose the company assigns on each passenger train a part of one car, not shorter than 3 sagenes (21 feet); but the Russian Post-Office Department can, should it so desire, furnish the railway with post cars constructed at its own expense, but the repairing and the keeping (except the inside fitting up) and the switching of them to trains must also be done by the railway company free of charge.

On the performance of the above-mentioned obligations depends the guaranty by the Russian Government, and consequently the realization of the enterprise. After the eighty years' concession has expired, the road will pass, costs free, into the hands of the Chinese Government. A sale of the railway by the company before the expiration of the concession does not in any way change the force of these obligations; they must be observed by the new purchasers of the railway to the full extent. Also, during the eighty years' concession the following rights given by the Chinese Government to the railroad company remain in full force:

(1) The passenger baggage as well as merchandise transported in transit from one Russian station to another is not subject to Chinese customs duties and is to be exempt from all interior Chinese taxes and revenues.

(2) The tariffs for the transportation of passengers and freights, telegraphs, etc., to be free from all Chinese dues and taxes.

(3) Merchandise imported from Russia into China by rail and exported from China into Russia the same way, will pay export and import Chinese duty one-third less than the regular duty paid at the Chinese sea custom-houses.

(4) If the goods imported by rail are intended to go into the interior, they shall pay transit duty to the amount of one-half of the import duty exacted from them, and are afterwards considered free from any additional duties. Goods which have not paid transit duty are subject to all the interior taxes of the country.

The company is at liberty to buy the materials for the construction of the railroad wherever it sees fit. In case the materials are not purchased in

Russia and pass through Russian territory, they will be free from paying the Russian customs duties.

The total amount of the capital of the company will be fixed in conformity with the cost of the construction, which is to be calculated according to the estimates founded on preliminary surveys. To the fundamental capital must be also added (1) the expenses for paying the interest and the amortization of the fundamental capital during the construction of the railroad, and (2) the outlay for purchase of the material obtained by the Russian Government in a survey of a railroad in Manchuria, made by Russian engineers. The amount to be paid is subject to a mutual agreement between the company and the Russian Minister of Finance.

The capital of the company is formed by the emission of shares and obligations. The stock capital is fixed at 5,000,000 paper rubles (\$2,570,000) and is divided into one thousand shares of 5,000 paper rubles (\$2,570) each. The shares are issued at par. The Russian Government does not guaranty these shares. For the remaining amount, the capital will be formed by an issue of "obligations" [bonds]. These "obligations" will be issued in proportion to requirements, each time with a special permit from the Minister of Finance. The nominal sum and value of each separate issue of "obligations," the time and conditions, and the form of the "obligations" are subject to approval of the Russian Minister of Finance. The income and liquidation of these "obligations" will be guarantied by the Russian Government. Regarding the realization of the "obligations," the company will have recourse to the Russo-Chinese Bank, but the Russian Government has the right to keep for itself the obligatory loan according to the price fixed by the company and the bank, and to pay the company the fixed sums in currency.

The management of the construction and exploitation of the Chinese Eastern Railway, as well as the keeping of the books and accounts of the company, is left to the administration of the company. The offices of the administration are to be in Peking and in St. Petersburg and meetings can be held at either of the two-named cities. The administration is to consist of a president and nine directors. The president is appointed by the Chinese Government. The other members are elected by a general meeting of the shareholders. The directors elect from among themselves one vice-president. The company is to begin work in August, 1897, and the line is to be completed in six years.

The new line will begin at the Onon station of the Transbaikal Railroad and will cross the Chinese frontier near the town of Staro-Zurukhait; it will run in Manchuria toward the towns of Cicikar (Tsitsikar), Khu-lan-Chen, and Ning-tu and connect with the Nikolsk station of the South Ussuri Railroad. The total length of the Manchuria Railway will be 1,920 versts (1,273 miles), of which 1,425 versts (945 miles) will be in Chinese territory. According to the original survey of the Siberian line, the length of the road between the stations Onon and Nikolsk showed 2,434 versts (1,614 miles); consequently, the course through Manchuria will shorten the Siberian Rail-

way 514 versts (341 miles), which is a great saving. Besides, the Manchuria line will go more to the south than the former Amoor direction (the difference in some parts being 600 versts=398 miles) through a country of better climate, with more productive soil. It will also cross the fruitful valley of the River Sungari, which supplies the Amoor region with bread. In general, northern Manchuria, which the new line will cross in the middle, possesses natural wealth, some of which to some extent is already worked. The agricultural industry forms the principal occupation of the Manchurian population; wheat, barley, buckwheat, rice, millet, pease, and maize are cultivated in considerable quantities. Manchuria poppy and tobacco are well known for their quality and the extent to which they are cultivated. Another important industry in that country is cattle breeding. Of mineral wealth, Manchuria is rich in iron ore, and, not long ago, work on gold mines was begun. On the line itself and its region in Manchuria are several large commercial points. Among the principal ones are Girin, Khailar, and Cicikar (Tsitsikar). Well-known annual fairs are held in Flandchur, in which northern Mongolia and northern Manchuria generally take the principal part, and also, to some extent, the Russian transbaikal.

ST. PETERSBURG, *December 28, 1896.*

JOHN KAREL,
Consul-General.

ESTIMATES OF SIBERIAN RAILROAD TRAFFIC.

An event hardly less important than the cutting of the Suez Canal will be the building of the Transsiberian Railroad by Russia. Germany looks longingly forward to the time when fast trains are to run from Calais to Vladivostock. Five thousand miles of steel rails have been laid already at a cost of 350,000,000 rubles. July 1, 1904, it is thought, will see iron horses running from the shores of the north to those of the Japan Sea. In 1898, trains are to run over the Siberian road to the Amoor River. Thence, by fast steamer, passengers, post parcels, and freight are to be pushed on to Chaborowka; thence, in eighteen hours, over the South Russian section of the Siberian road, to Vladivostock, making the distance from London to the most important harbor of the Japan Sea seventeen and a half days. Many of the wares that go and come by boat now will find their way overland on these lines. Before 1901, Russia will have cut her way with steel rails across Manchuria, saving 300 miles. It is estimated by German engineers that when the road is repaired, after the first few years, and high rates of speed across Siberia are attained, the entire trip will be made in nine days and two hours.

The Anglo-Indo-Australian post bags weighed, in 1883 (the only year for which one finds figures), 842,448 kilograms. Last year, England paid France and Italy for transporting the weekly post bags 1,400,000 marks (\$333,200),

at the rate of 2 francs per kilogram of letters and 25 centimes per kilogram of printed matter. Assuming that 650,000 kilograms were letters and 1,600,000 kilograms packages and printed matter, its importance to this Empire will be apparent. The sphere of influence, apart from political or diplomatic interests, over which the great road is to extend, lies east of the eightieth meridian east of Greenwich. It takes in all Japan, China, Australia, Annam, Siam, etc. If only half as much postal matter passes over the new line in 1901 as went via Suez in 1895, Germany will have to get 680,000 marks (\$161,040) for transporting 325,000 kilograms of letters and 800,000 kilograms of printed matter and packages.

To no one does time mean more or so much as to a traveler to and from the East; 90 per cent of the passengers will prefer to make the journey in nine to ten or twelve days overland to making it, as now, over seas in twenty-eight to thirty-eight days. This, too, when tickets from Warsaw to Vladivostock are to cost only 120 rubles, first class. From London to Warsaw costs now 150 marks (\$45.70). Thus, the entire ticket (London to Vladivostock) is to cost about 500 marks (\$119), first class. Of course, second class is to cost considerably less; how much is now not known. A ticket to Japan to-day, via Brindisi and the Suez, costs 1,800 marks (\$428). If to the price of overland ticket, the price of sleeping berth for twelve nights is added, there is even then a saving of \$166 to \$190 against the price now paid via Suez.

In 1895, 216,938 passengers went via the Suez Canal to China and Australia. For political, military, and other reasons, drop 117,000 from the list of possible passengers from the Russian route, and there remain 98,229. Take from these, 18,299 pilgrims and 80,000 remain. Take of these, 40,000 who are East Indian travelers, and there remain 40,000 plus 10,000 who hitherto have gone via the American transcontinental lines, plus another 10,000 West Europeans who go annually to the East on business or pleasure, etc., and we get 60,000, mostly first-class passengers, using the new route. These must cross Germany from its western frontier to Alexandrowa, on the Russian border. Sixty thousand multiplied by 100 marks (from Aix la Chapelle to Alexandrowa costs now 92 marks) equals 6,000,000 marks (\$1,428,000). The goods going over the road to the East and those coming west will be, naturally, those that can pay the biggest rates—furs, gold, silver, platinum, and tea. Many of these are to come to Europe out of Siberia itself. That land is rich in minerals of all kinds; the Urals are giving out gold and silver in large quantities. How important to Germany are the furs of Siberia may be learned at Leipsic's annual fairs. If the hammer that sent home the first spike in the first sleeper laid was silver, the one that sends home the last spike should be gold. Much as the road may mean to Germany, Russia, and the rest of Europe, it may mean more to us. California, Oregon, Washington, our whole western country, if not our whole continent, is interested in this road. Russia has her hands full at home. The hands to help in the East are ours.

There is something more attractive in our civilization and methods to eastern people than in those of Europe; at least, this is asserted by eastern travelers. To develop the resources of an Empire so vast as Russia will require capital, enterprise, and energy such as has made us the richest nation in the world. To equip her roads, to develop her great agricultural, fishing, mineral, and forest resources, Russia needs just such implements as have helped us. No time is to be lost if we are to have any part in the great drama that has for its plot the development and modernizing of the Orient.

J. C. MONAGHAN,

CHEMNITZ, *December 4, 1896.*

Consul.

SIBERIA AS A GRAIN-EXPORTING COUNTRY.

In a recent number of Dr. Conrad's *Jahrbücher für Nationalökonomie und Statistik*, there appeared an article by Dr. Ballod "Concerning the importance of the husbandry of Siberia." Considering the interest which Siberia is entitled to claim as a mighty field for colonization lying at the doors of Europe on the one side and the importance which it seems to acquire as a new grain-producing region on the other, it is especially gratifying when the results of careful investigation enable the widest possible circles to form an opinion as to the actual conditions of the country.

As Dr. Ballod remarks, Siberia has often been compared with the United States and the opinion expressed that it presents to Russia quite as great and profitable a field for colonization as did once North America to England. This comparison as to what hopes and fears Siberia has given and may possibly give rise to, is perhaps the best form of regarding the question. Nevertheless, such a comparison is thoroughly out of place, because, in respect to climate, conditions of soil, and capabilities of expansion of the regions still available for colonizing purposes, Siberia corresponds fairly with Canada, and, moreover, it contains almost the same number of inhabitants. The region of the Amoor is, likewise, no better for colonization than British Columbia, inasmuch as it, too, has in the summer time an equally overmoist and unfavorable climate for grain growing.

With regard to the colonization of Siberia, the immigration (only that which comes from Russia is worth taking into consideration) has increased very largely of late. While in the eighties, it hardly amounted to 10,000 to 20,000 annually, it rose in 1895 to over 100,000. It is claimed that in the present year, up to the middle of June, the number had risen to 145,000, so that neither could suitable provision be made for the new arrivals nor was enough surveyed land available. Dr. Ballod thinks that one may safely reckon on 200,000 to 250,000 immigrants for the next few years. Even European Russia would not sustain any palpable loss by such an outflow of emigrants, for her annual excess of births over deaths amounts to over 1,500,-

000 souls, so that the fear of some few strips of land in European Russia, which are now devoted to farming, becoming depopulated and of a want of farming hands being felt is thoroughly unjustified.

But with so strong an immigration as that referred to above, the land available for cultivation would hardly suffice for twenty-five years. The total area of cultivable soil in eastern and western Siberia and Transbaikalia amounts to 18,000 geographical square miles, or, in round figures, 247,000,000 acres. But of these millions, at least 98,000,000 acres must be left to the present owners, even if their possessions beyond 18 dessiatines (48½ acres)—which is the limit allowed by law to each head—should be confiscated. For the new settlers, the Government allows 15 dessiatines (40½ acres) per male. Besides this, one-fourth of the lands is to be held in reserve for the future growth of the population. According to this, there would be about 112,000,000 acres available for the immigrants, and thereon 2,600,000 males, making 5,500,000 for the whole, could settle.

The country population would thus have grown to the extent of 150 per cent, and they would be able to produce two and a half times as much grain as the present population. Siberia, exclusive of the Amoor region, could then raise 400,000,000 poods (6,453,000 tons) of grain; or, if the area of the grain-growing districts increases in proportion to the present dimensions by 25 per cent, 500,000,000 poods (8,060,000 tons), that is to say, only one-fourth or one-fifth of the entire Russian grain harvest. There would thus be from 87,000,000 to 110,000,000 poods (1,402,000 to 1,773,000 tons) available for export, after providing for the population of the cities, towns, and mining districts, instead of 35,000,000 to 44,000,000 poods (550,000 to 710,000 tons). This would only represent about 11 to 12 per cent of the soil suited to grain growing, whereas in western Europe, 25 to 30 per cent of the agricultural land is devoted to this purpose. The production represented by the above figures is, however, capable of being increased to the extent of from two to two and a half times, but not without careful cultivation of the soil by manuring, etc. Assuming, however, that the area of the grain land should increase to 25 per cent of the total cultivable land and that, thus, the quantity available for export should rise to from 174,000,000 to 220,000,000 poods (2,805,000 to 3,546,000 tons), this would still not amount to 50 per cent of the present total Russian export. However, this would not happen before forty or fifty years at the earliest. In the meanwhile, the exports from European Russia would most certainly have become greatly reduced, in consequence of the strong increase of the population, and even, possibly, have ceased altogether.

The Amoor and Ussuria, which have not been taken into account in the foregoing, are said to contain about 28,000,000 hectares (69,100,000 acres) of cultivable land. That these will ever be able to send desirable grain, and more particularly wheat, to the European market appears doubtful, on account of the bad quality of the grain raised there. It is more likely that they may provide the markets of northern China with millet, etc.

A great increase in the cultivation of grain as a consequence of the eventual completion of the Siberian Railway system is, as the author seeks to prove from careful estimates of production and freights in his possession, not to be expected so long as low prices rule on the markets of the world. It would be necessary for the Siberian peasant to export more cheaply than he has hitherto, in the absence of railways, been paid for his grain on the home markets. But should the prices of the markets of the world rise materially, the profitable cultivation of wheat in Middle Siberia would become a possibility, and this would probably bring about an important increase in exports.

Dr. Ballod arrives at the conclusion that the Siberian Railway will, at first, only open up the country for the export of the more valuable classes of goods and facilitate wholesale immigration. It will be of enormous importance as a transit route for goods of high value from China and Japan, and also for passenger traffic from and to these countries; but it will be serviceable to the development of grain export only in a very limited degree. This end could only be attained by the construction of cheaper export highways, which will, perhaps, follow with the progress of colonization.

THEODORE M. STEPHAN,

ANNABERG, *November 26, 1896.*

Consul.

NOTES.

American Beef in Germany.—Notwithstanding the assurances of the United States Government that all meat products for export are subjected to a strict examination, wrote the late Consul Wamer, of Cologne, under date of December 12, 1896, the agitation in Germany against the wholesomeness of these products still goes on. At a recent meeting of the agricultural association of the district of Cologne, the subject of adulterating German sausages with American diseased beef was discussed. According to the Cologne Gazette, one speaker, in discussing this question, drew special attention to the fact that beef was examined for maggots in Germany, but not so in America. Since in the former country (Germany) sausages were more adulterated with American beef that was infested with maggots than with potato meal, the law in force in Germany against dishonest competition should also be applied in the case of sausages, which would require the marking of the goods as to whether they were of German or foreign origin and had been officially examined or not. Another speaker remarked that it made an immense difference to the welfare of the German people whether home or foreign meat was used; he therefore deemed it necessary that the origin of the meat used in the preparation of sausages be given. A chemist present, in speaking on the same subject, said that American beef was not so profusely infested with maggots, but that it came to Germany prepared with borax in an astonishing manner. On the exterior of the meat, there was a complete crust of borax and the meat was actually pickled with borax. If sausages contained meat prepared in this way and were offered for sale, it was clearly a fraud in the sale of food stuffs. But this importation had only commenced with them, as well as the discovery of its harmful effects.

English Coal in Germany.—In spite of freight reductions on coal all over the Empire and attendant efforts to encourage the consumption of coal from German mines, says Consul Monaghan, of Chemnitz, in a report dated December 10, 1896, England sent Germany in 1895, 4,000,000 tons. Along the Rhine, hitherto one of the greatest waterways for the transportation of coal, only 15,000 tons passed in 1895; while three Rhine ports—Ruhrort, Duisburg, and Hochfelden—in the first nine months of 1896, took 500,000 tons of German coal. The North Sea ports took 1,800,000 tons, and ports on the Baltic 2,166,666 tons of English coal. Hamburg alone took 1,400,000 tons; Stettin-Swinemunde, 800,000 tons; Danzig, a little more, and Kiel a little less, than 250,000 tons; and Königsberg-Pillau, about 250,000 tons.

The rest was spread over the small ports. In 1896, the imports of coal have gone up. Of the 341,000 tons increase for the first six months of 1896 almost all (over 90 per cent) came from England. Berlin, more than any other city in the Empire, shows how powerful is English coal as a competitor with that produced here. In the September quarter of 1896, the capital of the Empire took, for local consumption, 127,000 tons, against 93,000 tons for the same period of the year previous—34,000 tons, or 40 per cent, increase. These figures grow more important when one knows that the increase of Berlin's consumption of German coal was from 304,000 tons (for the period of time taken) to 339,000 tons, not fully 12 per cent, while the total consumption (for the same time) increased from 397,000 tons to 466,000 tons—increase, 17 per cent. Berlin's increase is relatively smaller than that indicated by the amounts credited above to the three Rhine ports. In the first nine months of 1896, in these ports, the increase was 28 per cent, or from 400,000 tons to 520,000 tons. The entire German increase in consumption reached 200,000 tons, while that of the coal export was only 15,000 tons. Not the least interesting factor in forming an estimate of the Empire's competing capacity is this of coal production, consumption, and the amount imported. The cheaper labor, if it is cheaper than England's, is oftentimes offset by just such items. England has here advantages over all her continental rivals. Her coal is cheaper and better than theirs.

Potatoes in England, France, and Germany.—Under date of December 17, 1896, Consul Monaghan, of Chemnitz, writes:

The following figures show the quantity of potatoes planted and harvested in one year in England, France, and Germany. They indicate the strides the Germans have made in agriculture. Acres planted: England, 1,383,760; France, 3,311,140; Germany, 7,413,000. Yield in bushels: England, 173,250,000; France, 370,500,000; Germany, 1,052,646,000. Bushels per acre: England, 125; France, 112; Germany, 142. England, with a population of 38,000,000, took for consumption and industrial uses 2.5 cwts. (247 pounds) per capita; France, with 35,000,000, 5.8 cwts. (638 pounds); Germany, with 50,000,000, 12.95 cwts. (1,425 pounds). France used 2,000,000 cwts. (3,667,000 bushels) for export and 8,000,000 cwts. (14,670,000 bushels) for manufacturing purposes in spirits and starch factories. Germany exported nearly 12,000,000 cwts. (22,000,000 bushels) and used 30,000,000 cwts. (55,000,000 bushels) in spirits and starch factories. For seed and consumption, England had to buy nearly 15,000 cwts. (27,500 bushels). It is a remarkable fact that the ground and climate of France are better adapted for the cultivation of potatoes than are those of either England or Germany, yet the output per hectare was very much less in France than in either of the other countries named. To what this is due deserves the attention of not only both countries, but of all lands in which the cultivation of potatoes is carried on extensively. To get out of the soil all it is

capable of giving is at once the art and science of agriculture. My own opinion is that Germany's most excellent agricultural schools, itinerant lecturers, etc., have had a great deal to do with it.

Recent Decrees in Madagascar.—Under date of November 2, 1896, Consul Wetter, of Tamatave, writes:

I have the honor to report that the rumor that the entire interior of the island of Madagascar, as far as the Hova and Betsileo country is concerned, had been placed under martial law has been confirmed. For your information I have inclosed duplicate copies of the Journal Oficial, which has replaced the Gasety Ny Malagasy as the official organ. You will find many articles of interest therein. I would particularly call attention to article 9 of the order of September 27, 1896, placing Imerina and Betsileo in a state of siege; also, to the order of September 26, 1896, proclaiming the abolition of slavery in Madagascar (translation inclosed herein); and to the circular of October 5, 1896, relative to the schools in Madagascar.*

[Translation.]

ORDER PROCLAIMING THE ABOLITION OF SLAVERY IN MADAGASCAR.

ARTICLE. 1. All the inhabitants of Madagascar are free.

ART. 2. Traffic in human beings is forbidden. Every contract of whatever form it may be, written or verbal, stipulating the sale of human beings is null and its authors will be punished by a fine of 500 to 2,000 francs and by imprisonment for from two months to two years. In case of second offense, these penalties will be tripled. They will be applicable likewise to the public official convicted of having registered the contract or of having given his cooperation to facilitate its execution.

ART. 3. The maximum of the same penalties will fall upon every person who shall have used compulsion to drag away another beyond his province with intention of selling him there, and upon the public official who, informed of this compulsion, shall not have done his utmost to hinder same.

ART. 4. Persons rendered free by the favor of the present law, but who shall have been heretofore in a condition of slavery, retain their legitimate ownership of chattels, movable or immovable, which they have purchased or inherited; the immovables and the movables in natural status which they hold through the liberality of their former masters can be retaken by the latter.

ART. 5. Persons rendered free by the favor of the present law who found themselves heretofore in a condition of slaves to a master whom they are not desirous of separating themselves from can remain at the house of their former masters by mutual consent.

ART. 6. France interdicts herself from imposing upon the people of Madagascar any extraordinary war tax. Succor in the form of territorial concessions may be accorded to dispossessed owners who may be known to be in need thereof.

Under date of December 3, 1896, Consul Wetter transmits translations of two recent enactments or orders emanating from the resident-general at Antananarivo, viz, (1) a notice imposing certain licenses or taxes upon every person doing business in Madagascar, and (2) a notice laying a tax of 25

* The order relating to schools prohibits interference by teachers in political affairs and urges instruction in the French language.

francs upon every male Asiatic and Ethiopian in Madagascar over 18 years of age and assessing an additional tax upon his calling or business. The notices (translated) are, in part, the following:

[Extract from notice of November 3, relative to licenses.]

From the 1st of November, 1896, each individual carrying on a business, an industry, or profession in Madagascar, not included in the exemptions set up by the present notice, shall be subjected to a license (contribution). This contribution consists of a fixed tax, regulated according to the nature of the calling and of the population of the place where the same is exercised. The various callings are classified in the following manner:

Extra class.—Banks, houses of discount, houses of exchange and credit, insurance companies, manufactures.

First class.—Wholesale merchants—that is to say, those selling principally to other merchants—distillers, and manufacturers of spirituous drinks.

Second class.—Wholesale and retail merchants—that is to say, those selling usually both to retailers and to consumers—restaurants, and hotel keepers.

Third class.—Retail merchants—that is to say, those selling habitually to consumers—counselors and attorneys at law, commercial agents, brokers and other liberal callings not exempted, druggists, retailers of drinks, café and tavern keepers.

Fourth class.—Building contractors, mechanics, and artisans of all kinds who have a shop and employ ordinarily more than two workmen.

The tax rate is fixed conformably to the following table:

Table showing rate of taxation.

Population rate of place.	Extra class.		First class.		Second class.		Third class.		Fourth class.	
	Francs.		Francs.		Francs.		Francs.		Francs.	
In towns of more than 5,000 inhabitants.....	1,000	\$193.00	400	\$77.20	200	\$38.60	100	\$19.30	40	\$7.72
In towns of from 1,000 to 5,000 inhabitants.....	1,000	193.00	400	38.60	100	19.30	50	9.65	10	1.93
In towns of less than 1,000 inhabitants.....	1,000	193.00	100	19.30	20	3.86	10	1.93	5	.96½

Are exempted from licenses, salaried functionaries and employees of the State, schoolmasters and teachers, artists, manufacturers working alone or with not more than two workmen or by the day, vendors established in the markets or selling in booths, agriculturists, or mining concessionaries.

The tax is reduced one-half for butchers, bakers, and other merchants or makers of articles of consumption, except drinks.

If a licensee has several establishments, a distinct tax is due for each of them, but the full tax is only due upon the principal establishment, the other taxes being reduced one-half.

If a licensee exercises several callings in the same establishment, a single tax is due and for the highest-taxed profession.

The license contribution is due annually. It can be acquitted in full at once, but is not exigible, because of existing circumstances, except quarterly and on the first day of each quarter.

Nothing in this notice shall annul or change article 27 of the law promulgated in the Official Journal of July 31, 1896, fixing at 1,800 francs the annual license tax for traders in precious metals and stones.

The present notice is not applicable to the dependencies of Madagascar, wherein the tariffs in force shall continue to be applied.

[Extract from notice of the 3d of November imposing a tax upon Asiatics and Africans.]

From the 1st of November, 1896, every foreigner of Asiatic and African origin who desires to reside in the colony of Madagascar and its dependencies must present himself at the residency of the circumscription within the three days following his landing, in order to there make a written demand for authorization to reside there.

He must furnish all information necessary to establish his identity, must declare his profession, and the locality where he desires to reside.

He must renew his declaration the 1st of January of each year and each time that his preceding declaration shall become inexact from whatever cause.

Authorization to reside will be accorded by the resident of the circumscription, who will deliver to the applicant a residence permit good for one year.

The delivery of this permit is subordinated to the payment of an annual tax, which will consist of—

(1) A fixed tax of 25 francs (§4.825), due by every stranger of the masculine sex more than 18 years of age, in lieu of the forced labor to which all natives are subjected.

(2) A supplementary tax due by each stranger exercising a calling or trade subject to the local license tariff and fixed at 50 francs (§9.65) for licenses of the first and second classes and 25 francs (§4.825) for those of the third and fourth classes.

The rate of taxation is established according to the declarations made by the stranger. Each inexact or incomplete declaration having for its object the exonerating from all or a part of the tax will be punished by a penalty equal to double of the defrauded tax.

The present notice is not applicable to military men in active service nor to laborers engaged by the public service.

Proposed Railroad in Mozambique.—Consul Hollis, of Mozambique, writes, under date of November 20, 1896:

I have the honor to report that the obstructions to navigation, shoals, rapids, etc., on the Zambesi River have always contributed largely toward the excessive cost of transport from the coast to British Central Africa. It is now proposed to construct a railway from Kiliman to a point on the British Central African border just above the rapids on the Ruo River, a distance of about 190 or 200 miles. A decree of the Lisbon Government has just been published authorizing the Zambesi Railway Company, a Portuguese corporation, to issue 4 per cent bonds to the amount of £1,400,000 (§6,813,100), redeemable at par in sixty-five years or less. This sum will constitute the capital of the company and will be expended (so reads the decree) in constructing and working the said railway, which must be completed by the end of the year 1900. This is all concerning the proposed line that I can report on from here. Any manufacturer of railway supplies or equipment wishing to do business with this company must go to Lisbon, where the head offices are located, and there negotiate with the leading officials.

Tariff Changes in Curacao.—Under date of December 24, 1896, Consul Spencer, of Curaçao, sends the following:

I send a list of import charges at this island, but not at the dependencies thereof, where there has been no modification of the tariff, and I inclose a

copy of the ordinance which went into effect on the 17th of December, 1896.* The import charges are one-half of 1 per cent of the value on raw cotton, cocoa, divi-divi, goatskins, hides, quinia bark, dyewoods of all kinds, and lignum-vitæ; 5 per cent of the value on cattle, sheep, and mules; 10 per cent of the value on horses; and 3 per cent of the value on all other goods, with the exception of salt.

Trade Catalogues in Foreign Languages.—Consul Tucker writes from St. Pierre, Martinique, December 16, 1896:

I have the honor to call the attention of the Department to the fact that many sales of different kinds of merchandise are lost to the merchants of the United States by reason of their catalogues being printed in the English language only. Catalogues, in order to be of service here, should be printed in French, as French is the only language spoken. In this connection, I would further state that the mayor of the city of St. Pierre has informed me that the municipality of St. Pierre desired to purchase one or more steam fire engines, also an assortment of stationery, and would like to deal with American firms, but could not obtain either catalogues or price lists printed in French from American manufacturers. Inquiries have also been made regarding the purchase of carriages and buggies. I have written to different manufacturers in the United States, setting forth these facts, without any result arising therefrom, and would therefore call attention to this matter as being of great importance to our trade.

Consul Ridgely, of Geneva, writing on the same subject, under date of January 6, 1897, says:

I have the honor to report that during the year 1896 the increased activity of American merchants and manufacturers in invading the foreign markets was manifested in this consular district by the distribution of numerous catalogues, pamphlets, and other printed matter, most attractively and artistically prepared, but, unhappily, not likely to be effective in obtaining business, for the reason that all of them were in the English language. I therefore consider it expedient to suggest that hereafter our merchants and manufacturers be advised to have all commercial literature intended for distribution in continental Europe printed in French, German, and Italian. I am certain that if all the literature distributed through this consulate during 1896 had been printed in French instead of English there would have been at least some encouraging results.

New Spinning Mill at Crefeld.—Under the name and firm of Crefeld Baumwoll-Spinnerei (Crefeld Cotton-Spinning Mill), writes Consul Deuster, December 21, 1896, a company with a capital of 1,800,000 marks (\$428,400) has recently been organized in the city of Crefeld. It was quite awhile

* Ordinance filed in Bureau of Statistics, Department of State.

before all the stock of the new company (1,800 shares at 1,000 marks each) was disposed of. Up to date, only a site for the necessary buildings has been selected, and it is questionable whether the company will commence with the construction of said buildings before next spring. The new company intends at first to spin Nos. 30, 40, and 50. The necessary machinery has not as yet been contracted for. In connection with this, it may be of some interest to state, further, that the cotton yarns used in Crefeld and its vicinity for the manufacture of half silks and velvets are but rarely under No. 40; from this number to No. 120 and upward are mostly used, of which yarns the greater part is imported from England and some from Mühlhausen, in Alsace. For these yarns, Egyptian cotton is generally preferred, since its quality is regarded far superior to Indian and American cotton. There are several other cotton-spinning mills in this consular district (Viersen and M. Gladbach) spinning yarns from No. 4 to No. 30, English, of Indian and American cotton, bought according to immediate, momentary prices, qualities, freights, and duty thereon. Another cotton-spinning mill at Uerdingen, on the Rhine, near Crefeld, is under construction and will probably be in operation within a year. This will spin yarns of lower numbers, so that American cotton could be used. It is to be regretted that but small quantities of American cotton are used in this manufacturing district—a district where the export of cotton and cotton-mixed goods to the United States amounts to enormous figures. In order to increase the consumption of American cotton and yarns in this district, it would prove advantageous to consign a stock of such goods to a trustworthy person or firm in any city in the district where cotton and yarns are used, so that smaller quantities could be obtained by manufacturers, if desired, as such is at present the case with English yarns, obtainable from consignees in bundles of but 10 pounds.

Packing of Goods for Chile.—Consul Dobbs writes from Valparaiso, December 21, 1896:

I have the honor to report the following on the subject of packing American goods: Many American manufacturers still do not seem to realize the harm they are doing themselves and American trade generally by putting up their goods in too slight packages. Shirts, soap, toilet articles, and many kinds of canned goods, just exactly the packages which offer most temptation, often come in very thin boxes, without any protection in the way of wire or sheet-iron bands, nailed with short, wire nails, easily drawn, and the Chilean longshoreman or lighterman, expert in the use of the short, strong knife he carries, often makes a nice plunder right under the eyes of the officers of the steamers. Then, again, in heavier articles, which offer no temptation to theft, the cases are not strong enough to withstand the very rough handling they receive. The peon likes to see a good smash, and not only handles the cases roughly, but if he is not watched, will deliberately drop a case in such a way as to smash it, just to see it break, and with the same enjoyment that a

small boy throws stones through a window. Whenever possible, packing should be done in such a manner that the package could not be broken open by ordinary means or by being dropped. A case in point occurred the other day. A lot of miscellaneous bronze and brass repairs for mining machinery came in what was a little stronger than a cracker box. It broke open in the ship's hold, and certainly many small parts were lost, probably some of them of vital importance. A peon was detected in carrying off some small castings in his bundle, not that they were of any use to him, but simply apparently for the sake of stealing. A prominent Chilean importer of American goods said to me the other day: "If American manufacturers only knew how to pack goods as well as they know how to make them, American trade in South America would very soon make a better comparison with English and German trade than it does to-day."

Concessions in Nicaragua.—Under date of December 21, 1896, Consul O'Hara, of San Juan del Norte, writes:

Alfred Raymond Fornaris, a citizen of the United States, has been granted a concession to construct and operate a steam tramway between the town of Bluefields and the Bluefields custom-house. The custom-house is situated at the mouth of the harbor. The concession was granted November 3, 1896, and is published in *Diario Oficial* of December 6. A concession to build and operate a railway between Rama and San Ubaldo was granted November 12, 1896, to Henry A. Barling and Frank H. Davis, citizens of the United States. The concession appears in full in the *Diario Oficial* of November 24. It is rumored that a contract to deepen the harbor entrance at San Juan del Norte has been let to Frank E. Keen, a British subject. Mr. Keen has represented that, with but little outlay, the harbor may be opened to vessels drawing 18 feet. He is not an engineer. The concessions mentioned have not been ratified by the Congress, but will be ratified as a matter of course. So little has ever been done in Nicaragua under any Government concessions, big or little, that it seems a waste of time to enter into the details of any concession without positive proof that it is to be pushed. Mr. Barling says that the Rama-San Ubaldo Railway will be built. He is said to be in touch with capital in New York and New Jersey. His address is Rivas, Nicaragua. Mr. Fornaris lives in Bluefields and Mr. Keen in San Juan del Norte.

Banana and Coffee Lands in Nicaragua.—Consul O'Hara, of San Juan del Norte, under date of November 5, 1896, reports as follows upon the banana, orange, and coffee lands of Nicaragua:

The Bluefields River is the only one in the country that can be entered by steamers large enough for the fruit trade. Bananas and plantains may be grown on any of the river lands in eastern Nicaragua, but these lands are

of little value owing to the sand bars at the mouths of the rivers. Plantains and bananas are of but little account when they can not be marketed. Several land companies organized to sell banana, orange, and coffee lands in Mexico and Central America do a legitimate business, these lands being well situated and of the character advertised, but the officers and agents of many other companies are less scrupulous. Our people can not be too cautious in buying such lands. No matter how fertile and productive the land may be, fruit lands on rivers having impassable bars and coffee lands in regions without either railways or wagon roads are not the lands our people want. There are desirable lands in all these countries, but not an acre should be purchased without either a personal examination or a report made by some person with whom the would-be purchaser is acquainted and in whom he has the utmost confidence. Many of the so-called concessions from these governments may be had for the asking and confer no special privileges.

Building Slates for Ireland.—Due to the troubles which the Welsh slate quarries are encountering, says Consul Ashby, of Dublin, under date of January 7, 1897, the Dublin slate trade is beginning to cast about for new sources from which to draw the supplies required in the building trade and the importers of slates are looking favorably toward the United States. Two inquiries have reached this office quite recently for a list of exporters of slates in the United States, and I am of the impression that our slate exporters might profit by making an effort at the present juncture to secure the Irish trade. This office is always ready and anxious to furnish to intending purchasers all information in its power, but it must be said that exporters have not availed themselves of the privilege of furnishing it with information as to the line of goods handled by them. At this juncture, this office is not furnished with sufficient information as to the firms engaged in the slate trade in the United States who are in a position to carry on an export trade to enable it to give the information it would like to the slate trade here. Firms who will send their addresses to this office will have them put on file for reference and their addresses will be given to all inquirers.

Commercial Agencies in Ireland.—Consul Taney writes from Belfast, January 1, 1897:

United States exporters often inquire of this consulate for the financial standing of Belfast merchants. As the consular officer is not a subscriber (the same requiring an annual payment) to any of the commercial agencies here, his facilities for acquiring the information in accurate and practical form are limited and uncertain. Hence it occurs to me that if the proper and most expeditious method of gathering such information were published in the CONSULAR REPORTS it would not only save the exporter much valuable time, but render also greater satisfaction.

His plan would be this: Communicate directly with the local commercial agency of which he is a subscriber, such as Bradstreet's or Dun's. I am informed a reciprocal business is done between the prominent commercial agencies of the United States and this Kingdom, and information wanted on this side can be had through Messrs. Bradstreet's or Dun's, providing the party wanting the information is a subscriber to either of the American agencies. For business and prudential reasons, satisfactory to themselves, the agencies on this side will not furnish information unless the applicant is a regular subscriber or the inquiry comes through some recognized American agency.

Business of the New Kaiser Wilhelm Canal.—From July 1, 1895, to June 30, 1896, there passed through the new Kaiser Wilhelm Canal 16,834 ships that had to pay toll. Their tonnage was 1,505,983 tons. Of these, 7,531 were steamships, with 1,140,573 tons; 14,957 ships carried German, 3 Belgian, 184 British, 812 Danish, 8 French, 381 Dutch, 60 Norwegian, 84 Russian, and 336 Swedish colors, and 9 the colors of other countries. The year's expenses were 827,876 marks (about \$200,000). The money taken in, including towage, was 896,452 marks (a trifle over \$200,000).

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of January to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Eugene Germain, Zurich.....	Dec. 7, 1896	Restriction of American meats in Switzerland.	Department of Agriculture.
Do.....	Oct. 7, 1896	California fruits in Germany...	Do.
W. H. Robertson, Hamburg.....	Nov. 6, 1896	American fruit in Germany.....	Do.
J. C. Monaghan, Chemnitz.....	Nov. 21, 1896	American apples.....	Do.
H. G. Huntington, Castellamare di Stabia.	Dec. 1, 1896	Fruit crop of Italy.....	Do.
L. H. Brühl, Catania.....	Nov. 19, 1896	Treatment of vine diseases in Italy.	Do.
George Horton, Athens.....	Nov. 3, 1896	Supply of Greek currants.....	Do.
W. J. Crittenden, City of Mexico.	Oct. 20, 1896	Orange cultivation in Mexico...	Do.
D. W. Maratta, Melbourne.....	June 20, 1896	"Squatters," and station life in Australia.	Do.
Do.....	Aug. 25, 1896	Australasian wool clip of 1896-97.	Do.
Do.....	May 17, 1896	Wine-growing industry of Victoria.	Do.
F. H. Mason, Frankfort.....	Nov. 16, 1896	Tetanus antitoxin.....	Marine Hospital Service.

FOREIGN REPORTS AND PUBLICATIONS.

An English View of Germany's Industrial Development.—The London Times, of January 20, 1897, commenting editorially upon a recent investigation into the condition of arts and industries in Germany, says :

Certain members of the royal commission on technical instruction, who, fourteen years ago, inquired into the condition of arts and industries in Germany, have made a further, though less exhaustive, investigation in order to note the changes that have occurred. Their conclusions are embodied in a letter to the Duke of Devonshire, published as a parliamentary paper, and signed by Sir Philip Magnus, Mr. Gilbert Redgrave, Mr. Swire Smith, and Mr. William Woodall, corroborative notes being appended by Sir B. Samuelson and Sir Henry Roscoe. They note, as everyone would expect, a steady advance of German industry in all directions. New manufactures have been started and old ones have been immensely developed since 1884. A few notes upon representative businesses appended to the report convey an idea of the activity which they found pervading all departments of German industry. The Badische Anilin und Sodafabrik, often quoted as a triumph of the intelligent use of chemical research, employed in 1888 under 2,400 hands. It now employs 4,800, and its works occupy 210 acres, of which 60 acres are covered with buildings. One hundred skilled chemists and thirty engineers constitute its scientific staff, to which no parallel can be found in this country. It may be said, and with truth, that the production of coal-tar colors is a very special branch of industry, depending, perhaps more than any other that can be named, upon chemical skill and knowledge. The fact, however, remains that the industry was originally in English hands, and might have remained there had English manufacturers known how to appreciate and utilize the fundamental discoveries of their countrymen. At Nuremberg, Mr. Shuckert, in 1882, had a manufactory of electrical machinery and apparatus turning out excellent work, though not upon any considerable scale. Now, the business is in the hands of a limited company employing 3,570 work people and turning out apparatus to the estimated value of nearly £1,500,000 per annum. Mr. Nister's color-printing works at Nuremberg employ some 750 hands, and the bulk of the production in Christmas cards, children's picture books, and so forth, is sold in London and New York. An enormous weaving industry has sprung up, which takes vast quantities of Bradford yarns, and, by attention to design, finish, and the tastes of customers, beats us in the markets of the world, and even, to a great extent, in our home market. The looms, once bought in England, are now manufactured in Germany, and it really seems due to the accident that some Germans settled in Bradford that the yarns are not spun in Germany as well.

These are only examples of the great progress made by German industry in the course of a generation. It must, of course, be remembered that Germany started from a very backward position, and has really been going through a process of evolution such as this country went through half a century earlier. We are told that in 1882 there was not a single portland-cement factory in Bavaria. In view of that fact, the production of 50,000 tons per annum by a single firm can not be regarded as more than a very tardy making up of leeway. Like Japan, Germany has reaped the fruits of English enterprise. When she turned her attention seriously to industry she found machinery and methods in a high state of perfection, while in the early stages of our industrial development we had to discover and produce everything for ourselves. It is, therefore, not wonderful that her advance has been rapid. We have further to remember

that she has found extensive markets ready to her hand. Her home market was very imperfectly supplied, nor was there, previously to the Franco-German war, any great surplus wealth to pay for the myriad articles now in demand. On her frontiers she has found great populations not so advanced as her own, yet ready to absorb the cheap goods which low wages and long hours of labor enable her to turn out. Further afield she also found markets which the established manufacturing countries had practically left untouched because they were already fully occupied. Some of these advantages tend to disappear. Russia has practically shut out German industry, and is herself making great and successful efforts to supply her vast territory. Wages are rising in Germany, hours of labor are being shortened, child labor—a very important factor in many trades—is being eliminated, and, in short, the industrial conditions are changing just as they changed in this country when the great industrial revolution took place. These and cognate considerations must be borne in mind if we wish to estimate justly the meaning and the prospects of that industrial expansion which, while exciting natural solicitude in this country, has not reduced the volume of our exports or affected the general prosperity of our work people.

Great stress is laid in the report upon the superiority of German provision for technical and scientific education, as well as upon the excellence of the general secondary education which serves as a basis. There is no doubt that the reorganization of our secondary and technical education is badly wanted; but, notwithstanding all we are told about new schools and laboratories in Germany, it is pretty clear that what is necessary is method, organization, and the businesslike adaptation of means to ends, rather than any great additional expenditure. If everything could be fairly reckoned up, it would probably be found that in this country there are larger funds available for educational purposes than in Germany, although for want of system and method they do not produce anything like the same results. The Germans do not go about demanding the endowment of research. They pay for hard work directed to practical ends, and research gets itself endowed by the people whose fortunes it makes. German professors are civil servants whose promotion depends upon their efficiency as teachers, and that efficiency is not tested by everlasting examinations of their pupils in book work, but by the number and quality of the practically efficient men of science they turn out. Their subsidiary rewards, often very great, depend in like manner upon their practical usefulness as advisers to men who can turn their advice into money. There is much to be done in this country in utilizing funds now wasted and coordinating efforts that now thwart or overlap one another. But the fundamental reform, without which we shall never attain German results, is the bringing of our secondary and technical education into line with the practical applications of knowledge and science in industry and commerce.

American Steel Rails for Japan.—According to the Japan Weekly Mail, says the London Board of Trade Journal for January, 1897, the result of the first public tender for steel rails to be used in Japan has been a success for the great American firm of Carnegie & Co., of Pittsburg. Hitherto it has been the habit of the Japanese Government to entrust to its agents the business of supplying rails, and we entertain no doubt that the commissions were always executed as economically as possible. But a departure has now been made, for the first time, from the regular method of procedure, and the issue is that English manufacturers have been cut out by an American. In the present depressed state of American industries, it appears to be possible for a United States firm to sell steel rails at a lower rate than they can be purchased for in England. The quantity of rails required on this occasion

was 13,000 tons, in round numbers, and Messrs. Carnegie & Co.'s tender is said to have been some £8,000 lower than any other. That means 10 per cent approximately—a very appreciable difference. It is the custom in Japan to fix a maximum figure beyond which the authorities are not prepared to purchase, and when the tenders in question were opened, three proved to be within that figure, Messrs. Carnegie & Co.'s being the lowest.

The attention of the Carnegie Steel Company having been called to this publication by the Bureau of Statistics, Department of State, they replied as follows, under date of January 8, 1897:

Replying to your letter of the 5th instant, with inclosed copy of clipping from the Board of Trade Journal of London, would say that the report is correct as far as our having sold the Imperial Railway of Japan 15,000 tons of rails, half of which quantity has been shipped and the balance will go forward within the next thirty days. There was, however, no such difference in price as indicated in the Journal. From the best information we were able to obtain at the time, our price was not over 6d. per ton less than the English price.

Portuguese Centenary of India.—The Bureau of Statistics, Department of State, has received the following from the central executive committee at Lisbon in charge of the arrangements for the celebration of the discovery of the maritime route to India:

We have the honor to inform you that the postponement of the celebration of the fourth centenary of the discovery of the maritime route to India, by Vasco Da Gama, from July, 1897, the anniversary of his sailing from Lisbon, until May, 1898, the anniversary of his arrival at Calicut, having been rendered necessary in consequence of the shortness of time and for other reasons, it has been decided to await further decisions of Parliament, which meets early in January.

Our committee, authorized by the Portuguese Government, will duly communicate to you the precise date of the celebration and any alterations in the programme that may be decreed by Parliament, and we trust that we may continue to rely upon your valued support, in order that the results of our undertaking may be in harmony with the remarkable feat of universal history which the Portuguese Government desires thus to commemorate.

Central executive committee of the fourth centenary of the discovery of India, Lisbon, October 26, 1896.

F. J. FERREIRA DO AMARAL,

President.

LUCIANO CORDEIRO,

ERNESTO DE VASCONCELLOS,

Secretaries.

Iron and Steel Industry in China.*—It is reported from Peking that a number of influential gentry of Honan have petitioned the Tsungli Yamen to be allowed to buy up all the iron ore of the province and smelt it in foreign style in furnaces to be built at a market town called Tsinghuachen, in the prefecture of Weihiifu, Honan. The pig iron will then be sent by the Grand

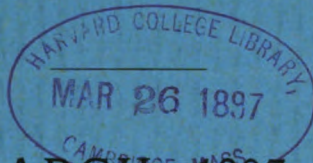
*From the North China Herald (Shanghai) of November 20, 1896.

Canal route to Tientsin, where an iron and steel foundry is to be built at the expense of the syndicate, but the manager of which is to be appointed by the viceroy of Chihli. The output of the foundry will be sent to the naval shipbuilding yards of the Government, and also supply rails, etc., for the railways of the country. The syndicate intend also to buy four steam launches to tow the iron-laden junks in the Grand Canal. The scheme has been sanctioned by both the Tsungli Yamen and the Viceroy Wang, of Chihli.

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No. 198.

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COMMERCE, MANUFACTURES, ETC.

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WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880-81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885-86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Slave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1893).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—Countries with fixed currencies.

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*.....	Gold and silver...	Peso	\$0.96.5	Gold—Argentine (\$4.82,4) and ½ Argentine. silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown.....	.20,3	Gold—20 crowns (\$4.05,2) and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis .....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do.....	Dollar.....	1.00	
Chile‡.....	Gold and silver...	Peso .....	.91,2	Gold—escudo (\$1.82,4), doubloon (\$4.56,1), and condor (\$5.12,8); silver—peso and divisions.
Cuba.....	do.....	do.....	.92,6	Gold—doubloon (\$5.01,7); silver—peso.
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Egypt.....	do.....	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	do.....	Mark.....	.19,3	Gold—10 and 20 marks (\$1.93 and \$3.85,9).
France.....	Gold and silver...	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold	Mark.....	.23,8	Gold 5, 10, and 20 marks.
Great Britain.....	do.....	Pound sterling.....	4.86,6‡	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver...	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	do.....	Gourde.....	.96,5	Silver—gourde.
Italy.....	do.....	Lira.....	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold	Dollar.....	1.00	
Netherlands§.....	Gold and silver...	Florin.....	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland.....	Gold	Dollar.....	1.01,4	Gold—½ \$2.02,7.
Portugal.....	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver...	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold	Crown .....	.26,8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver...	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver...	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—Countries with fluctuating currencies, 1874-'90.

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884
Austria-Hungary*	Silver.....	Florin.....	\$0.47,6	\$0.45,3	\$0.45,3	\$0.41,3	\$0.40,1	\$0.39,3
Bolivia.....	do.....	Dollar until 1880: boliviano there-after.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America.....	do.....	Peso.....	.96,5	.91,8	.91,8	.83,6		
China.....	Silver.....	Haikwan tael.....	1.61	1.61				
Colombia.....	do.....	Peso.....	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador.....	do.....	do.....	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†.....	Gold.....	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India.....	Silver.....	Rupee.....	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan.....	{ Gold..... Silver.....	Yen.....	.99,7	.99,7	.99,7	.99,7	.87,6	.86,9
Mexico.....	do.....	Dollar.....	1.04,7‡	.99,8	.99,8	.90,9	.88,1	.87,5
Netherlands †.....	Gold and silver.....	Florin.....	.40,5	.38,5	.38,5	.40,2		
Peru.....	Silver.....	Sol.....	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia.....	do.....	Ruble.....	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli.....	do.....	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver.....	Florin.....	\$0.39,3	\$0.37,1	\$0.35,9	\$0.34,5	\$0.33,6	\$0.42
Bolivia.....	do.....	Dollar until 1880: boliviano there-after.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America.....	do.....	Peso.....				.69,9	.68	.85
Colombia.....	do.....	do.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador.....	do.....	do.....	.73,5	.75,1	.72,7	.69,9	.66	.85
Egypt†.....	Gold.....	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India.....	Silver.....	Rupee.....	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan.....	{ Gold..... Silver.....	Yen.....	.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico.....	do.....	Dollar.....	.86,4	.81,6	.77	.75,9	.73,9	.92,3
Peru.....	Silver.....	Sol.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia.....	do.....	Ruble.....	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli.....	do.....	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1832. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at \$4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—Quarterly valuations of fluctuating currencies.

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano.....	\$0.51,6	\$0.46,5	\$0.45,7	\$0.46,4	\$0.45,5	\$0.44,1	\$0.48,6	.48,6
Central America.....	Silver peso.....	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
China*	Shanghai tael....	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2	.71,8	.71,8
	Haikwan tael....	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80	.80
	Tientsin tael....				.72,7	.71,4	.69,2	.76,2	.76,2
	Chefoo tael....				.71,7	.70,4	.68,3	.75,2	.75,2
Colombia.....	Silver peso.....	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Ecuador.....	do.....	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
India.....	Silver rupee.....	.24,5	.22,1	.21,7	.22	.21,6	.21	.23,1	.23,1
Japan†.....	Silver yen.....	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4	.52,4
Mexico.....	Silver dollar.....	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8	.52,8
Peru.....	Silver sol.....							.48,6	.48,6
Russia‡.....	Silver ruble.....	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Tripoli.....	Silver mahbub.....	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9	.38,9
Venezuela‡.....	Silver bolivar....	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8	.43,8

Countries.	Monetary unit.	1896.				January 1, 1897.	
		Jan. 1.	April 1.	July 1.	Oct. 1.		
Bolivia.....	Silver boliviano.....	\$0.49,1	\$0.49,3	\$0.49,7	\$0.49	\$0.47,4	
Central America.....	Silver peso.....	.49,1	.49,3	.49,7	.49	.47,4	
China*	Amoy tael.....				.79,3	.76,7	
	Canton tael.....				.79	.76,5	
	Chefoo tael.....	.75,9	.76,3	.76,9	.75,8	.73,3	
	Chinkiang tael....				.77,4	.74,9	
	Fuchau tael.....				.73,3	.70,9	
	Haikwan tael....	.80,8	.81,2	.81,9	.80,6	.78	
	Hankow tael.....				.74,2	.71,7	
	Ningpo tael.....				.76,2	.73,7	
	Niuchwang tael....				.74,3	.71,9	
	Shanghai tael....	.72,5	.72,9	.73,5	.72,4	.70	
	Swatow tael.....				.73,2	.70,8	
China*	Takao tael.....				.79,8	.77,2	
	Tientsin tael....	.76,9	.77,3	.78	.76,8	.74,3	
	Colombia.....	Silver peso.....	.49,1	.49,3	.49,7	.49	.47,4
	Ecuador.....	do.....	.49,1	.49,3	.49,7	.49	.47,4
	India.....	Silver rupee.....	.23,3	.23,4	.23,6	.23,3	.22,5
	Japan.....	Silver yen.....	.52,9	.53,2	.53,2	.52,8	.51,1
	Mexico.....	Silver dollar.....	.53,3	.53,6	.54	.53,2	.51,5
	Persia.....	Silver kran.....	.09	.09,1	.09,2	.09	.08,7
	Peru.....	Silver sol.....	.49,1	.49,3	.49,7	.49	.47,4
	Russia†.....	Silver ruble.....	.39,3	.39,5	.39,8	.39,2	.37,0
	Tripoli.....	Silver mahbub....	.44,3	.44,5	.44,9	.44,2	

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1893.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Are.....	Metric.....	0.02471 acre.
Arrobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentine Republic.....	25.3175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Baril.....	Argentine Republic and Mexico.....	20.0787 gallons.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Berkovet.....	Russia.....	361.12 pounds.
Bongkal.....	India.....	832 grains.
Bonw.....	Sumatra.....	7,036.5 square meters.
Bu.....	Japan.....	0.1 inch.
Butt (wine).....	Spain.....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	520 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (Cantar).....	Malta.....	175 pounds.
Carga.....	Mexico and Salvador.....	30.0 pounds.
Catty.....	China.....	1.333 ¹ / ₃ (1 ¹ / ₃) pounds.
Do.....	Japan.....	1.31 pounds.
Do.....	Java, Siam, Malacca.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	95.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Do.....	Double or metric.....	220.46 pounds.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3,093 pounds.
Do.....	Siam (Koyan).....	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra.....	Argentine Republic.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cubic meter.....	Metric.....	35.3 cubic feet.
Cwt. (hundredweight).....	British.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	Half ounce.
Dun.....	Japan.....	1 inch.
Egyptian weights and measures.....	(See CONSULAR REPORTS No. 144.)	
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.
Do.....	Mexico.....	1.54728 bushels.
Do.....	Morocco.....	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do.....	Uruguay (double).....	7.776 bushels.
Do.....	Uruguay (single).....	3.883 bushels.
Do.....	Venezuela.....	1.599 bushels.
Fanega (liquid).....	Spain.....	16 gallons.
Feddan.....	Egypt.....	1.03 acres.
Frail (raisins).....	Spain.....	50 pounds.
Frasco.....	Argentine Republic.....	2.5096 quarts.
Do.....	Mexico.....	2.5 quarts.
Fuder.....	Luxemburg.....	264.17 gallons.
Garnice.....	Russian Poland.....	0.88 gallon.
Gram.....	Metric.....	15.432 grains.
Hectare.....	do.....	2.471 acres.
Hectoliter:		
Dry.....	do.....	2.838 bushels.
Liquid.....	do.....	26.417 gallons.
Joch.....	Austria-Hungary.....	1.422 acres.
Ken.....	Japan.....	4 yards.
Kilogram (kilo).....	Metric.....	2.2046 pounds.
Kilometer.....	do.....	0.62137 mile.
Klafter.....	Russia.....	216 cubic feet.
Kota.....	Japan.....	5.13 bushels.
Korree.....	Russia.....	3.5 bushels.
Last.....	Belgium and Holland.....	85.134 bushels.
Do.....	England (dry malt).....	82.52 bushels.
Do.....	Germany.....	2 metric tons (4,480 pounds).
Do.....	Prussia.....	112.29 bushels.
Do.....	Russian Poland.....	11.8 bushels.
Do.....	Spain (salt).....	4,760 pounds.
League (land).....	Paraguay.....	4,633 acres.
Li.....	China.....	2,115 feet.
Libra (pound).....	Castilian.....	7,100 grains (troy)
Do.....	Argentine Republic.....	1.0127 pounds.
Do.....	Central America.....	1.043 pounds.
Do.....	Chile.....	1.014 pounds.
Do.....	Cuba.....	1.0161 pounds.
Do.....	Mexico.....	1.01465 pounds.
Do.....	Peru.....	1.0143 pounds.
Do.....	Portugal.....	1.011 pounds.
Do.....	Uruguay.....	1.0143 pounds.
Do.....	Venezuela.....	1.0161 pounds.
Liter.....	Metric.....	1.0567 quarts.
Livre (pound).....	Greece.....	1.1 pounds.
Do.....	Guiana.....	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load.....	England (timber).....	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 super- ficial feet.
Manzana.....	Costa Rica.....	1½ acres.
Marc.....	Bolivia.....	0.507 pound.
Maund.....	India.....	82½ pounds.
Meter.....	Metric.....	39.37 inches.
Mil.....	Denmark.....	4.68 miles.
Do.....	Denmark (geographical).....	4.61 miles.
Morgen.....	Prussia.....	0.63 acre.
Oke.....	Egypt.....	2.7225 pounds.
Do.....	Greece.....	2.84 pounds.
Do.....	Hungary.....	3.0817 pounds.
Do.....	Turkey.....	2.85418 pounds.
Do.....	Hungary and Wallachia.....	2.5 pints.
Pic.....	Egypt.....	21¼ inches.
Picul.....	Bornco and Celebes.....	135.64 pounds.
Do.....	China, Japan, and Sumatra.....	133½ pounds.
Do.....	Java.....	135.1 pounds.
Do.....	Philippine Islands (hemp).....	139.45 pounds.
Do.....	Philippine Islands (sugar).....	140 pounds.
Pic.....	Argentine Republic.....	0.9478 foot.
Do.....	Castilian.....	0.91407 foot.
Pik.....	Turkey.....	27.9 inches.
Pood.....	Russia.....	36.112 pounds.
Pund (pound).....	Denmark and Sweden.....	1.102 pounds.
Quarter.....	Great Britain.....	8.252 bushels.
Do.....	London (coal).....	36 bushels.
Quintal.....	Argentine Republic.....	101.42 pounds.
Do.....	Brazil.....	130.06 pounds.
Do.....	Castile, Chile, Mexico, and Peru.....	101.61 pounds.
Do.....	Greece.....	123.2 pounds.
Do.....	Newfoundland (fish).....	112 pounds.
Do.....	Paraguay.....	100 pounds.
Do.....	Syria.....	125 pounds.
Do.....	Metric.....	220.46 pounds.
Rottle.....	Palestine.....	6 pounds.
Do.....	Syria.....	5½ pounds.
Sagen.....	Russia.....	7 feet.
Salm.....	Malta.....	499 pounds.
Se.....	Japan.....	3.6 feet.
Seer.....	India.....	1 pound 13 ounces.
Shaku.....	Japan.....	10 inches.
Sho.....	do.....	1.6 quarts.
Standard (St. Petersburg).....	Lumber measure.....	165 cubic feet.
Stone.....	British.....	14 pounds.
Suerte.....	Uruguay.....	2,700 cuadras (<i>sre cua-</i> <i>dra</i>).
Tael.....	Cochin China.....	590.75 grains (troy).
Tan.....	Japan.....	0.25 acre.
To.....	do.....	2 pecks.
Ton.....	Space measure.....	40 cubic feet.
Tonde (cereals).....	Denmark.....	3,94783 bushels.
Tondeland.....	do.....	1.36 acres.
Tsubo.....	Japan.....	6 feet square.
Tsun.....	China.....	1.41 inches.
Tunna.....	Sweden.....	4.5 bushels.
Tunnland.....	do.....	1.22 acres.
Vara.....	Argentine Republic.....	34.1208 inches.
Do.....	Castile.....	0.914117 yard.
Do.....	Central America.....	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara.....	Chile and Peru.....	33.367 inches.
Do.....	Cuba.....	33.384 inches.
Do.....	Curacao.....	33.375 inches.
Do.....	Mexico.....	33 inches.
Do.....	Paraguay.....	34 inches.
Do.....	Venezuela.....	33.384 inches.
Vedro.....	Russia.....	2.707 gallons.
Vergees.....	Isle of Jersey.....	71.1 square rods.
Verst.....	Russia.....	0.663 mile.
Vlocka.....	Russian Poland.....	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
 Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
 Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
 Gram equals 15.432 grains.
 Decagram (10 grams) equals 0.3527 ounce.
 Hectogram (100 grams) equals 3.5274 ounces.
 Kilogram (1,000 grams) equals 2.2046 pounds.
 Myriagram (10,000 grams) equals 22.046 pounds.
 Quintal (100,000 grams) equals 220.46 pounds.
 Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
 Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
 Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
 Liter equals 0.908 quart.
 Decaliter (10 liters) equals 9.08 quarts.
 Hectoliter (100 liters) equals 2.838 bushels.
 Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
 Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
 Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
 Liter equals 1.0567 quarts.
 Decaliter (10 liters) equals 2.6418 gallons.
 Hectoliter (100 liters) equals 26.418 gallons.
 Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

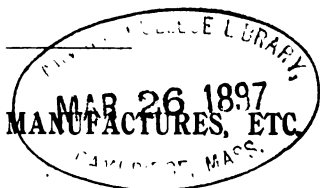
Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
 Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
 Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
 Meter equals 39.37 inches.
 Decameter (10 meters) equals 393.7 inches.
 Hectometer (100 meters) equals 328 feet 1 inch.
 Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
 Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
 Are (100 square meters) equals 119.6 square yards.
 Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.



VOL. LIII.

MARCH, 1897.

No. 198.

ELECTRIC RAILWAYS IN EUROPE.

Locomotion by means of electricity is gradually gaining ground in the various states of Europe, though not to the same extent as has been the case in the United States, which could hardly be expected, considering the advances in construction and working of the different systems employed there.

During 1895, the total number of electric railways, or tramways, in Europe rose from 70 to 111, the length of lines from 700 to 902 kilometers (435 to 560½ miles), and the power of the "centrals" from 18,150 to 25,095 kilowatt, while the number of cars increased from 1,236 to 1,747.

In mileage of electric railways, Germany is foremost among European nations, having 406 kilometers (252 miles) of lines; then follow France, with 132 kilometers (82 miles); Great Britain and Ireland, 107 kilometers (66½ miles); Austria-Hungary, 71 kilometers (44 miles); Switzerland, 47 kilometers (29 miles); Italy, 40 kilometers 24¾ miles). Servia, Russia, Belgium, and Spain have but from 10 kilometers (6.21376 miles) to 30 kilometers (18.64128 miles), while the remaining countries have less than 8 kilometers (4.971 miles) each.

Of these 111 lines, 91 are worked on the overhead surface system, 12 on the underground system, and 8 by means of accumulators.

A large number of electric railways which were building during 1895 have been finished in 1896. It is estimated that the new lines of the present year will exceed in number and mileage those constructed in 1895, and it would appear from the activity shown in planning and laying out new routes that next year will show a like increase.

The capital invested in Germany alone in electric lines is estimated at 100,000,000 marks (\$23,800,000). German industry and German capital

are responsible for the advance shown in this new departure in the Empire. It is due in a great measure to the Rhenish-Westphalian iron industries having been for years trained in the production of street-railway material, both for the home and foreign market.

German electrical companies and supply manufactories have greatly increased in number and capital during the past few years and are constructing electric lines with steam engines down to the smallest isolator, thus giving an impetus to the boiler and car manufacturers.

Among the larger cities, Berlin is just about to introduce general electric locomotion in its streets. At present it is almost entirely dependent on the old horse tramway and omnibus service. Hamburg and Leipsic have their electric street railways nearly completed.

The overhead surface system, owing to its being cheaper than the two remaining systems, will continue to be preferred for the lines contemplated or in course of construction.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *December 3, 1896.*

ELECTRIC RAILWAY PROJECTS AT CATANIA.

I have the honor to send you herewith a letter to the editors of the Street Railway Journal, of New York, in response to their request for information for publication regarding concessions for new street railway lines, or such as are already in operation.*

I beg to state that in a previous report to the Department, I called attention to the fact that Catania, a city of 120,000 inhabitants, has as yet no street railway, but that there were at the time several projects on foot for constructing a line of electric cars to connect Catania with its suburbs.

LOUIS H. BRÜHL,
Consul.

CATANIA, *December 9, 1896.*

[Inclosure.]

Catania, a seaport city at the foot of Mount Etna, population 120,000, does not as yet possess a street-railway system, but there are a great number of common hacks, drawn by poor horses, to be found on the streets. The fare is very cheap, *i. e.*, 7½ cents for one, two, and even three persons per trip, anywhere within the city proper. Besides, there are running between the city and the suburbs a number of omnibuses, but these are rarely patronized by the better classes.

It is generally thought that an electric street-car line would pay well, especially a branch running through Ognina, a suburban town along the seacoast, where, during the spring, summer, and fall, many of Catania's people spend a few months in their own or rented cottages,

* Copy forwarded to Street Railway Journal.

coming to the city during the day to attend to business. This branch, leading also past the bathing establishments, would have crowded cars during the season.

This subject has for some time been agitated in the local newspapers, and there are now on foot two projects, by two different engineers, and the promoters of both plans have applied to the municipal government for a concession, which will doubtless be granted, but to only one of them. However, as yet, the city council has not been able to come to a decision as to which of the plans and routes to accept.

One of the plans has been prepared and submitted by Engineer Virgilito, who, through the mediation of a local exchange broker, Giulio Baurittel, is seeking to induce Belgian capitalists to build and operate the line (which would mean Belgian material), but they have not yet succeeded.

The promoters of the other plan are Fratelli Prinzi, owners and operators of a large steam flour mill at Catania. It is thought to be more likely that this firm will obtain the concession.

In order to ascertain what might be the chances for American manufacturers and capitalists, I called upon the Fratelli Prinzi, who, in reply to my questions, informed me that in case they get the concession, they intended to build the line themselves, and would not require any motive power, as they have in their mills fully 250 horsepower more than they have any use for. They would purchase the necessary dynamos, wires, poles, rails, and ten cars to start with.

I suggested to them that American street-railway supplies were generally considered to be superior to those of other countries and that our manufacturers would be able to successfully compete. The gentlemen told me that they would be pleased to receive from American manufacturers suggestions, illustrated catalogues, price lists, etc., and, if they secure the concession, they would give Americans an equal chance with others.

Regarding the inquiry as to the conditions under which Americans could do business in this city and country, I will simply state that Americans as well as any other foreigners can engage in business, under the same conditions, rules, and privileges as those applicable to the natives. Individuals must notify the local court that they are about to engage in a certain business; they then have to pay an annual tax upon the net profit. The first year is generally exempt from taxes.

Joint-stock companies must file two copies of their contract, one with the local chamber of commerce and the other with the court, where they are required to pay a court tax or fee (which is paid only once), according to the capital invested, a certain percentage, amounting, I was told, to not over 100 to 150 lire. Then the articles relating to the formation of the company, capital, etc., must be published in a local newspaper and in one in the nearest seat of another chamber of commerce.

They have to pay the annual Government tax on the net profit, payable generally every two, three, or six months; also, the annual contribution to the chamber of commerce.

The Government tax is 20 per cent of the net profit, but I am told that the collectors are generally disposed to listen to arguments, and the real amount of the net profit is rarely assessed; also, as stated before, the first year's taxes are rarely collected, as there may be no profit or one difficult to establish. It is expected the concession will be granted before long.

In the first case, capital is wanted, and parties interested may address Giulio Baurittel, Catania, Italy; in the second case, material (as before stated) is wanted, and parties interested may address Fratelli Prinzi, Catania, Italy.

FOREIGN DUTIES ON ELECTRIC MACHINERY AND LAMPS.*

The following statement, showing the rates of import duty leviable on dynamo-electric machinery and electric lamps in the principal European countries and India, has recently been prepared by the Board of Trade:

Countries and tariff classification.	Rates of duty.	United States equivalents.
Austria-Hungary :		
Dynamo-electric machines.....	5 florins per 100 kilograms....	\$1.23 per cwt.
Electric lamps.....	50 florins per 100 kilograms....	\$12.37 per cwt.
Belgium :		
Dynamo-electric machinery—		
The duties are assimilated to those on machines and machinery of all kinds which are—		
Machinery of cast iron.....	2 francs per 100 kilograms....	19½ cents per cwt.
Machinery of wrought iron or steel.....	4 francs per 100 kilograms....	39 cents per cwt.
Machinery of copper or other metal.....	12 francs per 100 kilograms....	\$1.18 per cwt.
Electric lamps.....	10 per cent ad valorem.....	10 per cent ad valorem.
Bulgaria.....	10½ per cent ad valorem.....	10½ per cent ad valorem.
Denmark :		
Dynamo-electric machines.....	0.02½ öre per pund, or 10 per cent ad valorem, at option of importer.	57 cents per cwt.
Electric lamps.....	According to material of which composed.	
France :		
Dynamo-electric machines weighing—		
5,000 kilograms and more, containing at least 50 per cent of cast iron.	12 francs per 100 kilograms..	\$1.18 per cwt.
5,000 kilograms and more, containing less than 50 per cent of cast iron.	20 francs per 100 kilograms..	\$1.99 per cwt.
From 2,000 to 5,000 kilograms, containing at least 50 per cent of cast iron.	18 francs per 100 kilograms..	\$1.78 per cwt.
From 2,000 to 5,000 kilograms, containing less than 50 per cent of cast iron.	20 francs per 100 kilograms..	\$1.99 per cwt.
From 1,000 to 2,000 kilograms.....	.....do.....	Do.
From 50 to 1,000 kilograms.....	30 francs per 100 kilograms..	\$2.96 per cwt.
From 10 to 50 kilograms.....	80 francs per 100 kilograms..	\$7.91 per cwt.
Conductors for dynamo-electric machines and detached pieces, such as metal coils, surrounded by insulated copper, worked parts of copper weighing less than 1 kilogram, numbered and marked, fitted together or not for electric machines weighing—		
More than 2,000 kilograms.....	35 francs per 100 kilograms..	\$3.47 per cwt.
From 1,000 to 2,000 kilograms.....	40 francs per 100 kilograms..	\$3.95 per cwt.
From 200 to 1,000 kilograms.....	45 francs per 100 kilograms..	\$4.44 per cwt.
From 1 to 200 kilograms.....	60 francs per 100 kilograms..	\$5.94 per cwt.
Less than 1 kilogram.....	75 francs per 100 kilograms..	\$7.42 per cwt.
Electric lamps—		
Incandescent lamps of glass—		
With their mountings.....	350 francs per 100 kilograms..	\$34.60 per cwt.
Not with mountings.....	700 francs per 100 kilograms..	\$69.22 per cwt.
Arc lamps (regulators).....	60 francs per 100 kilograms..	\$5.94 per cwt.

* From British Board of Trade Journal for January, 1897. Rates of duty reduced to United States equivalents by Bureau of Statistics, Department of State.

Foreign duties on electric machinery and lamps—Continued.

Countries and tariff classification.	Rates of duty.	United States equivalents.
Germany:		
Dynamo-electric machines (so far as they can not be described as "Lokomotiven" or "Lokomobilen")—		
Preponderating material being of cast iron.....	3 marks per 100 kilograms....	37 cents per cwt.
Preponderating material being of wrought iron.....	5 marks per 100 kilograms....	62 cents per cwt.
Preponderating material being of other common metal.	8 marks per 100 kilograms....	98½ cents per cwt.
Electric lamps—		
Incandescent (Gluh) lamps of glass in conjunction with other materials so far as the same can not be classed as hardwares, etc., with the exception of cases in which platinum wire is used.	24 marks per 100 kilograms..	\$2.96 per cwt.
Electric arc ("Bogen") lamps and other electric lamps.	According to material of which composed.	
Greece:		
Dynamo-electric machines.....	Free.....	Free.
Electric lamps—		
If of glass.....	1 drachma per oke.....	\$7.69 per cwt.
If of plain porcelain.....	50 drachmas per 100 okes....	\$3.89 per cwt.
If of porcelain, inlaid, colored, or gilt.....	200 drachmas per 100 okes....	\$15.57 per cwt.
All others.....	According to material of which made.	
Holland:		
Dynamo-electric machinery	Free.....	Free.
Electric lamps and appliances for electric lighting not forming part of the machinery.	5 per cent ad valorem.....	5 per cent ad valorem.
Italy:		
Dynamo-electric machines—		
Weighing up to 1,000 kilograms.....	25 lire per 100 kilograms.....	\$2.47 per cwt.
Weighing more than 1,000 kilograms.....	16 lire per 100 kilograms.....	\$1.58 per cwt.
Detached parts of dynamo-electric machines..	25 lire per 100 kilograms.....	\$2.47 per cwt.
Electric lamps—		
Of bronze, brass, steel, or iron.....	30 lire per 100 kilograms.....	\$2.96 per cwt.
Of other materials.....	According to material of which made.	
Norway:		
Dynamo-electric machinery	Free.....	Free.
Electric lamps.....	According to material of which chiefly made.	
Portugal:		
Electric apparatus and machinery for whatever purpose.	30 per cent ad valorem.....	30 per cent ad valorem.
Electric lamps.....	According to material of which made.	
Roumania:		
Dynamo-electric machines.....	Free.....	Free.
Electric lamps.....	50 lei. per 100 kilograms.....	\$4.94¼ per cwt.
Russia:		
Dynamo-electric machines of all kinds.....	1.40 rubles per pood.....	\$3.34 per cwt.
Electric lamps.....	6 rubles per pood.....	\$14.34 per cwt.
Spain:		
Dynamo-electric machines.....	18.50 pesetas per 100 kilograms.	\$1.82 per cwt.
Electric lamps, chargeable as ordinary lamps according to material of which composed, as follows—		
Of copper.....	125 pesetas per 100 kilograms.	\$12.17 per cwt.
Of cast iron.....	8.50 to 17.50 pesetas per 100 kilograms.	84 cents to \$1.73 per cwt.

Foreign duties on electric machinery and lamps—Continued.

Countries and tariff classification.	Rates of duty	United States equivalents.
Spain—Continued.		
Electric lamps, etc.—Continued.		
Of wrought iron.....	25 to 36 pesetas per 100 kilograms.	\$2.96 to \$3.57 per cwt.
Of tin plate.....	50 pesetas per 100 kilograms	\$4.95 per cwt.
Of other common metals.....	37.50 to 45 pesetas per 100 kilograms.	\$3.71 to \$4.44 per cwt.
Of glass and crystal.....	50 to 110 pesetas per 100 kilograms.	\$4.95 to \$10.88 per cwt.
Of earthenware.....	37.50 to 120 pesetas per 100 kilograms.	\$3.71 to \$11.84 per cwt.
Of porcelain.....	52.50 to 120 pesetas per 100 kilograms.	\$5.19 to \$11.06 per cwt.
Sweden:		
Dynamo-electric machinery.....	10 per cent ad valorem.....	10 per cent ad valorem.
Electric lamps.....	1.50 kronor per kilogram.....	\$20.60 per cwt.
Switzerland:		
Dynamo-electric machines.....	4 francs per 100 kilograms.....	39 cents per cwt.
Electric lamps.....	6 francs per 100 kilograms.....	59 cents per cwt.
Turkey.....	8 per cent ad valorem.....	8 per cent ad valorem.
United States:		
Dynamo-electric machines.....	35 per cent ad valorem.....	35 per cent ad valorem.
Electric lamps—		
Of metal.....	.....do.....	Do.
Of glass.....	.....do.....	Do.

India.

Tariff classification.	Rate of duty.
Machinery, namely, prime movers and component parts thereof, including boilers and component parts thereof; also including locomotive and portable engines, steam rollers, fire engines, and other machines in which the prime mover is not separable from the operative parts.	Free.
Machinery (and component parts thereof), meaning machines or sets of machines to be worked by electric, steam, water, fire, or other power not being manual or animal labor, or which, before being brought into use, require to be fixed with reference to other moving parts, and which are intended for—	
(a) The preparing, ginning, pressing, spinning, weaving, sewing, knitting, bleaching, and dyeing of cotton, jute, hemp, silk, wool, or other fibers, and any other process intervening between the raw material and the finished product as packed ready for the market.	Do.
(b) The smelting and milling of iron and other metallic ores and the manufacture of iron, steel, and other metals.	Do.
(c) The manufacture of leather, sugar, indigo, silk, paper, soap, gas, oils, flour, cordage, rope, and twine.	Do.
(d) The milling of rice.....	Do.
(e) The manufacture of tea in all its stages, from the drying of the leaf to its packing for the market, inclusive.	Do.
(f) The pulping of coffee.....	Do.
(g) Printing presses.....	Do.
(h) Foundries and workshops of iron and other metals.....	Do.
(i) Railway workshops.....	Do.
(j) The refining of petroleum and the manufacture of vegetable oils.....	Do.
(k) The crushing of bones and bricks.....	Do.
(l) The manufacture of lac.....	Do.
(m) Potteries.....	Do.
(n) Sawmills.....	Do.

India—Continued.

Tariff classification.	Rate of duty.
Machinery (and component parts thereof), etc.—Continued.	
(a) Agriculture, mining, navigation, dredging, and pumping.....	Free.
(b) Such other manufactures and industries as the governor-general in council may from time to time specify.	Do.
Provided that the term does not include tools and implements to be worked by manual or animal labor, and provided also that only such articles shall be admitted as component parts of machinery as are indispensable for the working of the machinery, and are, owing to their shape or to other special quality, not adapted for any other purpose.	
NOTE.—Machinery and component parts thereof made of substances other than metal are included in this entry.	
Machinery and component parts thereof not included in the foregoing exemptions.....	5 per cent ad valorem.

RAILWAYS OF EUROPE IN 1896.

I inclose herewith translation of an article on the railways of Europe in 1896, published October 21, 1896, in the *Cronica de Ferrocarriles*, of Madrid.

R. M. BARTLEMAN,

MALAGA, *November 2, 1896.*

Consul.

[Inclosure.]

The department of railways of the Ministry of Public Works in France has just published the statistics of the railways in Europe in operation on the 31st of December, 1895. The following table shows their status as compared with December 31, 1894.

Length in operation.

Countries.	December 31, 1894.	December 31, 1895.	Increase.	
	<i>Kilometers.*</i>	<i>Kilometers.*</i>	<i>Kilometers.*</i>	<i>Per cent.</i>
Germany.....	45,462	46,451	989	2.17
Austria-Hungary.....	30,038	30,899	861	2.86
Belgium.....	5,545	5,660	115	2.07
Denmark.....	2,267	2,267		
Spain.....	11,757	12,052	295	2.51
France.....	39,979	40,209	230	0.57
Great Britain and Ireland.....	33,641	34,058	417	1.23
Greece.....	915	930	15	1.63
Italy.....	14,626	15,057	431	2.94
Holland.....	2,117	2,117		
Luxemburg.....	435	435		
Portugal.....	2,340	2,340		
Roumania.....	2,581	2,741	160	6.19
Russia.....	33,311	35,323	2,012	6.04
Finland.....	2,249	2,394	145	6.44
Servia.....	540	540		
Sweden.....	9,234	9,755	521	5.64
Norway.....	1,726	1,777	51	2.96
Switzerland.....	3,477	3,527	50	1.43
Turkey, Bulgaria, and Roumelia.....	2,010	2,199	189	9.4
Islands of Malta, Jersey, and Man.....	110	110		
Total.....	244,910	251,391	6,481	2.64

* 1 kilometer = 0.621 mile.

Russia is increasing its net of railways at a tremendous rate, as can be seen. In 1895, it took the lead with an increase of 2,012 kilometers, and more, not included in these statistics; neither are those of the Transcaspian or Siberian Railroad. After Russia, comes Germany, which has increased its lines by 989 kilometers. According to order, the next is Austria, with an increase of 861 kilometers, and Sweden, with 521 kilometers. After Sweden, and in the fifth place, is Italy, with an increase of 431 kilometers, and England, with 417 kilometers. The seventh is Spain, with an increase of 295 kilometers, and the eighth, France, with 230 kilometers.

AMERICAN VS. EUROPEAN RAILWAYS.

Lack of speed, lack of comforts, lack of cheap rates are the charges brought against the German Empire's railways by men who have read the report of the imperial commissioners sent a few years ago to study the United States roads. The report is just out; it indicates faithful work. The commissioners went all over the Union, covering 13,000 kilometers (8,079 miles). The New York Central and Hudson River Railroad is put down as one of the world's best roads, with its express train to Chicago, covering 1,560 kilometers (969 miles) in twenty hours, an average of 78 kilometers (48½ miles) per hour, going over one part—48 kilometers (29.8 miles)—at an average of 103 kilometers (64 miles) per sixty minutes. From Leipsic to Rome, 1,523 kilometers (945 miles), takes thirty-five hours. In a trial trip over the New York Central and Hudson River Railroad, reported by the commissioners, a regular train, with coaches weighing 149 tons, went over 8 kilometers (5 miles) at an hourly average of 138 kilometers (86 miles), and over a horizontal surface of 1.6 kilometers (1 mile) at an hourly average of 165 kilometers (102½ miles). Another trial covered 180 kilometers (111.8 miles) in an hour; or from Berlin to Dresden in sixty minutes. Here, it takes nearly three hours with a fast train. It is only when compared with European routes and time taken that the enormous time saving in the United States can be realized. Based upon the New York Central and Hudson River Railroad run to Chicago, the others are: New York to Chicago, 1,560 kilometers (969 miles) in twenty hours, average 78 kilometers (48½ miles) per hour; Ostend to Vienna, express, 1,321 kilometers (821 miles), average 56.8 kilometers (35.3 miles), 23 to 25 hours; Paris to Constantinople, 3,046 kilometers (1,892 miles), 65.4 hours, average 46.6 kilometers (29 miles); Ostend to Edytkuhnen, 1,681 kilometers (1,045 miles), 27.1 hours, average 62 kilometers (38½ miles); Paris to Lisbon, 1,891 kilometers (1,175 miles), 39.51 hours, average 47.8 kilometers (29.7 miles); Calais to Brindisi, 2,221 kilometers (1,380 miles), 40.35 hours, average 55 kilometers (34 miles); Paris to Nice, 1,088 kilometers (676 miles), 17.3 hours, average 62.9 kilometers (39 miles); Ostend to Constance, 2,670 kilometers (?), 52.3 hours, average 51 kilometers (32 miles).

The European trains taken are such as save time by using the Belgian system of through sleeping cars and avoiding delays from changes of all kinds. The ordinary international trains are much slower than these. The

fast trains from Berlin to Madrid cover 2,531 kilometers (1,573 miles) in fifty-six hours, an average of 45.2 kilometers (28 miles) per hour; Berlin to Rome, 1,696 kilometers (1,055 miles), in 38.14 hours, average 44.5 kilometers (27.6 miles). This is all due to the limited capacity of the continental, especially the German, locomotives. The commission says, among many other things, that the very considerable working capacity of the American locomotives is a matter upon which they wish to lay particular stress. They are used up to their highest capacity and then set aside to make way for new ones containing all the best features of modern progress.

Lack of comfort is due to the fact that Germany, like all continental countries, built its cars on England's model of an antediluvian stagecoach. These swinging boxes, rattling from side to side, are the horror of English and continental travel. Of these, the United States railroad system knows nothing at all. The cars there are models of comfort, easy riding, and convenience. Here follows a detailed enumeration of our various cars, with graphic descriptions of their comforts and practical conveniences. Our sleeping-car system is compared with the European to the advantage of the former. With us, a double bed costs \$1.50; here, there is no such convenience, and a single bed costs \$2.15. This is followed by a description of our baggage system, which is infinitely better than any over here. We send 68 kilograms (150 pounds) free; here, only 25 kilograms (55 pounds) are free, and then only on certain tickets. The commissioners picture the advantages of our brass-check system as compared with the red tape run off here before baggage is "checked." They describe approvingly our accident insurance arrangements in the stations, our free time-tables, bureaus of information, and methods of selling newspapers, fruits, candies, and lunches.

A round-trip ticket for 600 kilometers (373 miles) all over central Europe, costs exactly 5 pfennigs (1.19 cents) per kilometer (0.621371 mile), second class; ordinary fast trains in Prussia cost 2.14 cents first class, 1.59 cents second class, and 1.11 cents third class per kilometer. In the United States, the price per kilometer is 1.34 cents. This is astonishingly cheap when one thinks of the standards of value and supposed standards of living in the two countries (I may say that most, if not all, of the comparisons are made with German conditions).

Here, the lighting on the trains is wretched; with us, as is well known, nothing is left to be desired, many of our trains being lighted by electricity. The numerous accidents, ofttimes due to too much carelessness, the absence of pensions, the uncomfortable stations, especially in certain sections of the United States, are dealt with; but evidently with no desire to do us injustice. The Empire is urged to copy that which is good or better than what Europe offers; and that, happily, is by far the largest part of the entire system.

If an effort were made by men interested in pushing the sales of our locomotives and railroad material, such evidence as the report of this commission furnishes would be worth a great deal. The Saxon Machine Company

of this city is filling an order for 117 locomotives for Java. It is building branch shops in Russia; this, in spite of the well-known fact that certain American locomotives are better than the best in foreign countries.

CHEMNITZ, *January 8, 1897.*

J. C. MONAGHAN,
Consul.

HORSELESS CARRIAGES IN ENGLAND.

In a former report, "Horseless carriages in Europe,"* mention was made of the existence in England of a law known as the "highways and locomotives act," which prohibited any locomotive propelled by steam or other than animal power from being driven at a speed of more than 4 miles an hour on the common roads and highways. This law embodied several other observances in the use of locomotives, which practically prohibited modern horseless carriages in England, they being deemed to come under the meaning of this act. I expressed my belief that it would not be long before Parliament would amend this law so as to remove the restrictions in so far as horseless carriages were concerned. This has since been accomplished, the limit of speed now fixed by law being 12 miles, instead of 4 miles, per hour.

Following the example of French owners of horseless carriages, whose road race from Paris to Bordeaux was described in the report above referred to, the English have just had their first successful road trial, which took place on the 16th instant between London and Brighton. The trial, or, more properly speaking, race, aroused the most intense public interest, which was manifested by the enormous crowds at the place of departure and along the route to Brighton. The masses of people around the Hotel Metropole, in London, where the start was made, were so dense that the police could not keep people from blocking the street and regular order in starting and placing the vehicles was out of the question.

The start took place promptly at half-past 10 a. m., Mr. Hy. Lawson leading the way in his phaëton, followed by one of the Panhard-Levassor carriages which had been successful in the Paris-Marseilles race; after this, came a Daimler phaëton and a private carriage, also of the Daimler type, and Mr. Lawson's second carriage, which took part in the lord mayor's procession recently. It was hoped that the police would be able to preserve perfect order, but the immense throng of people rendered this impossible, with the unfortunate result that about half of the carriages were unable to start at all. The progress through the city of London was, owing to the crowding, necessarily slow; and not only did the crowds impede the progress of the carriages, but a raining day, with head winds, added a further impediment to speed.

* Printed in CONSULAR REPORTS No. 190 (July, 1896).

Leaving London at about half-past 10 o'clock and traveling over 54 miles of the most hilly country in all England, the arrivals at Brighton were in the following order :

Description of carriage.	Number.	Time of arrival at Brighton.		
		<i>h.</i>	<i>m.</i>	<i>s.</i>
Bollée car.....	35	2	30	25
Do.....	37	2	45	20
Panhard omnibus.....	48	3	46	10
A. J. Levassor's car.....	1	4	53	30
Panhard et Levassor.....	3	4	53	15
Britannic bath chair.....	22	4	57	10
Daimler phaëton.....	5			
Pennington tricycle.....	33	4	57	25
Bersey landau.....	15	5	2	0
Panhard wagonette.....	8	5	7	13
Anglo-French phaëton.....	24	5	14	45
Daimler dogcart.....	12	5	27	13
Bersey hansom.....	17	5	41	30

The time of those arriving later was not noted.

An American carriage started and made excellent time, but was for some unknown reason omitted from the official record, which is greatly to be regretted. It is difficult to form an estimate of the exact rate of speed taken by the carriages to cover any part of the journey to Brighton. The rate of speed to Brixton was very slow, but the Bollée cars must have attained a speed of 16 to 17 miles per hour, considerably above that allowed by law.

The carriages taking part were of every type and pattern, including the styles known as landau, phaëton, dogcart, and tricycles, and even a bath chair.

At a dinner following the arrival of the carriages at Brighton, the mayor of that city remarked in the course of a lengthy speech:

For sixteen long years the lovers of science have waited patiently. During all this long time, we have suffered with galling impatience that knowledge of the infinite superiority of machinery, which it always has had, and always will have, over all kinds of animal power, especially in the matter of traffic. Thank goodness, that day has come at last—a day of deliverance for our roads and highways from the reign of quadrupeds. We are to-day witnessing the dawn of great prosperity for all kinds of mechanical trades. We have been told this week by the highest authority that the safety bicycle trades have now reached to no less than £11,000,000 (\$53,531,500) to £12,000,000 (\$58,398,000) sales annually, while the capital of the companies is no less than £17,000,000 (\$82,730,500). The orders and work for this great industry already received for next year are proving many times greater than ever before. Ten years ago we were considered foolish and too sanguine and these companies were criticised by the always-too-late kind of people—the wise after the event—but in spite of them, the British public have made millions and millions out of the bicycle-company shares, and many a man finds himself in easy circumstances to-day with a little fortune which has arisen from these very criticised companies. But if that is so with the cycle—a comparative toy—what shall the motor become? How much employment will it give to even millions of engineers throughout the country? Nor will it take away, in my belief, anything from the ordinary road traffic. We have all heard of the great railway mania

and excitement; as soon as the people got to understand what machinery meant, which, though it carries a whole nation by motors, has never interfered with animal-drawn cars in the least. Motor traffic, however, has a far greater range. Railways are limited to one road and to one distance from point to point. We, gentlemen, have railways everywhere, and for every kind of transport. We have proved to-day what can be done. We started this morning a little before 11, and I am pleased to tell you that every one of the patent cars of the British Motor Syndicate arrived in Brighton quite safely, although many of the drivers had never driven on the road before. We have delivered British farmers' produce in London to-day for the first time by motor, and even with our 12 miles' limit, we have shown it quite possible to leave London with market goods at 5 in the morning and arrive in Brighton at 9, return again to London by 1 o'clock, and once more return and make a second delivery here in the afternoon by 5 o'clock, returning to London again by 9 o'clock in the evening—four journeys. Indeed, we can go on all night doing the same work, and the motor will never be tired, nor exhausted, nor ill; neither will it go slower because of the work, but at a full speed the whole time. I believe our friend, the coach, has changed horses no less than eight times to-day on the same road down, and in one single journey thirty-two horses were employed. I ask, is it not a serious thing to waste the time of 37,000,000 people for fear some person may not look where he is going? The tremendous change which cycling has made in our habits was no more anticipated a few years ago than the immense changes now about to take place are anticipated. One thing is certain, they give those who are wise in time an opportunity to once more make such fortunes as our fathers made out of the introduction of machinery in superseding animal power.

Other speakers dwelt on the vast importance of motor cars in the service they would render to agriculture.

The return trip from Brighton to London resulted in another victory for the winner of the Paris-Marseilles race, a phaëton of the British Motor Syndicate being second, and the "Present Times" car third. The Panhard-Levassor carriage accomplished the journey in three hours and fifteen minutes, deducting stoppages, thus averaging a speed of 16 miles per hour. There was no accident of any kind to mar the success of the trip. The second carriage arrived only five minutes after the first and the third half an hour later.

The London Times, in an editorial, predicts that enough has been done to show that motor cars, either in their present form or with such improvements as experience may suggest or ingenuity devise, are destined to play a great part in the future transportation of people and merchandise. As far as extensive use is concerned, the question is, of course, mainly one of economy, and its practical decision will turn upon the relative expenses of fuel to fodder or upon the rate of the deterioration of a machine with that of an animal. It is highly probable that motor cars will be brought largely into use before there has been time or opportunity to train an adequate number of drivers; if so, we must be prepared for a considerable catalogue of collisions and other accidents, many of which, from the very nature of the agencies concerned in producing them, are likely to be of a very serious character. With every form of petroleum motor, the dangers of fire are superadded to those of collision, and it would be a proper precaution to require that great pains should be taken in all such vehicles to protect the reservoir from injury.

The Westminster Gazette, commenting upon the small number of motor cars seen upon the streets of London, attributes the fact to the dearth of skilled drivers. From January 1, 1897, in England, it is proposed to license motor cars; every one of these vehicles between 1 and 2 tons will have to pay 2 guineas (\$10.21) and between 2 and 3 tons in weight, 3 guineas (\$15.32), in addition to the present carriage duty. Furthermore, it would seem that every self-propelled bicycle and tricycle will be liable to a license at the rate of 1 guinea (\$5.11) per annum. For cars over 1 ton and under 3 tons, a guinea (\$5.11) will have to be paid unless they are used as public vehicles, when the present hackney carriage rate of 15s. will be applied. The public 'bus of the future will be charged £1 17s. (\$8.94) or £3 18s. (\$18.92), according to weight. The weights will be on the unladen vehicle and exclusive of accumulator, water, and fuel.

The Automobile Club of Paris proposes holding in July next a race for heavy vehicles. At the time of the Paris-Marseilles race, a good deal of comment was made as to the advantages of speed in connection with the cause of automobilism, some critics maintaining that it mattered little whether a horseless carriage was fast or not, but that a reasonable rate of speed, combined with strength, was all that was required.

The Automobile Club de France, with a view of developing all branches of automobilism, proposes to hold races with the minimum of ten persons to a carriage and to consider a person equivalent to 100 kilograms (220.46 pounds), baggage included. It is to be hoped that American horseless carriages will be fully represented and that those interested will take note of this announcement.

The much-vexed question of what name they should bear in England seems to have been decided in favor of "motor cars."

An electric landau caused some sensation on the London streets this week. It demonstrated the fact that the horseless carriages can be steered through the crowded thoroughfares with facility. This vehicle was fitted with the Bersey system—the same adopted by the London Electrical Cab Company.

One of the dangers arising from the use of the horseless carriages is the employment of petroleum as a motive power. Attention has been called to the inflammable nature of the vapor given off by some of the more volatile forms of petroleum and has called for special care in handling and storing them. The danger is small in electrical carriages, and in both forms it will undoubtedly be greatly reduced in course of time.

The London Times thinks that as drivers gain experience and become able to keep their machines thoroughly in hand, risks of collision will be practically eliminated, except for the consideration that even then there must be learners and that the nature of learners is to spoil a certain portion of raw material. Apart from this, the safety of street traffic would probably be increased if it could be conducted by motors alone without the occasional interference of horseflesh as a disturbing element. It is quite within the

limits of possibility that such a condition may be reached in time, but for the next few years, presumably, we must make up our minds to a combination of the two modes of traction and to some amount of friction between them in consequence—friction which, in the words of Stephenson, will often be very awkward for the horse and sometimes for his driver. But the great gain of the new vehicles will arise from the tirelessness of the propelling agency and from the facilities this will give for going as far as the driver may desire and as fast as the current regulations allow. If it should be found possible to introduce motor cars as a means of military transport, some of the greatest difficulties of warfare will be at once superseded and removed.

In American cities, the symmetry of the streets and orderly plan of laying them out render them much better adapted for the use of horseless carriages than the narrow, crooked streets of the Old World, with their congested traffic.

Are Americans fully awake to the importance of this new means of locomotion?

THOS. EWING MOORE,

WEIMAR, *November 20, 1896.*

Commercial Agent.

REGULATIONS FOR MOTOR CARS IN IRELAND.

The parliamentary act permitting the use of locomotives on highways having become a law, the local government board have addressed to the several urban sanitary authorities and grand juries in Ireland and to all others whom it may concern rules for the governance of such traffic. I inclose herewith the rules as promulgated by the Irish authorities, thinking that, perhaps, they may be of interest to manufacturers who may wish to build motors for the foreign trade.

NEWTON B. ASHBY,

DUBLIN, *November 18, 1896.*

Consul.

GENERAL REGULATIONS UNDER LOCOMOTIVES ON HIGHWAYS ACT, 1896.

To the several urban sanitary authorities and grand juries in Ireland and to all others whom it may concern.

Whereas by section 6 of the locomotives on highways act, 1896 (hereinafter called the act), it is enacted that “(1) the local government board may make regulations with respect to the use of light locomotives on highways and their construction and the conditions under which they may be used; (2) * * * all regulations under this section shall have full effect notwithstanding anything in any other act, whether general or local, or any by-laws or regulations made thereunder.”

And whereas by section 2 of the act it is enacted that “during the period between one hour after sunset and one hour before sunrise, the person in charge of a light locomotive shall carry attached thereto a lamp so constructed and placed as to exhibit a light in accordance with the regulations to be made by the local government board.”

And whereas by section 3 of the act it is enacted that "every light locomotive shall carry a bell or other instrument capable of giving audible and sufficient warning of the approach or position of the carriage."

And whereas by section 4 of the act it is enacted that "no light locomotive shall travel along a public highway at a greater speed than 14 miles an hour or than any less speed that may be prescribed by regulations of the local government board."

And whereas by section 11 of the act it is enacted that "in the application of this act to Ireland, a reference to the local government board for Ireland shall be substituted for a reference to the local government board." * * *

And whereas by section 7 of the act it is enacted that "a breach of any * * * regulation made under this act * * * may, on summary conviction, be punished by a fine not exceeding £10."

Now, therefore, in pursuance of the powers given to us by the act and by any other statutes in that behalf, we, the local government board for Ireland, do by this our order make the following regulations with respect to the use of light locomotives on highways and their construction and the conditions under which they may be used, and direct that the same shall have effect on and after November 14, 1896:

ARTICLE 1. In this order the expression "carriage" includes a wagon, cart, or other vehicle; the expression "horse" includes a mule or other beast of draft or burden, and the expression "cattle" includes sheep; the expression "light locomotive" means a vehicle propelled by mechanical power which is under 3 tons in weight unladen, and is not used for the purpose of drawing more than one vehicle (such vehicle with its locomotive not exceeding in weight unladen 4 tons), and is so constructed that no smoke or visible vapor is emitted therefrom except from any temporary or accidental cause. In calculating, for the purposes of this order, the weight of a vehicle unladen, the weight of any water, fuel, or accumulators, used for the purpose of propulsion, shall not be included.

ART. 2. No person shall cause or permit a light locomotive to be used on any highway or shall drive or have charge of a light locomotive when so used unless the conditions hereinafter set forth shall be satisfied, namely:

(1) The light locomotive, if it exceeds in weight unladen 5 cwts. shall be capable of being so worked that it may travel either forward or backward.

(2) The light locomotive shall not exceed $6\frac{1}{2}$ feet in width, such width to be measured between its extreme projecting points.

(3) The tire of each wheel of the light locomotive shall be smooth and shall, where the same touches the ground, be flat and of the width following, namely: (a) If the weight of the light locomotive unladen exceeds 15 cwts., but does not exceed 1 ton, not less than $2\frac{1}{2}$ inches; (b) if such weight exceeds 1 ton, but does not exceed 2 tons, not less than 3 inches; (c) if such weight exceeds 2 tons, not less than 4 inches. Provided, that where a pneumatic tire or other tire of a soft and elastic material is used, the tire may be round or curved, and there may be upon the same projections or bosses rising above the surface of the tire if such projections or bosses are of the same material as that of the tire itself, or of some other soft and elastic material. The width of the tire shall, for the purpose of this proviso, mean the extreme width of the soft and elastic material on the rim of the wheel when not subject to pressure.

(4) The light locomotive shall have two independent brakes in good working order, and of such efficiency that the application of either to such locomotive shall cause two of its wheels on the same axle to be so held that the wheels shall be effectually prevented from revolving, or shall have the same effect in stopping the light locomotive as if such wheels were so held. Provided that in the case of a bicycle this regulation shall apply as if, instead of two wheels on the same axle, one wheel was therein referred to.

(5) The light locomotive shall be so constructed as to admit of its being at all times under such control as not to cause undue interference with passenger or other traffic on any highway.

(6) In the case of a light locomotive drawing or constructed to draw another vehicle or constructed or used for the carriage of goods, the name of the owner and the place of his abode or business, and in every such case and in the case of every light locomotive weighing unladen $1\frac{1}{2}$ tons or upwards, the weight of the light locomotive unladen shall be painted in one or more straight lines upon some conspicuous part of the right or off side of the light locomotive in large, legible letters in white upon black or black upon white, not less than 1 inch in height.

(7) The light locomotive and all the fittings thereof shall be in such a condition as not to cause, or to be likely to cause, danger to any person on the light locomotive or on any highway.

(8) There shall be in charge of the light locomotive when used on any highway a person competent to control and direct its use and movement.

(9) The lamp to be carried attached to the light locomotive in pursuance of section 2 of the act shall be so constructed and placed as to exhibit, during the period between one hour after sunset and one hour before sunrise, a white light visible within a reasonable distance in the direction toward which the light locomotive is proceeding or is intended to proceed, and to exhibit a red light so visible in the reverse direction. The lamp shall be placed on the extreme right or off side of the light locomotive in such a position as to be free from all obstruction to the light.

The foregoing provision of this regulation shall not extend to any bicycle, tricycle, or other similar machine. There shall be carried by the person riding or being upon such machine a lamp attached to the machine and so constructed and placed as to exhibit a light in the direction in which he is proceeding adequate to signal the approach or position of the machine.

ART. 3. No person shall cause or permit a light locomotive to be used on any highway for the purpose of drawing any vehicle, or shall drive or have charge of a light locomotive when used for such purpose, unless the conditions hereinafter set forth shall be satisfied namely:

(1) Regulations (2), (3), (5), and (7) of article 2 of this order shall apply as if the vehicle drawn by the light locomotive was therein referred to instead of the light locomotive itself, and regulation (6) of the article shall apply as if such vehicle was a light locomotive constructed for the carriage of goods.

(2) The vehicle drawn by the light locomotive, except where the light locomotive travels at a rate not exceeding 4 miles an hour, shall have a brake in good working order of such efficiency that its application to the vehicle shall cause two of the wheels of the vehicle on the same axle to be so held that the wheels shall be effectually prevented from revolving or shall have the same effect in stopping the vehicle as if such wheels were so held.

