CANADA
DEPARTMENT OF MINES
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THE PRODUCTION OF IRON AND STEEL IN CANADA

During the Calendar Year

1913

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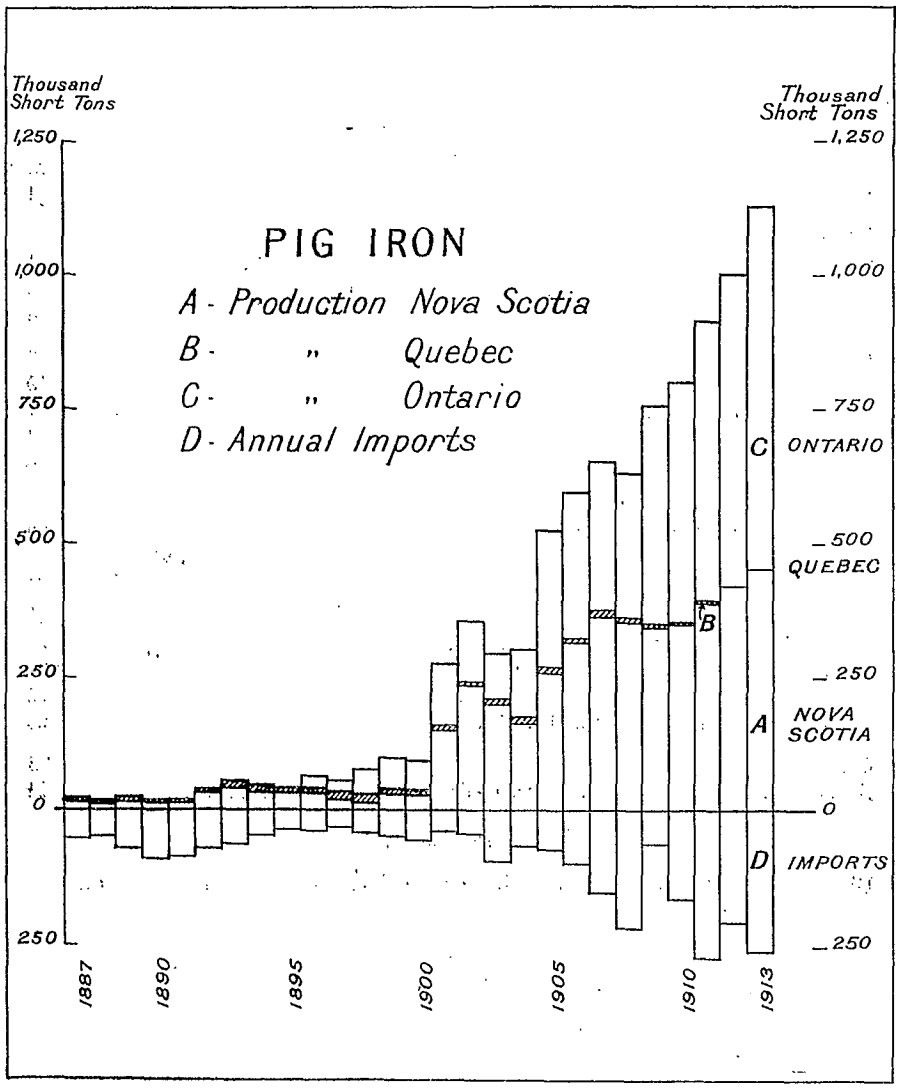
(Tons used throughout this report are short tons of 2,000 pounds, except where otherwise stated.)

CONTENTS.

Illustration.

65207—1½


PIG IRON
A - Production Nova Scotia
B - " Quebec
C - " Ontario
D - Annual Imports
Thousand Short Tons
1,250
1,000
750
500
250
0
250
1887
1890
1895
1900
1905
1910
1913
Thousand Short Tons
1,250
1,000
750
500
250
0
250
C ONTARIO
QUEBEC
B
A NOVA SCOTIA
D IMPORTS

IRON AND STEEL.

INTRODUCTORY.

Statistics of iron ore and of pig-iron and steel production in 1913 show increased shipments of iron ore from Canadian mines, an increased production of pig-iron and steel in Canadian furnaces and steel plants, and an increase in the imports of most classes of iron and steel products, but the general relationship of domestic iron ore supplies to furnace requirements exhibits no important change from the conditions that have obtained for a number of years past. Canadian furnaces continue to be operated almost entirely on imported ores, and Canadian iron and steel plants supply probably less than 30 per cent of the present consumption.

The accompanying table gives a summary of the chief statistics relating to iron and steel, while more detailed records will be found in the tables following.

Summary of Iron and Steel Statistics, 1910-13

	1910.	1911.	1912.	1913.
	Tons.	Tons.	Tons.	Tons.
Iron ore shipped	259,418	210,344	215,883	307,634
Canadian iron ore charged to blast furnaces	149,505	67,434	71,588	139,436
Imported iron ore charged to blast furnaces	1,377,035	1,628,368	2,019,165	2,110,828
Iron ore charged to steel furnaces	39,332	42,892	43,006	55,018
Pig-iron made	800,797	917,535	1,014,587	1,128,967
Pig-iron and ferro-alloys, exported	9,763	5,870	6,976	6,326
Pig-iron imported	243,859	208,487	272,565	236,769
Ferro-alloys made	7,177	7,507	7,834	8,075
Ferro-alloys imported	18,900	17,226	19,810	30,355
Pig-iron consumption	1,060,970	1,144,885	1,307,820	1,397,840
Pig-iron used in steel furnaces	690,913	700,679	706,895	913,722
Steel ingots and castings made	322,284	382,396	957,681	1,168,993
Steel rails made	399,762	399,760	471,422	554,481
Canadian coke used in iron blast furnaces	491,281	543,933	609,183	710,260
Imported coke used in iron blast furnaces	476,838	577,388	656,815	706,888
Iron and steel imported	(b) 915,425	(b)1,171,911	(b)1,323,348	(c)1,832,475
Number of completed blast furnaces.....No.	17	18	19	22
Number of men employed in blast furnaces "	1,403	1,778	1,358	1,589
Wages paid in blast furnaces.....$	1,006,727	1,097,354	993,941	1,149,345
Value of pig-iron produced.....$	11,245,622	12,307,125	14,550,999	16,540,012
Value of iron and steel goods exported. (c) $	7,895,489	9,907,281	10,682,484	13,999,149
Value of iron and steel goods imported. (d) $	59,952,197	85,319,541	102,568,832	141,272,357

(b) Figures cover the fiscal year ending March 31 and include all iron and steel goods for which weights are given. For details see Table 20.

(c) Figures cover the calendar year. For details see Tables 19 and 20.

(d) Figures cover the fiscal year ending March 31, except for 1913 when the calendar year is represented. For details see Tables 21 and 22.

Comment has been made in previous reports on the comparatively small proportion of Canada's consumption of iron and steel now supplied from the country's domestic resources, and this fact is again emphasized in the statistics of production, imports, and exports for 1913. It is somewhat difficult to arrive at a complete estimate of the total consumption of iron in Canada because of the large value of iron and steel goods imported for which the quantity cannot be stated, nevertheless the percentage of consumption available from Canadian mines can be closely gauged.

The imports and exports of iron and steel goods (not including iron ore) may be subdivided into two classes comprising the materials of which the quantity is stated and materials or goods of which the value only is recorded. Thus the net imports during 1913 may be arrived at as follows:—

	Iron and steel goods the quantity of which is recorded.		Other goods of which the value only is given.
	Tons.	Value.	Value.
Imports	1,852,475	$55,927,607	$85,344,750
Exports	51,882	835,459	15,163,690
Net Imports	1,780,593	$55,092,148	$72,181,060

It is probably safe to estimate that the value of $72,181,060 of net imports represents not less than 100,000 tons of iron or steel and probably not more than 720,000 tons. Assuming these limits and assuming further that the iron or steel represents 50 per cent of the original ore charged, we have net imports of iron and steel goods (exclusive of iron ore) equivalent to a tonnage of iron ore between the limits of 3,761,186 tons and 5,004,806 tons. Adding the consumption of iron ore in Canadian iron and steel furnaces, we have a total equivalent consumption of iron ore not less than 6,066,464 tons and probably not exceeding 7,310,088 tons. The production of iron ore in Canada in 1913, viz., 307,634 tons, was, therefore, sufficient to supply probably over 4·2 per cent but not more than 5 per cent of the country's requirement of iron.

IRON ORE.

The total shipments of iron ore from Canadian mines in 1913 were 307,634 tons valued at $629,843 at the shipping point, as compared with shipments in 1912 of 215,883 tons valued at $523,315. Of the total shipments in 1913, 91,020 tons were sent to blast furnaces in Canada, 196,151 tons to the United States, 12,927, to Scotland, and 7,536 tons to Holland.

The shipments comprised 92,386 tons of hematite and roasted siderite, 209,886 tons of magnetite (including some ores with an admixture of hematite), and 5,362 tons of titaniferous iron ore. Shipments in 1912 included 86,971 tons of hematite, 127,727 tons of magnetite, and 1,185 tons of titaniferous ore.

There was no active mining of iron ore in Nova Scotia during the year, but shipments of 20,436 net tons of 50 per cent ore were made from stock piles at the Torbrook mines in Annapolis county, by the Canada Iron Corporation.

The mines at Austin Brook, near Bathurst, N.B., owned by the same Company, were operated during the greater part of the year, and shipments of 86,416 net tons of 48 per cent ore were made chiefly to Philadelphia, U.S.A., a small tonnage going to Sydney, N.S.

In the Province of Quebec, titaniferous ore was shipped from Ivry-on-the-Lake, in the Township of Beresford, Terrebonne county, and from St. Urbain on the north shore of the St. Lawrence. These ores are high in titanium and were shipped to the Titanium Alloy Manufacturing Company, at Niagara Falls, N.Y.