(3) The vehicle drawn by the light locomotive shall, when under the last preceding regulation a brake is required to be attached thereto, carry upon the vehicle a person competent to apply efficiently the brake; provided that it shall not be necessary to comply with this regulation if the brakes upon the light locomotive by which the vehicle is drawn are so constructed and arranged that neither of such brakes can be used without bringing into action simultaneously the brake attached to the vehicle drawn, or if the brake of the vehicle drawn can be applied from the light locomotive independently of the brakes of the latter.

ART. 4. Every person driving or in charge of a light locomotive when used on any highway shall comply with the regulations hereinafter set forth, namely:

(1) He shall not drive the light locomotive at any speed greater than is reasonable and proper, having regard to the traffic on the highway, or so as to endanger the life or limb of any person, or to the common danger of passengers.

(2) He shall not under any circumstances drive the light locomotive at a greater speed than 12 miles an hour. If the weight unladen of the light locomotive is $1\frac{1}{2}$ tons and does not exceed 2 tons, he shall not drive the same at a greater speed than 8 miles an hour, or if such weight exceeds 2 tons at a greater speed than 5 miles an hour; provided that whatever may be the weight of the light locomotive, if it is used on any highway to draw any vehicle, he shall not under any circumstances drive at a greater speed than 6 miles an hour;

provided also that no light locomotive shall travel along any public highway within the limits of the Dublin metropolitan police district or of any city, town, or village at a greater speed than 6 miles an hour, or, if its weight, unladen, exceed 2 tons, at a greater speed than 5 miles an hour; provided also that this regulation shall only have effect until we may by order otherwise direct.

(3) He shall not cause the light locomotive to travel backward for a greater distance or time than may be requisite for purposes of safety.

(4) He shall not negligently nor willfully cause any hurt or damage to any person, carriage, horse, or cattle, or to any goods conveyed in any carriage on any highway, or, when on the light locomotive, be in such a position that he can not have control over the same, or quit the light locomotive without having taken due precautions against its being started in his absence, or allow the light locomotive or a vehicle drawn thereby to stand on such highway so as to cause any unnecessary obstruction thereof.

(5) He shall, when meeting any carriage, horse, or cattle, keep the light locomotive on the left or near side of the road, and when passing any carriage, horse, or cattle proceeding in the same direction, keep the light locomotive on the right or off side of the same.

(6) He shall not negligently nor willfully prevent, hinder, or interrupt the free passage of any person, carriage, horse, or cattle on any highway, and shall keep the light locomotive and any vehicle drawn thereby on the left or near side of the road for the purpose of allowing such passage.

(7) He shall, whenever necessary, by sounding the bell or other instrument required by section 3 of the act, give audible and sufficient warning of the approach or position of the light locomotive.

(8) He shall, on the request of any police constable, or of any person having charge of a restive horse, or on any such constable or person putting up his hands as a signal for that purpose, cause the light locomotive to stop and to remain stationary so long as may be reasonably necessary.

ART. 5. If the light locomotive is one to which regulation (6) of article 2 applies, and the particulars required by that regulation are not duly painted thereon, or if the light locomotive is one to which that regulation does not apply, the person driving or in charge thereof shall, on the request of any constable, or on the reasonable request of any other person, truly state his name and place of abode and the name of the owner and the place of his abode or business.

ART. 6. This order may be cited as "the light locomotives on highways (Ireland) order, 1896."

Given under our hands and seal of office, this 12th day of November, A. D. 1896.

GEORGE MORRIS.

F. MACCABE.

H. A. ROBINSON.

SPANISH TRADE AND INDUSTRIES.

OBSTACLES TO AMERICAN TRADE IN SPAIN.

I am constantly in receipt of letters from United States merchants and manufacturers requesting information, general and particular, with a view to the introduction of their goods into Spanish markets. I always make it a point of duty to reply to all letters of this character without exception, although, in most cases, I have to repeat the same explanations. These explanations relate to the obstacles in the way of American importations into Spain and the disadvantages under which American merchants labor in

trading with this country. It seems to me that a useful purpose will be served by the publication of these explanations in the CONSULAR REPORTS, and I herewith tabulate them for that purpose:

(1) The principal obstacle to American imports into Spain is the high and discriminating tariff imposed by the Spanish Government. But to this must be added the "consumos," or octroi tax, levied by the cities and towns on all articles intended for consumption, the excessive freight rates from the ports of entry to the interior, and, lastly, the fact that there is no direct steamship communication between the United States and Spain, nearly the whole of the carrying trade between the two countries being by way of Liverpool.

(2) England, France, and Germany each has a special trade convention or treaty with Spain reciprocally facilitating the exchange of certain classes of products. The United States has no such convention, except as to the island of Cuba, and is therefore at a disadvantage with respect to the classes of goods or products embraced under these special treaties.

(3) The only direct importations into Spain from the United States consist of cotton, petroleum, staves, and lumber (in the order named as to value and importance), and an occasional cargo of wheat in years of short harvests.

(4) All other importations from the United States of whatever description, whether manufactured articles or agricultural products, medicines, or machinery, are indirect, coming by way of England or France, and passing through the hands of English or French merchants. Under these conditions, Spain does not offer an inviting field to American business enterprise, and when asked for information or advice looking to the introduction of American products, I feel a great reluctance in saying anything to encourage undertakings that may only result in loss and disappointment to those most nearly concerned.

CHAS. L. ADAMS,

Consul.

CADIZ, *June 5, 1896.*

THE MINES OF GALICIA.*

GOLD MINES.

From a very remote period, the Iberian peninsula has been celebrated for its mineral wealth. The Phœnicians and, later on, the Carthagenians worked the gold and silver mines of Spain. Hannibal extracted daily near Carthagera a quantity of those metals equivalent to 6,000 pesetas (\$1,158). The most renowned of ancient historians mention the riches of Iberia in precious metals and relate that in the time of Justinian, gold was found in the fields worked by the plow. Pliny the younger, says that, in his time, 2,000 pounds of gold were extracted annually from Galicia, Asturias, and Portugal. The immense quantities of this metal drawn from Spain restored

* I am indebted to Mr. Ernest J. Bayliss, C. E., agent for Fraser & Chalmers, Chicago and London, mining machinery manufacturers, for the information incorporated into this report

and replenished Rome's public treasury. Cato, on his return from governing Spain, handed over 18 tons of silver and nearly 2,000 kilograms of gold.

After the fall of the Roman Empire, the mining industry received no great impulse from the Moors, and, finally, the discovery of the New World was the deathblow to the miner's industry in Spain. In fact, with the object of favoring in America an industry which was for them a source of great riches, the kings of Spain prohibited the working of mines in the peninsula.

To-day, however, owing to the persistent efforts of a few prospecting Englishmen and to the progress being made every year in processes for the extraction of refractory ores, it is probable that, in a short time, some of the old Roman mines will be worked on a large scale.

The gold is found in the northwestern part of Galicia, between the slate and granite formations. The ore is an iron pyrite containing a little arsenic. The lodes run generally with the formation north and south, they are well defined, and average about 14 feet in thickness. Assays have given up to 4 ounces of gold per ton and more, but the average is between 6 and 16 pennyweights to the ton.

The following is taken from the principal mines actually being developed in Galicia:

The Sagasta mines.—In these mines some 2,000 meters of levels and crosscuts have been driven to fully prove the lodes. Last year, a total of 1,095 meters were driven and 1,600 tons of ore were extracted, equal, according to the assays, to 1,425 ounces of gold. No gold has been actually extracted, as the syndicate working these mines have not yet decided on what process they will adopt; most likely it will be the cyanide process.

Fosas de Vila mines.—These mines have been proved by sinking pits, and are, at the present time, being offered to the French market. The assays give 18 pennyweights to 1 ounce of gold and 20 ounces of silver to the ton, besides containing a considerable quantity of lead. It is not yet known by what process they will be worked; probably by smelting.

Josefina mines.—These are of an arsenical iron pyrite. Assays made in Paris give over an ounce of gold and 2 to 30 grams silver to the ton.

The Buena Esperanza.—This mine is very much like the Josefina. It has a main lode over 2,000 meters long, about 4 feet wide, and a depth of more than 100 meters. The ore assays give 9 to 10 pennyweights to the ton, with less arsenic and more iron than the Josefina.

Virgen y S. Victor.—These are two mines on the same lode. The ore, although of a very complex nature, is very rich; but owing to difficulties which, I understand, are being overcome, nothing much has been done yet.

There are many other concessions taken up, but for want of capital are not being developed.

On the banks of the River Sil, there are remains of important "placer workings," probably Roman, and even to-day a compensative quantity of

gold is washed from the deposits in the banks of this river by the local peasant women, who stand in the shallow places and wash the stuff they have collected in "bateas" (wooden bowls), in the working of which they are adepts.

The general conditions for mining in this district are exceptionally good. Timber, labor, etc., is plentiful and cheap. Large quantities of pine props are shipped annually to Cardiff for coal mines. The cost of labor per day is as follows: Miners, carpenters, etc., 2.50 pesetas (48 cents); blacksmiths, 3.50 pesetas (67 cents); laborers, 1.50 pesetas (28 cents).

The country is well watered and hydraulic power can be obtained actually on or near to almost all the mines. The only drawback is the cost of coal in cases where steam power would be required and for calcining when chlorination is the only way of extraction.

TIN MINES.

This is one of the ores which of late years has been most worked. There is a wide belt of tin-bearing formation, which runs from Zamora through a corner of Portugal, through the province of Orense, and from there through Santiago up to the coast, nearly 250 miles. The mines are worked under considerable difficulties, as they are situated for the most part in remote districts, and for want of means of communication, the ore, as a rule shipped to Havre, has to be transported by mules to the nearest railway station. Since the fall of the price of tin the greater part of those workings have been closed.

In June last, a company was brought out by the Iberian Mines Syndicate of London, called the Almaraz Tin Mining and Smelting Company, Limited, with a capital of £150,000 (\$729,975), to work 362 acres of ground in the province of Zamora, close to Galicia. The assays show from 4.91 to 25.38 per cent metallic tin. In the province of Orense, an Anglo-Dutch company has been working for some time, but no information is available as to their results.

COPPER MINES.

At Santa Cruz and in the Ferrol district, several mines of very rich copper pyrites have been worked, but not systematically, and only by pioneers who, through want of capital, or having lost the lode, or worked it out, abandoned all the undertakings. The only mine at work now, and that barely of a prospective character, is near Monforte. The ore gives from 15 to 20 per cent metallic copper. If the mine is properly opened and the lode holds out, it ought to be a very remunerative affair.

ANTIMONY MINES.

Formerly, a great deal of this mineral was mined, but since the fall in the price there has been very little encouragement to work it. At Puebla de Brollon, there is a well-defined lode in excellent condition for mining and

close to the railway; in fact, it was discovered during the construction of the line.

From the concessions granted in the districts of Viobra and Quereno, a large quantity of this ore could be extracted provided its price would show a small profit.

IRON MINES.

Iron is one of the principal minerals, and one so abundant that in any other country but Spain it would have received special attention from the Government. But no practical interest is taken in this most important source of wealth, and, unfortunately for the nation, nothing has been done—not even an attempt made to estimate the quantity. Broadly speaking, Galicia alone must hold considerably over 1,000,000,000 tons. The deposits are disseminated throughout the entire region, for the most part on or near the seashore, in positions which afford excellent means of shipping. The great stumbling block to the working of these mines is the percentage of phosphorus, and the only people who can deal with the ore are the Germans and Belgians. It is reported that some 5,000 tons have been shipped from Vivero to Belgium quite recently.

The La Torre mine is situated on the north side of Vigo Bay; its ore, by means of a short pier, can be tipped from the works into the holds of the ships alongside. Assays gave the following partial results: Iron, 48.25 per cent; phosphorus, 1.61 per cent; sulphur, 0.02 per cent. Other samples yielded: Iron, 48.02, 50.39, and 50.52 per cent; phosphorus, 0.015, 0.725, and 1.2 per cent; sulphur, 0.049, traces, and 0.044 per cent.

Incio zone.—This is one of the largest deposits, but very badly situated at about 100 miles from the coast. Assays gave: Iron, 45.64 per cent; phosphorus, 0.06 per cent.

Villaboa zone.—This is also badly situated, yet much nearer the coast than Incio. Result of assays: Iron, 46.2 per cent; phosphorus, 0.225 per cent. I omit other deposits, because the foregoing are representative and give a general idea. In some cases the phosphorus is fairly low and might be accepted, though it varies too much in the same mine, as, for example, in La Torre the lowest is 0.0125 per cent, the highest 1.61 per cent, and the average of four samples, about 0.88 per cent.

The Thomas-Gilchrist process seems to be the only one adopted, but as Middlesboro (Great Britain) buyers will not give over 3s. 6d. (85 cents) a ton, that market is closed. Offers have been received from Antwerp of 5 marks (\$1.19) per ton free on board on this side. Such a price would doubtfully hold good for any large contract, as it is probable that the shipments made were more for experimental purposes than otherwise.

If anything is done to work these mines, it will have to be through foreign enterprise. The problem may be solved ere long, for there is a continual coming and going of English, French, and German experts and chemists. Moreover, the British Iron and Steel Institute held their annual

meeting this year at Bilbao, and it was rumored that they would also visit Galicia.

Another fact to be noted is that the supply of coal in Asturias is abundant. In 1894, the output was 1,000,000 tons, against 880,000 tons in 1893. Price, free on board at Gijon, about 9 pesetas (\$1.73) per ton for slack and 18 pesetas*(\$3.46) for screened.

The import duties on iron and steel are 20 pesetas (\$3.86) per ton on pig iron, from 50 to 80 pesetas (\$9.65 to \$15.44) on iron cast in pipes or columns, 60 pesetas (\$11.58) on steel rails, etc., and 250 pesetas (\$48.25) on crucible steel.

So that, altogether, with the greatest facilities for mining, labor, and all the necessary elements present, the iron trade of Galicia and Asturias will be a first-class investment for foreign capital.

COAL MINES.

Practically, there appears to be none in Galicia, although it joins Asturias, where that combustible fossil is abundant. The only specimen found is a brown coal (lignite), but, as far as I am able to ascertain, no work has been attempted.

PLUMBAGO, OR GRAPHITE.

The Ferrol district holds some fairly important deposits of this lead. Some years ago, a small shipment to Liverpool was sold for £6 (\$29.20) per ton; but since the opening of large layers in Ceylon of a better class of plumbago, and as the demand is very limited, the price has gone down to from 40s. to 50s. (\$9.72 to \$12.15), and consequently the mines are now closed.

ASBESTOS MINES.

The discovery of several mines of asbestos near Puente de Eume is quite recent. Up to the present, they appear broken, and only yield very short fibers and mineral of poor quality; yet, if the present prospectors persevere, they may find it to improve and ultimately be rewarded for their efforts.

SLATE QUARRIES.

Very large quarries of slate run nearly due north from Lugo up to the coast; but, strangely enough, except of a very primitive fashion and right in the slate districts, slate roofing has not been adopted by the building trades. About ten years ago, an English company was formed in London to take over a very large property on exceedingly favorable terms; the only condition as to payment was 25 centimes (0.048 cent) per ton royalty for the right of quarrying. Unfortunately, the shares were not taken up or for some reason or other the company went into liquidation and nothing has been done since. Slate quarries are profitably worked in Wales, where royalties of from 7s. 6d. (\$1.82) up to 16s. (\$3.88) a ton are being paid.

CONCLUSION.

The mining laws of Spain are the best in the world for the protection of the miners' interests, and all possible facilities are granted by the Government. The concessions or grants are given in perpetuity and can only be cancelled through nonpayment of taxes, which amount to about \$7.40 per acre, plus a royalty of 3 per cent on the value of bullion, metal, or ore extracted.

The question of gold is well worth the attention of our miners and inventors, who have been used to work low-grade and refractory ores. All the mill management of the Rand mines, South Africa, is practically in the hands of American citizens.

Spain, although in former times a large producing country, is at present quite dormant; and until the Spaniards can understand that, with every other condition being favorable, there are practicable means of making 10 pennyweights or even 5 pennyweights of gold to the ton pay dividends, it will be hazardous to think of local capital. However, the recent formation in London of the Spanish Gold Syndicate, Limited, and the establishment in Madrid of the company *El Oro Español*, with a capital of 2,000,000 pesetas (\$386,000) in 80,000 shares of 25 pesetas (\$4.825) each to work some 945 acres of alluvial ground in Galicia, and to assay a minimum of 2 grams of gold to the ton of 1,000 kilograms, evidently prove that an interest is being awakened with regard to the future prosperity of gold mining in this country.

JULIO HARMONY,

CORUNNA, *October 11, 1896.*

Consul.

FAN INDUSTRY OF VALENCIA.

In one of my previous reports, I pointed out the importance of the fan industry in Valencia.* I have mentioned how this work was not only separated into manufacturers of the fan handles and painters of the fan cloth, but that these two distinct branches of industry are split up among numerous small and independent workmen, who compete with each other in cheap labor. With the exception of three or four establishments which might be styled factories, the others, some six in number, established in garrets, work with but few hands, thereby saving expenses and at the same time creating a competition which has finally reduced the profits of the entire industry to a very low level.

However, this industry has at present the prospect of better times, since the workmen employed upon the manufacture of fans have more work to do than they can fill, and able hands for special labor are scarce.

Ever since the introduction of the Japanese fan into Europe, the Valencian industry has suffered greatly, but the turn of the tide seems to have set

* Printed in CONSULAR REPORTS No. 164 (May, 1894), p. 55.

in now with the change of taste for a more artistic fan, particularly as to the frame. The fashion of the coming season is a small-sized fan. The bars are made of ebony, olive, sandal, or violet wood, and also of bone from horses or cattle, which are beautifully bleached and neatly carved. The sticks are carved by machinery, and some very elaborate work is produced. The covering is of silk or cotton gauze, and painted by artists of more or less skill. The designs this year are in the "rococo" style, and the paintings are done in the same fashion, or they are covered with bright little round or star-shaped metal spangles in different colors.

The cheap labor of the Spanish workman, combined with a rare natural ability in carving, have raised the reputation of Valencia's fan industry to such a degree that there is now no importation of fans, but they are exported from here to the principal fan-trading centers, such as Paris, Vienna, and Milan, to such an extent that incoming orders can not be filled at once. Besides, Spain is supplied with fans from here.

Although immense numbers of very artistically carved fans are finished daily, the work on the fans is distributed among many, each performing a small part of labor on them, so that a finished fan has, according to the ornamentation it contains, often passed through fifteen different hands. Through this division of labor, more work can be done and the workmen become in time more skillful in their different branches.

The fashion and taste of the best patterns originate in Paris; however, the Valencians possess such a Japanese-like ability of copying that they can imitate any costly article in this line at a considerably cheaper price; hence the importance of their products, which, in complete and deceiving imitation of the better and costlier qualities, are brought within the reach of the majority of the public who could not afford to buy a more expensive novelty, but nevertheless like to keep up with fashion.

As long as the taste for carved fans lasts and elaborate and well-finished work can be produced cheaper here, Valencia's fan industry is guaranteed; moreover, the depreciated value of the Spanish money yields the foreign importer of Spanish fans nearly 20 per cent extra profit.

Fan sticks in wood or bone, carved, painted, and ornamented, vary in prices from 75 cents to \$20 per dozen. The painted cloth or embroidered with spangles costs, ready folded, from \$2 to \$10 per dozen, according to work and material. Thus the work of the real fan dealer is reduced to putting the two parts together and presenting them in the market for sale at a handsome profit, in spite of the large competition.

This report refers only to the middle and better qualities of fans; the cheap paper fans on ordinary wood and ornamented with chromos are not included.

THEODOR MERTENS;
Consular Agent.

GRAO, *August 15, 1896.*

SHERRY WINE INDUSTRY OF SPAIN.

On two previous occasions (CONSULAR REPORTS for August and November, 1894), I have referred to the terrible scourge, phylloxera, which threatens the existence of the vines on the favored hills around the town of Jeres, the district which, from time immemorial, has produced the wine known as sherry. The production of sherry and its shipment was indeed an old-established trade in the time of Shakespeare, as may be seen from his numerous allusions to it, or "sack," as it was then termed, and there is no doubt that it was at that time the most popular wine in England, though it is supposed to have been very sweet.

The output of sherry represents the chief item in the exports from the port of Cadiz, as the cultivation, the growth, and rearing of the vine does the staple industry of the province.

The vineyards on the white Jeres hills have given the wine drinkers of northern Europe for many generations their first favorite, but the lower plains of sandy soils have produced wine adding nothing to the luster or reputation of sherry, although it has found ready buyers in all countries, the United States included, on account of its low price and substantial body. The tendency of modern times to bring prices to low levels, the keen competition, the modern craze for the cheap, have thrown wines of inferior Jeres origin and other districts (not sherry proper) into foreign markets, that of the United States among the rest, under the same name and description as good sherry.

It is, in my opinion, the confusion existing between the good sherry and the cheap which has prevented the further development of the trade with Cadiz in our country. Good sherry only comes from a certain number of acres of white soil (albariza). The nature of this soil and the antiquity of the vine growing on it prevents any large yield per acre (the average quantity is about 300 gallons). The wine is subject to greater vicissitudes of fermentation than others, so that a considerable percentage is always lost; it costs also much more to cultivate than land yielding double the quantity of inferior wine. Besides all this, it requires longer storage to reach maturity. The sherries of low grades and prices are grown at a cheaper rate.

Nature appears to have set her limits and laws so definitely in the matter of vine growing that no skill or art in man has yet succeeded in producing fine wine from uncongenial soil; however similar the fruit may be, the result in the development is always the same, the birthright ever manifest.

There are four kinds of soil bearing grapes in the district of Jeres:

(1) The albariza (the choice vineyards), consisting chiefly of carbonate of lime, with a small admixture of silex clay and occasionally magnesia.

(2) The barros, of quartz or sand mixed with clay and red or yellow ocher, forming horizontal bands extending from the mouth of the Guadalquivir to Conil.

(3) The arenas, quartz or sand.

(4) The bugeo, containing argillaceous loam, sand, and a large proportion of vegetable mold.

The first named is the soil (about 12,000 acres) producing the fine quality, and its average yield is 36,000 butts per annum.

In addition to the land yielding fine wine in Jeres, there is also a cluster of vineyards in Montilla (some 100 miles distant), which produces a famous wine called Moriles, which equals, in all respects, the best wines of Jeres.

In nearly all the wine-growing districts, there are sections which produce large quantities of grapes available for cheap wines, the price of the grapes being so low that there would be no temptation to seek any substitute with a view of adulteration.

Viticulture abstracts from the soil a smaller proportion of alkalies and other numerous constituents than either corn or root crops, hence the exhaustion of the soil is slower and the vine can be cultivated on land incapable of yielding any other crop.

All sherries in a natural state are quite dry—that is, the fermentation has removed all trace of sugar—and in this dry state the wines are allowed to mature in the growers' cellars; but the actual demand, out of Spain, for absolutely dry wine is limited. Public taste demands a slight admixture of Pedro Ximenes, or sweet wine; this addition of sweet wine varies from 1 to 10 per cent.

The vineyards during the winter months present a dreary appearance of long rows of twisted, gnarled stumps; but what a contrast in the spring and summer—everything becomes a mass of green. All through the winter and early spring the vineyard is carefully attended to, the earth round each vine kept thoroughly moved and soft. These vines grow out laterally and not upwards, hence they soon interlace with one another and hide the ground.

The vintage takes place in September. The grapes are put into "lagares" (wine presses), of which there is one in each vineyard, and pressed. These lagares are a species of wide trough, rather larger than a billiard table, but with high sides, and the juice runs out at the corner or corners into casks placed beneath. The fermentation, usually of a tumultuous nature, commences immediately, and in this state the wines are brought from the vineyards to the cooler bodegas of Jeres, where the fermentation is allowed complete freedom. By the beginning of March, this is finished and the process of racking from the lees takes place. The contents of each cask is kept distinct and separate, and each is left to develop its own characteristics. One of the most curious phenomena in œnology succeeds. Although the uniform produce of each vineyard is stored together, as time goes on there will be many varieties in what should be uniform quality, the conditions being precisely the same. There will be casks of first, second, third, and fourth merit, or even vinegar, so subtle and eccentric is the influence of fermentation in sherry. Chemists have devised systems to make a uniform quality of wine of a given crop of grapes, but in all cases they have failed, and the old plan of leaving the wine to itself is everywhere observed. The inequality of development is a matter of chance, of caprice in fermentation,

but from the natural separation of varieties starts the diversified group of sherries, known as finos, olorosos, amontillados, bastos, and rayas, and, according to their quality, each wine is given its valuation.

What is now *basto* started from the vineyard with the same chance as that which is now *amontillado*, but it has gone wrong in the race and is worth very little, while *amontillado* and *oloroso* are worth four times as much. *Raya* is only fair quality, and the *vinegar* is a total failure. This will explain the difference of prices even in an *albariza* vintage. Only a certain quantity even of the best crop reaches perfection.

As a rule, the course initiated by the young wine is continued to the end, the superior qualities developing according to early promise, inferior ones seldom improving their class with age.

When the vintages have remained sufficiently long for the qualities to be set and determined, which time may vary from five to ten years, the merchant masses together in different lots all the casks of each quality—that is, all the *amontillado* casks are blended together, all those casks containing *oloroso*, all those with *basto*, and so on. These lots, in their turn, are taken to the *almacenista's* bodega, or cellar, and blended with wines of similar quality, but older. These masses or large quantities of homogeneous wine are called *soleras*. The *soleras* existing in a shipping bodega may be called the pillars on which the reputation of the firm rests, as the uniformity of the shipper's exports can only be maintained by keeping up the *soleras* at a proper standard of age and excellence. The system observed in the shipment of sherry varies from that of all other wine. Here, there is never a selling out of any particular *solera*; only a small quantity proportionately is drawn for sale from a *solera*. The quantity thus drawn off is replaced by a wine of almost equal age and quality, so that the newly added wine merges with the larger bulk and the *solera* quickly recovers what it might have lost by the extraction of the old and the addition of a slightly younger wine.

A specialty made in *Jeres* is the *Pedro Ximenez*, a sweet wine from the grape of that name. It usually comes from the *albariza* vineyards. The grapes of this wine are dried in the sun, and when reduced nearly to the condition of raisins, are pressed and give a very sweet, dark wine; this, of course, is very expensive, as the grapes lose such a large percentage of their liquid. Thus, the quantity of *P. X.* grapes required to fill a butt would be six times as much as the quantity required of an ordinary grape.

Between the *soleras* of the exporter and the marks known to his customers there is the consequent connection. If the *soleras* are kept at the same standard of value, the wines taken by his client are, year after year, the same, the consumer relying on and expecting always his sherry to be the same, whereas, as with *claret* and other wines, he is content to accept varying quality and character according to the year.

With the exception of a limited export of wines shipped in a vintage form, good sherries are all matured in *soleras*. Many of these latter are of considerable age, a founding of fifty and one hundred years not being uncommon.

It is in the collection of soleras that the merits of a shipping firm are more clearly discerned, and it is a matter of considerable interest to a keen observer to pass from one solera to another and see with what care the quality and type of each is preserved from year to year. It is here the personal direction of the master is given, his individual taste impressed, in many cases some of the soleras having "criaderas," or, so to speak, nurseries.

This is particularly the case in fine sherries, in which a solera will have two or three criaderas, each more stylish and elegant than the last, until at length, almost imperceptibly, the standard of the solera is reached. The solera will be refreshed from criadera No. 1, No. 1 from No. 2, and so on. It must also be remembered that every butt of wine loses from 5 to 10 per cent a year in evaporation; thus a vintage of twenty years' age will have lost some 60 per cent of its contents, though as the wine gets older it gets more concentrated and loses less.

The stores, or bodegas, are in reality not cellars at all, but above-ground warehouses, large and cool stone buildings open to the inspection of visitors, and where a lesson in tasting is always available. To me it appears that nowhere does the wine drunk by Shakespeare and Cervantes taste better than in its native home. Whether it is that all fear of consequences is removed by the sight of the workmen engaged in them, who partake to the extent of an average of two bottles each day and are proverbially healthy, being free from gout and rheumatism, or that the climatic conditions favor the consumption of the wine of the country as is frequently the case, I know not. At all events, it is the wine consumed by high and low, and visitors are not long in falling into the popular taste. From personal experience, I must confess that any prejudice I had acquired from numerous interested writings against the wine have been removed, as I find good sherry is a sound, health-giving wine. Since my residence in Cadiz, I have been asked many times by American visitors whether genuine sherry was anywhere to be obtained; my invariable answer has been, most assuredly, by paying a fair price for it.

Sherries in large quantities are shipped to the United States, from the medium class to the highest qualities of indisputable origin and genuine growth. As it has been my duty to examine closely this important branch of business in my consular district, I have taken an interest in every stage of the industry, from the insect trouble, now affecting the vine, to the study and analysis of the wines in the export casks.

Although I am dealing with a subject of minor interest to the mass of my countrymen (the entire consumption of European wine representing only a fourth of a bottle per individual per annum), these facts may be of value to a section of our people—the wine growers, connoisseurs, and dealers.

There always exists a difficulty for the public in discriminating between the real thing and its imitation. The statement of the great writer on Spain, Richard Ford, still holds good: "Sherry is not less popular amongst us than Murillo, in spite of the numerous bad copies of the one, which are

passed off for undoubted originals, and butts of the other, which are sold neat as imported.”

It behooves all buyers of sherry to obtain their supply from wine dealers of reputation, many of whom are receiving the genuine sherry wines from here. Excellence in all things is achieved only by trouble and expense.

CHAS. L. ADAMS,

CADIZ, July 21, 1896.

Consul.

THE SALT INDUSTRY OF SPAIN.

The Spanish Government held the monopoly of salt until 1869, when its manufacture and sale were declared to be free. In the early part of this year, the Government planned to resume its former monopoly, but finally decided to increase in its estimates the consumer's tax on salt from 25 centimos* (4 cents) to 50 centimos (8 cents) per inhabitant, and to authorize the various local governments of towns and villages to exercise the exclusive right to sell, or grant the privilege of selling, salt, in order that the full amount of the estimate might be secured for the Government. The former tax of 9 centimos (1½ cents) per kilogram (2½ pounds) of salt has, therefore, been increased to 18 centimos (3 cents) per kilogram, except for salt to be used in industries and agriculture, which can be taxed only 12 centimos per 100 kilograms if black salt and only 25 centimos per 100 kilograms if white.

Spain is rich in salt, having many salt mines, fountains, and lakes. The mines of Cardona are particularly famous, owing to the fact that they penetrate an enormous rock of salt, without crevices or covering, and brilliant with many beautiful colors. Neither heat, frost, nor rains have visibly diminished its colossal proportions, nor do its immense and marvelous caverns afford one an adequate conception of its profundity. Next in importance are the salt mines of Minglanilla, Añaran, Poza, Valtierra, Pancorbo, Manuel, Villena, Vilalgordo, Monovar, Villarrubia, Onda, Sarrión, El Pinoso, La Rosa, Sariego, Villaviciosa, and Infesto. Then there are plants for obtaining salt from water by means of evaporation. These include Antequera, Cabizón, in Santander; Arros and Ojos Negros, in Aragon; Cienpuzuelos, in the province of Madrid; and San Pedro del Pinatar, in the province of Murcia.

The number and production of the Spanish mines are the following:

Provinces.	Num-ber.	Yearly pro-duction.	Provinces.	Num-ber.	Yearly pro-duction.
Alicante.....	2	\$114,000	Lerida.....	2	\$500
Almeria.....	2	33,000	Santander.....	5	600
Barcelona.....	1	8,000	Soria.....	2	2,000
Burgos.....	6	2,000	Teruel.....	4	2,000
Cuenca.....	3	9,000	Saragossa.....	15	4,000
Guadalajara.....	12	14,000	Total.....	55	190,100
Huesca.....	3	1,000			

* 100 centimos = 1 peseta = 16½ cents.

Moreover, there are 161 unproductive salt mines, making a total of 216 in all Spain, covering 2,789 hectares 81 areas.

In Salumera, there are 36 salt factories, which produced, in 1894, 12,987 tons of salt, valued at \$800,000. As comparisons are interesting, I may add that England produces two and a half times as much salt as Spain, and Russia one and a half times, and that Spain produces one-third more than France.

HERBERT W. BOWEN,

BARCELONA, *October 10, 1896.*

Consul-General.

TIMBER RESOURCES OF SPAIN.

But little attention is paid in Spain to the cultivation and care of forests, although they are sorely needed in almost every province, not only to supply the requirements of commerce and trade, but also to adorn the landscape, to invigorate the soil, and to preserve the crops from the devastations of droughts and floods. As a rule, such forests as do exist in Spain are remote from the littoral towns and cities, and they are therefore of comparatively small value, except as fuel for local purposes, inasmuch as the railway facilities for transportation are small and the freights are high. Rich as Spain is in nature's gifts, she will always remain undeveloped so long as she fails to bring the productive regions of her soil into rapid and cheap communication with her cities and towns and with the rest of the world. A country in which the trains run only 15 or 20 miles an hour can never compete with a country in which they run 30 or 40 miles an hour; nor can a country in which the freight rates are practically prohibitive compete in her own littoral markets with countries that can ship to them produce and goods at easy and advantageous rates. The distance from Barcelona to the French frontier is 103 miles. To cover that distance, it takes the express train nearly six hours; that is to say, the train goes at the rate of about 17 miles an hour, and Barcelona, be it remembered, is the largest port of Spain. Furthermore, it costs more to bring goods from Saragossa (about 200 miles from Barcelona) than by ship from England. If ever Spain realizes the importance of rapid transit, there is absolutely no reason why she should not take a good position among the wealthy and prosperous nations of the world. The wealth she has always derived from her colonies has made her indifferent to the wealth that work and intelligence could secure from her own soil, and she will doubtless remain indifferent until she is forced by necessity to become introspective and develop her peninsular resources. She will then be able to cut down her importations very materially, especially those of minerals, cereals, and wood. Her importations of wood amount now to about \$7,000,000 annually. Of that sum, \$2,500,000 are paid for staves, most of which come from the United States. The remaining \$4,500,000 are employed in the purchase of pine from Finland, Sweden, and the United States; fir from Canada, beech from Hungary, elm from Austria, mahogany from Mexico,

walnut from Italy, and from the storehouses in Havre, Bordeaux, and Marseilles considerable quantities of cedar, ebony, and sandal wood.

That a great variety of trees can be easily grown in Spain may be inferred from the fact that the following species are to be found here and are apparently thriving:

The palmetto (el palmito), found in Andalusia, Murcia, Valencia, and Catalonia.

The spruce fir tree (pinabete), a tree very common in France and Germany and very useful in building, is found in Spain in only Aragon and Catalonia.

The pine (pino) is of six kinds in Spain—el pino piñonero, used in naval construction and in carpenter work, and quite abundant in Andalusia and Castile; el pino silvestre, which grows to a height of 90 feet and is seen in the north and west of Spain; el pino negro, a wood easily polished, growing in the north of Aragon and Catalonia; el pino negral de Cuenca, which grows in nearly all the mountainous regions of Spain; el pino carrasco, which is not so tall as the other kinds, and which makes good boards, being found principally in Murcia and Valencia, and also in Catalonia and Aragon; and el pino negral de Segovia, a dark pine, very common throughout the peninsula, but not very strong nor elastic.

The elm tree is of two kinds—*Ulmus campestris* and *Ulmus montana*—and is seen in many parts of Spain in valleys and near rivers and in the promenades of some cities. The wood is hard and elastic and is used in making carts and machinery.

The white poplar (alamo blanco), a very common tree in all parts of Spain and much used by carpenters.

The yew tree (el tejo), hard and compact, and found in Sierra Nevada, in the Pyrenees, and in Asturias. It is used by ebonists and turners.

The black poplar tree (chopo), light in weight and serviceable as poles and handles and in the manufacture of paper. This is one of the few trees that are cultivated in Spain.

The beech tree (haya), which grows to a height of 120 feet and forms large forests in the mountains of Navarre, Asturias, Logroño, Leon, and Santander, and grows in Burgos, Saragossa, Lerida, and Vizcaya.

The chestnut (el castaño) is useful in making staves, boards, doors, and windows. It is seen chiefly in Galicia, Asturias, Santander, Vazcongadas, and Catalonia.

The oak (el robla) grows in every province of Spain, and is a favorite for naval work, machinery, furniture, carts, casks, and barrels.

The cork tree (el alcornoque) is a great source of wealth to Spain, and forms large forests in Gerona, and is abundant in Cordova, Algeciras, Tarifa, Malaga, and Estremadura. As the forests of Gerona are near the coast, immense quantities are easily exported from there. During the year 1895 the exportations to the United States alone amounted to \$305,884.90 from Gerona and to \$208,015 from the other cork districts of Spain. Some of the

forests are natural and some are cultivated ; all thrive equally, and are probably the finest in the world of their kind.

The evergreen oak (*encina*) is also a very common tree in nearly all the provinces of Spain. Its wood is hard, compact, and strong, and is used in small piecework.

The birch tree (*abadul*), although ordinarily found in cold climates, grows well in the Pyrenees and is seen as far south as Madrid. The wood is used for domestic utensils, and its branches make good hoops for casks and barrels, as does also the wood of the hazelnut tree (*avellano*), which flourishes on the eastern coast of Spain.

Wood that can be easily polished is also found in the various provinces of Spain, such, for instance, as the walnut (*nogal*), juniper (*enebro*), white mulberry (*la morera*), wild olive (*acebuche*), and the pear tree (*peral*), the apple tree (*manzana*), the orange tree (*naranjo*), the almond tree (*almendro*), and the lemon tree (*limonero*).

As yet no great efforts have been made to test the eucalyptus tree in Spain ; but there are some fine specimens of the globulus species in Catalonia, and also, I hear, in Malaga.

France is the only continental nation that seems to attach sufficient importance to the advantages to be derived from the cultivation of trees, and her experiments with the eucalyptus have already attracted some attention here, and seem destined to encourage the Spanish people to take a livelier interest in enriching and beautifying the vast tracts of their territory that are as bare of foliage as are "the lone and level sands."

HERBERT W. BOWEN,

BARCELONA, *November 15, 1896.*

Consul-General.

ALMERIA GRAPE CROP OF 1896.

The shipment of this year's crop of grapes at Almeria Malaga having ceased, I have the honor to transmit the following report in reference thereto, with a comparative table showing the amount exported for the years 1895-96, which has been compiled from statistics published in the *Gaceta Minera y Agricola*, of Almeria, dated the 2d instant :

The prices obtained for grapes in the New York market have not been high, due possibly to the poor condition in which the fruit is received; owing to the long ocean voyage. Fruit delivered in fair condition was sold at from \$3.50 to \$6.50 per barrel.

The London market proved satisfactory, good prices having been obtained. Certain special marks sold as high as 33s. per barrel; regular, from 13s. to 16s.; medium, from 10s. to 12s.; superior grades, from 17s. to 21s. The most ordinary did not fall below 8s.

The total crop is 562,000 whole barrels and 4,500 half barrels, as against 692,690 whole barrels and 8,234 half barrels last season.

The total shipments, crop of 1896, was 560,059 whole barrels and 4,183 half barrels, as against 629,965 whole barrels and 3,518 half barrels in 1895, or 69,906 whole barrels less and 665 half barrels more than in 1895.

R. M. BARTLEMAN,

MALAGA, *November 8, 1896.*

Consul.

Comparative table showing grapes exported from Almeria Malaga for the years 1895-96.

To—	Exports for season of 1896 (to Nov. 1).		Exports for season of 1895 (to Nov. 1).		Increase.		Decrease.	
	<i>Barrels.</i>	<i>Half bar.</i>	<i>Barrels.</i>	<i>Half bar.</i>	<i>Barrels.</i>	<i>Half bar.</i>	<i>Barrels.</i>	<i>Half bar.</i>
New York.....	140,738	25	119,008	472	21,730	.....	.....	447
Liverpool.....	161,492	1,133	272,758	2,208	.....	.....	111,266	1,075
London.....	139,892	1,154	139,198	237	694	917	.....	.....
Glasgow.....	62,529	393	53,270	94	9,259	299	.....	.....
Hull.....	34,091	166	23,843	253	10,248	.....	.....	87
Manchester.....	986	.....	2,755	.....	.....	.....	1,769	.....
Bristol.....	7,433	16	12,459	36	.....	.....	5,026	20
Hamburg.....	4,921	.....	.....	.....	4,921	.....	.....	.....
St. Petersburg.....	7,456	304	5,385	83	2,071	221	.....	.....

COAL TRADE OF GIBRALTAR.

The private sales of coal at Gibraltar during the year 1896 have reached 257,621 tons, a decrease of 12,454 tons as compared with the year 1895. This decrease is due not only to the very keen competition this port has to sustain with Malta and Algiers, but also to the low rates of freight for the Black Sea and Levant ports during a part of 1896, which induced owners of steamers, instead of filling up their vessels completely with cargo, to allot sufficient space for carrying a supply of coals for the wants of the outward and homeward voyages.

The loading ports in the Black Sea and the Mediterranean have of late years established coaling depots, so that steamers can do their bunkering before sailing, whereby a considerable amount of time is economized. And a not less important factor is the improvements which are daily being carried out in steam engines, enabling vessels bound to the far East to proceed from Great Britain and the Continent direct to Port Said without coaling at any intermediate port.

HORATIO J. SPRAGUE,

GIBRALTAR, *January 6, 1897.*

Consul.

BICYCLE TRADE IN ITALY.

This consular district is one of the largest regions in superficial area of the Italian peninsula, and is covered with a network of highways that offer marked advantages to the cyclist; they are magnificently built, macadamized roads, tended with the utmost care, so that they are at all times in a remark-

ably favorable condition, despite the various changes in the weather. Forming a complete network of communication between the towns and villages of the region, they offer to the wheelman almost every variety of surface and scenery, from long, level ranges of flat land in the province of Venice, through gentle, slow undulations to the mountain district of the Dolomites and Carnic Alps.

The sport of cycling has profited by these many natural advantages, and its enthusiastic votaries are found in large and increasing numbers in all the provinces of this district, that is, Veneto Padua, Treviso, Rovigo, Belluno, Udine, Verona, and Mantua, and there exist at present about sixty establishments for the sale and hire of bicycles.

There are in this district twenty odd clubs or associations, all for the advancement of the sport, besides the Touring Club, so called, and the Unione Velocipedistica Italiana, both largely represented in this region. By way of giving a vague idea of the importance of bicycling here, it may be stated that there are approximately something like ten thousand bicycles in use at present.

There are in the region of Veneto three establishments for the manufacture of bicycles, but relatively of small importance.

In the entire Kingdom of Italy, there are ten bicycle factories, the two most noted and most patronized being Prinetti & Stucchi and Orio & Marchand, both houses established at Milan.

Italian factories turn out very fair work, but they are lacking in several important elements: First, the material used in construction; second, lack of necessary capital; third, the want of confidence on the part of the buyer. The material used comes in the main from abroad; hence an increase in cost, due to transportation and customs duty.

With the exception of one or two principal factories, there is great scarcity of capital, and, in consequence, it is extremely difficult to start a large, well-equipped factory and keep it in running order.

Finally, there seems to be a want of faith on the part of the people here in supporting a national industry of this sort, owing to the fact that the production of such establishments is extremely variable, and the name of a manufactory does not always guaranty the quality of the work produced. Then, too, the bicycle being an object placed in the category of luxuries, and used almost exclusively for amusement, the purchasers, in the main, are more prone to invest in a foreign article than in one produced in their own country, for the same reason that a fashionable woman prefers to have her gowns made in Paris rather than in Italy.

In the matter of price, the Italian machine ranges from \$70 to \$100. The Italian machine compares favorably with that made abroad. It may be noted, however, that it is slightly heavier (from 4 to 6 pounds) than the English bicycle. At the same time, it must be remembered that the Italian peninsula is, in large part, mountainous, and for general use here it is not a disadvantage to employ a machine slightly heavier and more solidly constructed

than those destined to be used in cities and level country. It may be roughly stated that about four-fifths of the bicycles used in Italy are of foreign make, being chiefly English or German, the former excelling in finish and the latter being superior in strength and solidity. The prices of these machines range from \$60 to \$130, the general opinion among wheelmen, however, being that a good machine can not be had for less than \$90.

The prospect for opening up a large export trade to this place in American bicycles is, in my opinion, most favorable, for the following principal reasons: First, bicycling here is in its first stages, and it is destined to increase enormously in the future; second, almost any novelty placed upon the Italian market, if well and judiciously advertised, stands every chance of being a pronounced success, the field being unexplored, because as yet no American house has made any vigorous effort to introduce successfully its products; third, the bicycle being, as before mentioned, rather an article of luxury than of necessity, the cycling class seems hardly satisfied with the European product, and much prefer using machines of American make.

The only obstacle at present worthy of notice to the successful introduction of the American bicycle is its high cost. Were it not for the fact that it is the highest-priced machine in the market, there is no question but that it would be universally adopted to the exclusion of all others. Then, too, American houses often retard rather than advance their chances for extending the trade by an injudicious selection of their Italian agents, in the choice of whom the utmost care should be exercised, in order to avoid selecting men of incompetency and no knowledge of commercial matters and whose financial standing in the community in which they live is not satisfactory.

As yet, in Italy, women have not taken very enthusiastically to bicycling, but the interest taken by them in this district is daily increasing, especially those who aspire to a position in the fashionable world, as it seems to be considered quite the proper thing and in excellent "form" for a woman of a "smart set" to be an expert bicyclist. With Italian women in general, there seems to be a strong, deep-seated, traditional prejudice against all forms of athletic sports, and it will be some time before that prejudice can be done away with; but it is undoubtedly a fact that the bicycle has been a most active agent in encouraging them to abandon such prejudices and to take up athletic sports in the interests of their physical well-being as well as for their diversion. It may be stated approximately that at present, in Italy, only 5 per cent of the people using bicycles are women.

I would suggest for the Italian trade that three different classes of bicycles be made—first, a machine very highly finished, with nicked and gilded mountings, something which should be very showy and which would retail for not more than 600 francs (\$115.80); second, a good machine, less elaborate, but well finished, that would sell for not more than 450 francs (\$86.85); third, a simple but strong machine, what might be called a popular type, that could be purchased for 300 francs (\$57.90). These prices, of course, being the retail cost here in Italy.

To diminish the expenses of the custom-house duties it would be a good plan to establish a workshop in northern Italy for putting the parts together, or mounting the bicycle, as it is called here, its component parts being shipped unmounted from the United States. This suggestion, I think, is well worth the consideration of our manufacturers, as by sending the machines over unmounted, the customs duty is reduced to a minimum. Skilled labor, it may be added, costs, comparatively speaking, about one-fourth of what it does with us.

It would be well to open a general agency in Milan, the commercial capital of Italy, where active and energetic agents could be found acquainted with the American methods of doing business, and subagencies in the various cities and towns throughout the Kingdom.

These agencies and subagencies might be obliged by contract to buy a stated number of bicycles yearly, the number being proportionate in a measure to the inhabitants of the place—that is, in the principal cities and larger towns. In the smaller country villages, very good agents could be found among the municipal secretaries and teachers of the communal schools who, as a rule, are enthusiastic cyclists. For the promise of a bicycle for a given number of sales effected, they would be very ready to act as agents.

The sending out of a traveling inspector would be highly advantageous, a man who could be presented in the various clubs, who could become acquainted with journalists, and who would go about the country stopping at the principal centers of cycling, become acquainted with those chiefly interested in the sport, organize bicycle jaunts, and exercise his ingenuity in every way that would tend to keep up a lively interest in the sport. It would require rather a judicious selection to hit on just the right man, who ought to be a person of good education and more or less reputation in the sporting world, and it would be well to leave to him the appointing of the great majority of agents and the general management of more important advertising. It would be highly desirable to allow a large commission to dealers selling bicycles here and to advertise on a large scale, a thing which, as yet, has not been done in Italy, and to offer special facilities to the members of the two large clubs—the Touring Club and the Unione Velocipedistica.

With the bicycles it would be well to adopt the same plan which has worked so successfully in the case of the sewing machines—that is, selling on credit and allowing the purchaser to pay in weekly installments.

I am firmly convinced that if the suggestions offered are carried out, and the appointment of agents of ability and energy is made, and widespread but judicious advertising is undertaken, the exports of American bicycles in this district can be largely increased. No more auspicious moment than the present could be chosen. The people are ready for the American bicycle; the only thing that will prevent its universal use is its price, and our manufacturers who are seeking to develop an export trade must be ready to reduce their profit on the individual machine.

I would also further suggest that all advertising matter in the shape of books or pamphlets be printed in the Italian language, or at least in French,

because, as I have had frequent occasion to remark in reply to letters from individual firms, the sending over of advertising matter in the English language is a sheer waste of time and money.

As to the method of payment, it is altogether out of the question to demand that purchasers here send cash with the order. No commercial house in Italy transacts its business in that way and those desiring to introduce their merchandise into Italy must show a disposition to conform in a measure to the commercial usages and customs of the country.

It has been suggested to me that American houses should make a deposit of their wares here, each article to be paid for upon its being sold, which method, it seems to me, might prove satisfactory, as there could be various plans invented for guarantying the deposit and preventing frauds in the case of unscrupulous dealers. This disposition to abide by the commercial laws and customs of the country and to study the wants of the buyers is the element which goes far toward giving that large amount of success which the German exporter enjoys in comparison with his American rival, and until our people adopt a similar plan, the advantage will always remain with their competitors.

It is incumbent upon me to acknowledge with thanks the valuable assistance of Mr. Ernest Jesurum in preparing the foregoing. This gentleman is consul at Venice of the Italian Touring Club, and those desiring to develop their trade in this district might find it advantageous to correspond with him.

H. A. JOHNSON,
Consul.

VENICE, *December 29, 1896.*

RUSSIAN PETROLEUM IN GERMANY.

Despite the very favorable concessions made to Russian petroleum in the German-Russian commercial treaty of 1891, the signing of which was one of the first official acts of Count Caprivi, and notwithstanding the later reductions of railroad freight for the same interest, Russian petroleum exporters in Germany have as yet not been able to claim any great success in their contest with the Standard Oil Company of the United States, although the fact exists that in 1895 the sale of Russian petroleum in Germany had somewhat increased and that, too, at the expense of American importations for the same year. However, the current year shows a considerable decline in the quantities of Russian petroleum consumed. The importations of petroleum from the United States and Russia into Germany during the last three years are shown by the following quotations of quantities:

Year.	From the United States.	From Russia.
	<i>Double cwt.*</i>	<i>Double cwt.*</i>
1893.....	7,222,971	323,842
1894.....	7,574,139	232,091
1895.....	7,492,577	550,783

* 1 double cwt. = 220.46 pounds.

In the first nine months of 1896, 288,843 double cwts. of petroleum have come into Germany from Russia, against 333,694 double cwts. in the same space of time during 1895, as compared with 4,642,842 double cwts., against 4,476,268 double cwts. from the United States, in the same periods of time. As the largest importations of petroleum occur in the three months of October, November, and December, no exact conclusion can be reached from the quoted quantities as above given. Still, the fact is most evident that notwithstanding the efforts of Russian exporters and their German agents to advance the sale of Russian petroleum and gain the German market, and considering that the Russian product is considerably cheaper than the American, the Russian exporting dealers find the road to success in establishing a great demand for their petroleum a most difficult problem. Their failure may be traced to a comparison of their own barnacle-like methods of introducing the Russian oil among consumers with the push and enterprise of the Standard Oil Company's management, which keeps an army of agents in Germany, constantly alert and active, who not only interview and make arrangements with wholesale firms, but also with retailers, in the face of certain granted advantages to sell only the American product. Therefore, in view of this reality, representatives of the Russian Government at Bremen and Hamburg, in accordance with suggestions to them from Germans interested, advise the Russian petroleum exporters to make similar and immediate plans for promoting the sale of Russian petroleum in Germany. Otherwise, instead of the much-sought-for greater market, their interests are in danger of decrease.

The preference shown in Germany for American petroleum may in part be explained by the circumstance of the superiority of the lamp oil burner, which is especially constructed for the use of American petroleum and gives forth a very excellent, clear flame, aided as well by the large quantity of carbon contained in the American oil and its ready tendency to absorption in the wick; whereas the Russian lamp burner is narrow necked and can be used only for Russian oil, the very confined wick emitting a rather weak, unsatisfactory flame.

The Russian Government deputies have also made the suggestion to Russian exporters that care be exercised by them to see that lamp burners more suitable for Russian petroleum be procured and brought into the market, and, if necessary, an increased sale invited by making some sacrifices in their introduction; perhaps selling for half cost price would bring as a reward in compensation a great increase in demand for Russian petroleum, and thus make competition brisk for the American product. Our American agents will therefore have to continue alert and active, keeping a shrewd insight into affairs. This is why such good results in the past have been effected in international trade, and as an outcome, American exports have increased. It is really to this character of work and the well-organized forces and the individuals engaged that will be due, in a great measure, the future success of transatlantic enterprises. It would be well if other American manufac-

turers with large foreign interests would emulate and adopt the same active business methods. Their efforts would be amply rewarded by greater ultimate success and increased financial gain.

GEO. SAWTER,
Consul.

GLAUCHAU, *December 4, 1896.*

GAS AND PETROLEUM CONSUMPTION IN GERMANY.

When, a few years ago, electric lighting was shown to be a technical and economic possibility, many well-informed persons predicted that, as the use of electricity increased, the consumption of gas and petroleum for lighting purposes would proportionately diminish, and the ultimate ruin of gas interests, especially in the larger cities, was confidently foretold. Neither of these results has been realized, or now seems likely to be, at least in Germany.

The prophets of a dozen years ago could not, of course, foresee the improvements that would soon be made through the use of incandescent burners, nor the wide adoption of gas and petroleum engines and the greatly extended employment of gas for warming and culinary purposes. From official statistics, it appears that the consumption of gas in Germany during the year 1895 aggregated 733,000,000 cubic meters (25,884,900,000 cubic feet), for the production of which 2,750,000 tons of coal were employed. The number of gaslights in use was 5,734,672, the number of gas motors was 15,644, aggregating 52,000 horsepower, while the 180 electrical-lighting plants in the Empire supplied 950,000 lights of an average power of 16 candles each.

All the more important gas companies show a marked increase in product. The Frankfort City Company, for instance, made last year 5,600,000 cubic meters of gas, against 4,000,000 cubic meters in 1885, and the Berlin City Gas Company, 103,913,000 meters, against 74,337,000 meters per annum ten years ago, while the English Gas Company at Berlin shows a proportionate increase of product, notwithstanding the fact that electric lighting was begun on a practical basis in Berlin about the year 1885 and has reached a large development there.

All this might be ascribed to the rapid growth of the principal German cities and the tendency of the people to forsake the villages and smaller towns, where petroleum is mainly used for lighting purposes; but, on the other hand, the increased consumption of petroleum has been not less marked and steady during the same period. For instance, the imports of petroleum from 1866 to 1870 averaged annually about 70,436 tons, or, reckoning 7 barrels per ton, 493,052 barrels. From 1876 to 1880, the average annual import had risen to 235,280 tons, and from 1886 to 1890, 556,887

tons. During the period since 1890, the import of petroleum by years has been as follows:

Year.	Imports.	
	Tons.	Barrels.
1891.....	675,525	4,628,696
1892.....	743,433	5,204,031
1893.....	765,100	5,355,700
1894.....	785,102	5,495,714
1895.....	811,055	5,677,406

During all this period, the product of native petroleum from the wells in Silesia has shown a steady, although relatively unimportant, growth, having risen from 1,309 tons in 1880 to 15,620 tons in 1895.

Notwithstanding every effort of the importers, backed by the favorable influence of both the German and Russian governments, to increase the importation and use of Russian petroleum in this country, the American oil completely dominates the German market and, to all appearances, will continue to do so. A comparison of the imports of American and Russian petroleum into Germany during the past four years presents the following exhibit:

Year.	From United States.	From Russia.
	Barrels.	Barrels.
1892.....	4,017,904	325,192
1893.....	5,056,079	226,688
1894.....	5,301,898	162,463
1895.....	5,244,806	385,546

There is, perhaps, no more brilliant chapter in the record of mechanical progress than that which records the successive inventions by which the efficiency of gas motors has been raised, step by step, to the high economic standard which rules to-day. The first recorded tests in this field were made by Tresca in March, 1871, who, with the primitive Lenoir motor, the first of the so-called "internal-combustion" engines that was applied to actual work, found that its efficiency, with a combustion of 96 cubic feet of gas, was but 0.04 per cent. In our day, there are hundreds of gas engines which, with a consumption of 16 to 18 feet of gas per horsepower hour, yield a mechanical efficiency of 80 to 85 per cent, thus equaling steam engines of the very highest and most perfected type.

In the block stations of the City Electrical Works at Frankfort, there are now at work two single-cylinder gas engines of 35 horsepower each, built by Gebrüder Körting, near Hanover. These machines have been subjected to the most exhaustive tests for the purpose of establishing the latest and highest standard of efficiency upon which to base comparisons, with the result that the gas consumption per horsepower hour is as low as 17.23 cubic feet with gas at 64° F. and 16.81 feet with gas at freezing point (32° F.).

In addition to their greater economy in fuel, as compared with steam engines, these motors have the important advantages of occupying small space; direct coupling, with elimination of belts and gearing; smaller circumferential speed of armatures; the avoidance of feed-water apparatus; coal storage, with its dirt and smoke; and the greater general readiness of the whole plant for any emergency which may arise from the varying requirements of currents produced.

In a country where every detail of engineering and mechanics is so carefully studied as in Germany, especially in all that relates to the economy of service, it is certainly of the highest significance that, in electric lighting, the best German experts now give their unqualified verdict in favor of the "block system"—that is, to small independent stations, worked by gas engines, instead of large central stations, with dynamos driven by steam.

FRANK H. MASON,

FRANKFORT, *November 2, 1896.*

Consul-General.

PATTERN DRAWING AND DESIGNING IN GERMANY.

Of vast importance to enterprising America in promoting her textile industries is the example of rapid progress made in recent years by Germany in pattern drawing and designing. France has long borne the palm of superior merit in these particular branches, leading the world unrivaled for years and years back; but Germany's rapid strides of late years bid fair to make her in the near future a most formidable rival of France in designing and pattern drawing for textile fabrics. It would seem that America, with all the spirit of alertness, activity, and practical inclination which characterizes her people, has been slow in adapting a system of art which is such an important feature in the demands of her great and ever-growing industries. Thirty years ago, it is said, designers or pattern sketchers were almost unknown in the German Empire. Since then, branching out from the German technical schools, whose excellent systems of instruction are everywhere recognized and conceded to be superior in qualifying pupils for all kinds of professions or trades, pattern drawing has been pursued with most satisfactory results to the present day. Of late years, the rush of young men to this branch of art designing and pattern drawing as a profession has extraordinarily increased. In the Royal Industrial Art School at Plauen, in Vogtland, which city is the main center of the embroidery and curtain industry, about two hundred young apprentices in designing annually finish their course. There are other large schools established in various parts of Germany, the principal ones being situated at Dresden, Berlin, and Crefeld.

Three ways are open to every young man desiring to attain an education in pattern drawing and designing, viz: He can either bind himself for a certain length of time as apprentice to an independent designer, who sells his pupils' sketches at discretion to manufacturers; or he enters the workshop of a

manufacturer, who places the apprentice in charge of one of his draftsmen until the apprentice becomes a full-fledged designer, when he gains promotion according to his own ability and originality of idea; and, lastly, a young applicant having means may attend one of the academies of fine arts established by the State, where the highest proficiency is to be obtained. Here, pupils are thoroughly qualified according to the methods of the best teachers, whose instructions are most effectively and systematically carried out.

Of late, city communities have also spent large sums of money in establishing schools for pattern drawing. At the Academy of Fine Arts in Barmen a department for the education of designers is about to be established by the State, and a prominent expert designer from Saxony, well skilled in the education of draftsmen for the textile trade, has been especially engaged as principal teacher of the school. This is what is needed in America—schools adapted to the local wants of American industries; schools which are modern and which offer collections always accessible to apprentices and young designers; and schools not only attaining academic prominence, but also keeping pace with the demands of art at the present time. It was principally those magnificent schools, collections, and State workshops which the far-seeing Colbert established in the seventeenth century in France, and which are now distributed all over that country and abundantly sustained, that have brought the French textile industry up to its present unrivaled standard of excellence. Pattern drawings from the Lyons Academy of Design, in their superior and artistic idea of the language of forms and flower designing, have taken first place among all designs, and have, by their beauty of conception and originality, largely influenced for years, everywhere, pattern designing for textiles and designs for decorating.

The great rush of recent years to the profession of designing has caused no end of serious protest and complaint from the present corps of skilled representatives of this branch of pattern designing in Germany; because, as in every field of industry, extensive competition has a tendency to reduce the standard of a profession through lack of time to properly acquire careful and expert workmanship. On this account, much indignation has been directed against the academies of fine arts, and wrongfully, since only the smallest percentage of designers are graduated from these academies. The larger number of late designers, so-called finished, are trained in the workshops of manufacturers or independent designers, which turn out many apprentices with educations still sadly in need of further experience and practice.

The Union of Manufacturers at Plauen, in common with expert designers of that city, realizing this drawback to the future of skilled pattern drawers and designers, have unanimously voted to exert every effort to bring about a better and more thorough teaching of apprentices, or otherwise to entirely put an end to the system of private apprenticeships or workshop methods, thereby promoting the interest of learners and upholding a high standard for the future of the pattern-drawing art. America needs more academies where

proficiency in this art of pattern drawing and designing can be attained on the principle of the Royal Academy of Fine Arts and Trades in Dresden or in Plauen, as explained, as well as more preparatory schools, exclusively devoted to this and all branches of applied design.

GEORGE SAWTER,

GLAUCHAU, *December 16, 1896.*

Consul.

AMERICAN TRADE METHODS IN GERMANY.

This consulate and, in fact, all consulates in Germany are daily in receipt of letters from American manufacturers and business houses, many of them inclosing circulars and catalogues, printed in English, and some in Spanish, requesting consuls to send them names of manufacturers and dealers here. Some of them even go so far as to request the consuls to personally represent their houses here, and offer a commission on all goods sold by them. Others ask us to select a good, reliable agent for them, and really expect us to be able to do so on the strength of their letters, circulars, and catalogues. We can not do this, nor could they themselves. Of course, we reply to all such letters and offer our advice and suggestions as to what we consider the best method for them to adopt to get a start and foothold here, but I think a statement issued by the Department of State and published in our newspapers in America would be a most beneficial and effective method of reaching those parties interested in doing, or desiring to do, business in this country.

In my opinion, there is only one way for our merchants to establish a trade or do business in Germany, and I write to all who inquire of me that circulars, catalogues, and letters to consuls is money thrown away. Consuls are perfectly willing to do anything in their power to forward the interests of their countrymen and to help them in any way in their power, but if Americans want to do business in Germany, they must sell directly to the merchants and dealers and not through agents, brokers, and commission men at the seaports, so that our products shall reach the consumer in better shape, give the satisfaction due to their merits, command a good price, and do away with the criticisms they are now so often subject to, such as being stale, dry, old, etc. If our merchants will take hold of the European trade in the right way, or, to be more explicit, in an American way, as they do business in America, bring themselves either personally or through their representatives into direct contact with their customers, bring or send over their samples, and do one-fifth of the advertising they do at home, I am satisfied the results will prove satisfactory.

A great many American houses have agents at the seaport towns or send their goods there to brokers and commission men. This method, of course, increases the price on all articles sold to dealers, buyers, and consumers throughout the country, and, besides, the manufacturer himself, or through

his representatives, never comes into contact with the people with whom he is doing business. This is a great mistake; they do not do business in this way in the United States, and I am at a loss to understand why they should expect to meet with any success in this country by this method. The Germans thoroughly understand how to get trade in a foreign country, and their plan of action is what I have endeavored to make plain. If our people will follow this plan, I have no doubt they will meet with success and be satisfied with the results. But whether this country will permit them to hold the trade once obtained is a serious and vital question. That the Germans will throw all kinds of obstacles in the way, there is not the slightest question. They will first commence by raising the tariff, and if that does not suffice, they will adopt other methods. They have done this so often that we always look forward to it and are seldom, if ever, disappointed.

Germans are for Germany, and Germany is for the Germans. Protection for home products is their watchword. They are perfectly willing to spread out in every country in the world with their products, but they want none here but their own. They want our dollars, "silver or gold," but they do not want us to have any of theirs.

PERRY BARTHOLOW,

MAYENCE, *December 16, 1896.*

Consul.

AMERICAN WARES IN GERMANY.

I inclose herewith a translation of an article entitled "American wares in Germany," which was published in the *Deutsche Warte* in its issue of November 20, 1896. It may be of some interest to the Department and to our manufacturers.

From information I have lately gathered, it would seem that we should, with competent agents, be able to do a good business in cheese, if it is of the best quality and all the ingredients beyond doubt; furniture, if the German agent does not ask prohibitive prices, as some are doing on roller-top desks, for which they ask 280 marks (\$66.64) when the desks cost but \$20 in New York and should be offered here at not more than 150 marks (\$35.70), which price would give the importer a good profit. I have received a suggestion that the office chairs should be packed with the desk and save much of the cost of freight. Certainly, chairs that sell in New York for \$3 and \$4, should be sold here for less than 70 and 80 marks (\$16.66 and \$19.04), and that is the price the importer is asking. My informant also suggests that the furniture should be imported unpolished, on account of a cheaper rate of duty on such goods.

Our merchants should have Americans as their agents and not trust their ventures to Germans. It is only natural that if the agent is handling goods of his own country he will give them the preference.

The article referred to is (translated) as follows :

AMERICAN WARES IN GERMANY.

It is known that the United States have caused much annoyance and vexation to the German exporters by their ever-changing customs policy, and that they have, with great eagerness, endeavored to secure new fields for the sale of their articles in Germany. These efforts have been crowned with success in the same measure that the exports of Germany to the United States have decreased.

The value of the goods exported from the United States to Germany amounted, in 1894, to \$92,357,163; in 1895, to \$92,053,753; and in 1896, to \$97,949,950.* (The report year begins on the 1st of July of every year, viz, 1896 from the 1st of July, 1895, to the 30th of June, 1896). The export of Germany to the United States amounted, in 1894, to \$94,240,833; in 1895, to \$81,014,065; while 1896 showed only an export of \$69,387,905.11.

From the United States "everything" is sent to Germany—china, feathers, yarn, thread, furs, glassware, hats, hides, hardware of all kinds, meerschaum, colors, paper, soap, shells, spice, sugar, toys, walkingsticks, wool, medicines, machines, leather, petroleum, bicycles, gloves, jewelry, wood (lumber) and articles of wood, articles of metal, goatskins, etc. They have also begun to export barley for breweries to Germany, and not without success. The import from there of barley amounted in former years to but a few hundred centners, while from January 1 to August of this year there was sold to Germany 267,799 double centners; formerly, Austria and Hungary, and, since 1894, Russia alone exported barley to Germany. There are also in Germany districts which raise excellent barley for breweries. The consequence will be (if the United States continue to send large supplies to the German market) the sinking of the price of barley, and hence wild competition.

The American dealers in flour have also said to themselves: "In Germany, they have money; there a good business can be done." While the speculators in 1891 only sold 3,221 double centners of ground production in Germany, they succeeded in 1895 in selling 46,998 double centners. Neither have they been inactive this year, as their import for the first eight months amount to 45,536 double centners, against 28,199 double centners† in the same period last year. In order to promote the export of flour, the Republican members of the Committee on Ways and Means have suggested to the House of Representatives a modification of the customs regulations and a return to the system of reciprocity; so a great danger is over our producers of meal.

The import of American dried fruit has increased in the same manner, and also that of American apples.

At the present time, particular attention is given in America to the cultivation of fruit. It is no wonder that the import in 1895 amounted to 52,624 double centners, against 21,339 in 1894. We think that there is hardly any need of mentioning that this year a great, far greater amount has been imported; in the first eight months, there were almost as many double centners as in the whole year of 1895, viz, 52,337. This should set us to thinking. Wine of American origin now comes in large supplies to the German market. In 1894, the import of wine amounted to 7,000 hectoliters; in 1895, to 12,000 hectoliters. The importation of American mixed wines especially advanced on account of the reduction of the duty of 10 marks.

America is avaricious, and for this reason she has commenced to sell horses to Germany. In former years, the number received was not more than ten, twenty, or thirty, and these

*The editor of the *Deutsche Warte* evidently underestimates German trade in the United States and overestimates American trade in Germany. Our imports from Germany in 1896 amounted to \$94,240,833, nearly all manufactures, while our export to Germany during the same year amounted to \$92,791,639, nearly all raw material; for instance, raw cotton amounted to \$41,750,000, and breadstuffs and provisions to about \$15,000,000 in our exports to Germany in 1896.

† Our exports of flour to Germany in 1896 amounted to only 190,844 barrels, valued at \$632,569. Holland took 664,435 barrels, valued at \$2,290,861, during the same year.

horses were for sporting purposes; but this has changed, for, since 1894-95, German dealers have purchased thousands of American horses. This fact is illustrated by the report of the American consul at Bremen, who estimates the horses imported from America into Germany from the beginning of 1895 to the spring of 1896 at ten thousand at least. They were chiefly work horses that fetched an average price of 850 marks each, *i. e.*, a total of 8,500,000 marks.

Dealers in Berlin, Bremen, and Hamburg make regular purchases of American horses and through their sale put enormous profits in their pockets. So great has the trade become that large freight steamers have been chartered for transportation of horses from America in lieu of the small steamers hitherto used.

Finally, we must say a word of the import of American butter, for it will give the German producer a headache.* In 1893, the United States exported to Germany only 430 centners; in 1894, this amount was increased to 5,968 centners, and in 1895, to 7,502 centners, and the import of 1895 has been surpassed in the first eight months of this year, for, according to official statistics, it amounts to 7,976 centners.

All these statements, which were taken from official records and carefully arranged, show a danger to Germany from the west, which should not be undervalued—a danger both to German industry and agriculture, and it would be a daring undertaking to repel it, considering our circumstances.

The only means of recovering the enormous sums that are going abroad and to America is in following the exhortation we have so often addressed to our German manufacturers—conquer new fields of trade in foreign countries.

THOS. WILLING PETERS,

PLAUE, *November 21, 1896.*

Consul.

GERMANY'S EXPORT METHODS.

Much has been written on the subject of the extension of our trade with Europe by officers of the consular service and valuable advice has been given by that body, which, if followed, would, by this time, have borne fruit.

The manufacturers of the United States, in a half-hearted way, through circulars, which are not even written in the language of the customer for whom they are intended, hope they will, by their written words and illustrated price lists, be able to compete with the pushing German or French traveler, who visits every small town in the district assigned to him with the samples of his wares, explains the construction of the machine or the utility of the article he represents, and in every other way known to an experienced salesman induces his customers to purchase.

Against this force, the American manufacturer places his circular; is it any wonder that he gets no trade?

What do our manufacturers do at home? Do they confine themselves to the issue of circulars to the American public? No. Our manufacturers, when they are seeking for trade, advertise in every paper that will reach their customers through advertisement agencies; they send their travelers

* In 1896, our exports of butter to Germany were valued at only \$140,000, while our exports of oleomargarine thereto amounted to \$1,775,454.

all over the country; they canvass every corner of the Republic; in fact, they do just as the German manufacturer does, but they do more of it and in a better manner, for they have learned by years of experience that they must do this if they wish to keep even with their competitors. Knowing this condition and the requirements of the trade and the way it is conducted in every manufacturing country of the world, is it not strange that our manufacturers should base their hopes of placing their articles on the markets of foreign countries through the medium of circulars alone, and circulars that are printed in a language that can not be understood by the very people for whom they are intended?

We have among our manufacturers some exceptions, some who understand that they can not build up their trade through circulars, who have boldly sent out their agents and gathered the fruit of trade, but they are few.

Let us turn from the methods adopted by our manufacturers to those prevalent in Germany. We will see that the circular, while it plays its part, is but the smallest of the agents used in the development of trade. Their agents cover the whole world with their sample cases; they study, not how to force what Germany thinks the people should purchase, but what the people of the various countries want; tastes are consulted as well as the wishes of the people; the conditions of purchase are modified to conform to the wishes and customs of the country in which the agent is. When we consider all these facts, there is no need to wonder at the rapid advance of Germany or of her trade covering the globe.

One of the great forces employed in spreading German trade are their export associations—cooperative societies formed by the manufacturers of the country, each member paying his yearly proportion of the cost. These associations have travelers who cover every country of the globe, and each traveler has his special article. It is the duty of these travelers to study the requirements of the people of the various countries, to purchase samples of the manufacture of the foreign nations, report from time to time to the home office and forward his collection of samples. With their prices, these samples are formed into collections for the benefit of the members of the association. Thus they see what other countries are manufacturing and the price of manufacture; they then can judge the possibility of competition.

Not only do the agents of the association do this for the manufacturers, but they do more; they bring back new ideas which give a fresh impulse to the home manufacturers, which results in new articles, or old ideas are improved and developed.

The German export associations, backed by the technical schools and energy of the people, are demonstrating to the world that there is no country that can manufacture better goods.

In no manner is the strength of organization against feeble, unorganized efforts better portrayed than in the results obtained by the export associations of Germany in placing their manufactured articles on the markets of the world.

How shall we remedy our condition? This is the question to be answered, the problem to be studied, and upon its solution, as our country increases in factories, as our people increase in numbers, we must depend for the increase in our foreign trade, which is demanded if we wish to keep our workers working and our ever-growing population happy and contented.

We have in New York three associations which are formed on somewhat similar lines to the German—the American Association to Aid Exports, the American Export Association, and the United States Export Association. There are also some others in Chicago and Philadelphia. In the latter city, there is a museum where there are collected samples from the various countries of the world. The manufacturers of our country should see that in every city of the Union there is such an association and museum, for it is through these, and associations of a like nature, that they will gain the information they require, which will enable them to place their articles on the markets of the world.

A single manufacturer would hesitate before undertaking to send his agents out in the world to hunt for new markets, for the expense would certainly be considerable and the experiment, costing, as it would, many thousands of dollars if it were well done, might bring him nothing back.

The association does this for him at a very slight expense in comparison with the information it supplies.

Take, for example, an American export association with a membership of five hundred firms. Each member paying \$500 yearly to the association, we have a working income of \$250,000. The home office would require, say—

For expenses, printing, salaries, etc.....	\$50,000
Salaries of travelers.....	100,000
Expenses of travelers.....	75,000
Samples purchased by agents.....	20,000
Minor expenses.....	5,000
Total.....	250,000

Would not this money be well spent and for the best interests of our manufacturers? Could they get the same information at the same cost in any other way? Would not the information, sample collection, and other reports of the agents of the association furnish them with the best data regarding foreign markets?

The agents of such associations would have the hearty support of every United States consul, who would work hand in hand with them for the advancement of American trade.

The report of the Saxon Export Association for the years 1895-96 is before me; I give a few extracts from it :

We especially call the attention of our members to our new collection of samples of the home industry. The importance of this collection can not be exaggerated, for a purchaser is not always able to visit every factory. Their time will not allow them to do so. In the collection of the association, the samples are so listed and placed that a purchaser is able to see

the entire lot in the shortest possible time. We earnestly request every manufacturer to become a member of this association. The use of the samples of our members for any dishonest purpose is impossible, and, if required, we will place them under lock.

In the foreign agencies of the association, several changes have taken place, as some agents did not seem to answer the requirements. Our agents in the Balkan States and Turkey had to work under many unfavorable conditions; some of our members have also suffered, but the association worked energetically to protect its members against loss, and, in most cases, succeeded in securing a satisfactory settlement.

New agents have been appointed in the principal places, on recommendations from experts.

The general idea is that the agent should only handle those lines of merchandise with which he is thoroughly familiar.

In protecting the interests of our members, the information bureau is happy to say that it has made great advances, as also in the development of solid business relations. Many firms have been repaid a thousandfold through this bureau of the association, which draws its data from sources not open to the public.

The reports received from the travelers of the association in South Africa tell us that they have had a marked success, and have good hopes of more; but it must be borne in mind that the English influence had to be combatted. The home manufacturer must now take the matter in hand and advance his business on the lines indicated by the reports and addresses procured by the travelers of the association.

The association sent to Japan and China a native Chinaman, who had lived for many years in Europe and understood German trade and manufacture. He was accredited from the German Government to all German consuls; this insured his being well received.

His report states that it will take some time to open those countries to our trade. His exertions have met with some good results, for orders have been received from those countries.

These are but a few of the principal points in the report of the Saxon Export Association, but they suffice to show that it has become a most valuable aid to the manufacturers of Saxony.

If our manufacturers will combine to support such associations as already exist and form new ones, doing the work as Americans do, they can be sure of remunerative results.

THOS. WILLING PETERS,

PLAUEN, *November 14, 1896.*

Consul.

PEGAMOID: A NEW INDUSTRY IN GERMANY.

A new industry of great importance is to be established in the city of Crefeld. A number of wealthy, influential citizens of this city have secured the sole right and privilege of manufacturing, for Germany, an article called "pegamoid," concerning which I have gathered some information that will prove of sufficient interest to submit the same in the following report:

Under the name and firm of Deutsche Pegamoid-Gesellschaft, Crefeld, a company has just been organized for the purpose of manufacturing for the Empire of Germany an article invented by a photographer of London, England, and known in the market by the name of "pegamoid." Pegamoid is a crystal-clear, gelatinous fluid, which is easily applied to almost any material. After a substance has been saturated with pegamoid it resists all and

every influence of humidity, acids, oils, and various other fatty substances without the least deprivation of quality and appearance. It is claimed that every texture, from the finest to the coarsest qualities, and also papers of all kinds can be manipulated with this new invention.

The association at Crefeld intends to start with imitations of all kinds of leather, tapestry, and wall paper. All fabrics and articles treated with pegamoid can be cleaned with soap and water, so that the invention, because of hygienic considerations, deserves attention. Pegamoid, it is further claimed, will prove to be an important auxiliary to the well-known textile industry of Crefeld and its neighborhood.

The great importance attributed to this new invention is further explained in an article of the *Schreibwaaren Zeitung*, which says:

Under the trade-mark "Pegamoid," a patent has been announced which has the properties of making any article applied to the same waterproof. Paper, leather, cotton, linens, silks, woolens, cloth, and other goods treated with pegamoid are waterproof, protected against vermin, and remain entirely smooth, soft, flexible, unsusceptible to the change of temperature and climatic influences. There is no doubt that pegamoid leather in future will prove to be a great competitor of the genuine morocco leather, being cheaper and as fine in appearance, with the advantage of not getting soiled. All kinds of wall paper can be cleaned after the treatment with pegamoid without suffering loss of color. As to the various applications of pegamoid, there is a large field for speculations and I only desire to mention here what has already been confirmed to be a fact. The invention can so easily be applied that scarcely any object in daily use exists in which it might not be of great advantage. One of the most important uses of this invention is claimed for imitation leather, which, after pegamoid has been applied to any texture, can hardly be distinguished by touch or otherwise from the genuine article. A special advantage of pegamoid for tapestry consists in its durability. The surface is, notwithstanding its plianthness, very solid and does not split, an advantage which genuine leather does not always possess.

Being impervious to water, it has the advantage that furniture upholstered with pegamoid may be washed with even boiling water without the least injury to the same. Its unsusceptibility to oils, acids, grease, and other stains makes pergamoid a valuable article for book covers, cigar cases, pocketbooks, picture frames, and many other goods, such as boots and shoes, saddles, military equipments, etc.

P. V. DEUSTER,

CREFELD, *December 28, 1896.*

Consul.

SUGAR EXPORTS FROM AUSTRIA-HUNGARY.

A new schedule for the shipment of sugar from Bohemia and Moravia to Trieste will shortly go into effect. The new scale of prices threatens to render the further transportation of sugar from Bohemia via Trieste a practical impossibility. Hitherto the average price of freight from the Bohemian refineries to the Adriatic was 48.6 cents per 220 pounds, and from the Moravian refineries, which are nearer Trieste, the freight cost 49.5 cents per 220 pounds. But because the Moravian manufacturers produce their sugar from 15 to 25 cents per 220 pounds cheaper than their Bohemian competitors, they were able to pay the slight difference in freight and have the

balance of trade very much in their power when sales were made free on board at Trieste. In the future, the Moravian refineries will be still more favorably placed, for, by the new tariff, the average price of freight will be only 35.4 cents per 220 pounds, while from the Bohemian refineries the freight will approximate 43.5 cents per 220 pounds, or 8.7 cents more than from Moravia, instead of 1 cent less as heretofore.

When this new schedule becomes legal on December 1, it will prevent any shipments of beet-root sugar from Bohemia to America via Trieste and tend to send them, owing also to the longer transit by sea from Trieste, via Bremen and Hamburg, despite the fact that railroad freight from Prague to the German ports averages 73 cents for every 220 pounds.

In addition to the change in the freight tariff from Bohemia and Moravia, the Hungarian State railways have refused to accept further shipments of sugar from Hungary to Fiume. This measure has seemed necessary to the authorities, for the reason that great stores of sugar were accumulating in Fiume, and that while the shipments thither from Hungary were increasing enormously each day, but a small quantity was exported from Fiume to other countries. The Hungarian producers of raw beet-root sugar believed that, owing to the decreasing export of sugar from Cuba, there was a probability of a large export from Hungary, and, in consequence, sent to Fiume many car loads with the expectation of early shipment to the United States. This hope has been, for the most part, unfulfilled. From January 1, 1896, up to date, there have been exported from Fiume to New York and Philadelphia, 18,889 tons of raw sugar, but the shipments have amounted to so much less than the Hungarian manufacturers anticipated that, at present writing, there remain in the Fiume warehouses more than 25,000 tons of unsold sugar.

CARL BAILEY HURST,

PRAGUE, *November 30, 1896.*

Consul.

PAPYROLITH: A NEW MATERIAL FOR FLOORING, ROOFING, ETC.

A new material, suitable for flooring, roofing, lining of water-closets, bathrooms, walls, etc., was invented by Otto Kraner, at Einsiedel, near Chemnitz, Saxony, about two years ago. The article did not, however, prove to possess sufficient resistance and consistency. Subsequently, it was taken up and improved by Messrs. Braendli & Co., at Mainaustrasse No. 24, Zurich, Switzerland, who, by the addition of some chemicals, have, as they claim, brought it to perfection and made it as durable as stone.

I called on the above firm to obtain what information I could, and from them learned the following:

Papyrolith is a new kind of material, the principal ingredients of which are waste paper and sawdust. These two substances are mixed with certain chemicals, which, so far, are the exclusive secret of the manufacturers. The

material is made into three separate bodies, viz, (1) a moist powder, (2) a dry powder, and (3) a liquid. These are then mixed in a proportion of 4 pounds of moist powder with 6 pounds of the dry one, and enough of the liquid substance is mixed therewith to bring the mass to the density of ordinary mortar. It is then spread over a foundation of wood or stone, as the case may be, in the same manner as asphaltum or cement, stamped down, leveled, left to dry, and then polished. It requires at least two days to dry and harden.

This papyrolith, it is claimed, becomes as hard as stone, but without losing its elasticity, is perfectly water-tight, fireproof, a nonconductor of heat, cold, or sound; being spread into one solid mass, it has no joints, is not porous, nonadherent of dust or microbes, is noiseless, and, therefore, especially recommended for flooring schoolhouses, hospitals, houses and public halls, water-closets and bathrooms.

For roofing, it is spread over a grooved or kind of corrugated roofing pasteboard, especially manufactured for that purpose. It is lighter than other roofing material, weighing only 14 kilograms per square meter (about 26 pounds per square yard), and requires, therefore, but a light wooden construction to support it; it is water-tight, a nonconductor of heat or cold, and, what is more important, it is incombustible. It can be made in whatever color desired.

As to its wear and durability, the article has not been in use long enough for experts to give an opinion; but contracting architects, with whom I have talked on the subject, believe that it possesses all the qualities the manufacturers claim for it.

The Zurich school authorities have had floors of this material laid in several of the city schoolhouses as a trial. In the Federal Museum, an entire hallway is covered with it. Private individuals are contracting for it to line the walls of their bathrooms, kitchens, etc., in place of tiling, formerly used for the same purpose, it being water-tight and less cold and not so apt to crack under the change of temperature.

The prices of papyrolith, laid down and ready for use, are, for the present, quoted at the following figures by the manufacturers (Braendli & Co.): Floors with a layer of 0.591 inch thickness, about \$1 per square yard; floors with a layer of 0.985 inch, about \$1.25 per square yard; roofing, \$1 per square yard; walls, \$1.25 per square yard; special decorative work, as per agreement. Cost of manufacture is not obtainable.

No patent or application therefor has been obtained or applied for. The manufacturers state that none is obtainable on an article of this kind, but as the chemicals or mixture used in the preparation of papyrolith are only known to themselves, they feel safe against competitors.

EUGENE GERMAIN,

ZURICH, *November 5, 1896.*

Consul.

THE IRON INDUSTRY OF RUSSIA.

According to the latest official reports from St. Petersburg concerning the manufacture of cast iron in Russia, there are at present in the Empire 127 private foundries, of which 59 are located in the Ural district, the output of which, during the first half of the present year, was 17,000,000 poods (274,000 tons), as against 29,200,000 poods (470,700 tons) for the whole year 1895, 28,300,000 poods (456,200 tons) for 1894, and 27,400,000 poods (441,700 tons) in 1893. The next largest district is that of Moscow, with 32 foundries, which produced in the first half year of 1896, 4,400,000 poods (70,900 tons), as against 7,680,000 poods (123,800 tons) in 1895, 7,640,000 poods (123,100 tons) in 1894, and 7,350,000 poods (118,400 tons) in 1893. The 23 foundries in Poland produced during the periods mentioned 6,170,000 poods (99,500 tons), 11,260,000 poods (181,500 tons), 11,080,000 poods (178,600 tons), and 9,800,000 poods (157,900 tons), respectively. In South Russia (the governmental districts of Ekaterinoslav, Kherson, Poltava, and the Don country), there are 7 works, which produced in the first half of 1896, 17,420,000 poods (280,800 tons), 32,600,000 poods (525,500 tons) in 1895, 27,150,000 poods (437,600 tons) in 1894, and 20,000,000 poods (322,400 tons) in 1893. In the southwestern country, there are 5 foundries, which produced in the first half year of 1896 only 110,000 poods (1,770 tons). In the northern part of the Empire, the cast-iron manufacture is represented by only 1 establishment, which is located in the governmental district of Olonets, the annual output being about 51,000 poods (822 tons).

As will appear from the foregoing, the southern districts, especially that of Ekaterinoslav, are gradually becoming—at the expense of the Ural section—the center of this industry. Apart from the fact that not a single one of the 59 foundries in the Ural district ever produced such quantities of cast iron as the Alexandrof works in Briansk, whose annual output is nearly 10,000,000 poods (162,000 tons), and the Dnieprofsk works of equal capacity, the total of the comparatively few works in the south far surpasses the output of the Ural works.

Considering that the blast furnaces are in operation without any interruption throughout the year and that the production of cast iron in the second half year will equal in quantity that of the first, we may safely assume that the total production of cast iron will amount to 90,000,000 poods (1,450,900 tons). To this will have to be added the production of the Royal, the Imperial Cabinet, the Finland, and the Siberian iron works, the total of which amounts to about 7,000,000 poods (112,800 tons), and the 1,500,000 poods (24,000 tons), which are produced by the furnaces started in the Urals and South Russia very recently. The total annual production, therefore, in Russia of cast iron amounts to about 99,000,000 poods

(1,600,000 tons). Of this, the private works produced, in 1895, 82,000,000 poods (1,322,000 tons), 74,500,000 poods (1,200,000 tons) in 1894, and 64,900,000 poods (1,050,000 tons) in 1893. Supposing that the yield of the Royal, the Imperial Cabinet, the Finland, and the Siberian works will not have an increase over last year's output, the production of the Empire in 1896 would still amount to 10,000,000 poods (162,000 tons) more than last year.

Pig iron was produced in Russia in 1895 to the amount of 88,785,000 poods (1,431,000 tons), which is an increase of 8,640,000 poods (138,000 tons) over 1894 and an increase of 9,281,000 poods (149,600 tons) over 1893. In spite of this increase, the home works are far from being able to meet the demand, especially on account of the rapid development of railways throughout the country. The imports of foreign pig iron, and particularly of iron and steel in various forms of manufacture, amounted to 47,602,000 poods (767,400 tons) in 1895, expressed in pig-iron quantities—that is, more than half of the home production of pig iron and more than a third of the entire consumption. The amounts of imports of foreign cast iron, iron, and steel in 1895 will be seen from the following: Cast iron, 8,106,000 poods (130,600 tons); wrought iron and steel, 18,329,000 poods (295,400 tons); iron and steel goods, 2,350,000 poods (32,000 tons); machines and apparatus, 5,965,000 poods (96,000 tons), including 939,000 poods (15,100 tons) of agricultural machines and implements; total metals and metal goods, 26,330,000 poods (424,400 tons), which is, calculated in cast-iron quantities— $1\frac{1}{2}$ poods (54.16 pounds) of cast iron to 1 pood (36.112 pounds) of iron—39,496,000 poods (636,700 tons), which, together with the 8,106,400 poods (130,600 tons) of cast iron imported, make a grand total of 47,602,700 poods (767,400 tons).

THEODORE M. STEPHAN,

ANNABERG, *November 28, 1896.*

Consul.

PRICES OF IRON IN RUSSIA.

It is noteworthy that the import of iron into Russia has this year not increased, but decreased, as compared with the same period of last year, as will be seen from the following figures:

Imports.	September 1, 1894, to September 1, 1895.		September 1, 1895, to September 1, 1896.	
	Poods.	Tons.	Poods.	Tons.
Sheet iron.....	5,308	958	5,369	969
Iron in bars.....	7,092	1,280	6,701	1,210
Total.....	12,400	2,238	12,070	2,179

At present, the southwestern region in Russia is receiving from abroad a small quantity of assorted iron, principally of the finer classes, like hoop

iron, semicircular, stamped, and angle iron, but more of the fine roofing iron of 6, 7, 8, 9, and 10 pounds, and a good deal of the boiler iron of dimensions of 2 1/3 by 4 2/3 feet, 4 by 8 feet, and 4 2/3 by 9 1/3 feet, and of the double-stamped beams. The prices of the imported iron per pood (36.112 pounds) are the following :

Description.	Wholesale.		Retail.	
	Rubles.		Rubles.	
<i>Assorted iron.</i>				
In Sosnowicy.....	1.75	\$0.89	} 2.10 to 2.15	\$1.08 to \$1.10
In Kiev.....	2.00	1.03		
<i>Angle iron.</i>				
In Sosnowicy.....	1.85	.94	} 2.40 to 2.50	1.23 to 1.28
In Kiev.....	2.10	1.08		
<i>Boiler iron.</i>				
In Sosnowicy.....	2.00	1.03	} 2.45 to 2.50	1.26 to 1.28
In Kiev.....	2.25	1.15		
<i>Sheet iron.</i>				
In Sosnowicy.....	2.90	1.49	} 3.20 to 3.25	1.64 to 1.67
In Kiev.....	3.15	1.62		
<i>Double-stamped beams.</i>				
In Sosnowicy.....	2.15	1.10	} 2.50 to 2.60	1.28 to 1.33
In Kiev.....	2.40	1.23		

Regarding the iron trade in southern and southwestern Russia, it wholly depends on the production of the iron works in Poland and the Upper Dnieper and the Briansk works. Should the production of those mills approximately supply the demand, then a certain equilibrium could be established; but that is doubtful. It is, therefore, expected that the import of iron from abroad will increase. The Russian newspapers challenge the above-mentioned mills to show clearly the cause which hinders them from satisfying the demands of the market. The Commerce and Trade Journal says :

The iron market is one of the principal ones and of great importance to our country. It is the duty of every one who thinks of the future of Russia not to hide its condition, but to bring it to the light, and not to consider the advantages only of the present moment. Advantages could be tolerated only then, if there were a hope that they would be able, in the near future, to create a wider and more sound position for our iron industry and our iron market.

The prices at which the home iron is sold in Kiev, on board cars, per pood (36.112 pounds) are: For assorted, from 1.66 to 1.68 rubles (85 to 86 cents); for sheet iron, from 2 to 2.15 rubles (\$1.03 to \$1.10).

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *December 1, 1896.*

THE FLAX INDUSTRY OF RUSSIA.

Russia is a great flax-growing country, but the flax business has not been flourishing, the cause of which seems to be that, so far, Russia's wealthy and enterprising people have paid no attention to it. There is no doubt that the spinning of flax in the country of its production is advantageous, which view was taken by some French capitalists, at the beginning of this year, who tried to establish mills for that purpose in Russia. This effort did not seem to meet with the approval of some of the Russian people, and the newspapers openly expressed dissatisfaction with foreigners taking possession of this source of Russian wealth, and urged Russian capital to take hold of the flax industry and try to bring it to the front. It was stated that Russia produces the greatest quantity of flax, and therefore should be the first country in the manufacture of it. As a result, to-day, in Nijni-Novgorod, local capitalists and merchants are organizing a joint-stock company, with a capital of 1,500,000 rubles (\$771,000), for building a flax-spinning mill at that place. It has met with such an approval that over 1,000,000 rubles were subscribed in a very short time. Persons at the head of this enterprise bear a good reputation as energetic business men with large capital. There are only two spinning-mill factories with larger capital in Russia.

The price of flax has somewhat weakened lately. The reason is that the foreign market has taken advantage of the early sales and of the instability of the prices in Russia and supplied itself with considerable stock. The arrival of large quantities of flax in the provincial markets contributes also to depression of prices. Notwithstanding this, the market is firm. The prices of flax in St. Petersburg at present, in comparison with last year's, are, per berkovets (361.12 pounds) as follows:

Description.	December, 1896.		December, 1895.	
	Rubles.		Rubles.	
Wet Luga.....	33.00	\$16.96	40.00 to 42.00	\$20.56 to \$21.59
Yaropolski, first quality.....	34.00	17.48	33.50	17.22
Vologodski, first quality.....	42.00	21.59	44.00	22.62
Biezjetsk, not sorted.....	38.50	19.79	32.75	16.83
Ostrov, picked.....	38.50	19.79	38.00 to 39.00	19.53 to 20.05
Biezjetsk, picked.....	36.50	18.76	41.00 to 41.00	20.56 to 21.07

The prices in Riga are: For Livonian, 39 to 40 rubles (\$20.05 to \$20.56); for Courland, 36.50 to 37.50 rubles (\$18.76 to \$19.27). The freights quoted per ton from Riga to England are 20s. (\$4.86); to France and Belgium, 20 to 25 francs (\$3.86 to \$4.82); and to Holland, 12 florins (\$4.82).

During the last few days the following sales were closed in St. Petersburg: Two hundred tons of Sychevsk flax at 31 rubles (\$15.93) per berkovets (361.12 pounds), 100 tons of Yaropolski flax at 33.50 rubles (\$17.22) per berkovets.

100 tons of Kashinsk flax at 37.50 rubles (\$19.27) per berkovets, and 50 tons of Krasnokholmsk flax at 37 rubles (\$19.02) per berkovets. In the factory regions, the prices advanced a little. The quantities of flax and tow exported from Russia from October 13 to December 5, 1896, as compared with the same period in 1895, according to the custom-house returns, were:

Custom-houses.	1895.		1896.	
	<i>Foods.</i>	<i>Tons.</i>	<i>Foods.</i>	<i>Tons.</i>
<i>Flax.</i>				
Northern	860,820	15,542	796,035	14,373
Overland	419,000	7,505	480,000	8,667
Total.....	1,279,820	23,107	1,276,035	23,040
<i>Tow.</i>				
Northern	226,400	4,088	183,694	3,317
Overland	25,000	451	46,000	835
Total.....	251,400	4,539	229,694	4,147

The principal demands came from Scotland, Ireland, Belgium, and France.

JOHN KAREL,

ST. PETERSBURG, *December 17, 1896.*

Consul-General.

GRAIN-EXCHANGE BROKERS IN RUSSIA.

There are fifteen brokers at the grain exchange of St. Petersburg who are elected by the Grain Exchange Society and confirmed by the Department of Trade and Manufactures. Of these, one is appointed by the exchange committee as a chief broker. The number of the brokers can be increased or decreased by the action of the Grain Exchange Society, with the confirmation of the Minister of Finance. A person wishing to be an exchange broker must file a petition with the grain exchange committee with the following proofs: (1) That he is a Russian subject, (2) that he is not less than 25 years old, (3) that he is a member of the grain exchange, and (4) in case he went through bankruptcy, to present a certificate that his bankruptcy was acknowledged by the commercial court as justified, *i. e.*, caused by unforeseen misfortune.

The persons elected for exchange brokers are examined by an exchange committee as to their qualifications. The committee then sends all the documents presented and their own conclusions to the Department of Trade and Manufactures. An exchange broker enters upon the duties of his office after his confirmation by the Department of Trade and Manufactures, after taking the oath of his office; but if, within thirty days of his qualification, he should fail to present to the committee of the Grain Exchange Society all the documents and books necessary for his duty as broker, prescribed by law, his place is declared vacant and given to the next one. A vacancy occurring in the course of the year is filled, with permission of the Department of Trade and Manufactures, by election held in the general assembly of the Grain

Exchange Society. The brokers are appointed for an indefinite period. They must provide themselves with a commercial certificate of second guild; and although they have to pay for the same and all other fees established, they can not engage in any other commercial business outside that of broker. They must be acquainted with all the rules and regulations concerning commerce and with the prices and qualities of goods. In the discharge of their duties, the following rules must be observed :

(1) Brokers are not allowed to act as commercial attorneys, trustees, or clerks.

(2) They are prohibited from forming associations among themselves or performing the official duty of another, except with the permission of the trustees. They can cooperate for a united mediatorship in carrying out separate orders.

(3) They must attend to their duties personally and are not allowed to conclude any bargain through an assistant.

(4) They are bound to keep secret all orders, negotiations, and contracts concluded through their agency, except in such cases where it is allowed by their trustees or by the character of the bargain itself.

(5) The brokers, in their certificates to parties, must designate the bargains in poods and copecks. They issue also brokers' certificates for either sale or purchase of goods, according to orders received by letter or telegram from members of the exchange living in other cities or towns, but they must send such certificates for signature of the parties.

The brokers must be present at the exchange during the business hours, and wear a badge with the inscription, "exchange broker." Each grain-exchange broker receives every year from the Department of Trade and Manufactures a book, under seal, in which he must record all bargains made, according to the certificates issued by him, with all the particulars and details, on the day they were made or not later than the following morning. The Department of Trade and Manufactures gives such book only when the broker produces a certificate that he has paid the guild duties for the year, and when he has received the book he must present it to the court of exchequer to have it stamped with revenue stamps. These books and the brokers' certificates issued must be kept in strict conformity with the commercial statute. All bargains being considered secret, the broker can issue copies of the certificates only to parties interested; and if called on by the courts, he is not obliged to produce his book, but a copy under seal is sufficient. At the end of each year, not later than January 20, or when discharged, or at the death of a broker, the book is delivered and kept in the safe of the archives in the Department of Trade and Manufactures.

The duty of the chief broker is to see that all the rules and regulations are observed by the exchange brokers; to collect from them information concerning the prices of goods sold and bought at the exchange; to see that all forms under the supervision of the exchange committee are carried out and bulletins published, for the correctness of which he is responsible.

In case of neglect of duty or nonqualification of any broker, the committee of the Grain Exchange Society has the right to ask the Minister of Finance for the discharge of such broker without petition.

The compensation of the brokers or the brokerage due from the buyer and the seller is fixed at the following rate: For the first 10,000 rubles, one-half of 1 per cent, and for amounts above 10,000, one-fourth of 1 per cent from each party. The brokers are permitted to make reductions of their own accord, if they so desire.

JOHN KAREL,

ST. PETERSBURG, *December 7, 1896.*

Consul-General.

THE RUSSIAN HOG TRADE WITH GERMANY.

The veterinary sanitary measures adopted by the German Government for the protection of German swine breeding have had a great influence on the import of hogs into Germany, which, since their adoption, has greatly decreased.

According to German statistics, the number of hogs imported into Germany during the nine months of the present year amounted to only 83,660 head, against 258,637 during the same period in the previous year. The falling off affected the Russian hog export into Upper Silesia especially. For some time, the weekly number of head slaughtered in the four frontier slaughterhouses was reduced to 1,350, whereas formerly it amounted to 1,900 head.

At the same time that these strict measures against hogs were enforced, the import of pork was prohibited altogether, unless boiled. What effect these restrictions have had upon the pork trade in Germany can be seen from the statement made by the *Deutsche Fleischer Zeitung*. This journal says the reduction of the import of hogs caused a rapid rise of the prices at the interior markets of Germany, from which the consumers suffered, because the home hog raisers were unable to supply the demands of the Upper Silesian region.

The following figures show how much the price of hogs advanced at the German interior market during the second half of the present year, per 50 kilograms (110 pounds):

City.	July 1.		November 12.	
	<i>Marks.</i>		<i>Marks.</i>	
Berlin.....	37.00 to 40.00	\$8.81 to \$9.52	45.00 to 50.00	\$10.71 to \$11.90
Hamburg.....	37.00 to 42.00	8.81 to 10.00	45.00 to 51.00	10.71 to 12.14
Breslau (Silesia).....	34.00 to 42.00	8.09 to 10.00	44.00 to 54.00	10.47 to 12.85

The advance of prices was especially hard on the poorer class of people. The workman, who formerly purchased cheap Russian pork, is forced to replace it now with vegetables. The principal importers of Russian hogs are

located near the frontier and having that line of business under their entire control, dictate prices, which the small butchers have either to pay or undergo the expense of looking for hogs of domestic breed, which are scarce and command high prices. The butchers suggested many propositions for the regulation of the meat markets and for the suspension of the strict rules regarding the import of Russian hogs, and also for the regulation of the distribution of imported hogs between the importers and butchers. The *Deutsche Fleischer Zeitung* speaks in detail of the condition of affairs brought on by the Government instructions in the Upper Silesian region, which uses Russian pork. It says:

A great number of consumers, not being able to pay the prices fixed by the butchers, go to Russia themselves to purchase pork; and the butchers of Glewitz write: "The consumption of pork among the lower classes has decreased greatly; most of them feed on vegetables, although they would like to eat meat, buy the distasteful American fat, often unfit for food, and which can not be considered in any way good for the health. Home pork is produced in small quantities; it is therefore too expensive and can not compete with Russian pork. We do not believe that our wholesalers will buy German hogs, because they obtain greater profit from the imported Russian hogs. Our farmers are unable to supply the Upper Silesian market; they produce just about enough to satisfy their own region. The stringency of the meat market can cease only when the butchers receive a sufficient number of imported hogs. From the wholesalers must be taken away the largest share of the import, and thus will be annulled the dependence of the retail butchers upon the wholesale importers, and the working class will have a chance to buy cheap meat again."

The proposition of the butchers was granted. An order of the district administration was issued and sanctioned (November 11) by the Minister of Agriculture, which provides that the weekly number of hogs imported from Russia shall be distributed only among such purchasers as sell meat or meat products directly to the consumers. The wholesalers are allowed to extend their business only in the line of domestic pork, but they claim that it is an infringement upon their rights and their interests; consequently, they intend to make complaint. As to the suspension or even the modification of the present regulations concerning import, nothing has been done; on the contrary, according to information, it is proposed to close the Silesian frontier to the admission of foreign hogs into Germany.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *November 24, 1896.*

CENSUS OF THE RUSSIAN EMPIRE.

The first general census of the Russian Empire's population should be completed, according to an imperial ukase published yesterday, by the 28th of January (O. S.), or 9th of February (N. S.), 1897.

The ukase, as officially published, reads as follows:

In our solicitude for the greater organization and progress of our country, we authorize, for the common welfare, the first general census of the population of the Empire.

This census must include all the inhabitants, without exception, of all our dominions, and must contain a full and exact computation of the population of the country, according to the different regions, governments, districts, cities, and villages, and also according to the ages, sexes, professions, religions, nationality, occupations, and other indications mentioned in the census blanks. The computation of the general census will serve us and the Government and social institutions established by us as among the important measures taken for the welfare of our fatherland.

Having confirmed, on the 5th day of June of the past year, the statute examined by the Government council concerning the first general census of the population of the Empire, and having observed, from the report of the Minister of the Interior, who has been entrusted with the general direction of the census, that the preliminary measures for the census have been accomplished, we hereby order the taking of the census to begin according to the terms fixed and that the work shall be completed by the 28th of January of the coming year (1897).

We feel confident that all persons summoned to participate in the execution of the census, whether officially or unofficially, will, on their part, discharge all the duties entrusted to them zealously, and that every resident of our Empire will give, concerning himself and his relations, all the required information truthfully, and will endeavor to cooperate for the successful attainment of a full and accurate computation of the population of the Empire in the coming census indicated by us.

The administration will give the necessary orders for the fulfillment of the same.

JOHN KAREL,

ST. PETERSBURG, *January 1, 1897.*

Consul-General.

ADULTERATION OF RUSSIAN WOOLS.

The Donskoi, Crimean, and other varieties of Russian coarse wools of the clip of 1896 are shorter in the length of the fiber and inferior in quality. I am reliably informed that numerous shipments of wools from Rostoff and Odessa to the United States have, during the present season, been mixed with "sour wools."

Throughout the broad expanse of the Russian Empire, 90 per cent of the population wear sheepskin coats with the woolly side next to the body. These skins are prepared for use in the northern and central governments of Russia, but as far as I have been able to ascertain, not in the south. In the process of preparing these skins for coats, large quantities of chemicals are employed. As the freshly prepared skins on the leather side are perfectly white, the presumption is that arsenic is largely used. When ready to be made up into coats, much of the wool is trimmed and the skin cut to suit the measure desired. This results in a certain amount of waste material both in skin pieces and free-wool fiber. The exact quantity of this waste material annually produced I have not been able to ascertain, but it must be very large.

This material is sold largely to a certain class of merchants who have, for years, been engaged in shipping Donskoi and other coarse wools from Russia to the United States. These merchants mix this material with their Donskoi and Crimean washed wools, and it is this material which I have named "sour wool." When greasy wools are worth here from 4.50 to 5

rubles per pood (36.112 pounds), these sour wools will cost from 5 to 6 rubles per pood. Should greasy wools be higher or lower in price, the sour wools follow suit. Whenever these sour wools are mixed with other wools sent to the United States, it will be found that the shipment will contain from 10 to 12 per cent. This proportion has been maintained since wool has been on the free list. During the time there was a duty on wool the admixture of these sour wools was from 20 to 25 per cent.

The advantage to the shipper in purchasing these sour wools and mixing them with the washed Donskoi and other wools is in this: Donskoi wools in the grease, yield, when washed, from 50 to 52 per cent of pure wool fiber, while these chemically cleaned sour wools yield 80 per cent. The Donskoi wools when washed are usually worth from 10 to 12 rubles per pood, while the sour wools never cost more than from 5 to 6 rubles per pood. The value of these sour wools to the American manufacturer can be very little; I should say not more than 1 ruble per pood (50 cents per 36.112 pounds). It is stated here that the chemical treatment to which this wool is subjected has the effect of killing the fiber and destroys the strength of the wool, leaving it weak and practically worthless.

That the admixture of these sour wools with the other wools shipped from Russia to the United States is done to deceive either the American importer or manufacturer, or perhaps both, admits of no doubt. I can not say how far the practice is a general one here, as I am probably the last man in Russia who would be taken voluntarily into the confidence of the Russian wool shippers. That it does exist, can be easily demonstrated by an examination at the New York custom-house of wools entered during the present season under the designation of Crimean white wools or washed white wools shipped from Odessa. Crimean wools sent to Philadelphia late this season will also be found to contain this sour wool.

If the statements I have made concerning this practice at Odessa and Rostoff are true, the condition of affairs pointed out must be equally true of shipments of wool from northern Russia, where these sour wools are to be found in large quantities. I do not desire to be understood as charging that all of the Russian shippers of these coarse wools are engaged in this sour-wool traffic nor that every shipment of the shippers who resort to the practice contains sour wool. I simply state that the practice exists and that the only person who can reasonably be said to be ignorant of its existence is the person who is the heaviest loser, namely, the American manufacturer. In anticipation of wool being taken from the free list, large quantities are being hurried forward to the United States, and I am inclined to believe much of this wool will be found to contain from 10 to 12 per cent of sour wool. It is, in my estimation, important that American manufacturers should be given information concerning this abuse in order that they may be in a position to protect themselves. If importers and manufacturers are willing to purchase wool knowing that they contain sour wool I presume there will be no objection on the part of our customs officials, but as the washers of

these Crimean and Donskoi wools deny that they mix these sour wools with the others, I am led to infer that our manufacturers at least are ignorant of the practice. Whether the importers are ignorant of the practice I have reason for doubting.

I was led to this discovery about sour wools being mixed with wools shipped to the United States by an accidental remark made to me during my visit to Rostoff. I could obtain no information at Rostoff and did not, at the time, attach much importance to the matter. Since my return to Odessa, I have investigated the matter, and the result is the revelations contained in this report. I would have preferred a longer delay before reporting this matter in order to present more detailed information, but the subject is a difficult one to handle here and I might keep on investigating another year and still be dissatisfied with my work. In the meantime, American manufacturers would be the losers. Our appraisers and experts at the New York and Philadelphia custom-houses should be able to detect these wools, and doubtless will be.

I am both personally and officially deeply mortified at having made this discovery at so late a day in my career at Odessa. I believed that I was familiar with all of the tricks of the trade in Donskoi and other coarse wools, but in this, it would appear, I was mistaken. The length of time this abuse has been practiced I do not know, and may never know, but that it has existed for many years I am quite convinced. I hope the Department will not believe that I have been neglectful in this matter and will understand that this adulteration takes place at the washeries, which are situated far from Odessa, while I am not authorized to leave Odessa except at rare intervals to visit the washeries.

THOS. E. HEENAN,

ODESSA, *December 18, 1896.*

Consul.

RUSSIA'S INDUSTRIAL DEVELOPMENT.

Although Russia's record, in recent years, in industrial development is enough to encourage her most progressive statesmen, she must stay a long time in foreign markets buying machinery to help her make the most possible out of her huge natural resources. She must buy. She will buy, however, only where she knows or believes she will be best served. For years, German intelligence has taught the Teutons how to beat others in Russia's markets. To German energy and German technical skill is due the fact that this Empire has furnished Russia three-fourths of her best industry-developing forces. This, in turn, has given Germans a not undeserved influence. At this year's Nijni-Novgorod fair, it was German-trained and German-supervised industries that won the highest prizes. This was especially true of the machine-building branches, in which a great majority of the master mechanics and engineers are Germans. The same may be said of the mining experts. In the silk mills, the French examples rule; in cotton, the English.

High tariffs on imports have helped to build up the home industries. This is especially true in the cheaper grades of goods. Goods of higher grades must be bought for a long time in foreign parts. England complains of her constant losses and Germany's gains in Russia's markets. England's losses are due to the indifference of her agents in learning the Russian language.* Not an English traveler or agent understands or speaks Russian, while not a German agent lacks the language, and, what is equally important, a knowledge of the nation's industrial needs. These he studies as diligently as he does the language. Another great advantage the Germans have over all other competitors, even the French, is the knowledge the Russian merchants have of German.

Not only has Russia's industrial development been remarkable, but her natural-wealth resources have been extensively opened up. Here, too, Germans have had their hands in up to the wrists. The coal production has gone up threefold in fifteen years. Baku's petroleum export has increased year after year till to-day it is a question whether Germany can not get her total supply from the Baku wells, thus shutting out American oil.† New wells have been opened recently near Vladicaucus and are yielding profitable returns.

Beyond the Caucasian provinces, cotton is being successfully grown in large quantities. Even tea, that tantalizing product, believed hitherto impossible outside of China and India, is being successfully cultivated. California grapevines on Transcaucasian hills are yielding fruit for wine and raisins. Anything more active than the iron industries in the Russian Empire does not exist. This is especially true of iron and steel pertaining to railroads, due to the remarkable development of new lines going on all over the country. Farmers alone suffer. Ignorance and lack of funds force them to the wall when they enter the world's markets against men trained scientifically in agricultural and horticultural schools, and whose position among older and richer countries puts ready, cheap money within easy reach at reasonable rates.

J. C. MONAGHAN,

CHEMNITZ, *December 19, 1896.*

Consul.

WHEAT PROSPECT IN AUSTRALASIA.

The wheat crop of Australasia for the coming harvest is short. It must be remembered that the seasons here are opposite from ours, the cereal year beginning and ending about the 1st of July, as ours in the United States begins and ends about January 1. This "year," of which I am now writing,

* England's representative at last year's Nijni-Novgorod fair tells his people, through the Foreign Office, that "the present position of England's commercial relations with Russia are not inspiring. In consequence of the high tariffs and the development of the home industries, England need not count on any considerable increase in export thither."

† To-day's official paper in this city published an item, purporting to come out of interested circles, to the effect that regulations are to be put into force by the German Government making the importation of American petroleum into the Empire almost impossible. In the same item, it is asked whether Russia is in a position to supply sufficient to cover the amount needed. This is doubted.

will end July 1 next, or, as far as wheat alone is concerned, say April next. The wheat crop of Australasia, as estimated by the most careful observers, falls so short of the usual as to reduce Australasia from her position as the sixth wheat-exporting country on the globe to about the eleventh wheat-importing country. From being an exporter of about 12,000,000 bushels per year, Australasia will have to import not far from 5,000,000 bushels to supply the deficiency from short crops.

This misfortune to Australasia will be of considerable benefit to our people, not only because the United States will supply the chief part of the nearly 5,000,000 bushels deficiency, but because she will also supply a large part of the world's deficiency, caused by the withholding of the 12,000,000 bushels usually furnished by Australasia. Then, in the competitive markets of the world, Australasia's short crop makes a difference of about 17,000,000 bushels. With a failure in India and a short crop throughout Europe, this will be no trifling advantage to the wheat growers of the United States.

From the Sydney Daily Telegraph of November 30, 1896, a reliable journal, the financial editor of which is Mr. Nash, a very efficient and conscientious writer, I clip the following:

Australasian wheat requirements.

Colony.	Consumption in 1897.	Required for seed.	Total requirements.	Probable crop.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
New South Wales, at 6 bushels	7,800,000	800,000	8,600,000	7,116,000
Victoria, at 5.8 bushels	7,000,000	1,200,000	8,200,000	6,960,000
Queensland, at 5.8 bushels.....	2,750,000	30,000	2,780,000	*150,000
South Australia, at 6.2 bushels.....	2,250,000	1,200,000	3,450,000	3,300,000
Western Australia, at 6.5 bushels.....	1,000,000	20,000	1,020,000	*200,000
Tasmania, at 6.5 bushels.....	1,075,000	50,000	1,125,000	*1,100,000
New Zealand, at 7 bushels.....	5,000,000	200,000	5,200,000	*7,000,000
Total.....	26,875,000	3,500,000	30,375,000	25,826,000

* We have taken the New Zealand, Queensland, and Western Australian crops as rather in excess of last year: the Tasmanian at slightly less.

This shows a deficiency of over 4,500,000 bushels.

Mr. Coghlan, in his Seven Colonies of Australasia, gives the production of wheat in the seven colonies as follows:

Colony.	Production.	Average yield per acre, 1885 to 1894.	Consumption per capita.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
New South Wales.....	5,195,312	12	6
Victoria.....	5,669,174	9.9	5.6
Queensland.....	123,630	14.9	5.8
South Australia.....	5,929,300	6.8	6.3
Western Australia.....	188,076	11.7	6.3
Tasmania.....	1,164,855	17.4	6.6
New Zealand.....	6,843,768	23.7	7.6
Total.....	25,114,115	9.9	.....

I see on page 234 of the work before referred to, that there were in Australasia 3,367,779 acres devoted to wheat growing in 1881, 3,737,801 acres in 1891, and 3,848,285 acres in 1894, showing a gradual and considerable increase. Since 1894, the increase has been still more marked, if we are justified in judging from the conditions in New South Wales. From 647,485 acres in 1894-95, the increase has been to 717,500 acres in 1896-97. Approximately, then, there must be nearly 4,000,000 acres devoted to wheat raising in Australasia for this year, ending, say, March 30, 1897.

Mr. Nash, as per the first table, quoted from the Daily Telegraph, estimates the requirements for seed at 3,350,000 bushels, and, based upon this and the real consumption, he finds the 4,500,000 deficiency.

I think the Americans usually sow from $1\frac{1}{4}$ to $1\frac{1}{2}$ bushels per acre, and if the Australians sow but 1 bushel, it would require 4,000,000 bushels for seed alone, or thereabouts.

But there is another point that it seems to me the statisticians have overlooked. In Australia, there is an enormous quantity of wheat sowed and cut for hay. The following table, taken from the Telegraph of November 25, 1896, indicates the extent of this practice:

Description.	1894-95.			1895-96.		
	Wheat.	Hay.	Total.	Wheat.	Hay.	Total.
Area under cultivation.....acres..	647,483	125,797	773,280	596,684	172,614	769,298
Proportion of wheat and hay.....	83.8	16.2	100	77.5	22.5	100
Production.....	{ bushels... 7,041,378			{ bushels... 5,195,312		
	{ tons.....	136.837		{ tons.....	99,679	
Average yield.....	{ bushels... 10.9			{ bushels... 8.7		
	{ tons.....	1.1		{ tons.....	0.6	

Description.	1896-97.				
	Wheat.	Hay.	Present estimate.		
			Wheat.	Hay.	Total.
Area under cultivation.....acres..	784,600	196,200	717,500	265,000	982,500
Proportion of wheat and hay.....	80	20	73	27	100
Production.....	{ bushels... 9,376,900		{ bushels... 7,115,650		
	{ tons.....	196,200	{ tons.....	212,000	
Average yield.....	{ bushels... 11.95		{ bushels... 9.92		
	{ tons.....	(say) 1	{ tons.....	(say) 0.8	

Now, if the same practice, and to the same extent, prevails throughout the colonies, there would seem to be nearly 1,000,000 acres of wheat sown for hay, and this would increase the consumption for seed to another million bushels, making a total deficiency of, say, 5,500,000 bushels.

It may be of interest to Americans to learn that the hay grasses usually grown in the United States do not grow in Australia. There is no red clover, as there are no bumblebees to fertilize it, and I have not been able

to find either timothy, red top, or blue grass. Alfalfa, called lucern, does pretty well when the land is irrigated or naturally damp.

“Wheaten” straw, then, is the most common hay, as far as I am able to learn.

As the acreage in New South Wales has increased 27 per cent over last year, as seen by the last table by Mr. Nash, this colony will have the largest total crop in her history, though the yield will be about 9.9 bushels to the acre.

The wheat crop of Victoria for the last two years has not been above $4\frac{1}{2}$ bushels per acre, and of South Australia not over 3 bushels. This year will hardly be better, and I incline to the notion that continual cropping of wheat in Victoria is permanently reducing her annual yield, as it did in many of our Western States.

To conclude, the actual deficiency in Australasia and her removal from the wheat market as a competitor will very materially benefit the United States, and it is my earnest hope that a goodly share of the benefits may reach the producing classes.

There have been imported into the colony of New South Wales, chiefly Sydney, since January 1, 1896, 2,336,765 bushels of wheat and 48,851 tons of flour, of which 1,760,854 bushels of wheat and 24,730 tons of flour came from the United States.

GEO. W. BELL,

SYDNEY, *December 1, 1896.*

Consul.

THE CEREALS OF VICTORIA.

As a large portion of the colony of Victoria is auriferous country, suitable only for mining purposes, the area devoted to agriculture is not as extensive as the same number of square miles in the agricultural districts in the United States. Victoria, with a total area of 88,198 square miles, had, in the season 1894-95, 2,286,433 acres under cultivation, and in 1895-96, 2,250,484 acres. In each of these seasons, the greater proportion of these acres was devoted to wheat, which is one of the articles of export, as in 1894-95, 1,373,668 acres were employed for the production of this cereal, and in 1895-96, 1,408,777 acres; but, although the acreage was larger in the latter season, the number of bushels of wheat produced was less than one-half, as can be seen by the following figures: In 1894-95, 11,445,878 bushels; 1895-96, 5,656,415 bushels, showing a deficiency of 5,789,463 bushels. This deficiency, however, has been more than compensated by the additional price per bushel realized, namely, 4s. 6d. (\$1.09), as against 1s. $7\frac{1}{2}$ d. (39 cents) for the previous season, the sum being—season of 1894-95, \$4,519,693.08; 1895-96, \$6,185,287.98.

The prospects for the coming season are somewhat disappointing, although it is impossible, at this date, to give more than an approximate estimate of the yield. It is now considered certain that there will be a deficiency in this important cereal of 483,750 bushels. This deficit can be accounted for on account of the weather conditions not being favorable; a dry winter and

the prevalence of cold winds checked the growth of vegetation of all kinds, and, at one time, fears of an almost total failure of the crop were entertained, but a fall of rain in September saved the crop and it is now estimated that the prospects are slightly better than last season, but it is not expected that Victoria will produce enough wheat for her own requirements. The following is an approximate estimate for the season of 1896-97: Number of acres under cultivation, 1,490,000; number of bushels produced, 6,766,250; average number of bushels per acre, 4.54. The requirements of the colony of Victoria are 5,750,000 bushels; seed wheat for the coming season, 1,500,000 bushels, which will leave a deficiency of nearly 500,000 bushels.

For the past four or five years, both the wheat-growing areas and the harvest yields have shown a gradual falling off in proportion to the population. This may be accounted for, first, from the drought that has prevailed throughout the colony for the past few years, and, second, the low price of the cereal has not stimulated farmers to increase the acreage. For the purpose of comparison, I append a table giving the average yield in bushels and the average number of bushels to the acre.

Year.	Area.	Yield.	Average.
	<i>Acres.</i>	<i>Bushels.</i>	<i>Bushels.</i>
1889-90.....	1,200,000	11,912,500	9.92
1890-91.....	1,209,000	14,250,000	11.78
1891-92.....	1,247,000	13,387,500	10.73
1892-93.....	1,375,000	16,471,000	11.98
1893-94.....	1,395,000	13,985,000	10.02
1894-95.....	1,457,000	13,766,500	9.44
1895-96.....	1,486,000	7,675,000	5.16
1896-97.....	1,493,000	6,904,000	4.62

It will be seen that the average for this season will be less, as in certain districts there is a total failure of the crop, and in others, the crop was only saved by the opportune fall of rain at the most critical time. In other districts, where the farmers took advantage of the irrigation channels, the crops are really good, and, with the high prices now ruling, will, to a certain extent, compensate for the low price of the past few years. It is probable that more attention will be devoted to wheat in the future and more attention will be paid to irrigation, which will be the means of producing good yields of wheat even in the dry seasons.

The other cereals raised in this colony are oats, barley, maize, rye, pease, and beans. I append a table giving the number in bushels of each raised in the seasons of 1894-95 and 1895-96:

Cereals.	1894-95.	1895-96.	Increase.	Decrease.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
Oats.....	5,633,286	2,880,045	.....	2,753,241
Barley.....	1,596,463	715,592	.....	880,871
Maize.....	294,555	351,891	57,336	.....
Rye.....	18,378	8,524	.....	9,854
Beans and pease.....	716,193	287,200	.....	428,993

It will be seen by the above table that, next to wheat, the oat crop is the most important cereal produced in this colony, and although the area under oats this year is greater than last, yet, as will be seen, the yield is much less. Owing to the favorable conditions of the season, sowing was continued much later than usual, some of the farmers plowing as late as the middle of August, but, by that time, the price of seed wheat was high and many farmers put in oats instead; in some districts, this was the only cereal sown. These late-sown crops, however, failed completely; they were too short and thin to harvest and the larger portion was fed to stock. Last year, the area under oats was 255,503 acres, while this year the estimate is put at 300,000 acres, but owing to the large number of failures, the average yield is about the same. Last year, a general average of 12 bushels was obtained, but this year the average will be less than $11\frac{1}{2}$ bushels to the acre, which will give an aggregate yield amounting to 3,450,000 bushels. Where irrigation has been practiced, good returns are promised, but, unfortunately, the area which has been artificially watered bears only a small proportion of that under crop. However, a larger area has been watered this year than last, and it is worthy of note that a greater number of farmers who, last year, were opposed or indifferent to irrigation, have now become enthusiastic in favor of irrigation legislation, and if they continue to follow up the practice, the dry season, serious as it has been, will prove to be a blessing provided it is lasting in its results and a few years of prosperity do not tempt the farmers to relax their efforts.

The barley crops this season, with a few exceptions, are a pronounced failure, and it is expected that there will be a greater scarcity of barley than of any other of the cereals. This may be accounted for from the fact that there was a much smaller area sown than last year, and as barley can not stand the effects of drought nearly as well as wheat, were it not for the favorable season experienced in the coast districts, the average barley yield would be the smallest on record; the average sample of grain would be also very poor. All the grain is very thin, though high enough in color. In the latter respect only does it come up to the requirements of malsters, who like a plump grain and will not risk purchasing a thin sample deficient in germinating power. Many of the remarks made in reference to the oat crop will apply with equal force to barley. Only the early-sown crops will give payable yields or are likely to produce grain that is suitable for malting purposes. For this reason, malsters will have some difficulty in obtaining a sufficient supply. At all events, it is now pretty certain that farmers who are fortunate enough to have produced good malting barley this season can rely upon obtaining a high price for it, as the cost of importing grain from elsewhere is considerable. Last season, the area of malting barley under cultivation was 71,789 acres, which gave an aggregate yield of 624,388 bushels, or at the rate of 8.69 bushels to the acre. For this season, the area will not be more than 60,000 acres and the aggregate yield 450,000 bushels, or an average of $7\frac{1}{2}$ bushels to the acre, showing a decrease of nearly 200,000 bushels.

Of other than malting barley, the area sown this year was less than formerly. The area of this class of barley may be reckoned at 7,000 acres,

yielding, on an average, about 12 bushels to the acre, which gives a total yield of 84,000 bushels, or about 2,000 bags less than last year. Most of this is of the Cape variety, which yields heavily.

The area of land devoted to the growth of pease and beans does not vary much from year to year, though the number of bushels produced varies greatly. The cultivation of these crops is confined chiefly to the coast districts, where the pea crop particularly forms an important part of the rotation system adopted on nearly all the farms. On volcanic soils especially its fertilizing effect is marked, and it has proved to be an excellent cleaning crop for weed-infested land, the crop which follows pease, whether it be cereals or potatoes, being almost invariably good and clean. The rotation of crops is, therefore, being generally adopted by the farmers of this colony. The growth of pease is, to a large extent, superseding the bare-fallow system. In the cool districts, most of the farmers have now recognized the advantage of cultivating a crop that is profitable in itself and beneficial to the soil.

Beans, however, are not so extensively grown. In fact, far less attention is given to the cultivation of this crop than it deserves. Last year, the area under pease and beans is said to have been 32,766 acres, yielding 287,200 bushels, as against 716,193 bushels from 37,045 acres the previous season. For the present season, the average is about 34,000 acres, and as the crop as a whole promises well, an average return of about 18 bushels to the acre may be expected, which will give a gross yield of 612,000 bushels.

I append a table giving the number of acres under cultivation and the aggregate yield of the crop of oats, barley, pease, and beans.

Crops.	Area.	Average.	Yield.
	<i>Acres.</i>	<i>Bushels.</i>	<i>Bushels.</i>
Oats.....	250,000	12	3,800,000
Barley :			
Maltng.....	50,000	9	450,000
Other.....	8,000	18	144,000
Pease and beans.....	34,000	18	512,000

Although the crop prospects are not as good as in previous years, it is expected that the high prices which are realized will more than compensate for the shortness of the crop and that the season, as a whole, will be a profitable one for the farmers.

It is too early in the season to give even an approximate estimate of the maize crop, but the area under cultivation of this cereal is so small that it is hardly worth considering. The same may be said of the rye crop.

The adjoining colony of New South Wales being practically a free port, large cargoes of wheat have been imported from the United States; and under the ruling high prices wheat has reached in Victoria, viz, 6s. (\$1.46) per bushel, a large quantity of the American wheat found its way to this market, for which a duty of 2s. 11d. (70 cents) per bushel is charged.

DANIEL W. MARATTA,

MELBOURNE, *December 14, 1896.*

Consul-General.

MINT RETURNS OF AUSTRALIA.

The return of the Melbourne branch of the royal mint of England, given below, has just been issued. It is of much interest in connection with the gold discoveries in the colony of Western Australia. Almost all the gold produced in that colony is brought to the Melbourne mint, and a pretty sure criterion of the progress (or otherwise) of the industry is thus furnished. For the first nine months of the current year, the Melbourne mint has received only 152,259 ounces of gold from Western Australia, against 160,949 ounces last year, a decrease of 8,690 ounces being shown. Taken in conjunction with the exceedingly unsound boom now in full career at Perth, the capital of that colony, this falling off is an unhealthy omen. It would be unfair, however, to be too pronounced until the gold fields are in proper working order, but there is obviously room for the exercise of a great deal of caution on the part of investors.

As regards receipts of gold by the mint from other sources, it is very satisfactory to note that Victoria has, up to the present, supplied 580,330 ounces, against 526,570 ounces for the corresponding period of 1895, and if the same rate of increase is continued, the production of the colony for 1896 will be about 775,000 ounces. Imports of gold from New Zealand and Tasmania show large increases, but much less has been received from South Australia. The total quantity of gold received by the Melbourne mint from January 1 to September 30, this year, is 857,641 ounces, against 785,752 ounces for the corresponding period of last year, the increase being 71,889 ounces. The following is a statement of the receipts and issues of gold for the quarter ended September, 1896 :

Receipts of gold at the Melbourne mint.

From—	September quarter—		First nine months—	
	1895.	1896.	1895.	1896.
	Ounces.	Ounces.	Ounces.	Ounces.
Victoria.....	166,020.5	199,658.09	526,570.61	580,330.53
New South Wales.....	47.09	557.26	220.22	991.25
New Zealand.....	8,138.83	16,766.17	21,798.92	50,469.04
Queensland.....		44.54	7.31	47.85
South Australia, including Northern Territory.....	9,807.09	8,187.03	33,867.84	20,272.79
Tasmania.....	8,832.42	15,624.28	37,461.04	47,436.84
Western Australia.....	53,686.72	57,317.65	160,949.27	152,259.5
Transvaal.....				71.28
Natal.....			8.26	
Borneo.....				258.94
Light gold coin.....	55.11	41.79	262.42	109.51
Unknown.....	1,219.59	2,444.55	4,606.16	5,394.04
Total.....	247,807.35	300,641.36	785,752.05	857,641.57

The mint has no evidence beyond the statement of the depositor as to the source of the gold. The above table represents the amounts shown in the

mint books as having been received during the periods stated. Actual receipts are shown below :

Description.	Victorian.	Foreign.	Total.
	Ounces.	Ounces.	Ounces.
Gross receipts, according to mint books.....	199,658.09	100,983.27	300,641.36
Deduct receipts during last ten days of June, brought to account in September quarter.....	39,494.04	8,960.11	48,454.15
Total.....	160,164.05	92,023.16	252,187.21
Add receipts during last ten days of September, brought to account in December quarter, 1896.....	36,698.19	24,545.55	61,243.74
Quantity actually received in September quarter, 1896.....	196,862.24	116,568.71	313,430.95
Quantity actually received in September quarter, 1895.....	195,590.3	99,103.6	294,693.9

Of the gold received in September quarter, 1896, 1,803.73 ounces were reissued for export.

Issues of gold during the quarter.

Description.	Weight.	Value.	
	Ounces.		
Gold coin issued.....	300,283.42	£1,169,243	\$4,866,500.00
Gold bullion issued.....	2,276.93	9,502	43,798.50
Total.....	302,560.35	1,178,745	4,910,298.50

DANIEL W. MARATTA,

MELBOURNE, *October 1, 1896.*

Consul-General.

DISCOVERY OF ZIRCONS IN TASMANIA.

Among the many valuable discoveries of late in the colony of Tasmania, one which has created much interest in mining circles has recently been partially developed. It consists of a rare and unique deposit of zircons, allied with other gems and rare earths. The gems found in this deposit are chiefly zircons, sapphires, and cinnamon rubies. The first named are found in large quantities and in every variety of color. Many of them have been cut and polished with very gratifying results, being hard and of good luster. The specific gravity of the zircon is 4.7, thus being heavier than the diamond, which is 3.75; its hardness, compared with the diamond, is 7, the latter being 10. At the same time, it is purely incandescent, being unaffected by the most intense heat, thus proving it to be of high commercial value for use in the manufacture of mantles for incandescent lights. It must be understood that the product of the gem, viz, oxide of zirconia, is used for the above purpose, not the gem itself. The composition of the pure zircon is 64 per cent zirconia and 36 per cent silica. Analyses by Dr. W. H. Gaze, of Melbourne, of two samples of zircons from the above-mentioned deposit give 63 per cent and 64 per cent of zirconia, thereby

testifying as to the purity of the gem. The rarer earths, viz, lanthanum, thorium, didymium, niobium, erbium, yttrium, cerium, and chromium, are all more or less present, and will be seen by Dr. Gaze's report to be of high commercial value.

The property which contains this rare deposit has been purchased by a Melbourne syndicate. It comprises an area of 105 acres, being 80 acres reward claim granted by the Government of Tasmania and 25 acres freehold. It is situated on the northwest coast of Tasmania, about midway between Emu Bay and Circular Head, and is easily accessible by road from either port. The property is heavily timbered, among which are trees of unusual height and girth. There is also permanent water on the ground. A large amount of work has been done in cutting races and forming dams for sluicing purposes, much labor being expended in removing the heavy timber from the creeks.

The deposit of zircons, etc., is found in the bed and sides of the creeks, covering about a chain in width. It has been tested for over a mile in length. From about 9 to 18 inches from the surface, a gravelly wash is met with, averaging about 8 inches in depth. This wash contains the zircons and other rare earths or minerals, and rests in a blue-clay bed from 1 to 2 feet in thickness; then occurs a sandstone bar. The zircons and by-products are obtained by trummeling and sluicing, the best results being secured by grading and concentrating by gravitation. About 2 tons of concentrates have been shipped to Melbourne, from which two parcels have been forwarded by mail steamer to London, one shipment of 5 cwts. to the company's agent, and one of 5 cwts. to Germany, through a London house, for treatment and analysis. The best analysis made here gives the following results:

Analysis of contents of ore crudely tested.

	Per cent.
Tixon	72.5
Black sand containing rare earths.....	7.5
Sand containing small quantities of rare earths.....	15
Tailings (worthless).....	5
Total.....	100

The following is a copy of an article dealing with the discovery, published in the Australian Mining Standard, of October 8, 1896:

As showing the wealth of Tasmania in various metals, an exhibit by the Shekleton Mining Syndicate, shown on the window of Mr. L. Beer, of 366 Collins street, Melbourne, is of considerable interest. The exhibit consists of the concentrates in marketable form, cut gems, and some of the rarer earths. The principal rare earth is zirconia, which is extracted from the zircons, which have somewhat the appearance of rubies.

Numerous deposits of zircons have been discovered in Europe and America, as well as in Australasia, but the rarer earths are very infrequently associated with them, as in this instance. Zirconia, apparently, is the basis of the metals or rare earths used in the manufacture of mantles for the incandescent lights, with which are associated the following metals or earths, viz, thorium, erbium, lanthanum, yttrium, cerium, niobium, didymium, and berillium, in their respective proportions. According to an analysis made by Dr. W. H. Gaze, of Melbourne,

the Shekleton Company's deposit of zircons contains uranium, chromium, titanium, niobium, didymium, lanthanum, thorium, and yttrium, thus making this deposit of more value than other zircon deposits. The difficulty of obtaining these rarer earths and extracting the metals from them has made them of very high commercial value. For instance, the pure metal zirconium is worth £1,115 (\$5,426.14) per pound troy, while the oxide of zirconia, the first product from the zircons and from which zirconium is obtained, is only worth 30s. (\$7.29) an ounce. The true zircon contains about 64 per cent of zirconia, and the analysis by Dr. Gaze states that this deposit is of true zircons. Dr. Gaze has been experimenting to discover a cheaper method of extraction of zirconia than has hitherto been known, and has been most successful and probably will eventually lead to the manufacture of the metal in the colonies.

Among the other exhibits will be found a sample of the oxide of zirconia, extracted from the company's ore by Dr. Gaze.

The property of the company consists of an area of 105 acres, being 25 acres freehold and 80 acres lease (reward claim granted by the Government to Mr. R. L. Skinner, the discoverer of this rich deposit), and is situated on the northwest coast of Tasmania, about midway between Emu Bay and Circular Head, and is also convenient to road and post.

The deposit now being worked by the company is the richest and largest of its kind discovered. Mr. Montgomery, the Tasmanian Government geologist, reported on this mine during the winter of 1895 and was very much impressed, spending a whole day fossicking in the creeks and washed out about 25 pounds' weight of zircons, sapphires, and corundum. Our museums are indebted for many beautiful specimens of zircons, sapphires, corundum, and spinel obtained from this property. A great deal of permanent work has been carried out in the construction of dams and cutting races to conduct the water to the sluice boxes and trummels, the method of treating the wash being similar to that used in procuring tin.

As the word zircon conveys little meaning to the general public, perhaps a few words in reference to it will be apropos. The composition of the zircon, according to Streeter, is 66 per cent of zirconia and 34 per cent of silica. It is a gem of considerable brilliancy and hardness, and is heavier than a diamond. Its specific gravity is 4.7, as against 3.75 of the diamond, the hardness is 7 and the diamond is 10. Zircons, after the color has been extracted by heat, have been used for encrusting the backs of watch cases, and greatly resemble the diamond, being perfectly white and of good luster. Again, the zircon is purely incandescent, being, therefore, impervious to heat. This feature makes it of value as possessing such a high percentage of zirconia, which has been already stated as forming the basis of the metals used in the manufacture of mantles for incandescent lights. Included in the products of this deposit is found a large percentage of corundum. This is valuable on account of its abrasive properties, being used in the manufacture of emery wheels for gem cutting.

The zircons and other gems and metals are found in a gravelly and quartzite wash, about an average of 2 feet from the surface of the banks creeks. It has been proved to extend over an area of a chain in width and a mile in length, and has an average depth of 8 inches. The wash rests on a blue-clay bed, under which a hard sandstone bar occurs. One ton of concentrates was shipped to Melbourne about three weeks ago, and another 15 cwts. is to arrive during the week. It is the intention of the directors to ship about 5 cwts. to their London agent at once, who is instructed to have a thorough analysis made.

The report of Mr. W. H. Gaze, an expert in gem mining, is as follows:

"As to the minerals used in incandescent-mantle lighting, they belong to the rare metallic earths of the cerium series and zirconia. They are: Zirconia, the most important, and forming about 60 per cent of the composition used; thorium, valuable white light; lanthanum, valuable white light; erbium, gives greenish tints to Welsbach mantle; yttrium, used in small quantities; cerium, less than 1 per cent used in mantles; niobium, not much used; didymium, not much used; berillium, not much used; magnesium, only used in some lights of non commercial value.

"The most valuable for lighting are the first three. The next three—erbium, yttrium, and cerium—are used in small quantities only. Erbium and yttrium have high commercial value.

Cerium is cheap, and only 1 per cent used. The first six are used in the now celebrated Welsbach mantle; the others are used by various companies in combination with some of the first six. But zirconia is the basis of all the known mantles, and will be even more extensively used in the future.

"The minerals you have associated with the zircon samples which I have to-day selected for exhibition to the meeting is a very rare mineral known as pyrochlore, of which there are several distinct varieties. They are, however, all composed of two rare metals—niobium and uranium—with some of the cerium metals. It may be described as niobate of uranium, with cerium, thorium, yttrium, lydidium, and titanium. The percentages of each metal varies, and often some of them are absent. Thorium and yttrium are often present to the extent of 10 per cent each. At present, I have only determined niobium, uranium, and titanium, and have a residue containing the other rare earths. Uranium is contained in very considerable quantities. It is a rare metal, of which there are only two mines worked in the world, though small deposits have been worked out in America. It is much in demand for glass and porcelain painting and allied arts, and is of high commercial value on account of its rareness and the fact that no substitute can be found.

"On the whole, I consider your deposit a valuable one, which should secure a ready sale in the English and German markets, where the pyrochlore can be manufactured into rare earths for the incandescent mantles and uranium pigments.

"Having now completed the analysis of your mineral, I have to report as follows:

"In the first place, the mineral varies much in composition. It is, therefore, impossible to get two results alike, especially when one has to pick out hundreds of little grains to obtain enough to operate on, and there is no certainty that all the grains are identical. The mineral is of very complex nature, as the analysis below demonstrates. In some instances, chromium has to a great extent replaced uranium; in others, lanthanum and didymium replace thorium and yttrium. With more compact and larger specimens, better results should be obtained. In some instances, only traces of the rare earths were obtained. I am not sufficiently in touch with the market for these rare earths to place any value on your mineral; but while less refractory ores, such as monazite, cadolinite, etc., are obtainable, the demand for so refractory a mineral is not likely to be great. Zircons will, however, become of greater value as the visible supply diminishes.

"Assay of Shekleton minerals, nitrate of uranium and chromium, a variety of pyrochlore: Uranium,* 5 to 0.5 per cent; chromium, 10.5 to 12.5 per cent; titanium, 12 to 13 per cent; niobium,* 4.5 to 2.5 per cent; iron, 25.5 to 27.7 per cent; magnesium, 2.2 to 0.5 per cent; alumina, 7.3 to 6.2 per cent; lime, 2.6 to 1.5 per cent; silica, 15 to 12 per cent; didymium,* 7.5 to 0.5 per cent; lanthanum,* 6.2 to 2.2 per cent; thorium,* 1 per cent to traces; yttrium,* 1.5 per cent to traces."

DANIEL W. MARATTA,

MELBOURNE, *November 18, 1896.*

Consul-General.

BOOT AND SHOE TRADE IN AUSTRALIA.

The necessity of the United States buying so extensively of a few Australian products impresses me with a feeling that our people should extend their markets in these regions, and one line in which I feel sure our trade may be extended is boots and shoes. I am not well informed as to the trade throughout Australasia, but have given it some attention, as applied to New South Wales.

* Of great commercial value.

The following table, taken from the Government Statistical Register for 1894, latest now out, gives the recorded facts regarding the industry:

Year.	Number of boot factories.	Hands employed.		Pairs of boots made.
		Males.	Females.	
1884-85.....	68	1,871	418	.....
1885-86.....	65	1,672	433	.....
1886-87.....	68	1,856	416	*1,881,210
1887-88.....	60	1,837	436	2,278,612
1888-89.....	57	1,618	427	2,559,980
1889-90.....	59	1,955	465	2,196,815
1890-91.....	60	2,262	544	2,634,254
1892.....	66	2,230	478	2,500,000
1893.....	54	2,429	661	2,545,061
1894.....	68	2,716	704	2,611,700

*The earliest obtainable records.

The lasts are all imported; they are chiefly cast iron, and come mainly from Germany. The manufacturers here, so far, have not published a catalogue, or, at least, the largest one tells me none have done so, though I am informed that one will soon publish such a catalogue.

As the total population of the colony is but about 1,250,000, it is plain, reasoning from the known average wear per capita for boots for the people of other countries, that the local production satisfies a large part of the demand.

However, from my own observation (though I am not an expert), I think there is little fine foot wear made in any of these factories. The leather, locally produced and locally tanned, is very durable, but, as a rule, not very fine. The coarse, heavy, everyday foot wear is locally produced, while the fine wear, and more especially the ladies' ware, is imported.

The following table gives the total importations of boots and shoes into New South Wales for 1895:

From—	Packages.	Value.
Victoria.....	1,279	£12,249
Queensland.....	102	1,335
South Australia.....	324	3,730
Western Australia.....	31	454
Tasmania.....	35	556
New Zealand.....	48	647
United Kingdom.....	16,539	244,258
Canada.....	76	561
Hongkong.....	129	435
Austria.....	277	3,861
France.....	78	1,926
New Caledonia.....	2	27
Germany.....	1,258	19,409
Italy.....	5	794
Japan.....	1	8
United States.....	503	7,513
Total.....	*20,687	297,763

*I can not determine the number of pairs.

The duty for the year under consideration was 10 per cent, which was removed by the act taking effect on January 1 last. At the present time, there is no duty on manufactured goods of necessary consumption.

It will be seen by the above tables, that of the total imports of boots into New South Wales, but little over 0.025 per cent came from the United States.* Our manufacturers should not be satisfied with this condition of affairs, especially when the superiority of American foot wear seems to be so well understood in this country.

I have inquired for the reason of this of several extensive dealers, and they say to me: "Your people do not study our tastes or demands. The American and the Australian foot, as well as habit and taste, is somewhat different. Your boots, as a rule, are too narrow, too small, and too straight. They are very fine and pretty, but they do not fit." Then, too, the foot wear here is expensive and I really question whether our dealers bring their best goods to Sydney. The ladies here, especially, like American boots, but they wear them to a very limited extent, as the above table shows.

The people here are usually well dressed, but the feet are often neglected. They do not, on the average, look dressy. We should have a large share of the boot import trade of Australasia, and my notion is that, if some of our great factories should send an expert, with authority to act upon his observations, we could very greatly increase our trade.

GEO. W. BELL,

SYDNEY, December 14, 1896.

Consul.

JAPANESE TRADE WITH AUSTRALIA.

On the 5th instant, there arrived in Sydney harbor the *Yamashiro Maru*, the pioneer steamer of the Japanese Shipping Company, bearing the appellation of Nippon Yusen Kaisha. This great company has already 70 ocean-going steamers, with an aggregate tonnage of 186,000 tons, doing business on the high seas, and about 50 smaller ones engaged in the coast trade of Japan.

The *Yamashiro Maru* is a fine iron steamer 301 feet long, 43 feet beam, and 19 feet depth of hold, with a gross measurement of 2,528 tons. She is built on the spar-deck plan and carries Lloyd's highest class. She has excellent passenger accommodations, with electric lights and other modern conveniences. She has fine engines of the compound type, and has a speed of 14 knots an hour. The termini are Yokohama (Japan) and Melbourne (Australia), and the ports of call are Nagasaki, Moji, Hongkong, Thursday Island, Townsville, Brisbane (Queensland), and Sydney (New South Wales).

The distance between the termini is 6,818 miles and the time of the voyage, including stops, is to be about twenty-eight days. Besides the freight business, it is believed there will soon be a large passenger traffic, chiefly from tourists. The service is to be monthly, and this new line, I am

*This is a little misleading, as some American boots are "imported" from England.

informed, has an extra direct annual subsidy of £70,000 (\$340,200). The Nippon Yusen Kaisha has one line running to London and Antwerp, one to India, and one to the United States, and now, this one to Australia. All are heavily subsidized by the Japanese Government.

Considerable of the cargo of the *Yamashiro Maru* was for New Zealand, transhipped here, and consisted largely of porcelain, pottery, lacquer work, and fish oil.

The *Yamashiro Maru*, like many others of the Nippon Yusen Kaisha steamers, is commanded by an Englishman, Capt. John Jones.

From the Daily Telegraph of November 6, I clip the following, published as an interview with Captain Jones, who, I am informed, has a large knowledge of Japan, her commercial possibilities and aspirations, and it seems to me this information will be as valuable to our people as to Australians:

The Japanese people (Captain Jones observed) are in very much the same position as the people of England. They number 40,000,000—about the population of Great Britain and Ireland; they live in an island country of the same area; and they are becoming dependent upon foreign countries for a large proportion of their food. With the lapse of each year, and especially since the war, this dependence on outside sources is increasing. The Japanese authorities have been much concerned to know why their people are smaller than the European races. They believe they have discovered the reason. They have concluded that it is owing to their dieting almost exclusively on rice and fish and to the want of meat. The Japanese are consequently now becoming meat eaters, and the movement in this direction is a national one—almost a patriotic one. The heads of families make a point of giving their children meat once a day if they can afford to do so, and when they are drilling or working hard, Japanese men have meat twice a day. The older generation do not take to meat very readily. The taste for it has to be acquired; but when a Japanese does acquire the taste for European food, he can not do without it.

With this change in habit, the live stock in Japan is rapidly decreasing. Eight or ten years ago, I could purchase roasts of beef in Japan for 8 cents per pound; now it can not be got under 28 cents. With these facts in mind, the Nippon Yusen Kaisha expect that there will soon be a big export trade in frozen and tinned meat from Australia to Japan. As the Japanese are a prosperous, go-ahead people, and as they number 40,000,000, there is the possibility of a tremendous trade of this description, for Australia is essentially a meat-producing country.

Another trade that is bound to assume very large proportions is the wool trade. The Japanese, whose clothing has hitherto been cotton, imported from India, are taking to wearing wool. Woolen clothing is more suitable for the climate, and the demand for this material has already led to the establishment of one or two large woolen mills.

There is another line in which a very large trade may be done with Australia. Japan has a force of about 20,000 cavalry. Japanese horses are small and useless for military purposes. The attempt to improve the breed by the importation of high-class stallions has practically failed. When, at the outbreak of the late war, the Japanese made drafts upon the Government horse-breeding establishments, it was found that only 5 per cent of the horses were really serviceable. Yes, only 5 per cent. The class of horse the Japanese want is a light, medium-sized animal—a class of stock you have in plenty and which is not accepted by the Indian Government. But to develop this trade cheap freights are necessary, as these horses are low priced. Yes, Australian horse breeders have already tried unsuccessfully to dispose of stock in Japan, but the horses they took there were too big and too expensive. Somewhat weedy animals, with plenty of endurance—the characteristics of your common horses—that is the kind the Japanese want.

I would call especial attention to the last paragraph. I have given some attention to the study of the Japanese horse and to the Japanese people as horsemen. The horse most suitable for the Japanese cavalry should be as tough as rawhide, not overgentle, and easily suited, both in quantity and quality, with food. I believe that the best horse extant for the use of the Japanese cavalry could be selected from the herds that thrive so well on our western plains, in eastern Washington, Oregon, California, and other mountain States.

The starting of this new line of steamers, the business calculations upon which the venture is based, and the Government policy which makes its continuance possible, suggests many interesting inquiries.

No people in the history of the world ever shook off the old and put on the new civilization with half the alacrity exhibited by the Japanese during the last dozen years. The suddenness in the national change, the impatient desire for the necessities and luxuries of modern civilized life, the tastes for improved food, raiment, and ornamentation, have well-nigh quieted the fears that these curious people will remain patient workers at old wages—while skillfully producing by new methods—and thus swamping the world with goods, without buying the products of others with what they sell to others.

It seems that civilization, whether it comes through the social evolution of a thousand years or social revolution of ten years, brings the same result—an insatiable desire for a higher plane of living. It seems almost certain now, that the wants of the 40,000,000 people of Japan will so far outrun their power to produce, even though aided by modern methods, that their trade demands will increase with their productive capacity, and that it will require their whole surplus to fill their total deficiencies.

Another interesting conclusion presents itself by the opening of this line, and that is, when any one great nation resorts to the policy of granting extensive subsidies for ocean carriage, all other nations may have to follow suit or surrender the sea. In this, Japan, which has just aroused from centuries of torpor, is in advance of the United States. She is yet willing to toil in the garden, though she insists upon marketing her own vegetables.

In the near future, the great Pacific will be the theater of mightier commercial movements than was ever known in any former age. The question now is, shall a new player, who, but yesterday, was born to the realization of the beauties of progress and who has just appeared on the stage, take the leading part in this stupendous drama? Is the great Republic, whose 2,000 miles of western shore is washed by the Pacific, to busy herself with the pleasing task of simple production, while other people enjoy the splendor of the sea and the profits and pleasures of traffic?

Japan now has a larger steamer-carrying trade on the broad Pacific than the United States, and Americans who are near enough to watch the shifting scenes of this new and rapidly developing contest for commercial supremacy find little matter for pride in the present tendencies.

GEO. W. BELL,
Consul.

SYDNEY, *November 16, 1896.*

COMMERCIAL MUSEUM IN JAPAN.

I transmit herewith a pamphlet issued by the management of the Osaka Commercial Museum, in which are set forth the rules and regulations of that establishment.

The Osaka Commercial Museum is located in the city of Osaka, the great manufacturing center of Japan. Osaka is a city of about 600,000 inhabitants located at the head of the bay of that name and distant about 18 miles from the port city of Hiogo (Kobé). It is the center of the cotton-spinning industry, and, I may add, of nearly every other industry of the Empire.

The purpose of the museum is to afford a central place for the exhibition of the productions of native and foreign producers. I would advise American producers desiring to take advantage of this means of placing their products before the consumers of Japan, to put them into the hands of a competent agent, as it would scarcely pay any one producer to send a special agent to act for him alone. The agent employed should be thoroughly posted in the lines he intends representing as to every detail, so as to be able to figure on such alterations as to style, material, etc., as the Japanese dealer may desire. It would also be wise for him to measure up his exhibits and precede them to Japan for the purpose of procuring required space and registering in the patent office such devices as it may be desired to protect from imitation.

I am of opinion that the trade of Japan in American productions can be appreciably increased if our producers will take advantage of the offer of the Osaka museum and will follow out the methods above described, which will bring their productions to the immediate attention of the consumers of this Empire with the least possible expense.

JAS. F. CONNELLY,

OSAKA AND HIOGO, *December 29, 1896.*

Consul.

RULES OF THE OSAKA COMMERCIAL MUSEUM.

I.—THE OBJECT OF THE INSTITUTION.

(1) The object of the Osaka Commercial Museum is to increase the exportation of home produce and manufactures and to facilitate the importation of foreign merchandise and to serve, at the same time, as a means of promoting domestic trade and improving the various branches of industry in this city.

II.—THE ARRANGEMENT OF SAMPLES.

(2) The sample department consists of the three following sections: (a) The section of exports, (b) the section of imports, (c) the section of domestic produce and manufactures.

(3) The section of exports contains samples, patterns, and raw materials of foreign produce and manufactures which are calculated to supply useful information in the development

of export trade of Japan, and, especially, of those articles which offer, or are likely to offer, competition with similar exports from Japan, as well as those articles in foreign markets which Japan may hope to supply in future, though at present their supply is obtained only from some other foreign countries.

(4) The section of imports contains samples, patterns, and raw materials of those articles of merchandise of foreign origin which form the principal items of importation into this country.

(5) The section of domestic produce and manufactures devotes itself to the exhibition of the samples, patterns, raw materials, etc., of domestic produce and manufactures at the request of exhibitors belonging to this city and various other cities and prefectures.

(6) The classification and arrangement of the exhibits in the first two sections above enumerated shall be made in accordance with the following schedule. The arrangement in the third section shall generally follow the system adopted in the section of exports.

The section of exports.

Group I.—Mineral products:

- Class 1.—Copper, ingot.
- Class 2.—Copper, bar, slab, etc.
- Class 3.—Coal.
- Class 4.—Sulphur.
- Class 5.—Antimony.
- Class 6.—Bronze.
- Class 7.—Stones for building.

Group II.—Marine products:

- Class 1.—Shells of "sea ear."
- Class 2.—Sharks' fins.
- Class 3.—Seaweed.
- Class 4.—Fish wax.
- Class 5.—Fish oil.
- Class 6.—Fish, preserved.

Group III.—Animal and vegetable products:

- Class 1.—Hairs, skins, furs, shells, horns, etc.
- Class 2.—Oil, tallow, etc.
- Class 3.—Vegetable wax.
- Class 4.—Tobacco leaves.
- Class 5.—Charcoal.

Group IV.—Timbers and wood:

- Class 1.—Timber for building purposes.
- Class 2.—Railway sleepers.
- Class 3.—Wood for cabinetwork.

Group V.—Cereals and flours:

- Class 1.—Rice.
- Class 2.—Flours.
- Class 3.—Wheat.

Group VI.—Beverages and provisions:

- Class 1.—Tea, black.
- Class 2.—Tea, green.
- Class 3.—Tea, brick.
- Class 4.—Beer.
- Class 5.—Salt.
- Class 6.—Sauce.
- Class 7.—Preserved provisions.

Group VI.—Beverages and provisions—
Continued.

- Class 8.—Pepper.
- Class 9.—Ginger.

Group VII.—Drugs and medicines:

- Class 1.—Camphor.
- Class 2.—Camphor oil.
- Class 3.—Menthol crystal.
- Class 4.—Menthol oil.
- Class 5.—Gallnuts.
- Class 6.—Sulphuric acid.
- Class 7.—Ginseng.

Group VIII.—Dyes and paints:

- Class 1.—Indigo.
- Class 2.—Dyeing barks.
- Class 3.—Safflower.
- Class 4.—Ink (for painting).

Group IX.—Silk and materials for textile
fabrics:

- Class 1.—Silk, raw.
- Class 2.—Cocoons.
- Class 3.—Silk, waste.
- Class 4.—Silk thread.
- Class 5.—Floss silk.

Group X.—Textile fabrics:

- Class 1.—Silk piece goods.
- Class 2.—Silk and woolen mixtures.
- Class 3.—Cotton piece goods.
- Class 4.—Silk and cotton mixtures.
- Class 5.—Cotton and woolen mixtures.
- Class 6.—Figured cotton goods.
- Class 7.—Cotton lamp wicks.
- Class 8.—Linen.
- Class 9.—Silk and linen mixtures.
- Class 10.—Linen and cotton mixtures.
- Class 11.—Linen and woolen mixtures.
- Class 12.—All other textile fabrics.
- Class 13.—Embroidery.

- Group XI.—Porcelain and earthen ware:
 Class 1.—Porcelain ware.
 Class 2.—Earthenware.
 Class 3.—Unglazed earthenware, bricks and tiles.
- Group XII.—Manufactures of metal:
 Class 1.—Copper wares.
 Class 2.—Bronze wares.
 Class 3.—Wires and wire works.
 Class 4.—All other manufactures of metals.
- Group XIII.—Bamboo wares, woodworks, etc.:
 Class 1.—Bamboo wares.
 Class 2.—Woodworks.
 Class 3.—Rattan wares.
- Group XIV.—Paper and paper wares:
 Class 1.—Wall papers.
 Class 2.—Paper of strong texture.
 Class 3.—Imitation leather.
- Group XV.—Lacquered wares (foreign imitations of Japanese articles):
 Class 1.—Lacquered wares.
 Class 2.—Varnished wares.
- Group XVI.—Works in ivory, tortoise shell, horns, etc.:
 Class 1.—Ivory works.
 Class 2.—Tortoise-shell works.
- Group XVII.—Gold and silver wares and jewelries:
 Class 1.—Figured gold and silver wares.
 Class 2.—Inlaid works of gold and silver.

- Group XVII.—Gold and silver wares and jewelries—Continued.
 Class 3.—Plated wares of gold and silver.
 Class 4.—Precious stones.
 Class 5.—Imitations of precious stones.
 Class 6.—Works in shells, precious stones, etc.
 Class 7.—Crystal and marble works.
 Class 8.—Coral works.
- Group XVIII.—Furnitures:
 Class 1.—Furnitures.
 Class 2.—Ornamental furniture.
 Class 3.—Table utensils.
 Class 4.—Kitchen utensils.
 Class 5.—Mats for floor.
- Group XIX.—Clothing and apparel:
 Class 1.—Artificial flowers.
 Class 2.—Toilet articles.
 Class 3.—Lace.
 Class 4.—Silk handkerchiefs.
 Class 5.—Hats and caps.
 Class 6.—Gloves.
 Class 7.—Knittings.
 Class 8.—Shoes, boots, etc.
 Class 9.—Umbrellas.
- Group XX.—Stationery.
- Group XXI.—Toys.
- Group XXII.—Miscellaneous articles:
 Class 1.—Matches.
 Class 2.—Fans.
 Class 3.—Fans, round.

The section of imports.

- Group I.—Mineral products:
 Class 1.—Iron, pig.
 Class 2.—Tin plates.
 Class 3.—Iron, bar and rod.
 Class 4.—Iron, plate and sheet; the same, galvanized.
 Class 5.—Iron wire, nails, screws, etc.
 Class 6.—Brass.
 Class 7.—Steel.
 Class 8.—Copper wire.
 Class 9.—Lead, sheet.
 Class 10.—Tea lead.
 Class 11.—Mercury or quicksilver.
 Class 12.—Zinc, sheet.
 Class 13.—Saltpeter.
 Class 14.—Kerosene.
- Group II.—Marine products.

- Group III.—Animal and vegetable products:
 Class 1.—Furs and skins.
 Class 2.—Hides and leather.
 Class 3.—Sole leather.
 Class 4.—Ivory, shells, etc.
 Class 5.—Hairs, feathers, shells, horns, etc.
 Class 6.—Tortoise shells.
 Class 7.—Rattan.
 Class 8.—Cigars.
 Class 9.—Cigarettes.
 Class 10.—India rubber, crude.
- Group IV.—Manures:
 Class 1.—Beans, refuse.
 Class 2.—Oil cakes.
 Class 3.—Guano and other kinds of bird excrements.

Group III.—Manures—Continued.

- Class 4.—Artificial manures.
- Class 5.—Fish refuse for manure.
- Class 6.—Bones, cow and buffalo.

Group V.—Timbers and wood :

- Class 1.—Woods for building purposes.
- Class 2.—Woods for cabinetmaking and woodworks.

Group VI.—Cereals and flours :

- Class 1.—Beans, pease, and pulse.
- Class 2.—Wheat.
- Class 3.—Wheat flour.

Group VII.—Beverages and provisions :

- Class 1.—Beer and ale.
- Class 2.—Wine.
- Class 3.—Champagne.
- Class 4.—Coffee and other beverages.
- Class 5.—Milk, condensed and desiccated.

Class 6.—Butter.

Class 7.—Brown sugar

Class 8.—White sugar.

Class 9.—Molasses and sirup.

Group VIII.—Drugs, medicines, and spices :

- Class 1.—Phosphorus, amorphous.
- Class 2.—Caustic soda.
- Class 3.—Musk.
- Class 4.—Iodide of potash.
- Class 5.—Salicylic acid.
- Class 6.—Carbolic acid.
- Class 7.—Peruvian bark.

Group IX.—Dyes and paints :

- Class 1.—Dry indigo.
- Class 2.—Blue.
- Class 3.—Vermillion.
- Class 4.—Printing ink.
- Class 5.—Paint in oil.
- Class 6.—Extract of logwood.
- Class 7.—Mordants.
- Class 8.—Aniline dyes.

Group X.—Raw fibers, yarns, and threads for weaving purposes :

- Class 1.—Cotton, raw.
- Class 2.—Cotton on the seeds.
- Class 3.—Cotton yarn.
- Class 4.—Cotton threads.
- Class 5.—Hemp and jute.
- Class 6.—Wool.
- Class 7.—Woolen threads and yarn.
- Class 8.—Flax.

Group XI.—Textile fabrics :

- Class 1.—Muslin, shirtings of all kinds.
- Class 2.—T cloths.
- Class 3.—Cotton drills.
- Class 4.—Victoria lawns.
- Class 5.—Blankets.
- Class 6.—Flannel.
- Class 7.—Woolen cloths.
- Class 8.—Woolen cloths, mixed with cotton.
- Class 9.—Linen goods.
- Class 10.—Mousseline de laine.
- Class 11.—Satins, silk, and cotton mixtures.

Group XII.—Glassware.

Group XIII.—Metal ware.

Group XIV.—India-rubber ware.

Group XV.—Paper and paper ware.

Group XVI.—Works on gold, silver, and precious stones.

Group XVII.—Clocks and watches.

Group XVIII.—Furnitures and carpets.

Group XIX.—Clothings and apparel.

Group XX.—Stationery.

Group XXI.—Toys.

Group XXII.—Miscellaneous articles.

The foregoing schedule is intended to give only a very general idea of classification. This is the case especially with the section of domestic produce and manufactures, where there are many articles which can not be distinctly classified beforehand. Consequently, it will be found unavoidable to sometimes vary the order and number above set forth, according to the practical convenience of arrangement.

(7) To each of the articles on exhibit will be attached an explanatory card containing the following items :

(a) Number.

(b) Name.

(c) Place of purchase (if the article is a donation, the fact will be stated and the full name and address of the donor will be given).

(d) Date of purchase.

- (e) Place of production.
- (f) Nature of the article (*e. g.*, in the case of a textile fabric, mention will be made whether it is wholly of silk or mixed with cotton).
- (g) Quality (*i. e.*, the first, second, or third quality).
- (h) Use.
- (i) Size.
- (j) Market price or original cost.
- (k) Discount (in cases where discounts are usually made on wholesale transactions).
- (l) Amount of import (export) duty.
- (m) Places from which, or to which, imported.
- (n) The annual amount of consumption (if the present statistics can not be obtained, according to the latest information).

(o) Useful remarks.

(8) Besides the explanations mentioned in the preceding article, a document containing information on the following points will be prepared and placed at the office of the museum for the use, upon request, of persons interested in the subject.

- (a) Annual amount of production.
- (b) Principal places of consumption.
- (c) The names of principal firms engaged in exporting or importing the article.
- (d) Season of demand for the article and season of its sale.
- (e) Chief points of its adaptability to the tastes of consumers.
- (f) The needful improvements, if any.
- (g) Comparison with Japanese articles of similar type and the state of competition existing between the two kinds.
- (h) Bounty, if any, given upon its exportation and any other kind of governmental protection for the article.
- (i) Other important information.
- (9) Every one of the articles on exhibition will be numbered to facilitate reference to the catalogue, each class bearing a separate series of numbers.
- (10) All the expenses connected with the sections for exports and imports will be defrayed by the institution.

(11) Persons desiring to exhibit their articles in the section of domestic produce and manufactures must send to the office of the museum a written application containing the following particulars:

- (a) The full name, address, and occupation of the applicant.
- (b) The name of the principal firm, branch offices, agencies, sale rooms, etc.
- (c) The class of the articles to be exhibited.
- (d) The quality, quantity, and price of the same.
- (e) Annual production.
- (f) Space required for the exhibition.
- (g) Period of the exhibition.
- (h) Declaration to conform with the requirements of these rules.

(12) When the application is made in accordance with the requirements in the preceding article, the office will, at the earliest possible date, reply whether the application can be granted or not, and, in the former case, will designate at the same time the date for forwarding the exhibits.

(13) All the expenses of conveying, packing, unpacking, taking into the museum, and arranging the articles are to be borne by the exhibitor. But the show cases shall be furnished by the institution; nevertheless the exhibitor may, by a special permission, use his own case, if he so desires.

(14) Upon the arrival of the exhibits, the office will classify the articles and assign them proper places for exhibition. The exhibitor or his agent can attend at the time of assigning places, but he will not be allowed to make any protest as to the nature of the locations given.

(15) The exhibitor is required to pay exhibition charges at the following rate :

Table of charges to be paid for exhibition in the section of domestic produce and manufactures.

For—	For three months.	For six months.
	Sen	Sen.
1 section.....	10	18
2 sections.....	18	32
3 sections.....	24	42
4 sections.....	28	48

For every additional section, 6 sen will be charged for three months' exhibition and 10 sen for six months' exhibition.

By one section in the above table, is meant 1 superficial shaku square or a fraction thereof.

For articles requiring altitudinal space, such, for instance, as vases, shelves, etc., no extra charges will be made for upright space under 2 shaku; for such space over 2 and under 4 shaku, double charges will be imposed; over 4 and under 6 shaku, two and a half times the ordinary charges will be made, and for upright space in excess of 6 shaku, three times the schedule rates will be charged.

For exhibits requiring wall space, such as carpets, picture frames, etc., half the amount of the regular charges in the above table will be imposed.

(16) Exhibitors using their own cases must pay the charges according to the space they occupy.

(17) When commercial catalogues, price lists, etc., are exhibited along with the articles, the same charges will be imposed as in the case of regular exhibits.

(18) The charges for exhibiting articles will be calculated for three months from the time of exhibition, and paid invariably in advance for that period; and a discontinuance of the exhibition before the expiration of the term will not entitle exhibitors to a refund of paid charges.

(19) Every exhibitor is required to invariably attach to his exhibits his full name and address, the locality of his principal firm, branch shops, agencies, etc., as well as the quality and price of the articles exhibited. Whenever any change occurs in these particulars, he shall at once give to the office due notice to that effect, either verbally or in writing.

The information above referred to may be given both in Japanese and English, if deemed desirable from the nature of the articles.

Every exhibitor is required to furnish the office with full information respecting the sale of articles he exhibits.

(21) In selling his articles, the exhibitor shall charge the price which he has notified to the office, unless it has been much affected by some fluctuations in the market price.

(22) In case an exhibitor wishes to prolong his exhibition beyond the term engaged, he shall give due notice to that effect at least ten days previously and remit at the same time, by registered letter or some other manner, the amount of the charges for the additional three months. In the absence of such notice, the office, understanding that the articles are not intended to be continued on exhibition, will remove them at the expiration of the term, and will deliver them to the exhibitor, his agent, or his branch shop, as the case may be. In such cases, the institution does not hold itself responsible for the damages that may possibly be done to the articles in packing and transporting. All articles when withdrawn will be packed and forwarded at the expense of the exhibitor.

(23) Upon the receipt of the withdrawal of articles on exhibit, the office will pack and deliver them to the exhibitor or his agent. As to the delivery, packing, transportation, damages, etc., they shall be treated in the same manner as in the preceding article.

(24) Each exhibitor is allowed to register in the office without charge his address and the price list, advertisement, etc., of his exhibits.

(25) Exhibitors are at liberty to replace from time to time their articles on exhibit, and the office reserves to itself the right to order them to do so, whenever such removal is deemed necessary.

(26) While the office will undertake to clean and keep the exhibits in good order, and will otherwise take general care of them, it does not hold itself responsible for loss arising from accidental disaster or theft.

(27) Each exhibitor or his agent has free admittance into the museum at any time while it is opened. For this purpose, the office will furnish him with a special ticket of admittance, which he is requested to show without fail to the ticket inspector.

III.—PACKING.

(28) In connection with the museum, there is established a section of packing, where specimens, patterns, diagrams, and materials of different styles of packing merchandise will be exhibited for the information of all concerned.

(29) Specimens, patterns, etc., in the preceding article shall bear labels describing the dimensions, shape, etc., of the articles to be packed, the method best adapted for their transportation, and other facts calculated to give necessary information on this subject.

IV.—NOTICES AND ADVERTISEMENTS.

(30) There are provided in the institution special places for posting different kinds of notices and advertisements. Those who desire to avail themselves of this provision should send to the office a written application containing the following items (application may, however, be made orally, if unavoidable):

(a) The full name and address of the applicant.

(b) The subject of advertisement; the amount of wall space wanted for the same.

(c) Period of the advertisement.

(d) Declaration to conform to all the requirements of these rules.

(31) When application is made in the above manner, the office shall, as soon as possible, reply whether it can be granted or not. In regard to the payment of charges, the assignment of space, etc., they shall be treated in the same manner as in the case of the exhibits of domestic produces and manufactures.

(32) Those who desire to post bills, notices, and advertisements shall pay charges at the following rates:

Charges for advertisements.

Time.	1 section.	2 sections.	3 sections.	4 sections.	5 sections.	6 sections.
	Sen.	Sen.	Sen.	Sen.	Sen.	Sen.
10 days.....	25	48	68	85	100	113
20 days.....	40	76	108	136	160	180
1 month.....	50	95	135	170	200	225
2 months.....	80	152	216	272	320	360
3 months.....	105	200	284	357	420	473
4 months.....	125	238	338	425	500	563
5 months.....	140	266	378	476	560	630
6 months.....	150	285	405	510	600	675

For every additional section or month, 10 additional sen is charged.

By a section in the above table is meant 1 shaku square or a fraction thereof.

(33) The charges in the above table must all be paid in advance. In case of advertisement extending beyond three months, the amount for each three months must be prepaid at a time.

V.—BOOKS, MAPS OF REFERENCE.

(34) The institution has a library containing various works of importance on commerce and industry, which the visitors may consult for information.

(35) The library is provided with various kinds of pamphlets published by the institution and works on the following subjects:

- (a) Reports, statistics, etc., relating to communication and transportation.
- (b) Reports, statistics, etc., relating to commerce and industry.
- (c) The customs tariffs, etc., of the principal commercial nations.
- (d) Trade-marks and patents.
- (e) The latest publications relating to commerce and industry.
- (f) Maps, charts, and atlases.
- (g) Catalogues of commercial and industrial museums abroad.
- (h) Home and foreign newspapers and periodicals of commerce and industry.

(36) Visitors wishing to peruse any books in the library can procure them by signifying their desire to the attendant, to whom they must return the books when they retire from the library.

VI.—REPORTS.

(37) The institution will publish reports either periodically or at convenient times.

(38) These reports are intended primarily as the medium for giving the necessary explanations about the articles on exhibition in the museum. In addition to this, items of news considered to be interesting to the commercial and industrial circles will be transcribed from newspapers and periodicals both at home and abroad.

(39) These reports will be sold publicly at a reasonable price.

VII.—TEMPORARY EXHIBITION.

(40) When considered necessary, a temporary exhibition will be held either within or outside of the museum.

(41) Rules for such temporary exhibitions will be fixed specially at the time.

VIII.—LENDING OF SAMPLES ON EXHIBITION.

(42) Samples on exhibition, excepting those in the section of domestic produce and manufactures, may be lent or cuttings thereof given to those persons who are engaged in manufacture or commerce, provided they are domiciled in the city of Osaka.

(43) When a visitor wishes to borrow or procure samples, he shall signify his desire to the attendant, who will at once communicate the request to the director of the institution. Should there be no objection, the director will cause the article to be lent during hours that will cause no inconvenience to the exhibition, or direct that cuttings thereof be given to the applicant.

The applicants for samples on exhibition are required to make immediate payment for the same at the following rates:

(a) For borrowing samples of merchandise or patterns of packing, 5 per cent of the original price.

(b) For borrowing books, maps, etc., 5 per cent of the original price; for cuttings of samples, a certain amount to be designated by the office according to the original price of the articles.

In all those three cases, a proper appraisalment shall be made to determine the amount to be paid whenever the original price can not be ascertained.

In case the borrowed article is lost, damaged, or stained, proper compensation shall be made for the same by the payment of an amount of money to be determined by the authority of the institution based upon original price, transportation, expenses, etc.

IX.—EXHIBITION.

- (46) The museum will be opened to the public daily from 9 a. m. to 4 p. m.
 (47) Visitors must be provided with the tickets of admittance.
 (48) Tickets are sold at the gate and other suitable places for 2 sen apiece, visitors under 12 years of age being charged half the amount, and those under 5, admitted free.
 (49) Visitors are required to follow all the directions given by the officials of the museum and to strictly observe the rules notified at different places in the building.
 (50) When visitors wish for information concerning the exhibits, they can address inquiries to the officials in the office.

X.—ANALYSIS AND TESTING.

(51) There is attached to the institution a laboratory for making chemical analyses of chemicals, minerals, etc. The laboratory is also intended to provide manufacturers of this city with an institution where they can make inquiries on chemical subjects and thus to promote the industrial interests of the city. The applications for chemical analysis may, however, be rejected, when the convenience of the institution requires it.

(52) The applicants for chemical analysis must pay fees in advance at the following rates:

- (a) Analysis to ascertain the quality of articles, from 30 sen to 2 yen.
 (b) Analysis to ascertain the quantity of ingredients, from 50 sen to 5 yen.
 (c) In case an elaborate process is needed, involving considerable expense, the fees shall be charged according to the actual amount of expenditures.

(53) Those who desire chemical analysis and test of articles should send the articles to the office, accompanied with a written application mentioning the following items. (If the application is granted, the office will issue a due receipt for the articles in question.)

- (a) The full name and address of the applicant.
 (b) The name and quantity of the article.
 (c) Place of production.
 (d) The object in requesting the analysis.

(54) When manufacturers in this city wish to make inquiries on chemical subjects, they can send in application to that effect to the office of this institution.

Should they wish, however, for the periodical visits of experts to their factories, etc., to conduct inspection on the actual spots, they must apply in writing to the city office, setting forth the reason for such application.

XI.—MISCELLANEOUS RULES.

(55) Whenever samples or advertisements are considered antagonistic in their nature to the principles under which the institution has been organized, or injurious in any way, they shall not be allowed to be exhibited. Even after they have already been placed on exhibition they may be ordered away, in which event the charges will be refunded for the remainder of the period engaged.

(56) Any visitor violating these rules and others connected therewith may be denied admittance. Should the exhibitor or advertiser violate them for the second time, he shall thereby forfeit his right to exhibit his samples or to post his advertisements.

(57) In all cases of such forfeiture as is stated in the preceding article, the articles or advertisements shall be ordered away. Should their owner refuse to obey the order, they shall be taken down by the authorities of the institution, and the charges already paid shall be forfeited.

In a letter transmitted through the Department of State to Mr. Theodore C. Search, president of the National Association of Manufacturers, under date of December 16, 1896, Consul Connelly adds to the foregoing:

I am of opinion that it would be wise for your association, if the members determine to exhibit their productions, to send a competent person as their

agent, who must be able to explain all matters relating to the exhibits and take orders. So far as the exhibiting of novel labor-saving machinery is concerned, I would advise that the agent secure Japanese patent office protection for such machinery before placing the same on exhibition. I am pleased to state that such protection is made possible under the provisions of the lately ratified treaty between the Empire of Japan and that of Germany, as, under the favored-nation clauses, its advantages extend to our Republic.

As to the possibilities for increased trade in American productions with Japan by exhibiting at the Osaka Commercial Museum, I am clearly of the opinion that the sale of American productions will be increased if your association will send such articles as are used generally by the people of the United States that can be produced at prices which will place them in competition with like productions of European markets. It seems to me there is a large and growing market here for the following articles of European and American manufacture, to-wit: Iron piping, wire nails and tacks, stoves, gratings, shoes, bicycles, watches, gold and plated jewelry, leather, traveling bags and the different parts used in the construction of the same, all kinds of door, chest, and trunk locks, trunk hardware, electrical appliances and machinery of all kinds, and for the different products of cotton-seed oil, including common and toilet soap. I name the above productions because my attention is often directed to them, but it should not be taken for granted that they constitute the entire list of those that can be marketed here, and in this connection I repeat that all articles used generally by the consumers of the United States can be sold to the consumers of Japan. As to the most practical and least expensive method which the members of your association can employ in making their exhibits and securing profitable returns therefrom, I would suggest that the producers who desire to enter the commercial field of Japan agree upon an agent, who, after posting himself thoroughly as to details of the productions he is to represent, shall come to Japan, secure the required space, have his samples sent to him, and, after displaying them, proceed to do business in precisely the same manner as he would do in the home markets. If the agent does not understand the Japanese language, he can employ a thoroughly equipped interpreter (they are known here as "bantos") at from 75 to 100 yen per month, which would be equivalent to about \$40 in United States currency.

As to your query about lamp dealers in Osaka, I submit the following names as those of the principal dealers: Waichi Araki, Minami Kiuhojimachi, Kitaye iru, Shinsai Bashi dori, Osaka, Japan; Shotaro Komai, Minami Honmachi, Shichome, Higashi ku, Osaka, Japan. But you will pardon me for suggesting that should the members of your association determine to send an agent to Japan, as hereinbefore advised, it would be wise to leave the lamp business to him.

THE CHINESE TREATY PORT OF CHEFOO.

The port of Chefoo, the only treaty, or open, port in the province of Shantung, is situated on the northern side of the promontory of Shantung, which juts out in a northeasterly direction, and with the Regent's Sword (Port Arthur) guards the Gulf of Pechili, the water route to Tientsin and Peking.

Chefoo was opened to foreign trade by the treaty of Tientsin in 1858. Tungchow, a port 40 miles further north, was the port stipulated, but for several reasons, that port was abandoned in favor of Chefoo.

The United States consulate was established in this port in July of this year, so that now there are consuls from Great Britain, France, Japan, and the United States, and vice-consuls in charge of Russian and German interests, while other countries, such as Italy, Norway and Sweden, and Belgium are represented by merchants of the port.

Chefoo is famed as being the healthiest port in all Asia, and as a result, supports several hotels and many boarding houses; it has several fine beaches, and the roads in the town and neighborhood are far superior to those generally seen in the treaty ports of China.

The foreign settlement is under the supervision of a committee elected annually by the foreigners. Under this committee, all matters pertaining to lighting, policing, and municipal affairs generally are placed. This committee, for "general purposes," controls a local post-office, which does a regular postal business—receives, forwards, and exchanges mails, sells their own stamps, which will carry letters to any of the other treaty ports of China, but, of course, are not good elsewhere. The proceeds of the sales of stamps have been so large that the committee have been able to greatly beautify the walks, set out trees, pay for a small police force, lay out a recreation ground, and in many other ways improve the foreign settlement. There are also post-offices under the control of Japan, Russia, Germany, and the imperial customs.

The local post stamp will frank a letter to all the treaty ports in China, but not to Peking or into the interior; the customs stamp will carry a letter to all places where a custom-house is established and to Peking. Japanese stamps carry letters everywhere, except to Peking, and Russian stamps to Shanghai, Hankow, Kalgan, and Tientsin, in China, and throughout the Postal Union.

The port of Chefoo is the only port north of Shanghai that is open all the year, Tientsin and Niuchwang being shut off from the outside world by the ice, which closes the rivers early in December.

There are excellent steamer connections with Shanghai. The steamers of the three great coasting lines—Indo-China, China Navigation, and China Merchants—all stop here en route to Tientsin and Niuchwang when those ports are open, or make voyages to Chefoo only in winter. The China Merchants, as agents for the China Inland Steam Lighter Company, runs a

steamer (the *Kwangchi*) from Chefoo to Loongkow, Tiger Head, and Yangkok-kow, ports to the north. About four trips a month are made. The outward voyage cargoes consist of cottons and foreign goods; inward cargoes, the beautiful straw braid, besides pongee silks.

The ship belonging to the Chinese is allowed to touch at the above ports, a privilege denied to foreign-owned vessels. The advantages the native merchants have in patronizing this steamer is readily seen by the saving in transit taxes.

Cost of transportation between Chefoo and Taichowfu, Tiger Head, per steamship Kwangchi and land routes, respectively.

Description of goods.	Per steam-ship Kwangchi.	Land route.
<i>To Taichowfu, Tiger Head.</i>		
Cotton yarn.....per bale of 400 pounds...	*\$0.30	\$1.58
Duty.....	.19	(†)
Total.....	.49	1.58
Sheetings.....per package of 20 pieces...	.23	1.26
Duty.....	.11	(†)
Total.....	.43	1.26
<i>From Taichowfu, Tiger Head.</i>		
Silk pongees.....per 100 pieces...	.30	.70
Duty.....	.27	(†)
Total.....	.57	.70
Straw braid.....per 133½ pounds...	.23	.60
Duty.....	.08	(†)
Total.....	.31	.60

*Approximately Chefoo taels at 75.8 cents.

† Goods sent by land pay no duty.

Besides these lines running from Shanghai to Chefoo, Tientsin, or Niuchwang, there is the great and far-reaching Japanese line, which must now be considered one of the largest in the world—the Nippon Yusen Kaisha. This company now sends, on schedule time, a steamer twice a month from Kobé that touches at Shimonoseki, Nagasaki, Tsushima, Fusan, Jinsen (Chemulpo, Korea), and Chefoo, making the round trip from Kobé to Chefoo and back to Kobé in fifteen days. Another steamer of this company leaves Hongkong once a month, calling at Shanghai, Chefoo, Jinsen (Chemulpo, Korea), and Nagasaki, making the round trip in about three weeks.

The Russian Steam Navigation Company dispatches a steamer about twice a month from Shanghai to Chefoo, Chemulpo or Jinsen, and Vladivostock, Siberia; besides these regular lines, there are extra steamers constantly calling from the south or Japan.

During the nine months ended September 30, 1896, 921 ships, of a total tonnage of 820,528 tons, entered, against 878 ships, of a total tonnage of 819,828 tons, for the twelve months of 1895, showing a very appreciable increase for this year.

The principal articles of export are: Bean cake, beans, bristles, cotton clothing, dates, fish, fresh fruit, straw hats, licorice, oil (bean and groundnut) raw yellow and pongee silk, strawbraid (white and mottled), and vermicelli.

The principal imports are: Cotton and woolen goods, metals (principally old iron), coal, matches, needles, and kerosene oil.

The principal direct exports to the United States are straw braid, pongees, brown silk, and wool.

The province of Shantung is one vast mineral field; gold, silver, copper, iron, lead, coal, and even diamonds are found. The gold mines have been worked by California miners, but they had to abandon the task owing to the obstructiveness of the native officials ten years ago. It is expected that, with the advent of the locomotive in the near future, great activity will be shown in exploiting for gold, coal, and other minerals. Were this province under any other rule, it would be one of the greatest mining sections in the world.

So confident are old residents here of a new era and consequent boom that land is going up in value by leaps and bounds.

Chefoo is the rendezvous for all the foreign squadrons at least twice a year; in the summer, it is not an unusual sight to see ten, fifteen, or even twenty men-of-war in the harbor. During the Japan-China war, as many as thirty-seven were in the harbor at one time.

Chefoo is but a day's sail from Tientsin, Chemulpo (Korea), Japan, Port Arthur, and Wei-Hai-Wei, thus within easy reach of any of the strategical positions that have played so important a part in the past in Asiatic affairs.

The foreign firms are: L. H. Smith & Co. (American), steamship agents, coal, and commission; Cornabé & Co. (British), steamship agents, coal, and commission; Fergusson & Co. (British), steamship agents, coal, and commission; Fuller & Co. (British), ship chandlery; H. Sietas & Co. (German), general stores and ship chandlery; James McMullan (British), general stores and ship chandlery; Anz & Co. (German), general commission and exporters of straw braid and silks; John Smith (British), vineyards, Chefoo wine, etc. Besides the above, there are many native stores that deal exclusively in foreign goods, L. W. Singtai & Co. being a very large house, with branches in many ports of China.

There are several industries carried on by foreign machinery, notably the Silk Filanda, an extensive establishment.

Several vineyards have been set out with cuttings of grapevines from California, there being a well-developed effort to make wine for export. The results, so far, are quite satisfactory. One native company has sent to Austria for an expert, but I have not been able to get any data, as all decline to give any information as to methods, number of vines, or future prospects; but the industry is now very large. Some years ago American missionaries brought out from the United States cuttings or graftings of Bartlett pear trees, peach, plum, grapes, etc., and under the wise and skillful guidance of the late Dr. Nevins, the natives met with good success, so that to-day Chefoo

is noted for its fruit. There is now a jam and fruit-pressing factory under foreign auspices.

Chefoo lace is beautiful and very cheap. Once seen it would command a ready and large sale in the United States.

Nearly all the straw braid goes to the United States.

The province of Shantung covers over 65,000 square miles; in it is the Huang Ho, or Yellow River ("China's Sorrow"), the birthplace of Confucius and Mencius, the two sages of China.

The Americans have many hospitals, schools, and churches in the district.

The future of Chefoo is full of great possibilities, and all are waiting for the "boom" that is expected to come.

JOHN FOWLER,

CHEFOO, *December 16, 1896.*

Consul.

SILK-LACE INDUSTRY AT CHEFOO.

I submit herewith a brief report upon the silk-lace industry of this port, kindly furnished me by Mr. James McMullan. In the absence of photographs, Mr. McMullan has courteously accompanied his report with the inclosed samples.* This silk lace is so fine and cheap that I feel confident that it would meet with a ready sale in the United States.

There are many industries carried on in China of which the general public at home and a vast number of people in China know nothing. Europe produces no finer or more beautiful work than the silk embroideries of Ningpo. Under the guidance of the Sisters of Charity in that port, the native women make magnificent dresses for many royal courts of Europe, table pieces, doilies—in fact, every kind of embroidery—the patterns on the finest of silk or satin being not the Chinese atrocities, but delicate flowers, violets, chrysanthemums, birds, and butterflies, the designs for the most part coming from Paris. The silk and silk thread, all being made on the spot, are of the very best. The labor of Chinese women costs not more than 10 cents (gold) a day, so it is easily seen how very cheap these beautiful works of art are. A few years ago the Sisters executed a large order for dresses of white satin, embroidered in gold, the pattern being bamboo, for a royal house in Europe.

An application for samples to the Sisters at Ningpo would, I am sure, meet with a ready response.

The report of Mr. McMullan is as follows:

The manufacture of Chefoo handmade silk lace is a comparatively young industry. This lace can be made in any color to order, but is mostly made in cream or écu silk thread, which is also made in the district. The workers are all of the poorer classes and are under the control of the director of the Shantung Industrial Scheme. The majority of the girls work in schools and the women in their own homes. The lace industry demands cleanliness and thrift; consequently, it is of great use in developing these habits in the native women, besides being a valuable means of support.

* Samples filed in Bureau of Statistics, Department of State.

The silk used is of the best quality procurable, and no work is passed which is not of a high standard of excellence. As some Chinese (formerly pupils) have started lace making apart from our control and are producing a very inferior lace, the director of the Industrial Scheme is making arrangements to protect the industry, so that buyers may be certain of getting the real lace.

Small consignments of the lace have been sent to the United States and Great Britain, and the director is desirous to treat with reliable firms who are willing to take up the sale of the article. We guaranty that the Chefoo lace we send out will compete very favorably with any handmade lace in the market, besides being made of Chinese silk and by the natives, which adds to its value.

Information and samples will be sent on application to James McMullan, director Shantung Industrial Scheme, Chefoo.

JOHN FOWLER,

Consul.

CHEFOO, *December 17, 1896.*

MANUFACTURE OF ALBUMEN AT CHINKIANG.

An enterprising German firm has undertaken the manufacture of albumen at Chinkiang, it having been found that this place offered the best field for the business on account of the cheapness and plentiful supply of eggs. The factory is now successfully established, with possibilities of conducting it on a much larger scale.

The country surrounding Chinkiang has always been noted for the raising of ducks and other domestic fowls, and much attention is given by the farmers to this industry. It is not an unusual thing for a farmer to have four and five thousand ducks under his care, and they may be encountered any day in a walk of a mile or two, marshaling their ducks in battalions of well-drilled ranks to graze on the luxuriant grasses of the neighboring hills or to swim in the numerous ponds and water courses.

In China, the duck is a fine, large, hardy bird, a prolific layer, and requiring little attention and less expense, as he can readily find his food for himself.

The egg of the duck is preserved by the Chinese by a process described in my report on the fowls of China,* and will keep when so preserved ten and twenty years. It is a favorite food of the people, especially of the higher classes, and is to be met with at all their dinners and entertainments. Ducks are sold in the market for about 30 cents (Mexican) a pair and the eggs at about 6 cents a dozen.

The establishment of this albumen factory has made a good market for the eggs and the country people bring them in by thousands. The factory uses duck eggs in the manufacture of albumen in preference to chicken eggs, solely on account of their greater cheapness. They are bought, not by the dozen, but by the thousand, the factory paying an average of \$8 (Mexican) per thousand.

*See poultry report in CONSULAR REPORTS No. 159 (December, 1893), p. 563.

The process of the manufacture of albumen is by no means new, but has not heretofore been a financial success, owing to inability to utilize the yolk as well as the white of the egg. This difficulty has now been successfully overcome.

As the present capacity of this factory is forty thousand eggs per day, with an early prospect of a considerable increase on the introduction of machinery, it may be assumed that the farmers are greatly benefited by the establishment of this new industry.

As soon as the eggs are received at the factory they are tested by a very simple but ingenious process. They are held in pairs in front of a circular opening in a tin cylinder open at the top, containing a lamp giving a powerful light, which is concentrated on the opening. Every speck and flaw in the egg is distinctly seen in this process and all eggs showing the slightest sign of defect are at once rejected. The percentage of rejected eggs is remarkably small, rarely amounting to fifty per thousand. The good eggs are sent to the rooms prepared to receive them, where a number of Chinese girls are employed to break them and to separate the yolk from the white, placing each into separate vessels. The white then undergoes one of two processes—it is either carefully cleaned of all stray clots of yolk and then put through a course of stirring in a large vessel by means of a heavy rod or paddle worked by hand, when it is ready for the drying room; or, after being cleaned, it is run into large vats and allowed to ferment, the process of fermentation being accelerated by the admixture of certain chemicals, which chemicals, by the way, are held by the firm as a secret. When it is found in drawing off that all impurities have either been deposited or thrown off in the form of a thick froth, and the resulting liquid is albumen, as clear as water, the albumen is ready for the final process of drying. This is performed in a series of three rooms, each hotter than the last, the temperature ranging from 40° to 50° C. The albumen is run into shallow tin pans about 1 foot square, which are placed in ranges of shelves in the drying rooms. Frequent examinations are made to see that the temperature is maintained, and that the process of drying is sufficiently gradual, uniform, and complete, a period of sixty to seventy hours being found necessary for that purpose. When thoroughly dry, the albumen, which now presents the appearance of isinglass, with a yellow tinge, is, after cooling, placed in large, square packing boxes, lined with tin, holding about 400 pounds each, and is ready for shipment.

The principal use of albumen is in the preparation of fast dyes for superior kinds of cotton goods and it is shipped to England, Germany, and France.

An inferior kind of albumen, I am informed, is manufactured in the United States from bullocks' blood and used for inferior goods.

The yolks of the eggs, after separation from the white, is passed through two sieves—one coarse and one fine—and is then run off into vessels holding about 20 pounds each, in the form of a yellow, even-running liquid of the consistency of rich cream. It is then poured into vats holding about 100

pounds, and a 10 per cent solution of salt, borax, and an unrevealed chemical is then added for the purpose of preservation. The mixture is thoroughly stirred until it assumes the consistency of thick molasses and of a dark-orange color, and is then poured, or rather forced, through a funnel into a cask holding about 500 pounds net. It is then ready for shipment. This is used in the preparation and dressing of superior leather goods and is in much demand in England, Germany, and France.

No use has yet been found for the empty eggshells, and they are thrown away.

A. C. JONES,

CHINKIANG, *November 2, 1896.*

Consul.

SUPPLEMENTARY REPORT.

In the report on the manufacture of albumen at Chinkiang, which I had the honor to forward to the Department on the 2d instant, I was not able to furnish the names and kinds of chemicals used in the manufacture of albumen, for the reason that the firm regarded this as their secret and would not reveal it; but to-day, I am enabled to supply this omission.

Assuming that American manufacturers dealing in goods requiring the use of albumen would be interested in all the methods and secrets of its preparation and perhaps benefited thereby, I have thought it advisable to forward the information as a supplement to the report and respectfully request that it be inserted in the report.

The average price paid for eggs is \$8 (Mexican) per thousand.

The ingredients used in the preparation of the whites and yolks separately are: Salt, acetic acid, ammonia, boracic acid, chloride of calcium. The exact proportion of each ingredient must be ascertained by actual observation and experiment.

A. C. JONES,

CHINKIANG, *November 5, 1896.*

Consul.

RICE CROP OF KOREA.

The food of the people of Korea is rice. They use more meat than do the Chinese or Japanese, and always have some fresh or salted vegetables to go with the rice, but the meats and vegetables are mere accessories, rice being the staple. In the extreme north, where rice can not be raised extensively, wheat, millet, and beans are used as substitutes, but whenever rice can be had it is always preferred.

The Korean rice is of excellent quality, some of that raised on the plains to the north being considered almost equal to the best Japanese rice. As a rule, however, the average is a little below the quality of the Japanese product. As it can be had for less money than that raised in Japan, it is the

custom of late for the Japanese merchants to ship the best quality of Japanese rice to England, where it commands a high price, and then supply the home market with the cheap but good Korean rice.

It is difficult to determine the amount of rice raised in Korea, as no proper statistics are kept. I have made an estimate as follows: Allowing 12,000,000 as the probable population of Korea, there would be 2,400,000 families of 5 persons each. Leaving off 400,000 as the probable number of families living in the extreme north, where rice can not be had regularly, there would be left 2,000,000 families of rice eaters. A family of 5 persons must have at least 1 bag of rice per month. Each bag contains 40 measures, or 160 pounds. The actual consumption at this rate would be 2,000,000 bags per annum, or 320,000,000 pounds. This seems to be a reasonable estimate.

In former years, the surplus was stored in Government granaries against a bad year, the old rice being issued the next season, bag for bag, for new rice. In 1886, however, the export of rice from Korea began in a small way and has increased year by year, subject, of course, to the condition of the yield.

Export of rice from Korea, chiefly to Japan.

Year.	Quantity		Value in silver.	Value in gold.
	Piculs.*	Pounds.		
1886.....	8,454	1,124,382	\$12,193.00	\$9,754.40
1887.....	67,589	8,979,337	90,071.00	72,056.80
1888.....	16,065	2,136,645	21,810.00	17,448.00
1889.....	34,527	4,592,091	77,578.00	62,062.40
1890.....	874,665	116,330,445	2,037,868.00	1,834,081.20
1891.....	928,010	125,425,330	1,820,319.00	1,456,255.20
1892.....	487,601	64,850,933	998,516.00	748,087.00
1893.....	170,077	22,620,241	367,165.00	220,299.00
1894.....	376,239	50,039,787	979,292.00	499,646.00
1895.....	305,196	40,591,068	305,196.00	152,048.00

* 1 picul = 133 pounds.

The approximate rate of exchange from 1886 to 1891, inclusive, was 80 cents; in 1892, 75 cents; in 1893, 60 cents; and in 1894-95, 50 cents.

The export for 1894 and 1895 was affected by the war between Japan and China, which was largely waged on Korean soil, and the visiting armies made a home demand that influenced the exports for those years.

The crop for this year is now all harvested, and it is known to be a most remarkable one for its abundance. The past summer has been exceedingly wet, allowing of the cultivation of rice on high ground not usually cultivated. The rainfall during June, July, and August was 34 inches out of an average annual fall of about 38 inches. This was most favorable for the rice crop, and the quality is said to be exceptionally good.

The American firm of Townsend & Co., at Chemulpo, conduct an extensive rice-cleaning business. They have a large steam rice mill and work

a number of Engleburg hullers, buying rice in the "paddy" and cleaning it without breaking, thus preserving the shape and giving a fine luster to the kernels. The native method of cleaning is by pounding in stone or wooden mortars and separating the chaff by winnowing. This leaves much gravel with the rice and causes injury to the teeth in eating. Lately, a number of fanning mills have been introduced from Japan, and Japanese have started a few crude steam rice mills. The real business, however, is in the hands of Messrs. Townsend & Co. From this firm I learn that the present price of the best Korean rice is \$9.50 (silver) per 240 catties (320 pounds), or \$2.97 (silver) per cwt. (\$1.50 gold per 100 pounds). They also inform me that the prospects are that the export of rice for the current year will be the largest, so far, from Korea. This seems especially plausible considering the extensive damage done to the growing rice in Japan by the storms of the past summer.

SEOUL, *November 4, 1896.*

H. N. ALLEN,
Acting Consul-General.

A MARKET FOR AMERICAN OAK IN FRANCE.

There exists in the northern part of France a demand for oak lumber, which is largely supplied from the forests of Hungary, and my attention has been called to the fact by dealers in oak lumber that American forests supply a quality of oak which, though said to be slightly inferior to Hungarian oak, could, nevertheless, in a measure, take the place of it. I am informed that, should American dealers in this lumber take the necessary trouble to send agents here, they could, without doubt, secure some of this business.

An important firm informs me that they purchase \$400,000 worth of oak lumber per year, and that, could they form the proper connections in the United States, they would undoubtedly purchase the entire amount there. They have had small lots of American-grown oak, and state that it has proved satisfactory.

Much of this oak lumber is used for cooperage and flooring. The demand is for planks from 6 to 36 feet in length and from 7 to 16 inches in width.

The accompanying diagram is intended to show how oak logs should be sawn to meet requirements here.

The planks sawn from the heart of the tree should be from 9 to 36 feet in length, the average width being 9 inches and the thickness from 1 to 2¼ inches.

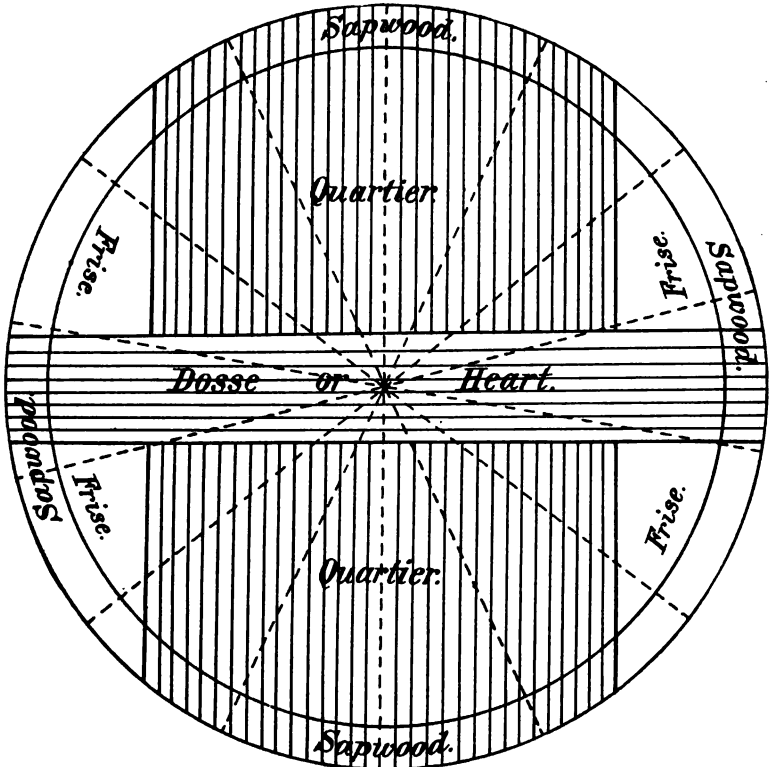
Planks sawn at right angles with those sawn from the heart, called here the "quartier," should be from 6 to 36 feet in length, from 1 to 2 inches thick, and of an average width of 9 inches.

The planks cut from the corners of the log, between the "dosse" (heart of the tree) and "quartier" (planks cut at right angles with the dosse), are

used for flooring. The length should be about 6 feet, thickness 1 inch, and width about 7 inches.

Oak lumber, cut square, is used in considerable quantities also, the sizes approximately being $2\frac{3}{4}$ by $2\frac{3}{4}$ inches, $3\frac{1}{4}$ by $3\frac{1}{4}$ inches, 4 by 4 inches, $3\frac{1}{4}$ by 4 inches, $3\frac{1}{4}$ by $4\frac{1}{2}$ inches.

To meet the requirements of the trade, all planks should be clear and free from sapwood, bark, etc. There should be no knots or wormholes in first-quality lumber. Sound knots are accepted in second quality.



Butt end of oak log, showing direction of sawings to produce lumber herewith described.

Red-oak lumber is not wanted on account of the wormholes, it not being salable even as second quality.

Prices should always be quoted c. i. f. Havre or Dunkirk.

American dealers who may be interested in this subject may address me, and I will take pains to place them in communication with dealers here.

STEPHEN H. ANGELL,

Commercial Agent.

ROUBAIX, *January 27, 1897.*

THE MONGOOSE IN THE HAWAIIAN ISLANDS.

I have the honor to inclose herewith a copy of a letter from the commissioner of agriculture and forestry in relation to the mongoose, said letter containing certain information asked for by the Biological Survey, United States Department of Agriculture, in a communication addressed to me on the 19th ultimo.*

HONOLULU, *September 23, 1896.*

ELLIS MILLS,
Consul-General.

MR. MARSDEN TO MR. MILLS.

DEPARTMENT OF INTERIOR,
BUREAU OF AGRICULTURE AND FORESTRY,
Honolulu, September 22, 1896.

Hon. ELLIS MILLS,
United States Consul-General, Honolulu, Hawaii.

DEAR SIR: Your communication of the 7th instant, together with a letter from the United States Department of Agriculture asking for information concerning the mongoose on Hawaii, came duly to hand.

The mongoose was first introduced into this country about fifteen years ago. A few of a large kind were brought from the East Indies by W. H. Purvis, a sugar planter. These were liberated in the district of Hamakua, on the island of Hawaii; they did not breed and none of them have ever been seen since they were let loose.

A few months later, a few pairs of a smaller variety were imported from Calcutta. In landing them on the coast of Hilo, they were nearly all drowned by a sling breaking and dropping the boxes, which contained the mongoose, into the sea. Shortly after this, the planters of the district of Hilo sent an agent to Jamaica, with instructions to bring mongoose. The agent returned with seventy-five mongoose. The little animals were liberated in the cane fields.

Previous to the introduction of the mongoose, the planters suffered severely from the depredations of the rats in the cane fields. At times whole fields of cane were utterly destroyed, and, at all times, much damage was done. The mongoose soon changed this state of affairs. In one year after the introduction of the mongoose, hardly a stick of rat-eaten cane could be found.