In Ontario the principal operating mines were the Helen and Magpie, near Michipicoten, and the Moose Mountain at Selwood. The total shipments from the mines in the Province during the year were 195,680 tons, as against 112,321 tons in 1912. The Buffalo Union Furnace Co. operated the Belmont mine, near Cordova Mines, Hastings county, shipping to the new furnace at Port Colborne, Ont., and to the Company's furnaces at Buffalo, N. Y. The ore is a magnetite averaging about 51·50 per cent metallic iron. The Bessemer and Childs mines, also in Hastings county, were worked by the Canada Iron Mines, Ltd. The ores from both mines, the former averaging 49·30 per cent and the latter 38·70 per cent iron, were shipped to Trenton, Ont., where the Company has erected a concentrator. A small tonnage of concentrates averaging 56·45 per cent iron were marketed during the year. The Tivani Electric Steel Company spent two months opening up the Orton mine in Tudor township; and a small tonnage of titaniferous ore averaging 50 per cent iron and 7 per cent titanium was shipped. It is proposed to utilize this ore in the small electric steel furnace which this Company has constructed at Belleville. For several years past a small tonnage of magnetite concentrates recovered as a by-product in the treatment of corundum ores at Craigmont has been shipped. These concentrates are not, however, used as a source of iron, but are employed in the manufacture of school blackboards.

The Moose Mountain mines were operated during the greater part of the year and, in addition to the cobbed ore averaging 55·50 per cent in iron, there were shipped 3,315 tons of briquettes, averaging 62·71 per cent, from the Grondal magnetic concentrating works, installed for the treatment of Moose Mountain low grade ores. The Algoma Steel Corporation

operated the Helen and Magpie mines. The hematite ore shipped from the former averaged 55 per cent and was sent to Sault Ste. Marie and Hamilton. The ore at the Magpie is siderite, for the treatment of which a roasting plant has been erected; 22,327 tons of roasted siderite averaging 52 per cent iron were shipped during the year, while 3,146 tons of raw ore averaging about 36 per cent iron, were also shipped for experimental purposes.

No production has been reported from the Province of British Columbia during the past seven years.

The production by provinces during the past three years was as follows:—

IRON.—TABLE 1.

Production of Iron Ore by Provinces, 1911-12-13.

Provinces.	1911.		1912.		1913.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$
New Brunswick.....	51,120	69,464	71,520	127,716	86,416	153,820
Nova Scotia.....	22	50	30,857	168,877	20,436	21,049
Quebec.....	3,616	6,479	1,185	4,252	5,102	26,999
Ontario.....	175,586	446,326	112,321	222,490	195,680	427,975
	210,344	522,319	215,883	523,315	307,634	629,843

The production during 1912 and 1913, classed as magnetite (including concentrates and some ores with an admixture of hematite), hematite (including roasted siderite), and titaniferous iron ores, was as follows:—

IRON.—TABLE 2.

Classified Production of Iron Ore, 1912-13.

Character of ore.	1912.			1913.		
	Short tons.	Value.	Per ton.	Short tons.	Value.	Per ton.
		$	$ cts.		$	$ cts.
Magnetite.....	128,912	216,368	1 68	215,248	442,702	2 06
Hematite.....	86,971	306,947	3 53	92,386	187,141	2 03
	215,883	523,315	2 42	307,634	629,843	2 04

A record of the production by provinces in past years is shown in Tables 3 and 4. There was a considerable production in Ontario previous to 1886 which is not recorded.

IRON.—TABLE 3.

Production of Iron Ore, by Provinces, 1886-1913.

Calendar Year.	New Brunswick.	Nova Scotia	Quebec.	Ontario.	British Columbia.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1886	.....	44,388	.....	16,032	3,941	64,361
1887	.....	43,532	13,404	16,598	2,796	76,330
1888	.....	42,611	10,710	16,894	8,372	78,587
1889	.....	54,161	14,533	.....	15,487	84,181
1890	.....	49,206	22,305	.....	.....	76,511
1891	.....	53,649	14,380	.....	950	68,979
1892	.....	78,258	22,690	.....	2,300	103,248
1893	.....	102,201	22,076	.....	1,325	125,602
1894	.....	89,379	19,492	.....	1,120	109,991
1895	.....	83,792	17,783	.....	1,222	102,797
1896	.....	58,810	17,630	15,270	196	91,906
1897	.....	23,400	22,436	2,770	2,099	50,705
1898	.....	19,079	17,873	21,111	280	58,343
1899	.....	28,000	19,420	25,126	2,071	74,617
1900	.....	18,940	19,000	82,950	1,110	122,000
1901	.....	18,619	15,489	272,538	7,000	313,646
1902	.....	16,172	18,524	359,288	10,019	404,003
1903	.....	40,355	12,035	209,634	2,290	264,294
1904	.....	61,293	16,152	141,601	.....	219,046
1905	.....	84,952	12,681	193,464	.....	291,097
1906	.....	97,820	9,933	141,078	.....	248 831
1907	.....	89,839	12,748	207,769	2,500	312,856
1908	.....	11,802	10,103	216,177	.....	238,082
1909	.....	.....	4,150	263,893	.....	268,043
1910	5,336	18,134	4,503	231,445	.....	259,418
1911	31,120	22	3,616	175,586	.....	210,344
1912	71,520	30,857	1,185	112,321	.....	215,883
1913	86,416	20,436	5,102	195,680	.....	307,634

IRON.—TABLE 4.

Production of Iron Ore in Nova Scotia, 1876-1885.

Calendar Year.	Tons.	Calendar Year.	Tons.
1876	15,274	1881	39,843
1877	16,879	1882	42,135
1878	56,600	1883	52,410
1879	29,889	1884	54,885
1880	51,193	1885	48,129

Following is a list of the principal producers of iron ore in Canada:—

Canada Iron Corporation, Limited, Imperial Bank Building, Montreal, Que.
Titanic Iron Ore Mining and Export Co., Baie St. Paul, Que.
Manitou Iron Mining Co., Montreal, Que.
Loughborough Mining Co., Schenectady, N.Y.
Canadian Iron Ore Co., 1231 St. Valier St., Quebec, Que.
The Algoma Steel Corporation, Ltd., Sault Ste. Marie, Ont.
Canada Iron Mines, Ltd., Toronto, Ont.
Atikokan Iron Co., Ltd., Port Arthur, Ont.
Moose Mountain, Limited, Sellwod, Ont.
Tivani Electric Steel Co., Belleville, Ont.
Buffalo Union Furnace Co., Buffalo, N. Y.

EXPORTS AND IMPORTS OF IRON ORE.

According to returns received direct from mine operators, 196,151 tons were shipped to the United States, 12,927 tons to Scotland, and 7,536 tons to Holland, or a total of 216,614 tons shipped to destinations outside of Canada during 1913. The exports from Canada during this period, according to the records published by the Department of Customs, were 126,124 tons valued at $426,681 and included 107,624 tons valued at $355,641 to the United States, 11,800 tons valued at $45,312 to Great Britain, and 6,700 tons valued at $25,728 to other countries.

The exports in 1912 were 118,129 tons valued at $382,005, including 95,579 tons valued at $295,213 to the United States, 16,800 tons valued at $64,712 to Great Britain, and 5,750 tons valued at $22,080 to other countries. The exports in 1911 were 37,686 tons valued at $133,411, all to the United States. That the Customs Department record of exports to the United States would appear to be understated in 1913 is confirmed by the record of imports of iron ore into that country from Canada as shown in the "Monthly Summary of Commerce and Finance of the United States." According to this authority the imports of iron ore into the United States from Canada during the calendar year 1913 were 201,489 short tons valued at $413,314, as compared with 119,476 tons valued at $201,882 in 1912, and 56,538 tons valued at $106,038 in 1911.

The imports of iron ore into Canada were not separately shown by the Customs Department until April, 1912. The imports during the twelve months ending December, 1913, were reported as 1,942,325 tons valued at $3,877,824, and during the nine months ending December, 1912, 2,047,509 tons valued at $3,932,074. The imports in 1913 included: 1,072,156 tons valued at $3,007,653 from the United States, 869,669 tons valued at $869,669 from Newfoundland, and 500 tons valued at $502 from other countries.

There were used in Canadian furnaces in 1913, 2,110,828 tons of imported iron ores, as compared with 2,019,165 tons in 1912. The annual consumption of imported ores in blast furnaces, which was formerly the only record of imports, is shown in Table 11, and the total quantity of imported ores thus consumed since 1896 has been 14,656,482 tons, which practically represents the imports of iron ores during the past eighteen years.

The imported ores are obtained chiefly from Newfoundland and the iron ranges on the south shore of Lake Superior.

The Newfoundland deposits are operated by the two Canadian companies operating coal mines and steel plants at Sydney and Sydney Mines in Cape Breton.

The total quantity of Newfoundland ores shipped during 1913 from the Wabana mines was 1,605,920 short tons, of which 1,048,432 tons were shipped to Sydney and 557,488 tons to the United States and Europe.

In 1912 the shipments from Wabana, Newfoundland, were 1,331,912 short tons, of which 956,459 tons were shipped to Sydney and 375,453 tons to the United States and Europe.

According to the "United States Report of Commerce and Navigation," there were exported to Canada during the twelve months ending June, 1913, 1,367,928 tons, (2,000 pounds) of iron ore valued at $3,684,233, and during the previous year 931,647 tons (2,000 pounds) valued at $2,806,238.

IRON.—TABLE 5.

Exports of Iron Ore, Calendar Years 1893-1913.

Calendar Year.	Tons.	Value.	Average. value.	Calendar Year.	Tons.	Value.	Average value.
		$	$			$	$
1893	2,419	7,590	3 14	1903*	368,233	922,571	2 51
1894	.....	21,294	.....	1904*	168,828	401,738	2 38
1895	1,571	3,909	2 49	1905*	168,289	407,381	2 42
1896	1,033	1,911	1 85	1906	74,778	149,177	2 01
1897	403	811	2 01	1907	25,901	45,907	1 77
1898	182	278	1 54	1908	(a)	.....	.....
1899	4,145	9,538	2 30	1909	21,956	61,954	2 82
1900	5,527	13,511	2 44	1910	114,499	324,186	2 83
1901*	306,199	762,283	2 49	1911	37,686	133,411	3 54
1902*	428,901	1,065,019	2 48	1912	118,129	382,005	3 23
				1913	126,124	426,681	3 38

*The export figures for the five years indicated are incorrect owing to a duplication of entries.
(a) The figures of the Trade Report for this year include ferro-products, and are, therefore, omitted.