The good work of the mongoose in the Hilo district induced the planters of Hamakua to send an agent to Jamaica to bring mongoose to their district; two hundred and fifteen were brought and turned loose in the cane fields, with the same good results.

The plague of rats is now ended and we have the mongoose, who, although he loves poultry, has never been so destructive to them as were the rats.

The mongoose are easily caught and one or two terrier dogs will keep a large premises clear of them.

In 1892, a law was passed by the legislature forbidding the introduction, keeping, or breeding of mongoose on the Hawaiian Islands. A sum of \$1,000 was set apart to be expended by the Minister of the Interior in the payment of a bounty of not to exceed 25 cents

* Copy transmitted to Department of Agriculture.

per head for each mongoose destroyed on the island of Oahu. This bounty only applied to the island of Oahu, the mongoose being considered a necessary evil in the cane districts of the other islands. None of the bounty has been paid, as no one has ever applied for it.

I have, etc.,

J. MARSDEN,

Commissioner of Agriculture and Forestry.

POWERS OF ATTORNEY IN ARGENTINA.

American business houses frequently sustain losses here owing to irregularities in the powers of attorney they send to attorneys. In view of the importance of having such documents correct, I desire to call attention to the requirements of Argentine law in this regard, and to the procedure that must be followed in the United States.

To be legally acceptable here, powers of attorney must specifically set out the authority by which the maker signs the document. In the case of companies or corporations, the section of the by-laws or articles of incorporation of such company or corporation, certified to by the secretary or other proper officer, must be embodied in, or in the form of, a certificate, made part of the power; that is to say, a power of attorney signed by John Doe, president of the A B C Company, must show when and how John Doe was made president of the company and must then set out in full the section of the by-laws or articles of incorporation of the company which authorizes the president to sign a power of attorney. If the by-laws or articles of incorporation contains no such clause, the power must show that the president, or whoever makes it, was authorized to do so by a resolution of the directors of the company, a copy of which resolution, properly certified to, must be attached to or embodied in the power, as above explained.

The scope of a power of attorney here is limited by law. In order that there may be no misapprehension as to these limitations, I deem it best to insert here a translation of the sections of the Argentine civil code applying to this subject:

SECTION 1880. A power conceived in general terms does not comprehend more than acts of administration, notwithstanding the maker declares that no power is reserved and that the holder of the power can do whatever is deemed necessary, or notwithstanding the power contains the clause of general and free administration.

SEC. 1881. Special powers are necessary:

- (1) To make payments beyond the ordinary expenses of administration.
- (2) To make "novations" (extinguishments, renewals) of obligations that existed when the power was made.
- (3) To settle disputes, to waive jurisdiction, renounce the right of appeal, or to acquire titles.
- (4) To remit or gratuitously settle a debt.
- (5) To contract marriages in the name of the maker.
- (6) To recognize the rights of legitimate children.
- (7) To make any contract that has for its object either the transfer or the acquiring of authority over land, by compulsion or gratuitous titles.

(8) To make donations other than small sums to employees or servants.

(9) To lend or borrow money, unless the business is that of lending and borrowing money; or unless the loans are part of and connected with the administration; or it is necessary to borrow money to conserve the interests in hand.

(10) To rent property for more than six months.

(11) To constitute the maker a "depositario," unless the business is that of receiving goods on deposit.

(12) To promise that the maker will lend his services in any capacity.

(13) To form a company.

(14) To sign bonds or indorse notes.

(15) To cede rights over real property.

(16) To accept legacies.

(17) To recognize or acknowledge obligations made prior to the power.

SEC. 1882. A special power to settle a dispute does not include the power to agree to arbitrations.

SEC. 1883. A special power to sell does not include the power to mortgage or to receive the money from a sale when time is given, nor does the power given to mortgage a thing include the power to sell.

SEC. 1884. A special power for certain determined things is limited to the things for which it was given and can not be extended to analogous things, notwithstanding these might be considered as the natural consequence of the things the holder was authorized to do.

SEC. 1885. A special power to mortgage real property does not include power to mortgage it for debts anterior to the power.

SEC. 1886. A power to contract an obligation comprehends the power to cancel it, it being always understood that the maker is to deliver to the holder of the power the money or means with which to make the payment.

SEC. 1887. The power to sell the property coming from a legacy does not comprehend the power to deliver it up before having received it.

SEC. 1888. The power to collect debts does not include the power of demanding payments of debtors, nor to receive one thing for another, nor to make "novations" (extinguishments, renewals), nor to remit or cancel a debt.

Each signature to a power of attorney must be certified to by a notary public. This applies to the signature certifying the maker's authority, above referred to, as well as to the maker's signature. The notary's signature must then be certified to by the Secretary of State, and the latter's signature must always be certified to by an Argentine consul.

The omission of, or an irregularity in, either of the above requirements, such as the notary's or the Argentine consul's certification being attached to the wrong document, or an error on the part of officials in properly writing the names of signers, renders the document valueless here, and makes it necessary to return it to the United States for correction, involving three or four months' loss of time.

Every document presented before a court here must be in Spanish. If documents reach here in English, they must be translated before they can be used. This not only means a delay in beginning an action, but an expense of \$100 (Argentine paper), more or less, for translation.

All large business firms in England, Germany, and France, and several in the United States draw their powers of attorney for this country in Spanish. This, if possible, should always be done. If not, a Spanish transla-

tion should be secured before sending the document to the Argentine consul for his certification, provided always that the translation is a correct one. If this is done, the consul can bind the original and translation together with his sealing ribbon and can and should certify to the correctness of the translation at the same time he attests the signature of the Secretary of State.

If the above requirements and suggestions are carried out and care is taken before forwarding the document to see that the signatures and certifications are correct, no excuse for delay will be possible after the papers reach an attorney here, who, it must be remembered, can not proceed without a power of attorney; consequently, but little can be accomplished in the absence of a power by cabling instructions to an attorney to proceed against a firm.

Matured drafts or notes made payable in the United States must be protested there before they can be used by an attorney here. Such protest papers must be certified to and translated, draft and all, before being presented to the court here.

Where the makers of a draft maintain no office in the United States, it would be better in almost all cases to have their drafts made payable at some bank here. If this were done and firms doing business with this country would take the precaution to always have some one here represent them by power of attorney, action could be promptly brought in cases of failure and fewer losses would occur to our merchants than at present. Such a method would be more effective and more economical than that now adopted by many of our merchants, who make the drafts for goods sold here payable in the United States; then, when the draft is not paid, they frequently find themselves without anyone in the United States on whom to serve protest papers. They must then select an attorney here, send him a power of attorney—often incorrect in form—have their papers translated after they reach here, and will then, in all probability, meet the plea of the creditor's attorney to the effect that, inasmuch as the draft was made payable in the United States, proceedings must be begun and the usual means exhausted there before the case can be brought into court here.

Should the subject be of interest to our merchants and manufacturers, I will be glad to prepare and forward a blank power of attorney in Spanish, for use in this country.

WILLIAM I. BUCHANAN,

BUENOS AYRES, *December 9, 1896.*

Minister.

THE LARGEST COFFEE ESTATE IN BRAZIL.

As a contrast to the manifold complaints emanating from growers of agricultural products concerning the depreciation of staples such as wheat, cotton, sugar, corn, etc., and the slim profits derived from the culture of the soil, I believe that the following description and figures published on the occasion of the recent sale of the largest coffee estate in Brazil, and probably

in the world, will prove of interest in a country that imported in 1895 nearly \$100,000,000 worth of this article.

These figures concern the transfer sale of the Companhia Agricola Fazenda Dumont, situated in the districts of Ribeirão Preto, and Parapa Panenea, of this State, to an English syndicate, and were ascertained and certified to by a firm of London accountants sent out to examine the books and adjudge the value.

The estates are freehold and comprise about 110,000 acres of land, of which 13,000 acres are planted with coffee, 20,000 acres are estimated to be still available for coffee extension, and the balance is suitable for the cultivation of tobacco, sugar, maize, etc. The work is carried on by about 6,500 laborers, forming 25 colonies of 25 dwelling houses each. The expense for labor is about \$200,000 per year. The colonists are almost entirely of Italian nationality; only about a dozen negroes remain of a once large slave contingent.

A butchery, bakery, hotel, brewery, drug store, and general stores were established to supply their various wants. The property also possesses a light railway of 35 miles to collect the crop, the main line of which connects with the neighboring town of Ribeirão Preto, an important station on the Mogyana Railroad Company's line.

The purchase price was £1,200,000 (\$5,838,800), payable two-thirds in cash and one-third in shares, based on the following valuation:

7,000 acres of coffee in bearing, giving a profit \$650,000 in 1895, at seven years' purchase.....	\$4,550,000
6,000 acres of young coffee of various ages, at \$200 per acre.....	1,200,000
Railway, machinery, buildings.....	500,000
Land and suitable for coffee, say.....	250,000
Total.....	6,500,000

The following is a statement of the trees in bearing and of the yield and profits from 1892 to 1895 and estimated profit for 1896.

Year.	Coffee trees in bearing.	Yield.	Profit.
		<i>Pounds.</i>	
1892.....	1,300,000	3,897,600	\$269,895
1893.....	1,400,000	4,200,000	340,645
1894.....	1,500,000	5,107,000	432,946
1895.....	2,069,700	8,400,000	637,866
1896.....	2,476,500	9,000,000	*711,133

* Estimated.

The estimate for the profits of 1896 is based on an exchange of 20 cents per milreis (par value 54.6 cents—value on this day 16 cents), and the other profits are calculated at the average rate of exchange ruling during the year.

The total number of trees in this plantation was, in June, 1896, 4,426,604, of various ages, including 194,000 planted in October and November, 1895,

and it is estimated that two-thirds of the trees being new, from 1897 on an average harvest of 100,000 bags (13,200,000 pounds) may be expected, and that, when all the trees will have arrived at an age of 3 or 4 years, the yield may increase to 250,000 bags of coffee, or about 32,500,000 pounds per annum.

The next largest estate is owned by Carlos Schmidt, who arrived in this country from Germany some thirty-five years ago. The area of his property is 9,785 acres, with 1,800,000 trees, populated by 9 colonies with 260 families, furnishing some 1,500 laborers. There are several other plantations on which grow more than 1,000,000 coffee trees.

JULIAN HAUGWITZ,

Vice-Consul.

SANTOS, *November 17, 1896.*

GERMAN FARMERS AND THE PRODUCE EXCHANGES.*

The merchants and brokers of the produce exchange of Berlin, assembling at the exchange on the last day of the year to the number of 460, resolved that hereafter they would not do any business in that building. They have followed the lead of the merchants of Halle, on the Saale, and those of Stettin, on the Baltic. The produce exchanges of Königsberg, Posen, Magdeburg, Gleiwitz, and other towns have also practically ceased to exist.

The Berlin exchange includes the functions of a stock and produce exchange. According to the new rules proposed by the Eldest of the Merchants' Guild, the directors were to be divided between the stock and produce departments, the stock brokers electing, say, fifteen directors, the produce brokers nine. Then the Eldest of the Merchants' Guild, a corporation which has hitherto managed the exchange, was to furnish from its own body five members to the stock directors and three to the produce, making thirty-two directors in all, twenty for stocks and twelve for produce.

The view that this pressure of the Government on the merchants would do harm is shared by the chamber of commerce of Hamburg, which remarks, in the annual report just published, that the new law for exchanges is hampering to the industry of the individual and may bring to the public generally an amount of harm difficult to estimate. At the same time, it says that the merchants fail to understand what usefulness can result from the activity of a commissary of state attached to the Hamburg exchange.

The Berlin Produce Exchange could only dissolve so tardily because the exact wording of the rules by which it was to be governed was not known until the morning of the 30th. The Eldest of the Merchants' Guild had sent to the Minister for Commerce and Industries, some months ago, a carefully framed list of rules for the government of the exchange, placing the direction in the thirty-two members just mentioned. But the minister kept these rules until the 23d of December; at least, that is the date of the signing

*See "German law against exchange speculation," CONSULAR REPORTS No. 194 (November, 1896), p. 447.

of the document. It was not officially published, however, till December 30, when it was found that the minister had injected into the management of the produce exchange seven appointees of the Government, five of them representatives of agriculture, appointable by the Minister of Agriculture, and two representatives of the milling interests, appointable by the Minister of Commerce and Industries. Other changes were made not at all to the taste of the merchants, but the addition of seven outsiders to a governing board of twelve for the produce department of the exchange simply meant that the intruders would rule the exchange so far as produce is concerned and, so the merchants firmly believe, would have tampered with the price lists. But, in any case, they did not care to see themselves outvoted by paid and permanent representatives of a class which has exhausted invective against them, and so dissolved the produce exchange.

They then proceeded to form a free union of the produce exchange and have received congratulations from the Society of Merchants and Tradesmen of Berlin and from the joint committee of the local mercantile and industrial societies.

The Agrarians do not consider themselves beaten by these tactics, but hope to see other merchants supply the places of the secessionists. They wish, then, through the pressure of the directors appointed by the Government, that prices of produce shall rise to a height at which farming in Germany will pay well. Their next move will be against the treaty with Russia, and they will let no microscope rust which may find for them bacteria that will serve to keep out American produce.

Just now, the Berlin markets and those of other large German cities are full of delicious apples, cheap, large, firm, fragrant, and fine-flavored. Because they come from the United States, certain papers are against them and others dare not point out their superiority to European fruit. It has already been suggested that they may bring in some beetle or moth whose worm might eventually play havoc with German apples; and that suggestion may still be elaborated to the satisfaction of the Agrarian papers by some microscopist who is ambitious of preferment.

A paper let the cat out of the bag recently regarding the rule that keeps Russian swine out of Germany, when protesting violently against a removal of the ban on the ground that all the eastern provinces of the Empire would be filled with Russian beasts.

Much the same antecedents have brought the Hungarian produce exchange at Budapest to a very similar pass. The agrarians of Hungary have made the same demand, namely, that various landed proprietors shall be made directors of the produce exchange at the appointment of the Minister of Commerce, without election on the part of the members of the exchange, whether such appointees are merchants and understand the rules and customs of the exchange or not.

The sharp proceedings against the exchanges of Prussia seem part of a general movement here by which all the places worth having are gradually

brought into the power of the titled and landowning classes. Thus, in 1848, merchants were appointed to hold office as Prussian Ministers of State. Down to 1862 the Minister of Commerce was a merchant, but since that date, the incumbent has been one of the "hereditary foes" of commerce and neither by education nor inclination disposed to humor the mercantile classes.

The state treasury of Prussia is likely to suffer from the closing of the produce exchanges, since the law for the taxation of business on these exchanges is so worded as apparently to exempt from taxation business transacted elsewhere than on the open exchange.

But to regard the whole matter from its widest aspect, apart from the fact that the Government has dealt one class of Germans a direct blow by placing members of another class as watchers and inspectors over them, the entire movement to superintend exchanges and hedge the public from the danger of buying doubtful bonds or getting caught in grain operations seems to suffer from a radical disease. If the Government undertakes to make the public quite safe when dealing on the exchanges, it must also expect that the public will look to it for compensation if anything goes wrong; if, let us suppose, stocks and bonds are sold which turn out afterwards to be rotten, or else grain is sold at a price far above the true market price. Having put its own inspectors in command and hedged the business round with a tangle of rules, stamps, formulas, and what not, the public will not see the need of examining into the goods on its own account, but will inevitably hold the Government responsible for any loss.

CHARLES DE KAY,
Consul-General.

BERLIN, *January 4, 1897.*

GERMAN TRADE JOURNAL FOR JAPAN.

Referring to my dispatch dated May 7, 1896, regarding the usefulness to American commercial and industrial interests of a newspaper published in German at Berlin or some other large German center, for the special production of American news in trade and finance,* I have the honor to call attention to the foundation of a German paper in Japan.

The Eastern World is a weekly paper of Yokohama which has been issued in English in the interests of German trade by Mr. F. Schröder, a German. The editor now announces that he will print a weekly in German, called *Deutsche Nachrichten aus Japan*, his object being to inform the merchants and manufacturers of Germany concerning trading possibilities in the far East. Rivalry with England is the mainspring to this action, for Mr. Schröder points out that Germans have been at a disadvantage as compared with the English in regard to newspapers. In the three treaty ports of Yokohama, Kobé, and Nagasaki, he remarks, there are seventeen English papers, inclusive of post and weekly editions; these give British merchants

* Printed in CONSULAR REPORTS No. 189 (June, 1896), p. 846.

a clear picture of everything that has happened in Japan; moreover, the British press quotes liberally from them. The German merchants, on the contrary, must consult the organs of their rivals. He makes the assertion that in Japan there is an English paper for every 110 Britons, whereas the only German paper in eastern Asia is a weekly published in Shanghai (Ostasiatischer Lloyd). Mr. Schröder asks for one thousand annual subscribers at 18 marks (about \$4.50).

German trade with Japan during 1895 increased by \$2,000,000 over 1894. German traders with China and Japan have found that these orientals lay very great weight on details of packing, marks, and so forth, so that a variation from a method of packing or a slight change in the marks on a package arouses their suspicion or dislike. Hence the necessity of very complete information on the part of the German shipper, not merely as to the quality of the goods to be shipped, but the style and size of the packages and the marks placed on them. A weekly newspaper could keep German shippers informed of local tastes and materially assist them in their endeavor to become masters of a market in which, it is true, profits are no longer what they were, but which, owing to its enormous size (if we include China with Japan) may furnish profitable sales.

I call attention to this weekly merely to point out that other nations see the need of direct representation in foreign markets. Germany is neither China nor Japan. But American merchants, manufacturers, and bankers need all the information they can get concerning the articles that Germany will take and the way in which Germans wish to take them, their appearance, mode of packing, and so forth. This information can be best supplied by a special paper published in Germany with subscribers in the United States as well as here. Hitherto, Germans have not been willing to pay for articles the prices that Americans and English people do; but Germany is richer than she was and more money is ready every year to be expended in useful and luxurious articles. Many things, like shoes and furniture, which are still, in many parts of Germany, made by hand, or, if made by machinery, are not suited to people with taste, would find for a time a market here if they were more widely known. It seems to me that a good, nonpolitical trade journal would fill a demand which the German-American and the German papers could not supply, even if they would.

CHARLES DE KAY,
Consul-General.

BERLIN, *January 13, 1897.*

GERMAN TRADE NOTES.

I have the honor to transmit herewith three copies of the German Trade Records, for the month of December, 1896, which contains, among other material of more or less interest, an extensive report upon the foreign commerce of Japan during the year 1895. This report refers to the revival of commercial confidence in July of that year, after the war with China, and

to the support given to new industrial enterprises, especially to the manufacture and export of goods made from imported foreign raw materials, and, of course, compares Germany's share of the total foreign trade with the shares of other countries. Special attention is called to the large quantity of raw cotton imported and to the increased use of wool, as well as the comparatively small amount of imported cotton yarns and articles of wearing apparel of the cheaper kinds. Special attention is also called to the unexpected competition met by Germany in the importation of iron nails from the United States, and to the fact that while formerly the greatest part of the exports from Japan went to the United States, and although the United States still receives the largest amount of many articles, Germany has, for the first time, appeared in the Japanese statistical tables as a purchaser of certain articles, and her share in the whole export trade is on the increase. Reference is also made to the increased value of the goods carried to and from Japan in German vessels, Germany now having the second place in this respect, while the United States comes fourth.

In this connection, I have the honor to append hereto certain notes on German foreign trade.

BERLIN, *January 9, 1897.*

EDWIN F. UHL,
Ambassador.

[Inclosure.]

COMMERCIAL NOTES.

German trade with Nicaragua.—Among the foreign residents Germany comes second only to the United States in the number of its citizens in Nicaragua, most of whom are coffee planters and live in the higher parts of the country. Since 1890, about 4,000,000 coffee trees have been set out in this part of the country, some of which will soon begin to bear good crops. A railroad is contemplated in this part of the country and the prospects of an increase in German trade, consequent upon the recently concluded treaty of commerce, are good. In 1895, more than half of the export of coffee went to Germany, and Germany's share in the total export from the country was almost half. (*Norddeutscher Zeitung*, December 19, 1896.)

German trade with Guatemala.—In 1895, Germany came next to the United States in the amount of foreign goods imported into Guatemala. Germany is the largest purchaser of coffee, the principal product of the country, and, in 1895, took almost two-thirds of the quantity exported. The commercial development of Guatemala is made difficult by the prevailing currency conditions, there being practically no gold in the country, and the premium on American gold having been, at the end of 1895, about 111 per cent. (*Norddeutscher Zeitung*, December 20, 1896.)

German export trade in 1895-96 (report of the Hamburg Chamber of Commerce).—The trade with Russia, thanks to the commercial treaties, has increased in spite of certain differences of opinion in regard to the interpretation of some parts of the treaty, and of the restrictions placed by Germany upon the importation of cattle and meat products from Russia. The customs war with Spain is over, but complete peace can only be said to have taken its place after a "most-favored-nation" treaty shall have been made. Trade with the Spanish colonies has, however, especially with Puerto Rico, favorably developed; trade with Cuba has practically stopped. In Argentina, confidence is returning. Ships going to and from the country are usually fully loaded, and, although the importation of certain articles (beer, alcohol, sugar, etc.), which formerly took place in large quantities from Germany, has diminished, owing to

the increased home production, often through German enterprise. This has been compensated for by the increase in the importation of other articles. As the Reichstag did not pass the resolution to do away with the "most-favored-nation" treaty, and as the Bundesrath was not willing to raise the duty upon dyewoods, these dangers to trade with Argentina have been removed.

In the United States the improvement in industrial matters reported last year has not been maintained. The uncertain interior political situation, which was increased through the impending Presidential election, prevented business from being active. * * * (National Zeitung, January 1, 1897.)

English competition should not be undervalued; on the contrary, Germany must use all her strength in the industrial rivalry between the two countries. German trade with South Africa, and especially the South African Republic, has expanded. (Norddeutscher Zeitung, January 1, 1897.)

GERMAN COMMERCIAL EXPEDITION TO CHINA.*

I have the honor to report that the committee to arrange for sending the commercial "expedition" to China had a meeting here on the 20th instant, at which Privy Councilor Wermuth, who was the German commissioner to the Columbian Exposition at Chicago in 1893, presided. At this meeting, at which the instructions to be given to the members of the expedition were discussed, all those present were convinced that the experiment could not fail to be of value and importance to German commerce, industry, and shipping. The members of the expedition expect to sail from Bremen on the 27th instant, on board the North German Lloyd steamer *Sachsen*.

EDWIN F. UHL,
Ambassador.

BERLIN, *January 22, 1897.*

REGULATIONS FOR THE KAISER WILHELM CANAL.

I have the honor to transmit herewith a copy of a circular issued November 27 last by the president of the imperial canal department, in regard to vessels passing through the Kaiser Wilhelm Canal, which was recently received from the United States consulate at Hamburg and a copy of which has, as I understand, not as yet been sent to the Department of State.

EDWIN F. UHL,
Ambassador.

BERLIN, *January 22, 1897.*

IMPERIAL CANAL DEPARTMENT,
Kiel, November 27, 1896.

GENTLEMEN: I beg to inform you that the captains of the port at Holtenu and Brunsbüttel have been instructed, in the interest of a more safe traffic on the Kaiser Wilhelm Canal, strictly to enforce the following means of precaution on the entrance of vessels into the

*See CONSULAR REPORTS No. 197 (February, 1897), p. 268.

canal sluices or previous thereto. Vessels, including those carrying a high deck cargo, are only to be admitted under the proviso—

(a) That they have no heavy list.

(b) That the cargo has been properly stowed and secured, so as to prevent any shifting of same in case vessels should take a list by touching the bank or by the influence of the current (if aground and canting athwart).

(c) That the pilot is convinced that the vessel is not so badly crank as to get a heavy list every time the helm is shifted. This latter will especially be the case with sharp-built vessels, carrying a high deck cargo.

(d) That the capstan and winches required for the hawsers are not covered nor blocked up by gear, etc., so as to allow [prevent] their immediate use.

(e) That the position of the wheel will, under all conditions, allow the helmsman to have a free lookout forward and may also give the pilot opportunity to superintend the actions of the former.

(f) That all ballast tanks are filled up.

In the cases mentioned under (a), (b), (d), and (f), vessels have to comply with these requirements by restowing, or, better, securing their cargoes or by filling up their tanks respectively, previous to entering the locks. In cases mentioned under (c) and (e), the captain of the port shall decide what steps shall be taken for the safety of navigation—for instance, by placing the vessels into sidings, by excluding same from passage at nighttime, by giving them a second pilot, or ordering a tug for assistance.

It has further been ordered that vessels with heavier draft forward and vessels on even keel are to be more carefully superintended than others, as they generally steer badly.

In case the captain of the port considers it necessary, also, these vessels are to be supplied with a tug in attendance.

I most respectfully beg to request you to inform the shipowners represented by you of above regulations at your earliest convenience, in order to allow said firms to render instructions to their masters for permanent use and to avoid any unpleasant detentions in the dispatch of vessels.

For this purpose I inclose ten copies of this circular.

LOVENFOSSE,
President.

DUTY ON CORIANDER SEED IN MOROCCO.

Some two months ago, the export tax or duty on coriander seed from Casa Blanca was raised from 5 reales (25 cents) to 10 reales (50 cents) per quintal.* No notice of the increased duty was given to the exporters, and the only explanation given by the customs officials was that the order to increase the duty came from the Sultan. The exporters reported the matter to their representatives and they were advised to pay the increased duty under protest. The diplomatic body here sent the protest of the exporters to the Sultan and requested him to inform the representatives why this duty was increased, why notice was not given the exporters, and why the foreign representatives were not advised of the step taken. The substance of the reply was that under the treaty the Sultan claimed the right to raise the tax on the grain exported, as his Government needs the money.

At a meeting of the diplomatic body on the 24th instant, protest against the payment of the increased duty was made and a request to His Majesty

* 1 metric quintal = 220.46 pounds.

to collect only the old rate until such time as their respective governments could be communicated with and a reply received instructing them in the matter.

I would say England and Germany are the two countries to which the greater part of this seed is exported. For upwards of sixteen years, the duty has been but 5 reales (25 cents) per quintal. Exporters say, with a duty of 10 reales (50 cents), exportation of the article must cease. I think but little is exported to the United States, and, as far as I know, there is no American engaged in the business.

Another matter was brought up at the same meeting of the diplomatic body. When Sir Arthur Nicholson, the British minister at this port, visited the Sultan last year or the early part of this year, he requested that His Majesty grant permission to open one or two gates more in the walls of the town in order to facilitate egress and ingress near that part of the town close to the soko, or market place. With only one gate in that part of the town, it is not only a great inconvenience to one going in or out of the town, but is attended with a good deal of danger to persons because of the donkeys, mules, horses, and camels, with loads or without, constantly crowding their way through the narrow entrance, which it is necessary for people to do at the same time or to cause considerable delay for them. The Sultan asked Sir Arthur Nicholson to have the plan sent him as to where the diplomatic body wish to open the gates and it would be considered. Accordingly, this was done, but not till a few days ago was any reply received. The reply came addressed to the Minister of Foreign Affairs, instead of direct to the doyen of the diplomatic body, and stated in substance that a request by the foreign representatives to open other gates should not have been made, as this is a matter that does not fall within their province, but is his own affair. The diplomatic body replied that the tone of His Majesty's letter was discourteous even to rudeness, but as it did not come through the proper channel, being addressed to the Minister of Foreign Affairs instead of to the doyen, it would not be considered at all, and that an answer to the request of the representatives to open other gates is awaited.

TANGIER, *September 26, 1896.*

D. N. BURKE,
Consul-General.

Since my dispatch of the 26th ultimo in reference to coriander seed, I have received some information on the subject from the consular agent at Casa Blanca, Mr. J. Cobb. I inclose a copy of his letter to me, in which a brief history of the business in the seed is given and a review of the question of an increase in the export tax as ordered by the Sultan. From this report it appears that a large quantity is yearly shipped to the United States.

TANGIER, *October 19, 1896.*

D. N. BURKE,
Consul-General.

DAVID N. BURKE, Esq.,

United States Consul-General, Tangier.

CASA BLANCA, *October 5, 1896.*

SIR: Since writing you on the 3d instant in respect to coriander seed, I now have the honor to give you the history of coriander seed in Morocco.

Until 1883, all the coriander seed produced in Morocco was consumed in the country. In 1884, a small quantity was offered for shipment. Samples were sent to Europe, and on receipt of information to the effect that the seed was salable in Europe, 20 or 30 bags were taken to the custom-house for shipment. Thereupon, a discussion arose between the shippers and the custom-house officers as to the duty, the article not being mentioned in the export tariff. Finally, it was agreed that the duty should be 10 ounces (equal to 5 ron) per 112 pounds, English weight. The quantity available for export increased annually, and the export duty remained at 10 ounces until the German convention came into force in 1890 or 1891; since then, the export duty has been paid in Spanish currency instead of Moorish.

Until this year (1896), Casa Blanca alone exported coriander seed, but owing to the revolutionary troubles and insecurity of roads, in June and July some of this seed was taken by the growers to Mazagan, instead of Casa Blanca, for sale. In shipping at Mazagan, the customs officials there obtained from the shippers an export duty of 10 ron per cwt., double that paid in Casa Blanca.

On discovering this discrepancy, Mazagan shippers refused to pay the double duty, and the Mazagan customs officials referred the matter to the Moorish Government, which immediately wrote the Casa Blanca officials ordering them to pay to the Moorish Government the difference between 5 and 10 reales on all coriander seed shipped during their time of service. Both these orders have been carried out, and, further, the Moorish Government is forcing all former customs officials at Casa Blanca to pay the difference during their terms of office.

The action of the Moorish Government is manifestly unjust and inadmissible, for the following reasons:

- (1) The duty of 10 ounces, or 5 reales, has been in force for twelve years.
- (2) No notice of change was given to merchants.
- (3) The doubling of the duty has been enforced when the whole crop (a large one this year) had practically been bought by merchants on the basis of 5 real de vellon duty.
- (4) Merchants had made considerable contracts for delivery of this seed, all based on the former export duty.
- (5) The present value of this seed being only about 1¼ cents (United States currency) per pound, delivered in the United States, it can not stand the heavy duty—10 reales (half a Spanish dollar) per cent; and it would be unfair to allow the Moorish Government to impose this duty upon merchants who are bound to fill their contracts based on half that duty.

At all times the United States are large consumers of coriander seed grown in Morocco. A direct shipment of as much as 40 tons has been made at a time from Casa Blanca, while the greater part of the seed is forwarded by intermediate firms from London, Hamburg, and Marseilles to the United States. There is good reason to believe that the United States consumes more Morocco coriander seed than all Europe together.

JOHN COBB,
Consular Agent.

AMERICAN VS. GERMAN IRON INDUSTRY.

This is a subject being very seriously considered by those interested in the importation of raw and half-manufactured iron from the United States to Europe. Some manufacturers look upon the matter as not being of a serious nature and think it will be a long time before the many obstacles for a serious competition with the United States will be removed. Others think dif-

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ferently. But the matter, according to my ideas, rests with the Americans. Some manufacturers claim that owing to the difference in weights and measurements between the American and German demand, the buyers and consumers here will find a difficulty in fitting their orders to suit their requirements, and, further, that the time required between the giving and receiving of an order, often delayed, is a very serious drawback to the American, as it necessitates giving an order too early or too long beforehand to form an estimate as to their requirements. A German is not going to order too much. He looks over his stock and would rather order too little than run the risk of carrying any over. He is used to ordering small quantities at a time, just as he may need, from the factory or wholesale dealer, and it will be impossible to educate him up to our way of ordering a large stock at a time from America or anywhere else. Another objection from their standpoint is the fact that the Americans want their offers confirmed by cable to insure acceptance, whereas the German wants to see his goods first, to know that he is getting what he wants as to quality and quantity. Then, they claim that the question of weights, as given in the American bill of lading, works to the disadvantage of the buyer, as the American sells according to his weight and demands payment therefor, whereas according to the experience of the buyer on this side, the weights never agree and are invariably against them.

The manufacturing of raw iron in Germany and Luxemburg was increased in 1896 more than 500,000 tons, but even this enormous increase did not supply the demand, and to still further increase the quantity is almost an impossibility, owing to the lack of the necessary quantity of coke. The increase of 1896, compared with the production in 1895 (in which year 250,000 tons' increase had already taken place), was equal to an increase of 9 per cent, or about the amount of one month's production. This enormous increase in the production did not supply the demand by any means, and large quantities had to be imported. The Germans say (and I have always said the same) that if Americans want to compete in Germany with the Germans, they (the Americans) will have to carry large stocks of goods on this side, to be ready for any emergency or any demands made on them. This, they think, the Americans will never do; they argue it will take too much capital and cost so much that the profits will not pay them, and that owing to this increase in cost and outlay of capital the American will not be able to undersell them.

They think they are abundantly protected from us in the iron and steel trade by their blast furnaces, which, they claim, are at all times prepared to fill any orders promptly and cheaply, but they nevertheless say that should the time ever come when the American can favorably compete with their blast furnaces and their steel trade, he (the American) would immediately, through formation of trusts and rings, keep up the prices, and that the Government would have to come to the rescue of the German or home industries.

They do not seem to be at all alarmed at the present state of affairs, but acknowledge that a change may come at any time and that it is none too

soon to look forward to the ways and means to grapple with it when the time does come. They claim that the American manufacturers have one great advantage over them, and that is that the Americans do not have to pay any accident insurance premiums, hospital dues, etc., which come out of their pockets, whereas in America, the workman has to stand these costs himself or do without. Of course, they say nothing about the difference in the wages paid in America and Germany, the difference in the cost of production, or the expense of sending our products over here.

As I have said time and time again, the only way to get the German trade is to have the goods here and men to sell and push them. There will be little trouble in getting the trade; the difficulty will be in preventing them from throwing such obstacles in the way that will prevent our holding it after we once have it.

PERRY BARTHOLOW,

MAYENCE, *February 4, 1897.*

Consul.

AMERICAN STEEL IN GREAT BRITAIN.

For six months or more, steel has been imported from the United States into Wales for use in the tin-plate trade, and much interest has been aroused in the newspapers devoted to the iron and steel trade. Last week, the first large shipment was made into this, the distinctively metal district of England. As showing the effect which this new course of trade is likely to have on the iron and steel business here, I send editorial articles published in the Birmingham Daily Post of January 21 and 22, and also a letter from the current issue of the same paper, giving a chemical analysis to show the quality of the steel sent from the United States.

GEORGE F. PARKER,

BIRMINGHAM, *January 25, 1897.*

Consul.

[From the Birmingham Daily Post, January 21, 1897.]

The announcement made by the New York correspondent of the Standard that 1,600 tons of steel billets are on their way from Philadelphia to this country for delivery in Birmingham is an unpleasant reminder for our English steel producers that there is a limit to the expansion of prices, and that values, like water, soon find their level all the world over. Now, in this country, for some time past, prices of iron and steel, as well as of other commodities, have been steadily rising, under the influence mainly of improved demand; but in the United States the reverse process has been witnessed, owing to the widespread commercial depression, traceable largely to currency causes. The result is that the United States has not only ceased to offer a market of any value for our iron and steel manufactures, but is actually invading our home markets with American-made iron and steel. There is nothing new, of course, in the importation of American pig iron, which can be produced now at prices with which English and Scotch smelters can not pretend to compete, but it is certainly a new departure for American-made steel billets to be selling for delivery in the English Midlands. The particular consignment referred to by the Standard correspondent, we believe, is in execution of orders

placed by local consumers with American agents a couple of months ago, and the price, delivered in Birmingham and Wolverhampton, we understand, is about £4 5s. per ton, or fully 10s. under the English minimum. A large proportion of the present consignment is said to have been bought on account of a leading local sheet-rolling firm for conversion into sheets for galvanizing purposes. Considerable orders for American-made pig iron, for delivery in Manchester, were placed about the same time at about 47s. to 48s. per ton, which, allowing for freight, etc., would mean only 32s. to 33s. at the furnaces. Against such prices, it seems hopeless for English smelters to attempt to contend, under present economic conditions; but we have yet to learn if the trade is a bona fide one, and if a continuance of supplies at these low rates can be safely reckoned upon. The Iron Age, the principal organ of the trade in the United States, would have us believe that the American steel invasion of Europe has come to stay. Steel billets, we are told, can be profitably made at Pittsburg at 55s. and bessemer pig at 31s. 3d. per ton, these low prices being due not so much to the temporary depression of labor and materials as to the richness and abundance of the ores available and the superiority of American manufacturing appliances. Thus, the Carnegie Company, who have now the command of the rich Mesaba iron-ore deposits, are producing at their new Duquesne furnaces as much as 610 tons each of standard bessemer pig daily, at a cost of only 1,600 pounds of coke to the ton, instead of 2,000 to 2,200 pounds, as in this country. Thus, in this item alone, there is a saving of from 400 to 600 pounds of coke per ton. Two new furnaces, moreover, which are approaching completion are estimated to turn out 1,000 tons of pig each every twenty-four hours, or at the rate of 6,000 tons per week, when a further substantial reduction in the fuel consumption may be looked for. The Carnegie Company, we are told, is bent on conquering the markets of the whole world, and they have certainly been exporting lately enormous quantities of billets, rails, and other materials; but as a commercial concern, we presume the company is not prepared to trade at a loss, and in the event of any material lowering of the standard of values in foreign markets, or any considerable increase in the cost of material or labor in the United States, these exports would promptly cease. The revival of business in the United States is already lifting the cost of production in the States, and if English steel manufacturers could see their way to cheapen production on this side by the adoption of American plant and processes, there would be little to apprehend in the future from American competition. For the moment, however, it must be admitted that in certain lines we are beaten by our American competitors; or, in other words, that the upward movement of prices has reached, if it has not passed, the limit of safety.

[From the Birmingham Daily Post, January 22, 1897.]

The information we were enabled to give yesterday with regard to the importation of American iron and steel into this country appears to have provoked a good deal of comment among the ironmasters and steel producers present at the weekly meeting of the trade in Birmingham. To many of them the figures evidently came as a surprise, for the business is at present confined to comparatively few channels; but whatever its real extent, we gather that the prevailing opinion among those best qualified to speak on the subject is that the trade is not likely to prove of an abiding character, because it is only under exceptional circumstances that it can pay American producers to deliver their metals here at the low prices needed to compete with English makers. Without disputing this opinion, we think it well to point out that the exceptional conditions which have made these imports possible have lasted now for several months, and there is no indication yet that they are passing away. Ever since October last, consignments of American pig iron, chiefly from Alabama, have been arriving freely in this country, and agents of American firms, we understand, are still soliciting orders for both pig iron and steel at very tempting prices. In a recent issue, the Iron Age expressed its conviction that the export trade in American hematite pig was now established on a permanent basis, remarking that sales on a considerable scale were made during the past month

on the basis of 47s. to 48s. per ton, delivered in Manchester. The export trade in steel rails, it admitted, might not be permanent, although contracts for some 50,000 tons have been lately booked for China and Japan, and the Carnegie Steel Company is said to be exporting thousands of tons of billets, rails, and other materials every week. In explanation of this remarkable trade development, the Iron Age explained that, under the new and improved conditions of manufacture, bessemer pig could be produced at 31s. 3d. per ton and steel billets at 55s., or about £2 per ton under the minimum selling price in this country. If these estimates are well founded, it is obvious that no very exceptional market conditions are needed to enable American iron and steel producers to wage a serious competition with English makers even in this country, and that the American steel invasion, therefore, may have a longer life in store for it than casual observers might suppose. Under present conditions, at all events, it is abundantly manifest that in certain lines the Americans can compete with us successfully, if they choose; and they will doubtless elect to do so unless or until they can find a better market for their products nearer home. In other words, the continuance of American competition in iron and steel in this country depends largely upon the future of the American home trade. If a market can be found in the States for the metallurgical products of Pennsylvania and Alabama, the exports from those States will quickly dry up. Otherwise, our manufacturers must be prepared to find that American iron has come to stay.

It would be a mistake, however, to suppose from this invasion of English markets by American ironmasters that the latter are beating us in the race for trade or in the magnitude of their production. Up to a year ago they were well ahead of us, their output of pig iron in 1895 totaling 9,446,308 tons, as compared with 7,895,675 tons in this country. Since these statistics were got out, however, there has been a remarkable change in the economic and industrial conditions of the two countries, and, as we were able to show some six months ago, during the first half of 1896 the relative positions of the two countries as iron producers were completely reversed. The official statistics for the second half of 1896 are not yet procurable in either country; but, according to the estimates of exports, based upon the number of furnaces in blast, the production of pig iron in this country last year was not less than 8,750,000 tons—nearly one-third more than in 1892, and probably 10 per cent more than the total output of the United States during 1896. During the same period the pig-iron output for Germany is estimated at 5,800,000 tons; but Germany is a large consumer of English pig, and the yield of the German blast furnaces, therefore, is no criterion of the iron and steel production of the country. There can be little doubt, however, that in 1896 the United Kingdom fully recovered its lost supremacy as an iron-producing country, and the only question is, whether Germany or the United States is entitled to the second place. There is this difference in the two cases, however, that while the trade is steadily and even rapidly progressive in Germany, the American iron trade since 1895 has been decidedly on the decline. This is one of the risks inseparable from a trade which is dependent upon a single market. Germany, like England, caters for all the world; but, under the high protective system favored by the Americans, they have practically only their own home market to depend upon, and when that is bad, as it has been throughout the past year, they must curtail their production severely or seek an outlet for it in foreign markets at any price that will cover cost. This is no doubt the secret of the recent great development of American iron exports. Production has, indeed, been enormously reduced in the United States, but it is still apparently too large for absorption at home, and the American ironmasters have consequently been driven to find a market for their products in England and other European countries, where the trade improvement has lifted prices sufficiently to afford an opening for American iron. Such competition is doubtless exceptional, but it is nevertheless serious while it lasts, and it bids fair to last some time. If the trade were being done at a loss, as some of our ironmasters seem to imagine, it would not be of very long duration; but it has been going on now almost uninterruptedly for the past three or four months, and its proportions are increasing. Only a few days ago we published a cablegram from Philadelphia, announcing that negotiations were in progress there for the sale of 20,000 tons of billets to European buyers on the basis of £3 15s. per ton

delivered in this country, a price which is estimated to leave a fair margin of profit, even after cost of handling and transport and middlemen's charges are deducted.

The continued prosperity of the British iron trade would seem to show that in good times there is room in our markets for American as well as English iron; but it would be a fatal mistake for English ironmasters to acquiesce in that state of things without making a determined attempt to expel the intruder. The economical conditions of the trade are doubtless more favorable in the Southern United States than they are in this country; but against the cheapness and abundance of coal and iron in Alabama we may fairly put the heavy cost of transport by rail and sea to this country, and if the Americans still undersell us in our own markets it must be because they have improved upon our processes and found some cheaper way of making iron than is known to our ironmasters. Something of this kind is plainly indicated by the figures we gave yesterday with reference to the yield of the new furnaces lately constructed by the Carnegie Company at Duquesne. One of these furnaces, we are told, has produced an average of 610 tons of bessemer pig daily over a considerable period, and the coke consumption per ton is only 1,600 pounds, instead of 2,000 to 2,220 pounds, as in this country. It is impossible to deny the value of this saving of 600 pounds of coke in every ton of iron, and if such an economy is possible at Pittsburg, we fail to understand why it might not be effected in Cleveland or Staffordshire. In addressing the Manchester Association of Engineers the other day, Mr. Joseph Nasmith, the new president, made some very pertinent remarks upon the importance of improvements in our iron-working processes, and pointed to the enormous reduction which had taken place in the cost of steel rails as a consequence of the improved methods introduced a few years ago. Even pig iron, he pointed out, has followed the same law, improved appliances having diminished the price by leading to an increased output without increasing the charge for labor. In this direction, the enterprise or ingenuity of American smelters would seem now to have surpassed that of their English competitors, and it is for the latter to look round them and recover their lost ground before it is too late. That the American competition in this country will long survive the present trade depression in the United States we do not believe, but it is neither prudent nor dignified for British ironmasters to be dependent upon the tactics or opportunities of their trade competitors, and even in times like these it ought not to be possible for steel and iron producers in the United States to send their manufactures many thousands of miles to this country at prices which defy British competition. That anomalous state of things would seem to indicate either that our prices and profits are excessive, which we do not believe, or that there are cheaper methods of producing iron and steel than those which are generally adopted in this country; and that is a matter which it behooves our manufacturers to look into for themselves very seriously.

[From the Birmingham Daily Post, January 25, 1897.]

AMERICAN STEEL.

To the Editor of the Daily Post.

SIR: Referring to your recent paragraph on the large importations of American steel to the Midlands, it will, I think, interest many of your readers to learn that its composition, if the samples submitted to me are an average, is distinctly different to that of the bulk of English steel intended for similar purposes. Two specimens were sent to me for examination some six weeks ago from South Wales, where American steel has been received before it came to the Midlands, in which I found the following compositions:

	Per cent.	Per cent.
Carbon.....	0.135	0.18
Phosphorus.....	0.11	0.1
Manganese.....	0.31	0.21

The steels were supplied for tin-plate making, and I was informed by the users that their working was in every way excellent. In nine cases out of ten, users of soft steel would say that such material would be harder than is desirable for such work.

Such differences are very interesting, and this fact and the importance of the matter are my reasons for giving these details, which, though not of common interest, may certainly interest many of your technical readers.

ALEX. E. TUCKER.

35 Paradise street, Birmingham.

VINTAGE OF THE RHINE FOR 1896.

“Quantity, large; quality, poor,” are words heard every day when speaking of the wine crop of the Rhine and vicinity for 1896. The mild weather of the latter part of the year 1895 continued for the first months of the year 1896 and was very beneficial to the vines. The work in the vineyards commenced early, and seldom has it been the case that the vineyards could be kept in such perfect condition, owing to the favorable weather. By the end of March, the vines had all been trimmed and looked healthy, strong, and full of sap. The sprouts were a little backward until the 1st of April, but the warm rains soon brought them out in full force and strength, and better prospects were seldom, if ever, seen for a most magnificent vintage. In consequence of the fine quality of the cuttings or sets, a great many new vineyards were started and the loss of vines in the old vineyards, caused by the severe cold of the last few winters, was repaired. Though the weather was somewhat unsettled in April, the vines made good progress. The much-feared cold nights, so often experienced at that time of the year, did not make their appearance, and though the weather in May was far from being satisfactory, the prospects in June were splendid—the vines were as heavy with grapes as could possibly be expected. Heavy rains were followed by very hot weather until the first days in July, when we had some cooler weather, but it was again followed by a hot spell which advanced the quality and general appearance of the grapes. Only in a few places was there any appearance of disease; the peronospora showed in a few places, but was quickly done away with. In August, came the unfavorable weather. August is called by wine growers, the “cooking month,” being always the hottest month, but this year it was just the contrary; it was rainy and cool and the nights were really cold, so much so that the grapes did not ripen at all. The quantity of grapes on the vines being so large, the vines should have had very hot weather up to October, but we had so much rain and cloudy and cool weather that the grapes began to rot and a disease (oïdium) made its appearance. In all parts of the wine-growing districts, a very large crop was gathered and almost everywhere it amounted to what is called a “full crop” in quantity, but the quality is very poor and the hopes the wine growers entertained in the spring and early summer were by no means realized.

The product of the 1896 crop was in some places and districts equal to the vintage of 1894; in some few places, a little better, but the exceptions were few. The average results are what is called a "small wine," which has to be very carefully treated. It is a very light wine and useful to the trade, as light and cheap wine has been very scarce in the past few years. As before mentioned, the "new wine" must be very carefully treated, as so many of the grapes began to rot in the early autumn and this will seriously affect the quality. Even the early grapes gave very poor results. In Rhine-Hesse, the sweet wines, the Frühburgunder and Portugieser must, weighed only from 56° to 72° Oechsle's wine measurement, with from 10 to 13½ per cent acidity. The must of selected grapes in the lower districts weighed only from 54° to 65° Oechsle, and in better parts 65° to 85°, with from 7 to 11 to 14 per cent acidity; in the Rhinegau (Asmanshausen), red grapes weighed from 80° to 90° Oechsle, with 10 to 11 per cent acidity; in the Middle Rhine districts, the Frühburgunder weighed from 68° to 75° Oechsle, with 8½ to 9½ per cent acidity. The vintage of the Portugieser in the Haardt district was finished about the 1st of October and the results were more than satisfactory as to quantity, but the quality, as everywhere, was poor, the average weight being from 60° to 75° Oechsle.

The weather at the commencement of the vintage was bad and continued to grow worse, so much so that the crop of grapes had to be gathered much earlier than usual, but there was no use holding off, as the grapes could not ripen and the longer they were left on the vines the worse the rot got into them. Not for years has there been anything like such a large crop, but it is the same story in all districts—quantity enormous, but quality poor. The wine growers had the greatest difficulty in getting casks enough to hold their wine.

On the Mosel, in some places, a little better result was shown and the must weighed in the best districts from 55° to 85° Oechsle, with from 9 to 15 per cent acidity; on the Nahe, the average weight was from 55° to 70° Oechsle, with 9 to 12 per cent acidity. The results in the Haardt district, in the Palatinate, were pretty much the same—quantity very satisfactory, but quality poor; the average weight of the must was from 55° to 85° Oechsle and from 7 to 12 per cent acidity.

The 1896 wine will be a very light and a very cheap wine. Of course, a great deal of sugar will have to be used to make it palatable. A general estimate of the quantity of the wine crops for the last four years from the Rhine and adjoining districts is as follows:

	Gallons.
1896.....	130,000,000
1895.....	39,630,000
1894.....	74,610,000
1893.....	100,396,000

PERRY BARTHOLOW,

Consul.

MAYENCE, *January 26, 1897.*

AMERICAN APPLES IN GERMANY.

The past season will be long remembered in this country as the first in which the American apple has invaded the markets of Germany in such quantities as to reach all classes of dealers and consumers and demonstrate beyond dispute its superiority over the native fruit in juiciness, flavor, and adaptability to all purposes of the kitchen and table. The Pomological Monthly, usually a good authority, is credited with the astonishing statement that during the past season 6,000,000 double centners of American apples—more than twenty times the import of any previous year—have been landed at German ports, and this fact is made the text of an earnest appeal to German communes and landowners to begin at once the planting and grafting of apple trees.

While the figures above cited are an obvious overestimate, the fact remains that the importation of American apples has been altogether unprecedented, and the results have been, on the whole, satisfactory and promising for the future. Some of this success has been due, of course, to the conjunction of a profuse and excellent apple crop in the United States with a short and generally inferior yield, due to a cold, wet summer and autumn, in Europe, which circumstance has enabled importers to sell American apples even below the prices of native fruit. But nothing can obscure the fact that the victory has been one of superior quality rather than mere cheapness of price, and there is an assuring prospect that the large importations of this season have opened a permanent market for American apples in Germany. It is therefore worth while to review some of the mistakes that have been made by certain exporters in our country and point out the additional precautions that will be necessary to give the trade stability and lift it above the character of a periodic and more or less uncertain speculation.

Taking into account the magnitude of the importations and the fact that most of the fruit had been gathered, barreled, and sold in the principal American markets without any special preparation for export, it must be conceded that it has arrived for the most part in fairly good condition, at least until the latter part of the shipping season. But since the middle of December, a number of shipments have arrived in a wretched state—the apples so rotten and crushed as to be wholly unsalable except for manufacturing purposes and then at a serious loss to the importers. The agrarian press, ever ready to find flaws in imported food products, has not failed to point out and make the most of these defects, and by its strictures on American methods of packing and shipment has pointed out the reforms that should be made before the exports of another season are begun. The plain fact is that apples hastily gathered, thrown into barrels, and hurried by rail to New York and Boston are often in no proper condition to be exported to Europe, and if the trade now so auspiciously opened is to be maintained and increased, more careful methods of packing and preparation must be adopted.

Germany has for many years imported apples in large quantities from the Austrian Tyrol, and the contrast between the manner in which such fruit and American apples are prepared for shipment and the condition in which they respectively arrive and keep after arrival offers a striking and suggestive lesson. Tyrolese apples, when intended for export, are carefully picked by hand when dry, or if damp when gathered, are dried and are then laid by hand closely in barrels lined with heavy manila paper. At the bottom and top of the cask is placed a thick layer of "wood wool," or dry, soft straw, and the barrel head being pressed down over this and fastened, the fruit is held firmly by the pressure of these two elastic cushions so as to prevent the loose rattling of one apple against another while in transit and the consequent bruising that entails decay. Finally, holes are bored through the sides and both heads of the cask to admit air, and in this condition apples from the Alpine slopes are brought hundreds of miles by rail so free from injury that they keep throughout the winter without being unpacked or opened. They are beautiful to the eye, fair, rosy cheeked and firm of tissue, and although distinctly inferior to the best American apples in juiciness, flavor, and tenderness of pulp, they retail to-day in Frankfort at higher prices than the Spitzenbergs, Baldwins, and Greenings from beyond the sea.

It is the opinion of fruit dealers here, who extol the rich flavor and general excellence of American apples, that if they were gathered and put up for export by the same methods and as carefully as those from the Tyrol and northern Italy, they would from this time forward practically control the imported-apple market in Germany. This special preparation would, of course, cost both time and money, but the kind of labor required for such a purpose should be plentiful and relatively inexpensive, even in the United States, and its cost would be amply repaid by the higher prices that the carefully assorted and well-packed fruit would command abroad. The point can not be too strongly emphasized that good packing is essential to success in any export trade, and most of all where the merchandise exported is of so perishable a nature as fresh fruit. In this, as in some other lines, American exporters are often forced to sell their goods when consigned abroad more cheaply than should be necessary, in order to atone for defective packing and want of exact knowledge of the requirements of the foreign market. It is not essential that American apples shall undersell the native fruit, pound for pound, in the German markets, but it is of the first importance that they shall be well selected, so that the contents of each barrel shall be of nearly uniform size throughout, and so put up for export that the danger of bruising, heating, and decay while in transit shall be minimized. This much guaranteed, the inherent superiority of American apples, grown as they are in a country where the sun shines throughout the summer and far into October, will give them an assured precedence over the comparatively sour, tough, flavorless fruit grown under the gray, humid skies of northern Europe.

It is unfortunately beyond question that many hundreds of barrels of American apples have been landed in Great Britain and Germany during the

past season which should not have been exported at all—barrels with a layer of good fruit at the top and bottom and the remainder filled with small, gnarly windfalls, gritty with sand and bitten by insects and mice as they lay on the ground, and showing every indication of having been shaken or beaten from the trees and thrown into casks like cider apples into a mill. In other cases, the barrels have been so scantily filled as to leave space for the apples to jostle and beat against each other from the lurching of the vessel at sea, or when rolled and handled in transshipment, with the inevitable results of bruising and premature decay. The tenderness of tissue which forms a chief merit of most American apples, renders them delicate and perishable as merchandise.

In a season when apples were so abundant and cheap in the United States that the product of hundreds of orchards was left to rot ungathered, the hasty, careless packing of fruit that could be sold in the great city markets for only \$1 or \$1.50 per barrel can be readily understood, if not excused; but surely apples in that condition should not in future be exported, at least to a country where all imported food products are so carefully scrutinized as in Germany.

The dried and canned fruits of California and the Atlantic States are now firmly established here; their importation and consumption are increasing steadily year by year, and with the wide and favorable introduction that fresh American apples have obtained during the past season, it will require only careful assorting and packing, with judicious management on the part of exporters, to develop and retain for them in this country a permanent and important market.

FRANK H. MASON,
Consul-General.

FRANKFORT, *January 23, 1897.*

The importation of American apples is interesting the whole German Empire. Efforts are being made all over Germany to arouse interest against our apples, as the most dangerous invaders. Fruit men complain of high freight rates for fresh fruits. The hope that our fruits would be kept out, because of heavy land and sea freight rates, has been changed to fear at the evidence offered by the millions of bushels that in 1896 were sent to England and the Continent. The keeping qualities of our best winter apples—Baldwins, Greenings, etc.—are subjects of astonishment. A writer in the Empire's leading fruit journal doubts that they will keep six months, as claimed by Consul-General de Kay. I have had them (Baldwins and Greenings) keep nine months. England, according to this writer, took, ten years ago, large quantities of fruit from Germany; to-day she buys in Australia, Canada, and the United States. Every effort is being made here to help the farmers. No one seems to notice the wonderful changes taking place in the world's methods and sources of supplying food. North German farmers hope to hold the Empire's markets against North and South America, Russia, Austria,

and the East. It is no longer possible. Meats, grains, fruits, and raw materials for manufactures must be bought outside. In intensive, not extensive, farming is hope for her agriculturists and horticulturists. The conservatism of her rural population keeps her, not from learning, but from employing the lessons dinned daily into their ears by the facts of trade. Writers never tire of the refrain, "The farmer must be saved; his lot must be made better." But how? "An increase of the net earnings of the farms is urgent if the national weal is not to be materially injured." These writers want farmers to raise fruit and poultry. In this, they are wise, for both go well together, and call for intensive rather than extensive work. The first factor in competing with foreign fruits is reduced freight rates on German railroads for the home product. The next best means is to produce fruit and fruit products enough to meet the home demand. The next factor is to find the seed or kinds best suited to soil, climate, and other conditions, put them in, and give them proper care. A "German American," G. A. B. Grosser, of Strigland Lodge, Sheridan, Oregon, who took a course here at an agricultural school, is quoted as saying that recently Germany's technical training (*sachgemäss*) puts her ahead of America in getting value out of, or giving value to, her fruits. United States soil and sunshine put something into Baldwin, Pippin, Porter, Sapson, Greenings, Nonesuch, and other apples in the United States that all the technical training on earth will never supply. I have eaten "wild" apples in the United States with which those of the Tyrol (Meran) could not compare in taste. Mr. Grosser, when told that Germans had no hope of competing with our dried apples, informed the *Obstmarkt* editor that Americans never dreamed of taking first-class fruit for making dried fruit; that from 40 to 60 per cent were picked out for export as table fruit. This may be so; but my own experience is against it.

The next great factor for fruit sellers is the packing. This, in my opinion, is the factor for our people. The writer in the fruit journal referred to (*Obstmarkt*) tells his readers how badly we pack. That we pack badly is true; but that we pack as he says we do and that our barrels hold only 110 pounds, as he claims, is not true. The fact that we bore no ventilation holes in our barrels is based, according to his belief, on a desire to keep the weight. This man is an editor and fruit authority. He praises the uniformity in size of our barrels, but urges his own people, in packing, to be sure and ventilate by boring holes in top and bottom and on the sides. Here all kinds of barrels, boxes, and baskets are used. Because of this, numerous quarrels as to weight arise.

A new fruit barrel has been invented. It is too expensive for export. It received a bronze medal from an agricultural organization. It consists of two parts, which can be placed one on top of the other and bound firmly together by four staves or tongues and sixteen screws inside. As soon as one half is filled, a cover having holes in it is put on, this made firm, the other half is added, made fast by means of the screws, staves, etc., and then filled. Then follows the finishing work—putting on of cover, hoops, etc. Cuts are

made along the sides to let in air and let out the bad air, if any, from the fruits. One of these barrels weighs 33 pounds and costs 90 cents. It offers an idea for our fruit men in the matter of oranges, peaches, etc. It is thought to be the best thing for its purpose in this Empire and is believed to be the best thing of its kind on the Continent. In a lecture on how best to harvest, select, keep, and pack seed fruit, the inventor of the barrel laid stress not on his invention, but upon ventilation. In fact, he said boxes as well as barrels were good for packing purposes, but that, for many reasons, especially easy transportation, barrels are best. This new one, of course, comes too high. Its only real recommendation is that it can be taken apart, that the pressure is divided.

A leading lecturer on horticultural subjects, Dr. Stötzer, urges his people to pack in excelsior (wood wool, he calls it), *i. e.*, he says the bottom of baskets or barrels should have a layer of excelsior. The apples should be wrapped in silk paper, etc. Now, all this, with our fruits, is not necessary. If we have a layer of excelsior at the bottom, one at the top, and (perhaps it would be worth trying), one or two such layers between, to distribute the pressure, it will be enough. Our apples are naturally good "keepers." To pack every apple in excelsior and afterwards in paper would put them so high that German housewives, noted for their economy, could never reach them.

The season here, especially for apples, pears, etc., is from the fall to Christmas. After Christmas, little is done, and three weeks after, nothing. This applies particularly to good table fruit for the vast middle class of the Empire who buy for the winter's supply, both for eating raw and for making preserves. This is the time for our apples—Baldwins, Pippins, Greenings, etc.

"Places in which to keep fruit, storehouses," says one of the writers from whom I quote freely, "should be built toward the north, and should, if possible, be shaded on the other sides by trees or shrubbery. There should be but one door, double, and on the north or northwest side. There should be but one or two windows and these so managed as to permit of the total exclusion of sunlight." But as we know more about "keeping" fruit than these people, it is hardly necessary to describe their storehouses in detail. They are best suited for the finest fruits. For fruits such as are to be sold off in the "height" of the season, they are not necessary. The best temperature for the fruit, according to experiments made here, is 5° to 8° Celsius, *i. e.*, 41° to 65° F.

"America," says the Obstmarkt, "is our best teacher. Canada and the United States grow only a few kinds." Here follows a detailed description of California's and the Pacific Slope's wonderful work in fruit raising, especially plums. Pictures are drawn of what we and others are doing and have done. It is not done to drive these people to despair; that is not possible. It is to awaken a new life in an industry that for years has been languishing. The results are justifying the efforts. In no branch is more being done than along agricultural and horticultural lines. To beat

out the foreign invaders and to build up their own orchards is the work laid out. To do this they must get reduced transportation rates and fewer and better kinds of trees. Not always those that bear most pay best; only good trees bring forth good fruit. The picking and selecting must be done carefully. The poorer qualities must be made up into jellies, preserves, marmalades, dried and steamed, or pressed into cider. The barrels, baskets, or boxes must be made more uniform and must be better suited for transportation, ventilation, and preservation. They must be light, cheap, and durable. The fruit must be well packed. There must be better technical education for the purpose of obtaining practical and scientific experts in this branch. There must be a more intensive, reasonable, and, at the same time, extensive cultivation in order that quality and quantity may be all that the markets demand. This is the result of 1896's movement of American apples in these markets.

J. C. MONAGHAN,

CHEMNITZ, *January 16, 1897.*

Consul.

AMERICAN APPLES IN ENGLAND.

I inclose an article from the Bradford Observer commenting on the immense exportation to this country of American apples during the year 1896.

CLAUDE MEEKER,

BRADFORD, *January 19, 1897.*

Consul.

[From the Bradford Observer, January 4, 1897.]

AMERICAN AND CANADIAN APPLES A GLUT ON THE MARKET.

Messrs. Woodall & Co., of Liverpool, report that the first half of the apple season closed on Saturday. During the past fourteen days the market has been oversupplied, some fruit having to be carried over Christmas, there being absolutely no demand. This has since been disposed of at miserable prices, consequent on the doubtful and bad condition, and holding it for a longer period was impossible. The season to date will be memorable and one of bitter experience to most. The stupendous receipts have completely dwarfed any previous record, being 1,159,791 barrels, against 279,036 barrels for the same period last year. The previous largest season was in 1891, when 596,003 barrels were received. These figures refer to Liverpool alone, and usually represent the bulk of the shipments to Great Britain, but this is not the case to the same extent this year, as the total receipts are over 2,200,000 barrels. London, which previously was comparatively an insignificant receiver, has had nearly 500,000 barrels, while Glasgow has taken about 355,000 barrels, and shipments have been made to other ports where it was thought possible an outlet might be found. The Liverpool figures are, of course, immensely over any other port, and represent, from the 1st of September to the 31st of December, a supply of over 9,000 barrels daily. The largest was in the week ended 24th of October, when 107,782 barrels arrived, and the supply during that month was over 12,000 barrels daily. The previous largest total import recorded was in 1891-92, when 1,450,000 barrels were received, so that in the first half of this season the imports to Great Britain are an excess of over 500,000 barrels above the total imports of any other previous entire season.

Prominence is purposely given to these statistics, not only to point out the continuous and excessive quantity received into Liverpool from the very commencement, but particularly to impress the fact that the distributing power of this port has been severely tried by directly supplying markets small and great which hitherto were very useful consumers. Not only has Liverpool received double the quantity ever known, but the markets from whence assistance was to be expected have also been glutted beyond requirements. The reason for thus glutting the country appears fairly obvious. America and Canada were known to have large apple crops, and were overrun by agents giving fabulous reports of the capacity of European markets, many of them giving prospects which were utterly without foundation. It was repeatedly asserted that 80,000 to 90,000 barrels weekly could be taken, and also that a total for the season of 3,000,000 barrels might be shipped and return satisfactory prices. It has however, been proved by past experience that a short European crop does not require to be replaced by foreign supplies, except to a very limited extent, and where the shortage is generally the greatest it is scarcely replaced at all. Experience, on the other hand, has also shown that a large English crop does not prevent a considerable demand for American and Canadian apples; and to those who have watched, it is a known fact that when the fruit arrives the home growths become, through comparative inferiority, almost valueless.

The season opened unusually early, and at once commenced with thousands of barrels, where formerly hundreds came forward, and consisted of early varieties which are not sufficiently good to attract a demand. In September, there is nearly always a sufficiency of similar quality of English growth, and this was the position this year. During all the month and most of October shipments were made in very hot weather, with the result that they landed in poor condition, but returns were sufficiently satisfactory to induce a continuance, as the fruit had little or no value at ports of shipment. Immature winter Baldwins and Greenings arrived about the middle of September, and continued to increase in quantity each week until the third week in October, when the receipts had touched 475,616 barrels. All this fruit was common, immature, and small, and prices realized can only have been unsatisfactory, especially the later sales. In the last week there was some improvement in quality and condition, as properly matured winter stock was then arriving, and the general condition being good, there was a more active demand, and prices advanced 1s. to 2s. per barrel. Everyone was inspired with the hope and expectation of better prospects and remunerative returns. This, to a great extent, was realized, and the first three weeks of November were the only fairly bright period of the season. Toward the end of the month disappointment again commenced, the continuous heavy receipts, added to a falling off in both condition and quality, causing a depression. The position was further aggravated at this period by withdrawal of continental orders through labor troubles at Hamburg, which still continue. Condition and quality to the end have been variable and unsatisfactory, and in Christmas week apples became almost unsalable, many sales not realizing sufficient to cover freight and expenses. Taking the crop as a whole, it compares unfavorably with those of previous large years, and a prominent feature has been the large quantity of very common apples, which should never be shipped in seasons of plenty; this particularly applies to much that has come from Boston. Newtown Pippins have only come forward in moderate quantities, and, although no very high prices were made, results were generally satisfactory, except for a few which arrived after the holiday demand was supplied. The top price of the season was 39s. 6d. per barrel. The prospects for the future in the existing depressed situation may by some be looked upon with dismay, for which there is no real occasion, as the causes are natural, and nothing different could have been expected on a market which, for a considerable period, has been glutted with unattractive and out-of-condition fruit. European requirements during the spring of 1897 will be very large, and the general outlook could not be better, but shippers should thoroughly understand that only really good, sound stock will be wanted, and that the markets are not prepared to take quantities such as have lately come forward. The probable weekly requirements, to return remunerative prices, should be about 35,000 barrels, and at the utmost should not exceed 50,000 barrels.

AMERICAN APPLES IN AUSTRIA.*

The latest thing with which the markets of Europe are literally inundated by the New World belongs to the lovers of apples. One million seven hundred thousand barrels of apples for Europe! With these words, Broker Brown announces to lovers of fruit, both small and great, that America, during the past year, exported 250,000 more barrels of apples to Europe than ever before in one season. The exportation, moreover, may still continue on a large scale, as our principal competitor in the British apple market, viz, Canada, will not be very well represented there hereafter. The (for us) new varieties of apples meet with a ready sale, owing to their cheapness and their good quality, and here in Prague, where, as in Austria generally, they were placed on the market last spring for the first time, they have already become very popular, although their price with us has been out of proportion—higher than in Vienna, for instance. While, according to reports from the capital of the Empire, American apples were sold there during Christmas week for 20 kreutzers per kilogram, the same quantity could not be had in Prague for less than 35 kreutzers. The sale of American apples in Prague, which in itself furnishes honorable evidence of the practical character of our antipodes, becomes more interesting from the fact that an opportunity has been offered of admiring the regard felt by the Americans for honest work, by whatever name it may be known. The American consul here has undertaken the very commendable task of personally promoting the sale of fruit imported from his native country. The new American article of export seems to us to be worthy of imitation by our fruit growers, and ought to induce them to devote more attention to our indigenous varieties than they have hitherto done.

A NEW LIGHT FROM CALCIUM CARBIDES.

The development of the lighting industry is going on at a most rapid and steady pace of late in Germany, particularly as regards the manufacture of calcium carbides for the production of acetylene, the new illuminant, a discovery which has been greatly experimented with and discussed everywhere during the last few years. Considerable data are available regarding it, so that the inquiry which has been made and published as to its history and value as a practical illuminant has been of world-wide interest. While all this has been in progress another new competitor in the field of illuminants has appeared upon the scene, in the shape of a calcium light, so called by its inventor, Emil Walther, of Saxony. This new light is produced by a very simple process, which consists of the obtaining of the carbides of earth alkali metals by methods considerably cheaper than was possible by processes

* Translated from the Montagsblatt, Prague, January 4, 1897.

hitherto employed, thereby permitting a general use of calcium carbides for the purposes of illumination.

This object can be attained in the most perfect manner by heating a mixture of the earth alkali metal oxides or earth alkali metal carbonates and similar substances with carbon in a furnace, by means of darting flames, which flames are to be produced in unlimited number through acetylene or other gases, kept under pressure. By the generating temperature, the product in the furnace is made liquid by means of the darting flames and yields, after cooling, a crystalline mass, which consists of the carbides contained in the metals of the mixture used. If certain parts of calcium oxide are used and certain parts of carbon, the result is a calcium carbide, which, in consequence of the cheap producing process, especially for illuminating purposes, may be used with advantage. This shows that by means of the preceding invention, great quantities of acetylene may be cheaply obtained, and since the same, when heated, results in polymerisms, the many ways of employing these bodies must be regarded as extraordinarily manifold. This constitutes the whole process of manufacturing the new calcium light, from the preparation of the lime and coke onward, which, as explained, is extremely simple and inexpensive, requiring no skilled labor and little machinery. The only reason why it is new as a commercial product is the difficulty of causing a combination between the calcium of the lime and the carbon of the coke. Nothing short of the temperature of the electric furnace— $3,500^{\circ}$ to $4,000^{\circ}$ C.—will bring this about, and the comparative modernness of this new apparatus for producing the calcium light accounts for the lateness of the calcium carbide. This calcium carbide, pure when produced, has a specific gravity of 2.262; in a dry atmosphere, it is odorless, but upon exposure to moisture, evolves the peculiar odor of acetylene. When exposed in lumps to the action of ordinary air, it becomes coated with a layer of hydrate of lime, which protects the interior of the mass from further oxidation. In form, the carbide for producing the calcium light is a dark-grayish or red dense mass, which, upon fracture, shows a crystalline metallic surface.

This compound of calcium carbides, when prepared, is placed in one of the copper vessels which is part of the newly-invented apparatus for producing the calcium light; another vessel, placed above the one holding the solid substance, contains water and is directly connected with the lower receptacle containing the carbides by means of tubes, which feed the water automatically, when gas is to be generated. From this, the direct flame is obtained, the gas being conveyed to the burner by means of small pipes of about the size and neatness of an electric wire. As regards the amount and quality of the light obtained from carbides properly burned, there seems no question of its great superiority over coal and water gas, and the new calcium light much surpasses even incandescent gas in its character of luminosity, producing a beautiful and exceedingly brilliant flame. It also differs very advantageously from similar illuminating gases recently invented, in being

nonexplosive. The inventor claims the danger of explosion is completely excluded in his process of producing the gas.

The construction of the apparatus is so very simple and small as to render its use possible anywhere, since, too, the use of the many pipes and connections, so necessary for distributing incandescent gas in a community, is done away with. Every household could, by setting up a small apparatus, effect the filling and feeding quite independently and at small expense. According to trials and experiments recently made, a flame of from 30 to 40 candlepower can be produced at the rate of about three-fourths of a cent per hour; and after more experience and improvement in the manufacture of the calcium carbides, it is claimed that even this low rate will be considerably reduced. The calcium light can be used for heating and technical purposes, as well as for illumination, without the application of especial manipulations.

On the whole, then, it may be said that the new calcium light promises to be an important rival of the present methods of illumination and deserves the careful examination of both the consumer and manufacturer of light givers.

GEO. SAWTER,

GLAUCHAU, *January 12, 1897.*

Consul.

ROOFING SLATE IN IRELAND.*

BELFAST.

During the past twelve months, several communications have been received at this consulate from quarrymen in the United States, requesting information concerning the prices of, and demand for, roofing slates; also, what qualities and from what countries were the slates most desired, etc.

The answers were not as complete as desired because of the difficulty hedging such information, but recently some additional data has been gathered which, if published in the CONSULAR REPORTS, may be of value to home quarrymen seeking a foreign market. Just at present, the conditions seem very favorable for an entering wedge for American slates, more especially as there is a protracted strike on hand at the Port Penrhyn quarries.

First, it should be known that this city has at present in the neighborhood of 60,000 houses of all descriptions, and, with few exceptions, they are all roofed with slates. Within the year just ended there were 2,917 buildings erected, an increase of 621 over the year 1895. Furthermore, by a recent act of Parliament the city boundaries have been increased 11,000 acres, and if the city's prosperity and growth continues in the same ratio as at present, which is extremely probable, the number of structures erected will be proportionately larger. As 99 per cent are roofed with slates, and as the smallest house requires at least a ton of 2,240 pounds, it is not too

*See CONSULAR REPORTS No. 197 (February, 1897), p. 287.

much to say that last year's consumption in Belfast and vicinity must have exceeded 10,000 or 12,000 tons.

Until very recently, all roofing slates came from the quarries in Wales, and even now but a very small portion of them come from anywhere else. Owing, however, to the scarcity and high prices of the Welsh article, there is some inquiry for American slates, notwithstanding that they are alleged to be inferior to the Welsh slates.

This scarcity and increase in price began after the great storm of December 21, 1894, when so many buildings were unroofed all over the Kingdom, and especially in this city. Since then, the output of the Welsh quarries seems to be inadequate to the increasing demand, and the Welsh firms have advanced their prices from 30 to 40 per cent, and their independence is such as to display no fear of dangerous competition.

As a result of the inquiry for American slates, one firm has imported three lots of 70 tons each within the year. Messrs. W. F. Redmond & Co., of Newry, large slate importers (to whom this consulate is indebted for courteous answers to inquiries), state that they readily disposed of 1,500 tons of American slates during the year just closed. The subjoined letter from this firm contains information of practical importance to our quarrymen:

NEWRY, *December 29, 1896.*

JAMES B. TANEY, Esq.,

American Consulate, Belfast.

DEAR SIR: In reply to your favor of the 23d of December, the high prices charged for slates by merchants last year was not due to the advanced prices of the Welsh slate-quarry owners, but to the scarcity of stocks held by local merchants in Great Britain and Ireland, combined with a general improvement in the building trade, and consequently increased demand, and also to the severe winter of two years ago, which reduced the outputs of all the Welsh quarries.

The qualities of Bangors principally imported into Ireland are first quality green and wrinkled. Bangor slates are purple blue and not the color of the American Bangor and other slates imported from the Slatington district, Pennsylvania, which are similar in color to Oakeley and other Portmadoc slates, and therefore where Bangor or similar color slates must be used, American slates can not be sold.

We consider American slates of unfading color to be equal to Portmadoc slates (Oakeley or others) "medium quality," but slightly heavier, and it is in competition with these slates and not Bangors that we have sold what we imported; but if we and others could get what we required from Portmadoc and other Welsh ports, we should not import American slate which cost more than the Welsh slates here, though in point of quality we consider them equal to medium Portmadocs, though heavier.

Owing to advantageous contracts, and to the fact that we were appointed sole Irish agents for the American quarries for whom we sold, we had no difficulty in disposing of the 1,500 tons or so which we imported, and also because we were careful not to import more than the market would bear, but once the supply of Welsh slates again becomes equal to the demand the importation of American slates must cease.

Some twenty years ago, American slates were imported, which faded out almost white; this has, unfortunately, greatly prejudiced buyers against them, and until this prejudice is removed and Americans have proved the unfading qualities claimed for them, they will not sell against Welsh slates, unless at a much lower price or under such circumstances as those of last year.

Yours truly,

W. F. REDMOND & CO.

It will be observed that Messrs. Redmond & Co. assert in their letter that "once the supply of Welsh slates becomes equal to the demand the importation of American slates must cease." Messrs. Redmond & Co. unquestionably believe the above, but a large local builder and contractor, whose name I am not at liberty to disclose, informed me that he did not see why the American quarrymen do not make a greater effort to get a foothold in this market. He admitted that there was a prejudice against American slates arising out of some dear experience several years ago, when considerable quantities of American slates were imported. The cause alleged was that the color (green) changed to a whitish hue after a short exposure. Then the demand ceased entirely. But the prejudice will vanish if prices and quality are satisfactory and color guaranteed. The Welsh slates, he continued, have a great advantage over any newcomer because of their well-known qualities and durable colors, smoothness, suitable thickness, etc. On the other hand, there are the high prices, scarcity, and independence of Welsh quarrymen, all of which make the conditions favorable for the American slates capturing a fair share of the market.

For the information of American firms, the particulars, terms, and prices, reduced to United States currency, of the Bangor and Festiniog, North Wales, slates for the year 1896 (which are practically the same as the lists just issued for 1897), are herewith appended. There are one or more lists of other Bangor quarries which are not at hand, but which I am informed are governed by the Penrhyn prices, and therefore are always the same as the Penrhyn slates.

On and after January 1, 1896, a premium of 5 per cent will be charged on all invoices (slabs excepted).

Prices and particulars per ton of 2,240 pounds of Penrhyn slates, Port Penrhyn, Bangor, North Wales.

Sorts and sizes.	Green and wrinkled.	Gray.	Blue.	Red.
Queens, first quality :				
24 inches long, various breadths.....			\$18.60	\$18.60
24, 26, 28, and 30 inches long, without specifying quantities of each.....			17.99	17.99
32, 34, and 36 inches long, without specifying quantities of each.....			17.51	17.51
Ton slates, first quality :				
12 by 6.....	\$7.78	\$7.78	8.51	8.51
11 by 7.....	7.78	7.78	8.51	8.51
10 by 8.....	7.78	7.78	8.51	8.51

Prices and particulars of Penrhyn slates, etc.—Continued.

Sizes.	First quality tally slates.					Second quality tally slates.				
	Computed weight per 1,200.	Price per 1,200 slates.				Computed weight per 1,200.	Price per 1,200 slates.			
		Blue.	Red.	Gray.	Green and wrinkled.		Blue.	Red.	Gray.	Green and wrinkled.
	<i>Cwts.</i>					<i>Cwts.</i>				
24 by 14.....	65	\$63.26	\$63.26	\$60.09	\$60.09	90	\$59.36	\$59.36	\$62.04	\$53.53
24 by 12.....	56	57.42	57.42	54.50	51.50	78	55.72	55.72	58.63	49.87
22 by 12.....	51	47.92	47.92	45.49	45.49	68	45.98	45.98	49.14	41.60
22 by 11.....	47	43.06	43.06	41.12	41.12	62	41.85	41.85	43.59	37.22
20 by 12.....	47	42.82	42.82	40.87	40.87	62	40.39	40.39	42.59	36.00
20 by 10.....	36	41.60	41.60	39.66	39.66	50	36.49	36.49	36.49	33.08
18 by 12.....	39	36.00	36.00	35.52	35.52	56	33.57	33.57	34.54	29.92
18 by 10.....	33	34.06	34.06	32.84	32.84	45	26.52	26.52	28.46	24.81
18 by 9.....	29	29.19	29.19	27.98	27.98	42	22.13	22.13	24.33	20.43
16 by 12.....	34	31.62	31.62	30.89	30.89	48	24.33	24.33	26.03	22.13
16 by 10.....	28	27.98	27.98	27.00	27.00	40	22.86	22.86	24.08	19.21
16 by 9.....	26	24.37	24.37	23.59	23.59	37	18.48	18.48	20.67	16.53
16 by 8.....	23	21.16	21.16	20.43	20.40	33	17.51	17.51	18.72	15.07
14 by 12.....	31	23.59	23.59	22.86	22.86	42	19.46	19.46	21.89	17.02
14 by 10.....	26	21.65	21.65	20.92	20.92	34	17.02	17.02	18.72	14.83
14 by 8.....	21	16.78	16.78	16.05	16.05	27	13.13	13.13	15.56	12.16
13 by 10.....	23	18.72	18.72	17.75	17.75	31	14.59	14.59	16.78	12.89
13 by 7.....	16	12.16	12.16	11.43	11.43	21	9.97	9.97	11.67	8.75
12 by 10.....	21	15.32	15.32	14.59	14.59	29	12.40	12.40	14.35	10.94
12 by 8.....	18	12.40	12.40	11.67	11.67	22	10.21	10.21	11.67	8.75

Loading expenses on slates.—By rail, 30 cents per ton; by vessel, 24 cents per ton.

As an allowance of 1 cwt. over in every ton, or 60 slates over in every thousand, is made at the time of the delivery of the slates on the wharf for loading, to cover the ordinary breakage, and as the purchaser never pays for any excess he may receive beyond the quantity invoiced, viz, 1,200 slates to the thousand or 20 cwts. to the ton, no abatement or further allowance can be made for any deficiency from breakage, short delivery, or other cause. The purchaser takes his chance whether he receives any surplus above 1,200 slates to the thousand or 20 cwts. to the ton or otherwise.

Customers are particularly requested to order slates according to the denomination in this list and to mention which quality and color, if any error occurs from ordering; otherwise, the loss will fall on the purchaser.

Penrhyn slate slabs, best quality.

Per ton.

Lotted slabs, sawn all round and split as near the thickness required as possible and of promiscuous dimensions, as under, viz:

Lot 1— $\frac{1}{2}$ inch, $\frac{3}{4}$ inch, 1 inch, $1\frac{1}{4}$ inches, $1\frac{1}{2}$ inches thick, between 3 feet 6 inches and 7 feet long and 2 feet 6 inches and upwards wide.....	\$14.59
Lot 2—1 inch, $1\frac{1}{4}$ inches, $1\frac{1}{2}$ inches, 2 inches, $2\frac{1}{2}$ inches thick, between 6 feet and 9 feet long and 3 feet and upwards wide.....	18.24
Billiard slabs, best quality, self-faced, sawn and split to order.....	27.98
Slabs, best quality, self-faced, sawn and split to order.....	21.89
Slabs, best quality, to order, planed on one side (including hearthstones).....	23.11
Slabs, best quality, to order, planed on both sides (including hearthstones).....	24.33

	Per ton.
Brewery slabs, best quality, planed on both sides, of promiscuous dimensions, viz, 6 feet and upwards long and 2 feet 6 inches and upwards wide :	
1 inch thick.....	\$22.38
1 $\frac{1}{4}$ inches thick.....	21.40
1 $\frac{1}{2}$ inches thick.....	20.92
2 inches and upwards.....	19.94
Skirtings to order, between 3 feet and 8 feet long and from 4 inches to 8 inches wide and not less than half an inch thick.....	17.02

Penrhyn slate slabs, second quality, planed on both sides.

Lot 1—From 3 feet and upwards long, 2 feet and upwards wide, and from 1 $\frac{1}{2}$ inches upwards thick, without specifying sizes or thicknesses.....	11.67
Lot 2—Of specified thickness, but not less than 1 inch.....	14.11
Lot 3—Slabs, sawn and planed on both sides to order of specified sizes and thicknesses, but not less than 1 inch :	
Not exceeding 5 feet 6 inches long or 2 feet 9 inches wide.....	18.24
Upwards of 5 feet 6 inches long or 2 feet 9 inches wide.....	20.67
Billiard slabs, second quality, planed on both sides and sawn to order.....	25.54

In ordering lot 1, second quality, it is only necessary to mention the weight; for lot 2, the weight and thickness; and for lot 3, the weight, dimensions, and thickness required.

About 150 superficial feet of 1-inch thick slate slabs are computed to weigh a ton.

Loading expenses.—By rail, 30 cents per ton; by vessel, 24 cents per ton.

Terms of payment.—If reference is satisfactory, cash or bank order not exceeding seven days' date, payable in London, and free of any charge for commission or stamp, to be remitted within one week from date of invoice, net cash. If required, cash to be remitted before the slates are forwarded.

Prices and particulars of machine-dressed blue slates from the Oakley Slate Quarries Company, Limited, Blaenau-Festiniog, shipped at Portmadoc, North Wales.

Names.	First quality.			Medium quality.			Second quality.			Allowing 3-inch lap, will cover about— Sq. yards.
	Sizes.	Computed weight.	Price per 1,000.	Computed weight.	Price per 1,000.	Sizes.	Computed weight.	Price per 1,000.		
	<i>Inches.</i>	<i>l. c. gr.</i>		<i>l. c. gr.</i>		<i>Inches.</i>	<i>l. c. gr.</i>			
Empresses.....	26 by 16	4 0 0	\$83.70	4 0 0	\$76.64	.....	.....	.....	170
Small empresses.....	26 by 15	3 15 0	77.86	3 15 0	72.90	.....	.....	.....	160
Princesses.....	24 by 14	3 5 0	70.56	3 5 0	62.04	24 by 14	4 0 0	\$52.91	136	
Duchesses.....	24 by 12	2 15 0	60.82	2 15 0	57.18	24 by 12	3 10 0	45.61	116	
Small duchesses.....	22 by 12	2 10 0	54.13	2 10 0	47.44	22 by 12	3 5 0	38.93	105	
Marchionesses.....	22 by 11	2 5 0	49.26	2 5 0	43.79	22 by 11	3 0 0	37.10	97	
Countesses.....	20 by 10	1 15 0	42.58	1 15 0	39.53	20 by 10	2 7 2	31.62	78	
Wide viscountesses.....	18 by 10	1 12 2	34.06	1 12 2	31.25	18 by 10	2 2 2	25.54	69	
Viscountesses.....	18 by 9	1 7 2	31.62	1 7 2	29.19	18 by 9	1 17 2	21.89	62	
Wide ladies.....	16 by 10	1 7 2	29.79	1 7 2	27.98	16 by 10	1 17 2	21.89	60	
Broad ladies.....	16 by 9	1 5 0	26.15	1 5 0	24.33	16 by 9	1 12 2	19.46	59	
Dames.....	16½ by 8½	1 5 0	26.15	1 5 0	24.33	16½ by 8½	1 12 2	19.46	59	
Ladies.....	16 by 8	1 2 2	23.81	1 2 2	20.67	16 by 8	1 10 0	16.41	48	
Wide headers.....	14 by 12	1 10 0	26.76	1 10 0	23.81	14 by 12	1 17 2	21.28	60	
Headers.....	14 by 10	1 5 0	24.33	1 5 0	21.28	14 by 10	1 15 0	17.63	50	
Small headers.....	13 by 10	1 2 2	20.67	1 2 2	18.24	13 by 10	1 7 2	15.19	46	
Small ladies.....	14 by 8	1 0 0	19.46	1 0 0	15.80	14 by 8	1 5 0	12.16	40	
Narrow ladies.....	14 by 7	0 17 2	16.81	0 17 2	13.38	14 by 7	1 2 2	10.94	36	
Doubles.....	13 by 7	0 15 0	14.00	0 15 0	12.16	13 by 7	1 0 0	9.73	32	
Wide doubles.....	12 by 8	0 17 2	14.00	0 17 2	12.16	12 by 8	1 0 0	9.73	32	
Small doubles.....	12 by 6	0 14 0	8.51	0 14 0	7.29	.....	.....	.....	25
Singles.....	10 by 8	0 15 0	8.99	0 15 0	7.90	.....	.....	.....	26
Fractions.....	11 by 5½	0 12 2	5.46	0 12 2	4.25	14 by 9	1 15 0	13.98	20	
Units.....	10 by 6	0 12 2	5.46	0 12 2	4.25	.....	.....	.....	20
Odds.....	10 by 5	0 10 0	4.25	0 10 0	3.04	.....	.....	.....	16

Loading expenses.—Per rail, 30 cents per ton; per vessel, 24 cents per ton.

Hexagon, gothic, diamond, round or other fancy slates made to order at 5 per cent additional to above prices in first quality only; medium quality, as above, \$19.46, and upwards; second quality, as above, \$16.41, and upwards.

Terms.—All slates are loaded at the purchaser's risk, with an allowance for breakage of 60 slates per thousand of 1,200 and 1 cwt. per ton when sold by weight.

All orders are entered subject to output and to prices and terms at time of shipment.

No credit will be given on any quantity less than 50 tons at a time, except to customers who are in the habit of keeping larger accounts on the books.

If requested, insurance of the cargo will be effected through a broker and charged in the invoice.

Accounts payable by approved acceptances on London at three months from date of invoice, or monthly accounts, less 2½ per cent cash discount.

American quarrymen seeking to place their slates on this market can judge from the foregoing what prices and terms are necessary to compete with Welsh slates.

The sizes preferred are 24 by 14, 24 by 12, 22 by 12, 22 by 11, 20 by 12, 20 by 10, 18 by 12, 18 by 10, 16 by 10, and 16 by 8.

Light-weight slates should do four squares to the ton of 2,240 pounds.

The most popular weights will do from three to three and a half squares per ton. The gauge used is generally 4-inch lap. This is a builder's statement; but it will be observed that the Oakeley Slate Quarries Company only allow a 3-inch lap in the calculations as to the number of square yards their respective sizes will cover.

Slate should be smooth and even. Color is not an absolute essentiality, although important, but durability of color is. The most salable colors are best blue or bluish purple.

For the purpose of negotiating business, the principal importers of roofing slates in this locality are: W. F. Redmond & Co., Newry, County Down; Thomas Dixon & Sons, 105 Corporation street, Belfast; J. P. Corry & Co., 33 Garmoyle street, Belfast; William Gabbey, 1 Hope street, Belfast; W. D. Henderson & Son, 55 Waring street, Belfast; Gregg & Co., Green street, Belfast; Robb Bros., 109 Corporation street, Belfast; Kirker Robb & Co., 99 Whitla street, Belfast.

JAMES B. TANEY,

BELFAST, *January 28, 1897.*

Consul.

DUBLIN.

A firm in the United States has addressed to this office a series of questions regarding the uses of slate in this consular district, their purpose being to increase their export trade. In accordance with Consular Regulations, I make the report to the Department of State. The questions propounded are:

(1) Is slate produced in Ireland? If so, to what extent, and how manufactured and used?

(2) If no slate is found, is any used, and in what form? From what country is it exported?

(3) In your judgment, is there a market for American roofing slates, blackboards, or school slates in Ireland?

Slate is chiefly employed in Ireland for roofing purposes and for mantelpieces. There is a quarry in this district, at Killaloe, County Limerick, Ireland. The chief products of this quarry are roofing slates. It supplies chiefly Limerick and the adjacent district. I am told that this quarry produces a slate of good quality at prices cheaper than current for Welsh slates, but despite this fact, the Killaloe slates have never commanded the Dublin market to any extent. The reasons assigned for this by the architects, who really control the trade, are that the supply is not regular. The quality of the Killaloe slates makes it preferable to Welsh slates, as I understand, for mantelpieces. From the best information I have been able to obtain, the Irish slate supply must be regarded of good quality, but the quantity offered is too limited and irregular to be of much commercial importance.

Dublin is chiefly supplied with slates from Wales, the quantity used in Dublin being probably something like 11,000 tons annually. Of this supply, about seven-eighths is brought from the Bangor district and the remainder chiefly from the Carnarvon district. As will appear later, it would seem that slates from Westmoreland district are coming into favor with Dublin architects. The principal sizes imported are known as "queens," and are 24 by 14 inches. Prices in Dublin, which twelve months ago ruled at \$20 per ton for Welsh slates, have now advanced to about \$27.50 per ton, an advance of 37½ per cent. The trade is in the hands of merchants who retail to the builders. However, I understand that the trade is very largely controlled by the architects, who, under the system prevailing here, determine the quality and the kind of material to be used.

From what I can gather from the architects, there does not seem to be a prejudice against American slates per se. Welsh slates are criticised by them as being cold in color and inartistic. If American slates could compete in prices and quality, while at the same time offering warmer colors, I do not see why they should not command at least a share of this market, provided they were properly placed before the trade.

School slates have never commanded an extensive market in Ireland, and the trade is a diminishing one. Inquiries directed to two of the houses in Dublin engaged in this trade elicited the following replies. One says:

The slates principally used in Ireland come from Wales. We stock also German and American slates, but the demand is very slow. Slates, in our opinion, are rapidly giving place to paper, upon which most schools do their work. * * * Slate or silicate blackboards we do not keep, as our customers, as a rule, use blackboards made of wood.

The other house says:

We find the trade in slates a decreasing one. Jotters and scribblers are produced so cheaply now that they are taking the place of slates. They are a much more satisfactory stock to handle.

I addressed to a few of the leading architects of Dublin the following questions:

- (1) Why is the Welsh slate preferred to Irish or American?
- (2) Is the preference one of price or of quality?
- (3) Is there anything in the Dublin climate which renders the Welsh slates better adapted for use here?
- (4) If architects have a preference for Welsh slates, state the points of preference.

I append replies received from two of the most eminent architects in Dublin. One says:

The reason that Welsh slates are preferred to Irish is that their quality is decidedly superior, while the difference in price is slight. I do not recollect to have ever used American slates on any of my buildings, so that I am unable to speak from experience of their quality. The opinion I have formed from conversing with men qualified to judge is, that the Eureka green slate, with which the roofs of Christ Church Cathedral are covered, is of excellent quality, but too costly for general use. On the other hand, I am told that some very inferior green slates have been shipped from America, which have a tendency to discolor and disintegrate in this climate. I do not know their cost, but I presume they are cheap. I have not noticed any of them being used here for some years past, however.

In my opinion Welsh, Irish, Scotch, and Westmoreland slates, as well as tiles, are unaffected by the Dublin climate.

Speaking for myself, my main object is to obtain the best value in the materials I use in my building slates or otherwise. In the next place, quality and price being equal, I would give a preference to native materials. I have no reason to doubt that this is a general feeling among Dublin architects on the subject.

Welsh slates are in favor because (generally speaking) their price is moderate and their quality good. They are open to two objections, viz, that they are made too thin and their color is cold and inartistic. The green Westmoreland slate is both for quality and appearance the best slate that comes into Dublin, so far as I know, but its price renders its use impossible in the ordinary run of business.

The architect in the foregoing has pointed out one of the defects commonly alleged in American exports, that is, quality. Here is a case where one of the great cathedrals of Dublin was roofed with an American slate of high quality which gave satisfaction and has continued to give satisfaction, but the chief trouble was its price, which forbade its general use. Immediately a cheap and inferior slate, resembling the other only in color, was put upon the Dublin market, and the result was to bring American slate into ill repute. If exporters would see to it that only goods of qualities in accord with representations were exported, the effect upon our foreign trade would be magical.

The other architect writes as follows:

The Welsh slates have obtained nearly universal use heretofore in Dublin, simply because being a water-borne building material from the neighboring and convenient coast, no other, subject to the greater cost and risk of breakage incident to land carriage, could hope to compete with them in price. This is also true of stone, bricks, and other building materials on the east coast of Ireland for eight hundred years. Except common native stone for rubble, it will be found that nearly all building materials in this district are more readily, cheaply, and systematically delivered by sea carriage than they could be obtained from native source.

Welsh slates can not be said at this present time to be preferred by architects at least. The market price has been pushed to an excessive limit. The slates (first quality) are now split so thin in the quarries as to scarcely bear handling, fixing, or any weight to speak of. The color of Welsh slates is not generally pleasing to architects in England or Ireland. Now that comparative prices do not rule the choice, architects prefer the heavy, strong, and pleasant-colored gray-green slates of Westmoreland.

As weather slates, the Welsh slates have had no superior in standing Dublin climate. Irish slates, so far as they have come into the Dublin market and been tested by intelligent builders, are found to be excellent weather slates, but less uniform than Welsh slates in quality and have been irregular in delivery. Splendid slates from Victoria quarries, once in the market, but not now, were suitable for building cisterns. Mantelpieces in Killaloe slates are good and would be preferred by most architects to Welsh slates. The quarries do not give a steady or reliable supply. They are smothered by accumulations of waste and débris. They are not developed with sufficient system, capital, or under the same facilities as the Welsh quarries.

Dublin climate is particularly trying to wood, stone, and slates. American slates heretofore tried have not suited it. There was a large importation of them about twenty years ago, and they "caught on" by their pleasing color and low price. They have not stood well, and are altogether out of repute and use now.

The same gentleman, in a letter to me, says :

You may take it from me that there is a fortune for some man who will produce an artificial slate. It must be less fragile than natural slate or tiles. It must be thick and rough in texture and weather enduring.

The folly of the present Welsh quarry manipulators is in producing a thin, smooth, nice article. Close lapping with these is the worst of weather roofing—draws wet by capillary attraction and breaks under frost. The artificial slate of the future must be as thick and rough as an ordinary Westmoreland slate and not too light.

From the above, our slate exporters can form a fair idea of the quality which would meet the approval of the Dublin architects, who in the final are the arbiters in the slate trade.

NEWTON B. ASHBY,

DUBLIN, *November 20, 1896.*

Consul.

NOTES.

Restriction of Refrigerated Meats in France.—Deputy-Consul Chancellor, of Havre, January 11, 1897, says:

The importation of frozen meat from foreign countries into France has greatly increased within the last six months, or since the extensive refrigerating chambers and machinery, described in my report of June 17, 1896,* were established at Havre. Large quantities of frozen meat, principally from Australia, have been received at this port after a sea voyage of from three to four months, during which time the meat has been perfectly preserved in specially constructed refrigerating chambers, in which the temperature is kept below zero. After the meat is debarked, it is placed in warehouses, where it is kept at the same temperature as in the refrigerating chambers in the vessel until the time of sale. It is known that frozen meat, when withdrawn from a cold atmosphere, will decompose very rapidly. It is important, therefore, that meat once subjected to the process of freezing should be immediately cooked or consumed, otherwise it will very soon undergo putrefaction and become unhealthful. In spite of this fact, it has been found that as frozen meat is much cheaper than recently slaughtered meat, many butchers buy it and retail it as "fresh meat." In order to put a stop to this fraudulent practice and protect the public, the French Minister of Agriculture has under consideration the project of a law prohibiting the sale of all meats that have been transported in a frozen condition unless it be so stated at the time of sale, and following the enactment of the law, all meat so treated and placed upon the market must bear a tag upon which is printed in large letters the words "frozen meat." A violation or evasion of this provision of the law will be punished by a fine of from \$100 to \$200, with imprisonment of from six days to one month, the punishments to be doubled for the second offense.

Lard and Other Alimentary Fats in Belgium.—On December 29, 1896, writes Consul Roosevelt, of Brussels, January 15, 1897, King Leopold II signed a decree, to go into effect April 1, 1897, relative to lard and other alimentary fats, as follows:

The denomination lard shall be used for pure pork fat only. Alimentary fats containing other fatty matter (excepting butter and margarin, which come under a special ruling) must bear a label indicating exactly their nature and composition. For a mixture of fatty matters of various natures, this label may, however, be replaced by one bearing the inscription, "mixed

* Printed in CONSULAR REPORTS No. 193 (October, 1896), p. 275.

fats." Each receptacle (barrel, bucket, jar, or tub) in which fats other than lard (butter and margarin) are exposed for sale or delivery shall bear a label as above described, printed in plain and distinct characters, stating nature of commodity, as well as name or firm name and address, or mark of manufacturer or seller. A similar label must also be affixed to receptacles in which the goods in question are delivered to buyers or transported for sale or delivery.

Lard and other edible fats containing more than 1 per cent of water or any other foreign matter whatever, apart from fatty substance, can not be exposed for sale, held or transported for sale without a label bearing the words "aqueous," "salt," showing the presence of foreign matter.

It is absolutely prohibited to sell, expose for, hold, or transport for sale lard or other edible fats containing mineral matter other than water, salt, antiseptics, or glycerin, or that may be spoiled or tainted, or prepared or imported in contravention to the regulations relative to the meat trade.

It is also prohibited to sell, expose for sale, hold for sale or delivery in the same premises, or in premises having communicating doors other than the public entrance, or to transport at the same time in the same wagon or vehicle for sale or delivery, alimentary commodities and fats not destined for food, but presenting a similarity to edible fats, unless the receptacles containing the fats are labeled "fats, nonedible," indicating in plain characters that such fats are not for alimentary use. Violations of these provisions are punishable by law.

United States Goods for New South Wales.—Under date of November 23, 1896, Consul Bell, of Sydney, says:

I have made inquiry among various mercantile firms, with a view to giving information relative to American trade affairs. We do not get our share of the boot and shoe trade, though many people here like American foot wear. Some responsible dealers have said to me: "Your people do not manufacture for our trade. As a rule, American boots are too narrow, too short, and too small, considering the number. They do not study our tastes or wants; their boots do not fit; the prices are high." My own notion is, that our best foot wear is not brought to this market, and that if the tastes of the people were studied, we could easily secure fully half the trade.

Some textile dealers tell me: "Your widths are not suitable for our markets and too often the colors are unsubstantial. They lack solidity and firmness." This applies to cottons only, as I think the dealers here know little of our woolens. Some dry goods men tell me: "You stay by your patterns too short a time; you change your styles too often. We buy a certain style of goods that we can sell and, after ordering, a different kind of pattern comes and we are told it is better, etc.; but we must be the choosers of what we buy." Some firms tell me: "Your people do not pack properly, or keep goods up to sample or agreement. We get a trade and a certain class of goods, and a poorer class comes to fill the order. Too often they fail of uniformity. Our people change slowly and must know what they are buying."

As a rule, machinery and implement dealers are well satisfied both with goods and with the business methods of our people. I think our implement

dealers have been very honorable and have high reputations for promptness and fair dealing.

We should have a better trade in saws, files, cutlery, and shelf hardware. The quantity of our goods in this market is not what the reputation of these goods would indicate or deserve. Of files, we have a very small trade; most of those come from Sheffield.

As this is one of the strongest competitive points on the globe, goods of all kinds should be first class. Tools for all kinds of wood machinery should be of superior temper, as Australian timbers are very hard.

We should have a good trade in safes of the better kind, though it would take some patience to work up the trade.

American Sugar of Milk in Europe.—The milk-sugar manufacturers of Germany, says Consul Germain, of Zurich, under date of January 9, 1897, petitioned their Government recently to impose a protective duty upon their product. The imperial Treasury Department returned the petition with the information that the request could not be granted for the reason that the free entry of sugar of milk was protected by a treaty which would not expire until the end of 1903. The petition was worded about as follows:

In former years and as late as 1890, Switzerland alone supplied the demand for milk sugar in the world's markets, the best customer being the United States (consuming about three-fourths of the entire production), Germany producing just about enough to supply the home demand, but, of such a poor quality, however, that its consumption was necessarily limited.

The prohibitive American tariff of 1890 (8 cents per pound, and, since 1894, 5 cents per pound) brought about a great revolution in our industry. Protected and encouraged by this high tariff, the manufacture of sugar of milk developed rapidly in America, thereby excluding all of the foreign product, throwing the entire Swiss article upon the European markets and causing the German producers great loss and inconvenience, because, while other countries (Italy and Austria) protected themselves by tariff legislation, Germany concluded a commercial treaty with Italy and Austria, whereby sugar of milk was allowed to enter the German Empire free of duty for a period of twelve years, and which, under the favored-nation clause, made Germany the common dumping ground for all the other countries manufacturing this article.

The results are obvious. The German milk-sugar industry had to fight against the lowest of prices, but, notwithstanding, an increased consumption, brought about by great improvements in quality, has made steady progress, so that at the Columbian Exposition at Chicago in 1893 Germany was the only country to receive an award for the excellence of its sugar-of-milk exhibit.

In the meantime, protected by a high tariff and good prices at home, the American industry increased its production to such an extent that it is now able not only to compete, but undersell all foreign competitors in the European markets, and especially in Germany, where its product, under the favored-nation clause, is admitted free.

Three American milk-sugar concerns, through their Berlin and Hamburg agents, are offering to the German trade, in any desired quantity, sugar of milk at from 110 to 120 marks per 100 kilograms (\$27.50 to \$30 per 220.46 pounds) delivered, which means a further decline in prices for the Germans and the unavoidable disastrous consequences incident thereto.

The more the American imports gain footing, the harder it will be in the future to exclude them from Germany.

To illustrate the decline of Swiss milk-sugar exports to all countries, I would add that in 1890 they footed up 1,662 metric centals, worth \$60,000, but since have decreased to such an extent that in 1895 the export figures were only 980 metric centals (98 long tons), worth \$25,800.

The former export to the United States (in 1890, valued at \$14,000) has almost completely ceased.

Proposed Exhibit of United States Goods at Stuttgart.—Consul Johnson, of Stuttgart, writes, under date of January 8, 1897:

Mr. Hermann Weissenburger, of Cannstatt, requests me to call the attention of United States manufacturers and shippers to the fact that on July 4 next he proposes to open in this city a museum for the exhibition of American products. Being convinced such a museum might be of much material benefit to United States exporters, I herewith beg to give notice of his undertaking. Mr. Weissenburger assures me that as soon as he has one hundred American houses to represent he will give his entire time to the undertaking. Mr. Weissenburger, while personally unknown to me, is well spoken of, but, while assuring him of my interest in the object, I have informed him he must be prepared to give the best of references to the United States business world before he can expect business houses to enter heartily into his undertaking.

American Bicycles in Ireland.—Under date of February 5, 1897, Consul Ashby, of Dublin, says:

A cycle show was held at the grounds of the Royal Dublin Society, Ballsbridge, Dublin, from the 16th to the 23d of January, at which was exhibited everything that pertains to cycles and cycling generally. The show, besides being a success, was especially interesting on account of the opportunity it afforded of a comparison of American and British cycles, and as giving an index of the proportion of American competition in these markets. As both British and American machines were shown in most cases by the local agents, the cycles were exhibited side by side and the difference in construction, fittings, and finish accentuated.

About six hundred and fifty machines were exhibited. Of these, 90 per cent were of British construction and the remainder (with the exception of eleven of French make, which closely resembled the American) were of American manufacture. There was a striking difference in construction and fittings between the American and British bicycles, the higher crank bracket and correspondingly higher seat and longer steering head of the former being a strong contrast to the dropped crank bracket and short steering head of the latter. But the most important differences were in the fittings. The American machines, with a few notable exceptions, had wooden rims, with single-tube tires, a plain steel brake, small, hard saddle, and, often, wooden handle bars; while the British machines had detachable tires fitted to steel

rims (hollow in the best grades), a rubber-lined brake, large, springy saddle and steel handle bars. But what struck one most was the difference in mud guards, the short, narrow and almost useless wooden guards on American machines (when they had even these) forming a striking contrast to the ample steel or celluloid mud guards used on all the British machines intended for road riding.

It seems remarkable that our manufacturers of bicycles do not attempt to fit the machines they export to suit the tastes and necessities of those for whose patronage they desire to compete. Why they consider it a necessity to fit useless mud guards to machines intended for use in a country where it rains on an average two hundred and twenty-nine days every year is hard to understand. There is no necessity to change the design of our machines nor to fit steel rims in place of wood, as in time the public will become accustomed to them, but short, narrow, useless guards will meet with disapproval as long as mud remains.

I am indebted to Mr. Piatt, vice and deputy consul, for the materials of this report.

Bicycles in Germany in 1897.—Consul Monaghan, of Chemnitz, writes, under date of February 10, 1897:

Germany's bicycle business in 1897 is to beat all previous records. Great preparations are being made to meet enormous demands; most of the factories that failed last year to meet demands have doubled capacity and output. Estimates say that each large concern, and of these there are a great many in the Empire, will deliver 20,000 to 40,000 wheels. Although orders up to capacity, for delivery in 1897, have been booked, the demands for good wheels is increasing every day. One company near Nuremberg sends away weekly eight double car loads, or 1,000 wheels. If an effort is made to get a good, fair-priced American wheel on this market, say one worth from \$50 to \$75, a big business can be built up. A \$100 wheel won't do it, and any effort to push such or to put them on the Empire's markets, except in certain circles of Berlin, Breslau, Dresden, Frankfort, etc., will fail. Good, light, substantial, neatly finished wheels at \$50 to \$75 will sell. Freights to Hamburg or Bremen can be easily ascertained in New York; freights from Bremen or Hamburg to Chemnitz average 3.90 marks (93 cents) per 100 kilograms (220.46 pounds). Duties: Polished, finished, per 100 kilograms (220.46 pounds), 10 to 20 marks (\$2.38 to \$4.75); with parts of wood, 6 marks. I may say that no article in the long list of those taxed is so indefinitely dealt with as bicycles. Whether a purpose lies behind this fact, I can not say. Duties, however, are not high in any sense of the word. That they are in no way protective is demonstrated by the number of wheels that come from England and other countries. A bicycle-lamp factory near Chemnitz is to turn out 200,000 lamps or lanterns in 1897. Shops for parts are as busy as they can be. Five years ago, the most sanguine had no idea of such enormous development. One concern in this city, that four years

ago had forty or fifty hands, has hundreds now. The best way to work this market, it seems to me, would be to send parts and put them together over here, thus saving enormously in freight rates.

Trade-marks of American Bicycles in Germany.—Consul General de Kay, of Berlin, under date of January 28, 1897, says:

Having heard from sources in which I place confidence, viz, from Mr. Eugene Westermann, an importer of American bicycles and agent for various American articles, and from the Hamburg agents of a bicycle manufacturer in the United States, that certain persons in Berlin propose to take out patents or copyrights on the trade-marks of as many American bicycles as are as yet unprotected by the law for Schutzmarken, I have encouraged Mr. Westermann to anticipate them by taking out such trade-mark patents in his own name. The patent office here does not inquire whether the applicant has a right to a trade-mark or whether articles bearing such trade-mark have been sold; it merely looks to see if the mark is original, that is, has not been already taken out in Germany. I understand, further, that there is no redress for owners of foreign trade-marks who find that some one has taken out a patent on their trade-mark in Germany. The German patentee can prevent the sale of goods so marked in Germany unless the foreign manufacturer makes terms with him. Mr. Westermann has agreed to cover all bicycle trade-marks of which he has knowledge, with the exception, of course, of a few firms that have been already warned and have taken steps to protect their mark. So far, I learn of but three that are so protected, viz, the Columbia, Cleveland, and Standard. Mr. Westermann has agreed to charge firms and companies thus protected no more than the cost to him of getting out the trade-mark patent, which is about \$18. Doubtless, he wishes to prove himself useful to American exporters and place himself in an advantageous light hereafter as an agent for American wares.

Powder and Other Explosives in Uruguay.—The amount of powder of all kinds imported into Uruguay in the year 1895, says Consul Schramm, of Montevideo, December 29, 1896, was the following: From England, \$11,672; France, \$91; Germany, \$54. Dynamite was imported into Uruguay in the year 1894 to the amount of \$15,200, and in the year 1895, only \$1,800. The supplying points for dynamite are the following countries: United States, England, and Germany. Duties on powder are the following: All powders in tins are valued for duty purposes at 60 cents per kilogram, of which value, 51 per cent, 5 per cent, and 2½ per cent are charged. All powders in packages other than tins are valued for duty purposes at 40 cents per kilogram, and all other powders, such as cannon, blasting, or gunpowder of any kind, at 25 cents per kilogram, with same duties as above named. Dynamite is valued for duty purposes at 80 cents per kilogram, of which a duty of

20 per cent, 5 per cent, and $2\frac{1}{2}$ per cent is to be paid. All duties must be paid in advance before the Government will allow such powders and explosives to be stored at the places of deposit, kept for these purposes. The Government purchases its supplies for its army altogether in Europe, and ready made up in cartridges and charges for the different guns and cannons which are in use.

Foreigners in Honduras.—Consul Little, of Tegucigalpa, says, under date of January 19, 1897:

The Congress of Honduras convened at the beginning of this month. Capitalists from New York have arrived to treat of the matter of the inter-oceanic railway, and other capitalists from the United States have come to petition for a concession for constructing an electric railway in the north coast country. I inclose that part of the President's message relating to foreign affairs, together with a translation of the same.

[Translation.]

FOREIGN RELATIONS.

Complete harmony with the other nations has been maintained, without anything having occurred to alter the good relations existing with their governments. The Secretary of State in the Department will give you account of the diplomatic incidents that have occurred, some of which were determined, but many, among them various matters of importance, remain still pending and to-day are found in the hands of the Diet of the Greater Republic.

The greater part of these incidents proceed from reclamations by foreigners who reside in the country; reclamations by those who, on account of unfortunate precedents established in Latin America, come to these lands, where a generous hospitality is extended them, with the object of enriching themselves, not by work, but by the reclamation through the diplomatic way of false or exaggerated damages suffered. The truth is that, although in the worse situations the foreigners have generally been respected and protected, in some cases they have been victims of the abuses of the authorities; but even then, if they had any gratitude toward the soil that has so well received them, they would not attempt to cause to devolve upon the country, beyond that which is just, the responsibility of its governors, whose errors it suffers to its regret.

On studying these incidents, you will appreciate more, if possible, the necessity that these small nationalities have of fusing themselves into one greater, which, if it should not have the material force for preventing these abuses of the greater powers, would augment its moral force by its greater commercial and political importance.

A Shorthand Writing Machine.—It may be of interest to students of shorthand, says Consul Parker, of Birmingham, January 21, 1897, to have information about a machine which has lately been exhibited in England. Although it may be known in the United States, I venture to send herewith the description of it printed in the London Times of January 4. Much attention is given to shorthand here, especially for reports for newspapers. It is quite the rule that every man connected with a newspaper, as an editor or

reporter, is a trained writer of shorthand, an accomplishment made necessary by the practice of printing very full reports of speeches delivered in Parliament or on the platform. It has not yet come into anything like the universal use, as with us, for business correspondence, but is growing into popularity since the typewriting machine began to make its way; neither is it employed in courts of law for taking verbatim reports of testimony, this duty being still assumed by the judge, in accordance with old-time usage.

[From the London Times, January 4, 1897.]

A SHORTHAND WRITING MACHINE.

No mechanism, however ingenious it may be, can render education and intelligence unnecessary in the art of reporting; but something—perhaps a good deal—may be done to lighten the physical labor of writing shorthand. The idea is not new, for several shorthand machines have already been produced, but for various reasons they have not proved successful. Mr. J. F. Hardy, however, has invented a machine which seems to promise better things, and undoubtedly fulfills many of the conditions of success. In the first place, it is small and portable. It measures 8 by 7 inches, and is, perhaps, 4 inches high, so that it is no larger than a rather thick quarto volume. In the next place, it is virtually silent—an indispensable quality if several machines, working at once, are not to disturb a speaker and his audience. It will also have the merit of costing only a few pounds. Not to describe the machine minutely, it may be said to be a miniature typewriter, with only six keys, by the various combinations of which, struck with either hand, a species of Morse shorthand of dots and dashes is imprinted. A roll of ordinary thin white paper is used, and one of the best features of the machine is that it prints regular lines across a continuous page, ending and beginning each line automatically, without any attention on the part of the operator. These are obvious advantages. Its inventor, possibly with a touch of parental partiality, holds that it is easier to become proficient with his machine and his new system of shorthand than with existing systems of "pencil shorthand." On that point we can not, of course, express an opinion. But an expert would certainly find the physical labor of note taking reduced to a minimum, and any transcriber who has learned to read shorthand notes thus taken would be able to transcribe the notes of any reporter who uses the machine; for the machine has no idiosyncrasies, and its writing is always the same and betrays no haste and no carelessness.

Packing Goods for Mexico.—The following paragraph is from the annual report of Consul Oliver, of Merida, dated January 19, 1897:

This section of the Mexican coast, from Progreso to Veracruz, being absolutely void of safe harbors, compels me to again remind exporters to pack their goods more securely, so that they may stand the rough handling to which they are invariably subjected in their transfer from the ships to the lighters, by reason of the rough, open sea and the frequent "northers" which visit this coast during five months of each year. The merchants here are unanimous in their complaints regarding the careless manner in which all merchandise from the United States is packed. They further state that, by reason of this carelessness, they have lost a large amount of trade, which has gone to Europe, where all merchandise is skillfully and securely packed, with an eye single to the conditions referred to.

American Lumber in China.—Consul-General Jernigan, of Shanghai, under date of December 9, 1896, says an important article of import at Shanghai is American lumber. To date, this has principally consisted of pine lumber from the States of Oregon and Washington, though considerable redwood from California also finds an appreciative market, as does timber from British Columbia. The eastern part of China is almost denuded of trees, causing the native supply of lumber to be very limited. The regions back of Fuchau furnish considerable, not suitable for building purposes, in a foreign sense, but affording the means of a large traffic between the natives. It is from the Fuchau regions that the wood for making coffins is mostly obtained, the superstition of the Chinese permitting only certain kinds to be used for this purpose. From Hunan and other parts of western China, large quantities of pine are cut and rafted down the Yangtze River, but as a rule it is of a very inferior quality. Some wood finds its way from the interior to Canton. Teak and other varieties of hard wood are imported from the East Indies, Siam, and Burmah, and some pine timber comes from Japan. Recently, a lot of railroad ties were brought from Japan to Tientsin. The rapid growth of Shanghai, and more especially the building of large cotton mills and silk filatures here and in other cities have largely increased the import of pine timber during the past two years. This will appear from the following table:

Kinds.	1894.		1895.	
	Quantity.	Value in United States gold.	Quantity.	Value in United States gold.
Hard-wood beams.....cubic feet...	286,036	\$141,474	344,396	\$137,758
Soft-wood beams.....square feet...	3,086,805	44,450	4,380,371	63,078
Hard-wood planks.....cubic feet...	447,557	161,121	501,468	180,528
Soft-wood planks.....square feet...	13,643,944	196,473	18,769,599	270,282
Teak planks.....cubic feet...	24,878	11,942	20,353	9,769
Poles.....pieces...	5,139	2,056	9,872	3,949
Masts and spars.....do.....	2,774	221,920	127	20,320
Teak logs.....cubic feet...	33,598	16,127	947	203

One of the largest lumber dealers at Shanghai furnishes the following statement of sales of pine lumber made by the principal lumber firms for the years 1893-1896:

	Square feet.
1893.....	6,000,000
1894.....	6,000,000
1895.....	12,000,000
1896.....	14,000,000

The customs returns for 1896 are not yet published, but it is estimated that between 20,000,000 and 30,000,000 square feet of timber were imported during the year just closed, and that there were about 11,000,000 square feet on hand. As stated, the greater quantity of the lumber comes from the United States, and the quantity imported amounted in 1896 to 14,000,000

square feet, and in 1895 to 9,149,789 square feet. In this connection, one important fact may be noticed—the mills for whose construction the greater quantity of the lumber was imported are now completed, that no extensive building operations are planned for 1897, and that the figures given above show the market fairly supplied for ordinary demands. Dealers express the opinion that, on this account, the imports for 1897 will be small, but nevertheless, the lumber market of China will rule favorable for American lumber, and with the more extensive introduction of western machinery and the consequent need for proper buildings, the demand will steadily increase. The opening of China by railroads and the spread of western civilization will make more substantial and comfortable houses a desideratum, and the construction of such will require the use of foreign timber. Houses of foreign style have already become so popular with the natives at Shanghai that Europeans who are called here in the discharge of their duties find it difficult to secure houses for their families, and rents have, since 1894, advanced about 20 per cent. Much building is now being done to meet this need, and if the demand for the current year should not be so large as formerly, I should advise a careful study of the lumber market.

Woolen Mill at Tientsin, China.—Consul Read, of Tientsin, under date of January 5, 1897, says a woolen mill is soon to be erected in Tientsin, on the river bank just below the foreign settlement. On making inquiries, Mr. Read learned that the complete plant for this mill was purchased from the Danish Oriental Company, Limited, of Copenhagen, which firm has a representative in Shanghai who made the agreement. The machinery, purchased by the Danish Oriental Company, was made in England and cost about 300,000 Tientsin taels (\$230,000 United States gold). The present customs taotai of Tientsin, Li Mingsam, is interested in this mill, adds Mr. Read, as is also, I understand, Sheng, the director-general of the imperial railways. As soon as the machinery arrives in the spring, building operations will be begun. This mill will begin to deal with about 10,000 pounds of wool per week, which will yield about 50 to 60 pieces per day of camlets, lastings, long ells, etc.—goods similar to those now imported. Arrangements have been made to extend the mill for cotton spinning with 10,000 spindles and 100 looms, but this is not likely to occur until the woolen mill is in good working order. The output of this mill is to be taken by the army; hence the officials interested will, no doubt, have a large profit on the capital invested.

Change in Bolivian Tariff.—Vice-Consul Zalles, of La Paz, Bolivia, under date of December 31, 1896, says the National Congress of Bolivia has passed a law authorizing the Executive to increase the tariff 25 per cent over the liquidations of the fees for the importation of merchandise in the different custom-houses of the Republic, having in mind the fluctuations of the

exchange. The said law takes effect from the 1st of January, 1897. I inclose herewith the original decree and translation of the same:

[Translation.]

ARTICLE 1. The Executive power is authorized to establish an increase of 25 per cent over the liquidations of the fees for the importations of merchandise. The said increase is fixed by the Government, having in view the fluctuations of the exchange and the facilities for importation of merchandise by the different custom-houses of the Republic.

ART. 2. The present law will govern from the 1st of January next.

[Dated November 18, 1896.]

United States Commercial Agencies in Foreign Countries.—The Bureau of Statistics, Department of State, has received a letter from The Bradstreet Company, dated February 25, 1897, which says:

On pages 287 and 288 of the February, 1897, number of CONSULAR REPORTS, we notice an article headed "Commercial agencies in Ireland," containing a communication from Consul Taney, dated at Belfast, January 1, 1897, which says that his plan to obtain information about the financial and credit standing of merchants in Ireland would be as follows:

"Communicate directly with the local commercial agency of which he is a subscriber, such as Bradstreets or Duns. I am informed a reciprocal business is done between the prominent commercial agencies of the United States and this Kingdom, and that information wanted on this side can be had through Messrs. Bradstreet or Dun, provided the party wanting the information is a subscriber to either of the American agencies."

This is not correct. In our attempts to facilitate trade between the United States and foreign countries, every possible barrier has been removed. Foreseeing that many merchants would wish to avail themselves of our reports throughout the civilized world who were not subscribers to our domestic business in the United States and Canada, we have made it possible for any concern in good standing to secure foreign reports through our foreign department, at New York, whether they are subscribers to the domestic business or not, and agreements are entered into to furnish even single reports.

We trust that you will be kind enough to correct the erroneous statement in the article quoted above, not in our interest, but in the interest of a large number of merchants who might be deterred from attempting to trade with foreign countries on the supposition that it would be necessary for them to pay a large amount for our domestic subscription before they could make inquiries about foreign concerns.

Cuban Sugar Crop.—In the fourth paragraph of the report entitled "Productive forces of Cuba," published in CONSULAR REPORTS for February, 1897, appears the following sentence:

The island has already produced in a single year for export, 11,000,000 tons [of sugar], while its capabilities have only been in the experimental stage.

These figures, although plainly given in Consul Hyatt's report, are so obviously erroneous as to be almost self-correcting. The figures which Consul Hyatt must have intended to give are 1,100,000 tons, which would about cover the sugar produced in any single year for export.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of February to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
George Sawter, Glauchau.....	Nov. 14, 1896	Typhus antitoxin.....	Marine Hospital Service.
Henry W. Bowen, Barcelona...	Sept. 24, 1896	Spanish fisheries.....	Fish Commission.
Charles L. Adams, Cadiz.....	Oct. 26, 1896	Sherry vintage of 1896.....	Department of Agriculture.
Do.....	Nov. 18, 1896	Olive crop of Spain.....	Do.
S. B. Caldwell, Seville.....	June 19, 1896	.....do.....	Do.
T. E. Moore, Weimar.....	May 23, 1896	Potash salts as fertilizers in Germany.	Do.
W. D. Wamer, Cologne.....	Dec. 12, 1896	American beef in Germany.....	Do.
J. C. Monaghan, Chemnitz.....	Dec. 17, 1896	Potatoes in England, France, and Germany.	Do.
F. C. McGhee, Huddersfield....	Jan. 19, 1897	Trades unions.....	Department of Labor.
Do.....	.....do.....	Agriculture.....	Department of Agriculture.
Do.....	.....do.....	Agricultural review.....	Do.
R. M. Bartleman, Malaga.....	Nov. 2, 1896	Railways of Europe in 1896....	Commissioner of Railroads.
D. W. Maratta, Melbourne.....	Dec. 14, 1896	The cereals of Victoria.....	Department of Agriculture.
Do.....	Oct. 1, 1896	Mint returns.....	Director of the Mint.
G. W. Bell, Sydney.....	Dec. 1, 1896	Wheat prospect in Australasia.	Department of Agriculture.
H. N. Allen, Seoul.....	Nov. 4, 1896	Rice crop of Korea.....	Do.

FOREIGN REPORTS AND PUBLICATIONS.

Railroad and Coinage Projects in China.—The North China Herald, of Shanghai, December 31, 1896, says:

His Excellency Sheng Hsuan-huai, director-general of the Great Western Railway, went to Woosung on Christmas day, accompanied by a staff of experts, to examine the ground between there and Shanghai, on account of which a report is now circulating that the first railway to be undertaken will be between these two points. His Excellency will subsequently embark in a large-sized steam launch for a tour between Woosung and Soochow. Apropos of the above-named official, his suggestion to the Throne for his new imperial bank to be permitted to coin 1-tael pieces to a total of 1,000,000 has been sanctioned by the Emperor at the recommendation of the board of revenue. If these coins "take" among the people, the said board intend to establish a mint at Peking for the purpose of coining these "tael dollars."

American Pig Iron at Trieste.*—A report, dated 23d of January last, has been received at the Foreign Office from Mr. J. G. Haggard, Her Majesty's consul at Trieste, stating that American pig iron of excellent quality has lately been introduced into the Trieste market (which was formerly supplied from Great Britain) at prices with which the British article can not compete, and that, if this is continued, the fact must for the future exclude British pig iron. The American product recently arriving was selling, after all expenses, free on carts outside the dock gates, at from 3.80 to 3.90 florins (Austrian currency) per 100 kilograms. The British iron hitherto imported has been chiefly Glengarnock No. 1 and Clarence No. 3, the prices of which have varied according to the market, but have averaged, in the case of the former, at 5.20 florins per 100 kilograms, free on carts outside the dock gates, and in the case of the latter, at from 4 to 4.20 florins under the same conditions. The low price of the American iron has been said to be accounted for by the fact that the Austro-American line of steamers, which has chiefly imported it, is subsidized by the Austrian Government, and that, as these vessels mostly bring from the United States cotton, which is a light cargo, they can also at the same time carry much pig iron, the freight of which is indirectly paid by the subsidy. But the above theory can not cover the whole question, for some of the iron has also been brought in British bottoms; it has not yet, however, been possible to ascertain the real cause of the cheapness of the American material. It is, of course, possible that the present prices may rise, but meanwhile it is said that large stocks from the United States are being laid in by the great shipbuilding firms in Trieste and by others.

* From the British Board of Trade Journal, February, 1897.

Progress in the Kongo Free State.—A Reuter telegram from Brussels, January 28, 1897, says:

In the report submitted to the King on affairs in the Kongo Free State, M. Van Eetwede, Secretary of State for the Kongo, says that commercial activity has increased sixfold, and affirms the necessity of providing ways and means for carrying out the work of the King. The provisions of the acts of Berlin and Brussels have been faithfully complied with, continues M. Van Eetwede. He then proceeds to speak of the difficult task which the Kongo Free State has had to accomplish in putting down slavery. The natives are now freed from the Arab yoke, and can to-day cultivate their land in peace. Slavery has been combatted by various measures, which the report enumerates. The State has pursued the policy of effective occupation of the whole of its territory. There are to-day 115 stations, with 684 agents and 12,000 men serving in the colonial force. The report describes the improvements which have been effected in the navigation of the River Kongo and in the railway, telegraph, and telephone services, and records the measures which have been taken to prevent trade in fire-arms and to enforce compulsory vaccination. There are actually in the State 223 Belgian, English, and American missionaries. The State, says the report, in conclusion, is not seeking to conquer fresh territory, but to perfect its internal organization.

Sugar Bounties in Holland.—A dispatch to the London Morning Post from The Hague, dated January 28, 1897, says:

The First Chamber to-day passed, by 25 against 16 votes, the new sugar bill, introducing a system of excise and fixing the bounty payable to the beet-sugar manufacturers for 1897-98 at 12.50 florins per 100 kilograms until a maximum of 2,500,000 florins is reached in that year, with an annual decrease of 100,000 florins during eight years, at the end of which period the annual payments will have been reduced to 1,700,000 florins. The above bill has already been passed by the Second Chamber.

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COMMERCE, MANUFACTURES, ETC.

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WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880-81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885-86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—Countries with fixed currencies.

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver...	Peso.....	\$0.96, 5	Gold—Argentine (\$4.82,4) and $\frac{1}{2}$ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold.....	Crown.....	.20, 3	Gold—20 crowns (\$4.05,2) and 10 crowns.
Belgium.....	Gold and silver...	Franc.....	.19, 3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold.....	Milreis.....	.54, 6	Gold—5, 10, and 20 milreis; silver— $\frac{1}{2}$, 1, and 2 milreis.
British North America (except Newfoundland)	do.....	Dollar.....	1.00	
Chile‡	Gold and silver...	Peso.....	.91, 2	Gold—escudo (\$1.82,4), doubloon (\$4.56,1), and condor (\$0.12,8); silver—peso and divisions.
Cuba.....	do.....	do.....	.92, 6	Gold—doubloon (\$5.02,7); silver—peso.
Denmark.....	Gold.....	Crown.....	.26, 8	Gold—10 and 20 crowns.
Egypt.....	do.....	Pound (100 piasters).	4.94, 3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	do.....	Mark.....	.19, 3	Gold—10 and 20 marks (\$1.93 and \$3.85,9).
France.....	Gold and silver....	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany.....	Gold.....	Mark.....	.23, 8	Gold—5, 10, and 20 marks.
Great Britain.....	do.....	Pound sterling....	4.86, 6 $\frac{1}{2}$	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver....	Drachma.....	.19, 3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.....	do.....	Gourde.....	.96, 5	Silver—gourde.
Italy.....	do.....	Lira.....	.19, 3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.....	Gold.....	Dollar.....	1.00	
Netherlands§	Gold and silver....	Florin.....	.40, 2	Gold—10 florins; silver— $\frac{1}{2}$, 1, and 2 $\frac{1}{2}$ florins.
Newfoundland.....	Gold.....	Dollar.....	1.01, 4	Gold—\$2 (\$2.02,7).
Portugal.....	Gold.....	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.....	Gold and silver....	Peseta.....	.19, 3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold.....	Crown.....	.26, 8	Gold—10 and 20 crowns.
Switzerland.....	Gold and silver....	Franc.....	.19, 3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.....	Gold.....	Piaster.....	.04, 4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.....	Gold and silver....	Bolivar.....	.19, 3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—Countries with fluctuating currencies, 1874-'90.

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver.....	Florin.....	\$0.47,6	\$0.45,3	\$0.45,3	\$0.41,3	\$0.40,1	\$0.39,8
Bolivia.....	do.....	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America.....	do.....	Peso.....	.96,5	.91,8	.91,8	.83,6	.....	.....
China.....	Silver.....	Haikwan tael.....	1.61	1.61	.....	.....	.....	.....
Colombia.....	do.....	Peso.....	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador.....	do.....	do.....	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†.....	Gold.....	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India.....	Silver.....	Rupee.....	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan.....	Gold.....	Yen.....	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver.....		.....	.....	.....	.87,6	.86,9	
Mexico.....	do.....	Dollar.....	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands ‡.....	Gold and silver.	Florin.....	.40,5	.38,5	.38,5	.40,2	.....	.....
Peru.....	Silver.....	Sol.....	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia.....	do.....	Ruble.....	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli.....	do.....	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver.....	Florin.....	\$0.39,3	\$0.37,1	\$0.35,9	\$0.34,5	\$0.33,6	\$0.42
Bolivia.....	do.....	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America.....	do.....	Peso.....	.....	.....	.....	.69,9	.68	.85
Colombia.....	do.....	do.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador.....	do.....	do.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†.....	Gold.....	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India.....	Silver.....	Rupee.....	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan.....	Gold.....	Yen.....	.99,7	.99,7	.99,7	.99,7	.99,7	.99,7
	Silver.....		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico.....	do.....	Dollar.....	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru.....	Silver.....	Sol.....	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia.....	do.....	Ruble.....	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli.....	do.....	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1832. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at \$4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—Quarterly valuations of fluctuating currencies.

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia.....	Silver boliviano.	\$0. 51, 6	\$0. 46, 5	\$0. 45, 7	\$0. 46, 4	\$0. 45, 5	\$0. 44, 1	\$0. 48, 6	. 48, 6
Central America.....	Silver peso.....	. 51, 6	. 46, 5	. 45, 7	. 46, 4	. 45, 5	. 44, 1	. 48, 6	. 48, 6
	Shanghai tael.....	. 76, 2	. 68, 6	. 67, 6	. 68, 5	. 67, 3	. 65, 2	. 71, 8	. 71, 8
China*.....	Haikwan tael.....	. 84, 9	. 76, 5	. 75, 3	. 76, 3	. 74, 9	. 75, 6	. 80	. 80
	Tientsin tael.....				. 72, 7	. 71, 4	. 69, 2	. 76, 2	. 76, 2
	Chefoo tael.....				. 71, 7	. 70, 4	. 68, 3	. 75, 2	. 75, 2
Colombia.....	Silver peso.....	. 51, 6	. 46, 5	. 45, 7	. 46, 4	. 45, 5	. 44, 1	. 48, 6	. 48, 6
Ecuador.....	do.....	. 51, 6	. 46, 5	. 45, 7	. 46, 4	. 45, 5	. 44, 1	. 48, 6	. 48, 6
India.....	Silver rupee.....	. 24, 5	. 22, 1	. 21, 7	. 22	. 21, 6	. 21	. 23, 1	. 23, 1
Japan†.....	Silver yen.....	. 55, 6	. 50, 1	. 49, 3	. 50	. 49, 1	. 47, 6	. 52, 4	. 52, 4
Mexico.....	Silver dollar.....	. 56	. 50, 5	. 49, 7	. 50, 4	. 49, 5	. 47, 9	. 52, 8	. 52, 8
Peru.....	Silver sol.....							. 48, 6	. 48, 6
Russia‡.....	Silver ruble.....	. 51, 6	. 46, 5	. 45, 7	. 46, 4	. 45, 5	. 44, 1	. 48, 6	. 48, 6
Tripoli.....	Silver mahbub.....	. 41, 3	. 37, 2	. 36, 6	. 37, 1	. 36, 4	. 35, 3	. 38, 9	. 38, 9
Venezuela§.....	Silver bolivar.....	. 46, 5	. 41, 9	. 41, 3	. 41, 8	. 41, 1	. 39, 8	. 43, 8	. 43, 8

Countries.	Monetary unit.	1896.				January 1, 1897.
		Jan. 1.	April 1.	July 1.	Oct. 1.	
Bolivia.....	Silver boliviano	\$0. 49, 1	\$0. 49, 3	\$0. 49, 7	\$0. 49	\$0. 47, 4
Central America.....	Silver peso.....	. 49, 1	. 49, 3	. 49, 7	. 49	. 47, 4
	Amoy tael.....				. 79, 3	. 76, 7
	Canton tael.....				. 79	. 76, 5
	Chefoo tael.....	. 75, 9	. 76, 3	. 76, 9	. 75, 8	. 73, 3
	Chinking tael.....				. 77, 4	. 74, 9
	Fuchau tael.....				. 73, 3	. 70, 9
	Haikwan tael.....	. 80, 8	. 81, 2	. 81, 9	. 80, 6	. 78
China*.....	Hankow tael.....				. 74, 2	. 71, 7
	Ningpo tael.....				. 76, 2	. 73, 7
	Niuchwang tael.....				. 74, 3	. 71, 9
	Shanghai tael.....	. 72, 5	. 72, 9	. 73, 5	. 72, 4	. 70
	Swatow tael.....				. 73, 2	. 70, 8
	Takao tael.....				. 79, 8	. 77, 2
	Tientsin tael.....	. 76, 9	. 77, 3	. 78	. 76, 8	. 74, 3
Colombia.....	Silver peso.....	. 49, 1	. 49, 3	. 49, 7	. 49	. 47, 4
Ecuador.....	do.....	. 49, 1	. 49, 3	. 49, 7	. 49	. 47, 4
India.....	Silver rupee.....	. 23, 3	. 23, 4	. 23, 6	. 23, 3	. 22, 5
Japan†.....	Silver yen.....	. 52, 9	. 53, 2	. 53, 2	. 52, 8	. 51, 1
Mexico.....	Silver dollar.....	. 53, 3	. 53, 6	. 54	. 53, 2	. 51, 5
Persia.....	Silver kran.....	. 09	. 09, 1	. 09, 2	. 09	. 08, 7
Peru.....	Silver sol.....	. 49, 1	. 49, 3	. 49, 7	. 49	. 47, 4
Russia‡.....	Silver ruble.....	. 39, 3	. 39, 5	. 39, 8	. 39, 2	. 37, 9
Tripoli.....	Silver mahbub.....	. 44, 3	. 44, 5	. 44, 9	. 44, 2	.....

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1893.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Aimude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Are.....	Metric.....	0.02471 acre.
Arobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentine Republic.....	25.3175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Baril.....	Argentine Republic and Mexico.....	20.0787 gallons.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Berkovet.....	Russia.....	361.12 pounds.
Bongkal.....	India.....	832 grains.
Bonw.....	Sumatra.....	7,096.5 square meters.
Bu.....	Japan.....	0.1 inch.
Butt (wine).....	Spain.....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (Cantar).....	Malta.....	175 pounds.
Carga.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333 $\frac{1}{3}$ (1 $\frac{1}{3}$) pounds.
Do.....	Japan.....	1.31 pounds.
Do.....	Java, Siam, Malacca.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Center.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Do.....	Double or metric.....	220.46 pounds.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3,098 pounds.
Do.....	Siam (Koyan).....	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra.....	Argentine Republic.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cubic meter.....	Metric.....	35.3 cubic feet.
Cwt. (hundredweight).....	British.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	Half ounce.
Dun.....	Japan.....	1 inch.
Egyptian weights and measures.....	(See CONSULAR REPORTS No. 144.)	
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.
Do.....	Mexico.....	1.54758 bushels.
Do.....	Morocco.....	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do.....	Uruguay (double).....	7.776 bushels.
Do.....	Uruguay (single).....	3.888 bushels.
Do.....	Venezuela.....	1.599 bushels.
Fanega (liquid).....	Spain.....	16 gallons.
Feddán.....	Egypt.....	1.03 acres.
Frail (raisins).....	Spain.....	50 pounds.
Frasco.....	Argentine Republic.....	2.5096 quarts.
Do.....	Mexico.....	2.5 quarts.
Fuder.....	Luxemburg.....	264.17 gallons.
Garnice.....	Russian Poland.....	0.88 gallon.
Gram.....	Metric.....	15.432 grains.
Hectare.....	do.....	2.471 acres.
Hectoliter:		
Dry.....	do.....	2.838 bushels.
Liquid.....	do.....	26.417 gallons.
Joch.....	Austria-Hungary.....	1.422 acres.
Ken.....	Japan.....	4 yards.
Kilogram (kilo).....	Metric.....	2.2046 pounds.
Kilometer.....	do.....	0.621376 mile.
Klafter.....	Russia.....	216 cubic feet.
Kota.....	Japan.....	5.13 bushels.
Korree.....	Russia.....	3.5 bushels.
Last.....	Belgium and Holland.....	85.134 bushels.
Do.....	England (dry malt).....	82.52 bushels.
Do.....	Germany.....	2 metric tons (4,480 pounds).
Do.....	Prussia.....	112.29 bushels.
Do.....	Russian Poland.....	11.3½ bushels.
Do.....	Spain (salt).....	4,760 pounds.
League (land).....	Paraguay.....	4,633 acres.
Li.....	China.....	2,115 feet.
Libra (pound).....	Castilian.....	7,100 grains (troy).
Do.....	Argentine Republic.....	1.0127 pounds.
Do.....	Central America.....	1.043 pounds.
Do.....	Chile.....	1.014 pounds.
Do.....	Cuba.....	1.0161 pounds.
Do.....	Mexico.....	1.01465 pounds.
Do.....	Peru.....	1.0143 pounds.
Do.....	Portugal.....	1.011 pounds.
Do.....	Uruguay.....	1.0143 pounds.
Do.....	Venezuela.....	1.0161 pounds.
Liter.....	Metric.....	1.0567 quarts.
Livre (pound).....	Greece.....	1.1 pounds.
Do.....	Guiana.....	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load.....	England (timber).....	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana.....	Costa Rica.....	2½ acres.
Marc.....	Bolivia.....	0.507 pound.
Maund.....	India.....	82½ pounds.
Meter.....	Metric.....	39.37 inches.
Mil.....	Denmark.....	4.68 miles.
Do.....	Denmark (geographical).....	4.61 miles.
Morgen.....	Prussia.....	0.63 acre.
Oke.....	Egypt.....	2.7225 pounds.
Do.....	Greece.....	2.84 pounds.
Do.....	Hungary.....	3.0817 pounds.
Do.....	Turkey.....	2.85418 pounds.
Do.....	Hungary and Wallachia.....	2.5 pints.
Pic.....	Egypt.....	21¼ inches.
Picul.....	Borneo and Celebes.....	135.64 pounds.
Do.....	China, Japan, and Sumatra.....	133½ pounds.
Do.....	Java.....	135.1 pounds.
Do.....	Philippine Islands (hemp).....	130.45 pounds.
Do.....	Philippine Islands (sugar).....	140 pounds.
Pie.....	Argentine Republic.....	0.9478 foot.
Do.....	Castilian.....	0.91407 foot.
Pik.....	Turkey.....	27.9 inches.
Pood.....	Russia.....	36.122 pounds.
Pund (pound).....	Denmark and Sweden.....	1.102 pounds.
Quarter.....	Great Britain.....	8.252 bushels.
Do.....	London (coal).....	36 bushels.
Quintal.....	Argentine Republic.....	101.42 pounds.
Do.....	Brazil.....	130.06 pounds.
Do.....	Castile, Chile, Mexico, and Peru.....	101.61 pounds.
Do.....	Greece.....	123.2 pounds.
Do.....	Newfoundland (fish).....	112 pounds.
Do.....	Paraguay.....	100 pounds.
Do.....	Syria.....	125 pounds.
Do.....	Metric.....	220.46 pounds.
Rottle.....	Palestine.....	6 pounds.
Do.....	Syria.....	5¼ pounds.
Sagen.....	Russia.....	7 feet.
Salm.....	Malta.....	490 pounds.
Se.....	Japan.....	3.6 feet.
Seer.....	India.....	1 pound 13 ounces.
Shaku.....	Japan.....	10 inches.
Sho.....	do.....	1.6 quarts.
Standard (St. Petersburg).....	Lumber measure.....	165 cubic feet.
Stone.....	British.....	14 pounds.
Suerte.....	Uruguay.....	2,700 cuadras (<i>see</i> <i>cuadra</i>).
Tael.....	Cochin China.....	590.75 grains (troy).
Tan.....	Japan.....	0.25 acre.
To.....	do.....	2 pecks.
Ton.....	Space measure.....	40 cubic feet.
Tonde (cereals).....	Denmark.....	3.94783 bushels.
Tondeland.....	do.....	1.36 acres.
Tsubo.....	Japan.....	6 feet square.
Tsun.....	China.....	1.41 inches.
Tunna.....	Sweden.....	4.5 bushels.
Tunnland.....	do.....	1.22 acres.
Vara.....	Argentine Republic.....	34.1208 inches.
Do.....	Castile.....	0.914117 yard.
Do.....	Central America.....	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara.....	Chile and Peru	33.367 inches.
Do.....	Cuba.....	33.384 inches.
Do.....	Curacao.....	33.375 inches.
Do.....	Mexico.....	33 inches.
Do.....	Paraguay.....	34 inches.
Do.....	Venezuela.....	33.384 inches.
Vedro.....	Russia.....	2.707 gallons.
Vergees.....	Isle of Jersey.....	71.1 square rods.
Verst.....	Russia.....	0.663 mile.
Vlocka.....	Russian Poland.....	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
 Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
 Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
 Gram equals 15.432 grains.
 Decagram (10 grams) equals 0.3527 ounce.
 Hectogram (100 grams) equals 3.5274 ounces.
 Kilogram (1,000 grams) equals 2.2046 pounds.
 Myriagram (10,000 grams) equals 22.046 pounds.
 Quintal (100,000 grams) equals 220.46 pounds.
 Millier or tonne—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
 Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
 Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
 Liter equals 0.908 quart.
 Decaliter (10 liters) equals 9.08 quarts.
 Hectoliter (100 liters) equals 2.838 bushels.
 Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
 Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
 Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
 Liter equals 1.0567 quarts.
 Decaliter (10 liters) equals 2.6418 gallons.
 Hectoliter (100 liters) equals 26.418 gallons.
 Kiloliter (1000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
 Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
 Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
 Meter equals 39.37 inches.
 Decameter (10 meters) equals 393.7 inches.
 Hectometer (100 meters) equals 328 feet 1 inch.
 Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
 Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
 Are (100 square meters) equals 119.6 square yards.
 Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LIII.

APRIL, 1897.

No. 199.

NICARAGUA: TARIFF CHANGES, VANILLA CULTURE, FOREIGN SETTLERS, ETC.

DUTY ON WINES AND LIQUORS.

A presidential decree was published August 19, 1896, establishing duties on wines, beers, and spirituous liquors imported into Nicaragua. All conflicting laws and decrees are repealed. A synopsis of the decree is as follows:

(1) Duties shall be calculated according to gross weight, including inside and outside packages of every description.

(2) The duty on wines not exceeding 20° alcoholic strength shall be 6 cents (2.982 cents United States currency) per libra (1.043 pounds).

The duty per libra on wines exceeding 20° alcoholic strength shall be 6 cents (2.982 cents United States currency), plus as many cents as the degrees of alcoholic strength shall exceed 20°.

(3) The duty on mixed liquors not exceeding 20° alcoholic strength shall be 12 cents (5.964 cents United States currency) per libra (1.043 pounds); and on mixed liquors of greater alcoholic strength shall be 1 cent (0.00497 cent United States currency) additional per libra for each degree above 20°.

(4) Mixed wines and spirits exceeding 30° and not above 50° alcoholic strength shall be classed as "pure foreign spirits" and be subject to a duty of 30 cents (14.91 cents United States currency) per libra (1.043 pounds).

(5) The duty on "pure foreign spirits" not exceeding 50° alcoholic strength shall be 30 cents (14.91 cents United States currency) per libra (1.043 pounds); and on such spirits of greater strength shall be 1 cent (0.00497 cent United States currency) additional per libra for each degree above 50°.

(6) The duty on beer shall be 4 cents (1.988 cents United States currency) per libra (1.043 pounds); and on champagne and other effervescent wines shall be 12 cents (5.964 cents United States currency) per libra.

(7) The alcoholic strength of such liquids shall be ascertained by means of the alcoholometer, or "ebullioscopio," according to the centesimal scale of Gay-Lussac.

SILVER AND RATES OF EXCHANGE.

The foregoing rates have been reduced to United States currency according to the last published estimate of the Director of the United States Mint, such estimate placing the value of the Nicaraguan peso, or dollar, at 49.7 cents United States currency.

The only coins minted by Nicaragua are 1, 5, 10, and 20 cent pieces. The silver sol of Peru and the silver peso of Chile circulate freely in Nicaragua, and are the hard dollars of the country.

The sol and peso each pass in Nicaragua for 100 cents, but whether it be in payment for provisions, clothing, medicines, or labor, 100 cents of the United States will go further to-day in Nicaragua than 200 Nicaraguan cents of either paper or silver. Gold coins are seldom seen in the country.

A year ago, a draft on New York for \$100 in United States currency could be purchased in San Juan del Norte for from \$191 to \$197 in Nicaraguan currency, but in all local transactions, an American dollar was the equivalent of two Nicaraguan dollars.

To-day, it requires \$2.15 local silver or paper to purchase what \$1 in United States currency will purchase, while a New York draft for \$100 costs from \$225 to \$233 in Nicaraguan currency. In most cases, drafts can only be purchased with full-weight soles and pesos.

The ordinary market value in New York and New Orleans of these so-called dollars is from 47 to 49 cents.

Since March 1, 1896, about 60,000 soles and pesos have been shipped from San Juan del Norte to New York, merchants finding it cheaper to ship silver specie than to buy drafts at the current rates.

LIQUORS IMPORTED INTO SAN JUAN DEL NORTE.

During the year ended June 30, 1895, 251 barrels of alcohol, 1,307 packages of beer, 2,421 packages of wines, and 4,570 packages of spirituous liquors were landed at San Juan del Norte. The packages were of various sizes, those containing spirituous liquors being as follows: Cases of 12 bottles each, 2,057; cases of 15 bottles each, 2,017; barrels, 206; demijohns, 194; quarter casks, 46; puncheons, 25; casks, 15; hogsheads, 8; kegs, 2; total, 4,570.

I have not had an opportunity to examine the bills of lading for the year ended June 30, 1896, but a conservative estimate of the annual importations of spirituous liquors is 5,000 packages, large and small.

The average annual importation of beers and wines is 1,200 and 2,500 packages, respectively.

Assuming that cases of 12 bottles contain 23½ gallons each and that cases of 15 bottles of gin contain about 6 gallons each, the average annual importation of spirituous liquors is 35,000 gallons.

The average annual importation of beers and wines may be estimated at 15,000 and 12,000 gallons, respectively.

LIQUORS EXPORTED FROM SAN JUAN DEL NORTE.

The present population of San Juan del Norte does not exceed 1,200. Everything consumed in the place is consumed either by the inhabitants of the town or by travelers passing through it, as the surrounding country is unsettled.

Travel is limited. Very few native travelers have any money to spend, and most of the foreigners passing through are either "strapped" or next door to it.

There are twenty-six drinking saloons, or cantinas, every store in town but the drug stores selling liquors by the glass. Cognac is the favorite stimulant of the natives. The Jamaica negroes usually call for rum or gin. Although there are twenty-six cantinas in town, and no farmers to speak of within 50 miles, it is far from being "a good saloon town." Most of the inhabitants are both abstemious and impecunious. But three of the cantinas do what Americans would consider a paying business. The three in question are run in connection with the three principal stores. The bars are but a few feet from the silk counters and are patronized chiefly by Jamaica negroes.

The license fee for a cantina is \$50 per annum, equivalent, according to the aforementioned official estimate, to \$24.85 in United States currency.

One hundred dollars looks big to a man or woman whose daily food consists principally of plantains and beans; and the average keeper of a cantina is well satisfied if the year's profit amounts to anything above \$25 (gold). The cantinas, as a rule, are owned by men who work at odd jobs, their wives running the cantinas during their absence. It may safely be estimated that two-thirds of the wines, beers, and spirituous liquors imported into San Juan del Norte is sold and shipped to dealers at other points. Gin and rum in considerable quantities are shipped to Honduras. Small shipments of liquors are occasionally made to Nicaraguan towns and settlements lying north of San Juan del Norte, but most of the beer, wine, whisky, and brandy shipped from San Juan del Norte is sent to the interior by way of the San Juan River.

SMUGGLING OF LIQUORS.

Alcohol may lawfully be imported by any person into the free port of San Juan del Norte. In all other parts of the country, however, its introduction is a Government monopoly. Goods shipped from San Juan del Norte to other parts of the Republic are no more exempt from the payment of full import duties than goods shipped from foreign countries. There is a custom-house at the little town of Castillo, on the San Juan River. All freights from San Juan del Norte to the interior must necessarily pass Castillo, as there are neither railways nor wagon roads between San Juan del Norte and Lake Nicaragua. All boats, whether large or small, are required to stop at Castillo in order that the custom-house officers may ascertain whether dutiable goods are on board and collect the proper duties.

Considerable smuggling is done on the San Juan River, and it is probable that most of the alcohol entered at San Juan del Norte finds its way to the

interior of the country. It is probably true also that a large part of the liquors shipped from San Juan del Norte to the interior passes Castillo without adding to the public revenues. These operations have not been confined to Castillo. There is reason to believe that they have been practiced also at Corinto.

Since the inauguration of the movement to abolish the free port and to collect duties at San Juan del Norte, measures have been taken by the local authorities to prevent the making of false manifests and invoices of goods shipped from the port. Prior to that time, no attention was paid to such manifests and invoices, and there are no official records showing the true quantities of goods of any kind shipped from San Juan del Norte.

COST OF LIQUORS.

An English traveler representing Evariste Dupont & Co., of Bordeaux, France, was in San Juan del Norte this week. He offered cognac at 50 francs (\$9.65 United States currency) per case of 12 bottles, and sauterne and other French vintages at 25 francs (\$4.82½ United States currency) per case of 12 bottles. When he was shown Hamburg invoices for 3*** cognac at 3.90 marks (92.8 cents United States currency) per case and sauterne and other alleged French vintages at 6 marks (\$1.428 United States currency) per case, the bills payable in six months and a discount of 5 per cent allowed if paid within that time, he declared that he could not compete with such prices, and that his house would not handle that class of goods.

Small quantities of cognacs and whiskies are imported occasionally which cost, respectively, from \$7.65 to \$10.80 (United States currency) and from \$4.20 to \$4.75 (United States currency) per case of 12 bottles delivered in warehouse at San Juan del Norte. The liquors chiefly handled, however, cost as follows, in United States currency:

Cognac.....per case of 12 bottles...	\$2.20
Gin.....do.....	1.16
Do.....per case of 15 bottles...	1.60
Rum.....per case of 12 bottles...	2.16
Do.....per gallon...	.32
Whisky.....do.....	\$0.42 to .57
Do.....per case of 12 bottles...	2.20

These figures represent the cost of such liquors delivered in warehouse or store at San Juan del Norte.

RETAIL PRICES OF LIQUORS.

The retail prices of liquors, etc., which are commonly sold are as follows in Nicaraguan currency, \$1 of which, as already stated, is estimated to be equivalent to 49.7 cents in United States currency:

Cognac and whisky.....per bottle of one-fifth gallon...	\$1.00 to \$1.25
Rum and gin.....per bottle...	.60 to 1.00
Claret and vermouth.....do.....	.75 to 1.25

Beer.....	per bottle of 1 pint...	\$0.25 to \$0.30
Cognac and whisky.....	per drink...	.10 to .25
Rum and gin.....	do.....	.05 to .15

Beer is not sold by the glass.

BOGUS LIQUORS AND LABELS.

Connoisseurs, perhaps, may smile at mention of bogus seals and labels for wines and liquors. But few persons, however, are able when blindfolded to sample wine and give the latitude and longitude of the vineyard in which the grapes were grown. With the average man, and even an occasional "connoisseur," it is too apt to be the case that a label is a label and a seal is a seal. There is reason to believe that many of the wines, beers, and liquors consumed in Nicaragua are falsely labeled. Most of the goods so labeled are spurious and come from Hamburg. In two cases, however, genuine goods are sold under false labels. A certain brand of Irish whisky is imported. The labels are then removed and counterfeit labels of a better brand of the same whisky substituted.

A certain beer is imported which is made specially for cheap trade. It costs about \$2 (Nicaraguan currency) less per barrel of 10 dozen bottles than the manufacturer charges for the same brand of beer when made for other markets. Essences, extracts, oils, etc., are kept in certain stores, and "doctored" rums, brandies, and whiskies are occasionally sold.

While gathering materials for my report, I was shown about one hundred different labels which had been sent as specimens by a German dealer in labels. At the same time I was permitted to read two letters from Hamburg offering to put up brandies, whiskies, wines, and beers in imitation of any brands desired.

The letters stated that customers need not forward samples of well-known brews and vintages, but that orders for imitations of brands having but a local reputation should be accompanied by samples in order that color, taste, etc., might be skillfully duplicated.

AMERICAN WHISKIES IN SAN JUAN DEL NORTE.

Although 4,570 packages of spirituous liquors were imported during the year ended June 30, 1895, the register of landing certificates shows that but 184 barrels, 5 casks, and 24 cases of American whiskies were landed at San Juan del Norte between November 1, 1890, and April 16, 1896, a period of almost five and a half years. The register contains no mention either of whiskies not entitled to drawback or those received from Bluefields, Nicaragua, and registered at that port, but such importations are small, nine-tenths of the American whiskies imported into San Juan del Norte being entitled to registry there. With the exception of a small consignment of "Claxton" whisky, no American whisky has been bought in Bluefields during the past year by San Juan del Norte merchants. Prior to that time, "Jud Clayton"

whisky was occasionally introduced. "Claxton" whisky retails in San Juan del Norte for about \$1 (United States currency) a bottle.

I reported to the Department April 16, 1896, that the Cook & Bernheimer Company had advised the New York commission house of Andreas & Co. that after a certain date the exportation of American whiskies would not be profitable, and that the house would not fill orders for such whiskies for export after the date mentioned. At the same time I reported that one of the San Juan del Norte merchants had been handling an American whisky which cost him 29 cents (United States currency) per gallon. Since the receipt of the Cook & Bernheimer letter, 70 barrels of American whisky, costing 27½ cents (United States currency) a gallon, have been imported into San Juan del Norte.

A dealer in San Juan del Norte who has bottled liquors shipped to him in casks, says that when ordered in small lots the cost of 12 bottles and 12 straw caps or bonnets is about 40 cents. Allowing the same for Hamburg packages, the cost of the liquor is 53 cents, or less than 23 cents a gallon. A few cents more must be chopped off for corks, seals, labels, case, labor, cartage, and, possibly, wharfage. The selling price of the cognac which costs \$2.20 (United States currency) per case delivered in San Juan del Norte, is about 70 cents (United States currency) per gallon, less the cost of packages, etc. Better brands of cognacs, as already stated, are imported in small lots, but the bulk of the trade in San Juan del Norte is in cheap liquors. Competition with so cheap a rival as 23-cent cognac is out of the question, but American whiskies might hold their own against certain other brands of cognacs, and, in time, supplant them. New whiskies, if shipped in wood and bottled after a reasonable length of time, might be sold at fair profits.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *September 24, 1896.*

Consul.

REDUCTION OF TOBACCO DUTY.

The Government of Nicaragua has changed the tariff on the importation of tobacco, and I inclose a copy of the original decree, which was furnished me by Señor Fuljensia Mayorga, Assistant Secretary of the Treasury, and a translation thereof. According to this decree, the duty on imported tobacco, which heretofore has been a special duty of \$1.50 (silver) for tobacco and \$2 for cigars per pound, has been reduced to 60 cents (silver) per pound gross weight for raw and manufactured tobacco of all kinds imported from other countries, except from the Central American States, where the duty is regulated by mutual treaties.

This lower tariff will, without doubt, give tobacco dealers in the United States a good opportunity to extend their trade to Nicaragua.

PAUL WIESIKE,

MANAGUA, *October 23, 1896.*

Consul.

[Translation.]

With this date will go into effect the decree, which says:

The President of the Republic, by authority vested in him, has issued the following decree:

- (1) The tobacco imported into this Republic after the publication of this decree shall pay at the custom-houses 60 cents (silver) duty for each pound gross weight; this relates to tobacco imported in bulk as well as to manufactured tobacco.
- (2) The tobacco coming from the republics of Central America shall enjoy the privileges existing between these countries and regulated by mutual treaties.
- (3) Any other resolution affecting this subject is abolished by this decree.

REMOVAL OF DUTY ON LARD.

Until a short time ago, the price of lard in Managua was not more than 30 cents a quart bottle, and this has been the highest ever paid for the article, which is one of the first necessities throughout the country. The late revolution on one hand and the continuous dryness for the want of rain during this winter on the other, have caused a scarcity of corn and other grains used for feeding hogs, etc., and, as the result, have occasioned a rise in the price of lard heretofore unprecedented. Lard is now sold at the rate of 60 cents a bottle, which contains, more or less, 1 pound in the liquid state. In consequence of the scarcity of the article in question, the Government of this Republic has issued the following decree, thereby declaring the introduction of lard free of custom-house duties for six months, taking effect from the date of issue. The decree appeared in the *Diario Oficial*.

FREE IMPORTATION OF LARD.

The President of the State, in consideration that the scarcity of lard has caused a very high price for this article, which is a necessary of life for the poorer class of people and ought to be within reach of them, has, by the powers vested in him, enacted the following: During the next six months after the publication of this decree, the duties on importation of hog lard to this country shall be rescinded.

The high price is general throughout the whole Republic, with a tendency to a still higher rise on account of the approaching coffee crop, during which more laborers will be employed on the coffee plantations and will have to be furnished with lard as an ingredient of their food.

Nicaragua has, approximately, 400,000 inhabitants, and her nearest neighbor, through the facilities of quick communication, is the United States. It is for United States exporters to profit most by the concessions made in the foregoing decree.

The lard used hereabouts is obtained by the most primitive process: the small strips of fat are simply fried, and, without any clarification whatsoever which would separate the sediment of small particles of scum, etc., from the boiling mass, is put up in discarded kerosene tins, and then again, for retail, in common quart bottles and thus sold to the consuming public. These practices give the lard an ashy hue, which, to say the least, is very disagreeable to the eye, and an unsavory taste; still, in this state, it is sold and used everywhere.

Lard shipped from the United States could be disposed of to advantage both to seller and consumer. Of course, there is a certain prejudice against the imported article, but the public once convinced of its purity and cleanliness would readily take to it.

For export to Nicaragua, it would be advisable to ship lard in tins of 50 or 25 pounds weight, well sealed; in barrels, it would spoil very soon and become rancid and also would be subject to losses by leakage on account of the extreme heat.

Referring to cotton-seed oil as a substitute of lard for cooking purposes, be it remembered—as lard is exclusively used in liquid state throughout Central America—a Central American shows a great repugnance for oils of any kind and uses them only for medicinal purposes.

PAUL WIESIKE,
Consul.

MANAGUA, *November 13, 1896.*

SUPPLEMENTARY DECREE.

I have the honor to report that the decree of the 31st of October, 1896, suspending the duties on the importation of lard into Nicaragua for the next six months, has been modified by a new decree dated December 20, 1896, by which this suspension is confined to the lard imported at the three custom-houses at El Castillo, San Juan del Sur, and Corinto. As stated in my report on the lard question in Nicaragua, dated November 13, 1896, the measure was adopted simply on account of the scarcity of this article in the interior of this country, where, during the coffee-picking season, the laborers are furnished by the coffee planters with lard.

The recent published limitation to the three above-named ports of entry shows that Bluefields and other ports of the Atlantic coast, where no scarcity of lard prevails, as there are no coffee plantations in that part of the country, are excluded from the benefit of the free importation of lard.

PAUL WIESIKE,
Consul.

MANAGUA, *January 6, 1897.*

VANILLA CULTURE IN NICARAGUA.

I inclose a newspaper clipping in relation to vanilla. The article was published October 3, 1896, in the Bluefields Recorder.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *October 12, 1896.*

THE VANILLA BEAN—INDUCEMENTS FOR ITS CULTIVATION.

At the request of several persons who have unbounded confidence in the agricultural possibilities of the country, and who believe that the systematic cultivation of the minor products of the agricultural industry tends to develop the resources of the plantations on which

they are grown, enhance their value, and contribute substantially toward their financial success, we take pleasure in producing hereunder a free translation of a decree issued by the National Assembly on the 16th of March, 1895, whereby a premium is offered by the Government for the cultivation of the vanilla bean and the plants from which the balsams of tolu, copaiba, and others are extracted. The National Legislative Assembly decrees:

“(1) Any person who shall cultivate one thousand or more plants of vanilla or balsams on lands belonging to the Republic shall be entitled to a premium of 10 cents for each plant, payable once only.

“(2) This premium shall be paid five years after the plantations shall be established on the usual footing.

“(3) The owners of these plantations, as well as the proprietors of plantations of cacao, coffee, and india rubber, can obtain up to 140 hectares (about 346 acres) of national lands, the value of which can be paid with the proceeds of the premium obtained for the plantations established.

“(4) The denouncements of said lands shall be directed to the political chiefs, who shall appoint a surveyor to measure the land at the expense of the parties interested.

“(5) In the event of there being no planting effected one year after the land shall have been measured, the parties concerned shall lose their rights to the land, which may be denounced anew by other persons.

“(6) The right to the premium mentioned in this law shall remain in force for a period of ten years from the publication of these presents.”

This decree, when it shall have become known abroad, will not fail to bring about the result anticipated—that is, induce not only local agriculturists, but foreigners who are desirous to try their luck in tropical investments, to cultivate the economic plants mentioned therein on an extensive and systematic scale, the only means whereby they can be made to yield appreciable profits.

The vanilla, the balsams of peru, tolu, and copaiba find ready sale and remunerative prices in the markets of Europe and the United States. The demand for these tropical products, for which, as yet, there is no artificial substitute, is constantly increasing; it is therefore evident that those who would take advantage of the liberal inducements contained in the decree, which bears President Zelaya's sanction as a voucher for its effective and practical execution, will not only make a remunerative investment, but secure land at little or no cost to extend their cultivations in more ways than one.

BRITISH GOODS IN NICARAGUA.

I inclose herewith clippings from the British Trade Journal and the Bluefields Recorder. The article clipped from the British Trade Journal relates to the exhibition in London of “a collection of samples of foreign manufactures which compete with British goods in the West Indies.” The article states:

There are among the collection some specimens of boots and shoes which makers in this country would regard it as disgraceful to ship, and it is a question whether it is worth while in the long run to compete in the production of rubbish, which can not give lasting satisfaction to the consumer.

It is probably true that many British manufacturers “would regard it as disgraceful to ship” boots and shoes similar to the specimens mentioned. Some very good shoes are imported into Nicaragua from England, but they do not begin to be as popular as American-made shoes. It is a fact, too, notwithstanding the commendable faith which the British Trade Journal has

in the honesty of British manufacturers, that the very poorest shoes imported into Nicaragua are English. I have seen children's shoes that had paper soles, heels, and counters. A single wetting would finish them. According to the invoices shown me, the shoes came from England, and I have no reason to believe that the invoices were fraudulent. In the United States, our tailors assure us that certain English and French woollens will hold color. Most of the woollens sold in San Juan del Norte are said to be English. I have bought nine or ten pieces for suits, and, with but one exception, they have faded inside of two months.

I am reasonably certain that the author of the article in the Bluefields Recorder has "an axe to grind," and that the decline in British trade "in these parts" may not distress him as much as he imagines. I do not pretend to know whether the goods in question are English or German. It would please me to know that they are neither one nor the other, and I am very glad that no one believes them to be of American manufacture. If such goods are manufactured in England, the journals and manufacturers of that country throw consistency to the winds when they talk about German shoddies.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *October 12, 1896.*

Consul.

[From the British Trade Journal, September 1, 1896.]

FOREIGN SAMPLES FROM THE COLONIES.

There is now on view in London a collection of samples of foreign manufactures which compete with British goods in the West Indies. They have been sent, in reply to Mr. Chamberlain's circular, from Trinidad, Barbados, St. Lucia, the Bahamas, and Bermuda. Among the goods represented are axes, saws, files, chisels, locks, twine, boots and shoes, hosiery, wearing apparel, cotton blankets, and counterpanes, the countries of origin being Germany, the United States, France, and Austria. In many cases they are excellently made, and embody improvements in form or make, but in others the quality is so decidedly inferior that it will be difficult to persuade British firms of good standing to produce it. With regard to several lines in the hardware section, British manufacturers might take a hint as to the patterns which the United States have produced. In nearly every case the prices and quality are remarkably low; but in the absence of any certified copies of invoices, the quotations given must be received with the greatest caution, if not skepticism. All buyers know how difficult it is even at home to obtain genuine bottom figures, and there are obvious reasons why the prices attached to these samples should be so remarkably low, though it may be conceded that they would be somewhat lower than those quoted in connection with goods from this country. But we would recommend manufacturers not to be debarred by the cheapness of the foreign goods from endeavoring to reproduce their general appearance and form in somewhat better quality. There are among the collection some specimens of boots and shoes which makers in this country would regard it as disgraceful to ship, and it is a question whether it is worth while in the long run to compete in the production of rubbish, which can not give lasting satisfaction to the consumer. In considering the quotations, it must also be asked to what extent these have been influenced by cheap transit on Government railways and by the bounties on shipping and the high prices which the manufacturer is able to procure in the home and protected market. It is patent that many of the samples of American hard-

ware are offered at considerably less than they would fetch in the United States. The collection is the first of a series to arrive from all parts of the colonies, and it should prove the nucleus of an interesting and useful commercial museum. But we would advise those who are responsible to furnish some kind of assurance that the prices given are within reasonable distance of the real market rates.

[From the Bluefields Recorder, September 26, 1896.]

A San Juan correspondent writes:

"The English manufacturer has just cause for complaint at the falling off of British exports during the past few years.

"This decline in the trade is due to unscrupulous merchants pushing inferior German products and selling them as English or French for the sake of extra gain. This becomes the more despicable when practiced by British consuls engaged in business in these parts.

"It is the duty of consuls to look after the trade of their respective countries and foster and encourage, rather than hamper it. It has been our misfortune, however, to see consuls and vice-consuls in trade in this country palm off German shoddy as pure English wool. So long as consuls are allowed to trade, this state of things will exist, and the English manufacturer will have to grin and bear it."

BOOKS AND PAPER FOR THE NICARAGUAN TRADE.

The school books in use here are made in the United States, Mexico, and France. But few other books are sold. Most of the blank books come from the United States. Complaint is made that most of the printed books are poorly bound. It is alleged that the pastes and glues used are of inferior quality, and I am inclined to believe it. The covers fall from the books in a very short time, and there is every evidence of inferior work. Most of my books were made in the United States, and I have very few expensive books. Although my books are cheap and some of the covers have lost color, the books have not fallen apart. In that respect, they are as good as ever. Wire stitched or fastened books soon fall to pieces in this climate. The wire rusts, and a wired book in constant use will not last more than a few months. Sheets are inclosed herewith which have fallen from a wire-fastened record book in this office.* The first entry in the book was made in 1892, and I am advised that the leaves commenced to fall in 1893. Cockroaches and the climate play havoc with most cloth-covered books.

Red and green are popular colors here, but a book having either red or green cloth covers soon ceases to be a thing of beauty. Three days ago I received two volumes of Commercial Relations of the United States, 1894 and 1895. The red-cloth covers were in good condition when the books came from the post-office. The covers are mottled now, and in less than a month will look as if they had been sprayed with a strong acid. I inclose herewith specimens of covers taken from books in this office.* The books have been kept in a walnut bookcase having a glass front. The people here

* Filed in Bureau of Statistics, Department of State.

are fond of bright colors. It may be impossible to make red, blue, and green book covers that will hold color in this climate and be cockroach proof, and if they can be made it would pay to introduce them here.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *October 26, 1896.*

Consul.

TRANSPORTATION AND TRADE AT BLUEFIELDS.

A description of the town of Bluefields and its harbor is given in my dispatch of February 26, 1896.* All goods are lightered between the custom-house and the town, a distance of about 5 miles. The lighterage charges are as follows:

Description.	Nicaraguan currency.	United States currency.
Lumber.....per 1,000 feet...	\$3.00	\$1.491
Merchandise.....per package not exceeding 100 pounds...	.10	.0497
Do.....per package exceeding 100 pounds...	(*)	(*)

* Special rate.

Freight and passenger rates on the Bluefields or Escondido River are as follows:

Description.	Nicaraguan currency.	United States currency.
Bluefields to Cama:		
Passenger—		
First class.....	\$2.00	\$0.994
Second class.....	1.50	.7455
Freight.....per 1,000 pounds...	.30	.1491
Bluefields to Rama:		
Passenger—		
First class.....	3.50	1.7395
Second class.....	2.00	.994
Freight.....per 1,000 pounds...	.50	.2485
Cattle.....per head...	5.00	2.485
Meals—		
At table.....	.75	.37275
On deck.....	.50	.2485
Berth.....	1.00	.497

Steamships arriving at Bluefields with merchandise for Rama are now required to discharge it at the Bluefields custom-house.

It not infrequently happens that an incoming steamer remains at Bluefields a day or more before proceeding upriver to load with bananas. It is claimed by Rama merchants that, in such cases, there is ample time for the examination at the custom-house of the goods brought in for Rama, and

that upon such examination and the payment of duties, the goods should be allowed to be taken upriver by the steamers bringing them in. The Government, however, has not seen fit to accede to such proposition.

During the six months ended June 30, 1896, vessel arrivals at Bluefields were as follows:

Coasting vessels (3 to 20 tons burden).....	357
Sailing vessels from the United States.....	2
Steamships from the United States.....	87
Total.....	446

Eighty-two cargoes of bananas were shipped from the port during the six months; the number of bunches was 1,071,000, an average per cargo of 13,062 bunches.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *October 28, 1896.*

Consul.

FOREIGN SETTLERS IN NICARAGUA.

Numerous inquiries are made as to the number of Americans in Nicaragua. My dispatches of February 12 and 26* give the foreign population of San Juan del Norte and Bluefields. In 1892, the Government of Nicaragua published a list of foreigners residing in the departments of Carazo, Chinandega, Chontales, Granada, Jinotega, Leon, Managua, Masaya, Matagalpa, Nueva Segovia, and Rivas. The names of foreigners without a trade, profession, or other regular occupation were not included in the list. The total number reported was 371, of whom 107 resided in the department of Managua. Most of the others resided in Leon, Chontales, Chinandega, and Matagalpa. The list also purports to show in most instances the approximate value of the property owned by each individual.

The following statement shows the number of foreigners residing in the eleven departments mentioned and the approximate value of property owned by them as published in such list:

Nationality.	Number.	Value of property.	Nationality.	Number.	Value of property.
Austria.....	3	\$53,000	Italy.....	69	\$1,232,000
Belgium.....	1		Jamaica.....	3	6,000
Chile.....	4	54,250	Mexico.....	4	8,400
China.....	2		Peru.....	2	5,000
Colombia.....	4	30,000	Russia.....	2	
Denmark.....	3	110	Spain.....	25	301,000
Ecuador.....	1		Switzerland.....	6	109,000
France.....	35	285,600	United States.....	60	349,500
Germany.....	88	1,151,800	Venezuela.....	1	
Great Britain.....	52	514,500	Total.....	371	4,205,160
Holland.....	6	105,000			

* Printed in CONSULAR REPORTS No. 190 (July, 1896).

The values of property are expressed in Nicaraguan currency. As \$1 in Nicaraguan currency was worth but 61.3 cents in United States currency January 1, 1893, the total reported value of property owned by foreigners in western Nicaragua was \$2,577,763.08 in United States currency. The occupations reported were:

Occupations.	Nationality.							Total.
	France.	Germany.	Great Britain.	Italy.	Spain.	United States.	All other countries.	
Actors.....					4			4
Agriculturists.....	9	15	7	5	5	16	7	64
Architects.....	1			2				3
Artisans.....		2					2	4
Bakers.....		1			1			2
Bank cashiers.....				1				1
Bookbinders.....	1							1
Bookkeepers.....		14	6	2	1	1	2	26
Capitalists.....							1	1
Carpenters.....							1	1
Chemists.....			1					1
Civil engineers.....		2	2	2		2		8
Clerks.....	7	9	4	2		3	1	26
Commission agents.....	1							1
Consular agents.....		1						1
Cooks.....							1	1
Dentists.....						1	1	2
Engineers.....		1	2	1		6		10
Fishermen.....				1	1			2
Founders.....			1					1
Government employees.....				2		1		3
Graziers.....		1						1
Hotel keepers.....	1	1	2	5		1	2	12
Ironsmiths.....			1	1				2
Jewelers.....		1		1	1	1	1	5
Laborers.....		3	6	9		3		21
Lawyers.....			1		2			3
Machinists.....		1	1		1	1		4
Mechanics.....	1	2	1	1		5	2	12
Merchants.....	5	17	4	11	2	3	9	51
Merchants and agriculturists.....				2				11
Miners.....	6	1	6	2		4	1	20
Military engineers.....	1							1
Miscellaneous.....		2		5		2	3	12
Musicians.....				2				2
Naturalists.....						1		1
Painters.....							1	1
Pharmacists.....		1				1	1	3
Photographers.....				2	1			3
Physicians.....		1			3	2		6
Priests.....					1		1	2
Saddlers.....		1					1	2
Sailors.....	1		1	3		3	2	10
Servants.....	1	3	1	9		1	1	16
Soap makers.....						1		1
Soap manufacturers.....					1			1
Tailors.....							1	1
Teachers.....					1	1		2
Tinsmiths.....						1		1
Total.....	35	89	47	71	25	61	43	371

The list contains the names and occupations of 469 foreigners in San Juan del Norte and places the value of their property at \$386,500 in Nicaraguan currency, or \$236,924.50 in United States currency.

Taxes for local purposes are higher in San Juan del Norte than in any other part of Nicaragua, with the possible exception of Bluefields, figures showing the receipts and expenditures of which are not at hand. According to the last published statement which I have seen of local taxes, the annual tax per capita of population in the several departments and districts is as follows:

Districts.	Nicaraguan currency.	United States currency.
San Juan del Norte.....	\$26.435	\$12.953
Cape Gracias-á-Dios.....	4.56	2.234
Managua.....	1.53	.75
Chinandega.....	.785	.385
Granada.....	.575	.282
Leon.....	.555	.272
Rivas.....	.44	.216
Masaya.....	.225	.11
Jinotega.....	.215	.105
Chontales.....	.19	.093
Nueva Segovia.....	.175	.086
Matagalpa.....	.105	.052

THOMAS O'HARA,

SAN JUAN DEL NORTE, *November 20, 1896.*

Consul.

HONEYBEES IN NICARAGUA.

I have received a letter from Mr. A. F. Brown, of Huntington, Fla., who is a bee keeper and fruit grower. He states that "in February, 1895, Florida's orange industry was swept away and that it will take ten years for the industry to recover." He fears that what happened in 1895 may happen again, and he is anxious to settle south of the frost line. He makes sixteen inquiries regarding Nicaragua. I have replied quite fully to all the inquiries but one. The exception is as follows: "Do honeybees seem to thrive? Are many wild in the woods or kept in hives?"

I have never seen a bee in Nicaragua. Wild honey is found occasionally in the woods near San Juan del Norte. It is said to be of poor quality and of unpleasant taste. I met a gentleman this morning who is from the interior. He informs me that he has never seen a beehive in Nicaragua, but that wild honey is sold in most of the interior towns. Strained honey is imported into this country, but most of the people are too poor to buy it.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *October 26, 1896.*

Consul.

INDEMNITY LOAN OF NICARAGUA.

I inclose a decree* of the President of Nicaragua calling for a national loan to pay the debts this Government incurred under President Zarasa with the Bank of London in Salvador, or rather its manager, Señor A. Guirola, in order to meet the claims of Great Britain for arresting Consul Hatch in Bluefields. The fact that this decree has been issued by President Zelaya upon the urgent request of leading men of all parts of Nicaragua, coupled with the further fact that President Zelaya on the 2d of this month issued a general amnesty for all those who had been connected with the late revolution in February and the attempted revolution in September, shows that it is the earnest intention of the present administration of Nicaragua to keep peace by all means, and that the people in general have confidence in its efforts.

PAUL WIESIKE,

Consul.

MANAGUA, *November 8, 1896.*

COFFEE CROP OF NICARAGUA.

The harvesting of the coffee crop of Nicaragua for 1896-97 has now been almost completed, and a small portion of it has gone forward to market in New York and Europe. Owing to the lack of rainfall in a portion of the coffee-growing section of the country—that portion nearest the Pacific Ocean—during the last three years, the crop is not a full one. The quality has also suffered in a slight degree. The planting of young trees has gone right along from year to year, so that, with a good season and a full crop, Nicaragua would have produced this year, it is estimated by good judges, fully 50,000 sacks, or 5,000,000 pounds, more than at any time heretofore.

The Matagalpa region, in which is located the American colony, is in the interior of the country, and it has been benefited by the rains which come up to it from the Caribbean Sea. Consequently, the crop of that region is double that of last year. This year, the export from that section will reach 1,000,000 pounds, against about 500,000 pounds in 1895-96.

As going to illustrate the growth of this industry in that section, I note that when I came here four years ago there were but twenty-eight Americans—men, women, and children; there are now in the colony ninety Americans. One, and only one, American child has been born in the colony—a daughter to Isaac A. Manning and wife, in June, 1896. At that time (1893), the number of coffee trees, but few yet in bearing, was reported to be less than 50,000; at this time, the number exceeds 7,000,000. With a good season, it is estimated that the crop next year will, owing to the young trees coming into bearing, reach the amount of 4,000,000 pounds.

* Filed in Bureau of Statistics, Department of State.

The American capital represented about Matagalpa in 1893 did not exceed \$50,000 (United States currency). At the present time, the investments in coffee culture of American companies aggregate \$405,000, and individual investments \$155,000, making a total of \$560,000 (gold), a gain of \$510,000 within four years.

The quality of the Matagalpa coffee is equal to the best Costa Rica and Guatemala article, which, in the markets of the world, is "equaled by few and excelled by none."

As to the healthfulness of that region, the Manning Bros., to whom I am indebted for the figures and general information in this dispatch, say:

After a residence of four years here, we can testify as to the absolute absence of "miasma" in this region. The general health of the colony is and has been very good. There has been no sickness among the members traceable to the climate. There have been but three deaths among the Americans in five years, none of which were due in any measure to climatic influences.

The climate is agreeable, the thermometer ranging from 65° to 85° F.

The principal population of the district is Indian, of whom there are believed to be more than 40,000. They furnish the principal and best labor. They are easily led, but can not be driven.

As to wages, the Messrs. Manning write:

Common laborers on the coffee estates are paid from 30 to 50 cents per day; teamsters, \$12 to \$20 per month; plantation foremen, \$20 to \$30; carpenters, \$1 to \$1.50 per day. We need a good machinist, with his tools and a set of job machinery—a man who can turn his hand to any repair work and who is a blacksmith. Such a man would have about all he could do at good rates. There is a good opening here for a doctor, and he should open a fairly well-stocked drug store.

Living expenses are not high—about the same cost here in silver as in the West of the United States in gold; rents, about the same, but neither the houses nor the living are equal to what our citizens are accustomed to at home.

Most of the vegetables we are accustomed to grow here; cabbages, onions, tomatoes, and lettuce do well. Potatoes do not completely mature, but are eatable. Tropical bulbs, yucca, yams, and a sort of sweet potato are all relished.

Such fruits as the orange, pineapple, banana, limes, etc., are extremely fine, but no successful attempt to raise the fruits of the temperate zone has been made.

Cacao and rubber do well at an elevation anywhere up to 1,500 feet, and some attention is beginning to be paid to the cultivation of these crops in the lower lands between Matagalpa and the Atlantic. Cattle are extensively raised. Cows sell for from \$10 to \$20; oxen, \$30 to \$40; mules, \$80 to \$150; horses, \$20 to \$50. The cattle are good, mules fair, and horses poor. The dairy business is quite extensive; the product is cheese, which sells at 25 cents per pound. Chickens are plentiful at \$4 to \$6 per dozen. Butter is scarcely known and of poor quality. Corn and beans flourish and

are profitable crops. Wheat, oats, rye, and barley do not grow. The only mills in the country are old stone mills, without the bolting process.

Lands can still be had from the Government for actual cultivation at a cost of about \$3 (silver) per acre. Lands are covered with heavy, tropical forest and without roads to them.

Manning Bros. write:

The time is ripe for the establishment of an American mercantile house in Matagalpa to handle a good quality of American-made tools, machinery, and other goods, in place of the shoddy stuff now imported from Germany "only to sell."

There is room for many more people here, but this is no place for any one without capital. This last fact is no joke, but will be found to be a sad reality to all who make the trial.

My excuse for writing at such length is, I receive hundreds of letters from every section of the United States making inquiries, some of which are answered here for the information of the general public.

LEWIS BAKER,

Minister.

MANAGUA, *February 6, 1897.*

GOLD EXPORTS FROM BRITISH GUIANA.

The gold industry of British Guiana* started about twelve years ago, and steadily advanced to and including the year 1893, when the exports amounted to something over \$2,300,000. The output for 1894 was not equal to that of 1893 by about 13,000 ounces, but was about equal to that of 1892. The year 1895 again showed a falling off, as does 1896 up to the present time. This decrease, it is claimed, is caused by a great many investors having withdrawn from the placer washings and joined the mining companies, only one of which has commenced crushing. But I think the true cause is, that the majority of the placers that pay have been worked out. There is no doubt, if there were some easy and cheap communication with the interior, a large number of placers could be made to pay handsomely. The expense of getting to and from these placers is so heavy that their working is unprofitable.

I learn from reliable American miners that there are very few creeks in the colony but what show "color," and many of them can not be worked on account of the expense of getting to and from them and the heavy royalty the Government exacts, viz, 90 cents per ounce.

In the face of all the drawbacks incident to mining in this colony, there are about 7,000 men employed by the numerous syndicates.

The most successful placer that has ever been worked by any syndicate in this colony, producing something over 18,000 ounces in three years, viz, the Barnard Syndicate, was discovered and managed by an American. This placer is twenty-one days from Georgetown, up the Mazaruni River, but the

* Consul Patterson states that the gold mines of British Guiana (so called) mentioned by him are situated in the territory in dispute between British Guiana and Venezuela.

return to Georgetown can be made in less than a week. This will give some idea of the expense and time required to reach some of the placers, and it can be readily seen that a placer has to pay handsomely to justify its working.

The expense of prospecting is very great—five to ten times the cost in the United States. One person can not prospect alone, as provisions have to be carried for the entire journey. There are no roads in the interior, but a virgin, tropical forest to contend with, where the traveler can not see 20 feet, and paths have to be cut as the prospectors go along. The expense of a small prospecting trip, for four months, with four laborers, will be from \$500 to \$800.

What the outcome of quartz mining in this colony is to be seems uncertain; experts, as well as miners, are in doubt, while many others are very confident. There is no question as to the richness of the quartz, but there has not been as yet enough of development work to prove that it is in quantities sufficient to justify the expenditure of large sums of money. I have seen samples of quartz from the Barima Gold Mining Company with pieces of gold as large as wheat grains sticking all through them, and have in my possession a piece of quartz weighing about 10 pounds thus studded with gold. How much of this class of quartz they have I am unable to say, but from the quantity of ore crushed and of gold yielded, as per report below, I am of the opinion there is not a very large vein of this rich ore, although the company claims that the poorest ore is being crushed first. The manager of this mine and nearly all the staff are Americans.

Gold-bearing quartz has been found in other sections, and the impression prevails that some of it is fully as rich as the Barima.

I quote from the Demerara Fortnightly Market Report the following:

The Barima Gold Mining Company commenced operations with full force of twenty stamps on the 15th of July, and during ten days of eighteen hours' work, crushed 459 tons mixed ore, yielding, after cleaning up, 766 ounces of gold. It is expected that the crushing during the present month (August) will return a total of over 2,000 ounces of gold, which, by the last two weekly returns, seems fully justified. The \$5 shares of this company have gone up to \$12, and the mining strength of the concern is being increased.

The Arakaka is giving good returns in placer working, and is paying attention to the development of the reefs. Two dividends of 10 per cent have been declared.

The Barima Park mines continue exposing some very promising veins.

The Barima Development Company has sold the whole of its undoubtedly rich property to an English syndicate. The Sir Walter Raleigh Company, which comprises part of the latter property, is still engaged putting up machinery.

A new German syndicate of capitalists has purchased several properties, and is now preparing for operations.

Other properties of great promise have changed hands to English capitalists, and we are looking for a large development in the gold industry, in spite of the unsettled state of the Venezuelan boundary question.

I desire to say that all the mines referred to in this article are in the territory claimed by Venezuela.

ANDREW J. PATTERSON,

DEMERARA, *September, 1896.*

Consul.

NEWSPAPERS IN GUATEMALA.

In response to my request, the Secretary of Foreign Relations for the Republic of Guatemala has furnished me with a list of the periodicals published in that country. American merchants and manufacturers who contemplate making exhibits at the exposition soon to be held in the city of Guatemala [opens March 15, closes July 15, 1897] might find it profitable to do some newspaper advertising in Guatemala. Each advertisement should contain the announcement that the goods may be seen at the exposition. A copy of the list of periodicals is inclosed herewith.

THOMAS O'HARA,

SAN JUAN DEL NORTE, *December 4, 1896.*

Consul.

List of periodicals published in Guatemala.

Name.	Where published.	Issued.
Diario Occidente.....	Quezaltenango.....	Daily.
El Diario de Centro América.....	Guatemala.....	Do.
El Guatemalteco.....	do.....	Do.
El Progreso Nacional.....	do.....	Do.
La Nación.....	do.....	Do.
La Nueva Era.....	do.....	Do.
La Republica.....	do.....	Do.
El Bien Publico.....	Quezaltenango.....	Triweekly.
La Fe.....	Guatemala.....	Biweekly.
La Ilustración Guatemalteco.....	do.....	Do.
La Revista Municipal.....	do.....	Do.
El Eco de Amatitlan.....	Amatitlan.....	Weekly.
El Faro.....	Retalhulan.....	Do.
El Michataya.....	Amatitlan.....	Do.
El Paz.....	Jutiapa.....	Do.
El Peladito.....	Guatemala.....	Do.
El Independiente.....	Hulhultenango.....	Do.
Fierra Blanca.....	Totonicapán.....	Do.
La Demacacia.....	San Márcos.....	Do.
La Familia Cristiana.....	Guatemala.....	Do.
La Escuela.....	Antigua.....	Do.
La Estrella de Oriente.....	Chiquimula.....	Do.
La Lucha.....	Livingston.....	Do.
La Semana Católica.....	Guatemala.....	Do.
Las Vos del Norte.....	Coban.....	Do.
Boletin Exposición.....	Guatemala.....	Monthly.
El Boletin Postal.....	do.....	Do.
El Educacionista.....	do.....	Do.
El Grito de Tara.....	do.....	Do.
El Pabellán del Rosario.....	do.....	Do.
La Bolsa.....	do.....	Do.
La Escuela de Derecho.....	do.....	Do.
La Escuela Medicina.....	do.....	Do.
La Escuela Normal.....	do.....	Do.
La Union Ciclista.....	do.....	Do.
El 2 de Abril.....	do.....	Do.
El 15 de Septbra.....	do.....	Do.

VENEZUELA: RAILROAD DEVELOPMENT, TARIFF CHANGES, ETC.

RAILROADS IN VENEZUELA.

I have the honor to submit a report on railroads in Venezuela. I was recently ordered to Caracas on official business, and as I had never traveled over the railroad from Puerto Cabello to Valencia or over the celebrated railroad from Valencia to Caracas, I concluded to make my journey from Puerto Cabello overland. Some years ago, on a visit to Caracas, I traveled over the English line from La Guayra to Caracas, which is considered a great work of engineering; yet I must say that what I had the pleasure of seeing on this trip far exceeded my expectations, as these well-built railroads run through the garden spot of Venezuela.

I also had the pleasure of making the acquaintance of the directors of the roads, and was kindly furnished by them with statistical reports, plans, etc.

PUERTO CABELLO AND VALENCIA RAILWAY.

Puerto Cabello, a busy city of about 15,000 inhabitants, is justly celebrated as possessing the finest seaport on the entire north coast of South America. In it are united the three conditions of ease of access, safety, and deep water up to the wharves of the city. Besides these advantages, the harbor is commodious and several ocean steamers may load and discharge simultaneously.

This is the only Venezuelan port which does not present serious obstacles to commerce; the magnificent harbor of Maracaibo, second to none in the world, can only be entered by passing two bars, the outer and inner. Over the latter there is only 10½ feet of water. La Guayra, until a few years ago, was an exceedingly inconvenient and frequently dangerous roadstead, where vessels were often subjected to great peril, and although a breakwater has been constructed where the shipping is supposed to lie and at whose wharves loading and discharging are effected, the results of the enterprise have not equaled anticipation. As far as the other open ports of the Republic are concerned, none of them can compare in the slightest degree with that of Puerto Cabello.

This favorable circumstance has given great importance to the city, which the proximity of Valencia has greatly increased.

For many years previous to the construction of the railway between the two cities, efforts were made to accomplish this result and more than one concession was granted, but although surveys were effected and the line marked out, no practical beginning was made.

Valencia having an elevation of nearly 500 meters above sea level, its distance from Puerto Cabello being about 30 miles, the engineers at times found many difficulties to be encountered, and it was feared that the returns of the road, when in operation, would not be proportionate to the expenses

of construction, but a company was finally organized in England and the work commenced. One clause in the contract with the Venezuelan Government was highly favorable to the company, this being a Government guaranty of 7 per cent upon the total cost of the line. The road was opened to traffic in 1886, having been built in a most solid and thorough manner.

There are no places on the line between Puerto Cabello and Valencia worthy of special description except Las Frincheras, where a thermal and sanitary establishment attracts invalids from all parts of the country, and even from Curaçao and other neighboring islands. However, but little was expected from way traffic, the road being especially constructed to give speedy and regular transport to the coast of the productions of the great agricultural region of which Valencia is the center and for the transportation to the interior of the merchandise from abroad introduced at Puerto Cabello. The earnings of the line have not, however, equaled what was anticipated, and the company has already heavy claims against the Government for arrears of the guaranty of 7 per cent.

Only during one year (1893) was the income of the road equal to that percentage of its cost. This was due to the great quantity of material carried from Puerto Cabello to Valencia for the construction of the Great Venezuela Railway from Caracas to the latter city.

With the completion of the latter line, it was believed that the revenues of the Puerto Cabello road would be permanently benefited, especially as both are of the same gauge and have their tracks connecting, and it was confidently expected that the lines would be reciprocally beneficial to a great extent. This expectation, however, has not been realized, and in 1894 the receipts of the road under consideration again fell off considerably. The gross amount during that period was £59,339 5s. 2d. (\$288,743.81), while the working expenses were £37,373 3s. 7d. (\$181,857.88), leaving a net return of but £21,966 1s. 7d. (\$106,885.93), and this on a capital of £820,000 (\$3,990,120).

In 1890, a settlement was made by the Government, but, since then, the guaranty arrears have again accumulated, amounting at present to more than £80,000 (\$389,280).

The general depression throughout Venezuela for the past few years is no doubt largely responsible for the comparatively small income of this line. It is much to be regretted that a better showing is not made, as this railway is of the greatest importance.

In this country, as in all others, an essential to progress is proper means of communication and transport, and experience teaches that where railways are constructed through districts of fertility and natural resources, whose only obstacle to development is scantiness of population, settlers will ultimately come if efforts are made to attract them. In a thinly settled country like Venezuela, the natives naturally can not be counted upon as settlers or colonizers for any particular section, and if every railway extending into the

interior and passing through regions which invite the agriculturist would take an interest in attracting to the country and establishing on or near the line of the road a number of immigrants, it would soon cease to complain of a deficiency of revenue.

On the line from Puerto Cabello to Valencia there are many thousands of acres lying absolutely idle where are united the conditions of fertile soil, mild and healthful climate, and an abundance of water supply. Had the company from the beginning established settlements in this district, its position to-day would be a very different one.

Railways, it is true, attract population, but this population must be drawn from somewhere, and in the case of Venezuela and other countries similarly situated it must come from abroad. The Government, moreover, would most cheerfully cooperate in such a movement, which must naturally redound to the public good.

Although the Puerto Cabello road does not pass through a country of so much interest as does the line from Caracas to Valencia, where, after leaving the mountains, villages and towns follow each other in rapid succession, many of these being of importance and of historical note, it is yet the great connecting link between the central interior and the coast, and as such must some day more than realize all the anticipations of its projectors.

Its interests and those of the Great Venezuela Railway are to a certain extent identical; both have the same terminus—the city of Valencia. United they form a continuous route from Puerto Cabello, on the coast, to Caracas, the capital of the Republic, which is, in its turn, united with its seaport, La Guayra, by the railway opened in 1883. Thus the circle is complete and the advantages which must ultimately be derived from this achievement of modern engineering are obvious.

With the continuance of peace, which now seems assured, and the improvement which is confidently looked for in the economic condition of the country, the Puerto Cabello and Valencia Company justly expect an increase of business which will soon compensate for past losses, and there are sanguine anticipations that the coming year may usher in a period of permanent and increasing prosperity.

E. H. PLUMACHER,

MARACAIBO, *September 30, 1896.*

Consul.

THE GREAT VENEZUELA RAILWAY.

In Venezuela, as in most of the South American states, three conditions must be complied with before any real advance can be made in the path of progress. When internal peace shall have been guaranteed, easy and rapid means of transportation established, and a stream of immigration attracted to its shores, it is safe to say that this Republic will, within a short time, have taken a much higher place among nations.

Of these three great requisites, the first seems now to be tolerably assured, and, with the exception of a few professional revolutionists who can not comprehend that the people are yearly becoming more intelligent, scarcely anyone thinks of civil war as a remedy for real or supposed grievances.

Respecting improved means of communication, much progress has been made since 1883, when the railway from La Guayra to Caracas was opened to traffic; and during the past thirteen years various other lines have been completed in different sections of the country, besides those still in construction or under study.

No Venezuelan railroad, however, is more notable than the one under consideration, which, starting from Caracas, scales the frowning and apparently impassable mountains, which, to the westward, imprison the valley of the capital and finally descends into the fertile and picturesque valleys of Aragua, celebrated as the garden spot of Venezuela. Thence, it continues to the city of Valencia, capital of the State of Carabobo and metropolis of an immense section, where more advance has been made in modern agriculture than in any other part of the Republic.

From Valencia, another railroad reaches the coast at Puerto Cabello, and as the gauges of the two lines are the same, cars may run without interruption from that section to Caracas.

A descriptive and historical sketch of what is emphatically called the Great Venezuela Railway will not be lacking in interest. For many years a carriage road has existed between the two great cities of central Venezuela—Caracas and Valencia—but the difficulty of keeping it in repair, especially among the mountains, and the unavoidably slow rate of travel, rendered it a most unsatisfactory means of communication. This became more and more apparent with the constant increase of travel and transport between the two cities.

In 1887, four years after the opening of the La Guayra railway, the results of which had even surpassed expectation, a concession was granted to Mr. Friedrich Krupp, of Essen, Germany, for the construction of the Caracas-Valencia line. No time was lost in beginning the work and the preliminary surveys were at once made, demonstrating the feasibility of the project, although at least one-third of the line presented natural obstacles which many persons had considered insurmountable, except by the expenditure of most disproportionate sums.

Favorable reports were, however, made by the engineers sent out from Germany, and in 1888 a joint-stock company was formed in that country and the work of construction began. On February 1, 1894, six years after the commencement of operations and before the date required by the terms of the concession, the road was formally inaugurated and has since continued running without interruption. It will be remembered that during many months of the period of construction the work was seriously embarrassed by the revolution against President Andueza Palacio, especially as the section of country through which the line runs was particularly exposed to the

hazards of war. No efforts, however, were spared to keep the work in progress, and its early completion in the face not only of gigantic natural obstacles, but also of civil war, is a high testimonial to the ability and perseverance of those to whom this great enterprise was intrusted. It would not be just, in this connection, to omit mention of Mr. C. Plock, director in chief, and of Messrs. G. Knoop and E. Isermeyer, chief engineers, to whom the line is particularly indebted for its prompt completion.

Since the formal inauguration of the road in 1894, Messrs. Th. Dieterich and G. Knoop have been its directors and the representatives of the company, and their administration up to the present has left nothing to be desired.

The importance of this line and the effect it must have eventually upon the progress of the country can not be better demonstrated than by a description of the district through which it passes. Its entire length is 179 kilometers (about 108 miles), but the expense and difficulty of construction have been enormously disproportionate to its length. Leaving Caracas, which has an elevation of 920 meters (3,018 feet) above sea level, the road follows a general southwesterly direction, and for the first 10 or 12 miles is comparatively level. After passing the pretty village of Antimano, it leaves the beautiful valley of Caracas, and at a point a little beyond, called Las Adjuntas, it enters a very rough, mountainous region and seriously begins its climb. The ascent from there is practically continual, with an average grade of 2 per cent until the thirtieth kilometer is reached, 1,227 meters (4,026 feet) above the sea. From this point to the seventy-fourth kilometer, the line gradually descends, but this descent was the most expensive and offered the greatest difficulties to construction of all the sections of the line. Tunnels of great length through solid rock and steel viaducts of great height spanning immense chasms follow each other in rapid succession, until level ground is again reached near the station of Las Tejerias. From there to Valencia, the road passes through a most fertile and beautiful country, which only needs a sufficiency of population for the development of its great resources.

Before entering upon a detailed description of the cities, villages, and territory which have been placed in close and advantageous connection by the completion of this line, it will not be amiss to present a few data which will give an idea of the difficulties encountered in construction and the present condition of the road.

First of all, it has been necessary to construct two hundred and twelve viaducts and bridges and eighty-six tunnels. The viaduct of greatest length and height is that of Agua Amarilla (Yellow Water), at the forty-eighth kilometer, which is 106 meters (348 feet) long and 47 meters (154 feet) high. Of the tunnels, the most important are that of the Calvario, which is entered immediately upon leaving the Caracas station; the Corozal, at the thirtieth kilometer; and Cufiaote, at the sixty-fifth kilometer. These have a length of 285 meters (951 feet), 267 meters (876 feet), and 263 meters (863 feet),

respectively. It will be understood that these eighty-six tunnels and two hundred and twelve viaducts are included between the twentieth and the seventy-fourth kilometers, which will give an idea of the obstacles encountered in less than one-third of the extension of the line.

It is to be doubted whether any line in South America has been constructed with such care and regard to durability and strength. Absolutely no expense has been spared, and in spite of the difficulties presented by the mountainous character of part of the road and the abundance of precipices and chasms, the maximum grade is only 2 per cent and the least radius of curve 80 meters (262 feet). This is a real triumph in railway engineering and has attracted the attention of all competent persons who have passed over the line.

In all details of the work, every recent improvement has been taken advantage of, and the manner in which natural obstacles were overcome at one point of the line is worthy of mention.

Over the ravine of Las Mostazas, a stupendous gorge, a cable was stretched for the transportation of materials. This cable had a length of 1,600 meters, perhaps the longest known until now, and by it material was sent from the fortieth to the fifty-sixth kilometer, whence a portable railway took it as far as the seventieth kilometer.

Many instances could be adduced to show the exceptional character of the work. According to the opinion of many experts, no railway in South America has been built in such a thorough and perfect manner. It is true that from the beginning there was no lack of capital, and when disbursements were necessary they were immediately forthcoming; but, besides this advantage, the enterprise has been managed since its inception by energetic officials, who have always taken, and continue to take, pride and interest in its direction.

The country traversed by this railway, its cities, towns, and plantations, is well worthy of description. Comparatively few people in other countries are aware that a district of such promise, and offering so much of interest, has been opened up by the completion of this line of railway. Formerly, it was difficult of access and visited by few strangers, but, within the past two years, it has become better known, and it is safe to prophesy that within ten years more, and probably much less, there will be a wonderful development of this favored region.

The city of Caracas is by no means so well known as it should be, considering its proximity to our own country and the easy and regular means of communication which now exist between New York and La Guayra, thanks to the American Red D Line, which has done so much to bring the two republics in close connection. The capital of Venezuela is a most beautiful city, recently called by an American writer of note the "Paris of South America." Its situation is most picturesque and its climate is nearly perfection. The valley in which it nestles is surrounded by high mountains, one of which, the famous "Saddle," reaches an elevation of nearly 3,000 meters (9,842

feet) above sea level. As the city itself is only about 920 meters (3,018 feet) above the sea, the effect of these towering mountains may be easily imagined. The population of Caracas to-day is between 90,000 and 100,000. The city is provided with aqueducts, telephones, gas, and the electric-light tramway systems, and an abundance of hackney coaches after the French fashion, which, for 30 cents, will take a passenger to any point within the city limits. It is well built and the streets are generally well paved and clean. Public squares abound; each one is prettily laid out with grassplots and flowers, and these are frequented during the evenings by well-dressed and well-bred people, whose courtesy impresses a stranger most favorably. Further acquaintance with the Venezuelans does not tend to diminish this impression, as courtesy and hospitality are considered prime duties by the people of this country.