IRON.—TABLE 6.

Exports of Iron Ore, Fiscal Years, 1879-1913.

Fiscal Year.	Tons.	Value.	Average value.	Fiscal Year.	Tons.	Value.	Average value.
		$	$			$	$
1879	3,562	7,530	2 11	1896	14	35	2 50
1880	30,524	76,474	2 51	1897	1,320	2,492	1 89
1881	44,677	114,850	2 57	1898	360	402	1 16
1882	43,835	135,463	3 09	1899	1,849	4,968	2 69
1883	44,914	138,775	3 09	1900	4,327	7,689	1 78
1884	25,308	66,549	2 63	1901*	58,401	150,657	2 58
1885	54,367	132,074	2 43	1902*	525,983	1,303,901	2 48
1886	7,542	23,039	3 05	1903*	293,510	733,230	2 50
1887	23,345	71,934	3 08	1904*	233,850	579,883	2 48
1888	13,544	39,945	2 95	1905*	224,908	540,909	2 41
1889	24,752	60,289	2 44	1906*	148,040	345,540	2 35
1890	13,811	31,376	2 27	1907†	34,191	65,367	1 91
1891	14,648	32,582	2 22	1908	26,310	46,686	1 77
1892	7,707	36,935	4 79	1909	3,933	71,663	1 82
1893	7,811	26,114	3 34	1910	31,535	80,540	2 55
1894	1,859	9,026	4 86	1911	104,807	304,718	2 91
1895	2,315	5,743	2 48	1912	37,657	133,361	3 54
				1913	135,587	426,633	3 15

*See footnote to Table 5. †Nine months ending March 31, 1907.

IRON.—TABLE 7.

Imports* of Iron Ore into the United States from Canada, 1893-1913.

Year ending June 30.	Short tons.	Value.	Average value.	Year ending June 30.	Short tons.	Value.	Average value.
		$	$			$	$
1893	7,706	17,186	2 23	1903	144,725	320,263	2 21
1894	301	756	2 51	1904	126,995	283,765	2 23
1895	2,681	10,114	3 77	1905	120,241	245,623	2 04
1896	39	142	3 64	1906	113,809	220,112	1 93
1897	2,535	5,243	2 07	1907	34,731	52,765	1 52
1898	1,313	2,904	2 21	1908	32,124	55,617	1 73
1899	2,585	5,120	1 98	1909	3,490	12,660	3 63
1900	4,477	5,550	1 24	1910	36,070	97,984	2 72
1901	34,453	76,159	2 21	1911	117,393	264,452	2 25
1902	309,527	685,540	2 21	1912	45,089	89,336	1 98
				1913	159,146	282,434	1 77

*Compiled from the 'Foreign Commerce and Navigation of the United States.'

Exports of Iron Ore from the United States to Canada.

Year ending June 30.	Tons of 2000 lbs.	Value.	Average value.	Year ending June 30.	Tons of 2000 lbs.	Value.	Average value.
		$	$			$	$
1896	1,270	4,042	3 18	1905	264,214	529,454	2 00
1897	10,942	34,168	3 12	1906	254,399	608,029	2 39
1898	12,921	54,224	2 65	1907	266,103	670,995	2 52
1899	33,598	60,497	1 80	1908	327,918	880,197	2 68
1900	45,237	78,542	1 74	1909	449,755	1,264,048	2 81
1901	67,994	175,689	2 58	1910	609,617	1,636,917	2 69
1902	76,457	173,107	2 45	1911	826,071	2,496,246	3 02
1903	86,258	264,755	3 07	1912	931,647	2,806,238	3 01
1904	92,577	252,254	2 72	1913	1,367,928	3,684,233	2 69

Annual Shipments of Iron Ore from Wabana Mines, Newfoundland.

Calendar year.	To Canada.	To Europe and United States.	Total Shipments.
	Short tons.	Short tons.	Short tons.
1909	697,068	412,981	1,110,049
1910	808,762	450,864	1,259,626
1911	765,184	416,279	1,181,463
1912	956,459	375,453	1,331,912
1913	1,048,432	557,488	1,605,920

PIG-IRON AND STEEL.

The making of iron and steel in Canada, is an industry which has been built up largely on the basis of imported ores, and the output continues to increase.

The total production of pig-iron in 1913, not including the output of ferro products which is separately tabulated, was 1,128,967 short tons (1,008,006 long tons) valued at approximately $16,540,012, as compared with 1,014,587 short tons (905,881 long tons), valued at $14,550,999 in 1912, and 917,535 short tons (819,228 long tons) valued at $12,307,125 in 1911. An increase of 11·3 per cent is shown in the production of pig-iron in 1913 over the production of 1912, as compared with an increase of 10·5 per cent in 1912 over that of 1911.

At the close of the year Canada had twenty-two completed furnaces grouped in twelve separate completed plants owned by nine companies or corporations. Of the twenty-two completed furnaces, five have been idle throughout the past two years, namely, the furnace at Londonderry, N.S., and the three small furnaces in the Province of Quebec owned or

controlled by the Canada Iron Corporation, and the furnace of the Atikokan Iron Company at Port Arthur. The aggregate daily capacity of these five furnaces was approximately 235 tons. During 1913, however, three new furnaces were brought into operation, with a total daily capacity of about 665 tons.

Of the total output of pig-iron in 1913, 23,696 tons valued at $423,140, or $17.86 per short ton, were made with charcoal as fuel, and 1,105,271 tons, valued at $16,116,872 or $14.58 per ton, with coke. The amount of charcoal pig-iron made in 1912 was 21,701 tons, and in 1911, 20,759 tons, while the quantity made with coke in 1912 was 992,886 tons, and in 1911, 896,776 tons.

The classification of the coke iron production in 1913, according to the purpose for which it was intended, was as follows: Bessemer 265,685 tons; basic 614,845 tons; foundry, including miscellaneous, 224,741 tons.

The classification of the production in 1912 was: Bessemer 256,191 tons; basic 544,534 tons; foundry, including miscellaneous, 192,161 tons.

The total production of pig-iron in 1912 and 1913 is shown by provinces in the following table, the average value per ton also being indicated. It should be explained that the value placed upon the pig-iron production in Nova Scotia is an assumed or estimated value. A large proportion of the pig-iron made in this Province is directly converted into steel, and as a very small portion only of the metal is sold as pig-iron it is difficult to obtain a satisfactory valuation for the output. It must not be inferred, therefore, that these values represent annual sales values.

There was no production of pig-iron in the Province of Quebec during the past two years. In former years this Province has had a continuous though small production of charcoal iron which commanded a high price.

IRON.—TABLE 8.

Production of Pig-Iron by Provinces, 1912-13.

Provinces.	1912.			1913.			Percentage increase or decrease in quantity.
	Tons.	Value.	Value per ton.	Tons.	Value.	Value per ton.	
		$	$ cts.		$	$ cts.	%
Nova Scotia.....	424,994	6,374,910	15.00	480,068	7,201,020	15.00	+12·96
Ontario.....	589,593	8,176,089	13.87	648,899	9,338,992	14.39	+10·06
Total.....	1,014,587	14,550,999	14.34	1,128,967	16,540,012	14.65	+11·27

A record of the production by provinces since 1887 is shown in Table 9. During the past seven years the production in Ontario has increased at a more rapid rate than the production in Nova Scotia, and Ontario has now the largest output. The proportions of the total contributed by the two provinces in 1913 were: Nova Scotia 42·5 per cent, and Ontario 57·5 per cent. Since 1906 the production in Nova Scotia has increased by over 52 per cent, and the production in Ontario has increased by over 132 per cent.

IRON.—TABLE 9.

Annual Production of Pig-Iron by Provinces, 1887-1913.

Year.	Nova Scotia.		Ontario.		Quebec.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$	$			$		$
1887.....	19,320	250,000	.....	.....	5,507	116,192	24,927	366,192
1888.....	17,556	211,403	.....	.....	4,243	101,832	21,799	313,235
1889.....	21,289	383,202	.....	.....	4,632	116,670	25,921	499,872
1890.....	18,382	262,608	.....	.....	3,390	69,080	21,772	331,688
1891.....	21,353	309,527	.....	.....	2,538	59,374	23,891	337,901
1892.....	40,049	583,556	.....	.....	2,394	53,865	42,443	673,421
1893.....	46,472	553,408	.....	.....	9,475	236,875	55,947	790,283
1894.....	41,344	449,533	.....	.....	8,623	196,914	49,967	646,447
1895.....	35,192	417,083	.....	.....	7,262	169,653	42,454	586,736
1896.....	32,351	400,829	28,302	368,942	6,615	154,358	67,268	924,129
1897.....	22,500	230,000	26,115	291,466	9,392	217,235	58,007	738,701
1898.....	21,627	221,677	48,253	530,789	7,135	159,929	77,015	912,395
1899.....	31,100	404,300	64,749	808,157	7,094	164,849	102,943	1,377,306
1900.....	28,133	421,995	62,387	938,725	6,055	140,978	96,575	1,501,698
1901.....	151,130	1,764,017	116,371	1,599,413	6,875	149,493	274,376	3,512,923
1902.....	237,244	2,477,767	112,688	1,584,273	7,970	181,501	357,902	4,243,541
1903.....	201,246	2,186,273	87,004	1,345,464	9,635	210,973	297,885	3,742,710
1904.....	164,488	1,700,130	127,845	1,746,126	11,121	241,729	303,454	3,687,985
1905.....	261,014	2,440,722	256,704	3,868,197	7,588	166,267	525,306	6,475,186
1906.....	315,008	3,439,217	275,558	4,338,275	7,845	177,644	598,411	7,955,136
1907.....	366,456	4,211,913	275,459	4,581,309	10,047	232,004	651,962	9,125,226
1908.....	352,642	3,554,540	271,484	4,385,271	6,709	171,383	630,835	8,111,194
1909.....	345,380	3,453,800	407,012	6,002,441	4,770	125,623	757,162	9,581,864
1910.....	350,287	4,203,444	447,273	6,956,923	3,237	85,255	800,797	11,245,622
1911.....	390,242	4,682,904	526,635	7,606,939	658	17,282	917,535	12,307,125
1912.....	424,994	6,374,910	589,593	8,176,089	.....	.....	1,014,587	14,550,999
1913.....	480,068	7,201,020	648,899	9,338,992	.....	.....	1,128,967	16,540,012