Caracas is connected with the coast by the railway to La Guayra. The distance in a straight line between the two cities is only about 8 miles, but the railway has an extension of 21 miles. Another line of railroad, called the Central Railway, was projected years ago, and nearly completed, with the object of connecting the capital with the fertile valleys of the River Tuy, often called the "granary of Caracas," from the abundance of its products, but at present, this line does not run further than the town of Petare, about 10 miles southeast of Caracas.

Much could be written respecting the beautiful and busy capital of Venezuela, but the purpose of this report is more particularly to describe the line of country traversed by the great railway from which so much is expected, and which has already conferred such great benefits upon the conterminous districts.

No other line as yet connects the capital with the interior of the Republic. From Caracas to Las Adjuntas the lands are well cultivated, producing sugar cane, indian corn, vegetables of all descriptions, and coffee, of which there are many estates. After leaving Las Adjuntas, the line ascends to the town of Los Teques, traversing various coffee plantations, and near Los Teques itself are gold and copper mines. These are not worked at present, but it is said that efforts will soon be made to test their productiveness. The town of Los Teques is worthy of more than a passing notice. It is situated at an elevation of 1,171 meters (3,842 feet) above sea level, and the climate is delightful. It is the capital of the district Guaicupuro, within which jurisdiction are included many villages and a very large extent of territory excellently adapted to purposes of agriculture.

With the opening of the railway, Los Teques has become a health resort, especially for people suffering from pulmonary complaints. Los Teques is surrounded by coffee plantations, and as the district is essentially agricultural, corn and other products are also extensively grown. In the last century, wheat was also raised, but at present its cultivation has entirely disappeared.

At a distance of 3 kilometers west of Los Teques, the line reaches its greatest elevation (1,227 meters=4,026 feet), and from that point begins

its descent, with a grade of 2 per cent, to Las Tejerias. On this section of the road the scenery is magnificent, and the obstacles to the construction of the road introduced by nature can be fully appreciated. Only the most unflinching perseverance and a determination to succeed, whatever might be the cost, could have carried the line over those gorges and precipices, which seem to have been there stationed for the purpose of forbidding further progress. Neither the famed Oroya Railroad of Peru nor the Transandine Line between Chile and Buenos Ayres present the material obstacles which have been surmounted in the construction of the Great Venezuela Railway.

It is a notable fact that this section from Los Teques to Las Tejerias was, before the opening of the road, practically uncultivated and abandoned, but within one year after the inauguration of the line, extensive tracts of land were taken up, plantations were formed, and the forests began to be utilized to supply the capital with charcoal and timber. The mountain slopes are well adapted to the cultivation of coffee, and there is every reason to believe that agriculture, in a comparatively short time, will reach a high stage of development. At Las Tejerias the mountain region is left behind. The town itself is of but little importance, but surrounding it are extensive and rich coffee and sugar plantations. Beyond Las Tejerias, the road is practically level, and at the eighty-third kilometer it crosses the River Tuy and enters the valley which connects the Tuy with the River Aragua. This valley is noted for its fertility, and from the town of El Consejo, at the eighty-fourth kilometer, to the city of La Victoria, 9 kilometers to the westward, the road runs through large coffee plantations which cover the valley in its entire width.

La Victoria is a place of note and was founded in 1593 by Capt. Francisco Loreto. It is situated on the left bank of the River Aragua and has at present about 10,000 inhabitants. Its elevation above sea level is 556 meters (1,824 feet), and it has the reputation of being one of the healthiest towns of the Republic. The River Aragua, which bounds La Victoria on the west, has its source near a German colony, which, under the name of Colonia Fovar, was established in the forests of the mountain chain, near the coast, at an elevation of 1,800 meters above sea level. This colony was established in 1842, and in spite of the favorable climate and fertility of soil, has not progressed according to anticipation. This, however, may be explained by the frequent recurrence of civil war and the lack of proper means of communication, and it is believed that in the future colonization will be attended by better results.

There is no reason why colonies composed of immigrants from the already overpopulated countries of the Old World should not be successfully established in Venezuela, and it is indeed immigration to which Venezuela must look for the development of her wonderful natural resources. By encouraging immigration and establishing agricultural colonies in suitable localities, not on the seacoast nor in the forests of the Orinoco, where the fertility of the soil by no means compensates for climatic dangers, but in the healthy,

breezy highlands and in the valleys, such as those of Aragua, the Government of the Republic could do much to insure quick and lasting prosperity to those regions. The district of which La Victoria may be styled the center is well worthy of examination in this respect, and as the railway has now brought these fertile plains into easy and economical communication with both the capital and the coast, there seems to be absolutely no reason why large tracts of land of unexampled fertility should still remain idle and unimproved.

After leaving La Victoria, the line continues westward to the town of San Mateo, so famous in the history of the war of independence. Near this town are seen the ruins of the improvised fortress where General Ricante, of the patriot army, met his death. Assaulted by an overwhelming Spanish force and seeing that further resistance was useless, he, at an opportune moment and with his own hand, fired the magazine, annihilating both himself and a great number of his country's enemies.

San Mateo is situated at the one hundred and fourth kilometer from Caracas, and 5 kilometers (3.1 miles) to the westward is the town of Cagua, a place of importance in itself and also for its topographical situation. Here the road from Valencia to Caracas joins the great highway to the "llanos," or Venezuelan prairies, and to the River Apure, which empties into the Orinoco. An immense trade in cattle is carried on between the llanos and the capital, besides the great number which are sent to Valencia and other places. Cagua may be styled the distributing point of these herds, east and west, and since the opening of the railway, the painful journey of days from here to Caracas, costly in the extreme and productive of suffering to man and beast, has been reduced to an easy trip of a few hours. Besides the shipments of cattle, Cagua dispatches an immense quantity of produce arriving from all sections of the surrounding country, and also receives from Caracas and Valencia large quantities of merchandise and imported goods for distribution to the interior. This has given to Cagua a certain importance, which, however, could be greatly increased were the large tracts of land, now lying idle, cultivated and properly cared for.

There is in this vicinity a great extent of territory awaiting the progressive agriculturist, and a judicious system of immigration would in a few years quadruple its productions. Another reason for the importance of Cagua is its vicinity to Villa de Cura, the capital of the State of Miranda, where are situated the government offices of this most important political entity. A distance of 23 kilometers (14.3 miles) separates Villa de Cura from Cagua.

Besides the casual importance given it by its political status, the former city is a busy, thriving place. It is much to be regretted that it is not in direct steam communication with the capital of the Republic, and also with the city of Valencia. A branch railway to Cagua would accomplish this desirable result, and as the project is already under consideration, it is more than probable that within a comparatively short time the gap between Villa de Cura and Cagua will be bridged, benefiting merchants, cattle breeders,

agriculturists, travelers, and, in fact, all whose interests are in any way involved with this most flourishing section of Venezuela.

Returning to Cagua and following the line to the westward for 4 kilometers (2.5 miles), the next station is Turmero. The village was founded in 1603 on the banks of the river of the same name. At the beginning of the present century it was the wealthiest and most flourishing of all the towns of the valley of Aragua. Here, however, civil war has left its sad traces, and to such a degree that the families of wealth and standing and the proprietors of extensive estates were at one period forced to leave their beautiful homes and take up their residence in Caracas. Turmero, nevertheless, may yet be considered a most important agricultural center, as the entire district is in a high state of cultivation, excepting a few pasture lands of no great importance.

After leaving Turmero, and at the one hundred and sixteenth kilometer (seventy-second mile) the little station of Gonzalito is reached, and opposite this is the magnificent estate of Providencia, belonging to the President of the Republic, General Joaquin Crespo. The important and flourishing town of Maracay is situated 10 kilometers (6.2 miles) further on.

The extent of level territory has until now been dedicated almost exclusively to breeding cattle, but as water for irrigation is abundant and the soil is exceedingly fertile, there are few localities better adapted to agriculture, and thousands of colonists might find pleasant homes and rich returns from their labor upon the grounds where, at present, scarcely a dozen cattle keepers are employed.

Maracay itself is one of the most important points along the river. Situated at the one hundred and twenty-sixth kilometer (seventy-eighth mile) and at an elevation of 440 meters (1,443 feet) above the sea, it has a pleasant climate and is free from disease. The town is handsomely built and laid out, and the abundance of trees and the pretty, well-kept flower gardens and orchards surrounding the houses give it a most pleasing appearance.

A special feature is the great number of cocoa palms, which add much to the picturesqueness of the place. Water is carried by miniature canals, crossing and recrossing in all directions and supplying the most humble cottage.

From Maracay, the line continues, principally through pasture lands, until, at the one hundred and thirty-second kilometer (eighty-second mile), the beautiful and imposing Lake of Valencia (or Tacarigua) comes into view. To do justice to this remarkable and picturesque sheet of fresh water would necessitate a special report, but a brief description will not be out of place. Its extent is 440 square kilometers (170 square miles) and its height above the level of the sea, 415 meters (1,535 feet). Twenty-six islands, some of which are covered with the most luxuriant vegetation, are scattered over its surface. The length of the lake is about 35 kilometers (21.7 miles) and its greatest breadth 20 kilometers (12.42 miles). Its southern shore is covered with plantations of coffee, sugar, and cacao, with fields of minor products, such as corn, beans, plantains, bananas, and all kinds of fruits. As the roads along the lake coast

are impassable during the rainy season, the establishment of steam navigation on the lake itself is a necessity. The primary cost of such an enterprise would not be excessive, and the profits would be great and immediate. At the one hundred and forty-third kilometer (eighty-seventh mile) and on the north coast of the lake about midway its length is the station of Mariara, so called from the celebrated estate of the same name. This comprises both sugar and coffee plantations and is one of the largest properties of the country, having an area of more than 50 square kilometers (19.3 square miles) and extending from the highlands of the coast range down to the shores of the lake itself. On account of the scarcity of laborers, this fine estate is unfortunately not cultivated as it should be, notwithstanding the great fertility of its soil, and a great part is dedicated to cattle raising, while other sections lie idle and unimproved. There, as in many other places, immigration of a good class would at once solve the problem, and properties which to-day are of but little value would, with a sure and sufficient labor supply, soon give rich returns to their owners and a good livelihood to all connected with them, and would, moreover, add to the national wealth.

From Mariara to the town of Guacara, a distance of about 19 kilometers (12 miles), the road passes through a most fertile country, where agriculture could be carried on with unsurpassed results, but as in all parts of this most-favored district, where nature has been lavish in her gifts, the scarcity of sturdy arms has until now prevented the development of this section on a scale commensurate with its possibilities.

Guacara is the last town of importance along the line before arriving at Valencia. It is situated on the river of the same name at a distance of only 4 kilometers ($2\frac{1}{2}$ miles) from the lake. This river rises in the peaks of Caobal at an elevation of nearly 2,000 meters (6,560 feet) above the level of the sea and empties into Lake Valencia. The spacious valley is fully cultivated, sugar cane and coffee being the staple products. All the lands surrounding the lake are fertile in the extreme, owing to the now well-established fact that at one time the greater part of the neighboring country was submerged, the lake then covering a very much greater area than at present. As this area became more and more contracted, the receding waters left the land covered with layers of organic matter, which has added to the fertility of the soil to such a degree that, even after the lapse of so many generations, it is still a matter of remark. Were agriculture carried on in this district after the improved methods and with an abundance of labor, few parts of the country would give such rich returns, especially as the lake could be utilized for irrigation, thus making the planter independent of the rainfall. In this country, the question of irrigation is a most important one and should be carefully studied, inasmuch as one of the greatest obstacles to the success of the agriculturist is an untimely drought, which often comes to injure or destroy his crops just when he is sanguine of good results.

After leaving Guacara, the little village of Los Guayos is passed, and the line finally terminates at the city of Valencia, a place of great importance, commercial, industrial, and political. Valencia has at present about 40,000

inhabitants, and besides being the capital of the State of Carabobo, is the metropolis for a large extent of territory. Valencia is especially favored as to means of communication, as, besides the Great Venezuela Railway, which connects it with Caracas, another line is in operation to Puerto Cabello, which is the receiving and shipping port for the vast tract of country of which Valencia is the business center.

From the foregoing description, it will not be difficult to appreciate the importance of this great railway line, which, starting from the capital of the Republic, traverses a most fertile and productive region and, joining at Valencia with the Puerto Cabello line, gives access to the coast at one of the most important seaports.

Although the road has already been of great service to the country, it will no doubt ultimately prove of incalculable benefit in encouraging the colonization of the regions through which it passes or which are in comparative proximity to it. The great need of Venezuela is increased population. A scant 2,000,000 of people are scattered over an area which could easily support 30,000,000, and the due development of the country's unsurpassed natural resources is not possible under these conditions.

The need of immigration is well appreciated, and for many years succeeding governments of the Republic have interested themselves in this great project. Contracts have been made at various times for the introduction of immigrants, liberal concessions have been granted, and laws have been framed especially to meet the requirements of the case; but the great obstacle to the success of these enterprises has been and is the lack of proper means of communication. This will be readily understood without explanation, and for this reason, the Great Venezuela Railway must be productive of great good not only locally, but to the country at large.

For purposes of colonization and immigration, no part of Venezuela is better adapted than the extensive territories which are brought in touch with the capital and coast by the opening of this line, and should judicious measures be now taken to attract to those regions a sufficiency of immigrants for the proper utilization of the fertile tracts, which only await the hand of the agriculturist to give the richest returns, the success of the project could scarcely be doubtful.

It must be noted, moreover, that in the territory under consideration there are no climatic drawbacks, as in various other sections. Neither excessive heat nor cold is experienced, nor would the immigrant be exposed to dangerous disease. It is now well understood, and, indeed, the lesson has been learned by previous experience, that the colonization and development of scantily populated districts, however fertile they may be, is impossible until convenient means of communication and transport are provided. The Great Venezuela Railway now satisfies, in this respect, the necessities of a vast and inviting region, and it is sincerely to be hoped that the advantages thus offered by it may soon be fully utilized.

E. H. PLUMACHER,

MARACAIBO, *January 28, 1897.*

Consul.

LAUNCH SERVICE AT MARACAIBO.

I have the honor to forward copy of a decree from the Government of Venezuela, with English translation, in regard to a steel launch service granted to the American Red D Line Steamship Company of New York. This will enable the company to take larger shipments outside of the Tablazo bar, and it may be that arrangements could be made with the Government of Venezuela by which the same company might be employed to do the towage of sailing vessels over the outer bar during the time that the regular tugboat is away on Government commission. Unfortunately, this absence of the only privileged tugboat is too frequent, and sailing vessels have to lie for weeks and months at San Carlos awaiting the return of the tug to be towed out to sea.

E. H. PLUMACHER,

MARACAIBO, *October 12, 1896.**Consul.*

[Translation.]

Messrs. H. L. Boulton & Co., representatives of Boulton, Bliss & Dallett, owners of the steamers of the Red D Line Company, have solicited from the Government permission to establish in Maracaibo a steel launch service, which they shall construct with the object of facilitating the outgoing of the steamers *Curaçao* and *Maracaibo*, or any others which might replace them. A part of the cargo which these ships take shall be put on board of the launch until they have crossed the place in Lake Maracaibo called Tablazo, and where they frequently get aground on account of the low draft of water which there exists. Messrs. H. L. Boulton & Co. further state that the steamer shall have the launch in tow until the Tablazo is crossed and then the portion of the cargo shall be transhipped to the steamer and the launch shall continue in tow as far as the island of San Carlos, where it will be left at anchor under the guard of the custom-house officers until the return of the steamer, when it will be again towed back to Maracaibo, and so on.

This service they state to be indispensable for the good management of the company, as it frequently happens that they are obliged to send for lighters to Maracaibo to put the ship afloat, causing great drawbacks to commerce by the delay of the mails and cargo, and, furthermore, the injury done to the hull every time it strikes shallow water.

The President of the Republic has considered these reasons, and, finding them to be just, * * * has ordered the Maracaibo custom-house to allow the service of said launch to the Red D Line, placing on board of the launch on every trip the custom-house officers whom they may deem necessary to receive the cargo and see to the transshipment over the Tablazo bar.

The expenses for the transporting of the officers who go on board shall be for account of the interested parties.

The company can by no means ship on board of the launch any imported or inland cargo upon its return from San Carlos, which it shall always leave in ballast and always be towed by the same steamers.

For the National Executive.

H. PÉREZ. B.

No. 199—3.

TARIFF CHANGES IN VENEZUELA.

I have the honor to forward translation of an official notice in regard to some articles which have not heretofore been mentioned in the customs tariff of Venezuela, but have now been classified.

E. H. PLUMACHER,

MARACAIBO, *January 10, 1897.*

Consul.

[Translation.]

Messrs. Leseur Römer & Baasch, merchants of this city, have addressed themselves to the Government, wishing to know the classification in the custom-house tariff of the merchandise known under the name of "fluosilicatos" of aluminium, zinc, iron, magnesia, chrome, lead, and copper. The President of the Republic, after having consulted with the director of the national laboratory, decides that all kinds of fluosilicatos of aluminium, zinc, copper, etc., imported into this Republic shall be classified under the third class.* Let it be so communicated to the national custom-houses and published.

For the National Executive.

C. BRUZUAL SERRA.

RESTRICTION OF HERON HUNTING IN VENEZUELA.

I inclose translation of a recent decree of the Government of Venezuela in regard to the protection of rookeries of herons. These birds are plentiful in this consular district along Lake Maracaibo and on Lake Sinamaica and the lowlands at the entrance to Lake Maracaibo. The new decree in regard to the control of the rookeries and protection of these valuable birds is a judicious one. During last year, I had four American bird hunters here who came especially from the United States to gather the plumes of the herons, here known under the name of "garza." It seems that from each bird only a few feathers are used, these being the fine, long ones that grow on the back part of the neck.

I am informed that a pound of these feathers in the United States brings from \$180 to \$200, and as it takes a great many to make a pound, the destruction must be great. The birds are very useful, as they destroy a great quantity of vermin of all kinds which abound in these tropical lands.

E. H. PLUMACHER,

MARACAIBO, *January 15, 1897.*

Consul.

[Translation.]

Owing to dispositions enacted in the civil code, and considering that the industry of bird hunting is not subject to any regulations, especially that of herons, which are abundant in the

*Third class duty, 25 centimes (4.8 cents) per 2.2046 pounds.

national territory, the President of the Republic decides that in order to protect this source of territorial wealth said explorations will be subject to the following rules:

(1) The presidents of the states in which the rookeries of herons exist, be they located on private or public lands, shall from this date keep a special book for statistical purposes. This record shall be kept by the secretary of state and will contain the description of all the places where these rookeries are situated, their boundaries, extent, etc., and also the quality and quantity of plumes which each one of them produce, and the names of the persons who collect the plumes; also, the method of collecting the plumes as well as any abuses committed in obtaining them. Copies of this statistical report shall be forwarded to the Treasury Department.

(2) It is absolutely prohibited to hunt herons with firearms, and also all acts that may tend to destroy these birds.

(3) In order to obtain the plumes of herons, a license is required, and it shall be granted free by the president of the State to any person engaged in the business, and for the term of one year; these licenses shall be numbered, recorded, and presented to the nearest civil authority of the place, who shall take note of them before allowing the gathering of the plumes.

(4) This certificate or license shall be written on official paper of the class established by the law of the State, and a stamp of the value of 1 bolivar shall also be used on this document.

(5) Should the rookeries be private property, the owner will have the right to grant said license or make contracts for the collection of the plumes, but subject to the same formalities and requisites established in this decree as those which the authorities have to observe when granting said licenses, viz: Every license or contract shall be personal, for the term of one year, registered with the secretary of state and presented to the nearest authority of the place before proceeding to its execution.

(6) As soon as the plumes are collected, the civil authority shall grant a pass, giving the name and address of the person, the number of the license or contract, the name of the rookery, the quality of plumes, and the date. Possessing this document, any kind of transaction or sale of the article can be performed in the Republic.

(7) The collectors of customs of the Republic shall not allow the exportation of heron plumes to persons who are not provided with a pass, as copies of same have to be taken in a special book and one sent to the Treasury Department on the 1st day of every month.

(8) Any transaction performed as to heron plumes without previous compliance with the formalities above mentioned will be considered as void and of no value. The violators will be subject to the loss of the article and also to a fine of not less than 400 bolivars or proportional imprisonment. Persons caught in the act or shown to be obtaining plumes through improper means and destroying the birds shall be handed over to the courts so that the corresponding penalty may be imposed.

(9) All public authorities are bound to enforce strict compliance with this decree, notifying this department of all steps taken by them in the matter.

(10) The National Executive will also appoint special commissioners, who will cooperate with the authorities of the States where rookeries exist and will also see to the strict fulfillment of this decree and correct all misunderstandings which may occur.

For the National Executive.

A. SMITH.

TRADE METHODS IN SOUTH AMERICA.

In view of the widespread movement in the United States to open business connections with the countries of South America, and the fact that the average merchant in the United States seems to think that this can be accomplished by the exertions of American consuls in the distribution of trade circulars and price lists printed in English, I have thought that an article on this subject for publication in the CONSULAR REPORTS might not be out of

place. I might as well say at the outset that South America is by no means an unexplored region, but, on the contrary, is a territory hotly contested by the representatives of leading European mercantile houses. There are English and German banking houses scattered throughout the entire eastern and western coasts in almost every city. These banks, while doing a general exchange business, are placed here especially for the benefit of the trade of their own people, which, as a matter of course, is a great advantage to them. The people of this portion of the continent prefer to do business with the United States, but they are not willing to buy our wares at higher prices than the same things can be procured from other people. Then comes in the matter of the style of goods, together with the manner of packing and the terms of payment, about which so much has been written from time to time by the United States consuls.

The South American markets can be procured for our surplus manufactures on the same conditions as for other nations. Suitable goods in convenient packages to be carried hundreds of miles into the interior on pack horses, on terms as good as the English, German, and French merchants furnish, can be sold all through this country by competent men who come prepared to become acquainted with the people, learn their ways and tastes, and at the same time find out the desirability of the custom of the individual merchant, or, in other words, men who can speak the language and can "drum" for the trade just in the same way as has been found so effective in every other part of the world.

I have lately seen a great many suggestions on the extension of American trade, and among these is one to turn a United States consulate into a sort of sales room, in which samples of goods are to be kept on exhibition, with the consul as a kind of salesman. This, to my mind, will not meet the requirements of the case, and would soon lead to endless squabbles. One merchant would soon be charging the consul with having treated his wares unfairly for the benefit of another. Besides, the consul is a servant of his Government, and should not be used for the furtherance of any one's interest to the detriment of another's.

JOHN MALCOLM JOHNSTONE,

PERNAMBUCO, *October 8, 1896.*

Consul.

TRADE CONDITIONS IN CENTRAL AMERICA.

In the effort now being made by merchants and manufacturers in the United States, individually and collectively, to extend our commercial interests in all directions, I fear too much dependence is being placed upon circulars, catalogues, price lists, etc. These are all well enough in their place, and often furnish the information sought at the consulate; but, as a writer in *El Comercial Americano* says—

In order to succeed, America must send competent representatives to these markets, bearing in mind that the German, French, and English traveling agents of commercial, industrial,

or financial concerns are well-informed men, familiar with the customs and business methods of the country and with the Spanish language. They must be men of accomplishments and tact, who can be received everywhere—a requisite of the first importance—where character, conduct, and manners of strangers are closely scrutinized before that attention and regard are won, without which the best-equipped salesman will often prove a failure. They must also be men who are financially well supported, enabling them to represent their firms in a proper and creditable manner, and who, while working for orders, are expected to study and report the needs, tastes, and preferences of the people.

In no other way save through personal and direct work can the trade be secured. Circulars and catalogues alone are of little value. Merchants and manufacturers should have impressed upon them that which the consular service seems powerless to make understood, to wit, that these goods must be manufactured and selected with an eye single to the tastes, needs, and preferences of the people. They must be packed in parcels, boxes, etc., in size, shape, and weight to suit the trade. All must be packed in a way to, in part at least, insure against loss during transportation and to be as nearly waterproof as possible.

Our well-informed exporters must know that a wharf where vessels can land goods in safety is a thing almost wholly unknown in Spanish America. Nearly everywhere, merchandise is conveyed from the ships to the shore in small boats, through many hundred yards of surf. One often sees bales and packages of goods literally floated ashore—even hardware, cutlery, etc., including the ever-present “machete,” are packed in waterproof, and therefore not injured by salt water in the process of “landing.”

A thoroughly qualified agent, by direct contact with the people, and through the instrumentality of properly worded and illustrated catalogues, can greatly increase our trade from the outset. These people are thoroughly friendly to Americans, and really wish to increase their commercial relations with us.

However the situation may be viewed by my countrymen, I can assure them that in this effort at education they must begin at home. The manufacturer and merchant must be taught how to pack goods for Spanish-American markets. They must learn that the bulk of exports, to reach the consumer in the rural districts, must at some point of the route be packed upon bronchos and mules and transported over mountain and canyon, where trails are dignified with the name of road and where wheels are unknown. They must learn that a merchant in making his purchases will not buy a case large and unwieldy, necessitating unpacking, and consequent risk, when the same goods, or “just as good,” can be had packed in small waterproof packages of convenient shape and weight. They should know that goods of one class only should be put in a package. If a dutiable article, however small, is put into a package of goods on which there is no duty, the whole package would become dutiable at the rate of duty on said small article. Different classes of goods have different rates of duty, and when those of a low rate of duty are packed with articles having a high rate of duty all are assessed at the highest rate.

Above all, our merchants should be careful that each case, bundle, or box is true to brand in quality and quantity. The selling of barrels of pork and beef short in weight is a poor and shortsighted way of building up a trade with a stranger. Yet I often have my attention called to this fact by victims.

J. EUGENE JARNIGAN,

UTILLA, *January 23, 1897.*

Consul.

CANADIAN EMIGRATION TO BRAZIL.

Ever since the emancipation of the negro from slavery in 1889 the principal problem before the Brazilian legislator and the preeminent class of coffee planters has been to devise a substitute for the bondsman, who, freed from the former constraint and discipline, was rapidly abandoning the arduous labors of the field, or at least relaxing in application, in order to lead a more indolent life. The solution of this question became more pressing from the enormous expansion of coffee planting in recent years, when the depreciated currency conferred almost incredible profits. The relief lay evidently in promoting immigration, and, faithful to this programme, the State and federal governments have voted endless sums and measures to draw foreigners to these shores. The prevalent method was to make contracts with an immigration or steamship agency, to whom a bonus per head introduced was paid. The Italians were brought at \$23.75 each, other nationalities were worth \$28.75, while Canadians cost \$45 each on contract terms.

In the year 1896, a total of 87,686 immigrants entered this State through Santos, of which 29,950 had been contracted for by the Union, 27,048 by this State, and 31,288 came spontaneously. Against these arrivals, the departure of 32,608 must be noted, of whom 20,454 returned to Europe and 9,234 headed for the River Plate, leaving a net gain of 55,678 for the year. The nationalities were distributed as follows: Italians, 40,412; Spaniards, 11,760; Austrians, 3,191; Portuguese, 2,630; Canadians, 471, etc. Agricultural laborers were 35,160, and without profession 22,065. The total number of immigrants from 1882 to 1896, inclusive, foots up to 553,105. Immigration depots were erected at elevations safe from the dreaded yellow fever, and arrivals during eight days were given free board and lodging to choose among the offers that farmers, in perpetual need of hands, were competing to make. Considering the marvelous spontaneous flow of home seekers to the United States, Brazil can not be judged as very successful until now.

Owing to greater similarity of climate, race, and language, the Italians were in preponderant numbers among the immigrants; however, the number of people landed proved not only insufficient for the growing needs of the districts coming into cultivation, but the Italians showed some of the defects of the Chinese—were restless, wandered back and forth to and from their native country, spent very little, sent their savings home, forsook farm work, and congregated in towns. The difficulty encountered in obtaining accessi-

ble land at low prices and the burdens and taxes levied by law may be as much responsible for these habits as temperament.

The want of steady, faithful settlers was felt very acutely in this State, where coffee planting in the last seven years was attaining its golden era of prosperity, during which high prices ruled almost without interruption—50 per cent higher in gold value than at present—brought about by a progressing consumption, the production outside of Brazil being limited to much smaller areas, and contending with the same difficulty of obtaining labor, common to all tropical countries. The fact that the coffee tree bears fruit only in the third or fourth year after setting debars the colonist without other resources from raising coffee, deprives this product of the elasticity with which wheat or cotton can in acreage be adapted to new conditions of price, and has prevented the growth of coffee from keeping step with the increased demand. The steadily high prices have had the effect of luring all agricultural forces to the exclusive cultivation of this bean to the neglect of even the food products, which have to be imported from abroad at exorbitant figures.

In order to relieve this hardship, the Government conceived the idea of establishing colonies which, fostered by public favors, would be completely self-sustaining and able to supply vegetables and breadstuffs. This plan was to mark a new departure, and the desire arose to try new material—a fresh race of men. The result was a contract with an Italian agency for the introduction of 10,000 Canadians. Before the São Paulo government had matured its projects for their reception, the agency, by the distribution of glowing promises in print, had found 1,000 Canadians ready to come. When the British authorities learned of this propaganda, they tried in every way to dissuade the adventurous, pointing to a previous disastrous experiment with English emigrants in 1891, when they had repatriated the decimated survivors of that expedition, completely broken down in spirits, if not in health. Quickened probably by the wish to preserve all valid forces to so new and sparsely populated a country as Canada, these warnings were preached from the pulpit, placarded in the post-offices, and finally a letter from the British consul-general in Rio de Janeiro was advertised and read on the steamship wharf whence the hopeful ones were embarking. The effect was that of the 1,000 ready ones only 471 were carried away on the *Moravia*, and landed here early in October last.

It was soon discovered that they were a motley, though well-dressed, crowd, representing all nationalities—the Arab, Irish, Italian, American, etc.—and that they were no such picked lot, fit for agricultural purposes, as their destination required, but collected indiscriminately, at haphazard, probably in consequence of the system that paid the agent per head imported, concerning himself merely with the number to be gathered and without regard to the riffraff that he might offer.

As the officials were not ready with the organization of the colonies in contemplation, these so-called Canadians were taken to the usual depot and

eagerly procured by planters. The immigrants were crestfallen. Some had the pluck to accept work on plantations, but many refused as physically unfit and insisted on nothing less than the fulfillment of the promises that had enticed them, or on the realization of what their heated imaginations had expected. Their demands found no consideration beyond offers of farm work, and those that would not or could not accept such work were, after some delay, turned adrift out of the refuge. Between 360 and 400 have now found their way back to this port to tell harrowing tales of disappointment, losses, and privations, and imploring aid to regain their northern homes, which has been accorded through the British and French consuls, assisted by private channels.

This second attempt to introduce an Anglo-Saxon element into this district must be pronounced a distinct failure. The fault for this fiasco rests partly with the immigrants in having been incapable and too credulous, partly with those who made deceptive promises, and an unscrupulous choice of the wrong class of people. The ne'er-do-weels in a young democracy will generally remain inane transplanted anywhere; and those that in Canada had become skilled mechanics found wages here lower, the cost of living much higher, the golden fruit to be reaped from coffee planting too remote, and their surroundings too onerous and uncongenial. Opportunities for work exist here in abundance, but a hairdresser and waiter can seldom be made hardy and experienced enough by the possibilities of the soil to bear a pioneer's life, to till the field exposed to a tropical sun, unacclimated, and thrown entirely on his own resources for the raising and shaping of every necessity of life. I, for one, confess to my individual want of such adaptability, or that a brilliant offer to teach Chinese could make me competent without a period of preparation.

Upon an intimation from the British minister, this State has abandoned further expeditions from the same source. Learning, however, that, in view of the resistance by the British and Canadian governments, an attempt is to be made to induce emigrants from or via the United States, I can not too strongly warn Americans against yielding to the enticement without being fully equipped and prepared for an undertaking of this kind. Coffee raising is no doubt a very profitable pursuit for those able to cope with the climate, experienced in agriculture, ready for a pioneer's life with all its hardships, provided with funds to acquire ground, persevering through the four years requisite for the maturing of the plant, and competent to cultivate other crops meanwhile for sustenance. These in the end are almost sure to be rewarded by prosperity. The last two trials have, however, shown that as an agricultural laborer the Anglo-Saxon can not here compete successfully with the Italian, who arrives with the advantages of a kindred language, of having worked under warmer skies, and who will put up with conditions of life so bare, rude, and primitive as to seem unbearable to those of our race who have tried the experiment. As skilled mechanics, they are paid here much less than at home. A carpenter earns here about \$1 to \$1.20 a day; a brick-

layer less than \$1 on an average. In the interior, wages are generally one-third less, while in the United States the cost of living has been greatly reduced in recent years. The heavily fluctuating paper currency has raised the prices of all commodities, of national as well as imported products, enormously, and it is not exaggerating to express this increase by at least 300 per cent.

The character of the Anglo-Saxon is against the success of such organized and subsidized movements. His achievements are the fruit of his spirit of initiative and independence. Spontaneous, self-resolved enterprises call forth his best efforts, his ingenuity, and indomitable energy. The history of emigration to the United States, the flourishing state of all British colonies, rivaled by none of any other nation, stand as splendid testimonies to this operation. Only when he is cajoled and managed by other than his own impulses will he lose heart.

By nearly general assent, these poor, returning stragglers acknowledged great kindness to them on the part of the planters themselves, but complained bitterly of having been driven by Italian overseers, animated by unmodified slavery traditions. This treatment seemed so oppressive and revolting to them, though quietly borne by the other foreign colonists, that complete collapse and failure followed, and the weary tramp and begging back to Santos was undertaken.

If the United States would join the example set by the British and Canadian governments and warn publicly against any systematic and interested decoy to foreign lands by the allurements of irresponsible promises and glowing pictures of wealth acquired without hard, very hard, labor, a great deal of suffering and sadness may be averted from those who, in every community, can so easily be led to chase after rainbows.

JULIAN HAUGWITZ,
Vice-Consul.

SANTOS, *January 13, 1897.*

FACTORIES AT BAHIA.

I transmit herewith a list of the manufacturing establishments of Bahia (except cotton factories, which I reported upon last year*), with amount of gross receipts and net profits per annum, in round numbers, as given by the managers or superintendents of each; also, the number of hands employed, male and female, by each, with wages paid per day, hours of labor, and the year when the factory was established. The amounts of money were stated in the depreciated paper currency of this country, which continually fluctuates in value, having ranged for the past three years from 15½ cents to 27½ cents per milreis. I reduced the amounts to United States equivalents at the rate of 20 cents to the milreis, or 5 milreis to the dollar.

There have been no improvements of importance in the cotton industry since my report in 1895.

*See CONSULAR REPORTS No. 182 (November, 1895), p. 291.

Industries of Bahia.

Establishment.	Branch of industry.	Gross annual receipts.	Annual profits.	Employees and average wages per day.				Hours of labor per day.	Date when established.
				Males.		Females.			
				Number.	Wages.	Number.	Wages.		
Campanhia Progresso Industrial.....	Boots and shoes.....	\$1,100,000	\$270,000	350	\$0.50	150	\$0.35	10	1890
Gama Irmãos.....	do.....	600,000	180,000	190	.55	50	.38	10	1897
Chapela a Nort Industrial.....	Hats.....	900,000	200,000	280	.50	60	.35	10½	1885
Viuva Martins Filho.....	Sugar refinery and soap factory	150,000	32,000	34	.45	.....	.....	10½	1895
Joaquim José Ferreira.....	Soap factory.....	25,000	4,800	15	.45	.....	.....	9½	1889
Spinheiro Irmãos.....	do.....	48,000	7,400	20	.45	.....	.....	9½	1889
Lima Irmãos.....	Soap and candles.....	12,000	3,000	10	.42	6	.30	10½	1886
Seraphim Pinto Moreira.....	Soap factory.....	11,000	3,200	15	.42	.....	.....	10½	1894
Wilke Picard & Co.....	Lithographers and printers.....	60,000	8,000	50	\$0.50 to 3.00	8,000	.....	10½	1889
L. H. Liquori.....	do.....	60,000	9,000	60	.45 to 3.00	10	.50	10½	1890
Otens & Co.....	Coffee cleaning.....	12,000	4,000	15	.45	.....	.....	10	1880
Azevedo Filhos & Co.....	Foundry and machine shops.....	22,000	4,500	45	.40 to 2.00	4,500	.....	10	1886
Companhia de Seraria a Vapor e Materiaes.....	do.....	60,000	10,000	75	.40 to 2.00	.....	.....	10	1880
Companhia de Ferro Esmaltado.....	do.....	40,000	8,000	45	.40 to 2.00	.....	.....	10	1886
Companhia Bahiana de Navegação.....	Machine shop to repair their own ships.....	.....	.....	.....	.....	.....	.....	10	1880
Cox (Brothers) Irmãos.....	Machine shop.....	40,000	9,000	20	.40 to 2.00	.....	.....	10	1889
Companhia Metropolitana.....	Machine shop and foundry.....	680,000	122,000	150	.40 to 2.00	.....	.....	10	1889
Companhia Brasileiro.....	do.....	40,000	8,500	40	.40 to 2.00	.....	.....	10	1888
Companhia Phosphoros de Seguranca.....	Matches.....	80,000	18,000	100	.45	30	.30	10	1876
Costa Pinto & Co.....	do.....	40,000	4,000	.....	.....	.....	.....	10	1886
Companhia Marcenaria Bahiana.....	Furniture.....	40,000	16,000	100	.42 to 1.20	.....	.....	10½	1889
Companhia Industrial de Productos Nacionaes.....	Brewery and distillery.....	100,000	36,000	40	.40 to 1.10	.....	.....	10	1880
José Segueira Magalhaes.....	Distillery.....	17,600	6,000	25	.50	.....	.....	9½	1888
G. H. Duder.....	do.....	17,000	6,000	25	.50	.....	.....	9½	1888
Marinho & Co.....	do.....	20,000	5,400	38	.45	.....	.....	9½	1889
Francisco Ribeiro Lopes.....	do.....	11,000	2,400	20	.42	.....	.....	9½	1886
Guimaraes Filhos.....	do.....	10,000	3,000	20	.45	.....	.....	10	1890
Manuel Gil de Assumpção.....	do.....	12,000	4,600	16	.50	4,600	.....	10	1880
Lacerda & Co.....	do.....	20,000	8,000	18	.50	.....	.....	10	1890

José Kiberto Saldanha.....do.	40,000	15,000	20	.50	.....	9½	1888
José Florencio.....do.	35,000	12,000	40	.45	.....	10	1887
José Alves Ferreira.....do.	28,000	13,000	40	.48	.....	10	1880
Companhia Industrial da Bahia.....	180,000	35,000	100	.47	.50	10	1872
Borell & Co.....	65,000	16,000	60	.60	.....	9½	1868
Martins Ferreira & Co.....	15,000	3,500	20	.50	10	10	1889
Letiti Alves.....do.	60,000	10,000	200	.45	10	.30	1891
Martins Fernandes & Co.....do.	45,000	5,900	30	.48	15	10	1889
Antunes & Co.....	180,000	40,000	25	.45	.....	10	1883
Santa Casa de Misericordia.....	30,000	9,000	.....	.....	.....	.....	1883
Soap factory and laundry.....	90,000	28,000	35	.45	.....	9½	1892
Limekiln.....do.	55,000	22,000	28	.48	.....	9½	1891
Deodoro Lacerda.....	25,000	7,000	30	.45	.....	10½	1880
Companhia Bisquitas Nacionaes.....	100,000	26,000	40	.55	.....	10	1889
Wilson Sons & Co.....	.....	.....	.....	.....	.....	.....	1895
Schindler & Co.....	30,000	6,000	12	.50	.35	10	1894
Passava cleaning and cutting.....	.....	.....	.....	.....	.....	.....	.....
Dock repair shop.....	.....	.....	.....	.....	.....	.....	.....
Steam laundry*.....	.....	.....	.....	(t)	.....	.....	.....
Lapidary.....	15,000	7,000	15	.....	.....	.....	.....
Saddles and harness.....do.	40,000	6,000	8	1.00	.....	10	.....
Aguia de Ouro.....	59,000	13,000	15	1.00	.....	10	.....

* Will be in operation January 15 next, with American improved machinery with capacity of washing about 15,000 pieces per day.

† 40 cents per carat.

Some of these establishments are not run all the year.

BAHIA, December 28, 1896.

R. P. MCDANIEL,
Consul.

FINANCES OF COLOMBIA.

I have the honor to submit herewith a report on the financial condition of the Republic of Colombia and a statement of the public debt. There is now a good prospect for the settlement of the foreign debt on the basis mentioned. If a settlement is brought about, it ought to be a great benefit to Colombia and enable her to make another loan, which would greatly benefit the people in the way of public improvements. The public debt is now less than \$5 per capita, and is the smallest public debt owed by any nation in the world. Perhaps no country of the same size and population has as many resources, and proper financial management should make Colombia one of the foremost countries in South America.

The foreign debt, in gold, is as follows:

Principal	\$9,567,500.00
Interest.....	7,730,552.00
Total.....	<u>17,298,052.00</u>

The interior debt, in paper, is as follows:

Consolidated	\$5,905,113.95
Floating debt.....	1,892,110.60
Total.....	<u>7,797,224.55</u>

Adding to the amount of the floating debt above stated what is still due the treasury for war expenses for 1885, and for pensions, etc., there would be a total floating debt of \$8,405,113.95 (paper). At the rate of exchange of 150 premium, the floating debt in gold is \$3,362,045.58, which amount, added to the foreign debt of \$17,298,052, makes the total debt in gold \$20,660,097.58. As compared with 1894, the foreign debt has increased \$908,909, being the interest on the capital.

The consolidated interior debt has increased \$483,217.95, while the floating debt has diminished by \$1,446,164, without taking into consideration the amount of the claims pending on account of the revolution of 1885, which were not known in 1894. However, from April, 1894, to April, 1896, the committee charged with the adjustment of said claims has passed upon 448 cases out of the 1,534 which were pending, to the amount of \$171,572.30, the total amount of claims being \$1,370,543.21.

The total amount of claims presented since the committee commenced their labors are for \$14,549,679.54, of which \$7,660,789.32 have been admitted and \$6,888,888 have been rejected. There are still 1,093 claims pending from the revolution of 1885, to say nothing of the claims now being presented on account of the revolution of 1895.

The liquidation of the National Bank, which had been decreed by law 70 of 1894, was suspended on account of the revolution of 1895 by decree 41 of February 4, 1895. Since January, 1896, the National Bank has been

under the control of the liquidation section and had received, up to June 30, \$531,532.95, of which amount \$243,339 is the proceeds of 25 per cent additional import duties. Half of this amount has been destroyed and the other half is for the purchase of silver bars to be made into fractional coins and for the changing of nickel coins of 2½ cents.

A short time since, a representative of the foreign bondholders reached Bogotá, with the purpose of entering into some kind of an arrangement with the Government for the payment of the debt, as no payments have been made for nearly twelve years. The proposition is that the settlement of the debt be on the basis of £2,700,000 (\$13,139,550), interest 1½ per cent for two years and increase every two years till 3 per cent is reached, which is to be the maximum. There is a good prospect that this settlement will be made. I sincerely trust this will prove correct.

BOGOTÁ, *October 17, 1896.*

LUTHER F. MCKINNEY,
Minister.

AGREEMENT WITH THE BONDHOLDERS.

I have the honor to inclose herewith the translation of an agreement between the Government and the representative of the holders of the foreign debt of the Republic of Colombia. I may add that this agreement has just been approved by the bondholders, at a special meeting held in London, and therefore goes into immediate effect.

BOGOTÁ, *January 12, 1897.*

JACOB SLEEPER,
Secretary of Legation.

[Law 160 of 1896.—Translation.]

The Congress of Colombia, in view of the agreement of November 4, 1896, between the Minister of Government, Acting Minister of the Treasury, and Mr. Frank B. Passmore, representative of the bondholders of the foreign debt of the Republic of Colombia, whose tenor is as follows:

“Agreement celebrated between Antonio Roldan, Minister of Government, Acting Minister of the Treasury, and Frank B. Passmore, special commissioner, appointed by the council of foreign bondholders of London.”

The undersigned, to wit, Antonio Roldan, Minister of Government, Acting Minister of the Treasury, representing the Republic of Colombia, and duly authorized by His Excellency the Vice-President of the Republic, Acting President, on the one hand, and, on the other, Frank B. Passmore, special commissioner appointed by the council of foreign bondholders of London, representing the holders of the foreign debt of the said Republic, have agreed to celebrate the following agreement:

ARTICLE I. The external debt to which this convention refers consists of the outstanding principal and the accrued and unpaid interest on the 4¼ per cent bonds of 1873. The amount of the said capital is £1,913,500, and the arrears of interest up to December 31, 1896, amount to £1,600,942; total, £3,514,442.

ART. 2. For the conversion of this debt, new bonds, entitled "the consolidated debt of Colombia, 1896," shall be issued for the sum of £2,700,000, in series of £1,000, £500, and £100, the arrears of interest up to the end of the present year of 1896 being included in the said amount. The bonds shall be to bearer and shall be dated January 1, 1897. They shall carry interest from that date, and shall be signed by the fiscal agent or special commissioner of the Republic in London and countersigned by a representative of the bondholders, nominated by the council of foreign bondholders. Each bond shall have attached fifty half-yearly coupons at the rate of $1\frac{1}{2}$ per cent for the first three years, increasing every three years by one-half of 1 per cent until reaching 3 per cent. The Government will provide new coupon sheets free of charge to the bondholders when the coupons issued with the new bonds are exhausted. These coupons shall be paid in London, in gold, on the 1st of January and the 1st of July in each year, the first coupon being payable July 1, 1897.

ART. 3. The principal of the debt shall be converted at par, bond for bond, and the net amount of the arrears of interest, as stated in article 1, at 43 per cent of their nominal value. Fractional certificates for 1873 bonds shall be admitted for conversion for the value they represent, but only with a right to coupons from No. 27 on, including the interest due.

ART. 4. Coupons Nos. 1 to 26 which have not been presented for payment and outstanding and unpaid bonds of 1873 shall be paid in order of deposit as far as the funds in London in the hands of the bankers of the Republic will permit, if presented within two months from the date of the commencement of the conversion. Upon the expiration of the two months the said bonds still unpaid will be admitted to conversion as current bonds of 1873 while the conversion remains open.

ART. 5. For the amortization of the new bonds the Government assigns an accumulative sinking fund of one-half of 1 per cent per annum on the principal of the debt, commencing on the 1st of January, 1900, increasing at the rate of one-half of 1 per cent every three years until it reaches $1\frac{1}{2}$ per cent, the Government always reserving the right to increase this fund when it may desire to do so. This fund is to be applied half-yearly in the redemption of said bonds, by auction or purchase in the open market, as long as the price is below par, and in payment of drawings at the rate of 60 per cent when the bonds are earning less than 3 per cent, and at 70 per cent when interest rises to 3 per cent, in case the price reaches or exceeds par. The council of foreign bondholders will verify these operations in conjunction with the Government representative in London.

ART. 6. The amount necessary for the payment of the interest and the amortization fund of the new bonds, as well as the amount necessary for the service of the debt, according to article 9—payments of which must be made in English gold—will be taken by the Government from the common fund, and the total amount of these charges will be considered as included in the national estimates. The amount of this sum shall be handed to the agent of the foreign bondholders in Bogotá on the 1st day of each month, as hereinafter expressed. The amount set aside for the payment of the debt shall always be free from all taxation.

ART. 7. The agent of the foreign bondholders at Bogotá shall remit monthly to London, in pounds sterling, the funds handed to him, and the responsibility of the Government shall cease on payment being made to said agent. These funds shall be remitted by the agent to the council of foreign bondholders in London at the lowest rate of exchange at which first-class drafts can be obtained. The agent shall notify the Government of the rate of exchange obtainable before making the remittance, accompanied by a certificate signed by two banks of the capital, and the Government shall have the right of substituting first-class bankers' bills at a lower rate if the same are to be obtained, but this power shall not be used so as to delay the dispatch of the remittance. The Government will provide that the total amount payable shall be in London, in the hands of the bankers charged with the service, at least fifteen days before the date fixed for the payment.

ART. 8. On the 1st of April and 1st of October of each year, commencing with the 1st of April, 1897, the agent of the bondholders in Bogotá shall furnish the Government with an

account of the sums received and remitted to him. Should the proceeds of the assignment of the percentage of the customs, as specified in article 6, leave a surplus in his hands over and above the sum required to discharge the service of the debt and all expenses connected therewith for the said period of six months, then such surplus shall be returned to the Government or carried forward to the following six months, as the Government may direct.

ART. 9. For the remuneration of the agents in Bogotá and London, a sum of 2 per cent shall be set aside, computed on the annual service of the debt. One-twelfth part of this sum is to be remitted by the agent at Bogotá each month to the council of foreign bondholders, who shall arrange for its distribution. This amount shall cover bankers' charges, including discount on bills if required, revenue stamps, notarial fees, advertising, and commissions on purchases for the sinking fund, etc. The agent in Bogotá shall be appointed by the council.

ART. 10. The fiscal agent, or special commissioner of the Republic in London, shall represent the Government in any question which may arise in carrying out this convention; and all matters not provided for therein which may arise during the course of conversion or thereafter shall be settled by said agent in conjunction with the council, and in case of disagreement, by a third party agreed upon by the two parties interested.

ART. 11. The conversion shall be effected in London by the council, and shall remain open two years, unless the agent of the Government and the said council, by mutual agreement and for special reasons, shall agree to extend it for another term, which shall not exceed one year. The council may, on their own responsibility, issue certificates for fractions of new bonds on any conditions they may think desirable so as to secure their early conversion and withdrawal from circulation. Old converted securities shall be cancelled and delivered to the Government or destroyed in the presence of a notary and the representative of the Republic after the close of the conversion.

ART. 12. The agent of the Government shall do everything necessary to place at the disposal of the council all balances in London arising out of former conventions or arrangements relating to the bonds of 1873 which belong to the creditors. These funds, after providing for claims in accordance with article 4, shall be applied to the reduction of the expenses attendant on carrying out the present convention.

ART. 13. The convention of 1873 is abrogated, as well as all previous conventions regarding the settlement of the external debt. The outstanding obligations, however, previous to 1873, may be admitted to the conversion of new bonds, if any should remain when that operation closes, in the terms the agent of the Government and the council shall agree upon, provided they are presented within the first month of the said conversion. It is understood that in no case shall the amount of the whole conversion exceed the £2,700,000 already agreed upon.

ART. 14. Any balance of new bonds after providing for the conversion of the old securities under this arrangement, or remaining on hand on the close of such conversion (see article 2), and the balance in London, mentioned in article 12, are to be at the disposal of the council of foreign bondholders to meet the expenses of the operation, including Government stamp duty on new bonds, engraving, legal expenses, advertising, and all incidentals, together with the expenses incurred in the past by the council and the negotiation of the present arrangement. In case the foregoing amount proves insufficient to cover the whole of these expenses, the deficiency shall be made good by the bondholders.

ART. 15. The coupons due, which have not been paid, owing to their not having been presented at the proper time, shall be paid afterwards by the council of bondholders; but after the conversion is completed. The half-yearly coupons canceled by the Government shall be duly remitted to the director of public credit.

ART. 16. The present convention shall be duly ratified by law of Congress and shall be submitted to the approval of the council of bondholders and of the bondholders of 1873 in a public meeting convened for that purpose in London by the council of foreign bondholders.

As soon as this convention has been ratified by Congress and by the foreign bondholders, as above provided for, it shall immediately become law and shall be binding on both parties.

In faith whereof, we sign three duplicates in Bogotá, the 4th of November, 1896.

ANTONIO ROLDAN.
FRANK B. PASSMORE.

* * * * *

DECREE.

ARTICLE I. The present convention is hereby approved.

ART. 2. There shall be appropriated in the national estimates the sums necessary for the fulfillment of the obligations accepted by the Government, and which shall be met by the national Treasury in virtue of the foregoing agreement. In case of approval of this agreement, it is understood that the sums required shall be considered as included in the next biennial budget.

QUEBRACHO TANNING IN URUGUAY.

The following report on tanning in Uruguay is based upon all the data obtainable, with a view of showing such new features in this branch of industry here as are unknown to our people at home. I am, to a great extent, indebted for my information to the firm of Lanza Hermanos, proprietors not alone of the largest tanning establishment of this country, but also of perhaps the largest boot and shoe manufactory in this Republic, furnishing outside of their own home demands, foot wear for some of the armies of the neighboring republics. These gentlemen have not only been kind enough to accommodate me with such detailed information as I needed partly for this report, but also have taken the trouble of furnishing me with samples of the various qualities of leather, together with the process and material used by them for each kind of leather so tanned.

Mr. A. Lanza, one of the members of this firm, visited the United States as a delegate to the Pan-American Conference from this Republic during President Harrison's Administration, and has a great desire to see better and closer trade relations established between the United States and Uruguay.

The special feature of this report is that it brings to the notice of our people at home the use of a tanning material but little known to them, which, in my judgment, is of sufficient importance to warrant their attention. This material is a wood which grows in Upper Argentina and Paraguay in great quantity, and is named quebracho.

The fact that some few years ago an individual knowing the good tanning properties of quebracho made an extract from the chips and offal thereof at the place where these timbers were originally cut for various purposes and exported this extract to Europe led to a closer investigation, the result of which is the export of the timber itself for tanning purposes. Now,

shiploads of quebracho go to Europe, and the export promises to increase from year to year as tanners get better acquainted with its valuable properties.

The fact that the entire log is ground up into a coarse kind of sawdust and thus used goes to prove its great economic value, taking into comparison other tanning materials, where only the bark of a tree furnishes the desired qualities.

I am informed that the chemical tanning properties of quebracho, in proportion to oak bark, stand as follows: Quebracho wood, 12 per cent; oak bark, 10 per cent.

As before stated, this timber grows abundantly in the northern part of Argentina and Paraguay. The principal cost and expense to be encountered in making quebracho marketable are in the cutting and shipping of it to the sea coast, first, because the wood itself is the hardest wood known, so that extra-tempered tools must be used in cutting it down, and, second, it is the heaviest wood known, considerably outweighing ebony, and therefore expensive to handle and transport.

Quebracho is a wood never known to rot; it withstands the water and underground use as well as the air, and gets harder from year to year. Extra-tempered tools, as stated, must be used in working it when green, and, when old, it becomes almost like metal. It is of a dark cherry-red color and takes a most beautiful polish. Furniture made of quebracho will almost last forever and is exceedingly beautiful.

Quebracho is here principally used for fencing poles, because of its lasting quality, and the larger timbers find ready use for water constructions, etc.

When used for tanning purposes, it comes in large logs, which are cut up into lengths of about 5 or 6 feet. These are put before a circular saw and cut up into strips of about 3 by 3 inches, and these pieces again are put into a machine consisting of a solid steel disk with numbers of projecting teeth—somewhat resembling the solid iron-wheel cornsheller—which runs with great speed, and cuts these pieces up into a coarse kind of sawdust, which is taken up by an endless belt of cups that conveys the now ready tanning material to its place of deposit.

The following table shows the total quantity of leather tanned in Montevideo, the quantity of leather of each kind actually tanned by Messrs. Ianza Hermanos, the percentage of quebracho wood used for each quality of leather in proportion to other tanning material used with it, the time required to cure the leather, and the quantities used for each particular kind, together with the average cost of the tanning material (quebracho), and, lastly, the prices of leather sold by these parties to the public.

No. 199—4.

Leather tanned in Montevideo.

Names and kinds of leather.	Value per dozen skins or hides.	Value per kilo-gram.	Value for each hide, whole.	Quantity of quebracho used for tanning.	Quantity of other materials used with quebracho.	Time required for curing.	Quantity of hides tanned by A. Lanza Hermans during the past year.	Approximate number of hides tanned in Uruguay.	Remarks.
				<i>Kilograms.</i>	<i>Per cent.</i>	<i>Days.</i>			
Becerro mat. λ , or unborn calf.....	9.00			50		30	5,500	22,000	Per dozen hides, from 8 to 10 kilograms weight.
Becerro granuado, or unborn calf, grained.....									Per kilogram weight of hides.
Becerro criado, or calf.....		\$2.20		3	20	60	18,800	75,200	Do.
Becerro satinado, or calf, fin-shed.....	9.00			4	10	40	2,800	14,000	Per dozen hides.
Badana granuado color, or soft calf, grained and colored.....	9.00			30	5	30	3,000	15,000	Per dozen hides, from 8 to 10 kilograms weight.
Becerro lustre, or calf glazed.....	12.00			50		40	3,000	15,000	
Becerro con pelo, or calf with the hair.....	10.00								
Becerro charol desflorado, or calf patent leather.....	22.00			3	25	60	6,000	12,000	Per kilogram weight of hides.
Cabra chagrin, or goat, grained.....	14.00			4		60	7,000	13,000	Do.
Cabra color, granuado, or goat, grained, colored.....	16.00			4	10	60	6,500	13,000	Do.
Cabra charol, or goat patent leather.....	14.00			4	10	60	1,200	1,200	Do.
Badana color, or sheep, colored.....	9.00			30	5	30	4,000	24,000	Per dozen hides.
Taflete, or sheep, colored for lining.....	8.50			30	5	30	4,000	25,000	Do.
Do.....	2.50			30	5	30	3,500	23,000	Do.
Badana negra vista, or sheep, colored for lining, black.....	8.50						4,000	12,000	Tanned with alum.
Badana negra marran, or sheep, colored for lining, brown.....	8.50						4,000	12,000	Do.
Badana negra punzo oscuro, or sheep, colored for lining, dark red.....	8.50						4,000	12,000	Do.
Badana negra punzo claro, or sheep, colored for lining, light red.....	8.50						4,000	12,000	Do.
Badana negra azul, or sheep, colored for lining, blue.....	8.50						4,000	12,000	Do.
Badana negra blanca, or sheep, colored for lining, white.....	8.50						4,000	12,000	Do.
Cabra lustre, or goat, glazed.....	16.00			4	10	60	7,000	13,000	Per kilogram weight of hides.
Badana lustre, or sheep, soft.....	9.00			30		30	3,000	12,000	Per dozen hides.
Vaca crada, or cow (or kip) boot and shoe leather, grained.....			6.50	40		90	300	600	Per hide of about 8 to 9 kilograms weight.
Vaca charol imitation bufalo, or cow, patent glazed imitation buffalo.....			9.00	30	5	60	2,000	4,000	Do.

Vaca charol lisa, or cow (or kip) patent leather.....	12.00	30	5	60	300	600	Do.
Vaca blanca desflorada, or cow (or kip), uncolored, for boots and shoes.....	6.50	30	5	60	500	2,000	Do.
Vaca imitation cabra, or cow (or kip), imitation goat, for boots and shoes.....	6.50	30		60	400	1,600	Do.
Suela de vaca, or sole leather.....	5.80	46		120	10,000	40,000	Per hide of about 12 kilograms weight.
Suela especial.....	.80				360	360	No quebracho used.
Becerro charol con flor, or calf patent leather.....	22.00						Not made any more.
Becerro color, or calf colored leather.....	16.00						Per kilogram weight of hides.
Baqueta granada, or material of which the boots are made.....	6.50	4	10	60	3,000	9,000	Per hide.
Botas, or boots*.....		30		60	600	1,800	

* Boots, as contracted for and sold to the Brazilian army by Messrs. Lanza Bros., \$2.40 per pair.

The markets for quebracho so far are Montevideo, Buenos Ayres, and Rosario, and prices range from \$10 to \$15 per ton, according to demand and time of year, corresponding to the high or low waters of the Plate and other rivers by which these timbers are brought down.

In all these trading centers are men who either own such timber lands themselves and have their own steam tugs and flatboats to freight timbers to their places of business, or they make contracts with such landowners and send their own crews of men to cut it and fetch it down with their own conveyances.

In many cases, the timbers are even cut on lands seemingly having no owners at all, and no one takes the trouble of making inquiries as to the ownership of such lands or timber cut thereon.

There is no doubt that with the increased demand for quebracho, these lands will become very valuable, and, taking the present low prices of them into consideration, a lucrative investment might suggest itself, especially where investors would be in a position to utilize the product.

EDGAR SCHRAMM,

(*)

Consul.

SUGAR INDUSTRY OF THE DOMINICAN REPUBLIC.

During a stay of three days in this port while en route to Port-au-Prince I visited the various sugar plantations in this district owned entirely or in part by Americans and as a rule conducted by Americans with American capital. The product is shipped exclusively to the United States and almost entirely in American bottoms. To make this report as concise as possible, I will here give in their order the names of the plantations, their owners, the quantity of the last year's crop in sacks of 300 pounds each, and amount invested:

Plantations.	Owners.	Crop.	Amount invested.
		<i>Sacks.</i>	
Consuelo.....	W. L. Bass.....	48,000	\$1,200,000
Sante Fe.....	Ross.....	42,000	750,000
Porvenir.....	Miller.....	33,000	600,000
Puerto Rico.....	Armstrong.....	20,000	600,000
C. Colon.....	.....	34,000	500,000
Qusquain.....	Bartram.....	33,000	400,000

While the aggregate product seems large, yet none of these plantations made money last year, possibly due, however, to the fact that the sugar was held too long. The local authorities exact in duties for various purposes a sum equal to 33 cents per 100 pounds. Formerly, the export duty was about 12½ cents (gold), but the duties have been increased just in proportion, it

* Undated—Montevideo. Received by Department of State, September 16, 1896.

would seem, to the wants of the Government. The planters complain also, and justly I think, that they are compelled to fix a value on their product as of the time of shipment, usually based on last cable quotations, sometimes a month old, and last year the valuation was very largely in excess of the price realized. If the price could be left blank in the invoices and established on the basis of the market value on the entry of the cargo at New York it would relieve them of the penalties for undervaluation, which may easily occur, and relieve them also of the payment of a duty on sugar valued as the last crop at 4, $4\frac{1}{8}$, and $4\frac{1}{4}$ and really sold at 3 cents.

It would seem that notwithstanding the large investments made by these people, notwithstanding the acknowledged cheapness of land and labor, they will be eventually driven to abandon their plantations. One small measure of relief, besides that indicated above, might be found if the Treasury Department were induced to allow a rebate of 60 cents per 100 pounds, instead of 50 cents as heretofore, to cover additional shipping expenses added during the last year.

HENRY M. SMYTHE,

MACORIS, *January 9, 1897.*

Minister.

BANANA INDUSTRY OF HONDURAS.

The Bay Islands can justly be called the cradle of the banana industry in Honduras—the greatest of all her industries. The exports to the United States during the nine months ended June 30, 1896, of this fruit alone amounted to \$429,017.31 (United States gold). The average price paid to the producer was about $22\frac{1}{2}$ cents (United States gold) per bunch.

About the close of the civil war, the records show that trading and fishing vessels began carrying bananas to the United States from the Bay Islands of Honduras, and the handsome profits realized thereon induced persons living in the United States to take steps to foster and encourage the infant industry, if, indeed, the growing of a few plants by each family as an article of food can be called an industry. I am told by men who are yet engaged in the fruit trade that, at the date referred to, bunches of fruit for which they paid 50 cents sold readily in the United States for \$7, and even more in many instances.

The few American citizens and English subjects resident in the Bay Islands, seeing an opportunity to dispose of their bananas, at once turned their attention to the production of the fruit, and in this way began what has become the greatest industry in all Honduras.

The islands of Ruatan and Utila, the largest of the chain of islands in the Bay of Honduras called the Bay Islands, were the first to engage in banana culture for export. The profile of these islands—very broken and hilly, with deep, narrow valleys, their clay soil, with its abundance of black volcanic rocks—will show that a great part of these lands are unfit for cultivation. It is easily understood by those knowing aught of the effect of cultivation

on such lands, where, for months in each year, the rainfall is enormous, why they soon fail and become worthless, producing only second and third class fruit in the size of bunch. The lands are literally washed away. What were once beautiful and fertile hillsides are transformed into unsightly gullies and barren slopes, presenting an aspect as discouraging, if not as monotonous, as "our own Sahara."

In the careless management of these lands, the islands have been denuded, disfigured, and devastated, and have relapsed into their former position, producing scarcely more than the home market demands. The industry has been transferred to the coast, some 15 or 20 miles away, where the same conditions and ill management of land prevail.

"Plantations," as they are called, are made in the virgin forest by cutting down the growth of trees, brush, and vines in the fall season or during the first months of the year, and when the green leaves and branches have been dried by the ever-present heat of a tropical sun, the torch is applied, and in the conflagration that follows, everything is burned but the stumps and trunks of the largest trees. Then, without further preparation, the "suckers" are planted with a "machete," by making holes, without regularity as to line or distance, and inserting the "sucker" to the depth of a few inches. These "suckers" are the sprouts of the banana plant, starting out of the parent plant, as do some varieties of onions, tillering like small grains, wheat, or rye.

The planting is usually done from March until June, and the plants are expected to begin to bear in about nine months, during which time all that is done in the way of cultivation is the cutting down of sprouts from such stumps as survived the burning. This is called "cleaning the plantation."

The average productive life of a plantation is about five years, after which it is usually considered worthless, and is abandoned.

I shall not attempt to give any figures as to the cost and profits of these plantations per acre, as conditions and circumstances surrounding each individual effort are no mean factors in determining the resultant loss or gain. To the writer, the "royal road to fortune" through a banana plantation in Honduras is a myth—a legend equaled only by the fabulous tales of the wealth of mineral ores that lie hidden everywhere among the cliffs, rocks, and crags of this hilly and mountainous coast. It is true, that millions of this fruit are produced here annually, but the price paid the producer in a great majority of instances is not greater than the cost of production and delivery alongside of ship.

There are no wharves (one excepted), no piers, or warehouses where vessels can take fruit in the Gulf of Honduras, and in most cases, they are obliged by the treacherous coast to anchor a thousand yards or more off shore, and the plantation owner has to convey his fruit in small dories and skiffs through the surf to the vessel, where it is inspected and received or rejected.

Think of these bunches of bananas, cut miles away and transported on the back of a donkey, broncho, semiclad Carib, or mule to the little moun-

tain streams, thence by little dugouts to the beach, where they are piled up awaiting the aforesaid dories and skiffs that take them through the surf to the ship; and when you learn that each bruise, each contact with the coarse, sharp, almost burning sand on the beach is ruinous, to say nothing of the blackening effects of salt water, you at once see plainly how it is that thousands of bunches are rejected at the ship's rail and thrown into the sea, carrying with them the profits made on those received by the inspector. With no better means of transportation to the ship, no protected harbors to break the force of the waves of the sea and where vessels can ride at anchor in safety, and, last, but far from least, no competing lines, no other means of transportation to market than by dories and skiffs, and these belonging to a monopoly, it is obviously not a profitable venture.

If the above can in any way serve as an answer to the many letters I have received from the United States, inquiring about banana culture, all of which I would have gladly, and more directly, answered had not the expense reached a point beyond which I could not go (as there is no allowance available at this consulate for postage on private correspondence), I shall be gratified.

J. EUGENE JARNIGAN,

UTILLA, *December 20, 1896.*

Consul.

ELASTIC FABRICS IN JAPAN.

At the request of Mr. Albert Herbert, of Boston, Mass., for information regarding the importation of elastic fabrics into Japan, Mr. Connelly, consul at Osaka and Hiogo, writes under date of December 14, 1896:

In reply to your request for information as to the quantity and value of elastic webbing imported into the Empire of Japan for use in the manufacture of what is known as congress gaiters, I respectfully submit the following table, taken from the records of the imperial customs for the years 1893, 1894, and 1895, respectively:

Imported from—	Quantity.		Value in gold.
	Yards.	Yen.	
1893.			
Great Britain.....	35,010	14,352.10	\$7,463.09
Germany.....	14,506	5,241.62	2,725.12
France.....	1,440	446.96	232.42
Switzerland.....	2,114	846.44	440.15
1894.			
Great Britain.....	30,879	13,161.08	6,843.76
Germany.....	6,538	2,932.70	1,525.00
France.....	1,750	966.68	502.67
Switzerland.....	3,064	1,355.88	705.06
1895.			
Great Britain.....	23,902	15,409.78	8,013.00
Germany.....	14,854	6,358.06	3,306.19
France.....	2,435	1,217.90	633.31
Switzerland.....	5,420	3,204.28	1,666.23

The figures of the above table indicate that the demand for elastic webbing is not an increasing one, and I regret to say that the inquiries made by me of those interested in that peculiar trade confirm such indication.

* * * * *

The webbings are sold to the Japanese free of all charges, including the import duty of 5 per cent ad valorem charged by the imperial customs on such articles, the purchasers simply taking delivery at the customs department. Foreign merchants trading here, who in the past have handled elastic webbing, tell me that the very best quotations they have received from German manufacturers are 31 cents per yard for an article 6 inches in width, 29 cents for 5 inches, and 22½ cents for 5 inches of an inferior quality. These quotations are given free on board at port where shipped. The same webbings cost in Japan 35, 33½, and 26 cents, respectively, in United States currency.

JAPANESE BUCKWHEAT FOR THE UNITED STATES.

At the request of Mr. Luther Michael, of Shawnee, Pa., for information in regard to the importation of Japanese buckwheat into the United States, Consul-General McIvor was asked for a report on the subject. He writes as follows, under date of December 30, 1896:

The following information as to the cultivation, yield, and cost of Japanese buckwheat was furnished by one of the native commission export houses here:

The total production of this grain in the year 1895 was 1,151,261 koku (5,713,693.2169 bushels), 1 koku being equivalent to 4.9629 bushels. Ebaraki Ken (province) stands first in the Empire for the production of this cereal, having produced, in the year named, 12,000 koku (59,554.8 bushels), this being at the rate of 1.19 koku to the tan (5.905851 bushels to 0.2451 acre). The next in order of production is Nagano Ken, which produced 78,616 koku (390,163.3464 bushels), this being at the rate of 0.8 koku to the tan (3.97032 bushels to 0.2451 acre).

There are several species of buckwheat, but the product is generally classified under two heads—summer buckwheat, which is sown in May and harvested in August and September, and autumn buckwheat, which is sown in August and harvested in December.

The principal market for the cereal is found in the town of Hachioji, in this (Kanagawa) ken. The manure used in the cultivation of the cereal is a light night soil.

The grain is larger than ours, but, I am informed by one well acquainted with the product of both Japan and the United States, this variation is not due to a difference in species, but, rather, to the more careful methods of cultivation and selection which are practiced in Japan, my informant assuring me that the Japanese seed, planted in America, will, after three or four years, be found to correspond in size and yield with our seed, and this would be true even if there was no crossing with our native varieties.

The cost of buckwheat flour is about 6 yen per koku; the cost of the best selected seed for planting is about 10 yen per koku.

The following estimate of the expense attendant upon purchasing and shipping the seed to Washington (not including our customs charges) in lots of 30 bushels, has been prepared, at my request, by the commission firm above referred to:

	Yen.
Cost of 30 bushels.....	55.00
Freight charges to Washington on 2 tons (at \$11 gold per ton), \$22, which at 52.....	42.30
Cost of cases.....	12.00
Incidental shipping charges (clearance, etc.).....	3.25
Total.....	112.55

This is equal, at the present Government rate, to \$59.43 (gold).

Mr. Michael, after receiving samples of the buckwheat, writes as follows:

I am pleased with the appearance of the "autumn" buckwheat, and since the packages contain 2 pounds each, it will be enough, I think, to allow a practical test to determine the relative merits of the two varieties. The consul-general's report is interesting, but I think that his informant is mistaken as to the identification of the Japanese buckwheat with our own. The seed received from Japan is as different from our American varieties as white corn is from yellow, or red wheat from white. If I am not mistaken, the first Japanese buckwheat introduced into the United States was in 1884 or 1885. I farmed it successfully for the whole of the intervening period, and there has been a decline of the original Japanese buckwheat; but this has not been due, as the consul-general's report says, to our careless selection of seed or careless farming, but to the deteriorating effects of the action of honey and other bees, who carry the pollen from the old-fashioned varieties over into the Japanese fields, thus bringing about a condition for which the foreign buckwheat is not responsible. In some portions of the country, I have found large areas where bees were rare (owing to the absence of clover), and in those sections the Japanese buckwheat had deteriorated to a hardly perceptible degree. Honeybees will travel over a radius of country 7 miles in width and ascend an elevation of 1,600 feet for honey. It can readily be seen that upon the introduction of any new buckwheat it is used by only a few farmers at first; the neighboring farmers continue to plant the old varieties, the honeybees multiply, and the degeneration of the buckwheat is brought about.

GERMAN TOURIST CLUBS.

The inclosed contributed article from the London Times of this morning is the most complete statement I have thus far seen of the care taken in several of the countries of the large and growing class of persons known as tourists. The vast increase of travel for pleasure has been limited, in the main, to the people of the United States, England, and the British colonies, whose restlessness has thus found an outlet. They have gone everywhere,

no region being so remote that they have not invaded it together, although of late years, the contingent from the United States has gained preponderance in numbers and distribution.

As this process has gone on, each of the countries invaded has, in its own way, devised methods to encourage this annual visitation. France has gone to a considerable length in marking outlying or remote roads and paths, so that travelers may make their way through them without danger or inconvenience and at a reasonable outlay. The article herewith sent shows how thoroughly the idea has been taken up and worked out by voluntary associations in certain parts of Germany. That many of the thousands of visitors who annually come from the United States to the Old World may be glad to know of the facilities furnished by such methods for seeing people with unfamiliar customs and habits can not be doubted.

The reproduction of a carefully prepared article of this kind in the *CONSULAR REPORTS* will no doubt commend it to many editors of newspapers in different parts of the United States, thereby introducing the subject to many traveling readers. While it may not have a direct relation to the commercial interests which consuls are supposed to represent, it is, it seems to me, an added duty to furnish information which may be of interest to a fair proportion of the 100,000 travelers who go abroad each year, mainly to European countries, for pleasure and knowledge. It would be impossible to exaggerate the influence of this travel, not only upon those persons whose inclination and means enable them to indulge in it, but upon thousands of others in many communities of the United States who, having no such opportunities themselves, find their lives broadened by the knowledge thus acquired through friends or neighbors. No argument is needed, either, to emphasize the fact that the presence of all these people in the various countries of Europe tends to make the United States better known and more highly respected everywhere, thus conferring a pleasure and an obligation upon a large number abroad.

That this produces inquiry and, in the end, promotes business relations, is, it seems to me, clear. As this travel in foreign countries will no doubt increase rather than diminish, everything that can tend to make it easier to see the most informing places and objects or may turn curiosity into many and varied channels will be helpful to society at large as well as to individual travelers. The hope that articles like the one I send may promote this is my only excuse for venturing thus far out of the usual official path.

GEORGE F. PARKER,

BIRMINGHAM, *August 27, 1896.*

Consul.

[From the London Times, August 27, 1896.]

GERMAN TOURIST CLUBS.

When the average British tourist is arranging his plans for a continental holiday, he is apt to leave out of the reckoning most of those centers in Germany which lie off the beaten track of English travel, his impression being that, however great their charm, it would be

difficult for him, with his more or less inadequate command of the language, to find his way about in them. The possibility of his getting lost in what he regards as the trackless expanse of a German forest deters him from fresh enterprises, and he invariably keeps to the recognized routes, in which alone he thinks there is safety for him. But, however reasonable his fears may have been years ago, the fact should be recognized that there now exists throughout practically the whole of the innumerable forest districts and "playgrounds" of Germany an almost perfect network of organizations employed in facilitating the movements and increasing the comforts of tourists in every possible way, carrying on, in fact, a work the like of which is unknown among ourselves, but one that, for its ceaseless activity, its thoroughgoing and most practical plan of operations, and its extremely beneficial results, deserves the most cordial recognition. It is found to be of no use to rely on local or other authorities for the real opening up of a district. The authorities will keep main roads in repair and put up signposts thereon; but the route of the tourist in search of the picturesque lies as often as not, in Germany, away from the main roads, through more or less dense forests, along unfrequented valleys or over mountain tops; and if these bypaths are to be indicated and kept in order it must be done by private agency. This is where the work of the Tourist Verein mainly comes in, and so well, indeed, is the work done, that there is to-day hardly a forest or mountain region in Germany where a tourist can not find his way about or reach a given point with an ease entirely lacking in the case of a stranger who gets into the inner recesses of Epping Forest, of Wales, of the New Forest, or of almost any other of our own holiday resorts.

Each Verein, or club, is formed by some hundreds, or, it may be, some thousands, of residents in a particular district, the funds being provided by means of small subscriptions, ranging from 2s. to 5s. a year. The organization consists, as a rule, of a central body and a sufficient number of sections to cover the whole of the district, each section taking charge of its own locality. The practice varies somewhat, but a favorite method is for the members to join a section and pay their subscription to that section, part of the money being retained for local purposes, while the remainder goes to the central body to form a fund for the payment of general expenses or for the making of special grants. Each section has its independent organization for local purposes, but sends representatives to the general assembly of the club. A large number of the clubs have also joined themselves into a federation, which meets year by year in different parts of Germany.

The objects aimed at are, generally speaking, the indication of routes according to a uniform system; the construction of footpaths and the keeping in order of paths already made; the opening out of good points of view or the facilitating of access to them; the provision of seats, shelters, and also of prospect towers in the case, say, of mountain tops where an elevation above the height of the trees would give a greatly extended view; the publication of guidebooks and maps, and so on. The advantage of each club being split up into sections is that the members in a particular locality are naturally better acquainted with it than those living elsewhere would be and take a more direct personal interest in carrying out the desired arrangements therein as thoroughly as they can. Not only this, but each particular section within the district becomes, practically, a separate club, which, besides the actual work done, has excursions in the summer and periodical gatherings in the winter for the purposes either of social enjoyment or of hearing lectures on travels, scientific subjects, or questions of the day. In a large number of instances, the branch club forms in its particular Städtchen, or in its group of villages, a center of social and intellectual activity which tends largely to promote the well-being of the community.

As regards the general objects of the clubs it will be freely conceded that, from the point of view of the ordinary tourist, the matter of first importance is the efficient indication of footpaths, and it is in this respect that the clubs are especially active. It may be asked how this work is to be done effectually and economically by organizations possessed of comparatively small financial resources, in the case, say, of a footpath through a forest where it is crossed by so many other paths or tracks that an indication is necessary, in some places, every few

hundred yards. To put up the regulation signposts everywhere would be far too expensive. The favorite solution of the problem is the system of either color or letter markings. Take the Thuringian forest by way of illustration. At Eisenach one buys for a few pence a map on which the various tourist routes in that locality are indicated in different colors. One notices the color for the particular walk one wishes to take, and follows the main road until an indication of this color is seen either on a notice board or on a tree at the beginning of a path branching off from the roadside. Map and guidebook may now be put in the pocket. Henceforth one has only to look out for the color—say it is red—a streak of which will be found on some tree or stone at every point where there is the slightest possibility of the tourist's going astray. The walk may last for many hours, and may lead through the most intricate forests, where scarcely a soul will be met; but the friendly bit of red will always be seen when it is wanted, and the tourist steps along with a perfect freedom from all anxiety as to whether or not he is in the proper path. In some districts a preference is given for initial letters instead of streaks of color. In the case of the Brocken, for instance, the tourist notices on the summit a variety of footpaths, each of which is distinguished by a particular letter painted on a stone at the side, and indicating the town to which it leads. Should he want to go on foot to, say, Ilsenburg, he walks round until he sees the letter "I" painted on a stone, and he takes the adjoining path. It leads right down the side of the mountain, over the stony and rugged Schneelöcher, and crosses scores of other paths or tracks; but the letter "I" is in evidence at every turning. In other instances, small metal direction plates, mounted on wood, are fixed on trees, in preference to either streaks of paint or letters; but whatever may be the system adopted the general effect is the same—namely, to indicate the footpath at every point where the traveler may be in doubt.

In the Taunus, the number of paint marks showing routes more or less obscure is over 15,000, this work having all been done by the club members themselves and being supplemented by a special map on which the routes are distinguished by their several colors. There are, indeed, in this particular district quite a number of tourist clubs, the total membership of which, according to a recent report, was nearly 1,900. Of these, 1,300 belonged to the Stamm Club, at Frankfort, which has been at work over a quarter of a century, and has an especially good record. Its operations are controlled by various committees, each of which takes charge of a particular branch of the operations. The tourist committee aims at developing and facilitating the Wanderlust of the members, and in pursuit of this object it organizes excursions, negotiates with the railways concerning cheap tickets, and opens inquiry offices at different points. Another committee looks after the marking or the making of footpaths, the erection of signboards (with the different routes indicated in color) and the publication of special maps. The philanthropic committee has, since 1880, in which year great distress prevailed in some parts of the Taunus, paid great attention to the planting of willows and to the carrying on of a school for basket making at Grävenwiesbach, while distributions of seed potatoes in the poorest districts have been made from time to time. There is also a committee that takes charge of the social gatherings, which are a great feature of the club's operations.

The Black Forest Tourist Club was founded in 1864, and has forty-eight sections, the total membership being about 5,350. Each of the sections makes its own report to the annual general assembly, and a few extracts from these reports will show in more detail the kind of work that is going on. The Achern section, with 180 members, reports, for instance, that during 1894 it made a new footpath on the Ziegelberg, facilitated access to the highest points of the Hornis-grinde, erected iron steps on the Brennleschroffen, repaired roads in various parts, put up seventy-one signboards, and provided thirteen seats. The Karlsruhe section made a number of new paths, besides repairing and cleaning old ones, constructed one new bridge and repaired three others, and put up ninety new direction notices, while during the winter there had been meetings every Wednesday evening, lectures being given on twenty-seven of these occasions. These are illustrations of the work done by merely two out of forty-eight sections of a single club, and when one remembers that, as already said, every tourist

district in Germany has a club of its own, one gains some idea of the vast amount of activity that is being shown.

The Vosges Club was founded in 1872 and has 3,400 members distributed among thirty-six sections, which now embrace the whole of the Vosges Mountains, and, as their individual reports show, are extremely energetic in their labors there. One special feature of the club is its literary and historical branch, which publishes every year a volume on the history, dialects, and literature of Alsace-Lorraine, bringing together in this way a great fund of information which might otherwise be lost.

The Harz Club was founded in 1887 and has seventy sections with a total of 6,600 members. It claims among other things to have put up seven thousand direction plates along more than 2,000 miles of roads and footpaths in that most picturesque district, besides making or improving 13 miles of footpaths, providing two thousand seats, opening out one hundred and thirty-five points of view, and constructing a large number of shelters. It has, too, been the good fortune of the Harz Club to bring about something like a federation of the different parts of a scattered district which formerly had very little in common one with another.

The operations of the Mountain Club for Saxon-Switzerland are carried on by thirty-six sections with nearly 3,000 members, and those of the Riesengebirge-Verein by seventy-four sections with nearly 9,000 members. The Eifel Tourist Club was founded only in 1888, but to-day it embraces fifty-eight districts, has 4,000 members, and, among other things, has opened up a number of charming valleys, which were previously either unknown or inaccessible, and has also constructed numerous bridges and towers. Then, there are special clubs for the Erzgebirge, the Vogelsgebirge, the Odenwald, Vogtland, the Knüllgebirge, Sauerland, Hunsrück, and a host of other places; while a number of the clubs not only publish guide-books and maps, but bring out periodicals of their own, devoted to official notices, historical sketches, descriptions of new tours, etc. Some of the clubs, too, keep a watchful eye on the landlords of the inns, seeing that they do not charge tourists too much; and others have even arranged a reduced tariff for their members, though a British tourist who finds what absurdly low prices are charged in some of the mountain districts in Germany may well wonder how such a request could have been made. Thus the present writer and a friend once stayed at the "first" hotel in a charming resort in the Taunus, where they had afternoon coffee, supper, bed, and breakfast, and were charged 7s. 6d. for the two. Yet if they had been members of the Taunus Tourist Verein they would have been entitled to "a reduction of 10 per cent."

CENSUS OF THE WORKING PEOPLE OF GERMANY.

The result of last year's census of mechanics and working people in the German Empire shows that there are over 1,000,000 persons employed in the textile industry alone. The exact number is 1,017,112, comprising males and females. In the census of 1882, 932,592 persons were enumerated. Since 1883, the fact may be of interest that there has been a decrease in the number of male employees from 582,070 to 552,230, a reduction of 29,840 males. Their places have been filled by females, whose number has multiplied from 350,522 to 464,316 in the same space of time, showing that the textile industry is especially adapted to women, who seem to be ignoring all other branches of labor, particularly that of domestic service, to go into the factories. As a result of this growing industry and occupation for so many thousands of human beings, the factories are being remodeled and built on the most improved plans as to sanitary surroundings and with the comfort of employees as an object. Their every interest is in this way

being considered, to encourage from them good and satisfactory service to employer. Washrooms and lockers for nonworking apparel are supplied; also dining rooms, where coffee can be prepared and potatoes (one of the chief components of the luncheon fare) roasted or boiled, in an especially adapted wire receptacle. This is inclosed in part of a large heating apparatus, constructed for the purpose, and the cooking thus completed. Separate lunch rooms are provided for whole families employed in the factories, where they can distribute food from the family basket and enjoy together the recreation afforded by the noon meal. Some of the larger factories are provided with a buffet or lunch counter, where can be purchased, at a merely nominal price, beer (the favorite beverage), sausages, rolls, coffee cake, or any little luxury in the form of sweet cake or pastry. More than half of the mentioned thousands of persons are engaged in the dress-goods and cloth-weaving branch of the industry, in the different departments of weaving, spinning, hatcheling, reeling, spooling, twisting, wadding, etc. The other half are employed in the manufacture of hosiery, fringes, and trimmings, comprising knitting, weaving, bleaching, dyeing, pointing, finishing, etc., in all branches of which both men and women are employed. In all the groups, but more largely in the weaving, spinning, and hosiery manufactures, the women employees have greatly increased. Of course, there is an increase in the number of both sexes employed during the busier seasons. In the quieter times, those men temporarily employed in the factories find use for their services as carpenters, farm hands, bricklayers, etc., until the busy season reopens.

As a proof of the development of the German textile industry during the last thirteen years, it may be stated that in 1882, 4,178,320 double hundredweights of raw material were imported for working up in the textile branch in Germany, and in the present year the figures reached 8,230,230 double hundredweights for the same branch, showing an enormous increase. The quantities of exported manufactures in the last year amounted to 1,198,128 double hundredweights, an advance of 335,838 since the year 1882.

GEORGE SAWTER,

GLAUCHAU, *October 20, 1896.*

Consul.

THE DATE TRADE OF BASSORAH.

In regard to the export of dates from this port (on the Persian Gulf, Asiatic Turkey) during the past season, no statistics are available from the custom-house, but the closest approximation from returns of shipping agents and merchants shows that—

(1) Shipments by direct steamers to London amounted to about 490,000 boxes, each containing about 64 pounds of dates, of which 235,000 boxes were Hellowees, 58,000 were Kedrawees, 163,000 were Sairs, and 34,000 were Deris.

(2) Shipments by direct steamer to New York amounted to 53,000 boxes, chiefly Hellawees.

(3) Shipments to Bombay and to Mediterranean ports amounted to 42,000 boxes, chiefly Hellawees and Sairs.

The total export of boxes for 1896 is thus shown to be 585,000, while for the five preceding years the returns of export showed: In 1891, 730,000 boxes; 1892, 540,000 boxes; 1893, 550,000 boxes; 1894, 740,000 boxes; 1895, 550,000.

It has only been by combination among the shippers that during 1895 and 1896 exports have, in the interests of the market, been reduced to these figures.

In 1895, the import of boxes for packing amounted to 770,000 and 30 per cent were retained under seal in the importing houses by general consent of shippers. In 1896, the import was 850,000 boxes, of which 40 per cent were put under seal by general agreement, while the 30 per cent retained in 1895 were released.

Owing to the scarcity of dates this year and the exorbitant prices asked by growers, shippers have not been able to fill even the boxes available under the reduced total.

The average free-on-board value per box of Hellawees may be taken as \$1.60; of Kedrawees, \$1.35; and of Sairs and Deris, \$1.10, making the total export of box dates in 1896 aggregate about \$800,000.

Of the 490,000 boxes shipped to London, it is thought that fully 140,000 have been transshipped to the United States, bringing up the estimated export to the United States to 193,000 cases, valued at about \$280,000.

The demand for Bassorah dates in America is increasing annually, and there is room for more direct steamers to New York to carry this and other cargo.

The boxes in which the dates are packed are of whitewood, chiefly imported from Norway, where the boards are cut to size and smoothed and bundled for shipment in shooks to Bassorah, ready for nailing up. There is an opening for American wood to meet this yearly demand.

In addition to the whitewood boxes, containing about 64 pounds of dates, there are also small quantities of half-size and quarter-size boxes shipped, and fancy cardboard boxes are packed for special requirements. This trade is still in its infancy, and the chief difficulty has been in getting the Arab packers to do the work neatly.

American buyers, it is understood, prefer to have their dates repacked in America for the confectionery trade, although it could be done cheaper by sending out the boxes to Bassorah.

Quantities of dates, to the value of about \$500,000, are annually exported in baskets, mats, and skins to India and Africa and to Red Sea and Mediterranean ports by steamer and sailing craft. These are for native consumption, but a new use has been found in London and on the Continent of recent years for refuse dates, in distillation and in the manufacture of vinegar.

JAS. HAMILTON,

Consular Agent.

BASSORAH, *December 15, 1896.*

DOUBLE SPAR OF ICELAND.

The following account of the double spar may be of interest. According to the Museum of Mineralogy in Copenhagen, calcite, or chalk spar, is the scientific name of the mineral known variously as Iceland mineral spar, Iceland double refracting spar, and double spar (*pierre doublante*). The mine from which it is obtained is located on the east coast of Iceland, about 4 miles from the trading station of Eskifjord, on a mountainous slope 350 feet above the level of the sea. The double spar is found, mixed with clay and white calcite, filling a crevice in the basalt mountain. The mineral was formerly visible on the surface, but as this outside supply was exhausted, a small mine was gradually formed. Although its existence was known long before, no attempt was made to develop the mine prior to 1859, and even for some years later only small quantities of the spar were gathered for the use of museums and as a matter of curiosity. In the course of time, however, it was discovered that owing to its doubly refracting qualities (hence the name "double spar") the spar was of great value in the manufacture of fine optical instruments, polarization apparatus, etc.; and as this mine is the only one known to contain this particular kind of spar, a demand was at once created for clear pieces fit for optical use.

In 1872, the Government of Iceland, which up to that time had owned the mine jointly with C. D. Tulinius, a merchant of Eskifjord, bought out Mr. Tulinius and became sole owner. A large stock of clear spar being then on hand, the Government, in view of the importance of the double spar to science and to preserve the same, shut down work.

No exact information as to the capacity of the mine can be obtained at present, but it is thought at the Museum of Mineralogy that the future yield will not be as great as heretofore. By 1895, the supply of spar was exhausted, and to meet the demand, the Government leased the mine for a term of years to Mr. Thor E. Tulinius, Havnegade 43, Copenhagen, who is prepared to furnish the mineral on application. The mine is worked during the summer months and the proceeds brought to Copenhagen for sale. The output is of very different qualities and only a part of it is clear and fit for optical use. These clear pieces, weighing from 1 pound upwards, are very expensive (\$26.80 per pound), while smaller pieces of the same quality are much cheaper. Through the kindness of Mr. Tulinius, I am able to furnish the Department with samples of the different qualities and prices for same, as follows:

First class, clear pieces fit for optical use.—(a) Pieces weighing from half a kilogram (1.1 pounds) upwards, 100 kroner (\$26.80) per half kilogram; (b) pieces weighing from one-tenth of a kilogram (0.22 pound) to half a kilogram (1.1 pounds), 50 kroner (\$13.40) per half kilogram; (c) pieces weighing less than one-tenth of a kilogram, 25 kroner (\$6.70) per half kilogram.

Second class, clear pieces not fit for optical use.—Quality C—Weighing from 2 to 5 kilograms (4.4 to 11 pounds), 20 kroner (\$5.36) per half kilo-

gram; weighing from half a kilogram to 2 kilograms (1.1 to 4.4 pounds), 12 kroner (\$3.22) per half kilogram; weighing less than half a kilogram, 8 kroner (\$2.14) per half kilogram. Quality D—Weighing from 2 to 5 kilograms (4.4 to 11 pounds), 10 kroner (\$2.68); from half a kilogram to 2 kilograms (1.1 to 4.4 pounds), 8 kroner (\$2.14); weighing less than half a kilogram (1.1 pounds), 6 kroner (\$1.61).

Third class, only for museums.—Price, from 5 to 100 kroner (\$1.34 to \$26.80) per half kilogram (1.1 pounds).

Fourth class, only for manufacturing use.—Quality R, £3 (\$14.60) per ton.

I am indebted to Mr. Thor E. Tulinius and to Director Ussing, of the Museum of Mineralogy, for the information contained in this report.

ROBERT J. KIRK,

COPENHAGEN, August 1, 1896.

Consul.

THE IRON INDUSTRY OF SWEDEN.

At the meeting of the Swedish Society of Ironmasters on the 30th of November last, the managers gave the following report on the Swedish iron trade, showing increase or decrease from January to October, 1896, inclusive, as compared with the export during the same time in 1895.

Total export.

Kinds.	January to October—			
	1895.	1896.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
Blooms and rough bars.....	12,500	21,400	8,900	.....
Bars.....	140,000	150,100	10,100	.....
Bar ends.....	4,100	3,400	.....	700
Ingots.....	5,200	4,700	.....	500
Nails.....	2,300	1,900	.....	400
Pig iron.....	71,000	61,100	.....	9,900
Rods, rolled.....	2,600	4,900	2,300	.....
Sheet iron.....	3,200	3,600	400	.....
Wire, drawn.....	500	700	200	.....

The total export in 1896, however, shows an increase of 9,800 tons.

On October 1, 1896, 32,400 tons of iron were "lombarded" in the banks, against 52,500 tons at the same date in 1895—a decrease of 20,100 tons.

The average export from January 1 to October 1 during the last ten years was as follows:

Total export.....	Tons. 198,400
Pig iron.....	47,500
Ingots.....	4,100
Blooms.....	9,700
Bars.....	126,700

The total export was greatest in 1889—224,500 tons; smallest in 1894—165,400 tons. The export of ingots was greatest in 1889—6,500 tons; smallest in 1893—2,400 tons. The export of blooms was greatest in 1896—18,900 tons; smallest in 1892—6,900 tons. The export of bar iron was greatest in 1887—145,300 tons; smallest in 1894—102,600 tons. The export of pig iron was greatest in 1895—60,700 tons; smallest in 1888—36,700 tons.

The export during January to September, 1896, exceeded the average thus:

	Tons.
Total export.....	22,500
Pig iron.....	6,800
Ingots.....	200
Blooms.....	9,200
Bar iron.....	4,300

During the quarter July–September, 1896, 104 blast furnaces were working, against 99 in 1895; 276 bar-iron furnaces or hearths, against 287; 29 Bessemer furnaces, against 26; and 32 Siemens-Martin furnaces, against 25.

The production from January 1 to October 1 consisted of:

Kinds.	1895.	1896.
	<i>Tons.</i>	<i>Tons.</i>
Bessemer ingots.....	73,600	87,600
Blooms.....	139,000	138,400
Martin ingots.....	79,900	95,600
Pig iron.....	360,800	380,300

This shows an increase in the production of Bessemer ingots by 14,000 tons; of Martin ingots, 22,700 tons; and of pig iron, 19,500 tons. But the production of blooms shows a decrease of 600 tons, compared with the production in 1895.

The average production for the time January to September during each of the last seven years was:

	Tons.
Pig iron.....	351,800
Blooms.....	156,600
Bessemer ingots.....	69,600
Martin ingots.....	64,600

The production of pig iron was greatest in 1896, with a total of 380,306 tons; smallest in 1890, with 325,300 tons. The production of blooms was greatest in 1890, with 166,100 tons; smallest in 1896, with 138,400 tons. The production of Bessemer ingots reached its maximum in 1896, with 87,600 tons; its minimum in 1893, with 62,700 tons. The production of Martin ingots was largest in 1896, with 95,600 tons; smallest in 1890, with 48,200 tons.

The production in 1896 shows the following relations to the average production :

	Tons.
Pig iron, above average.....	28,500
Bessemer ingots, above average.....	18,000
Martin ingots, above average.....	31,000
Blooms, below average.....	18,200

These figures are of special interest and show a considerable increase in the production of steel. Although the production of pig iron in 1896 increased by 19,500 tons above the production in 1895, and the export of the same article decreased by 6,400 tons, the supply on hand does not show any increase, but the surplus has been used for the production of steel, which shows considerable increase—14,000 tons increase of Bessemer and 22,700 tons increase of Martin steel.

The items of the statistics of export which show increase represent together 25,900 tons of iron and ingot metal. The difference between these figures and the increase in the production of ingot metal amounts to 10,800 tons, which thus should represent a surplus. The fact is, however, that no surplus seems to exist, but this has probably been consumed by the industries within the country, which, during this year, have shown unusual activity.

The past year has been favorable for the producers of ingot metal. The demand for Lancashire iron has increased, at higher prices, but as charcoal has been very expensive, the profit has not been comparable to the profit on ingot metal. A change for the better will probably take place, as the high prices of charcoal have given impulse to increased production of this article, so that the production will fully meet the demand.

The prospects of the trade for the first two quarters of 1897 may be considered as favorable.

The quotations of the society were fixed as follows, per ton of 1,016 kilograms (2,204.6 pounds), free on board, without discount :

Kinds.	Gothenberg.	Stockholm.
Ordinary hammered iron.....	\$41.37	\$40.76
Ordinary rolled iron.....	42.58	41.37
Rolled fine iron (rods).....	43.80	42.58

So far, the report cited. In addition, I may say that the export of steel (hollow blooms, billets, etc.) from Gothenberg to the United States has increased considerably during the last two years, and I understand that the main portion of this steel is used by the manufacturers of bicycles.

OTTO H. BOYESEN,

GOTHENBERG, *January 12, 1897.*

Consul.

IRON WORKS OF SWEDEN.

I send herewith a brief description of the works of the firm Stora Kopparbergs Bergslags Aktiebolag, of Falun. I have not been able to procure any details of the manufacture, as the owners are very reticent about information regarding the process.

Stora Kopparbergs Bergslags Aktiebolag is the oldest stock company in Scandinavia and one of the oldest in the world. Its origin belongs to the prehistoric era and its development can be followed far back into the times of the Saga.

The domains of the company, valued at about 30,000,000 Swedish crowns, are mainly situated in the province of Dalecarlia and consist chiefly of vast forests, rich iron and copper mines, and large waterfalls amounting to more than 100,000 horsepower. On these natural resources three principal trades are founded, viz, timber, iron and steel, and copper.

In the year 1735, the company built their first iron works, Svartnäs, based on the then discovered iron mines Vintjärn. One establishment after another were later added, each intended for its own particular speciality, so that the company has manufactured iron at some twenty places in all.

So many difficulties, however, were met in carrying on the manufacture at different places, on account of the expensive communications existing, that it was decided about 1870 to concentrate the iron manufacture and for that purpose to build new works. One of the big waterfalls of the Dala River was selected as the site. Domnarfvet is the name of the new works, which are the largest in Scandinavia, and the largest in the world based on charcoal as fuel. To them belong one hundred and sixty iron mines and a number of waterfalls, together capable of developing about 50,000 horsepower, of which, however, only a small part at present is utilized. The works consist of the following departments: Charcoal-making plant, with eight large kilns; blast-furnace plant, with four blast furnaces, six Westman roasting furnaces, regenerative blast heating stoves, etc.; Bessemer works, with five converters, etc.; Siemens-Martin works, with four furnaces of 15 tons each, etc.; rolling-mill plant for sheet iron and plate, wire rods, rails, beams, channels, angles, and all kinds of merchant iron; forge for hammered tool steel and miscellaneous tools; plate-pressing works for boiler heads and similar articles; horseshoe-nail factory, etc.

The whole iron and steel manufacture is, as before said, exclusively based on charcoal, by the aid of which the highest grade of steel for cutting and other tools, for springs, coining dies, etc., is produced from the pure ore.

The principal manufactures at Domnarfvet are: Pig iron, extra pure; ingots, blooms, billets, and slabs of Bessemer and Siemens-Martin steel; bars in various shapes and nail rods, wire rods of Bessemer and Siemens-Martin steel and Swedish Lancashire iron; hammered bars of Swedish Lancashire iron; rails; boiler and ship plates; sheet iron, corrugated and smooth;

pressed and flanged work of plate; machine straightened shafting; hammered steel (miners' drill steel, tool steel, shear steel, spring steel, file steel, pin steel, machine steel, file blanks, etc.); stonecutting steel tools, hammers, anvils, etc.; horseshoe nails, etc.

The products from Domnarfvat are to a large extent exported to the great countries of Europe, to America, Australia, the East Indies, China, and Japan.

The company, furthermore, owns two other works, Korså and Lindesnås, where especially soft Swedish charcoal wrought iron is made. The annual production of iron and steel is:

	Tons.
Pig iron.....	55,000
Bessemer ingots.....	35,000
Siemens-Martin ingots.....	26,000
Charcoal-iron blooms.....	7,000
Rolled and hammered iron and steel of all kinds.....	47,000
Horseshoe nails.....	600

For the works 450,000 cubic meters of charcoal are yearly used; of these 140,000 cubic meters are made in the kilns at Domnarfvat.

THOS. B. O'NEIL,
Consul.

STOCKHOLM, *January 9, 1897.*

PASSPORTS IN TURKEY.

I have the honor to transmit the translation of a note verbale, dated January 27, from the Ministry of Foreign Affairs, which calls attention to the importance of foreigners entering Turkey having passports with a consular visé.

A. W. TERRELL,
Minister.

CONSTANTINOPLE, *February 2, 1897.*

[Translation.]

It turns out from a communication from the Imperial Department of the Interior that foreigners arrive sometimes at Constantinople without passports, or with passports without the Ottoman consular visé. This state of things, being contrary to the provisions of the regulation on passports, the Ministry of Foreign Affairs has the honor to request the legation of the United States of America to kindly give, to whom it pertains, the necessary instructions, so that any foreigner coming into the Empire may be furnished with regular papers, in order not to find themselves threatened under articles 14, 17, and 18 of the said regulation.

AMERICAN FLOUR IN IRELAND.

In order that American millers may know one of the methods resorted to on this side to injure their export trade, I inclose a clipping from the Belfast News Letter of January 14, 1897. The article is in the nature of a semieditorial, and, apparently, is intended to do all the harm possible to the importing trade of American flour, of which there is probably more

consumed in this city and vicinity in proportion to the population than in any other part of the Kingdom. Furthermore, it is particularly gratifying from the exporter's standpoint that the quantity keeps steadily increasing. The returns for 1896 show that over 93,000 long tons of American flour were imported into Belfast, which exceeds the imports for 1895, in round numbers, by 17,000 tons. Unfortunately, this condition does not prevail in other sections of the Kingdom. The substance of this clipping has been circulated all over the Kingdom, no doubt, in somewhat similar form, each newspaper varying the verbiage to suit local conditions. It may be remarked that it is only one of the methods in vogue to prejudice the consumer against American flour, which for obvious reasons has disastrously affected the milling trade on this side.

JAMES B. TANEY,

BELFAST, *January 16, 1897.*

Consul.

The article in the Belfast News Letter, transmitted by Consul Taney, attributes to the Cincinnati Price Current the statement that American millers are mixing finely ground corn meal having the general appearance of wheat flour with their genuine wheat flour; that ordinary tests fail to discover its presence up to 5 to 10 per cent in flour, and the great disparity in cost offers an inducement to make such a blend and to sell it as flour. The News Letter, commenting on this alleged practice, says:

There can be little doubt that this system of adulteration has been going on, and, naturally, the effect has been to affect prejudicially the interests of our local millers, who, in offering the genuine article in the market, are subjected to a competition that is unfair. * * * It is a fact that Indian flour has a bluish color, while the ordinary flour made from Indian wheat is rather brownish white. The effect of the adulteration would therefore be to improve the appearance, though certainly not the quality, and thus give that imported of the character described an undue advantage in the market.

COST OF ILLUMINATING GAS IN BELFAST.

The discussion in some of the cities in the United States of the cost of illuminating gas has suggested that it would be of interest to learn that the city council, which controls the gas works of Belfast, has reduced the price to consumers from 66 to 60 cents per 1,000 cubic feet, beginning with the current quarter. Here gas bills are collected quarterly, so that the reduction takes effect from the first of the year.

This charge is subject to the following discounts, providing the account for the preceding quarter is paid on or before the 30th day of January, April, July, and October of each year:

	Per cent.
50,000 and not exceeding 100,000 cubic feet.....	5
100,000 and not exceeding 200,000 cubic feet.....	10
200,000 and not exceeding 400,000 cubic feet.....	15
Above 400,000 cubic feet.....	20

The reduction in price was contemplated last year on the ground that the profits were so large (£67,377 9s. 1d.—\$327,892.10 for the year ended June 30, 1896) that the current price was unjust to the consumers.

For an intelligent understanding of how so large a net revenue was realized at 66 cents per 1,000 cubic feet, less discount, a condensed reproduction of the official statement of the receipts and expenditures for the financial year ended June 30, 1896 (figures reduced to United States money), is herewith subjoined:

<i>Receipts.</i>	
Sale of gas.....	\$659,812.37
Less discounts.....	\$53,295.54
Bad debts.....	1,209.24
	54,504.78
	\$605,307.59
Public lighting of streets, buildings, etc.....	88,713.61
Less cost of lighting and repairing public lamps.....	24,226.05
	64,487.56
Sales of coke, breeze, etc. (less labor, \$20,118.22).....	162,821.61
Sales of tar.....	28,650.15
Sales of ammoniacal liquor.....	21,668.97
Sundries.....	369.21
	213,509.94
Total.....	883,305.09

<i>Expenditures.</i>	
Coal (87,536 tons of 2,240 pounds, including all expenses of depositing same at works).....	\$270,534.58
Purification and sundries, including labor.....	17,898.7
Salaries of engineer and assistant.....	6,740.10
Wages (carbonizing).....	69,024.23
Repairs and maintenance of works and plant (including renewal of retorts), machines, apparatus, tools, materials, and labor.....	30,306.90
Coal and coke used for steam boilers.....	2,504.15
Carburetted water gas:	
Oil (1,073,018 gallons).....	43,632.20
Wages and fuel.....	27,906.25
Repairs of carburetted water-gas plant.....	1,200.94
Salaries of chief inspector, inspectors, and clerks in department.....	8,475.81
Repairs, maintenance and renewal of main and service pipes, including materials, laying, paving, and labor.....	7,040.69
Repairing, renewing, and refixing meters.....	18,407.20
Rents (grounds and offices).....	26,578.16
Salaries of cashier, accountant, clerks, office keepers, and messengers.....	11,714.06
Salaries of collectors.....	7,541.70
Sundries.....	5,907.80
Balance carried to net revenue account (profit).....	327,892.10
Total.....	883,305.09

The disposition of the net revenue was in sundry ways, such as for new works, meter investments, contributions to public library, parks, etc., interest on mortgages, sinking fund, stock dividends, etc.

It will be observed that the largest item of expense is for coal, which costs \$3.09 per ton (2,240 pounds) delivered at the works.

Below is submitted some additional information, furnished, at the request of this consulate, by the courtesy of the manager of the works:

	Cubic feet.
Coal gas (year's output).....	892,911,000
Carburetted water gas (year's output).....	324,460,000
Total gas made.....	1,217,371,000

The cost per 1,000 cubic feet of the several items required in making the product until it passes into the gas holders was:

	Cents.
Coal (less residuals).....	6.34
Purification.....	1.45
Salaries.....	.546
Carbonizing (wages).....	7.624
Wear and tear.....	3.348
Fuel for boilers.....	.276
Total	19.584

Or, a small fraction over 19½ cents.

The cost of production has been very much reduced since the use of cannel was displaced by the introduction of carburetted water gas, the quantity being nearly one-third of the output of coal gas. With the new system, the works are enabled to continue the present increase, for the coal gas alone would yield only about 16 candlepower, whereas the combination produces a gas of 18 candlepower.

In this last presentation of the cost of manufacture, no account is taken of any expense connected with the running of the gas works, except the items which directly enter into the manufacture of the article until it passes into the gas holders, as the object is to show simply the cost of the material and labor required for the manufacture of gas ready for consumption. The conditions are so distinctly dissimilar in each locality that the extraneous outlay in connection with the supply to the consumer must vary, especially when it is a question of public or private control.

JAMES B. TANEY,

BELFAST, *February 12, 1897.*

Consul.

PHOTOGRAPHY IN NATURAL COLORS.

The scientific sensation of the moment in Europe is a new and apparently successful method of reproducing in photography, by chemical means, the colors of nature. When the art of photography was first developed, it was expected that the reproduction of natural colors by means of the camera would soon be achieved, and many of the ablest chemists of a generation ago devoted years to the study of that interesting and difficult problem.

The farther their researches were pushed, the more hopeless the task appeared to be, and it is only within the past few years that any substantial progress has been made.

Lippmann, by an ingenious application of the principle known to optical science as "interference," wherein certain waves of reflected light may be made to "interfere" with or cancel each other, leaving the remaining colored rays visible, produced a theoretical solution of great beauty and interest, but his process has had, thus far, only a scientific value.

Another scientist, Mr. Ives, developed a process in which, by taking three photographs of the same object, through blue, green, and red media, respectively, and illuminating each of these with light of the corresponding color, the three images could be so combined in the eye as to form a single composite picture, embodying more or less perfectly all the colors of nature. By this method, which, from its nature, is mainly mechanical, as distinguished from a chemical process, lantern slides have been made which, when used for projection on a screen, produce effects of great brilliancy and beauty.

But it remained for a French savant, M. Villedieu Chassagne, of No. 40 Avenue des Ternes, Paris, working out a theory suggested by Dr. Adrien Dan-sac, to find the real philosopher's stone, and to produce, by purely chemical means, on sensitized plates, paper, or films, photographs showing the actual colors of the subject as they appear in nature. The process of M. Chassagne, to which he has devoted many years of study and costly experiment, is exceedingly direct and simple in its practical application, and may be briefly described as follows:

An ordinary sensitized gelatin plate is first treated by immersion in a colorless solution of certain salts, the secret of which the inventor has not yet revealed. This plate, being exposed in a camera, receives a negative impression, and is developed, fixed, and finished in the ordinary manner, producing a monochromatic negative precisely similar in appearance to any other. That is to say, the treatment of the dry plate by the mysterious liquid of M. Chassagne entails no visible effect in the appearance of the negative which is produced therefrom.

From this negative there is then printed, by the usual process of contact and exposure to light, a positive, which may be made on sensitized paper, or film, or glass gelatin plate, which has been likewise treated before printing with the same colorless and unexplained solution. Thus far, all is monochromatic, and does not differ in appearance from any ordinary negative and the paper print or transparent positive made therefrom. The miracle now appears in the fact that the treatment of the negative plate and positive print with the limpid solution has imparted to the latter the occult instinct of selective absorption; in other words, the power to absorb and assimilate from solutions of the primary colors the exact quantity and proportion of each tint that is required to produce all the hues and gradations of nature.

The positive is now passed successively through three colored solutions—blue, red, and green—and from these it takes up by absorption the propor-

tionate amount of each color that is required to give the colors and gradations of tint which were present in the natural subject of the photograph. If this photograph is a portrait, the flesh tints become warm and vital, the colors of the eyes, hair, and every detail of hue and texture in the costume, jewelry, etc., are faithfully reproduced. If the subject is a landscape, the sky becomes blue or gray as in nature, the grass and all the elaborate gamut of green, brown, and purple shadows, which occur, for instance, in a wood or group of trees of different species under strong sunlight, are brought out with marvelous fidelity. Such a positive, printed on glass as a transparency, hung in a window and studied from behind with a strong monocle, produces the effect of looking upon the actual landscape. Paintings, either in oil or water colors, are reproduced so literally as to fairly deceive the eye, in all except size, the photograph copies being, of course, generally much smaller than the originals.

From this brief description it will be obvious that the discovery of M. Chassagne is embodied in the chemical composition of the four liquids, one of which is colorless, one blue, one green, and the other red. The process of using these liquids, which is so simple as to be within the easy reach of any professional or good amateur photographer, has been patented in all civilized countries where patents are granted, but the composition of the liquids is thus far a secret, and is not described in the applications.

Having perfected his process to a point where his pictures commanded the admiring wonder of French experts, M. Chassagne went, on the 15th of January this year, to London, where on two occasions about the 20th of that month he demonstrated it at the laboratory of King's College, in presence of Sir Henry Trueman Wood, Captain Abney, president of the Camera Club, Professor Thompson and Mr. Herbert Jackson, of King's College, all men of the highest authority in photographic science. The demonstrations were so complete, the results, when Sir Henry Wood and Captain Abney operated with English apparatus on plates treated in their presence with the liquids brought by the inventor from Paris, were so successful that the process became the sensation of the day in London, and the whole invention, with its patents granted or pending in all countries, was sold on the 28th of January for a large sum to a British syndicate that had been hastily organized for its purchase.

For the information of Americans who may wish to know how and under what conditions the materials and right to use this process can in future be obtained, it may be pertinent to state concisely the plan upon which the syndicate proposes to operate. A parent company, located in England, will reserve the exclusive right to prepare gelatin plates and manufacture the liquids for use in all countries. The liquids are to be manufactured in a special laboratory at Paris, under the supervision of M. Chassagne, who becomes a paid employee of the syndicate for that purpose. No patent or exclusive right in any country or province is to be sold, but in each foreign country a branch establishment will be created, which shall draw its supply

of prepared plates and liquids from the parent house in England. If desired, dry plates of any approved make may be sent for treatment, and will be returned after having been so prepared. For the privilege of owning and conducting one of these exclusive foreign agencies, a large bonus or cash payment is to be demanded, besides which the syndicate will fix the retail price of plates and liquids, and claim a percentage of the net profits from each branch concern. The amount of the bonus demanded varies naturally with the importance of different countries, but as an indication of the value set upon the entire invention it may be stated that an offer of £30,000 (\$145,995) for the exclusive franchise in Germany, subject to the foregoing conditions, has been refused.

The relative proportions of the four liquids employed in ordinary use are: Four liters of the colorless solution to 1 liter each of the blue, the green, and the red, and this quantity of each will be sufficient to color six hundred positives above cabinet size.

It is perhaps unfortunate for the interests of science and art that an invention of such wide-reaching interest and application has fallen so early into hands so adept and so financially powerful, and has become from its inception a capitalized and strictly guarded monopoly. No explanation is offered of the scientific principle through which this power of selective absorption is conferred by the primary liquid upon the sensitized plate, paper, or film nor of the nature of the reactions which take place at any stage of the process. The whole demonstration was so new and astonishing that the English experts ventured no theory to account for the miracle that had been wrought before their eyes. Without complete information as to the materials used and the exact chemical nature of the liquids, the character of the reactions upon which the result depends can only be vaguely guessed. The important fact is, however, that they do occur, and that with materials properly prepared, the practical process is so simple and should be so inexpensive as to be available to every photographer, and thus open a new era in reproductive art.

FRANKFORT, *February 18, 1897.*

FRANK H. MASON,
Consul-General.

THE FRUIT TRADE OF SICILY.

The quarter ended December 31, 1896, showed fee receipts for invoice certificates to be \$500 less than for the corresponding quarter in 1895. The value of the green fruit exported was also less by \$388,731. These figures tell an eloquent story of shattered confidence and hundreds of thousands of dollars lost which will never be recovered. Last season the indiscriminate distribution of letters of credit made fruit exporters of paupers who had nothing to lose and all to win, and enabled them without a cent of capital to do a business which, when honestly conducted, requires plenty of ready

money. Naturally their appearance upon the market in competition with old and responsible shippers caused injustice. Those importers whose beneficence caused this trouble last season are now chewing the cud of bitter experience and issue credits only to those upon whom they think they can rely. The result has been a most appreciable reduction in the quantity shipped as compared with the previous season. Those who have been relegated, by the refusal of credits, to the commercial obscurity they so richly deserve, claim that excessive shipments last season were not the cause of low prices, since, with the reduced exports of this season, the prices have not materially improved. This is true; but it must be remembered that a malady which has been insidiously creeping upon a patient for years until at last it brings him to death's door, can not, even by the most expert scientist, be put to flight and the victim made convalescent in a day.

The life of Sicily's greatest industry has been sapped for years by these parasites, and it was not until it was in extremis that they were shaken off. If they be prevented from obtaining another hold, the sores will soon heal. The country is now passing through the transition stage from sickness to health, and when confidence is restored there is no doubt that the Sicilian fruit trade will lose its speculative features and again take its place, which it should never have lost, as a legitimate industry.

To maintain that position, the laws of supply and demand must be rigorously observed. The bankers should insist that the letters of credit should limit the shipment to a certain number of boxes by each steamer. As these documents read now, a shipper with a credit for £1,000 can, if he desires, consume the entire amount in one shipment. Last season, when the amount of the advance frequently gave the shipper a good profit, it was no unusual thing for him to ship just as many boxes as the steamship agents would accept. I have seen it become necessary for the police upon the Marina to interfere in the disputes between the cartmen in their efforts to get the boxes on board. Such an incident could not happen with the restrictions which I have suggested upon the letters of credit.

Under former conditions, the shippers, with their profits received as soon as the documents were negotiated, had only one object in view—to get on board every box possible. Whether the ship ever arrived at her destination or not was a matter of supreme indifference to them; in fact, many would have preferred for her never to have reached port. On nearly every shipment the importer suffered loss, and a great many of the boxes had to be absolutely rejected.

Had an adequate system of inspection been in force, no such fruit could have been shipped. I have in nearly all my reports strongly advocated the inauguration of such a method, and the publication of my report of July 18 in all the papers of Messina, translated from the London Grocer, has aroused much interest and discussion. Some shippers indorse my suggestion that a corps of inspectors be sent from America to Messina, Palermo, and Catania; others think that a large warehouse should be engaged, through which all fruit intended for the United States should be passed and graded by

inspectors appointed by the chamber of commerce. Others, again, ridicule the entire idea and claim it is impracticable. It is needless to say that the majority of those in the last category are the very ones whose fruit is not wanted, men whose names appear for considerable amounts on the debit side of our importers' ledgers. The fact remains that had the majority of the fruit exported last season been inspected by any system there could not have been such a wholesale rejection, especially from the cargoes of the *Algeria* and the *Victoria*.

The fruit trade of Sicily, as conducted last season, was rotten to the core. The honest shippers with capital who are in it were so handicapped by the questionable methods of the "chevaliers d'industrie" that they lost heavily on good fruit shipped without advance; while the others, trading on the credulity of the importer, reaped in many cases a good profit upon common fruit before it left the port. To those who would question this statement, I would cite the following facts: One million two hundred and twenty-two thousand eight hundred and thirty-five boxes of green fruit left Messina last season, upon every one of which it is conceded that there was an average loss of \$1 per box. Was this sustained by the shipper? By no means; for the majority of those who do business upon advance payment have nothing that is tangible. This is conclusively proven by the fact that when the letters of credit are occasionally stopped these people cease to ship, and at the beginning of the season they could not commence work were it not for the advance made them by the steamship agents, who are repaid by the addition of from 3d. to 6d. to the freight upon each box until the debt is liquidated.

Notwithstanding the demoralized market, not one of these shippers failed. To-day, they are apparently as prosperous as if the price in New York was \$5 a box instead of \$1.45. But there were lost upon Messina shipments alone over \$1,500,000, and the books of the bankers and importers tell the story. Hence, I repeat, without fear of contradiction, that the majority of the shippers made their profits on the difference between the cost of the fruit shipped and the amount advanced by the importers. A careful study of the facts will, I feel sure, confirm my assertion, and it should be a deathblow to the advance system. If an importer wants to speculate in green fruit, had he not better send a reliable agent to the spot and, instead of giving an advance, pay a shilling or two more and buy the goods? Then he can make such disposition of the same as he pleases, and, if he makes a profit, that profit is his; if a loss, it is also his, and he knows full well from experience that if the goods were consigned and sold below the advance, in nearly every case the loss would still be his. As soon as the average Messina shipper learns that a consignment has been sold at a profit he wants the net proceeds cabled to him, but when there are short proceeds, we have a different story. Then the importer, knowing too well that he can not recover cash from the impecunious shipper, and hoping to recoup on future consignments, sends another letter of credit; good money goes after bad, and the affair continues until he finally becomes disgusted and refuses further advances.

The shipper then finds another consignee in America, and in order to prevent his net proceeds from being attached in the new man's hands, swears that the goods are sold and so invoices them.

Another method resorted to is to mark the boxes with the name of an employee, who comes to the consulate, swears the goods are his, and makes the invoice. The consul may be morally certain that a fraud is being committed, but he is powerless to prevent it for the lack of legal evidence. A case in point is that of a shipper who owed a house in New York thousands of dollars for short proceeds on advances. Being both unable and unwilling to pay, and still desiring to take a hand in this beautiful game in which he had every chance to win and none to lose, he found another consignee, who obligingly had two credits opened—one in favor of a nephew and the other in favor of a broker. Both came to the consulate and swore they were the owners of the goods, which they emphasized by the fact that the boxes bore their marks, and the goods were so shipped.

Retributive justice, however, was not slow in these particular cases, for, although the advance was low, the market was lower, and on all shipments upon which an advance was given there was a loss, but not to the shipper. He is still in the field and ready for any other crooked scheme that may present itself.

And there is still another method. Yesterday, a man came into the consulate and made an invoice for New Orleans under his legitimate name. He then produced another for New York which, he said, his consignee had been obliged by the custom-house to give bonds to produce. I had discovered that, in order to avoid having his fruit attached in New York for previous indebtedness, he had gotten a small advance here from a shipper as unreliable as himself, and had shipped the goods on two bills of lading so as to reduce the value below \$100, and these he had made under different names. I had duly notified the collector at New York of the fact, so that his information was not news to me. He then presented me with the invoice, not signed with his real name, as was the one for New Orleans, but with the addition of another word, which, he said, was his mother's name and which he used sometimes in business. I called his attention to the fact that in this office a man could only have one name. He went away vowing vengeance, but without his invoice.

This class has of late successfully victimized the fruit importers of Hamburg by their specious methods, and there is now a case pending against one of the exporters before the courts here for forgery. Another gentleman of this ilk, after borrowing all he could, capped the climax by presenting forged telegrams to bankers and brokers here, upon the strength of which he cashed £400. He then left for New York with an indebtedness of, it is said, \$25,000, reaching there in time to cable to his friends (?) here his best wishes for a happy New Year.

These are a few types of the people who constitute the class that has debased a respectable and reputable industry. They are the cancers that

would poison the little that remains untainted. The caustic remedy is in the hands of our bankers and importers. Stop all advances, and you abolish all these inducements to defraud. If fruit is wanted, buy it. If there is money to be lost, lose it without paying for the privilege; if there is money to be made, the profit is yours.

Let it not be understood that there are no honest shippers in Sicily. There are many; but in the fight against such practices as I have depicted, in self-defense and to save their capital, they have been obliged to throw down their arms; and not until their adversaries are put to flight because of lack of ammunition from New York will they be able to assert themselves. When that event occurs, then, and not until then, will the Sicily fruit trade be on a solid and honest foundation.

CHAS. M. CAUGHY,

MESSINA, *January 7, 1897.*

Consul.

POTATO GROWING IN IRELAND.

The popular belief is that the *Solanum tuberosum*, now commonly known as the Irish potato, was introduced into Ireland by Sir Walter Raleigh in 1596 or in the years immediately following that date. The tercentenary of this event, which has been fraught with so much good to Ireland, was made the occasion of a two days' exhibition by the Irish Gardeners' Association, December 9 and 10, 1896, in the Rotunda Building, Dublin. The exhibition brought out a wonderful display of potatoes from many well-known seedsmen, and also a collection of apparatus connected with the combatting of the diseases to which the potato plant is subject. At the conferences, many valuable papers were read and much of importance to the grower of potatoes discussed. In a report of this kind, however, upon a subject which has received such wide and thorough attention, it is difficult to know just what is new or may be valuable.

At the initial meeting of the conference, Lord Powerscourt was called to the chair and in his address referred to his recollections of the famine of 1847 and 1848, which he characterized as not the fault of the potato, but mainly the fault of ignorant cultivation, and congratulated the conference that such an occurrence was not likely to again occur with the attention which was now devoted to potato culture. His lordship was followed by Mr. W. Cotter, with a paper on the "Past, present, and future of the potato." This paper was largely historical. Mr. Cotter fixed the time of the introduction of the potato into Ireland by Sir Walter Raleigh at Youghal in 1596. It was first brought into prominence in England by Mr. Buckland in Somersetshire in 1663. Mr. Cotter drew a vivid picture of the famine of 1847 and 1848, due to the failure of the potato crop, and added:

This famine was commonly regarded as a curse, but I look upon it in quite another light—a blessing in disguise, specially allowed by an all-wise Providence to salt the earth of humanity, as it were, with people of the Irish race.

He referred to the fact that since 1848, crops of potatoes in Ireland had been abundant every year, with the exception of two partial failures, one in 1879 and the other in 1890. In dealing with the future of the potato, Mr. Cotter referred to the fact that Ireland was the only country in the world where potatoes were made the chief article of food, instead of being used as a vegetable to be taken with other kinds of food more valuable in their nutritive properties, and he referred to the great waste that went on annually in Ireland from this source. He advocated that mills should be erected to evaporate the water from the potatoes and to manufacture potato flour. By this means he would propose to preserve only the solid constituents of the potato, and save the annual waste from the loss of storage and the discarding of the crop left at the end of the season. He adds:

According to my plan, one-quarter of the land will raise all we require in the way of potatoes. * * * With money and labor saved from the great waste, large mills, with drying and other machinery for the preparation of the potato flour, could be erected where, at a small cost, the people could send their potatoes to be dried. If any surplus was left over, markets could be found in all tropical countries and in the very cold parts of the world, where potatoes are looked upon as almost a priceless luxury. I have sold preserved potatoes to go to the Frazer River and the Alaskan territories, etc., as high as £32 to £34 (\$160 to \$170) per ton. * * * Some will say the potatoes would be spoiled. Nothing of the sort; only the water would be evaporated, and as soon as you had added 84 pounds of water to 28 pounds of potatoes, you got the article in its pristine excellence again. To show the waste in potatoes: In November, the farina produced from 240 pounds was 38 to 45 per cent; the following May, 20 to 28 per cent—fully a loss of 40 per cent of the food value; and as soon as the period of growth fully sets in, the potato loses all of its food value, the starch and saccharine being turned into water.

Professor Johnston discussed the "Potato plant in health and disease." I append an extract from his paper upon the question of relative production between the planting of the whole potato and the same cut into sections:

In this connection, I may refer to the question of the kind of "set" to be planted. M. Girard, probably the leading scientific authority on the cultivation of the potato plant, made experiments in the years 1891, 1892, and 1893, and his results are summarized in the Journal of the Board of Agriculture for December, 1894. M. Girard's experiments led him to conclude: (1) The maximum crop is obtained by planting entire tubers of medium weight (3½ ounces); (2) the crop is diminished about 30 per cent if such tubers are cut into two portions; (3) the crop is diminished, with rare exceptions, about 20 per cent by planting cut seed weighing 3½ ounces from whole tubers weighing 7 ounces or 10½ ounces; (4) if two or three small tubers, weighing in all 3½ ounces, are planted together, the crop is on the average from 5 to 10 per cent less than that obtained by planting whole tubers of medium weight. Of the different systems of planting tested, in the case of five different varieties (Kichter's Emperor, Athens, Blue Giant, Idaho, Gelbe Rose) in the experiments recorded above the most effective is undoubtedly that of planting entire tubers of medium weight—that is to say, of about 3½ ounces for those varieties which yield large crops. This is the method which M. Girard recommends should always be adopted, if possible, by the cultivator, although almost equally satisfactory results may be obtained by the next best method, which consists in planting together two tubers of about half the medium weight, or weighing about 1¾ ounces each. If, instead of two such tubers, three very small ones are placed together, a smaller yield is obtained. The planting of cut seed should, in M. Girard's opinion, be regarded as a last resource,

since it always results in a reduction of the normal yield by 20 to 30 per cent. During dry years especially the results of cutting tubers may prove disastrous. In 1893, some of M. Girard's coworkers who adopted this method lost the whole of their crop, and the following example is given as a case in point.

In 1893, M. Girard planted half an acre of Blue Giant potatoes. With the intention of showing the fallacy of the announcement of a well-known agriculturist that magnificent results could be obtained by planting cut tubers of this variety, a strip $4\frac{1}{2}$ yards wide and 63 yards long was planted in the middle of the half-acre piece with slices of large tubers cut into four pieces in the approved manner. Of 789 plants set in this manner, only 38 grew, yielding a crop of only 14.3 cwt. per acre; the yield of the rest of the field, which had been planted with entire tubers of medium size, being 10.7 tons per acre. When reading the report of the evidence given before the financial relation commission I was surprised at the low average yield which Dr. Grimshaw, the registrar-general (Q. 2806), gives for Ireland— $3\frac{1}{2}$ tons per acre. This is, I find, very nearly the same as the average for the whole of the United Kingdom— $3\frac{3}{4}$ tons per acre (a little more than 4,500,000 tons for a little less than 1,250,000 acres), though in Germany the yield is nearly $4\frac{1}{2}$ tons per acre. On asking a potato grower and merchant in South Yorkshire what was regarded as an average yield per acre in his district, he told me the average on his farm was above 10 tons an acre; that 7 to 8 tons per acre of Giants or of Bruce was the average in North Notts, Lincolnshire, and South Yorkshire. He mentioned two cases where Findlay's Up-to-Date yielded above 20 tons per acre. We may, I think, take it that the German excess of 1 ton per acre is not wholly due to advantages of climate and natural fertility of the soil. As bearing on this question of the yield per acre, I may quote the following paragraph from Sir J. H. Gilbert's report on the "Growth of potatoes at Rothamsted," 1888:

"For Ireland the estimate shows an average yield per acre of less than 4 tons, against more than 6 tons in Great Britain. It may be mentioned that the yield per acre given for Ireland, where the potato is still of great importance as a supply of food for the people, is less than twice as much as was obtained at Rothamsted over twelve years in succession on the same land without any manure; it is scarcely more than was obtained by mineral manure alone; and considerably less than two-thirds as much as was yielded by mineral and nitrogenous manures together. It is clear, therefore, that the condition of the land, the cultivation, and the treatment of the crop are in Ireland much inferior to those in the rest of the United Kingdom."

Nor should it be forgotten that it has been stated by Mr. F. W. Burbidge, the curator of the Trinity College Gardens, and an acknowledged authority on the question, that in the south and west of Ireland an acre of good land under choice varieties of daffodils is worth twenty times as much as an acre under potatoes or wheat.

Professor Johnston, continuing, pointed out the great economic waste resulting from the Irish laborer using potatoes as his chief food. He said: "As man must have 300 grains of nitrogen in his food daily, potatoes alone are a very unsuitable article of food. To get this nitrogen he must eat 14 pounds of potatoes." In discussing this question, he made the statement that "mealy potatoes were the potatoes for the rich, but that for the poor man unable to buy a mixed diet watery potatoes furnished the best food, as they gave him a greater percentage of nitrogen."

Professor Johnston discussed exhaustively the diseases to which the potato plant and the tubers are subject and proceeded to point out from various authorities that of the tuber-bearing plants in the solanum family, the *Solanum tuberosum* had its native habitat in the high, dry, and cool climate of the Chilean Andes, while the *Solanum maglia* was a native of the coast of

Chile, and that hence its characteristics differed according to climatic conditions. He closed his lecture as follows :

As the species *Solanum tuberosum* is the source of all the cultivated varieties of potato and is itself a native of a relatively dry and high habitat, while *Solanum magtia* yields readily an abundant supply of eatable potatoes, and, as far as climate is concerned, would be better fitted to succeed in England and Ireland than *Solanum tuberosum*, *Solanum magtia* and *Solanum commersoni* "should be brought into the economic arena and thoroughly tested as regards their economic value both as distinct types and when hybridized with the innumerable forms of *Solanum tuberosum*."

I should like, in conclusion, to call the attention of the conference to a plant which has been suggested as a substitute for the potato—a plant which is said to be finding increasing favor in England, France, and Switzerland. It is a member of the dead nettle or labiate order to which thyme, mint, sage, and other pot herbs belong. The plant, known as *Crosne du Japon* and Chinese artichoke, is called *Stachys tuberifera*, and is characterized by the possession of tuberous underground stems which are swollen and bead like, owing to the accumulation of food matter in the internodes. The lantern slides and the specimens which are grown in Ireland will give a good idea of the characters of these peculiar looking tubers. Their chemical composition is very interesting and shows them to be a great advance in some respects as a food on the potato tuber. Though in 100 parts by weight 78.3 parts are water, 2 parts are nitrogenous (*i. e.*, eight times as much as in the potato tuber), and 16½ parts are a readily digested carbohydrate known as galactan, a body which is much more digestible than starch, being allied to dextrin, and so more easily converted by the digestive juices into soluble dextrose or sugar. *Stachys* tubers are recommended by Planta, their analyzer, as a substitute for potatoes, especially for invalids or for people with delicate stomachs. The contents of *stachys* tubers bear very much the same relation to the contents of a potato tuber that peptonized foods do to ordinary meats.

Professor Johnston was followed by Mr. Sutton, of the firm Messrs. Sutton & Sons, the largest growers of seed potatoes in the United Kingdom. Mr. Sutton devoted much of his paper to a historical discussion of the culture of the potato in England, employing this portion of his paper to enforce the facts of deterioration and improvement in the potato tuber. Turning to disease prevention, he stated that two methods were now employed for the same purpose, though differing fundamentally in principle—one the spraying process, the other the attempt to develop seedlings of robust constitution capable of resisting the attacks of the fungus. As to the spraying of potatoes as a means of preventing disease and increasing yield, Mr. Sutton had the following to say :

In the elaborate series of experiments conducted in conjunction with Professor Gilchrist, of the University Extension College, Reading, in 1895, we found that in the first and second early varieties no advantage was gained by spraying. These crops finished their growth before disease could attack the plants, and the dressing did not appreciably lengthen the period of growth; in fact, there was an actual loss on the sprayed plots. During the past season (1896) these experiments were continued with the result that in the case of a late main-crop potato there was a gain of 6 cwt. 3 quarters 4 pounds per acre—but exactly the same spraying applied to the White Elephant potato gave a loss of 12 cwt. 2 quarters. It is therefore a question whether in the majority of cases there would be sufficient additional weight per acre to compensate the grower for the somewhat laborious task of spraying his crop three times during the growing period. I must, however, point out that the soil of the experimental grounds is very light and porous, and that the climate is dry, and I consider these facts ac-

count for the different results obtained where spraying has been carried out on heavier soils under moister climates.

Mr. Sutton's house devotes great attention to the production of seedlings and they have met with great success in the development of many valuable sorts, and doubtless for this reason Mr. Sutton has more faith in the development of new varieties as the mainstay of the potato in the future than in chemical treatment of the plants; but he says:

Those who attempt to raise seedling potatoes must possess abundant patience. Like many other species which are not habitually multiplied by seed, the potato has a remarkable tendency to revert to the wild form. It may be necessary to cultivate one hundred or, perhaps, one thousand seedlings before finding one which is really worthy of a place among the better varieties already existing. M. Vilmorin says that in France the raising of seed potatoes has been proceeded with in a somewhat haphazard manner, while we have followed a more systematic method, seeking especially richness in starch, excellence of flavor, power of resisting disease, with little tendency to develop haulm. Unfortunately, he says, they are not always able to profit in France by our progress, because the French have a marked preference for potatoes with yellow flesh, whereas, with us, for many years past, there has been a preference for white-fleshed potatoes. Hence, even the celebrated Magnum Bonum, which my house had the honor of introducing in 1876, after a brief period of popularity in the Paris markets, has been almost abandoned as a table variety on account of the flesh being too pale in color. M. Vilmorin remarks that in Germany considerable attention has been given to the raising of seed potatoes, more particularly with the object of obtaining varieties which are specially adapted for the production of alcohol and starch.

In discussing species and varieties, Mr. Sutton referred to the *Solanum maglia* as follows:

Chiefly on account of the fact that the dreaded potato fungus produces most havoc in damp seasons, it was very much hoped by Lord Cathcart that, if hybrid seedlings could be obtained between the *Solanum maglia* (whose habitat is that of low-lying, marshy places near the coast of the islands of the Chonos Archipelago) and the *Solanum tuberosum*, which most authorities consider a native of the higher slopes of the Andes, a new race of potatoes might be secured that would resist disease. Here, I may say, in parenthesis, that it is not at all impossible that *Solanum tuberosum* may have had its origin as a littoral plant, instead of being a species from elevated or mountainous regions. This idea is supported by the fact that potatoes flourish so amazingly on the warp lands of our eastern seaboard in England.

Although many hundred flowers of *Solanum maglia* were artificially fertilized with pollen from cultivated varieties, only five were successful, resulting in five seed berries. From these seed berries but two seedlings were secured, and only one of these showed any promise whatever, the second having to be grown under glass to prevent its dying away. * * *

I regret to say that in 1894 the outdoor crop of *Solanum maglia* was almost entirely destroyed by disease, while some grown indoors escaped. The hybrid seedling resulting from the cross just referred to, although a vast improvement on the *Solanum maglia*, is very far behind the ordinary cultivated potato in appearance, crop, and qualities. The seedling has now been grown for eight years, and in 1894 the crop was slightly diseased, although it had previously been almost free from attack.

Mr. Sutton closed his paper with an account of experiments made by himself in grafting the potato upon the tomato plant and vice versa. The result of grafting tomatoes upon potato plants was, that the potato roots brought forth a crop of potato tubers and the tomato grafts a crop of tomatoes. In the reverse experiment, the tomato roots produced no tubers,

but the potato stock produced flowers and berries. To further conduct the experiment, the tomato flowers were fertilized with potato pollen and potato pollen with tomato flowers, and in this experiment two of the potatoes growing on tomato stocks put forth tubers from the axils of the leaves and stems. Mr. Sutton concluded:

As a result of these experiments in grafting, I can not lead you to indulge the hope that there is a probability of originating some new potato of practical utility.

Professor Malden read a paper on English and Irish potato cultivation and trade. Of the soil required for the potato, he said:

The potato is a gross feeder, and requires a considerable amount of nitrogen to make full growth. If, however, nitrogen is largely excessive and mineral manures are distinctly deficient, the very heavy haulm and small tuberation on some of the bog lands is produced. Good quality is obtainable only when there is sufficient lime, potash, and phosphoric acid available.

In discussing markets, he said:

A population of 5,000,000 does not require 700,000 acres of potatoes to feed them. There must be waste somewhere. * * * The potatoes exported from Ireland are comparatively few, and not many of those compete in the best markets. * * * The Irish people have acquired the taste for what is regarded in England as a coarse-flavored potato. An Englishman wants his potato as mild as his butter. * * * He also wants a white-fleshed potato, while the more popular Irish potatoes are yellow fleshed. In this, the Irishman is like the Frenchman, for in France the white potato is more or less despised. It, therefore, is probable that the Irishman is right, and where he grows for his own consumption he is very foolish not to grow what he likes. * * * But when I was in Ireland I felt strongly that there was to be a great advance in Irish farming in the near future. * * * If more is produced, it must be exported. * * * To do this, the Irish farmer must cater for the special market, and those he grows for this purpose must not necessarily be what he most approves of, but which are more approved of by the customer he hopes to obtain.

Professor M'Weeny, M. A., M. D., director of the bacteriological laboratory at the Royal Albert Institution at Glasnevin, Dublin, delivered a lecture on "Sclerotium diseases of the potato plant, its cause and prevention." The disease, he said, partook in some respects of the character of the ordinary blight, but it was at the same time very different from it. The subject of his remarks had not as wide a distribution as the ordinary blight. Ireland, Scotland, and Norway were the European countries chiefly affected, and even in Ireland the distribution was local and mostly confined to the Atlantic seaboard and its vicinity. The characteristic signs of the disease in question were the sudden drooping of isolated plants or patches of plants in the height of the summer, shortly after flowering, and the occurrence on the drooping plants of fluffy, cushion-like patches of mycelium, or fungus growth. These occurred on the stem chiefly. The plant soon died, became dried up, and on breaking open the stem, it was found to contain black oval grain-like bodies called "sclerotia." These were found to be formed by the fungus in the interior of the white cushion-like tufts above referred to. If the diseased stalks are allowed to rot on the ground, the sclerotia fall out and lie on the ground during the winter, and during the following spring

they germinate and produce a thread-like stalk, on top of which is a tiny disc or peziza, which produces on its upper surface thousands of *asa* or spore bags, each containing eight spores one twenty-five hundredth of an inch in diameter. These get wafted by the wind on to the young potato plants and germinate on them, force their "germ tubes" into them and devour their substance, so that they droop and die, exhausted at the very time when their vegetative activity ought to be at its height. The disease had been investigated by Berkley, Worthington Smith, and others several years back; but many points in its life history still needed investigation, and this he (the speaker) had been enabled to give the subject last summer, thanks to the enlightened action of the board of national education, at the instance of their agricultural superintendent, Mr. Thomas Carroll. He had, in company with Mr. Carroll, visited the congested districts of Donegal, observed the ravages of the disease, ascertained the manner in which the plants became infected, and found the *sclerotia* germinating on the fields. Some of these *pezizas* he now demonstrated; and from species obtained from them he had been able to infect sterilized slices of boiled potato and produce a fresh crop of *sclerotia*. He had also been able to clear up the relation between this disease and another malady associated with moldy, mouse-gray patches on the potato plant. This was also due to a fungus the spores of which produced first moldy growth and then a *sclerotium*, which was much smaller and more closely adherent to the potato. These little *sclerotia* on germinating only produced mold, technically "*botrylis*." The two diseases, with their respective *sclerotia*, often occurred on the one plant, and had been confounded by many observers. The preventive measures were: Adoption of the drill system of culture; not growing potatoes the second year on the same field; and especially early destruction by fire of all withered haulms. The disease only affected the green part of the plant, and the tubers—if formed—were unaffected.

For some years the *Champion* variety of potato, which was introduced from Scotland by the Government in 1879, has been the leading variety grown in Ireland, reaching for the past ten years as high as 75 per cent of the total potato acreage. In an address presented to the Lord Lieutenant of Ireland by the Irish Gardeners' Association on the occasion of his attendance at the conference, his attention was called to the fact that the *Champion* variety was deteriorating and that it would be necessary in the near future to replace the *Champion* by some more suitable variety. It was suggested that experimental stations be introduced throughout the country for the purpose of cultivating and comparing the principal round varieties of recent introduction, with a view to collecting the most suitable for general use, and thus averting a possible recurrence of a potato famine. The Lord Lieutenant, in reply, promised that an Irish board of agriculture would be created at the coming session of Parliament.

If I may be allowed to summarize, the points in my report which I deem most worthy of attention are as follows: In Mr. Cotter's paper, the advocating of the evaporation of potatoes in order to reduce the bulk of

storage, the waste in food value from storing, and the large loss occasioned every year from the various troubles which affect the stored product. In Professor Johnston's paper, the results from experiments in seeding with the whole tuber and with sections; also, the statement that the watery potato contained more nutriment than the mealy one; also, the attention given to the *Solanum maglia* as a probable substitute for *Solanum tuberosum*. In Mr. Sutton's paper, his testimony as to the probability that spraying was not profitable; also, that portion bearing upon the experiments with the *Solanum maglia* and in grafting. In Professor Malden's paper, the point of most interest is that the potato grower must not cater to his own taste, but to the demand of the market; also, the fact that in this respect there are well-marked national prejudices, as, for instance, the French demanding a yellow-fleshed potato and the English a white-fleshed one.

NEWTON B. ASHBY,

DUBLIN, *January 11, 1897.*

Consul.

REVISED MINING LAW IN MADAGASCAR.

Consul Wetter, of Tamatave, under date of January 2, 1897, sends a translation of the revised law relative to the mining of precious metals and stones in Madagascar, which was promulgated December 1, 1896. The most important provisions of the law are:

Any one is allowed to engage in mining, except foreigners of Asiatic or African origin. The permits to prospect cost \$4.83 each, and are valid for one year. The same person can not be accorded more than ten permits. Signals, consisting of stakes with placards, should be placed as soon as prospecting is begun, and the said signals must be at least 5 kilometers (a little over 3 miles) apart. Excavations in roads within a certain distance of houses, works of art, or burial grounds are forbidden. Any one who discovers a deposit outside of a declared mining district and who desires to work the same must address a declaration to the service of mines; the latter will declare the new district open, and the discoverer has the right to mark off around the signals which he has set up and described in the declaration a number of lots or claims. No more than eighty claims are allowed and they must be of prescribed shape and dimensions, and rent must be paid for the same according to their size. If the rent is not paid at the end of the year, the claims are sold at auction.

The claims can be registered at the office of the commissioner of mines on payment of a fee of 25 francs (\$4.24) per claim. The registration has the following advantages: The registered lot is a fixture; it can be hypothecated like ordinary real estate; and in case of failure to pay the annual rent, a delay of six months is granted the holder.

Associations for the working of the mines can obtain concessions of 2,000 hectares (4,942 acres). Only ten concessions will be granted to one

association. A tax of 5 francs (97 cents) per hectare (2.471 acres) is due on the day when the working commences; there is also a tax of 5 per cent on the material extracted, but the association has the right to choose between the payment of these taxes or the surface rental already referred to in the case of individuals.

Every mine holder is responsible for temporary or permanent damages sustained by the lands or husbandry or other mines in the pursuit of his occupation.

Traffic in precious metals or stones in a rough state is subject to a special tax of \$347.40. Books must be kept and visaed by agents of the administration. All infractions of the above law are punishable by fine or imprisonment, or both.

COTTON SPINNING IN AUSTRIA.

The year 1896 has been highly unsatisfactory, in many cases even quite profitless, to the Austrian cotton spinner. The beginning of the year found the yarn market in an exceedingly replete state, as a result of the large number of new mills that had been erected during the preceding year. Notwithstanding the fact that the productive capacity of the Austrian establishments had so largely increased that it amounted to about 236,000,000 pounds—enough to occupy the Austrian weavers during the past year—the import of foreign yarns had remained at the high figure of 33,495,000 pounds. It was but a natural consequence that an overstock in cotton yarns should result. This state of affairs was rendered more discouraging when the price of raw cotton began to fall in the month of April. During the succeeding months, this situation has but slightly changed. To-day, profits are out of the question, and to decrease the large stock of yarns on hand, especially coarse goods, prices below cost have been accepted.

For example, I may mention that a spinning mill of medium size in the immediate vicinity of this city, having about 20,000 spindles and managed by a gentleman highly regarded in his profession, at present carries a stock of 300,000 pounds of yarn.

Although the manufacturers who, up to this date, have sold products of their factories below cost are those having no large financial resources, it is nevertheless to be expected, in case the present depression continues, that the entire cotton-spinning industry will be placed in an exceedingly dangerous position.

Steps have been repeatedly taken to bring about a curtailment of the production of the spinning mills, but these have never resulted in a satisfactory agreement. In every instance, the representatives of the smaller mills insisted, with a great deal of right, that a reduction of the production would be felt more by them than by a large mill, the latter, at the same time, on account of the continuous increase of its productive capacity, being one of the causes of the present overproduction. It was thus found impossible to fix a ratio according to which the reduction should be made by the individual firms.

During the weeks just passed, a number of proprietors of spinning mills have presented a new plan to dispose of the superfluous stock and render the outlook more promising. Since no agreement as to the reduction of the quantity produced can be reached, the sole possibility of exporting remains. But to what country can we export? asks the Austrian spinner. The answer that has been found is, Germany.

In Germany, the spinners are well supplied with foreign orders, especially those from Russia. Prices for yarns are therefore normal in Germany, and it is certainly to the interest of the German spinner to keep them at their present level. The difference, on the other hand, between the prices for yarn in Austria and those in Germany is so large that but a small premium is sufficient to allow Austria to compete successfully in Germany, notwithstanding duty and transportation charges. This being the case, Austrian spinners representing approximately 2,500,000 spindles (about 3,000,000 spindles are in use in Austria) have come to an agreement looking to the granting of such a premium, and thus indirectly to the augmentation of the export of Austrian yarns to Germany. The latter, during the year 1895, amounted to but 53,570 pounds. Conventions have been held in Vienna and Dresden to unite, on the one hand, the Austrian spinners in this common movement, and, on the other hand, to find a satisfactory method of conducting the sale of Austrian yarn in Germany. The intention at first was to employ agents to accomplish this latter end. But there appeared to be danger that the agents, by mutual competition, would exert pressure on the prices. The Society of Spinners of Saxony, fearing that a too complete stagnation in Austrian markets would not be without result in Germany, offered to take 6,000,000 pounds of Austrian yarns, and this was accepted. The firms that have united in this undertaking will pay 2 kreutzers (0.8 cent) per spindle every month for half a year. A spinning mill with 50,000 spindles, would, therefore, have to pay 1,000 florins (\$406) a month, or 6,000 florins (\$2,436) for six months. Taking into account that about 2,500,000 spindles will form this combine, 270,000 florins (\$109,620) will be raised. This amount is deemed sufficient to pay the difference between the price of yarn in Germany and the net price of yarn in Austria, plus duty and transportation charges into Germany. The difference is computed to be about 1 to 2 pfennigs (one-fifth to one-half cent) a pound.

This plan of the Austrian spinners is unique in this, that they are willing to pay the export premium themselves and do not apply to the Government for assistance. The direct results of this action are without doubt beneficial to both countries. The large overstock in Austria will be diminished and its mills will be awakened to new life, while Germany has warded off the influx of yarns sold far below cost, to which action the Austrian spinner would be obliged to resort, and which would cause a fall in the price of German yarns.

Whether the plan will be successful is a question much debated. Since the price of yarn in Germany depends upon the export into foreign countries, it would appear more rational for the Austrian spinner to compete

with the German at such places, as, for instance, in Russia, where the two countries are obliged to pay the same duties and the same transportation charges. If, as it appears, the Austrian yarns are cheaper, a permanent market in such a foreign city might have been gained. The competition in Germany can only be made possible by the aid of artificial means and will not be based on a healthy and sound foundation. The fact can not be hidden that this premium is paid not by the spinner, but by the weaver, and, so far as the domestic trade is concerned, by the purchaser of the woven product.

The Austrian weaver will pay a higher price for his yarn than his colleague in Germany. Now, as Austria is obliged to export its woven cotton fabrics, will not a German weaver, or, for that matter, any foreign weaver, enjoy a great advantage on neutral ground?

The future is in doubt. For the present, the Austrian spinner will be greatly benefited.

REICHENBERG, *February 6, 1897.*

GEO. R. ERNST,
Consul.

SUPPLEMENTARY REPORT.

As a supplement to my report of February 6, on "Cotton spinning in Austria," I beg to add the following: The plan has now been brought to a practical test, and up to date, from 300,000 to 400,000 pounds of Austrian yarns have been placed in foreign markets, principally in those of Germany. At the same time, the way for an export to Russia, Asia Minor, and Japan has been very successfully prepared. In Austria, the price of cotton yarn has risen a few kreutzers a pound, notwithstanding the fall in the price of raw cotton, but the present success appears more and more to remain but a temporary one. Already the cotton spinners of other countries are calling for similar conventions, with the object of granting like premiums. Such measures must again bring about the original status; in fact, the one result of the entire movement will probably be the demonstration of the fact that a change for the better is to be brought about only by a decrease in the production of the coarse numbers and an increase in the production of the fine numbers of cotton yarn.

REICHENBERG, *February 25, 1897.*

GEO. R. ERNST,
Consul.

GERMAN CAPITAL AND GERMAN INDUSTRY.

The lively interest taken by German capital in industrial enterprises during the last few years, coupled with the fact that such enterprises have lately been favored even by those careful investors who formerly considered only public stocks (*Staatspapiere*) an absolutely safe employment for their capital, suffices to warrant inquiry into the causes of such a change. In 1877,

the 4 per cent German imperial loan was issued at 94.6 per cent. In 1885, only eight years afterwards, Prussia was in a position to put her 3½ per cent loan into the market at 98½. The German Empire followed with a similar loan in 1887, when money was needed, and all the German federal states followed in succession. German capital, being less powerful than that of England or France, could not easily bear this low rate of interest, and was forced to interest itself to some extent in industrial enterprises and foreign public stocks. The losses sustained by German capital toward the end of the last decade through the decrease in German trade were vastly augmented by the failures in Portugal, Greece, the Argentine Republic, etc. Dr. Miquel, who had shown his ability in political economy as manager of the Berliner Disconto Gesellschaft, one of the most important German banking concerns, was intrusted with the duties of Financial Secretary of State for Prussia, and created the 3 per cent loan in 1890, at first for Prussia, and, in natural consequence, for the German Empire. The same was put into the market at 87 per cent, leaving to the buyer a chance of profit in the exchange, the interest being about the same as the 3½ per cent loan. The situation was, however, at that time not favorable to these new stocks, and as early as February, 1891, a 3 per cent imperial loan of \$50,000,000 more was issued at 84.4, and one year later, in 1892, \$40,000,000 as low as 83.6. The issues of 1893 and 1894 were offered and taken at 86.6 and 87.7, respectively. In 1894, these loans were officially quoted at the London exchange, and in consequence of extensive purchases on English and Belgian accounts, the 3 per cent German stocks quickly rose to par. This led to the apprehension on the part of German capital that the conversion of the 4 per cent stock into stocks at a lower rate of interest was but a question of time, and as, since 1894, German industry has experienced a very material improvement, a considerable portion of German public stocks have changed hands and gone abroad, while the proceeds have found employment in industrial stocks.

Before proceeding to these new enterprises, it may not be uninteresting to look at the vacillation of the various above-named stocks. The Kingdom of Bavaria has already undertaken the conversion into 3½ per cent of her 4 per cent loan, amounting to about \$375,000,000, and only the small fraction of about \$15,000 has not acceded to this conversion. It goes without saying that a large portion of the stocks has changed hands and has found investment in stocks bearing a higher rate of interest. These conversions will be imitated by Wurtemberg, Prussia, and the German Empire, and thus the following public stock, bearing at present 4 per cent, will have to submit to a reduction in the rate of interest of one-half of 1 per cent, viz:

Bavaria, about.....	\$270,000,000
Wurtemberg, about.....	90,000,000
Prussia.....	895,000,000
German Empire.....	112,000,000
Total.....	1,367,000,000

This means for the owners a loss of interest of about 27,000,000 marks per annum, apart from the loss of interest which accrues to the capitalists

from the conversion of 4 per cent annuity stocks and debenture stocks of mortgage banks, loans of cities and counties, etc., which either have been or will yet be effected. This latter loss may be estimated at the same figure.

The rates of exchange of the German loans were:

Year.	4 per cent loan.	3½ per cent loan.	3 per cent loan.
1878.....	94.75		
1879.....	95		
1880.....	97.8		
1881.....	100.2		
1882.....	100.9		
1883.....	101.3		
1884.....	101.9		
1885.....	103.7		
1886.....	104.4		
1887.....	106	100.2	
1888.....	107.2	103.4	
1889.....	108.25	103.1	
1890.....	107.4	98	87
1891.....	105.3	98.9	85.25
1892.....	105.9	99.9	86.25
1893.....	106.8	100.8	86.1
1894.....	106	104.6	95.75
1895.....	105.8	104.4	99.6
1896.....	103.8	103.5	98.1

The increase of German exportation, especially to the United States, caused in 1894 an improvement in industry, chiefly in textile, ceramic, and machine manufactures. The conclusion of the Russo-German treaty of commerce caused an even greater rise in the quotation of industrial shares—the iron industry and, as a natural consequence, the collieries mainly receiving benefit therefrom. Shares in breweries, whose production is continually on the increase, are also favored. Even in the Rhine district, beer is more and more taking the place hitherto occupied by wine, and it is also pushing the cheap brandy (Schnapps) to the wall in the eastern provinces of Germany. Electrical-engineering works improved materially, as shown in the quotations of these shares, as well as in those of electric tramways and of the old-fashioned street railways. Cycle works showed a decided upward tendency, but have during the last year declined somewhat, probably in consequence of the overproduction in other countries. In this connection, it may be of interest to record the fact that a retailer of this city ordered one hundred American bicycles, which will be placed upon the local market as soon as the cycling season commences. Not only did the quotations of joint-stock companies then in existence rise rapidly, but a large number of new joint-stock companies were formed, usually, however, from private concerns which had long been in existence. The public showed a preference for the shares of these new companies. The emissions were signed so many times that the emitting banks were frequently unable to accept more than 1 per cent of the amount signed for.

There is another reason why German capital likes to participate in new German industrial concerns. According to the new German law, objects purchased from private parties can only be placed in the assets of the joint-stock company at the value actually paid to the previous possessor. The buyer of shares, therefore, knows that the profit of the emitting houses lies only in the premium paid; besides, through the statements published by the concerns in question, the buyer gains an insight into all points relating to the sales and profits of the concern during the time it was in private hands. In this way, German capital has indirectly reaped great benefit from the growth of German industry.

The new exchange law provides that from July 1, 1896, the shares of newly formed companies can be quoted at a German stock exchange only when such companies shall have existed in the form of joint-stock companies at least one year. New industrial papers have been very sparsely quoted since that time, which aids in the classification of the many new shares. German stock exchanges are rather flat just now, which is partly due to the sweeping measures provided by a law which will go into effect on January 1, 1897, and which will no doubt hamper trade; also, to the exceptionally high state of the money market. The latter fact is explained by the heavy demands made by overtaxed industry, and by the withdrawal of money by the United States. As soon as the state of the stock exchange has improved, it may be assumed not only that the shares in German industrial concerns will rise still further, but that German capital, particularly that of southern Germany, will turn again to sound American railroad securities, since the various commercial crises have passed, and, above all, since the American nation has in so striking a manner spoken in favor of sound money.

The following is a parallel table showing the rates of exchange of some industrial German shares:

Industries.	1893.	1896.	Industries.	1893.	1896.
<i>Iron and coal works.</i>			<i>Machines.</i>		
Arenberg.....	427.5	745	Bielefeld-Maschinople.....	152.75	338
Bochumer Verein.....	128.1	160	Saechsische Webstuhl.....	171	263
Concordia.....	80.25	210	Goerlitzer Maschineufab.....	115.25	221.5
Harpen.....	136.5	164.1	Falkenstein.....	†155.1	207.5
Hibernia.....	115.9	176.4	Trebertrocknung Cassel.....	*135.5	871
Massen.....	37.25	131.5	<i>Street railways.</i>		
Laurahuette.....	112	158.3	Breslau.....	119.75	187
Courl.....	55.7	144	Cassel.....	36.25	180
<i>Breweries.</i>			Nuremberg-Fürth.....	120.3	185
Dortmunder Actien.....	318	475	Berliner Pferdebahn.....	240.3	329
Dortmunder Union.....	236	317	<i>Other industries.</i>		
Dortmunder Loewen.....	143	216.9	Ieserich Asphalt.....	†118.75	170.5
Frankfort Brauereiges.....	54.8	130.25	Koenigsjett Pottery.....	138.5	213.75
Brauerei Roederhof.....	118.75	258	Kahla Pottery.....	†165	287
Brauerei Schulthein.....	227	280	Allgemeine Electric Works.....	139.75	234
Brauerei Wickueler.....	155	210	Schuckert Electric Works.....	†140	238.25
Brauerei Reichelbraeu.....	*163	195.5	Adler Bicycle Company.....	*155	239.5

*1895.

†1894.

Of course, there might be a long list of unsuccessful enterprises. This, however, does not seem to prevent German capital from showing particular favor to German industry. Only a few months ago, a factory within this consular district manufacturing steel balls for cycles, founded a few years ago by two mechanics with a few thousand marks, was purchased for about \$150,000 and turned into a joint-stock company. The shares of this new company, which are now quoted at 261, were signed ten times within a week.

There are few flourishing factories in Germany whose proprietors have not received offers from banking firms making a speciality of this kind of business to turn their establishments into joint-stock companies. The demand for such industrial enterprises is explained, as shown in this report, first, by the low rate of interest on public stocks, second, by the unfortunate experience of German capital with foreign stocks, and last, but not least, by the enormous development of nearly all branches of German industry during the last ten years.

BAMBERG, *December 5, 1896.*

LOUIS STERN,
Commercial Agent.

AGRICULTURE AND INTERMEDIATE TRADE IN GERMANY.

In one of my previous reports on the German hop trade, I called attention to the fact that the intermediate trade in this important product had severely suffered by the tendency of a large number of planters to sell their crop to the brewer directly, dispensing with the wholesale dealers in the hope of putting the profits of the latter into their own pockets.

Incited by the propaganda of the German Agrarians (a party hostile to trade and whose representatives in the German Reichstag are nearly all large landed proprietors belonging to the nobility of the Empire), other branches of industry show the same tendency. It is known that a large number of manufacturers of textile goods, whose products were formerly sold to wholesale merchants, now either deal with the retailers or in some cases even with the consumers direct. These tendencies, which if successful would cause a complete revolution of trade, gave rise to a lengthy treatise from the pen of an eminent writer on national economy, which was recently published in a German monthly magazine called *Aus Handel und Industrie* (Commerce and Industry). The following extracts therefrom are given here, since many of its arguments find analogous application to the state of things in the United States:

Attention has lately been called by hotspurs in agricultural circles to the alleged harm wrought by the intermediary trade. It reduces, it is said, the meager earnings of the agriculturist by appropriating a profit without being itself productive. The intermediaries have been called the "parasites of agriculture," and the abolition of the intermediary trade (called "Zwischenhandel") has been represented as a most desirable object. The farmer wants to sell to the consumer direct and gain for himself the profit which the dealer pockets. This is to be one of the methods for improving the agricultural situation.

It is no wonder that such expressions, uttered with the necessary pathos by agitators at agrarian meetings are received by many as sentences of wisdom and value; and it may not be inopportune to emphasize the danger of such procedure, the necessity of a solid trade and the benefit which it bestows upon agriculture. In social economy, there are, on one side, the producers, anxious to realize as much as possible out of their products; on the other side, the consumers, animated by a desire to obtain their supplies as cheaply as possible. It is the task of trade to level these contrasts, to meet both parties, and to act as intermediary between them. The dealer who lives in the same locality with the producer is directed by his own interest to look for those outlets for agricultural products of his district where he can obtain the highest prices, in order to outrival his competitors in purchasing. Those dealers, on the other hand, who carry the produce to the consumers, are on the lookout for those sources of supply where they can get their goods cheapest, in order to equal their competitors in selling. By the meeting of supply and demand the prices are formed, and a regular supply to the consumers is guaranteed when trade remains in close touch with both parties.

Now, the intermediate trade is by no means so easy and simple as would appear to many at first sight. Frequently the products of some district will not result so as to allow of their being sold at all or at least sold to the best advantage. It is the task of trade by improving them or by properly combining them with the products of other districts or countries to bring them to the condition required by the consumer. It is frequently necessary to watch the most favorable time for selling as well as for buying, and to concede to the purchaser terms of payment beyond the power of the producer. All kinds of charges, losses on quantities, interests, etc., have to be taken into consideration; the risk of fluctuations, the solvency of the purchaser, the varying results of the harvests, are continually shifting the conditions of supply and demand. The carrying out of all this requires a large amount of labor, intelligence, and capital, which are now conveniently supplied by trade.

Now, if the enemies of intermediate trade say that the same could be done by the producers themselves, by forming cooperative societies, etc., nothing can be said against that theoretically, since the managers of cooperative stores may also be intelligent and conscientious business men. Practically, however, these gentlemen would be very much surprised at the difference there is between acting on behalf of a combination and buying and selling on one's own account. It is evident and consistent with human nature that a merchant fighting for his own existence will be more on the alert than the official of some society, however conscientious he may be. The dealer is spurred by keen competition to the full development of all his energy, and agriculture is thereby benefited. The activity inherent in the widespread commerce of to-day can never be displayed by cooperative societies. The intermediate trade has, in the course of years, learned to comprehend its task; it is so interwoven with it that it seems impossible to artificially organize a substitute for so widespread and delicate an institution.

But what, according to the antagonists of commerce, would be the condition of things after intermediate trade has been done away with? The consumers will, of course, always seek to buy as cheaply as possible. They would be very much assisted in this if the merchandise at their disposal could be easily surveyed. As it is now, the greater part of the harvest is taken by the intermediate trade, thus escaping the control of the consumers, disappearing for some time from the public market to reappear again when needed. The difference would be noticeable if the producers were to offer their products to the consumers direct. One would be surprised to see what depression in prices would be produced by the great excess of goods over actual demand. If it is argued that these consequences could easily be avoided by the erection of large stores, etc., the fact is overlooked that the consumers would, without a doubt, be always fairly well informed as to the quantities in stock. The fact that these would be well known—at any rate, far better known than now—would be an important factor in fixing the prices. In years of good crops, they would fall more slowly; in years of small harvests, they would rise more slowly than now, for the intermediate trade, which withholds part of the commodities in the hope of realizing a profit and renders a review of the stocks difficult,

would then be lacking. The scarcity of stock often seems greater than it actually is, and it is principally agriculture that profits by it.

It is a great mistake to think that in years of good crops the prices can be maintained by storing the products for a number of years. Natural forces have proved to be more powerful than men, and the same will be true in the future. Artificial prices could, hitherto, only be made under special circumstances and could be kept up for a short time only; there is no record of any lasting success. It is, however, certain that the attempt on the part of agriculture to suppress or injure the intermediary trade would have as a consequence that the dealers would favor foreign products.

The profits of trade are generally much overrated in agricultural circles, while the care and trouble, the labor, the necessary capital, and the risk are undervalued. The profit represents only a return for the work done, and every labor is worth its reward. Competition prevents the same from becoming extravagantly high. This profit is by no means earned by the dealer without exertion on his part; it has to be gained in a hard struggle against competition. There is nobody to guaranty the dealer a return for his capital, no matter how large the latter may be. In many cases, there are losses instead of profits.

The attacks which are being directed at the present day against the intermediate trade are quite unwarranted and much to be regretted, since they injure both parties—producers as well as dealers. The tasks which the latter now perform must be performed in the future, unless producers and consumers alike are to suffer. Agriculture should, in its own interest, protect the intermediate trade and try to promote it as much as possible, for the welfare of both depends upon the same premises. Those years which have, as a whole, shown good results for the dealers, have also proved to be good for the producers, and vice versa; years unfavorable to agriculture always brought complaint from the intermediate trade.

Unless the overzealous in the German Agrarian camp soon learn to see that their procedure against trade is a mistake and tends to injure their own profession, we shall soon witness the spectacle of the two professions whose interests are so intimately interwoven fighting each other fiercely, to the detriment of both and of the nation at large. Let us hope that the power of calm reflection, which has been lost during the temporary depression of agriculture, may soon return; that agriculture and intermediate trade may oppose the difficulties of the present time in unity and accord.

LOUIS STERN,
Commercial Agent.

BAMBERG, *December 17, 1896.*

FIRES AND FIRE INSURANCE IN GERMANY.

In Germany, fires resulting from all causes, but especially those due to incendiarism and carelessness, are on the increase. Germans express some consternation at the recently published statistics of eighteen of the most important fire insurance companies.

In spite of severe police regulations and laws looking to the introduction of fireproof constructions and generally of a more massive style of buildings, the increase in the number of fires in recent years has been rapid, the year 1895 being especially unfavorable in this respect. Concerning the various causes of fires, it is striking that more than 50 per cent were due to incendiarism or carelessness in handling lights or fire. Under these two heads, there were 24,786 losses in 1895, against 20,959 in 1894. This increase (3,827 losses) is regarded as alarming.

Insured property shows a much larger percentage of losses due to incendiarism than that uninsured, showing that in many cases fictitious values are carried in fire insurance policies and there is a desire on the part of the insured to realize on unprofitable property.

It is deemed advisable that Germany follow the example of France, Russia, Italy, Spain, Greece, and Portugal, and levy a heavy inland tax on matches. Herr Blanck, director of the royal Prussian bureau of statistics at Berlin, regards the cheap price of matches as a prominent factor in the increase of fires, owing to the constant danger incurred in their use and handling. From this cause alone resulted 4,639 fires in 1895, more than 25 per cent over the preceding year. It is remarkable how many fires have their origin in these small articles; nor is the general impression that children are mostly to blame for such fires true, for the statistics show that, on the contrary, only 1,791 were caused by children under 12 years, while the remainder (2,858) were traced to older persons.

Herr Blanck is of the opinion that Germany should either levy a tax as above mentioned or monopolize the manufacture of matches, which would have the additional advantage of being a regular source of income to the State. France made 20,500,000 francs (\$3,958,500) from her match monopoly in 1894, and Russia 24,000,000 marks (\$5,712,000) from the same source in 1893.

Other causes given for fires during 1895 were as follows: Defective chimneys and flues, 8,306; sparks from locomotives and locomobiles, 79; petroleum explosions, 1,392; explosions of gas and steam, 144; lightning, 990. Three hundred and twenty-five fires were attributed to spontaneous combustion, of which 120 originated in hay, the remainder in coal, turf, and matches, with a few in cottons, woolens, and chemicals.

The total number of fires in insured property in the German Empire (and in German companies) during the year 1895 was 47,217, an increase of 7,793 over 1894. The number of policies written against these losses was 59,974. The year was a very bad one for German fire insurance companies.

The thirty German fire insurance companies had in 1895 an income of 124,360,000 marks (\$29,597,680) from premiums on policies, giving a net profit of 2,555,000 marks (\$608,090), or 3.62 per cent. The premium reserve account amounted to 46,761,000 marks (\$11,129,118).

THOS. EWING MOORE,

WEIMAR, *November 17, 1896.*

Commercial Agent.

TOBACCO IN THE NETHERLANDS.

The tobacco sales began April 1 and ended November 1, 1896. I give herewith a brief review of the average prices received and number of bales imported of the crop of 1895.

This review covers not only Sumatra tobacco, but also Java, Borneo, and Mexican tobacco.

A company known as the Cultum Maatschappy, Santa Rosa, has recently been established with a capital of 1,000,000 florins (\$400,000) and controls tobacco plantations in Mexico.

This year, 1,380 bales of Mexican tobacco have been sold in Amsterdam. The average price received was 1.25 florins (50 cents) per half kilogram (1.1 pounds). I also give a statement of the value of the Sumatra crop since the beginning of the culture in the year 1864.

SUMATRA TOBACCO.

Imports of Sumatra tobacco at Amsterdam, Rotterdam, and Bremen.

From the district of—	Sold at—	Quantity.	Approximate average sale price.	
			Per half kilogram, Dutch currency.	Per pound, United States currency.
		<i>Bales.</i>	<i>Cents.</i>	<i>Cents.</i>
Deli.....	Amsterdam.....	79,535	97	35½
	Rotterdam.....	21,529	87	31½
	Total.....	101,064	95	34½
Langkat.....	Amsterdam.....	50,178	97	35½
	Bremen.....	941	115	47½
	Total.....	51,119	97½	35½
Serdang.....	Amsterdam.....	16,393	92½	33½
Assahan.....	do.....	10,992	59	21½
Bedaga.....	do.....	7,836	74	26½
Padang.....	do.....	6,606	78½	28½
	Rotterdam.....	2,309	78	28½
	Total.....	44,136	78½	28½
Viwaloe.....	Amsterdam.....	486	75	27½
Palembang.....	do.....	484	63	22½
Batu Bara.....	do.....	260	82	29½
Tamiang.....	do.....	65	69½	25½
Pagoerawan.....	Rotterdam.....	2,144	52½	19½
Sundries.....	Amsterdam.....	1,806	31	11½
	Rotterdam.....	280	32	11½
	Bremen.....	2,497	32	11½
	Total.....	8,028	31½	11½
	Grand total.....	204,347		

At an average price of 90 cents (Dutch currency) per half kilogram ($32\frac{1}{2}$ cents United States currency per pound), the value was about 28,325,000 florins (\$11,330,000). The 1895 crop from the respective estates of the Dutch Sumatra tobacco companies was as follows:

Owners.	Quantity.	Per half kilogram, Dutch currency.	Per pound, United States currency, about—	Approximate value.	
				In Dutch currency.	In United States currency.
	<i>Bales.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Florins.</i>	
Deli Maatschappy.....	52,142	100	36½	8,030,000	\$3,212,000
Tabak Maatschappy Arendsburg.....	11,914	86	31½	1,580,000	632,000
Senembah Maatschappy.....	11,886	106	38½	1,940,000	776,000
Nederl. Assahan Tabak Maatschappy.....	10,992	59	21½	1,000,000	400,000
Deli Batavia Maatschappy.....	10,920	109	37	1,720,000	688,000
Amsterdam Deli Company.....	9,990	101	36½	1,550,000	620,000
Deli Cultum Maatschappy.....	7,224	93	33½	1,040,000	416,000
Tabak My. Franco Deli.....	5,277	73	26½	595,000	238,000
Rotterdam Deli Maatschappy.....	4,700	78	28½	565,000	226,000
Medan Tabak Maatschappy.....	4,081	91	32½	575,000	230,000
Langkat Tabak Maatschappy.....	3,485	113	41	610,000	244,000
Deli Tabak Maatschappy.....	3,147	75½	27½	365,000	146,000
Deli Langkat Tabak Maatschappy.....	2,278	101	36½	355,000	142,000
Serdang Tabak Maatschappy.....	2,169	79	28½	265,000	106,000
Padang Tabak Maatschappy.....	1,598	94½	34½	232,000	92,800
Sumatra Cultum Maatschappy.....	1,183	74	26½	135,000	54,000
Langkat Cultum Maatschappy.....	1,137	74	26½	130,000	52,000
Amsterdam Sumatra Cultum My.....	752	77	28	90,000	36,000
Tabak Maatschappy Sakoeda.....	508	74	26½	70,000	28,000

Value of Sumatra tobacco crops since the beginning of the culture.

Year.	Quantity.	Approximate average sale price.		Approximate total value.	
		Per half kilogram, Dutch currency.	Per pound, United States currency.	In Dutch currency.	In United States currency.
	<i>Bales.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Florins.</i>	
1864.....	50	48	17½	4,000	\$1,600
1865.....	189	149	54½	40,000	16,000
1866.....	174	113	41	30,000	12,000
1867.....	224	70	25½	20,000	8,000
1868.....	890	142	51½	200,000	80,000
1869.....	1,381	129	46½	250,000	100,000
1870.....	3,114	122	44½	500,000	200,000
1871.....	3,922	137	49½	750,000	300,000
1872.....	6,409	132	47½	1,000,000	400,000
1873.....	9,238	182	66	2,500,000	1,000,000
1874.....	12,895	150	54½	2,850,000	1,140,000
1875.....	15,355	170	61½	3,900,000	1,560,000
1876.....	29,030	153½	55½	6,450,000	2,580,000
1877.....	36,520	127	45½	6,690,000	2,676,000
1878.....	48,550	125	45	9,120,000	3,648,000
1879.....	57,553	117	42½	10,300,000	4,120,000
1880.....	64,964	113	40½	1,134,000	4,536,000
1881.....	82,356	115½	41½	1,448,000	5,792,000
1882.....	102,050	138	49½	21,480,000	8,566,000

Value of Sumatra tobacco crops since the beginning of the culture—Continued.

Year.	Quantity.	Approximate average sale price.		Approximate total value.	
		Per half kilogram, Dutch currency.	Per pound, United States currency.	In Dutch currency.	In United States currency.
	<i>Bales.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Florins.</i>	
1883.....	92,530	133	48	19,050,000	\$7,620,000
1884.....	125,264	145	52½	27,250,000	10,900,000
1885.....	124,718	141½	51½	26,800,000	10,720,000
1886.....	139,512	154½	56	32,700,000	13,080,000
1887.....	144,400	120½	43½	26,400,000	10,560,000
1888.....	182,284	127½	46½	35,500,000	14,200,000
1889.....	182,241	146	53	40,445,000	16,180,000
1890.....	234,062	72½	26½	25,800,000	10,320,000
1891.....	225,629	92	33½	31,600,000	12,640,000
1892.....	144,689	126	45½	27,300,000	10,920,000
1893.....	169,520	144	52½	37,600,000	15,040,000
1894.....	192,767	119	43½	35,000,000	14,000,000
1895.....	204,347	90	32½	28,325,000	11,330,000

At Amsterdam.—Twelve inscriptions were held. The number of bales sold was 174,641; average price, 91½ cents in Dutch currency per half kilogram, or 33 cents per pound. The total value was about 24,610,000 florins (\$9,344,000).

At Rotterdam.—Three inscriptions were held. The number of bales sold was 26,268; average price, 84 cents in Dutch currency per half kilogram, or 30 cents per pound. The total value was about 3,390,000 florins (\$1,356,000).

At Bremen.—Three thousand four hundred and thirty-eight bales were sold at 54½ cents in Dutch currency per half kilogram, or 19½ cents per pound.

The exports to the United States from April 1, 1896, to date, were 16,172 bales of Sumatra wrapper tobacco.

BORNEO TOBACCO.

Imports of Borneo tobacco (crop of 1895) at Amsterdam, Rotterdam, and Bremen.

Marks.	Quantity.		Per half kilogram, Dutch currency.	Per pound, United States currency.
	<i>Bales.</i>	<i>Cents.</i>		
<i>Amsterdam.</i>				
B T E Vroyah.....	732		164	59½
Darvel Lahas Patu 1895.....	1,299		138	50½
B T E Lamag.....	826		136	49½
L A B (B) 1895.....	475		120	43½
F S Mahé.....	320		116	42½
J S B S 1895.....	21		100	36½
Tangong Borneo 1895.....	648			
N 1895.....	368		86	31½
M. O. 1895.....	2			

Imports of Borneo tobacco (crop of 1895) at Amsterdam, etc.—Continued.

Marks.	Quantity.	Per half kilogram, Dutch currency.	Per pound, United States currency.
<i>Amsterdam—Continued.</i>			
	<i>Bales.</i>	<i>Cents.</i>	<i>Cents.</i>
N. L. B. T. C ^o Bandan.....	1,107	85	31
N. L. B. T. C ^o Bongon.....	1,099		
N. L. B. T. C ^o Ranan Estate.....	1,608	85	31
N. L. B. T. C ^o Tandek.....	956		
G. J. N. 1895.....	464	78	23½
I. C. M.....	119		
T. L.....	91	72	26½
L.....	7		
N. V. B. A.....	100	78	26½
P.....	56		
Tringin.....	109	51	18½
J. S.....	121	50	18½
M-B. N. B.....	170	50	18½
G. H. Borneo.....	52	50	18½
B. S. M.....	6	45	16½
A. T. M-T.....	176	25	9
L. C. M-A. B. T. M.....	13		
Total.....	10,945	*101	*36½
<i>Rotterdam.</i>			
T. C. B.-B. N. Borneo.....	880	58	21½
Temegang.....	178		
Total.....	1,058	*160	*58
<i>Bremen.</i>			
Benkuka.....	1,031	72	26½

* Average.

The total imports were 13,034 bales; average price, 103 cents in Dutch currency per half kilogram, or 37½ cents in United States currency per pound; value, about 2,070,000 florins (\$828,000).

At Amsterdam.—Eleven inscriptions were held. The number of bales sold was 10,945; average price, 101 cents in Dutch currency per half kilogram, or 36½ cents in United States currency per pound. The total value was about 1,700,000 florins (\$680,000).

At Rotterdam.—Two inscriptions were held. The number of bales sold was 1,058; average price, 160 cents in Dutch currency per half kilogram, or 57¾ cents in United States currency per pound. The total value was about 260,000 florins (\$104,000).

At Bremen.—One inscription was held. The number of bales sold was 1,031; average price, 72 cents in Dutch currency per half kilogram, or 26½ cents in United States currency per pound. The total value was about 110,000 florins (\$44,000).

A few bales of Borneo tobacco have been exported this year to the United States.

JAVA TOBACCO.

Six inscriptions of Java tobacco were held at Amsterdam in 1896, and 67,748 bales were sold. Four inscriptions were held at Rotterdam, 41,991 bales being sold.

MISCELLANEOUS.

England bought a considerable amount of Borneo and Java tobacco and some Sumatra. Belgium bought Borneo, Java, Sumatra, and Mexican tobacco. The different regies bought Sumatra and Java largely. The greater portion of all kinds of tobacco sold here was bought by Dutch and German dealers, who resell it all over the world.

EDWARD DOWNES,

AMSTERDAM, *November 11, 1896.*

Consul.

THE LACE INDUSTRY OF CALAIS.

The great and increasing importance of the manufacture of machine-made lace warrants an official report on the present local condition of this industry, and a few preliminary historical facts will be found interesting.

About the year 1600, an English clergyman named Lee, whose wife earned a few pence by making lace by hand, but whose income in spite of this was hardly sufficient to live on, tried to replace finger work by mechanical appliances. His inventive genius succeeded, but like most great inventors, he personally derived little benefit from his invention, and died in France in the year 1610 in great poverty. The second step toward the present lace machine is due to John Hindres, about the year 1656, who first applied the warp to the then imperfect machine. For over a hundred years, men of genius struggled for its perfection, but without practical result, until, in the year 1799, Lindley, of Nottingham, England, invented the bobbin which made the production of the mesh of real lace possible. In 1809, a workman named Heathcote found a way of producing the regular hexagonal mesh, and this new product was named "bobbin net lace," and rapidly secured universal favor. Since that time, many attempts have been made to perfect the lace machine. In 1812, the first straight-bolt machines were built, followed by circular machines, which, during a long time, were considered the height of perfection, but when Leavers entered the field and applied the invention called after him, it was found that a thorough revolution had taken place in producing lace.

Referring to the lace industry in Calais, it is supposed that the first lace machine ever introduced into France was by Francis Clark in the year 1817, though some maintain that Robert Webster laid the foundation of the industry by surreptitiously importing from England in the year 1816 the first loom, for at that time a prohibition existed against the exportation of machinery from Great Britain. As far back as 1825, several shops existed in Calais where lace machines were constructed by Messrs. Austin, Howell, Dobbs, and others. From 1825, say for the next forty to fifty years, the manufacture of machine lace in Calais made slow but steady progress. Not the least of the difficulties which Calais fabricants had to overcome was the obtaining of the fine cotton yarns required, as they were not spun in France

until later years, and had to be brought from England, with a very considerable import duty; the latter was, in fact, so prohibitive that the greater quantity of the cotton yarn was, until 1860, smuggled, a proceeding which was winked at by the French Government in favor of the lace manufacturers of Calais. During the past twenty years, Calais manufacturers have overcome all competition and made this place the most important center of lace production of the world, especially for silk and fine cotton laces, which are here made in an immense variety of design and perfection of workmanship. The finish of Calais lace is admittedly better than that of rival manufactories in other countries, and this superiority is due to the fact that the manufacturers themselves exercise extra care and supervision over their goods before they leave the factory. There is hardly any kind of real lace enjoying various national or world-wide reputation which at one time or another has not been perfectly imitated by the highest grade of artistic draftsmen and reproduced on the lace machines of Calais. Scarcely a year has passed which has not recorded some remarkable progress in design and fineness of execution, and at such a reduction of cost that millions of consumers are now enjoying the benefit in place of the comparatively few who could afford to buy the handmade article.

The laces now being produced by the Calais manufacturers are comprised in the following list:

Silk laces.—Chantilly laces for millinery purposes; Chantilly laces for mantles, dresses, etc.; guipure laces; Bourdon laces; Spanish laces; Valenciennes laces; Chantilly and guipure mixed laces; silk-application laces; imitation Plauen laces; Irish point laces; point d'esprit laces; muslin laces; Luxeuil laces; Bayeux laces; beading laces; buttonhole laces; narrow silk edgings and insertions.

Cotton laces.—Valenciennes laces; maltese laces; Alençon laces; Bourdon laces; imitation Plauen laces; Platt Valenciennes laces; Migniadiise laces; Madeira laces; Venise laces; Luxeuil laces; Irish point laces; buttonhole laces; beading laces; point d'esprit laces; point a l'Aiguille laces; duchesse laces; moresque laces; Cluny edgings and insertions; Honiton braids.

Silk and cotton mixed laces.—Fedora laces; application laces; Bourdon laces (all Bourdon); Bourdon laces (with net top); point a l'Aiguille laces; duchesse laces; Venise laces; Malines laces; moresque laces; Alençon laces; Madeira laces; Honiton braids.

Veilings.—Veilings with "russian" ground; veilings with "friquette" ground; veilings with "bouclet" ground; veilings with plain ground; Brussels net; bordered net; also nets with small figured patterns or spots (all the foregoing are made in all silk and also silk and cotton mixed); chenille nets (all silk).

Dress nets.—Chantilly nets, made in all silk or silk and cotton mixed; Malines nets, made in all cotton or silk and cotton mixed; fancy dress nets, all silk; guipure dress nets, all silk; Russian dress nets, all silk or silk and

cotton mixed; friquette dress nets, all silk or silk and cotton mixed; filet dress nets, all silk or silk and cotton mixed; Tosca dress nets, all silk or silk and cotton mixed; dotted dress nets, all silk or silk and cotton mixed; striped dress nets, all silk or silk and cotton mixed; fedora dress nets, silk and cotton mixed.

Miscellaneous.—Fancy cashmere laces and nets, wool laces and nets, plain laces, mohair laces, Van Dyke laces, Gigolette laces, braids, scarfs, fichus, collars, flounces, and Andaluse, silk or cotton; gauzes, grenadines, silk; torchon laces, all cotton or linen; blonde laces, all silk or silk and cotton.

Already, steps have been taken by some of the largest and most enterprising of the Calais manufacturers, by the introduction of the so-called Plauen machine, to actively compete with these manufacturers of Saxony and of St. Gall, in Switzerland.

A point of great importance bearing on the future of the lace business with the United States has been but lately developed, viz, the ease, and especially the quickness, with which the trade in the United States can be supplied. It transpires that lace can be put into stock in New York within eight days from the time it leaves the makers in Calais, and in ten and a half days on the shelves of the buyers in Chicago. This seemingly impossible annihilation of space has been lately recorded on two shipments via the express steamers of the American Line, the *St. Louis* and *St. Paul*, from Southampton to New York.

The great advantages to the lace industry from the geographical situation of Calais are manifested in more ways than one.

The growing importance of Calais as a principal seaport of the north of France, which, by the recent completion of the great and comprehensive scheme of harbor and dock improvements, in connection with its railway connections and direct system of canals throughout France, guaranties competitive, and therefore cheap, foreign and domestic supplies of coal, raw cotton, and the many things required by the resident lace manufacturers, and gives them a corresponding and great advantage over all their inland competitors.

The fact of Calais being the nearest seaport to Great Britain has firmly established the Calais and Dover continental route as the quickest, most popular, and desirable for the great number of traveling business men or buyers from all parts of the world, and especially from the United States, who can be so quickly and easily transferred from the boats or connecting trains into the lace manufactories of Calais.

Without going into a description of the intricate workings of the perfected lace machine, suffice it to say that it is a fact peculiar to the industry that the worker, in order to master its complications, must of necessity start as a boy.

There are at the present time about 1,850 lace machines in Calais, valued at about \$2,000 each, with accessories or inclosing buildings, etc., at about \$3,000 each, representing a capital of over \$5,500,000. Between 600 and

700 of these machines are engaged in the making of cotton lace, and the remaining 1,100 are particularly adapted to the manufacture of fine silk goods. These looms are distributed among about 350 manufacturers, and apart from some 1,000 hands working on those making silk and 600 on cotton, give employment to many thousands in the various processes of winding, dressing, dyeing, cutting, mending, carding, packing, etc., and repairing of machines. It is almost impossible to give exact figures as to the number of these people (men, women, and children), many of whom live in the country adjacent to Calais and turn to other occupations when the lace business is dull. As to the amount of production, it is very difficult to arrive at a proper estimate, for, until within a few years, statistics have been properly prepared in France covering only certain lines of manufacture. Notwithstanding the dullness in the lace business, which has lasted for some years, it is hardly an exaggeration to put down the average yearly production of lace in Calais as valued at \$12,000,000, of which one-half is silk and one-half cotton. All the foregoing points of advantage, in connection with the cheapness of the various grades of labor, guaranty the continuance of the preeminent position of Calais—the French Nottingham—in the machine-lace industry of the world. The interesting statement is made in this connection that the free furnishing of the necessary samples in order to put the different styles, patterns, widths, etc., before the buyers of the world, entails an annual expense on some of the largest manufacturers of 125,000 francs (\$25,000).

What proportion of the yearly product of Calais is exported to the United States it is difficult to say, estimates varying all the way from two-fifths to three-fifths. It is also to be regretted that statistics covering direct shipments from Calais or comparisons previous to June, 1894, when this consulate was established, are not available, as no authentic records exist covering the amount of business at the former consular agency. Neither is it possible to estimate the value of lace of Calais manufacture which is annually sent to the United States from Paris, London, Nottingham, and other places.

As to the condition and future prospects of the Calais lace industry, and particularly in its relations to the United States, evidences multiply that the long condition of depression is about at an end. The dictates of fashion have decreed for some years past the substitution of artificial flowers, ribbons, feathers, and other trimmings for lace; also, the plain tailor-made cloth garments, in place of the lighter fabrics, the trimmings of which required large quantities of lace. Now, however, the ever-revolving wheel of fashion is seemingly bringing back the old régime of lace. The depression of the past has not been an entire misfortune, for it has stimulated the fabricants of Calais to develop, enlarge, and in every way perfect their productions, so that with the anticipated recurrence of a large demand for lace, everything that mechanical ingenuity, artistic merit, and expert skill, for which this country is so noted, can devise, will be found ready and capable of unlimited products. In confirmation of the improved condition of the industry, it is to be noted that

the value of the lace invoices, as declared at this consulate for the third quarter of the year (July to September, inclusive) and which is always understood as being the dullest of the year, shows an increase of nearly 80 per cent over the corresponding quarter of 1895.

The adoption of a system of reciprocity between the sister republics of France and the United States whereby the fine creations of this long-established and honorable industry of Calais could be exchanged for the many surplus products of the United States, particularly in the line of lumber and its innumerable manufactured products, of which this part of France, owing to the rapid obliteration of the forests, is in such need, would receive the encouragement and active support of all identified with the lace industry as well as those interested in the commercial and maritime importance of the seaport of Calais and the north of France.

CHARLES W. SHEPARD,

CALAIS, *November 11, 1896.*

Consul.

CREDIT-PROTECTING UNIONS IN GERMANY.

An institution of great merit, and one almost unknown in the United States, is the Credit-Protecting Union. Besides doing original work, it supplements Dun and Bradstreet. Its motto is "International union of merchants and manufacturers for protection against bad credits." It has six hundred branches and special correspondents all over the world. It took a premium at the World's Exposition at Antwerp in 1894. It gives written and oral information to members as to the credit of concerns all over the world. It collects bad bills, charging nothing therefor except postage. It helps to find debtors who have fled, it warns against swindlers and bad payers, acts as arbitrator in doubtful cases, secures the services of excellent lawyers at reduced rates in all the cities where unions exist, and furnishes a union newspaper free.

Following are extracts from the rules and regulations:

(1) The union for reforming credits has for its object: (a) To protect members, by confidential information, against business losses by bad credits; (b) through pressure brought by the unions to make collection of bad bills easier; (c) to provide the surest possible information concerning the business ability, standing, and credit of parties with whom members desire to do business; (d) to bring about a timely reform in the granting of credits and to hinder, as far as possible, the misuse of credits.

(2) These objects can best be obtained (a) by erecting bureaus to take care of the common interests and to see that the rules and regulations of the unions are properly carried out; (b) by holding meetings for the exchange of ideas and information regarding such business experiences as are of interest and value; (c) by giving out "black lists" of persons unwilling to pay just debts after having been duly warned by the officers of the union; (d) by means of the union journal, with its lists of questions and extra lists of names concerning whom special inquiries are to be made; (e) by seeking to cooperate and unite with other organizations with the same object; (f) by keeping up constant correspondence with other credit-reform unions for the purpose of exchanging notes, etc., regarding good and bad business houses.

(3) The business manager can admit members, as can also the executive committee (Vorstand). A member is admitted to all rights and privileges as soon as he receives notice thereof. Members must remain in a union at least two years, and must give three months' notice of intention to resign. The business manager may leave after giving three months' notice. From day of notice of intention to leave all claims between him and members are at an end, except that he must return part of the yearly fees paid in, according to the time that must elapse before the end of the year; besides this, he must buy back all question cards at the original sale price.

(4) The yearly fee is 12 marks (\$3), plus an admission fee of 3 marks (75 cents).

(9) The material gathered from time to time, by the business manager, shall belong to the union and must be handed over by him to his successor.

METHODS OF CONDUCTING BUSINESS.

Motions to proceed to warn debtors must be made out in prescribed forms and must be given by members to the union. In the interest of creditor and debtor, the latter will be offered the aid of the union to effect a settlement, absolutely free of all charges. The creditor will have to pay all postage. When, in consequence of warning, payment is proffered, the business manager must receive, receipt, and turn over the same without deducting a dollar except for postage. Information will be sought, upon request, not only in Germany, Austria, and Hungary, but in all parts of the world.

Money to pay for written information must be sent at the time inquiry is made, otherwise no attention will be paid to the demand. The price for each written notice of a firm's or person's credit is 80 pfennigs (18 cents); from places abroad, where there are unions, 1 mark (24 cents). Notices from places in foreign parts where there are no unions cost a great deal more, and can not be fixed. Information sent by telegraph or cable costs 24 cents extra. Telegraphic notices can only be obtained through the unions of which the party seeking information is a member.

To make matters easy, question forms are printed and sold at 18 cents each. One such printed form entitles to a reply as to the standing of one person, business, or firm. Upon receipt by post of such a form (card) the bureau will give, if possible, the desired information. In case the information covers foreign firms, persons, etc., 18 cents (the value of the card) counts in the costs to be estimated. These cards can be sent direct to foreign bureaus for information, *i. e.*, they need no local union's indorsement. Questions concerning firms in places where there is no branch of the union must be handed to the member's local branch.

Members may have cards of identification (legitimation) for themselves and their traveling agents. These enable the merchant, manufacturer, or agent, when traveling, to go into any of the union's six hundred bureaus and get information free, as long as it is oral, as to any and every concern in the place. This is of incalculable value and is certainly an important feature of what seems, on the whole, one of the best institutions known to the modern business world.

The chambers of commerce all over the Empire indorse the works of these unions in language that would seem extravagant did one not know it to

be true. Too much can not be said in their praise. They bring influences to bear upon legislation to make it better; they are compelling firms that formerly were run by women, under the name of "M. So & So," and firms in which women were partners, as "M. So & So," and firms whose titles read "Successors to So & So" to write out the real, full name or names of the members; they are working for better bankrupt laws; they are helping to destroy lying advertising, etc.; they are doing a good and long-desired work.

The following, taken from the report of the Chemnitz union at an annual meeting to which I went last evening, will give a good idea of how popular the unions are growing:

The general organization has 311 unions and 315 branches, besides 5 official representatives. It has 47,000 members and gave out, in 1895, 2,325,000 answers to inquiries. The Chemnitz union's eleventh year shows an increase in membership from 330 firms to 495. Eleven thousand three hundred and and thirty-four written notices were sent out in this year, against 9,469 during the last, and 6,000 oral answers were given. Bad bills amounting to 73,266 marks (about \$18,000) were handed in. Of these, 57,361 marks were collected, 26,208 by agreement and 31,153 as the result of warnings. Fifty names of those refusing to pay, after being warned, were put on the "black list." In 1895, a great many questions regarding foreign creditors were asked. These related mostly to Austria, Switzerland, Belgium, and England.

I may add here my mite to the general opinion of this system. I have had occasion to study its usefulness and consider it one of the best possible. It offers more than all other bureaus of information combined. It aims to root out all the evils of bad credits. Its ways and means are most modest and most effective. It is succeeding beyond its projectors' belief. It is too liberal to decry any other method. It does not aim at competition; its object is to aid and supplement others. It welcomes every means and way that may serve the common cause. I write in full, for I would favor the introduction of this system in our country.

J. C. MONAGHAN,

CHEMNITZ, *November 14, 1896.*

Consul.

FILES, HORSESHOE NAILS, ETC., IN SWITZERLAND.

The following report was obtained at the request of the United States Export Association, of New York, which has been supplied with a copy of the same:

Files.—These are manufactured to some extent in Switzerland. The file industry employs about 1,200 hands. The largest factories are at Vallorbe, in the canton of Vaud, at the foot of the Jura Mountains, where water for power purposes is abundant. At the close of 1884, there were 27 registered file manufactories in operation, apportioned as follows: Canton of Vaud, 9; Geneva, 6; Zurich, 5; Berne, 3; Neufchatel, 3; and Basle, 1.

Grobet Bros., at Vallorbe, I am told, are the largest manufacturers. Their motive power is water. They are said to possess a secret method by which they make highly tempered files, and they export their product extensively to the United States. Mr. Montgomery, the resident agent of that firm at New York, I am told, does quite a successful and profitable business, the Grobet files being well known and in good demand at home as well as abroad.

Notwithstanding this, Switzerland imports all kinds of files. Files for watchmakers are principally made at Vallorbe and Neufchatel. England, France, and Germany supply many files to the Swiss trade. American files are also in the market, although in limited supply. They are well and favorably known, but it is claimed that their price is too high.

In this city, Mr. A. Bannwart, at Aussersihl-Zurich, a heavy importer of American hardware and machinery, carries American files in stock and is the agent of Henry Disston & Sons, Philadelphia, Pa. English files are sold on the basis of the Sheffield price list, with various graduated discounts. I can not obtain this list here, importers being reluctant to give detailed information for fear of competition. I have no doubt that American importers in that line are familiar with the Sheffield price list. Swiss, French, and German manufacturers, I am told, sell at net figures against sixty or ninety days' acceptance, or less a discount of 5 to 6 per cent for cash on receipt of goods. As a rule, Swiss importers in any line will not accept or pay drafts until they have had a chance to examine and check up goods. It is my opinion that such privileges should be granted if it is desired to gain a foothold. In other words, we must meet German, French, and English competition as to terms and mode of payment. It is not more of a venture to do business with the Swiss than it is with home concerns, provided the same caution is used and proper inquiries made. There are many houses here of long and high standing who invariably avail themselves of a cash discount, if made an object, as soon as the goods are found satisfactory, because money can be had at from 3 to 3½ per cent.

Import duties on files are as follows: Up to 25 centimeters in length (commercial cut), 10 francs (\$1.93) per 100 kilograms (220 pounds); 25 centimeters and longer, 12 francs (\$2.31). All duties in Switzerland are collected on the gross weight, that is, including packages.

All kinds and sizes of files are handled here. A good way to introduce the article is to send illustrated price lists, in German and French text, the length given in centimeters and weight in grams and kilograms. The best method, however, to obtain business is to send out a well-posted man, speaking the languages of the countries he visits, with a full line of samples.

Horseshoe nails.—These are mostly supplied by Mueller & Schreiber, at Berlin, Germany, who seem to have the monopoly in that line. I am told that Swiss, Italian, French, and English horseshoe-nail manufacturers have tried in vain to compete with that firm. Horseshoers, as a rule, refuse to use nails unless they bear the name of Mueller & Schreiber on each package.

The wholesale price of these is 80 francs (\$15.44) per 100 kilograms (220 pounds) for ordinary large, and 80 to 100 francs (\$15.44 to \$19.30) for smaller sizes. The import duty is 12 francs (\$2.31) per 100 kilograms.

Toilet and horse clippers.—I think this article could be introduced. A few American clippers are scattered here and there, probably introduced by German and English houses, but the bulk of the clippers—toilet and hand horse clippers—in use here are of English and French manufacture. No power horse clippers are employed as yet in Switzerland. Mr. A. Bannwart would like to represent an American concern in this line. His trade extends all over Switzerland and the adjoining countries.

Mr. Bannwart says horse clippers cost him in England 62 cents and toilet clippers \$1 each. Import duty on clippers is 40 francs (\$7.72) per 220 pounds gross weight.

Eyeless picks for architects.—This article is unknown here. Mr. Bannwart would like a description and prices, with a view of introducing same. Import duty on regular picks is 25 francs (\$4.92) per 220 pounds. Mr. Bannwart is perfectly familiar with the American trade methods, discounts, etc., and letters may be written to him in English, while letters to most other importers here should be written in the German language.

American razors.—These are not in market; at least diligent inquiry failed to reveal any. England and Germany supply the demand, and an effort on our part might result in some business. The duty on razors is 40 francs (\$7.72) per 100 kilograms.

I would suggest that American exporters in any line offer their goods on the wharf of European ports, either Antwerp, Havre, or Genoa, as, from what I learned, Swiss merchants prefer buying that way.

For freight rates from Antwerp or Genoa to Swiss points, as well as for import duties or other information on the several articles of American export, I beg to refer to CONSULAR REPORTS No. 172 (January, 1895), p. 58; No. 177 (June, 1895), pp. 308, 344; No. 188 (May, 1896), p. 77, which can be obtained by applying to the Bureau of Statistics, Department of State, Washington.

EUGENE GERMAIN,

ZURICH, August 27, 1896.

Consul.

MANCHESTER COTTON YARN FOR THE UNITED STATES.

Exports of cotton yarn to the United States from the consular district of Manchester during the year ended December 31, 1896, classified by count and fold, and giving the shipment in pounds for each month during the year.

Description and counts.	January.	February.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Miscellaneous.....	1,750	827½	200	884	2,713	805½	2,461	.....	240	100	2,460	726½	7,163½
Harness twine.....	58,868	54,264	50,255½	780	1,902	499½	520	6,728	7,668	671½	7,643	.....	12,777½
RoVings.....	.....	.....	.....	47,519	48,608	32,462½	6,873	.....	.....	11,707	.....	.....	332,996
Sewings.....	.....	.....	.....	.....	.....	.....	264	.....	595	24½	103	.....	956½
Lincn yarn, 8-110s.....	1,000	1,000	.....	300	.....	1,000	2,367½	2,939	3,221	5,009½	2,498½	3,747½	20,803½
10s.....	.....	.....	.....	300	.....	.....	.....	.....	.....	1,000	800	1,700	4,800
14s.....	250	.....	.....	300	.....	.....	.....	.....	.....	.....	.....	.....	550
20s.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	586	586
2-20s.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	713½
3-20s.....	713½	.....	200	.....	1,036½	.....	.....	.....	.....	.....	.....	.....	1,236½
4-24s.....	.....	2,273	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,273
4-27s.....	.....	.....	.....	1,066½	.....	.....	.....	.....	.....	.....	.....	.....	1,066½
30s.....	380	.....	.....	729½	920	.....	948½	740½	.....	1,008½	727½	.....	7,694½
4-30s.....	.....	.....	.....	526	94½	.....	591½	.....	.....	.....	.....	.....	1,066½
4-33s.....	.....	.....	.....	520	93½	.....	537½	.....	.....	.....	.....	.....	1,112
2-36s.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,675½
4-36s.....	.....	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000
40s.....	.....	100	11½	400	110½	.....	233½	.....	.....	1,109½	.....	.....	1,453½
2-40s.....	400	1,101	70	.....	226	105½	.....	.....	.....	500	228	637	2,208
3-40s.....	.....	.....	.....	.....	2,598	.....	803½	502½	.....	.....	100½	1,052	6,697½
45s.....	.....	619	11½	.....	.....	.....	.....	.....	10	507½	20	649½	1,198½
2-45s.....	1,000	869½	.....	.....	105½	.....	.....	.....	.....	.....	.....	.....	986½
50s.....	5,420	5,375	4,899½	1,620	589½	3,334	2,509	585	.....	1,000	1,787	2,570½	7,247
2-50s.....	1,246	150	.....	614	614	500	513½	648	.....	500	513	1,177½	26,661½
2-55s.....	10,780	810	.....	.....	1,095	.....	202	.....	.....	526½	.....	1,621½	5,819½
4-55s.....	.....	.....	.....	.....	1,030	2,782½	1,230	3,394½	3,480	6,830	10,423½	8,807½	49,658½
60s.....	7,241	5,954	5,034	1,804	1,061	880	150½	2,024	.....	.....	1,056½	.....	5,184
2-60s.....	11,290	19,480	10,620	5,400	9,035½	8,898	8,950	9,110	1,032	10,150	9,521	14,962½	180,617½

70s.....	1,069	2,908	411	1,222	11,810	11,600	15,542½	5,119	10,800	1,090	6,790
2-70s.....	6,834	5,444½	15,100	14,246	11,900	11,041½	15,542½	5,119	10,800	17,513½	131,429½
4-70s.....			318			1,041½				5,500	1,309½
7½s.....	6,622	6,905	4,191	891	5,909½	12,177	9,097	13,455		3,894	79,609½
2-7½s.....	705	300	300								1,305
80s.....	7,876	2,932	1,058	1,081	589	705	771	3,154½		3,919	31,596½
2-80s.....	20,268	7,444½	11,377	13,773½	6,487½	14,254½	10,304½	7,475	7,043	7,137½	121,282½
4-80s.....						1,443				522½	2,779½
85s.....	835	2,851	3,168	261	260						6,540
90s.....	4,187	6,248	5,938	4,467½		1,221					1,221
2-90s.....		1,180		150	150	7,283	2,834	2,560		3,425	42,127½
3-90s.....		318½	335½					220		1,639½	5,139½
95s.....		1,673	2,392	2,792		518					1,769
2-95s.....											9,647
100s.....	2,235	1,095½	5,979½	3,014	7,259½	5,016½	1,000			500	1,500
2-100s.....	13,680	14,159	13,199½	4,023½	7,558½	8,258½	4,000	305	2,958	2,422	40,955½
105s.....		753	1,319			6,785		7,230	5,769	7,581½	97,750½
110s.....	4,016	1,403	557	297	576						2,072
2-110s.....		2,498½						1,995½			7,709
115s.....								2,213			7,354½
120s.....	232	429½				601					2,814
2-120s.....	1,338	1,181	312½	900	951½	128	530	1,104½	1,204½	1,575½	2,553½
125s.....						666		2,407		2,633½	12,999½
130s.....	806	272									3,073
140s.....	2,512	403				128	865½	687			2,313
2-140s.....						404	46	903	1,172		5,813
2-145s.....	410		701½			100½	10	103			504½
2-180s.....		96				485½					2,598
2-190s.....	216			104½	104½	30	104	100½		705	718½
2-200s.....		200				105				200	530
All other counts.....	864	763½	1,384½	50½	200	94	94	100			400
Total.....	174,151½	155,673	141,571	107,473	121,641½	96,160½	72,519½	68,781½	71,374	76,399½	1,291,474½

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, January 15, 1897.