Prices.—The following brief review of pig-iron prices in 1913 has been kindly furnished by a prominent Montreal firm of iron and steel merchants:—

"The year 1912 ended with a firm market and an upward tendency, which culminated in February, after which there was a steady and continuous decline. In January, No. 1 foundry pig-iron was sold for delivery

at central Ontario points at prices ranging from $21 to $22 per gross ton. In February, a few sales were made at prices which were about 50 cents per ton above the January high point. In March, the market showed slight recession and pig-iron was obtainable at central Ontario points at from $21 down to $20; Montreal figures being $22 down to $21. In April and May the market continued to sag, and by the 1st June good foundry grades of pig-iron could readily be obtained in Toronto, Brantford, Galt, Guelph and such points at $19, with $20 prevailing for Montreal district. During July, August and September, further reductions were made; September showing about $17.50 delivered at central Ontario points and $18.50 delivered at Montreal. In October there was a strengthening of the market by about 50 cents per ton, but this did not last long, and in December we have to report the lowest market for the year. At the close of the year Canadian furnaces were quoting prices equal to $16.50 to $17 delivered central Ontario points.

"Prices on Canadian iron have been generally governed by the conditions existing in the United States, local furnaces being compelled to meet severe competition, especially from furnaces in Buffalo district. Montreal prices have usually been governed to some extent by the competition from Great Britain, but this year the British market has been relatively strong, and while a moderate tonnage of special brands has been brought into the country, high prices for same have had to be paid, and this import trade in special brands did not appreciably affect the general trend of prices."

Bessemer pig-iron at Pittsburgh was quoted at an average of $18.15 during the first three months of the year, falling steadily during the next five months to $16.52 in August, increasing slightly in September and October, but falling to $16.02 in November, and $15.77 in December.

A record of the average monthly prices per gross ton of pig-iron at Montreal during 1912 and 1913, as published by the Department of Labour, and of Bessemer pig-iron and grey forge iron at Pittsburgh for a period of ten years, as compiled by trade journals, is shown in the accompanying tables:—

Average Monthly Prices of Pig-Iron in Canada During 1912-13.

(From Report on Wholesale Prices by Department of Labour.)

	(1) Foundry No. 1, N.S. at Montreal.		(2) Summerlee No. 2 at Montreal.	
	1912.	1913.	1912.	1913.
January	19·75	22·00	20·00	24·00
February	19·00	22·00	20·00	24·00
March	19·00	22·00	20·00	24·00
April	18·50	22·00	20·00	24·00
May	18·50	22·00	20·00	22·50
June	18·50	21·00–22·00	20·00	22·50
July	18·50	20·00–21·00	20·00	22·50
August	19·00	20·00–21·00	20·00	22·50
September	20·00	20·00–21·00	20·00	22·50
October	20·50	20·00–21·00	24·00	22·50
November	20·50	19·50–21·00	24·00	22·50
December	21·50	19·50–21·00	24·00	22·50
Average	19·437	19·437	21·000	23·00

(1) Price per ton of 2,240 pounds, f.o.b. at Montreal, on the opening market day of each month; quotations supplied by the Dominion Iron and Steel Co., Ltd.

(2) Price per ton at Montreal, in the first week of each month, quotations from Hardwell & Metal.

Bessemer Pig-Iron at Pittsburgh, per Gross Ton (2,240 pounds)*

	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
January	13 91	16 85	18 35	23 15	19 00	17 34	19 90	15 90	15 05	18 15
February	13 66	16 41	18 35	22 85	17 90	16 78	19 34	15 90	14 90	18 15
March	14 25	16 35	18 28	22 85	17 86	16 25	18 60	15 90	15 09	18 15
April	14 18	16 35	18 19	23 35	17 49	15 78	18 27	15 90	15 15	17 90
May	13 60	16 16	18 10	24 01	16 93	15 84	17 52	15 90	15 13	17 70
June	12 81	16 65	18 23	24 27	16 90	16 05	16 60	15 90	15 15	17 14
July	12 40	14 85	18 41	23 55	16 83	16 46	16 40	15 90	15 20	16 70
August	12 81	15 20	19 00	22 90	16 23	17 03	16 09	15 90	15 46	16 52
September	12 63	15 91	19 54	22 90	15 90	18 05	15 90	15 90	16 15	16 65
October	13 10	16 54	20 35	22 00	15 71	19 53	15 90	15 44	17 80	16 60
November	14 85	17 85	22 85	20 65	16 59	19 90	15 82	15 00	18 02	16 02
December	16 65	18 35	23 75	19 34	17 40	19 90	15 90	15 03	18 15	15 77

*From the *Iron Age*.

Grey Forge Pig-Iron at Pittsburgh, per Gross Ton (2,240 pounds).

——	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
January	12 81	16 11	17 30	22 58	17 00	15 40	17 40	14 09	13 40	17 15
February	12 75	15 99	17 29	22 20	15 99	15 09	17 02	14 27	13 40	17 15
March	13 17	16 00	16 91	21 76	15 90	14 65	16 15	14 40	13 40	16 92
April	13 09	15 77	16 66	21 72	15 45	14 40	16 09	14 40	13 65	16 17
May	12 62	15 57	16 49	22 88	14 90	14 40	15 90	14 27	13 78	15 17
June	12 27	15 18	16 35	23 15	14 90	14 77	15 20	14 00	13 90	14 71
July	11 92	14 55	16 41	22 96	14 90	14 85	14 52	13 90	13 90	14 55
August	11 89	14 36	17 75	21 90	14 71	15 21	14 30	13 90	14 15	14 25
September	11 75	14 72	18 35	21 15	14 46	16 15	14 15	13 84	14 65	14 25
October	12 30	15 66	19 47	20 40	14 40	17 02	14 15	13 65	16 18	14 26
November	14 25	16 58	22 45	19 17	14 90	17 27	14 09	13 47	16 50	14 25
December	15 85	16 97	22 85	18 40	15 25	17 40	13 90	13 40	17 15	13 95

IRON.—TABLE 10.

Ore, Fuel, and Flux Charged to Blast Furnaces, in Years 1912-13.

——	1912.			1913.		
	Quantity.	Value.	Canadian and imported.	Quantity.	Value.	Canadian and imported.
		$	%		$	%
Canadian iron ore.....Tons.	71,588	233,372	3·4	139,436	416,424	6·2
Imported iron ore..... "	2,019,165	5,173,788	96·6	2,110,828	5,775,101	93·8
Canadian coke..... "	609,183	2,284,438	48	710,260	2,663,472	50·1
*Imported coke..... "	656,815	2,344,822	52	706,888	2,416,325	49·9
Charcoal.....Bus.	1,886,748	157,402	.....	2,206,191	184,052	.....
Canadian limestone.....Tons.	544,890	399,708	73	275,537	199,729	43·7
Imported limestone..... "	160,723	132,656	23	554,582	256,085	56·3

* Including coke made from imported coal.

Previous to 1896, pig-iron was made entirely from Canadian ores. Since that date, however, increasing quantities of imported ore have been used, as well as imported fuels and fluxes, and in 1913 about 94 per cent of the ore charged, 50 per cent of the coke, and 56 per cent of the limestone, were imported. This condition is attributed largely to questions of cost and transportation affecting the ore supplies available for each furnace. The Newfoundland ores can be cheaply and conveniently laid

down at Sydney, N.S.—in fact the iron and steel industry here has been built up on the basis of these ores and by the local coal supply. During 1913 considerable quantities of limestone have also been obtained from Newfoundland. In Ontario also, large quantities of imported ores are used. In 1913 the imported ores used in Ontario amounted to 1,095,205 tons, and the Canadian ores 133,765 tons, the imported ores being derived from the deposits south of Lake Superior. With the exception of a small quantity of charcoal used at two furnaces, the fuel (coke) used in Ontario was altogether imported, as well as a portion of the limestone flux.

IRON.—TABLE 11.

Iron Ore, Fuel, and Flux Charged to Blast Furnaces.

Calendar Year.	Iron ore charged.		Fuel charged.			Limestone.
	Canadian.	Imported.	Charcoal.	*Coke from Canadian coal.	Imported coke.	
	Tons.	Tons.	Bushels.	Tons.	Tons.	Tons.
1887	60,434	.....	940,400	33,581	.....	17,171
1888	54,956	.....	804,286	30,228	.....	16,857
1889	65,670	.....	755,800	36,333	.....	22,122
1890	57,304	.....	589,860	34,073	.....	18,478
1891	60,933	.....	441,812	32,796	.....	11,377
1892	96,948	.....	1,121,365	52,622	.....	22,967
1893	124,053	.....	1,302,720	65,332	.....	27,797
1894	108,871	.....	1,173,970	60,026	.....	35,101
1895	93,208	.....	789,561	51,629	.....	31,585
1896	96,560	46,300	756,600	50,067	33,990	37,462
1897	53,658	55,722	1,031,800	35,800	27,810	31,273
1898	57,881	77,107	836,400	31,952	50,407	33,913
1899	66,384	120,650	1,928,025	44,844	64,648	51,826
1900	71,341	112,042	1,799,737	45,021	59,345	52,966
1901	156,613	361,010	1,835,736	207,835	115,367	169,399
1902	125,664	559,381	2,146,623	362,208	112,314	293,594
1903	82,035	485,911	2,322,030	350,190	96,540	277,452
1904	180,932	454,671	3,477,470	257,182	130,210	211,278
1905	116,974	861,847	4,404,394	365,897	243,882	369,715
1906	221,733	982,740	2,168,476	462,672	304,676	456,036
1907	244,104	1,117,260	1,682,085	521,068	327,082	488,462
1908	209,266	1,051,445	1,121,990	492,076	325,670	483,065
1909	231,994	1,235,000	1,779,258	412,016	507,255	526,076
1910	149,505	1,377,035	1,615,919	491,281	476,838	569,355
1911	67,434	1,628,368	1,960,459	543,933	577,388	625,216
1912	71,588	2,019,165	1,886,748	609,183	656,815	705,613
1913	139,436	2,110,828	2,206,191	710,260	706,888	630,119

*Includes for the first ten years small quantity of coal.

IRON BLAST FURNACES IN CANADA IN 1913.

Of twenty-two completed furnaces, seventeen were in blast in 1913 for varying periods of time. The total daily capacity of the twenty-two furnaces is about 4,440 tons. The operating companies, with numbers and capacities of furnaces, were as follows:—

Dominion Iron and Steel Co., Sydney, C.B.—Six completed furnaces of 280 tons capacity each per day; two operated throughout 1913, four for 344, 334, 222 and 140 days each, respectively.

Nova Scotia Steel and Coal Co., Limited, New Glasgow, N.S.—One furnace at Sydney Mines, C.B., of 200 tons capacity; operated 365 days.

Londonderry Iron and Mining Co., Ltd., Londonderry, N.S.—One furnace of 100 tons capacity; idle throughout the year.

Canada Iron Corporation, Limited, Montreal, Que.—Two small furnaces of 7 and 8 tons capacity at Drummondville, Que., idle throughout the year; one furnace of 25 tons daily capacity, at Radnor Forges, Que., idle throughout the year; two furnaces of 125 tons and 250 tons at Midland, Ont., operated for 226 days and 172 days respectively.

Standard Iron Company of Canada, Limited, Deseronto, Ont.—One furnace at Deseronto with a daily capacity of 112 tons, operated for 220 days during the year 1913; one furnace of 84 tons capacity at Parry Sound, operated 92 days.

The Steel Company of Canada, Limited, Hamilton, Ont.—Two furnaces, one of 200 tons capacity operated for 259 days in 1913, a second furnace of 300 tons capacity, operated 309 days in 1913.

The Canadian Furnace Co., Limited, Port Colborne, Ont.—One furnace of 300 tons capacity, operated 95 days.

Algoma Steel Company, Limited, Sault Ste. Marie, Ont.—Three furnaces at Steelton, near Sault Ste. Marie: two of 250 tons capacity each operated for 361 and 365 days respectively; and one of 450 tons capacity operated 332 days.

The Atikokan Iron Company, Limited, Port Arthur, Ont.—One furnace of 100 tons capacity; idle throughout 1913.

On December 31, 1913, ten furnaces were in blast and twelve idle. The average number of men employed in blast furnace operations in 1913 was reported as 1,589, and the total wages paid, $1,149,345.

EXPORTS AND IMPORTS OF PIG-IRON.

The total exports of pig-iron, including ferro-alloys, during 1913 were 6,326 tons valued at $351,646, or an average value per ton of $55.59, as compared with exports of 6,976 tons valued at $310,702, or an average of $44.54 in 1912.

The exports during the past five years have not exceeded 10,000 tons in any one year, and have consisted largely, if not entirely, of ferro-alloys.

Considerable quantities of pig-iron are annually imported into Canada. During the calendar year 1913, the total imports of pig-iron, excluding ferro products which are separately stated, were 236,769 tons valued at $3,247,405, and included 213,969 tons valued at $2,888,974, or an average of $13.50 per ton, from the United States; and 22,800 tons valued at $358, 431, or an average of $15.72 per ton, from Great Britain. The total imports in 1912 were 272,565 tons valued at $3,511,599, or an average of $12.88 per ton; and in 1911, 208,487 tons valued at $2,610,989 or an average of $12.52 per ton. The 1913 imports included 926 tons of charcoal pig-iron valued at $12,528 or $13.52 per ton, as compared with imports of 115 tons of charcoal pig-iron in 1912 valued at $1,370 or an average of $11.91 per ton.

The annual imports of these two classes of pig-iron since 1880 are shown in Table 12.

IRON.—TABLE 12.

Annual Imports of Pig-Iron Since 1880.

Fiscal Year	Pig-iron.			Charcoal pig-iron.			Total.	
	Tons.	Value.	Average value.	Tons.	Value.	Average value.	Tons.	Value.
		$	$ cts.		$	$ cts.		$
1880.....	(a) 23,159	371,956	16 06	.....	.....	.....	23,159	371,956
1881.....	(a) 43,630	715,997	16 41	.....	.....	.....	43,630	715,997
1882.....	56,594	811,221	14 33	6,837	211,791	30 98	63,431	1,023,012
1883.....	75,295	1,085,755	14 42	2,198	58,994	26 84	77,493	1,144,749
1884.....	49,291	653,708	13 26	2,893	66,602	23 02	52,184	723,010
1885.....	42,279	545,426	12 90	1,119	27,333	24 43	43,398	572,759
1886.....	42,463	528,483	12 45	3,185	60,086	18 87	45,648	588,569
1887.....	46,295	554,388	11 98	3,919	77,420	19 76	50,214	631,808
1888.....	(b) 48,973	648,012	13 23	.....	.....	.....	48,973	648,012
1889.....	(b) 72,115	864,752	11 99	.....	.....	.....	72,115	864,752
1890.....	(b) 87,613	1,148,078	13 10	.....	.....	.....	87,613	1,148,078
1891.....	(b) 81,317	1,085,929	13 35	.....	.....	.....	81,317	1,085,929
1892.....	(b) 68,918	886,485	12 86	.....	.....	.....	68,918	886,485
1893.....	56,849	682,209	12 00	5,944	84,358	14 19	62,793	766,567
1894.....	42,376	483,787	11 42	2,906	34,968	12 03	45,282	518,755
1895.....	31,637	341,259	10 80	2,780	31,171	11 21	34,417	372,430
1896.....	36,131	394,591	10 92	917	11 726	12 79	37 048	406,317
1897.....	25,766	291,788	11 32	2,936	35,373	12 05	28,702	327,161
1898.....	37,186	382,103	10 28	2,250	23,533	10 46	39,436	405,636
1899.....	44,261	452,911	10 23	1,955	19,123	9 78	46,216	472,034
1900.....	49,767	811,490	16 31	1,816	38,736	21 33	51,583	850,226
1901.....	35,293	548,033	15 53	490	7,121	14 53	35,783	555,154
1902.....	39,978	585,077	14 64	38	726	19 11	40,016	585,803
1903.....	91,730	1,338,574	14 59	882	16,352	18 54	92,612	1,354,926
1904.....	62,515	894,728	14 31	.....	.....	.....	62,515	894,728
1905.....	71,005	857,879	12 08	.....	.....	.....	71,005	857,879
1906.....	96,797	1,401,047	14 47	.....	.....	.....	96,797	1,401,047
1907.....	150,127	2,280,860	15 19	30	675	22 33	150,157	2,281,535
1908.....	210,053	3,448,125	16 42	2,237	45,475	20 33	212,290	3,493,600
1909.....	57,669	857,357	14 87	922	16,575	17 98	58,591	873,932
1910.....	158,910	2,118,445	13 33	596	8,690	14 58	159,506	2,127,135
1911.....	254,284	3,376,843	13 28	15,818	237,088	14 99	270,102	3,613,931
1912.....	201,058	2,495,859	12 41	54	618	11 44	201,112	2,496,477
1913.....	291,813	3,813,034	13 07	91	1,183	13 00	291,904	3,814,217

(a) Comprises pig-iron of all kinds.
(b) These figures appear in Customs reports under heading "iron in pigs, iron kentledge, and cast iron."
(c) Year ending June 30.
(d) Nine months ending March 31.
(e) Year ending December 31.

IRON.—TABLE 13.

Annual Exports of Pig-Iron, 1896-1913.

Calendar Year.	Tons.	Value.	Average value.	Calendar Year.	Tons.	Value.	Average value.
		$	$ cts.			$	$ cts.
1896	2,187	55,448	25 35	1905	866	22,284	25 73
1897	3,099	81,381	26 26	1906	305	7,429	24 36
1898	1,278	32,645	25 54	1907	439	13,504	30 76
1899	6,981	149,190	21 37	1908	290	10,614	36 60
1900	3,513	88,052	25 06	1909	5,063	186,778	36 89
1901	57,650	593,739	10 30	1910	9,763	296,310	30 35
1902	75,195	778,619	10 35	1911	5,870	271,968	46 33
1903	4,400	78,382	17 81	1912	6,976	310,702	44 54
1904	21,016	200,363	9 53	1913	6,326	351,646	55 59

World's Production.—The production of pig-iron in other countries is given hereunder for the past six years with a view to showing the relative position occupied by Canada in the production of this metal.

IRON.—TABLE 14.

Production of Pig Iron in Principal Countries of the World, from 1908 to 1913: metric tons.

——	1908.	1909.	1910.	1911.	1912.	1913.
United States	16,191,907	26,209,677	27,741,990	24,029,296	30,665,595	31,471,980
Germany	11,805,321	12,644,946	14,227,455	15,280,527	17,868,909	19,291,920
United Kingdom	9,202,280	9,685,045	10,380,799	9,874,693	9,037,150	10,653,824
France	3,400,771	3,573,848	4,032,459	4,410,866	4,871,992	5,311,316
Russia	2,805,384	2,874,822	3,042,302	3,588,449	4,184,124	5,000,000
Austria-Hungary	2,041,523	2,044,573	2,006,842	(a) 2,089,867	2,312,689	.....
Belgium	1,270,050	1,616,370	1,803,500	(a) 2,072,843	2,301,290	2,476,530
Canada	572,290	686,893	726,478	832,382	920,422	1,024,467
Sweden	567,821	444,764	604,300	633,800	701,900	735,000
Spain	403,554	389,000 (a)	425,000 (a)	455,000	366,136	.....
Italy	112,924	207,800 (a)	343,600 (a)	253,322	373,153	.....
China	66,409	74,000 (a)	120,000	94,826	.....	.....
Japan	45,396 (a)	161,020	187,793 (a)	162,000	.....	.....
Australasia	30,393	29,762	42,268 (a)	36,654	.....	.....