THE WEAVING INDUSTRY OF AIX LA CHAPELLE.

For several weeks since the beginning of the weavers' strike at L. Peters's manufactory, in Eupen, and at the German branches of the large manufactory of Von Tasté, in Verviers, great interest has been taken in the question of introducing the double-loom system. But even before the commencement of the strike, manufacturers in Aix la Chapelle had seriously considered the question of introducing the system. The important fact was brought out that England was not only able to make the so-called "Aachener Tuch" (Aix la Chapelle cloth), which they formerly were obliged to buy in Aix la Chapelle, more cheaply than the manufacturers here, but that she could even undersell the latter on their own ground, and, in consequence of reduced prices, had gained the whole American market. England, for instance, delivers the "twill of six strands" 60 pfennigs (15 cents) per meter cheaper to Aix la Chapelle than the manufacturers there can sell it, and England pays there 10 per cent duty on cloth.

The manufacturers have consulted as to how to regain this lost ground, and they see that the only possibility of holding their own and of controlling the American market consists in introducing the double-loom system. The manufacturers realize from the experience of Montjoie that they are compelled to this innovation. The industry in cloths at Montjoie, which was in a flourishing condition twenty years ago, is now totally ruined because the local manufacturers did not want weavers' mechanical looms introduced. The longer they wait here before employing the double-loom system, the worse it is for the manufacturer and also for the weaver. The former can only expect a profit when all the looms are running. The weavers, on the other hand, although they dread the adoption of the system, could hardly be in a worse condition than without it; for, in case it is finally rejected, the manufacturers will be forced to have their work done at other places, where double looms are in use.

That the introduction of the double-loom system will be efficacious in regaining the American trade the manufacturers do not doubt. The weavers will not only be employed, but the factories will be enlarged and the number of looms increased, so that more can be occupied than at present.

Some few manufacturers have grave doubts as to the wisdom of the introduction of the system. The weavers soon become invalids and seldom reach 40 years of age, the eyes and nerves being so strained and weakened by attending to two looms at once. The weavers take this into consideration, and in this respect they are right. Even now, where every loom is managed by one man, after 45 years of age some of the weavers are totally unfit for work; others die of consumption and other slow diseases. The manufacturers think they have found a way to keep the weavers strong and in good health as long as possible. It has been proposed, if the system be introduced, that the manufacturers accept the "weaver's woof" of stronger

quality, in order to spare the eyes of the weavers, to make their work easier, and to deliver a better product. The threads would not break so often and the quality would be better, which would be a benefit to the public.

Now remains only the question of wages. The firm of Peters, in Eupen, expected its weavers to be satisfied with a great reduction of their pay when the system was introduced, which was not the right way to gain their good will for the latter. Manufacturers here think that this proposed reduction of the wages caused the opposition against the new system. The director of a manufactory here, who is popular with his weavers, suggests an agreement on an average wage of 3.50 marks (83 cents) per day, which shall be binding for at least two years on the manufacturer as well as on the weaver. It ought to be the beginning of a wage regulation according to the necessity of the case, and result in a wage scale such as is in successful use in the cloth manufactories of England. The proposition of the director is worth considering, and may lead to an understanding between the manufacturers and the weavers in the best interests of both.

PERRY BARTHOLOW,

MAYENCE, *October 22, 1896.*

Consul.

UNITED STATES TRADE IN THE ARGENTINE REPUBLIC.

I have the honor to inclose herewith a table prepared with a view of graphically illustrating the position which the commerce of the United States occupies with this Republic, in comparison with that of other countries.

I have selected but one hundred and thirty-one articles or classes of goods in preparing this table, for the reason that I desired to deal only with classes of goods wherein it appears to me we can compete with either of the countries whose trade I give.

In order that the table may be more easily studied, I have confined its national scope to the United States, Great Britain, Germany, France, Italy, and Belgium.

Aside from a personal knowledge as to the ability of the United States to successfully compete with the countries named in several of the articles selected as illustrations, it seems to me reasonable to conclude that, given the fact that our manufacturers can and do sell here 1 ton, or other measurement, of a given article in competition with the world, they could, if the proper effort were made, sell more. Applying this reasoning to the table inclosed, it would appear that in many lines nothing stands in the way of extending our trade here other than our disinclination to make the necessary effort.

Following the table are the tariff rates imposed on the articles enumerated, together with such information as appears to me of interest.

I was forced to take the year 1895 as a basis for the reason that no later complete statistics are to be had. In this connection, it is to be remembered

that Argentine statistics are for calendar years, and do not appear complete until August or September of the year following.

It is gratifying to know that our trade here during the year 1896 increased nearly \$1,500,000 over that of 1895, and as we bought here much less in 1896 than in 1895, this gain is the more noticeable.

I fully believe that by earnest efforts and by studying the requirements of the country and the competition we have to meet, we can largely increase our trade here each year.

If the table I have prepared shall serve to attract the attention of our manufacturers to our actual commerce here and to the possibilities of increasing our trade in articles which we now sell to a very limited and unsatisfactory extent, I shall feel more than repaid for the labor I have expended in its preparation.

But few changes will be found in the tariff for 1897. Such as affect our trade are noted.

A strong pressure was brought to bear on Congress by national industries to secure higher duties. This was especially true with regard to cotton-seed oil. The effort was not successful, however, in this instance.

The decrease made in the duty on revolvers will benefit us more than it will other countries. Dynamite was placed on the free list. The tendency in Congress was toward lower duties, but, unfortunately for such a desired result, the agricultural sections of the country were almost ruined by the locust in the months of November, December, and January. This fact, which means a very much reduced revenue for the Government, and business depression, coupled with the desire of Congress to fully meet the Government's interest and contract obligations, left no other course open than to avoid making any reduction in the customs revenue. But one article was placed at a higher duty that I call to mind; that was linseed oil. This was placed at the duty it had borne previously to 1896—10 cents per kilogram.

Argentine imports.*

Articles.	Imported from—					
	United States.	Great Britain.	Germany.	France.	Italy.	Belgium.
Cotton-seed oil.....kilograms...	291,100	29,344	.....	426,492	5,558,898	.....
Chicory, ground and whole.....do.....	.....	16,158	88,076	153,039	17,915	387,745
Starch.....do.....	1,865	.....	158,931	7,824	310	150,277
Canned meats.....do.....	3,532	5,250	3,035	10,764	43,995	24
Hams.....do.....	322	100,721	3,252	673	5,702	5
Preserves, jams, and candy.....do.....	118	36,510	2,665	18,035	9,698	2,445
Dried and canned fruits.....do.....	728	12,549	20,634	96,052	1,427,126	2,442
Dried and canned vegetables.....do.....	480	34,209	115,546	81,239	500,669	7,831
Cheese.....do.....	.....	10,625	24,777	65,717	409,619	37,268
Vinegar in barrels.....liters.....	.....	529	465	28,835	367	.....
Whisky in bottles.....dozens.....	234	12,078	.....	234	.....	120
Whisky in barrels.....liters.....	1,329	14,211	485	.....	.....	.....
Mineral waters.....dozens.....	.....	11,265	32,596	17,822	11,477	21,215
Bottled beer.....do.....	.....	25,940	1,276	16	.....	1,342
Leaf tobacco other than Habana, kilograms.....	9,635	11,809	51,453	10,103	4,559	53,839
Raw cotton.....kilograms.....	.....	25,601	3,089	630	.....	30,610
Cotton yarns.....do.....	1,858	587,172	77,740	46,106	155,749	25,378
Cotton twine.....do.....	1,308	339,929	111,753	30,712	118,282	30,166
Cotton goods.....do.....	253,383	16,806,978	1,143,080	471,819	1,675,137	540,362
Canvas.....do.....	351,620	368,615	49,101	6,580	84,029	1,802
Cotton bags.....do.....	.....	91,329	4,239	.....	.....	.....
Thread.....do.....	.....	13,650	423	204	4,264	53,102
Silk thread.....do.....	141	214	1,120	2,031	164	56,909
Bagging.....do.....	.....	10,454,332	116,974	427,053	160,860	137,835
Twine and rope.....do.....	16,551	13,842	3,861	1,779	57,228	17,713
Hemp bags.....do.....	.....	151,377	295,834	.....	.....	.....
Binding twine.....do.....	1,197,647	296,539	24,768	1,063	25,913	2,200
Linen goods.....do.....	.....	125,965	86,649	32,656	9,821	282,814
Linen and cotton mixed goods.....do.....	.....	2,741	6,687	1,547	.....	14,018
Woolen goods.....do.....	570	941,250	114,727	276,062	22,509	81,589
Woolen and cotton mixed goods, kilograms.....	.....	590,082	101,631	39,375	34,992	39,905
Waterproof cloth.....kilograms.....	11,151	150,528	12,395	3,559	.....	5,040
Rubber cloth.....do.....	.....	11,337	6,996	4,814	5,580	10,065
Collars and cuffs.....dozens.....	.....	2,400	5,144	425	.....	2
Handkerchiefs.....kilograms.....	.....	4,699	132	462	.....	1,873
Umbrellas and parasols.....number.....	.....	27,281	320	7,569	1,670	1,604
Ready-made clothing, all classes, value (gold).....	\$140	\$37,763	\$25,801	\$63,985	\$20,734	\$11,785
Wool, felt, and silk hats.....dozens.....	17	4,984	1,495	2,895	6,106	765
Straw hats.....do.....	.....	3,064	7	967	7,166	2,062
Towels.....kilograms.....	12	39,116	806	2,743	48,983	1,029
Sulphuric acid.....do.....	.....	59,853	369,592	4,323	2,416	130,603
Linseed oil, raw and boiled.....do.....	2,829	268,037	5,692	2,757	2,950	13,018
Varnish.....do.....	8,739	135,700	13,499	6,019	6,207	4,596
Borax.....do.....	45	33,822	52,148	.....	67,512	770
Chloride of lime.....do.....	.....	71,594	7,390	14,831	.....	2,700
Carbonate of soda and potassium, kilograms.....	13,616	531,329	1,773	10,159	.....	5,642
Colors, dry.....kilograms.....	14,185	1,588,451	714,914	234,247	193,207	967,620
Colors, prepared.....do.....	15,750	1,278,876	195,544	33,743	45,642	149,150
Sheep dip.....do.....	65,138	3,603,194	113,367	15,020	223,295	254,634
Gelatin.....do.....	.....	5,587	4,549	3,156	311	9,112
Glycerin.....do.....	2,680	20,551	72,652	15,204	42,254	26,471
Glucose.....do.....	206,395	40,006	120,935	440	.....	7,136

* The metric weights and measures are given, viz: Kilogram=2.2046 pounds; liter=1.0567 quarts.

Argentine imports—Continued.*

Articles.	Imported from—					
	United States.	Great Britain.	Germany.	France.	Italy.	Belgium.
Lubricating oil.....kilograms...	193,390	46,286	2,627	3,900	720	7,400
Vaseline.....do.....	4,157	610	104,460	10	22,512	4,889
Lamp wicking.....do.....	17,020	15,633	9,976	6,384	6,817	7,905
Trunks, boxes, casks, and staves, value.....	\$77,001	\$19,681	\$7,170	\$8,267	\$26,551	\$5,576
Furniture.....value.....	\$46,775	\$3,643	\$138,984	\$23,069	\$2,903	\$15,539
Pianos.....number...	15	18	416	41	33	28
Wood pulp.....kilograms...						3,610,721
Soap, common and prepared.....do.....	36,833	42,782	14,598	19,517	17,492	5,708
Proprietary or prepared medicines, value.....	\$49,535	\$26,907	\$15,842	\$75,257	\$34,620	\$3,591
Rosin.....kilograms...	4,322,020	449,230	64,652	360	214,690	260,429
Powder and other explosives.....do.....	92	44,599	6,384	115		3,591
Sulphate of copper, iron, and mag- nesia.....kilograms...	21,145	132,626	83,557	5,280		18,255
Stucco.....do.....		149,250	119,300	525,654	1,439,390	168,000
Ink, all kinds.....do.....	768	140,254	36,116	8,207		34,046
Engravings, maps, photographs, and lithographs.....value...	\$7,938	\$95,181	\$16,741	\$12,925	\$18,803	\$10,477
Crude steel.....kilograms...		498,043	21,731	4,095	68	138,468
Galvanized wire.....do.....	775,023	821,695	1,706,092	152,626	390	4,068,571
All other wire.....do.....	2,228	3,590,831	10,822,926	86,461	3,971	11,786,466
Nails.....do.....	121,021	445,123	155,025	47,413	1,215	197,112
Axles, springs, and other ironwork for carriages and wagons...kilograms...	9,912	52,743	52,594	11,950		355,520
Wagons, carts, and carriages, num- ber.....	458	13	4	8	2	
Iron, crude.....kilograms...	175,525	14,889,716	934,004	1,680		16,721,022
Iron columns and beams.....do.....			284,386			8,922,010
Galvanized iron.....do.....	397,326	16,290,091	154,692		65,830	1,174,604
Nuts, bolts, and screws.....do.....	1,547	462,349	73,233	199		581,327
Hoop iron.....do.....	11,340	468,843	296,032			399,708
Agricultural implements:						
Plows.....number...	7,981	376	1,989		4	303
Corn shellers, all kinds.....do.....	2,353	252	3			17
Horse rakes.....do.....	328	356				40
Binders, reapers, and mowers, number.....	2,215	505				
Scythes, all kinds.....kilograms...		234	304	4,426		17,504
Drills.....number..	678	2	10			
Thrashers.....do.....	60	194	21			21
Other implements and small tools.....value.....	\$85,787	\$17,066	\$2,931	\$7	\$709	\$3,698
Pasteboard.....kilograms...	1,235	45,416	684,656	17,204	92,323	577,909
Writing paper.....do.....	5,190	140,134	365,740	18,089	132,714	130,135
Printing and bookbinders' paper.....do.....	28,240	161,311	2,867,779	15,804	542,369	356,366
Wrapping paper.....do.....	2,653	33,064	74,433	18,139	302,897	50,309
Lithographing paper.....do.....	2,822	10,691	12,594	58,227		131,315
Printed books.....value.....	\$15,187	\$27,639	\$16,094	\$41,725	\$47,918	\$10,662
Blank books.....do.....	435	22,948	17,747	16,974	5,475	9,668
Pumps, all kinds.....number...	1,206	96	160			151
Iron chains.....kilograms...	1,455	210,169	8,819	535		10,413
Safes.....do.....		9,367	2,644	1,465		3,926
Galvanized iron piping.....do.....	118	1,160,564	23,442			36,976
Iron piping.....do.....	12,695	2,494,765	29,176	515	7,450	48,889
Stoves.....do.....	5,757	4,434	16,566	280	90	10,120

*The metric weights and measures are given, viz: Kilogram=2.2046 pounds; liter=1.0567 quarts.

Argentine imports*—Continued.

Articles.	Imported from—					
	United States.	Great Britain.	Germany.	France.	Italy.	Belgium.
Sewing machines.....number...	4,769	598	7,089	36	3	442
All other machines.....value...	\$113,951	\$161,615	\$147,801	\$48,539	\$31,905	\$48,984
Motors, divers.....do.....	\$6,164	\$87,553	\$8,274	\$1,580	\$3,615	\$3,341
Woven wire.....kilograms.....		58,367	25,784	877		54,065
Pens.....do.....	14	4,638	1,333	4,719		18
Materials for electric lighting...value...	\$37,375	\$41,896	\$26,374	\$4,079	\$5,289	\$4,183
Materials for mines.....do.....		\$800	\$23			
Materials for street railways.....do.....	\$9,590	\$2,502				\$11,220
Materials for telephone construction, value.....		\$2,413	\$1,160	\$40		\$931
Crude copper and bronze...kilograms...		138,937	26,022	3,603	470	75,589
Tin plate.....do.....	41,197	2,803,950	7,691	800	353	41,316
Lead.....do.....	76,382	181,883	7,558		733,984	102,194
Zinc.....do.....	139	44,157	131,307	1,325		945,931
Glass bottles and flasks.....dozens...	1,136	50,301	276,456	36,202	2,394	95,700
Glassware.....value...	\$17,755	\$39,976	\$85,690	\$90,526	\$355	\$219,299
Lamps of all kinds.....do.....	\$10,992	\$3,033	\$11,752	\$953	\$3,165	\$11,536
Stearin.....kilograms.....	2,770	42,476	46,990	20,827	10,258	50,764
Coal.....tons.....	4,988	844,848				200
Coke.....kilograms.....	58,572	3,600,494				
Gas oil.....do.....	422,037	1,060,240			120,900	5,354
Buttons.....do.....	116	12,412	29,542	36,736	11,699	16,408
Pencils, all kinds.....do.....	1,571	376	10,795	24		2,188
Seeds.....do.....	1,270	31,420	34,422	563,285	226,961	32,277
Desks and office utensils.....value...	\$6,123	\$13,887	\$23,389	\$8,756	\$493	\$4,241
Cordage and hemp, in bales, kilograms.....	5,000	1,299,873	52,905	5,614		100
Earthenware.....value...	\$495	\$77,644	\$32,941	\$3,291	\$2,036	\$77,873
Cement.....do.....	\$7,880	\$134,612	\$11,680	\$34,915	\$889	\$162,952
Gold watches.....number.....		6	339	2,509	93	
All other watches.....do.....	4,692	5,033	7,825	33,942	449	1,145
Clocks.....do.....	3,513	110	18,675	3,311	354	684
Scales and balances.....do.....	185	12,227	3,292	59	386	4,212
Copper and brass goods.....value...	\$1,640	\$59,052	\$9,267	\$12,597	\$3,544	\$15,984
Manufactures of lead.....do.....	\$464	\$23,517	\$13,487	\$36,677	\$77	\$2,166
Ironware and household utensils, value.....	\$22,887	\$49,952	\$13,933	\$5,900	\$673	\$39,151
Gas and electric chandeliers and fittings.....value...	\$8,980	\$22,636	\$15,625	\$4,737	\$247	\$11,138
Oakum.....kilograms.....	450	30,334	32,337		450	5,266
Cork.....do.....	232	1,124	14,039	21,472	5,867	11,384
Fish, preserved, all kinds.....do.....	89,904	60,485	87,687	222,267	403,126	47,373
Guns and revolvers.....value...	\$26,794	\$7,745	\$19,602	\$15,206	\$711	\$70,171

ARGENTINE TARIFF ON FOREGOING ARTICLES.

The tariff given herein is for the year 1897. For purposes of easy computation, broadly speaking, leaving decimals aside, the kilogram may be said to be 2½ pounds, or 1 gallon to 2¾ kilograms; in muslin, 7 yards may be said to equal 1 kilogram; in canvas, 2 yards; and in woolen, 3 yards. A new tariff law, with values and rates of duty prepared by the Executive power, is passed by Congress each year. Usually, few changes are made in

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the bill by Congress. Where an ad valorem rate is given herein, based on a fixed value, the latter has been arbitrarily fixed by law and can not be changed during the year by the Executive power; where no value is given, the rate will be applied on the value sworn to by the importer. All duties and values are in Argentine gold. The Argentine gold dollar is worth 96½ cents, United States Treasury valuation. Duties are computed on gross weights when based on kilograms, unless especially mentioned.

Cotton-seed oil.—Duty, 10 cents per kilogram, the same as that on olive and other table oils. Argentine statistics include cotton-seed oil under the head “*aceite de olivo*” (olive oil). Cotton-seed oil enters into direct competition with a prominent Argentine product (peanut oil), which is protected by the duty herein given.

Chicory.—Duty, in packages, 3 cents per kilogram; in bulk, 2½ cents.

Starch.—Duty, 8 cents per kilogram. The Argentine production of starch is increasing, as well as the consumption of the imported article.

Canned meat.—Duty, 20 cents per kilogram. This rate and the quantities here given apply to and include all classes of canned meats.

Hams.—Duty, 25 cents per kilogram. Importation and consumption is increasing. Very limited home production. It is believed many American hams reach here after having been prepared for this market by English houses.

Preserves.—Duty, 25 cents per kilogram.

Dried and canned fruits.—Duty, 15 cents per kilogram, excepting dried figs, which pay 5 cents per kilogram in packages weighing 2 kilograms and under and 3 cents in larger packages, and raisins, which pay 15 and 10 cents, respectively, in packages of same weight as given for figs. An exception is, however, made in favor of Corinth and Sultana raisins, which pay 5 cents per kilogram.

Cheese.—Duty, 20 cents per kilogram. The Argentine production is increasing. The importation of French cheese steadily decreases, while that of Italy increases.

Vinegar.—Duty, 1½ cents per liter in casks or barrels and 2 cents in bottles.

Whisky.—Duty, 30 cents per liter, when in bulk or per bottle. This rate is 3 cents lower per bottle than the rate for 1896. The importation of whisky in bulk from the United States shows a marked increase, while that from all other countries shows a large decrease.

Mineral waters.—Duty, 25 per cent on a valuation of \$2 per dozen for quarts and \$1.20 per dozen for pints. There is a growing demand for mineral waters and a good trade awaits new and known waters.

Beer.—Duty, 9 cents per liter in kegs or barrels; when bottled, 12 cents per bottle.

Tobacco.—Duty, 25 cents per kilogram, with the exception of Paraguayan, which pays 15 cents.

Raw cotton.—Duty, 2½ per cent on a valuation of 25 cents per kilogram.

Cotton yarns.—Duty, $2\frac{1}{2}$ per cent on a valuation of 40 cents per kilogram.

Cotton twine.—Duty, 25 per cent on a valuation of 60 cents per kilogram.

Cotton goods.—Duty, 25 per cent on valuations in part as follows: Muslin, drilling, and cotton flannel, 80 cents per kilogram; prints, \$1 per kilogram; piques, \$1.20 per kilogram; cambric (“algodon crudo,” called “lienzo”), 50 cents per kilogram; toweling, \$2 per kilogram; cotton goods, silk mixed, \$4 per kilogram; cotton flannel, bleached, \$1.20; jaconet, nan-sook, batiste, and similar goods, \$2 per kilogram; crinoline and other similar goods, 60 cents per kilogram; ticking and similar goods, \$1.20 per kilogram; cotton lace and edging, \$1 per kilogram. The trade of the United States has steadily increased in cotton fabrics during the past two years. This has been noticeable in large retail dry-goods houses, on whose shelves American cottons have been seen in quantities for the first time.

Canvas.—Duty, 25 per cent on valuations of 30, 50, and 70 cents per kilogram. The difference between this duty and that on cotton yarn ($2\frac{1}{2}$ per cent on a valuation of 40 cents per kilogram) has induced several of the large “alpargata” factories and other concerns using canvas to put in looms and weave their own canvas, using imported yarns. This has decreased the quantity which would have been imported, but notwithstanding this, the importation has increased from the United States. All other countries show a decrease. The large consumption of canvas here is attributable to its use as the “upper” in the “alpargata,” the shoe worn by the peasant and workman of the country.

Cotton bags.—Duty, 25 per cent on a valuation of 50 cents per kilogram.

Thread.—Duty, 25 per cent on a valuation of 10 cents per 1,000 meters or \$1 per kilogram.

Silk thread.—Duty, 10 per cent on a valuation of 28 cents per 1,000 meters.

Bagging.—Duty, 4 per cent on a valuation of 20 cents per kilogram. In 1896, the duty was 5 per cent.

Twine and rope.—Duty, 25 per cent. Valuations: For tying wool, 12 cents per kilogram; same grade, heavier, 20 cents; when 22 or more millimeters in diameter, 17 cents; when less than 22, 30 cents; in general, 60 cents.

Hemp bags.—Duty, 3 per cent on sworn value.

Binding twine.—Duty, 5 per cent on a valuation of 20 cents per kilogram.

Linens.—See cottons.

Woolens.—Duty, 25 per cent on a valuation of \$3.50 per kilogram.

Woolens, mixed.—Duty, 25 per cent on a valuation of \$2.50 per kilogram.

Waterproof cloth.—Duty, 25 per cent. Valuations: Silk, \$5 per kilogram; wool, \$3; wool and cotton, \$2.

Collars and cuffs.—Collars, duty, \$1.25 per dozen; cuffs, \$2 per dozen. The Argentine manufacture of these two articles is very extended and general

in small shirt factories. The duty has been lowered 25 cents per dozen this year on each article.

Handkerchiefs.—Duty on silk or silk mixed, 40 per cent on valuations of \$10 to \$17 per kilogram; on linen or cotton, 25 per cent on valuations of \$1, \$1.50, \$2, \$3, \$4, \$5, and \$6 per kilogram, based on size and character of work.

Umbrellas, etc.—Duty, 50 per cent. Valuations: Cotton, 60 cents each; silk or mixed silk, ordinary, \$1.50 each; same, finer quality, \$3; silk, with marble or stone heads, \$8 each.

Clothing.—Duty, 50 per cent. Valuations: Afternoon and dress suits, wool or wool mixed, \$15; sack suits, same material as last, \$12; when of cotton or linen, \$4. Valuation of children's suits, 30 per cent less than the above.

Felt hats, etc.—Duty on wool hats, 40 cents each; felt hats, nutria, etc., \$1 each; silk hats, \$2 each.

Straw hats.—Duty, 50 per cent on a valuation of 80 cents per dozen for those made of wheat straw or common vegetable fiber; for Italian straw, \$6 to \$12 per dozen; for imitation or genuine manila, \$12 to \$18 per dozen.

Towels.—Duty, 25 per cent. Valuations: Common cotton, \$1.20 per kilogram; bath, cotton, \$2; bath, linen or linen mixed, \$4; fine embroidered, \$8.

Sulphuric acid.—Duty, 25 per cent on a valuation of 5 cents per kilogram.

Linseed oil.—Duty, 10 cents per kilogram. The duty on this article last year was 25 per cent on a valuation of 12 cents per kilogram. The duty this year is the same it was previous to 1896. This old duty has been restored to protect the few Argentine linseed-oil factories.

Varnish.—Duty, 25 per cent on a valuation of 80 cents per kilogram; for lithographs, 30 cents.

Borax.—Duty, 25 per cent on a valuation of 15 cents per kilogram.

Chloride of lime.—Duty, 25 per cent on a valuation of 5 cents per kilogram.

Soda.—Duty on potassium, 25 per cent on a valuation of 15 cents per kilogram; on soda, 5 per cent on a valuation of 3 cents per kilogram.

Colors, dry and prepared.—Duty, 25 per cent on a valuation of from 5 to 30 cents per kilogram. The lower valuation is for ocher and sienna, the higher for colors in tubes.

Sheep dip.—Free.

Gelatin.—Duty, 25 per cent on a valuation of 70 cents per kilogram; when imported for the preservation or preparation of canned meats, 2½ per cent duty on a valuation of 65 cents per kilogram.

Glycerin.—Duty, 25 per cent. Valuations: When of 30°, 50 cents per kilogram; when below 30°, 25 cents per kilogram.

Glucose.—Duty, 25 per cent on a valuation of 10 cents per kilogram.

Vaseline.—Duty, 25 per cent. Valuations: Common, 35 cents per kilogram; medicinal, in bottles or boxes, 70 cents.

Wicking.—Duty, 25 per cent on a valuation of \$1 per kilogram.

Trunks, etc.—Duty on trunks, 50 per cent on sworn value; boxes, knocked down, for cigars, 25 per cent on a valuation of 25 cents per kilogram; for macaroni, same duty on a valuation of 15 cents each; for wine or beer holding 1 dozen bottles, same duty on a valuation of 25 cents each; all boxes knocked down and tin cut for packages, imported by meat packers, free; staves, free.

Furniture.—Duty, 50 per cent. The valuation of furniture is extensive in scope and too long to reproduce here. I will be glad to furnish it to any one interested. The high valuation placed on nearly all articles should be favorable to the United States, where these can be produced for less than in other countries. Chiffoniers, bedroom sets, and desks and office furniture should find a good market here. Bedroom sets composed of bed, washstand, small table, commode, towel rack, four chairs, one rocker, and one night table, are valued at from \$40 to \$100 per set. This is about half the value of the different pieces when quoted singly.

Pianos.—Duty, 25 per cent. Valuations: Uprights, \$150; square, \$300 to \$500 each.

Wood pulp.—Duty, 2½ per cent on a valuation of 4 cents per kilogram.

Soap.—Duty on perfumed toilet soap, 50 per cent on valuations of 50 cents, \$1.50, and \$3 per kilogram; common soap, cocoa, Sapolio, and like preparations, 25 per cent on valuations of 20 and 30 cents per kilogram; medicinal soaps, 25 per cent on a valuation of \$1.50 per kilogram.

Medicines.—Duty, 25 per cent. Valuations are diversified. For instance, Scott's Emulsion, \$4 per dozen; Jayne's Expectorant, \$6 per dozen; essence of witch-hazel, 60 cents per dozen; Pierce's Medical Discovery, \$8 per dozen; citrate of magnesia, up to 60 grams, \$1.50 per dozen; Mellin's Food, \$2.50 per dozen.

Rosin.—Duty, 5 per cent on a valuation of 3 cents per kilogram.

Explosives.—Duty, 50 per cent. Valuations: Block, 40 cents per kilogram; all others, \$1 per kilogram; blasting powder for mines, free.

Sulphates.—Duty, 25 per cent. Valuations: Magnesia, 10 cents per kilogram; iron, 50 cents per kilogram; copper, 60 cents per kilogram.

Stucco.—Duty, 25 per cent on a valuation of 25 cents per kilogram.

Inks.—Duty, 25 per cent. Valuations: Writing, 10 cents per kilogram; printing, 18 cents; lithographing, \$1; colored, \$1; indelible, \$1.20.

Books, maps, etc.—Duty on chromos, lithographs, and engravings, ordinary, 25 per cent on a valuation of \$2 per kilogram; on finer ones, same duty on sworn values; on maps and printed books, duty 5 per cent on a valuation of 40 cents per kilogram or free; on photographs, 25 per cent duty on valuations of \$3 per dozen for plain and \$6 per dozen for colored.

Crude steel.—Duty, 25 per cent on a valuation of 10 cents per kilogram.

Galvanized wire.—Duty, up to No. 14, inclusive, 5 per cent on a valuation of 6 cents per kilogram; above No. 14, 25 per cent on a valuation of 14 cents per kilogram; twisted or barbed fence wire, 5 per cent on a valuation of 7 cents per kilogram.

Other wire.—Duty, for fence and vineyard wire up to No. 14, 5 per cent on a valuation of 5 cents per kilogram; above No. 14, not spooled, 25 per cent on a valuation of 8 cents per kilogram; spooled wire for binders and harvesters, 5 per cent on a valuation of 14 cents per kilogram.

Nails.—Duty, 25 per cent. Valuations: Galvanized, 13 cents per kilogram; cut, 8 cents per kilogram; horseshoe nails, 30 cents per kilogram; polished brads and shoe nails, \$1.20 per kilogram; tacks, 3 cents per kilogram, specific duty.

Axles, springs, etc.—Duty, 25 per cent. Valuations: Axles, \$9 each for carriages; for carts or wagons, 12 cents per kilogram; springs for carriages, 25 cents per kilogram; for carts, 15 cents per kilogram; other ironwork, on a valuation of 20 cents per kilogram.

Carriages, carts, etc.—Duty on United States made two-wheeled carts, 50 per cent on a valuation of \$30 each; on four-wheeled buggies, same duty on a valuation of \$50 each. From other countries: Landaus, coupés, and vis-a-vis, same duty on a valuation of \$800 each; victorias and breaks, value \$500, same duty. In the tariff of 1895, a reduction was secured on farm wagons and parts to repair the same. The tariff previous to that time had been 60 per cent on sworn values. This was reduced to 10 per cent in the tariff for 1895, at which rate it still stands. Notwithstanding this rate was made known throughout the United States in 1895 no effort has apparently been made to extend our trade here in this article. No reason other than our own negligence seems to account for the fact that with this great reduction in duty and our control of the trade in this article, no advantage has been taken by our manufacturers of this opportunity to occupy a new market. During 1896, the importation of American four-wheeled buggies has nearly doubled, if not more than doubled, while it is not believed twenty-five farm wagons were imported during the same year.

Iron.—Duty on ingots and bars, 5 per cent. Valuations: Ingots, 2 cents per kilogram; bar iron, 4 cents; columns, beams, structural, and galvanized iron, 25 per cent on valuation—beams, 4 cents per kilogram; columns, 6 cents per kilogram; galvanized iron, 8 cents per kilogram.

Nuts, etc.—Nuts, bolts, and screws, 25 per cent on a valuation of 20 cents per kilogram, with the exception of fine bolts with sunk heads for beds and other uses, value 12 cents per kilogram and 40 per cent duty; iron hoops, 25 per cent on a valuation of 10 cents per kilogram.

Agricultural implements.—Plows, duty 5 per cent. Valuations: Common iron, unburnished, with extra share, \$3 each; steel or iron, burnished, extra share, with or without cutter, \$6; sulky plows, \$20; cornshellers, ordinary hand, 25 per cent on a valuation of \$5; power shellers, including engines, free; horse rakes, 5 per cent duty on a valuation of \$23 each; binders, reapers, and mowers, free; scythes, duty 25 per cent on a valuation of 40 cents per kilogram; drills, 5 per cent on sworn value; thrashers, with engines, free; all agricultural machinery, with or without power, not otherwise mentioned, 5 per cent on sworn valuation; rakes, 25 per cent on valuation—iron, 20 cents

per kilogram; wood, \$3 per dozen; hoes, 25 per cent on a valuation of 15 cents per kilogram; shovels, 25 per cent on valuations of 17 and 20 cents per kilogram.

Pasteboard.—Duty, 25 per cent on valuations of 8 cents per kilogram for ordinary and 15 cents for fine.

Paper and paper goods.—Writing paper and envelopes, 25 per cent on a valuation of \$1 per kilogram; on common colored straw paper, 12 cents per kilogram, specific; on newspaper and bookbinders' paper, 3 cents per kilogram, specific; blank books, 25 per cent on a valuation of 30 and 70 cents per kilogram; printed books, 5 per cent on a valuation of 40 cents per kilogram (partly free).

Pumps.—Duty, 25 per cent. Valuations: Hand iron pumps, 10 cents per kilogram; all others, same duty on sworn values.

Iron chains.—Duty, 25 per cent. Valuations: Common iron, 10 cents per kilogram; iron, galvanized or tinned, 17 cents per kilogram; when made of galvanized wire, 25 cents per kilogram.

Safes.—Duty, 25 per cent on a valuation of 20 cents per kilogram.

Galvanized pipes.—Duty, 25 per cent. Valuations: Cast-iron pipe, up to 75 millimeters diameter, 4 cents per kilogram; when of greater diameter, 2 cents per kilogram; galvanized pipe, 12 cents per kilogram; wrought-iron pipe, 8 cents per kilogram; lead and zinc pipe, 15 cents per kilogram; rubber or canvas hose, 80 cents per kilogram.

Stoves.—Duty, 25 per cent. Valuations: Cast or wrought iron, 15 cents per kilogram; for gas or oil, 45 cents per kilogram.

Sewing machines.—Duty, 5 per cent. Valuations: Regular, \$12 each; with cabinet, \$50; for shoe or harness makers, \$30.

Machinery.—Duty, 25 per cent. This applies to machines not specified in the tariff law valued at less than \$100; when valued at more than \$100, the duty is 10 per cent, based on sworn values in each case.

Motors.—Duty, 5 per cent on a valuation of \$1,000 each. This refers to all classes of engines (steam, gas, or oil), with the exception of locomotives, which are free, unless they are part of thrashing or corn-shelling machines.

Woven wire.—Duty, 25 per cent. Valuations: Iron wire, 35 cents per kilogram; galvanized wire, 15 cents per kilogram.

Pens.—Duty, 25 per cent on a valuation of \$3 per kilogram.

Electric goods.—Unless for the installation of public electric-lighting plants, when the duty on everything necessary is 5 per cent on sworn values, the duty on electric machinery in general, when valued above \$100, is 10 per cent; when valued below \$100, 25 per cent; electric wire, silk covered, 5 per cent on a valuation of \$4 per kilogram; cotton or gutta-percha covered, same duty on a valuation of 60 cents per kilogram. (Companies frequently secure free admission of necessary material under a clause in their contract or concession.)

Materials for mines.—Duty, 10 per cent on machinery when valued above \$100 and 25 per cent when valued below \$100 on sworn values; fuses for

mines, 25 per cent duty on a valuation of 5 cents per kilogram; dynamite, free (for the first time); blasting powder, free.

Materials for street railways.—Duty on rails and sleepers, where steam, electric, or horse power is used, free. (The street-railway companies here have, as a rule, special clauses in their concessions relating to duty. In many cases the material they need is admitted free.)

Copper and bronze.—Duty, 25 per cent. Valuation: In ingots, bars, wire, or tubing, 40 cents per kilogram.

Tin plate.—Duty, 5 per cent on a valuation of 8 cents per kilogram.

Lead.—Duty, 5 per cent in ingots and bars; in sheets, 10 per cent on a valuation of each of 8 cents per kilogram.

Zinc.—Duty on ingots and bars, 5 per cent on a valuation of 6 cents per kilogram; on sheets, 25 per cent on a valuation of 8 cents per kilogram; on plain sheets up to No. 14 for lining packages, $2\frac{1}{2}$ per cent on a valuation of 12 cents per kilogram.

Bottles.—Duty, 25 per cent. Valuations: Common bottles and flasks, up to 300 grams, \$2 per hundred; larger size, on sworn value; wide-mouthed bottles or jars, up to 250 grams, on a valuation of \$3 per hundred; above 250 grams, \$5 per hundred.

Glassware.—Duty, 25 per cent. The valuation is extended. To illustrate, glass comports, salad bowls, trays, and pitchers, if of pressed glass, \$3.50 per dozen; if blown, \$14; goblets and tumblers, if pressed, 40 cents per dozen; if blown, \$2 per dozen; glass candlesticks (single), butter dishes, and signor sets, \$2 per dozen if pressed and \$9 if blown; cruets, if pressed, \$1 per dozen; if blown, \$4; 100 per cent is added for cut or engraved glassware.

Lamps.—Duty, 25 per cent on a valuation of \$1.50 per kilogram for chandeliers, bronze or nickel stand lamps, and hanging lamps, and \$2.50 per dozen for table lamps, with or without burners, with the exception of the bowl, which is valued separately at \$4 per dozen; glass hand lamps are valued at \$1 per dozen; glass shades at 15 cents per kilogram; reflectors, 20 cents per kilogram; chimneys, 7 cents per kilogram for common and 22 cents for the best.

Stearin.—Duty, 8 cents per kilogram, specific.

Coal and coke.—Free.

Gas oil.—Free. The importation of this article from Great Britain in such large quantities is worthy of special note, inasmuch as the United States is popularly supposed to control not only the production but the price of this article, commonly called "crude petroleum." I am told the price is lower in England than in the United States.

Buttons.—Duty, 25 per cent on a valuation of 40 cents to \$8 per kilogram.

Pencils.—Duty, 25 per cent. Valuations: Slate pencils, 10 cents per kilogram; lead pencils, \$1 per kilogram; automatic, \$5 per gross.

Seeds.—Duty, 25 per cent on a valuation of 15 to 30 cents per kilogram, with the exception of cardamom seed, which is valued at \$1.50. Many classes of seeds are admitted free of duty.

Office furniture.—Duty, 50 per cent. Valuations: Desks, \$8 to \$60 each; office chairs, \$25 each, unless of walnut, valued at \$50; bookcases, \$20 to \$30 each.

Cordage.—Hemp or jute, in bales, uncarded, 5 per cent on a valuation of 6 cents per kilogram; in yarn, same duty on a valuation of 7 cents per kilogram; braided (for “alpargata” soles), 12 cents.

Earthenware.—Duty, 25 per cent. Valuations are extended. To illustrate, plates, jugs, and cups and saucers, common ware, 50 cents per dozen; earthenware, \$1 per dozen.

Cement.—Duty, 25 per cent on a valuation of \$1.20 per 100 kilograms.

Watches.—Duty, 5 per cent. Valuations: For gold watches, \$20 to \$80 each; silver, \$5 each; gold plated, \$6 each; nickel, \$1 to \$3 each.

Clocks.—Clocks, \$1.50, \$3, and \$10 each; alarm clocks, \$8 to \$30 per dozen; hall clocks and regulators, sworn value.

Scales.—Duty on each kind, 25 per cent. Valuations: Platform scales, weighing not more than 150 kilograms, \$3 each; weighing above 150 kilograms, 5 cents per kilogram of resistance; Roverbal system, under 10 kilograms resistance, \$1 each; over 10 kilograms, 15 cents per kilogram of resistance; spring balances, from \$2.50 per dozen to 3 cents per kilogram of resistance.

Copper and brass ware.—Duty, 25 per cent on valuations in general of 50 and 80 cents per kilogram.

Lead manufactures.—Duty, 25 per cent on a valuation of 15 cents per kilogram for lead pipe.

Ironware and household utensils.—Duty, 25 per cent. The valuation is extended and varied.

Oakum.—Duty, 25 per cent on a valuation of 15 cents per kilogram.

Cork.—Duty on manufactured corks, 25 per cent on a valuation of \$1.60 per kilogram; in squares, partly manufactured, 5 per cent on a valuation of 50 cents per kilogram; in bulk, crude, free.

Fish.—Duty on dried or salted fish, 4 cents per kilogram; on sardines, 7 cents per kilogram; on all others, 20 cents per kilogram.

Guns, etc.—Duty, 50 per cent. Valuations: Guns, \$3 to \$30 each, including shotguns and Remington and other central-fire rifles. Revolvers: Ordinary, without extractors, \$2 each; regular, with extractors, \$5 each; fine, \$10 each. The duty on revolvers previous to the present year has been \$3, \$7, and \$12 each, respectively, as above. The reduction made has been the result of some effort expended by the legation. The application of the old tariff was favorable to German-made revolvers, imitations of Smith & Wesson and Remingtons, and owing to faulty patent and trade-mark conditions the same abuse will continue.

WILLIAM I. BUCHANAN,

BUENOS AYRES, *January 18, 1897.*

Minister.

CONSULAR REPORTS AND FOREIGN TRADE.

Consul Meeker, of Bradford, under date of March 10, 1897, has sent to the Department a number of letters from manufacturers and others, showing the interest taken in the work of United States consular officers. Extracts from these letters are given, not only to illustrate this fact, but to show the kind of information that foreign importers as well as our manufacturers are seeking.

A. Arbenz, of Lausanne, Switzerland, with branch houses in Brazil and England, writes :

I read in the Ironmonger that some American brass founders can offer great advantages in price and quality of brass cocks and valves. As I buy these articles in considerable quantities, I should feel very much obliged if you would favor me with the addresses of the best firms in the line. I pay prompt cash and have first-rate references in England, also in the United States.

J. Barraclough, of Shelf, Halifax, England, with works in Bohemia, Germany, and Belgium, writes for the names of American makers of petroleum-lamp cotton, also of light fancy ornamental iron castings.

A New York firm writes :

Your letter addressed to Mr. W. C. Fox, of the Diplomatic and Consular Review, has been referred to us. * * * We have forwarded to George R. Ernst, United States consul, Reichenberg, Austria, a full line of samples of cloth, which we trust will meet with his approval both as regards quality and prices. Of course, the information we had to work on was limited; there was nothing said about the kinds of cloth wanted. However, we are writing Mr. Ernst fully, and if the samples forwarded are not what are wanted we will be glad to submit others, with quotations. We trust some business will result.

A cutlery company of Holyoke, Mass., writes :

We noticed in the Stores and Hardware Reporter an article pertaining to the exportation of American cutlery to England. We have been sending tailors' shears, etc., to Sheffield for many years, and have also a good business in London. * * * We think your suggestion a good one in regard to American manufacturers sending catalogues, etc., to different consuls in England.

A merchant of North Yakima, Wash., and Salem and Portland, Oregon, writes :

I read with great interest your advice to American manufacturers and exporters to have their goods presented on foreign markets. Being myself heavily interested in wool and hops, I am anxious to find a few more customers for these articles. * * * As you are no doubt aware, the hops raised here * * * can easily meet competition on the world's market with Germany's and other countries' products. You would do me a great favor if you could introduce my name to a few respectable and financially responsible consumers of hops, either wholesale dealers or any business house that makes hops its specialty, asking them kindly to communicate with me, and I shall be willing to send them samples, prices, and other information with a view to opening business.

The secretary of a Philadelphia trade organization, writes a correspondent, has set forth in considerable detail plans for the establishment of an export and import office in Canstatt. The secretary expresses his gratification at the interest taken in American products in many parts of Europe and the hope that the plan, which seems a good one, may be successful.

A safe company of Hamilton, Ohio, writes:

We take the liberty of addressing you in regard to fireproof safes. There is no doubt but what we can deliver a better and handsomer safe in England and at a price that the English maker could not compete with. We are strengthened in this opinion by information given us by a party that at one time was an employee in a large safe factory in England. We make a better and much handsomer article than the English maker, and also furnish better locks; in fact, there is no comparison between an American and English safe. As a great many articles of American make are now being successfully sold in England, we can see no reason why this should not also apply to safes. The field is large for safes for private, mercantile, bankers', and brokers' use. We suppose it would take some time to overcome prejudice, but would feel where the Englishman can purchase a better article for less money he would not allow his prejudice to interfere with his pocket, and suppose, in this respect, he is like all others.

The National Association of Manufacturers, of Philadelphia, writes:

We received an inquiry from Messrs. Mackinlay & Co., London, referring to the machinery for shelling cardamom seeds mentioned in your letter. We have been able to find but one machine which is recommended for this purpose, and are not certain that it will meet the requirements. The machine in question is made by the George L. Squier Manufacturing Company, Buffalo, N. Y., and is used for shelling rice. We have written to Messrs. Mackinlay & Co., and have asked the G. L. Squier Company to communicate with them. We are obliged for the sample of cloth forwarded, and will see if we can interest some of our manufacturers in this line of goods.

MEAT-INSPECTION LAWS IN BELGIUM.

Minister Ewing, in a report dated Brussels, March 10, 1897, prepared at the request of the Department for information relative to laws in Belgium to prohibit the importation of beef, beef extract, and soup, if said articles were accompanied by a Government certificate to the effect that they were sound, says:

In compliance with the instruction of the 1st of February last, I applied to the Belgian Government in order to be furnished at as early a date as possible with the information requested by Messrs. de Wolf & Christianesen, of New York, regarding the importation from the United States into Belgium of salted beef, beef extract, and soup.

In reply to my communication on the subject, I have just received from the Minister of Foreign Affairs a series of documents prepared at his instance by his colleague, the Minister of Agriculture and of Public Works, the substance of which concerns the laws, royal orders, and regulations governing the said importation and which I have the honor to inclose herewith. Among them will be found Pamphlet A, entitled "Recueil des dispositions légales et réglementaires relatives au commerce des viandes," which contains

all the laws and regulations issued on the matter up to the 4th of March, 1892. The regulations affecting the subject which have been adopted from that time up to the present day are embodied in a series of documents numbered from 29 to 50.

Articles 13 and 14 of the general regulation of the 9th of February, 1891, which has been reproduced on page 6 and following of Pamphlet A, refer to the importation of fresh meat. Article 20 of said regulation provides especially for the importation of alimentary meat products and reads as follows:

Alimentary products prepared outside of the country from butcher's meat, greases, etc., such as bacon and ham, before being offered for sale, shall be verified by the expert inspector, at the expense of the importer, according to the tariff adopted and at the place designated conformably to article 14.

If the expert judges these products suited to alimentation, he will set upon each piece or upon each package a stamp with the word "Etranger" ("Vreemd").

The counter expert inspections must be performed as is prescribed in articles 9 and 10.

This pamphlet gives, on page 35, the form of the certificate required by article 13 of the regulations.

A law of December 30, 1895, the text of which is found among the documents hereto annexed (pamphlet No. 49) establishes, in article 1, certain provisions concerning the admission into Belgium of fresh, prepared, or preserved meat obtained from horses, asses, and mules.

SYNOPSIS OF BELGIAN LAWS RELATING TO THE INSPECTION OF MEATS.

[Law of August 4, 1890.]

All meats, especially the internal organs of animals, shall be subjected to examination.

A tax, to be collected from the interested parties and not exceeding the cost of the expense of examination, shall be paid. This tax shall be determined by the Government or township.

The burgomaster and the Government agents have the right to enter, while they are open, the shops where meat is sold, and, at any time, places where it is prepared for the market and take samples for microscopic examination.

[Law of February 9, 1891.]

All animals slaughtered (including the hog, when its meat, fat, or blood is designed for alimentary purposes) must be examined after slaughter by a Government expert.

Townships have a right to demand an examination previous to slaughter, as well as the one above mentioned, of animals killed in their territory. The conditions of this examination shall be regulated by the township and the latter shall pay the expense.

Modification of February 25, 1891.—The tax for slaughter, including the cost of examination, in the township slaughterhouses varies from 10 to 29 cents per 220 pounds.

After slaughter and before the dismemberment of the animal, the expert shall inspect the body and intestines. Before his arrival, the abdominal viscera shall be extracted so as to retain their relative position. The pectoral organs must adhere. In solipeds, besides the above-named organs, the trachea and larynx must remain attached.

Modification of October 30, 1894.—For purposes of identification, the skin must adhere. If the animal is unsound, the expert will give the owner a certificate explaining the nature of the disease, the medicines administered, the method of killing, and the approximate valuation of the loss in case part of the meat is rejected. If the meat is considered good, the expert shall affix a stamp on each quarter, or on each half animal if it is a lamb, kid, or sucking pig.

Modification of February 20, 1894.—If the owner does not accept the opinion of the expert, he has twenty-four hours in which to have a contraexamination made by a veterinary

of his own choice. If they fail to agree, the veterinary inspector of the province will decide the matter. The owner will pay the cost if the decision is against him; if it is in his favor, the Government or township will pay.

IMPORTED MEATS AND PRODUCTS.

[Law of February 9, 1891.]

Modification of December 30, 1895.—Fresh imported meats are admitted only as animals, half animals, or front quarters, on condition that the lungs adhere.

The meats, fats, etc., must be accompanied by a certificate, given in Belgium by an expert inspector, and must have a special stamp affixed by the latter with the word "Etranger" ("Vreemd"). In case of fats, the stamp shall be on the vessels that contain them.

The examination of fresh meats, alimentary products, greases, etc., shall take place at the frontier or on arrival at the destination, or wherever the importer chooses. The cost will be supported by the importer according to a fixed tariff.

Foreign alimentary products prepared by means of butcher's meat, greases, etc., such as bacon, hams, etc., before being offered for sale, shall be verified by the expert inspector, at the cost of the importer, according to the tariff adopted and at the place mentioned. If the expert finds the products suitable for alimentation, he will stamp them as above described.

The sale of game shall be subject to special surveillance.

Modification of February 7, 1893.—The fabrication or preparation by the aid of meats, blood, or greases of animals, of alimentary products, such as hash, sauce, extracts, etc., can take place only in establishments designed for that purpose. Those who slaughter hogs, however, are allowed to prepare for sale, by salting or smoking, part of the meat of these animals, on condition that each piece shall be examined before selling.

[Law of February 28, 1891.]

Inspectors have a right to take samples for examination. If the dealer wishes, he can request part of the sample to be left with him in case he should desire a contraexamination. If the inspection proves that the meats or products are unwholesome, the inspector can cause them to be destroyed, as well as other meats or products in the same condition. If the contrary is proven, the cost of the sample will be paid to the dealer within a month; if the products are destroyed and it afterwards appears that they were good, the dealer will be reimbursed. Material destroyed by the inspector during examination will be paid for within eight days on presentation of receipt given by the inspector. In case of condemnation, the cost of the examination and sequestration will be paid by the dealer. The reimbursements will be made by the Government or township, according to the authority under which action was taken.

Circular of March 4, 1892.—Inspectors shall not exact payment for any reason whatever. The townships have a right to levy a tax to cover expenses. This may be fixed by head for the animals killed in Belgium and by pound for imported meats. It should be the same, whether the meat is good or bad or whether the services of a veterinary have been necessary. The tax should not exceed the actual cost of the service.

HORSE MEAT.

[Law of February 9, 1891.]

The slaughter of horses, mules, donkeys, etc., must take place in slaughterhouses designed for that purpose, except (when it is impossible to transport the animal) by special permit.

Commerce in meat of horses, etc., can take place only in establishments bearing the name in large letters. It is forbidden to mix horse meat with other, or to sell horse meat without declaring its origin.

Modification of December 30, 1895.—Fresh butchers' meat of horses, etc., is imported only when the respiratory organs are adherent.

No. 199—9.

TRANSPORTATION.

[Law of December 20, 1894.]

Meats shall be transported under the following conditions:

Every piece shall be properly stamped; or, if a number are packed together, the sender must declare in the accompanying letter of description or on the address that the package contains only stamped meats, greases, refuse, etc.

The meats, etc., can be sent in packages so arranged that no substitution has been possible between inspection and delivery. The package should be accompanied by a signed certificate, giving date, place, whence it comes, and the sort and quantity of meat or alimentary product.

Meats preserved in liquids can be admitted only in iron casks or oaken, iron-bound casks, according to their nature. Meats not preserved in liquid, salted, smoked, sausages, lard, etc., must be packed in wooden cases. Tallow is admitted in wooden cases or hermetically sealed bags.

Albumen extracted from blood must be in water-tight wooden cases. Bones (boiled and dry), horns, hoofs (all without flesh adhering), dried and salted skins are transported in special wagons. Fresh skins must be carried in closed wagons at night.

[Law of February 9, 1891.]

All meats, greases, refuse, etc., fresh and prepared, shall be subject to the surveillance of the police and inspectors during transport, as well as while in the places where they are being prepared and sold.

Modification of January 29, 1896.—Townships which subject meats, products, etc., to a second examination must conduct it at the dealer's or before the opening of the markets.

Meats, greases, etc., of animals that are not suitable for alimentary purposes or are afflicted with contagious diseases are subject to special regulations.

CASES WHEN THE MEAT MUST BE REJECTED.

[Law of April 28, 1891, modified July 23, 1894.]

When there is evidence of incomplete strangulation; when the meat is bloody, infiltrated, or ecchymosed (unless it is at once subjected to a temperature of 100° C. for at least two hours); when it shows evidences of the presence of poison, or of such medicaments as ammonia, sulphuric ether, camphor, asafetida, nux vomica, etc.; when it is spoiled or emits a bad odor; when it comes from animals cachectic or suffering from the following diseases: Anthrax, tuberculosis in any form (except, in some cases, after sterilization by an expert, modification of September 30, 1895); glanders, farcy, hydrophobia, trichina, scurf, scab, cattle plague, septicæmia, pyohemia, uremia, jaundice, arthritis, rouget in any form, melanosis, cholera, pneumonia, gangrenous inflammation of the viscera, skin dropsy, horse typhoid, tetanus, malignant ringworm, or phlegmon.

When cattle suspected of contagious pleuropneumonia are slaughtered by order, their meat can be put on the market only after examination by, and the reception of a stamp from, the veterinary inspector of the province. The examination is free.

Model of certificate which should accompany meat, grease, or refuse imported into Belgium.

Je soussigné _____, médecin vétérinaire à _____ déclare avoir examiné _____ dont le poids s'élève à _____ kilogrammes et l'avoir reconnu _____ à la consommation.

Cette denrée importée par _____, de _____, est expédiée vers _____, à l'adresse de M _____.

Délivré le présent certificat à _____ le _____ 189 _____.

Le médecin vétérinaire _____.

[Translation.]

I, the undersigned [name in full], veterinary physician at [residence], declare that I have examined [describe in full; what animal, what part], of which the weight is [give number] kilograms, and that it is [whether suitable or not] for consumption.

This commodity, imported by [exact name of sender], of [whence it comes], is sent to [destination], to the address of [name of receiver].

This certificate is delivered at [place], the — 189 .

Veterinary surgeon.

ENGLISH DAIRY IMPORTS AND PRICES OF CEREALS.

I inclose a statement from the London Times, January 19, 1897, giving—

(1) Average prices per imperial quarter of wheat, barley, and oats in the United Kingdom for the ten years 1887 to 1896.

Year.	Wheat.		Barley.		Oats.	
	s.	d.	s.	d.	s.	d.
1887.....	32	6	25	4	16	3
1888.....	31	10	27	10	16	9
1889.....	29	9	25	10	17	9
1890.....	31	11	28	8	18	7
1891.....	37	0	28	2	20	0
1892.....	30	3	26	2	19	10
1893.....	26	4	25	7	18	9
1894.....	22	10	24	6	17	1
1895.....	23	1	21	11	14	6
1896.....	26	2	22	11	14	9

(2) Quantities and values of butter, cheese, and margarin imported into the United Kingdom for the years 1893, 1894, 1895, and 1896.

Year.	Butter.		Cheese.	
	Quantity.	Value.	Quantity.	Value.
1896.....	3,037,947	£15,344,083	2,244,535	£4,900,428
1895.....	2,825,662	14,245,230	2,133,819	4,675,130
1894.....	2,574,835	13,456,699	2,266,145	5,474,940
1893.....	2,327,474	12,753,593	2,077,462	5,160,918

Year.	Margarin.		Total.	
	Quantity.	Value.	Quantity.	Value.
1896.....	925,934	£2,498,425	6,208,416	£22,742,936
1895.....	940,168	2,557,170	5,899,649	21,477,530
1894.....	1,109,325	3,044,810	5,950,305	21,976,449
1893.....	1,299,970	3,655,344	5,704,906	21,569,855

(3) Imports of butter for the years 1893, 1894, 1895, and 1896 and the different countries from which this product is obtained:

From—	1896.		1895.		1894.		1893.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>
Denmark.....	1,228,784	40.4	1,162,770	41.2	1,102,493	42.8	934,787	40.1
France.....	467,601	15.4	454,843	16.1	424,645	16.5	468,317	20.1
Sweden.....	323,820	10.7	310,809	11	266,306	10.3	267,401	11.5
Holland.....	234,469	7.7	191,201	6.8	165,157	6.4	142,811	6.1
Australasia.....	219,015	7.2	313,393	11.1	290,605	11.3	169,439	7.3
United States.....	141,553	4.7	66,932	2.3	29,996	1.2	22,930	1
Germany.....	107,825	3.5	112,338	4	137,755	5.4	164,985	7.1
Canada.....	88,357	2.9	38,949	1.4	20,837	0.8	43,160	1.9
Other countries.....	226,514	7.5	174,422	6.1	136,991	5.3	113,644	4.9
Total.....	3,037,947	100	2,825,662	100	2,574,835	100	2,327,474	100

(4) The importation of cheese for the years above named and the countries from which the product is received.

From—	1896.		1895.		1894.		1893.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>	<i>Cwts.</i>	<i>Per cent.</i>
Canada.....	1,234,297	55	1,150,013	53.9	1,142,104	50.4	1,046,704	50.4
United States.....	581,187	25.9	500,419	23.4	672,347	29.7	645,235	31
Holland.....	292,988	13	305,920	14.3	298,693	13.2	269,364	13
Australasia.....	55,149	2.5	92,759	4.4	54,378	2.4	37,114	1.8
France.....	45,676	2	56,393	2.7	52,969	2.3	58,346	2.8
Other countries.....	35,238	1.6	28,310	1.3	45,654	2	20,699	1
Total.....	2,244,535	100	2,133,819	100	2,266,145	100	2,077,462	100

I may, perhaps, add that on account of the inferior quality of some of the cheese shipped here by unprincipled manufacturers of a compounded product known commercially as "filled" cheese, buyers have been largely prejudiced against the American product.

The difference between Canadian shipments (55 per cent) and those of the United States (25 per cent) should induce our producers to investigate the cause.

A. D. DICKINSON,
 NOTTINGHAM, *January 20, 1897.*

Consul.

NOTES.

Two Looms for Woolen Weavers in Germany.—Consul Monaghan, of Chemnitz, January 23, 1897, says:

For a long time, manufacturers of woolen cloths have been considering the question of making weavers attend two looms, instead of one. Foreign competition has compelled them to do so. To-day and henceforth, in this country, woolen weavers are to run two looms. The principal cause of the change is to be found in England's power to put down Huddersfield woolens in Aix la Chapelle, in spite of freights by land and sea, plus 10 per cent import duties, cheaper than the Aix la Chapelle manufacturers can sell at their own gates. For a long time, German manufacturers were unable to find out the factors that made this possible. They claim to have discovered them in England's two looms to each weaver. This reduces the price of production for England so much that competition, not only outside, but at home, is no longer possible on the old basis. The entire United States market, for a long time held by Aix la Chapelle specialties, is now in the hands of Huddersfield, Bradford, and other English cities. The thing to be done, in the face of such facts, is to follow England's example and make weavers run two looms. This is now the rule. The laborers find it hard, and it is hard. No one who knows anything about the nerve tension consequent upon running all kinds of textile machines will fail to pity the people compelled to run two looms, where formerly they tended only one. Less pay, relatively more work, physical exhaustion, and quicker general debility and despondency will be the results. Hundreds are to be turned out of employment who know no other way to win a livelihood. The promises to find employment for them in other branches are too hollow to have any effect, except to raise hopes that will never be realized. All eyes here are turning toward the United States with the hope that the one-weaver-to-two-loom system will win back for Aix la Chapelle the trade of the firms that bought there formerly, but buy now in England. The employees urge that under the new system they will break down and be unfit for work at 40 years of age, rather than, as now, at 45. If in no other way, the eyes will wear out, making good, fine weaving less possible. This danger, the manufacturers say, will be met by putting in better material, thus lightening the labor for eye and hand. How much this will help, if carried out, remains to be seen. That wages will be less, relatively, is a foregone conclusion. Workmen and employers are not yet agreed as to how best to adjust the new rates. The whole problem is engendering, or, certainly, is in danger of engendering, difficulty between the interested parties. The manufacturers, if they are to hold their own and to win back what they lost or were losing, must do as England has

done. The battle is to be fought out. Germany can not compel outside forces or influences, except as she meets them in the world's markets. In the past, those places that were most famous for their handmade products fought hardest against power machines. Many of them lost all, manufacturers up with the times opening in less discontented districts.

Commercial Travelers in Germany.—Under date of January 23, 1897, Consul Monaghan sends from Chemnitz a copy of an ordinance on the above subject, as follows:

(1) All foreigners who intend to do peddling or who desire to ply their trade traveling (from town to town) must have a license.

(2) A license, however, is not needed by foreigners who import and sell farm and garden products, fruit, eggs, poultry, beeswax, and honey; but such foreigners may be prevented from carrying on their trade (*a*) if they are afflicted with a repulsive or contagious disease, or if they are disfigured in a repulsive manner; (*b*) if they are under police surveillance; (*c*) if they have ever served a sentence of three months or more for any criminal act or misdemeanor, unless at least three years have elapsed since the expiration of such sentence; (*d*) if they are known as habitual drunkards or vagrants; (*e*) if they are not yet 25 years of age, unless they are the support of a family; (*f*) if they have no residence as distinguished from domicile in Germany; (*g*) if they have ever been fined or punished in any way for violating any of the ordinances referring to peddling; (*h*) if they have one or more children who are not properly cared for or who, if between 6 and 14 years of age, are not receiving sufficient education.

(3) A license is to be refused if the full number of licenses allotted to the district has already been issued, or if, in the district for which a license is sought, no want is felt for such line of trade (or goods) which the applicant intends to carry on.

(4) Peddlers and menders of crockery, tin and wire ware, and similar articles, organ grinders, and street musicians can get a license only when they have had one for the same trade during the preceding year. No license is to be issued to gypsies.

(5) A license is only for the district for which it was issued, but may be extended by the proper authorities. A license, however, at no time protects any foreigner from being sent out of Germany, if the authorities see fit to do so.

(6) A license may be issued for a shorter period than the calendar year, or for certain days only.

(7) Persons having a license must also have a special permit in order to be allowed to be accompanied by others. Such permit, however, can not be granted for any one who, if applying for a license himself, would be barred by reason of not meeting any of the requirements contained in the foregoing sections. Permission to take along persons of the opposite sex, unless in the case of husband and wife, or vice versa, or one's own children or nephews over 21 years old, can be refused, unless as hereinbefore provided for.

Commercial travelers in particular.—(1) Commercial travelers who are in possession of the special license specified in the treaties, are subject to all the stipulations of the treaties. If commercial travelers carry the goods they sell with them, or if they buy goods or solicit orders from other persons than merchants or manufacturers without express previous request, they must comply with the regulations laid down under it (see above). Excepted, however, are those soliciting orders for printed matter, books and pictures, wine, linens, and sewing machines.

(2) The special license for a commercial traveler entitles the holder, after payment of the regular fees, dues, usual taxes, etc., to carry on business throughout the Empire. As to the issuing, refusing, or forfeiting of the special license the same rules apply as above laid down

(3) Goods bought in the regular course of business may be taken along to their place of destination. Commercial travelers selling goods are only allowed to carry samples (patterns) of the articles they sell.

All foregoing stipulations are to take effect January 1, 1897.

Tax on Foreign Commercial Travelers in Norway.—Consul Gade writes from Christiania, under date of February 10, 1897:

A law of July 27, 1896, relating to a tax on foreign commercial travelers was passed at the last session of the Storting and went into effect on January 1, 1897. The law provides that foreigners or Norwegian subjects residing abroad and not subject to taxation in Norway, who are traveling in this country with or without samples, and offering goods for sale which are to be imported from abroad, shall, on their arrival in Norway, procure a certificate from the nearest police officer. The certificate shall be paid for in advance at the rate of 100 kroner (\$26.80) for each calendar month, and the tax shall be paid into the treasury. In case of disobeying the provisions of the law, the foreign commercial traveler shall be fined from 100 to 500 kroner (\$26.80 to \$134), besides paying the usual cost of the certificate. This tax, which has a parallel in Sweden, has called forth strong protests in the German and French newspapers.

New Transport Line to Berlin.—Consul-General de Kay, of Berlin, writes January 25, 1897:

Thinking that such action will assist trade between Germany and the United States, afford great convenience to the public in both countries, and incidentally favor the only considerable line of Atlantic steamships belonging to Americans, I have issued a circular to the United States consuls in North Germany and Saxony calling attention to a new venture in the way of an express to the United States.

The firm of Brasch & Rothenstein has made arrangements with the American Line of steamers leaving Southampton, also with the customs authorities in Holland and England, whereby they send goods valued at \$500 or under via Flushing and Queensboro to Southampton in time to catch the American steamer. The regular time from Berlin to New York is to be ten days; goods are to be passed on the dock, in accordance with act of Congress passed June 8, 1896, and are to be delivered, duty and delivery expenses paid, at the address of the consignee in any part of the United States.

Germany and Austria are arranged in zones and costs of expressage are, as much as possible, fixed and equalized.

In accordance with discretionary power granted me by instruction of February 11, 1896, I have given to Mr. Weil, the manager of the American Express Line, a list of exporters to the United States from this consulate-general.

After consultation with Mr. Frank H. Mason, consul-general at Frankfort, and at his request, I forwarded to him copies of the circular prepared for the officers in my jurisdiction, which he was to forward over his signature to those in his jurisdiction; I also furnished some to Consul-General Carroll, at Dresden.

The circular referred to states that the exact cost of delivering parcels of a given weight to a given destination can be reckoned beforehand. Tariffs and tables are given. For instance, to send 5 pounds from Aix la Chapelle to Denver would cost \$2.41; to send 30 pounds from Frankfort to New York would cost \$3.92, etc.

Superiority of Banking in France.—On February 16, 1897, Consul Germain writes from Zurich that the Paris edition of the New York Herald contains, in its issue of February 15, an editorial on "The superiority of banking in France." He thinks it will prove interesting and instructive to the financial and mercantile circles of the United States. The article mentions the notable fact that the Bank of France still keeps its rate at 2 per cent, which figure it has evenly maintained throughout all the monetary disturbances of the past year, while the rates of national banks in England and Germany are, respectively, 3 and 4 per cent; in Austria, 4 per cent; Russia, 4½ per cent; and Italy, 5 per cent. The bank keeps the rate of discount low and prevents variations; makes advances to the State without interest; supplies the paper circulation and keeps it at a parity with gold all over the world, and thus has elevated and maintains French credit at the highest possible level. In the dolorous period following the war with Germany, the bank advanced about 1,500,000,000 francs to the State, for which it received only 1 per cent interest, and the money was not all repaid until 1879. Since that time, the Bank of France in its operations has consulted the interests of the State and of the commercial community rather than those of its own stockholders; and yet, in spite of this, the profits for the past year equaled 11½ per cent on the par value of the shares or about one-half more than the Bank of England earned for its stockholders, although it maintained its discount rate for months at double that charged by the Bank of France.

German Traffic Through the Suez Canal.—Consul Germain, of Zurich, writes under date of February 24, 1897:

The imperial German mail steamers contribute annually 2,500,000 francs (\$500,000) in round numbers to the Suez Canal Company for passage money, or a sum equal to nearly half the mail subsidies received from the Imperial Government. The charges imposed by the canal company are 8 francs (\$1.54) per register tonnage and passage. The German mail steamers passing the Suez Canal en route to East Asia are: The *Bavaria*, with a register tonnage of 5,343; the *Prince Henry*, with 6,613; the *Prussia*, with 5,615; the *Saxony*, with 5,338. They make in all twenty-four trips per annum.

One ship sails to and from East Asia once a month. To Australia and return there are also twenty-four sailings of twelve trips each way, and the steamers engaged in that traffic are: The *Prince Regent Luitpold*, with 6,592 tons; the *Oldenburgh*, with 5,318; the *Gera*, with 5,319; the *Darmstadt*, with 5,316; the *Frederick the Great*, with 10,700; and the *Barbarossa*, with 10,700 register tonnage.

A Lesson in Economy.—Consul Germain writes from Zurich, February 2, 1897, in regard to a plan recently introduced in the public schools of several European cities. In Brussels, the children attending public schools were requested by their teachers to gather up, on their way to and from the school, all such apparently valueless objects as old metallic bottle capsules, tin foil, tin cans, paint tubes, refuse metals, etc., and deliver their collections daily to their respective teachers. In the period from January 1 to October 1, 1895, or within eight months, the following amounts were collected: Tin foil, 875 kilograms (1,925 pounds); old paint tubes, 100 kilograms (220 pounds); bottle capsules, 2,007 kilograms (4,415 pounds); scraps of metal, 555 kilograms (1,221 pounds); total, 3,537 kilograms (7,781 pounds). This apparent rubbish was disposed of and the proceeds applied so as to completely clothe 500 poor children and send 90 sick ones to recuperation colonies, and there still remained quite a balance, which was distributed among the poor sick of the city.

The Production of Large Artificial Diamonds.—Consul Germain, of Zurich, sends, February 4, 1897, the following:

Diamonds of a very small size have been produced artificially heretofore, but no one has as yet succeeded in producing large ones. Mr. E. Moyat claims to have discovered a new process by which to produce diamonds of large dimensions. In principle, his process is about the same as the one already invented by others, and that is to obtain crystallized carbon out of iron and coal, by means of high pressure and high temperature. Yet there is some improvement in the Moyat process as regards the technical operation. Pulverized coal, iron chips, and liquid carbonic acid are placed in a steel tube and hermetically sealed. The contents are then subjected to the action of an electric arc light by means of two electrodes introduced into the tube. The iron liquefies, is then saturated by part of the pulverized coal, at the same time the liquid carbonic acid evaporates, thereby creating an enormous pressure on the mixture of iron and coal. This pressure again considerably increases the dissolution of the coal in the liquid iron. While the mixture is cooling, the carbon crystallizes partly in the form of real diamonds and partly in the form of similar stones. These crystals are then segregated by dissolving the iron in diluted muriatic acid. The mixture, by the above method, remains under high pressure during the operation of the electric current, while by other methods the pressure is obtained later on only by means of the rapid cooling process of the crucible.

Railways in Spain.—Consul Bartleman, of Malaga, January 30, 1897, sends the following statistics taken from the *Cronica de Ferrocarriles* (Railway Chronicle) of Madrid, in reference to Spanish railways in 1896:

The railways opened to public service during the past year are as follows: June 21, the section from Salamanca to Bejar of the railway from Plasencia to Astorga, West Spain, 87 kilometers; July 1, from Lucaína de las Torres to Ensenada de Agua Amarga, 37 kilometers; July 6, the section from Orejo to Aranguren of the railway of Zada to Solares between Santander to Bilbao, 78 kilometers; October 22, the section from Guadix to Moreda of the railway from Linares to Almeria, 26 kilometers; December 26, branch from Sarna to Samuño of the railway of Langreo, 2 kilometers; total, 230 kilometers.

During the last ten years the increase in railways has been 3,485 kilometers, according to official data, divided as follows:

Year.	Length.	Year.	Length.
	<i>Kilometers.</i>		<i>Kilometers.</i>
1887.....	200. 33	1893.....	468. 246
1888.....	161. 846	1894.....	458. 971
1889.....	191. 524	1895.....	716
1890.....	227. 716	1896.....	230. 25
1891.....	334. 736		
1892.....	495. 447	Total	3, 485. 066

Census of the Hawaiian Islands.—Consul-General Mills, of Honolulu, sends, under date of February 8, 1897, the official figures showing the result of the census of the Hawaiian Islands, which has just been completed. The statement is as follows:

The Hawaiians head the list with a total of 31,019. The Japanese colonization comes next, with the Chinese a close third. The official table, as prepared at the census office, is:

Nationalities.	Males.	Females.	Total.
Hawaiians.....	16,399	14,620	31,019
Part Hawaiians.....	4,249	4,236	8,485
Americans.....	1,975	1,111	3,086
British.....	1,406	844	2,250
Germans.....	866	566	1,432
French.....	56	45	101
Norwegian.....	216	162	378
Portuguese.....	8,202	6,989	15,191
Japanese.....	19,212	5,195	24,407
Chinese.....	19,167	2,449	21,616
South Sea Islanders.....	321	134	455
Other nationalities.....	448	152	600
Total.....	72,517	36,503	109,020

Plan to Exhibit American Goods in Paraguay.—On October 10, 1896, Consul Thomé writes from Asuncion:

I have the honor to report that I am now in possession of some samples of imported articles, such as prints, cottons, and shirtings, which, although not really representative of the importations of these goods, will serve to

give an idea of same. I have written to various commercial houses in the United States asking their cooperation in the establishment of American show rooms in this city, subject to the approbation of my Government, as the easiest means of presenting the products and manufactures of our country to the importers and dealers in Paraguay. I shall have the favorable help of this Government and chiefs of departments in the work of establishing a project of this kind in this country. I shall await letters from merchants at home and communicate with the Department as to what their dispositions may be. The difficulty of remittances to the United States, caused by the high premium on gold, could be overcome by forwarding timber and "tanino," that is, the bark of certain trees that grow extensively in this country, which is excellent for tanning purposes. In my opinion, this would be a profitable business in itself, as I am told its importation into Europe gives excellent results.

Window Glass in Turkey.—The following is from Consul Stephan, of Annaberg, dated January 7, 1897:

The French chamber of commerce in Constantinople reports that that city consumes annually about 40,000 cases of window glass, which comes chiefly from Belgium. The glass is cheap, and for this reason finds a ready market, though it is of a most inferior quality, of a greenish color, and defective throughout. The price varies between 15 and 25 francs (\$2.89 and \$4.83) per case, according to size. The total imports into Turkey of window glass during the year 1892-93 amounted to 93,269 cases, valued at 1,392,401 francs (\$268,733). The home production covers only a very small part of the demand, as only a few small factories exist in the Empire. The factory at Pascha-Bagtsché produces chiefly lamps and lamp cylinders.

Manganese Mines in Brazil.—Consul McDaniel, of Bahia, writes, February 1, 1897:

In my report to the Department of State on "Minerals and mining industries of the State of Bahia," dated December 14, 1895, I mentioned manganese ore existing near this city, which had not been worked or prospected. These lands have been purchased by a company, which engaged an engineer with practical experience in manganese mining to survey and prospect the mines. This engineer has just returned from his work and informs me that these mines have proven to be the richest in quantity and quality known and convenient of access, being situated about 16 miles from the port of Nazareth, on the railroad between Nazareth and Amargosa. Nazareth is about 50 miles from this city. Mr. Grason, the engineer, estimates that over 1,000,000 tons of first-class ore are in this mine.

New Post-Office at Ghent.—Under date of February 22, 1897, Consul Morris, of Ghent, writes to call attention to the new post-office about to be built. He thinks it might afford an opportunity to American firms to supply some post-office specialties in the way of fixtures—post-office boxes, etc. All correspondence relative thereto should be addressed to the Honorable Ministre de Postes et Telegraphes, at Brussels.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of March to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Robert J. Kirk, Copenhagen...	Feb. 19, 1897	Treatment of plants with ether.	Department of Agriculture.
H. W. Bowen, Barcelona.....	Feb. 19, 1897	Coining of Spanish silver.....	Director of the Mint.
N. W. McIvor, Kanagawa.....	Dec. 30, 1896	Buckwheat	Department of Agriculture.
Newton B. Ashby, Dublin.....	Mar. 12, 1897	Health of Dublin in 1896.....	Marine Hospital Service.
Van Leer Polk, Calcutta.....	.....	Indian Government crop reports.	Department of Agriculture.

FOREIGN REPORTS AND PUBLICATIONS.

French Control in Madagascar.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, 1897 (received by the Department in March, 1897), contains a letter from a member of the society from Madagascar, dated November 24, 1896, which says:

I hope to be able to give you more accurate information than can be obtained from the misleading newspaper accounts. It was published, for instance, that a state of siege was announced at Tananarivo in July; the truth is, it took place September 27. The insurrection caused a blockade during the months of July, August, and September. Every day the rebellion grew, fostered by the Queen's advisers, who, under the guise of devotion to the French cause, succeeded in deceiving General Laroche. This unfortunate officer, this impractical dreamer, saw only through the eyes of our enemies. He concerned himself little for the French colonists and planters; the English were the objects of his solicitude, and, thanks to him, our rivals were regaining the moral influence over the population which the success of our arms had to a certain extent diminished.

* * * * *

Continually deluded by the Queen and her Government, he refused to admit as true the proofs that were daily brought him of the complicity of the Court with the Fahavalos; he liberated the principal authors of the insurrection, and allowed only insignificant participators to be tried. His last act was to remove from military jurisdiction several persons of high position whom General Gallieni would certainly have had shot. He caused them to leave the country, after pensioning them.

When the news of his recall arrived, the French residents and merchants were enthusiastic with delight. The situation changed at once. The Hovas saw quickly that General Gallieni would not be their tool. The Queen was obliged to pay the first visit to the general; the French flag replaced the native banner on the palace; the Hovan Government was to a certain extent overthrown. Convicted of connivance with the rebels, an uncle of the Queen was shot; one of her aunts was banished to St. Marie; the Minister of the Interior was shot; the frightened and trembling Queen made many protestations of submission to the French Government.

Until the departure of M. Laroche, the military commandant was unable to take energetic measures. He saw the city surrounded by bands of rebels; communication in any direction was practically impossible. Once freed, however, from the restraint of a blind administration, bloody lessons were inflicted upon the natives. Many have submitted, others are driven into the mountains to die of hunger as an alternative. In short, for a month the situation has been much improved; the rebellion is not trodden out, but its instigators have no further hope. We can now give our attention to the commercial development of the country.

The first thing to do is to make roads; both from a military and a commercial standpoint, easy means of communication between the central plateau and the ports is indispensable. A route that was designed in 1895 has been abandoned. Mule paths have been used by the soldiers. Commerce is at present conducted only by means of native carriers. A French transport company has recently imported six hundred mules from the Argentine Republic, but they are untrained. It seems, also, that the company has been unable to procure native conductors and must rely on foreigners, and what is still more discouraging, the price charged for transport is 1,300 francs (\$250) per ton. Since the native carriers demand only from 1,000 to 1,100 francs per ton, the company will hardly meet with success.

On the other hand, the construction of a wagon road between Tananarivo and Tamatave has been stopped. The bureau of public works had charge of the section between Tananarivo and Moramunga; the engineering corps was to complete it. The first part has been begun, and the second will probably be in progress during the month of December, as soon as the engineering corps, which is busy in making the mule path passable, can finish this more important task. Under the direction of an energetic engineer, M. Viard, the bureau of public works rendered efficient service to the colony, especially in Tananarivo, where wagon roads now replace the paths which served for the natives, but on which a European goat would have found it difficult to maintain foothold. Unfortunately, in the desire to hasten the work, debts were incurred. M. Laroche, as blind as ever, allowed the affair to go on, and since his departure, it has been found necessary, owing to pecuniary difficulties, to cease the construction. It is to be regretted that M. Viard left the colony at the same time as M. Laroche; also, that General Gallieni has not yet united the public works with the engineering corps. The latter has certain credits at his disposal, and could have advanced the work several months.

But it is not only a wagon road that should be opened between Tananarivo and the sea; a railway should be constructed. Various projects in this line have been presented, many without reliability; as, for instance, one from an Englishman who probably knows nothing about railroads except that he has traveled on them. It is now good politics to combat in every possible way the influence of the English in our new colony, and it is probable that the permit will be granted a Frenchman, who seems to understand the matter, and who has already surveyed the route. With a railroad, Madagascar would be perhaps the best of our colonies. The Fahavalos will not much longer trouble our peace. The French can come in large numbers, and remunerative fields will be opened to commerce and industry.

The country is not unhealthy. It must not be forgotten that in every land opened to human activity there has been at first a certain amount of sickness. The first attempts at cultivation and colonization are usually attended by serious mortality. Everything is to be done in Madagascar, but she will yield an abundant harvest. I have faith in her future.

Agriculture in Tonkin.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, 1897, contains a letter from M. Duchemin, dated Phu-doan, November 12, 1896, as follows:

I have, on different occasions in the past, expressed my opinion as to the advisability of treating our colonies as agricultural rather than as commercial. I have always insisted that agriculture is at the base of prosperity of a colony; that it obtains from the soil materials to foster commerce and industry, and in this way is the source of wealth; while at the same time, by means of the salaries paid, it enables the natives to buy and so increases the consumption of our products. This has been a theory of mine; I am now prepared to quote figures in support of it.

In May, 1894, I succeeded in obtaining in Paris sufficient capital for the cultivation of coffee, etc., in the plantations of Tonkin. Since the first of the following August, I have been developing the resources of the land. Below are the expenses incurred during two years: Instruments of husbandry, ironware, glassware, cement, etc., 9,650 francs (\$1,844); wages of European laborers, 16,746 francs (\$3,231); wages of native laborers employed in the fields, on the roads, nurseries, stables, etc., in the making of bricks, lime, tiles, etc., and carpenters and joiners, 51,963 francs (\$10,028); cost of sending money by telegraph, letters, etc., 597 francs (\$115). Deducting the amount expended in purchases, transportation, etc., in France, there is left 76,338 francs (\$14,733) spent in Tonkin. The French commerce received out of the total amount nearly 23,000 francs in wages for European laborers, purchases of tools and implements, as well as small purchases of the natives in the way of clothing, etc. Some 52,000 francs have been added to the local circulation, and the colony treasury has been

enriched by means of taxes, etc., to the extent of over 4,000 francs. It must be noted, also, that these expenditures have been made during a period of organization rather than of production, and it is likely that the future will augment them. If a thousand other colonists could have the same capital, in two years there would be an increase of 23,000,000 francs for French commerce, 52,000,000 francs for native salaries, and 4,000,000 francs in the treasury here. These are the reliable results of a carefully managed experiment. Later on, it is probable that the gross receipts will amount to at least 100,000 francs a year. This amount, taken from the soil with a capital imported from France, will be a veritable source of wealth to Tonkin.

It is obvious from the foregoing that if a profitable commercial colony is desired, it is first necessary to make it an agricultural colony.

Resources of Abyssinia.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, 1897, has received the following:

Menelik II, formerly King of Shoa, has been Emperor since 1889. Ethiopia is a mountainous and very fertile country, the latter characteristic being especially true of the plateaus of moderate altitude (2,000 to 3,000 meters). The products are barley, wheat, millet, maize, sorghum, flax, various oil, tincture, and medicine bearing plants, potatoes, coffee, tobacco, sugar cane, etc. There are vast forests; the sycamore, the mimosa, a sort of juniper tree, the tamarind, a variety of wild olive reaching 30 meters in height, the lemon, the orange, and the coffee tree are among the principal species. The domestic animals are horses, donkeys, cattle, sheep, and goats. Birds, civets, and bees abound. The latter contribute largely in certain sections to the wealth of the country, their honey being used in the preparation of "hydromel," the favorite native drink, and the wax serving for candles. The mountains contain gold, copper, iron, rock salt, and earth flax. Potter's clay is common and in many places very pure.

The principal articles exported are coffee, gold, ivory, civet, skins, gums, wax, and medicinal plants. The imports consist of cottons, silks, cloths, carpets, firearms, cutlery, hardware, provisions, and tools. The French colony at Obok has opened a route for commerce to Harrar and various provinces of the Empire. A postal service has been established between Djibouti, Harrar, Addis Ababa, etc., and there is telegraph communication between the two latter places. In the interior, the service is by horse; from Djibouti, by boat. The monetary unit is the "bour," bearing the effigy of Menelik. Its weight and value are the same as the Maria Theresa thaler, which is current in this part of Africa.

Addis Ababa, the capital, has a permanent population of some 50,000; the floating population is more than half as much. The total number of inhabitants of the country is 15,000,000. Addis Ababa is an important center of commerce, all products converging here. Harrar is the residence of Ras Makonen; it has a population of 42,000. This is the point of transit of all the commerce from the southern provinces. The goods are brought to the city from the interior by mules, and carried thence to the ports by camels. The annual commerce of Harrar amounts to over \$5,000,000, and is growing steadily.

Railways in Russia.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, says:

According to official statistics, the following was the condition of the railway service in Russia on December 31, 1896: On the above date, 38,848 versts (1 verst=3,501 feet) were in regular use, of which 7,593 versts were double tracks. During the year 1896, 2,300 versts were built, against 2,000 versts in 1895. There has been a steady progress since 1891. This

total of 2,300 versts comprises 1,555 versts of Transsiberian Railway, namely the section known as Ekaterinburg-Tscheliabinsk-Ob. Besides, roads are in process of construction which will add some 5,200 versts more; this is Government work. Private companies are building 3,150 versts, principally between Moscow, Briansk, and Krassny, on the Archangel line, and from Pstow to Bologoe. New lines are constantly being planned and permits are regularly issued.

Economic Conditions in Holland.—The *Journal des Debats*, of Paris, February 20, 1897, says a correspondent writes from Holland:

Valuable statistics have recently been published in regard to the economic condition of the country, the national wealth, the division of labor, etc. The total population in 1889 was 4,511,415 in number; 2,228,487 of this total were males, and 1,104,680 had attained their majority. In 1895, the number of men subject to the tax on capital was 55,807; those who paid the tax on professional revenue amounted to 205,785; the number of those paying personal taxes was 561,469; while 408,324 paid the land tax. There were 22,000 women who paid the tax on capital, 22,000 who paid the tax on professions, and 127,000 subjected to the personal tax. It should not be forgotten that incomes or salaries less than \$260 enjoy immunity from taxation.

In 1894, the national wealth was distributed as follows: One hundred and fifteen persons possessed \$800,000 or over; 287 persons possessed from \$400,000 to \$800,000; 905 persons, from \$200,000 to \$400,000; 3,326 possessed from \$80,000 to \$200,000; 6,274 possessed from \$40,000 to \$80,000; 12,005 possessed from \$20,000 to \$40,000; and 54,658 possessed from \$5,200 to \$20,000. This gives a total of 77,672 persons, the total value of whose property amounts to \$2,163,200,000.

No less interesting is the account of the social situation of the individuals. In 1889, certain statistics were published, which show that the population is divided into four classes—(1) heads of industrial enterprises, (2) managers of business interests which belong to others, (3) employees, (4) workingmen. In the first class, are 439,000 persons, of which number 69,000 are women and 47,000 married women. The second class comprises 17,000 individuals, of which 1,300 are women and 900 married women. In the third class, are 36,000 persons, of which number 5,200 are women and 200 married women. The number of workingmen who have reached their majority is 523,000; the number who have not yet attained their twenty-third year is 186,000.

If a further division of the population should be made according to the class of employment, it would be found that in 1889, of 1,000 persons, 117 were occupied in the industries, 116 in agriculture, 59 in commerce, 36 in domestic service, 6 in liberal professions, and 632 are classed without professions. It should be noted that in 1859, in every 1,000 persons there were 50 domestics, while in 1889, there are only 36, which is a sign that the prosperous classes have not increased in number. On the other hand, there are to-day 632 persons who have no profession, while in 1849, there were 588, and in 1859, 619, which shows a slow but steady progress among the working classes.

The statistics in regard to the condition of women will be found of special significance and interest. A comparison of the present state of affairs with that which existed in 1849 shows remarkable changes. In the latter year, in 100 domestics, there were 84 women; in 1889, there were 94; in dressmaking, 62 in 1849, 58 in 1889; in medicine, 18 out of 100 in 1849, 43 in 1889; in religious services, 28 in 1849, 38 in 1889; in teaching, 19 in 1849, 35 in 1889; in manufacture of foot wear, 1 in 1849, 15 in 1889; in employment in the fields, 29 in 1849, 13 in 1889; in chemistry, 2 in 1849, 12 in 1889; without profession, 65 in 1849, 69 in 1889.

The above figures are worthy of comment. The number of male domestics, which was lowered from 16 to 6 per cent in forty years, is a confirmation of what we have just said

about the situation of the prosperous classes. Women are preferably employed in the domestic service, because their rate of wages is less and because the tax on their employers is not so heavy. On the other hand, the tendency to place instruction in the hands of women is noticeable in Holland; in the period mentioned, the number of woman teachers has nearly doubled. It must also be admitted that, here as elsewhere, the fields are deserted and those who occupy themselves exclusively with agriculture are less frequently found. In forty years, the work of the fields has been abandoned by 16 women in 29. In 1849, they supplied almost three-tenths of the workers in the rural districts; to-day, they hardly constitute the seventh part. They are turning their attention to the various industries. It would take too long to discuss the causes of the change; but the figures are thought to be of sufficient importance to warrant their presentation.

An English Company in Morocco.—The *Journal des Debats*, Paris, February 21, 1897, has the following:

Our Madrid correspondent writes: "The press is much interested in the formation of a society called the Globe Venture Syndicate, Limited, of London, which has acquired the monopoly of trade in a certain territory of Morocco * * * to the exclusion of all other strangers. The society has, it seems, concluded a treaty with the council of those chieftains who have declared themselves independent of the authority of the Sultan. It comprises the immense tract of land situated between the Atlas Mountains and the Noun River. Permission is given the syndicate to establish on the shore of the Atlantic Ocean, on the coasts of rivers, and in the interior commercial stations which may in time become fortified points. The products of the country are cochineal, ivory, gold-bearing sands, ostrich feathers, mica, amber, wool, skins, wood, oil, wax, etc. The Sultan, it is said, protested against this concession of a territory which he claims as part of his own. The Minister of State has made inquiries in regard to the matter of the English Government, and has received the answer that the company was assuming the responsibility of the situation and had no official protection."

English Administration in Egypt.—Our London correspondent, says the *Journal des Debats*, Paris, February 21, 1897, writes:

The report of Lord Cromer on the finances and administration of Egypt has just been published. The English are pleased at the prosperous condition of Egyptian finances, and, from the industrial and agricultural point of view, think that the cultivation of sugar cane can be largely developed. If this be true, it is an additional reason for the English wishing to retain their control of the affairs of Egypt.

Comparative Commerce of England, Germany, and France.—A letter to the *Gaceta de los Ferrocarriles*, of Habana, February 28, 1897, says:

M. Charles Roux has been making some important investigations in regard to the commercial condition of France. To discover if the country has made progress from an industrial point of view, he has made a special study of the situation of competitive nations, and he declares that France is far from being on equal standing, not only with England, but with Germany and other countries; that is, she occupies an inferior rank among the principal commercial nations of Europe and America.

The general movement of English commerce, says M. Roux, is three times as large as that of the French, exceeding in 1895 the imposing figures of 17,500,000,000 francs (\$3,861,-

400,000). Nevertheless, England is seriously preoccupied with the efforts that Germany is making to rival her; the commercial transactions of the latter Empire during the past year reached 10,000,000,000 francs (\$1,930,000,000).

It is undeniable that English commerce is steadily growing; it is also true that the progress becomes daily less rapid. England has in her favor her increasing population and her capital. She stands to-day at the head of the financial powers of the earth; but there are signs of decay. M. Roux thinks that the insular position that has enabled England for so long to serve as an open market for the products of all countries will soon cease to be an advantage, on account of the progress in the construction of railways, telegraph services, etc. Countries can now trade directly with each other, instead of being obliged to seek a common market, and the ports of the Continent are better adapted for rapid maritime communication. The cities of northern Europe have developed in a way that gives the United Kingdom cause for serious alarm. Bremen, whose commercial movement in 1880 was in the neighborhood of 1,169,000 tons, now has over 2,000,000 tons. Hamburg, in spite of a situation that would seem to condemn it to limited commerce, promises to become shortly the most important port of Europe. In 1880, 2,800,000 tons was the total of its commercial movement; it reached 6,000,000 tons in 1894, and in 1895, 6,256,000 tons, thus surpassing Liverpool, the principal port of England.

Why has Hamburg secured a position that would seem to have been designed for Havre? The answer is, Germany has shown, in the development of her commerce, a methodical spirit of persistence that is totally lacking in France. M. Roux says that the amount appropriated by the Government to improve commerce has been diverted from its true object. The money has been distributed in eighty-six provinces; every district, every township has tried to obtain part of it, and in their endeavor to satisfy these demands the attention of the French has been drawn from more important affairs. They are now confronted by the following situation: For ten years the amount of German exports has exceeded that of the French; in 1895, the excess was over \$148,530,000. France now actually finds herself, in regard to maritime exports, in the fifth place.

Italian Exposition in 1898.—Baron Fava, Italian ambassador to the United States, in a note addressed to the Secretary of State under date of March 14, 1897, calls attention to the Sesquicentennial Exposition to be held at Turin in 1898. He says that the exposition will include an international section of electricity and a section for "Italians abroad." His Government desires that United States exhibitors participate in the former, and hopes that all facilities in the matter of transportation and custom-house requirements will be accorded them. The following is a copy of the circular issued by the commission in charge:

INTERNATIONAL ELECTRICITY EXHIBITION.

On the occasion of the national exhibition, which will be held in Turin in 1898, to celebrate the fiftieth anniversary of the proclamation of the Italian constitution, exhibitors from all countries will be admitted to the special department of electricity.

The electrical exhibition will be divided into the following classes: (1) Electric and magnetic school apparatus; (2) materials and fittings for electrical mains and distributions; (3) electrical and magnetic testing apparatus; (4) telegraphs and telephones; (5) railway signaling and block apparatus, application of electricity to train lighting and heating; (6) dynamo-electrical machines and electric motors; (7) mechanical applications of electricity, electric traction; (8) electric lighting; (9) electro-chemistry and electro-metallurgy; (10) other applications of electricity; (11) historical apparatus.

In issuing invitations to participate in the Turin Exhibition of 1898 to the electrical firms of all countries, the promoters are moved by the desire of presenting to visitors a complete display of exhibits from the best-known Italian and foreign works, including the latest and most interesting inventions and improvements. The promoters are convinced that, so far as electricity is concerned, nothing but a show where makers and specialists of all countries are represented will prove efficient in assuring progress both in science and industry.

Italy, where unemployed hydraulic power is still abundant, affords a large field to the enterprising spirit of electrical engineers.

The success which crowned the international electricity exhibition held in Turin in 1884, where, besides many other practical results, the advantages of transformers were first brought into notice, justifies the hopes of the promoters that foreign electrical-engineering firms will accept the invitation and take part in the exhibition of 1898, thus contributing efficiently, with their specialties, to make it a display worthy of this important branch of industry.

GALILEO FERRARIS,

President of the Commission of Electricity.

C. CANDELLERO,

Secretary.

T. VILLA,

President of the Executive Committee.

Melbourne Commerce.—The Consulaire Verslagen, Amsterdam, February 24, 1897, says:

The trade of Melbourne with foreign countries has greatly decreased during the last five years, owing to a reaction from the speculation that reached its height in 1889. The imports in the latter year amounted to \$45,679,036; in 1894, the total was \$19,622,758. The imports from the United States during the same period have decreased more than \$10,000. In 1894, they amounted to \$16,576, divided as follows: Ready-made clothing, \$2,581; fire-arms and ammunition, \$2,776; cotton goods (the only article that shows an increase), \$10,843; brandy, etc., \$230; earthenware, \$146.

New Method of Making Tea in China.—The following is an extract from the North China Herald, of Shanghai, February 12, 1897:

We have already referred to the attempt made by Fuchau tea men to prepare China tea with the method and machinery used in India, and we note with satisfaction that the Congou tea so made continues to attract attention at home. A prominent Edinburgh firm of tea dealers writes: "If China sends tea as strong as this, she will soon be able to compete successfully with the overwhelming flood from India and Ceylon, because there is in this sample much more of what the public consider the style and taste of tea than in the woody tasting stuff that comes from the Indian estates especially. We think that now, against India and Ceylon, such tea will pay Chinamen better than the present style, which must go out of consumption in this country."

The export of China Congou to London is now a mere dribble, and it will certainly cease altogether unless the British public get what they want. We may mention, as an illustration, that while the export of black tea to Great Britain from Shanghai up to the first week in February, 1887, was over 65,000,000 pounds, for the same period this year it has fallen to 13,000,000 pounds. It was obvious that if something were not done, China, the original home of the tea plant, would see her trade wiped out. The customs would give no assistance, it being found impossible to convince Sir Robert Hart that a modification of the exactions to which tea is subject in China would put new life into the industry. It was reserved for

people in Fuchau, threatened with extinction as a tea port, to take the bull by the horns and prepare to compete with India and Ceylon on their own ground.

If ordinary third-crop Pakling leaf is susceptible of such improvement, what possibilities are in store for teas prepared according to the new method from first-crop Yangtze leaf? It is to be hoped the chamber of commerce will use its influence to get the Tsungli Yamen to take up the question of making Chinese Congou by the method that has made Ceylon tea so popular.

Commerce in China.—The *Revue du Commerce Exterieur*, Paris, March 6, 1897, has the following paragraphs:

According to a recent letter from Fuchau to the *British Trade Journal*, candles and soap are among the principal articles exported from Europe into China. There is a constant and growing demand for these articles in the celestial Empire, but it should not be forgotten that one of the essentials to success is that a uniform quality of exports be maintained. The candles are mostly of Belgian origin, made of hard stearin, which does not melt in excessive heat. Commerce in this article is almost exclusively in the hands of German houses, which have succeeded in gaining the confidence of the natives.

Although the Chinese purchaser desires a good quality, the price is an important consideration to him; his constant tendency is to buy the cheapest obtainable. Those articles bearing a mark which is already known in the country are given the preference; and a reputation once established in this way, a constant sale is assured.

Soap is beginning to be used universally in China, and with this article, as well as with candles, the price is first considered. Ordinary bar soap, pale yellow and suds producing, is most in demand. The soap comes in boxes of various sizes, but the most convenient are those containing from 28 to 56 pounds. It is wholly useless to send catalogues and price lists; the Chinese buy only those articles which they can see. The best way to open commerce is to send small shipments on trial, to attract attention; and, later, to try to obtain larger orders.

* * * * *

M. Raoul, member of the council for the colonies, left on January 3 on a voyage to Indo-China and Malacca. He will examine the various vegetable products of these countries with a view to deciding the advisability of exporting the same, as well as the possible opening for imports. He will make a special study of those plants producing oil, lac, resin, and gum, as well as food.

Sugar in Cuba.—The *Gaceta de los Ferrocarriles*, Habana, February 28, 1897, says:

The forty sugar mills in the provinces of Habana, Matanzas, and Santa Clara represent a production of from 75,000 to 85,000 tons of sugar, even considering the unfortunate season. The warehouses of Matanzas, Cardenas, Cienfuegos, and Habana already contain some millions of sacks of sugar, and they are being sold at from 3.60 to 3.90 reales (18 to 19½ cents) for 25 pounds. They cost about 5 reales (25 cents) per 25 pounds. This severe loss is not suffered by those who have abandoned the cultivation of sugar and who devote their energies to tobacco. Prices for the latter are good and the prospects encouraging enough to warrant others in entering the same field.

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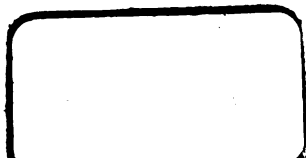
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