(a) From statistics by James Watson & Co., Glasgow, Scotland.

FERRO-PRODUCTS.

Ferro-silicon, ferro-phosphorus, and ferro-manganese were produced in Canada in electric smelting plants in 1913, the latter two products in small quantities only. Ferro-silicon and ferro-manganese were made at Welland, Ont., by the Electro Metals, Ltd., and ferro-phosphorus was made at Buckingham, Que., by the Electric Reduction Company. The Algoma Steel Corporation did not operate their electric furnace at Sault Ste. Marie during the year.

The total production in electric furnace plants during 1913 was 8,075 short tons of ferro-alloys valued at $493,018. In 1912 the production was 7,834 short tons valued at $465,225, and in 1911, 7,507 short tons valued at $376,404.

The imports of ferro-silicon, ferro-manganese, etc., during the calendar year 1913 were 30,355 tons valued at $940,443 or an average of $30.98. The imports for the calendar year 1912 were 19,810 tons valued at $469,884 or an average of $23.72 per ton; and in 1911, 17,226 tons, valued at $429,465 or an average of $24.93 per ton. The imports since 1887 are shown in Table 15.

IRON.—TABLE 15.

Imports of Ferro-Manganese, Ferro-Silicon, Etc.

Fiscal Year.	Tons.	Value.	Average value.	Fiscal Year.	Tons.	Value.	Average value.
		$	$ cts.			$	$ cts.
*1887	123	1,435	11 67	†1900	1,149	39,064	34 00
*1888	1,883	29,812	15 83	†1901	1,512	38,954	25 76
*1889	5,868	72,108	12 29	†1902	6,513	150,977	23 18
*1890	696	18,895	27 15	†1903	6,350	162,710	25 62
*1891	2,707	40,711	15 04	†1904	2,975	75,554	25 40
*1892	1,311	23,930	18 25	†1905	12,935	246,815	19 08
*1893	529	15,858	29 98	†1906	15,023	462,739	30 80
*1894	284	9,885	34 81	†1907 (9 mos.)	16,414	610,875	37 22
†1895	164	5,408	32 98	†1903	17,417	612,062	55 14
†1896	652	12,811	19 65	†1909	13,053	388,024	29 73
†1897	426	9,233	21 67	†1910	14,952	332,486	22 24
†1898	1,418	22,516	15 88	†1911	18,796	461,331	24 54
†1899	1,160	22,559	19 43	†1912	18,274	443,770	24 28
				†1913	22,969	598,524	26 06

*These amounts include: ferro-manganese, ferro-silicon, spiegel, steel bloom ends and crop ends of steel rails, for the manufacture of iron and steel.

†Ferro-silicon, spiegeleisen, and ferro-manganese.

CONSUMPTION OF PIG-IRON.

An estimate of the total consumption of pig-iron and ferro-alloys in Canada may be arrived at on the basis of the record of production, imports, and exports.

The total production of pig-iron in 1913 was 1,128,967 short tons, and of ferro-alloys 8,075 tons. The imports of these products during the same period were 267,124 tons, and the exports 6,326 tons. The deduced consumption of pig-iron and ferro-alloys was approximately 1,397,840 tons. Of this amount, 943,130 tons were used in steel furnaces in the production of steel, leaving 454,710 tons for foundry and other uses.

STEEL.

The production of steel ingots and castings in 1913 was 1,168,993 tons, as compared with 957,681 tons in 1912, and 882,396 tons in 1911. In 1913 the production of open-hearth ingots was reported as 824, 818 tons; Bessemer ingots 301,932 tons; direct open-hearth castings 39,217 tons; and other steels 3,026 tons. The total increase in production over 1912 was 211,312 tons or about 22·06 per cent.

The production during the past five years is shown in Table 16 following:—

IRON.—TABLE 16.

Production of Steel, 1909-13.

—	1909.	1910.	1911.	1912.	1913.
	Tons.	Tons.	Tons.	Tons.	Tons.
Ingots—Open-hearth (basic)	535,988	580,932	651,676	692,236	824,818
Bessemer (acid)	203,715	222,668	209,817	231,044	301,932
Castings—Open-hearth	14,013	18,085	20,163	31,845	39,217
Other steels	1,003	599	740	2,556	3,026
Total	754,719	822,284	882,396	957,681	1,168,993

A statistical record of the materials used in steel furnaces has been obtained during the past four years. The total quantity of pig-iron used in steel furnaces during the year 1913 was 913,722 tons, of which 860,360 tons were produced by firms reporting, and 53,362 tons purchased. The quantity of ferro-alloys used was 29,408 tons purchased. Scrap, etc., was used to the extent of 406,403 tons, being 277,509 tons produced by the firms reporting, and 128,894 tons purchased. Ores used included 1,342

tons of manganese ore and 55,018 tons of iron ore, while 197,028 tons of limestone or dolomite flux were used, and 10,687 tons of fluorspar. In Ontario, a little over 413 million cubic feet of natural gas were used, while in Nova Scotia coke-oven gas was used at Sydney, of which a record of quantity was not obtained.

In 1912, the total quantity of pig-iron used in steel furnaces was 735,559 tons, of which 706,895 tons were produced by firms reporting, and 28,664 tons purchased. The quantity of ferro-alloys used was 24,237 tons purchased. Scrap, etc., was used to the extent of 336,265 tons, being 223,404 tons produced by the firms reporting, and 112,861 tons purchased. Ores used included 985 tons of manganese ore, and 43,006 tons of iron ore, while 148,045 tons of limestone or dolomite flux were used, and 9,709 tons of flourspar. In Ontario, a little over 423 million cubic feet of natural gas were used.

Statistics of the production of steel ingots and castings since 1894 are given in the following table, the figures for 1894 to 1906 inclusive having been collected and published by the American Iron and Steel Association; those for the years 1907 to 1913 have been collected by this department and are as shown in detail in Table 16 for the last five years.

IRON.—TABLE 17.

Annual Production of Steel Ingots and Castings, 1894-1913.

Calendar Year.	Short tons.	Calendar Year.	Short tons.	Calendar Year.	Short tons.
1894	28,767	1901	29,214	1908	588,763
1895	19,040	1902	203,881	1909	754,719
1896	17,920	1903	203,296	1910	822,284
1897	20,608	1904	166,381	1911	882,396
1898	24,125	1905	451,863	1912	957,681
1899	24,640	1906	639,396	1913	1,168,993
1900	26,406	1907	706,982		

Following is a list of firms making steel in Canada:—

Dominion Iron and Steel Company, Sydney, N.S.
Nova Scotia Steel and Coal Company, New Glasgow, N.S.
Canadian Steel Foundries, Ltd., Montreal, Que.
Beauchemin et Fils, Sorel, Que.
The Algoma Steel Corporation, Sault Ste. Marie, Ont.
The Steel Company of Canada, Ltd., Hamilton, Ont.
The Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
The Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
The Moffat Irving Steel Works, Ltd. (Electric), Toronto, Ont.

Rolled Products, etc.—Complete statistics of the production of rolled products and of manufactured steel have not been received; returns from several of the largest producers, however, show a production of blooms, billets, slabs, etc., of 1,134,277 tons, of which 1,098,877 tons were used by the producer for further manufacture, and 35,400 tons sold to other rolling mills.

The production of rails was 554,481 tons; of rods, 57,389 tons; of bars, 266,915 tons; and of other rolled products, 53,835 tons. The production of steel rails in 1912 was returned as 471,422 tons, and in 1911 399,760 tons.

The production of finished rolled iron and steel in Canada from 1909 to 1913, as ascertained and published by the American Iron and Steel Association was as follows, in long tons:—

IRON.—TABLE 18.

Annual Production of Rolled Iron and Steel, 1909-13.

Products—Gross tons.	1909.	1910.	1911.	1912.	1913.
Rails	344,830	366,465	360,547	423,885	506,709
Structural shapes and wire rods	74,136	80,993	76,617	64,082	68,048
Plates and sheets	36,241	26,642	14,833	373,257	392,340
Nail plate, merchant bars, and all other finished rolled forms	207,534	265,711	323,427		
Total	662,741	739,811	775,424	861,224	967,097

BOUNTIES.

Bounties on iron and steel made in Canada were provided for by the Dominion Government in 1897 under the authority of Chapter 6, Statutes of Canada, 1897. These bounties were continued under subsequent statutes until 1911. Bounty on pig-iron and steel made in electric furnaces was available until December 31, 1912, but no claims therefor were made during the year.

Since 1896 a total of $16,785,827 has been paid by the Government of Canada in bounties for the production of iron and steel, the annual

payments on pig-iron, puddled iron bars, steel, and manufactures of steel being shown in the following table:—

Total Bounties on Iron and Steel Paid by the Government of Canada Since 1896.

Year ended.	Pig-iron.	Puddled iron bars.	Steel.	Manufactures of steel.
	$	$	$	$
June 30, 1896	104,105	5,611	59,499	.....
" 1897	66,509	3,019	17,366	.....
" 1898	165,654	7,706	67,454	.....
" 1899	187,954	17,511	74,644	.....
" 1900	238,296	10,121	64,360	.....
" 1901	351,259	16,703	100,058	.....
" 1902	693,108	20,550	77,431	.....
" 1903	666,001	6,702	729,102	.....
" 1904	533,982	11,669	347,990	15,321
" 1905	624,667	7,895	676,318	231,324
" 1906	687,632	5,875	941,000	369,832
March 31, 1907 (9 months)	385,231	312	575,259	338,999
" 1908	863,817	.....	1,092,201	347,135
" 1909	693,423	.....	838,100	333,091
" 1910	573,969	.....	695,752	538,812
" 1911	261,434	.....	350,456	526,858
" 1912	.....	.....	.....	166,750
" 1913	.....	.....	.....	.....
Total	7,097,041	113,674	6,706,990	2,868,122

EXPORTS AND IMPORTS OF IRON AND STEEL GOODS.

The exports of iron and steel from Canada consist chiefly of manufactured goods such as agricultural implements, automobiles, bicycles, machinery, etc. Compared with the value of imports, the total value of the exports is small, amounting to not more than 10 per cent of the former. The total value of iron and steel exported during the calendar year 1913 was $13,999,149, as compared with a value of exports in 1912 of $10,682,484, and in 1911 of $9,907,281. The exports during 1913 included: pig-iron and ferro-products, etc., to the value of $351,646; crude iron and steel valued at $483,813; stoves, gas buoys, castings, machinery, hardware, etc., valued at $1,070,476; steel and manufactures of steel, $1,051,004; agricultural implements, $7,411,246; automobiles and bicycles, $3,630,964.

The exports during 1912 in similar grouping were: pig-iron and ferro-products, etc., $310,702; scrap iron and steel, $145,250; stoves, gas buoys, castings, machinery, hardware, etc., $1,290,762; steel and manufactures of steel, $785,731; agricultural implements, $5,967,545; automobiles and bicycles, $2,182,494. Particulars of these exports during the past two years are shown in further detail in the accompanying table.

IRON.—TABLE 19.

Exports of Iron and Steel Goods, the Product of Canada, during the Calendar Years 1912 and 1913.

—		1912.			1913.		
		Quantity.	Value.	Average value.	Quantity.	Value.	Average value.
			$	$ cts.		$	$ cts
Stoves	No.	1,390	21,110	15 19	1,371	23,858	17 40
Gas buoys and parts of	$	.....	83,583	.....	.....	35,462	.....
Castings, N.E.S	$	.....	27,113	.....	.....	61,362	.....
Pig-iron	Tons	6,976	310,702	44 54	6,326	351,646	55 59
Machinery (linotype machines)	$	.....	6,555	.....	.....	9,631	.....
Machinery, N.E.S	$	.....	474,996	.....	.....	435,333	.....
Sewing machines	No.	24,158	259,617	10 75	8,122	114,438	14 09
Washing machines, etc	$	.....	.....	.....	.....	15,872	.....
Typewriters	No.	4,025	277,583	68 96	3,048	201,763	66 20
Scrap iron and steel	Tons	16,632	145,250	8 73	45,556	483,813	10 62
Hardware, tools, etc	$	.....	91,731	.....	.....	101,990	.....
Hardware, N.E.S	$	.....	48,474	.....	.....	70,767	.....
Steel and manufactures of	$	.....	785,731	.....	.....	1,051,004	.....
Agricultural implements—							
Mowing machines	No.	16,213	562,502	34 69	24,044	847,253	35 24
Reapers	"	3,243	195,156	60 19	5,604	317,716	56 69
Drills	"	.....	.....	.....	10,364	634,121	61 18
Harvesters	"	15,341	1,634,208	106 53	23,194	2,439,319	105 17
Ploughs	"	13,580	412,460	30 37	15,450	465,505	30 13
Harrows	"	4,734	100,579	21 25	7,300	127,482	17 46
Hay rakes	"	6,646	199,092	29 96	9,846	247,445	25 13
Seeders	"	70	7,040	100 57	.....	.....	.....
Threshing machines	"	761	214,499	281 86	1,928	712,270	369 43
Cultivators	"	5,059	100,043	19 78	7,795	201,758	25 88
All other	"	.....	1,964,071	.....	.....	503,235	.....
Parts of	"	.....	577,895	.....	.....	915,142	.....
Automobiles	"	3,028	2,013,784	665 00	5,997	3,396,382	566 18
" parts of	"	.....	105,330	.....	.....	210,623	.....
Bicyles	"	101	9,058	89 68	90	8,058	89 53
" parts of	"	.....	54,322	.....	.....	16,901	.....
Total		.....	10,682,484	.....	.....	13,999,149	.....

Annual Exports of Iron and Steel Products since 1884.

Calendar Year.	Value.	Calendar Year.	Value.
	$		$
1884	186,854	1899	975,377
1885	115,158	1900	1,570,013
1886	228,027	1901	1,837,179
1887	251,221	1902	2,751,324
1888	184,214	1903	3,058,320
1889	144,909	1904	1,318,482
1890	133,724	1905	1,287,558
1891	152,919	1906	1,552,963
1892	155,597	1907	1,607,368
1893	214,636	1908	2,098,138
1894	167,183	1909*	7,172,413
1895	174,778	1910	7,895,489
1896	284,296	1911	9,907,281
1897	592,849	1912	10,682,484
1898	593,060	1913	13,999,149

*Agricultural implements, automobiles, and bicycles included in 1909 and subsequent years. See Table 19 for classes of products.

The total value of the imports of iron and steel goods during the calendar year 1913 was $141,272,357, as compared with a value of $144,400,949 imported during the fiscal year ending March, 1913, and a value of $102,568,832 imported during the fiscal year ending March, 1912. The total value of the imports during the fiscal year 1911 was $85,319,541, and during the fiscal year 1910, $59,952,197.

The rapid growth in imports of iron and steel is thus clearly shown in this statistical record. It will be observed, however, that there has apparently been a check to these imports during the last nine months of 1913, there having been a falling off in the total imports during the twelve months ending December, 1913, as compared with the twelve months ending March of the same year. A detailed statement of the imports of iron and steel during the twelve months ending December, 1913, and the twelve months ending March, 1913, is shown in Tables 21 and 22, Table 21 showing the imports subject to duty, and Table 22 the imports free of duty.

The imports during the twelve months ending December, 1913, subject to duty were valued at $125,082,378, the imports duty free during the same period being valued at $16,189,979, making a total value of $141,272,357. The imports during the fiscal year ending March, 1913, subject to duty were valued at $129,131,275, and the imports duty free during the same period were valued at $15,269,674, making a total of $144,400,949. These imports include all classes of iron and steel goods manufactured as well as those of the cruder form. In many cases the values only of the imported goods are given, so that a total tonnage of im-

ports cannot be stated. In the case of most of the cruder materials, however, the quantities are given, and a compilation of these showing the importation of the cruder forms of iron and steel during the two years just referred to is shown in Table 20. Thus, there were imported during the twelve months ending December, 1913, 1,832,475 tons of iron and steel goods valued at $55,927,607, or an average value per ton of $30.52, together with other iron and steel goods of which the quantities are not stated, valued at $85,344,750. During the twelve months ending March, 1913, there were imported 1,875,172 tons of iron and steel goods valued at $53,239,212 or an average of $28.39 per ton, together with other manufactures of iron and steel of which the quantity is not stated, valued at $91,161,737.

The cruder forms of iron and steel have been classed into twelve groups, and the imports of each of these groups since 1908 is shown in Table 20. The imports of pig-iron have varied considerably during the past six years and the imports in 1913 are not very much larger than those of 1908. The imports of ferro-products and chrome steel have increased during six years by over 90 per cent. The imports of ingots, blooms, billets and puddled bars have more than doubled in that period. The imports of scrap iron and scrap steel show an increase of about 40 per cent in the six years. The imports of plates and sheets, and of bars, rods, hoops, bands, etc., were nearly three times as great in 1913 as in 1908. The imports of structural iron and steel have increased steadily since 1909, but were larger in 1908 than in any other year of this period, with the exception of 1913. The imports of steel rails, pipe and fittings, nails and spikes, iron forgings, castings, and manufactures have varied considerably, but reached a maximum in 1913.

A very large proportion of these imports is derived from the United States, and it may be of interest here to quote from the records published in the "Commerce and Navigation of the United States" showing the exports of iron and steel goods from that country to Canada.

According to this authority there were exported to Canada from the United States during the twelve months ending June 30, 1913, 1,695,916 tons of iron and steel goods valued at $51,936,616, together with other iron and steel goods of which the weight is not given, valued at $54,053,014, or a total value of imports from the United States of $105,989,630.

During the twelve months ending June 30, 1912, the corresponding exports to Canada were 1,175,464 tons valued at $36,637,305, together with other iron and steel goods valued at $46,020,989, or a total value during the year of $82,658,294.

The detailed items making up these totals are shown in Table 23.

TABLE 20.

Summary of Imports of Iron and Steel Products.*

Material.	Twelve months ending December 1913.		
	Tons.	Value.	Average.
		$	$ cts.
Pig-iron	236,769	3,247,405	13 72
Ferro-products and chrome steel	30,678	970,100	31 62
Ingots, blooms, billets, puddled bars, etc	52,872	1,212,314	22 93
Scrap iron and scrap steel	104,747	1,488,255	14 21
Plates and sheets	365,675	13,965,865	38 19
Bars, rods, hoops, bands, etc	277,879	10,195,280	36 69
Structural iron and steel	439,871	12,739,954	28 96
Rails and connexions	182,421	5,120,830	28 07
Pipe and fittings (a)	30,663	847,922	27 65
Nails and spikes	7,584	360,489	47 53
Wire (a)	70,712	3,688,660	52 16
Forgings, castings, and manufactures	32,604	2,090,533	64 12
Total	1,832,475	55,927,607	30 52
Other iron and steel products valued at	.....	85,344,750	
Total value of imports of iron and steel	.....	141,272,357	

Material.	Twelve months ending March 1913.		
	Tons.	Value.	Average.
		$	$ cts.
Pig-iron	291,904	3,814,217	13 07
Ferro-products and chrome steel	23,378	637,403	27 27
Ingots, blooms, billets, puddled bars, etc	86,745	1,732,736	19 98
Scrap iron and scrap steel	103,317	1,433,562	13 88
Plates and sheets	376,633	13,626,185	36 18
Bars, rods, hoops, bands, etc	278,878	9,447,371	33 88
Structural iron and steel	377,551	10,595,726	28 06
Rails and connexions	156,318	4,290,532	27 45
Pipe and fittings (a)	40,987	1,033,426	25 21
Nails and spikes	11,420	472,255	41 35
Wire (a)	80,846	3,251,696	40 22
Forgings, castings, and manufactures	47,195	2,904,103	61 53
Total	1,875,172	53,239,212	28 39
Other iron and steel products valued at	.....	91,161,737	
Total value of imports of iron and steel	.....	144,400,949	

*For details of these items see Tables 21 and 22.
(a) There are additional imports of pipe and wire included under "other iron and steel products."

Summary of Tonnage of Iron and Steel Imported 1908-1912.

Material.	Twelve months ending March.				
	1908.	1909.	1910.	1911.	1912.
	Tons.	Tons.	Tons.	Tons.	Tons.
Pig-iron	212,290	58,591	159,506	270,102	200,317
Ferro-products and chrome steel	17,661	13,206	15,153	19,182	18,865
Ingots, blooms, billets, puddled bars, etc	21,222	8,887	36,819	48,395	88,075
Scrap iron and scrap steel	69,213	26,212	28,797	53,824	82,665
Plates and sheets	126,122	116,610	200,575	205,690	243,482
Bars, rods, hoops, bands, etc	98,631	73,261	117,159	183,865	195,145
Structural iron and steel	373,871	162,735	195,748	232,585	268,573
Rails and connexions	52,706	32,543	55,183	36,690	98,083
Pipe and fittings	25,090	18,309	16,705	28,831	26,627
Nails and spikes	2,741	1,611	3,476	3,374	7,201
Wire	57,046	39,375	68,211	64,850	69,650
Forgings, castings, and manufactures	22,357	14,394	18,093	24,523	24,665
Total	1,079,000	565,734	915,425	1,171,911	1,323,348

Annual Imports of Iron and Steel Products since 1895.

Year.	Value.	Year.	Value.
Twelve months ending June	$	Twelve months ending March	$
1895	8,002,285	1907	43,222,626
1896	9,283,480	1908	61,319,698
1897	10,143,560	1909	40,393,431
1898	15,190,251	1910	59,952,197
1899	18,536,293	1911	85,319,541
1900	26,242,978	1912	102,568,832
1901	23,556,488	1913	144,400,949
1902	30,062,833	Twelve months ending December	
1903	37,730,224	1913	141,272,357
1904	38,987,364		
1905	39,068,726		
1906	40,341,305		

Imports of Iron and Steel Goods Subject to Duty.

Material.		Twelve months ending March, 1913.			Calendar year, 1913.		
		Quantity.	Values.	Value per unit.	Quantity.	Values.	Value per unit.
			$	$ cts.		$	$ cts.
Agricultural implements, n.o.p. viz.—							
Binding attachments	$	.....	49,319	.....	.....	33,319	.....
Cultivators and weeders	No.	8,115	66,416	8 18	.....	60,426	.....
Drills, seed	"	7,632	282,478	37 01	7,295	241,749	33 14
Farm, road, or field rollers	"	203	81,296	400 47	617	129,269	209 51
Forks, pronged	"	13,039	7,278	0 56	16,143	7,929	0 49
Harrows	"	7,489	176,853	23 62	3,642	198,020	54 37
Harvesters, self-binding	"	2,316	215,129	92 89	3,796	337,849	89 00
Hay loaders	"	1,066	52,371	49 13	478	24,206	50 64
Hay tedders	"	2	86	43 00	6	126	21 00
Hoes	"	7,779	2,031	0 26	9,052	2,344	0 26
Horse rakes	"	1,901	44,203	23 25	1,466	41,868	28 56
Knives, hay or straw	"	10,173	3,533	0 35	14,719	4,325	0 29
Knives edging	"	2,541	1,442	0 57	2,838	1,646	0 58
Lawn mowers	"	13,918	57,383	4 12	15,701	64,828	4 13
Manure spreaders	"	353	21,585	61 15	499	33,502	67 14
Mowing machines	"	2,352	76,662	32 59	1,439	47,765	33 19
Ploughs	"	27,389	1,371,243	50 07	.....	1,366,959	.....
Post hole diggers	"	4,199	4,412	1 05	3,517	5,005	1 42
Potato diggers	"	3,527	65,344	18 53	1,618	54,222	33 51
Rakes, n.o.p.	"	18,844	4,994	0 27	20,868	5,744	0 28
Reapers	"	1,389	68,599	49 39	679	40,402	59 50
Scythes	Doz.	2,734	12,291	4 50	2,661	13,037	4 90
Sickles or reaping hooks	"	290	619	2 13	516	1,212	2 35
Snaths	"	7	38	5 43	3	17	5 67
Spades and shovels of iron or steel, n.o.p.	"	10,877	48,166	4 43	9,566	42,910	4 49

Spade and shovel blanks, and iron or steel cut to shape for the same...	"	2,359	4,638	1 97	1,021	2,259	2 21
Parts of agricultural implements paying 12½ per cent and 17½ per cent...	$	.....	513,680	.....	.....	590,256	.....
Parts of agricultural implements paying 12½, 17½, and 20 per cent.....	"	.....	1,111,271	.....	.....	680,973	.....
All other agricultural implements, n.o.p.....	"	.....	102,124	.....	.....	106,736	.....
Anvils and vises.....	"	.....	127,920	.....	.....	99,339	.....
Cart or wagon skeins or boxes.....	Tons.	226·9	17,240	75 98	217·9	15,862	72 79
Springs, n.o.p., and parts thereof, of iron or steel, for railway, tramway, or other vehicles.....	"	1,088·9	104,342	95 82	.....	162,557	.....
Axle and axle parts, n.o.p., and axle blanks and parts thereof, of iron or steel for railway, tramway, or other vehicles.....	"	14,153·1	774,677	54 74	.....	621,777	.....
Bar iron or steel, rolled, whether in coils, bundles, rod or bars, comprising rounds, ovals, squares, and flats, n.c.p.....	"	135,231·1	3,916,390	28 96	139,932·6	4,381,341	31 31
Butts and hinges, n.o.p.....	"	.....	170,238	.....	.....	156,840	.....
Canada plates, Russia iron, terne plate, and rolled sheets of iron and steel coated with zinc spelter or other metal, of all widths or thicknesses, n.o.p.	Tons.	11,973·7	582,870	48 68	8,639·2	490,791	56 81
Castings, iron or steel, n.o.p.....	$	.....	1,774,296	.....	.....	1,644,991	.....
Cast-iron pipe of every description.....	Tons.	40,987·3	1,033,426	25 21	30,662·5	847,922	27 65
Cast scrap iron.....	"	46,513	622,998	13 39	49,874·0	659,319	13 22
Chains, coil chain, chain links, and chain shackles of iron or steel of $\frac{5}{16}$" diameter, and over.....	"	3,719·7	220,896	59 39	3,112·8	217,175	69 77
Chains, n.o.p.....	$	.....	179,024	.....	.....	158,914	.....
Tacks, shoe.....	Tons.	18·5	3,121	168 70	24·2	3,143	129 88
Nails, brads, spikes, and tacks of all kinds, n.o.p.....	"	589·5	59,456	100 86	317	44,486	140 33
Engines, etc.:—							
Locomotives for railways.....	No.	202	787,411	3,898 07	171	692,370	4,048 95
Locomotive parts.....	$	.....	128,828	.....	.....	144,309	.....
Motor cars for railway and tramways.....	No.	155	348,505	2,248 42	109	199,945	1,834 36
Engines, fire.....	"	25	35,520	1,420 80	15	61,984	4,132 27
Engines, gasoline.....	"	27,255	3,413,595	125 25	25,126	3,150,314	125 38
Engines, steam.....	"	483	475,980	985 47	476	547,866	1,150 98
Boilers, steam.....	"	1,118	368,565	329 66	.....	454,726	.....
Boilers, n.o.p.....	"	6,599	397,371	60 22	.....	337,390	.....
Fire extinguishing machines, including sprinklers for fire protection.....	$	.....	136,775	.....	.....	125,861	.....
Fittings, iron or steel, for iron or steel pipe of every description.....	Tons.	.....	1,265,091	.....	.....	1,165,364	.....
Flat eye-bar blanks, not punched or drilled, for use exclusively in the manufacture of bridges or of steel structural work, or in car contsruction.....	"	393	10,701	27 23	567	16,853	29 72
Ferro-silicon, spiegeleisen, and ferro-manganese.....	"	22,969	598,524	26 06	30,355	940,443	30 98
Forging of iron and steel of whatever size, shape, or in whatever stage of manufacture, n.o.p., and steel shafting turned, compressed or polished and hammered, drawn or cold rolled iron or steel bars or shapes, n.o.p.....	"	3,416·9	339,119	99 25	2,442·1	263,975	108 09
Hardware, viz., builders, cabinet-makers, upholsterers, harness-makers, saddlers, and carriage hardware, including curry-combs, n.o.p.....	$	.....	956,597	.....	.....	956,703	.....
Horse, mule, and ox shoes.....	"	.....	31,536	.....	.....	39,362	.....
Iron or steel billets, weighing not less than 60 pounds per lineal yard.....	Tons.	82,850·9	1,641,909	19 82	51,765·4	1,178,151	22 76
Iron or steel ingots, cogged ingots, blooms, slabs, puddled bars and loops, or other forms, n.o.p., less finished than iron or steel bars, but more advanced than pig-iron, except castings.....	"	1,720·3	42,227	24 55	654·5	19,379	29 61

Imports of Iron and Steel Goods Subject to Duty—*Continued.*

Material.		Twelve Months ending March, 1913.			Calendar Year, 1913.		
		Quantity.	Value.	Value per unit.	Quantity.	Value.	Value per unit.
			$	$ cts.		$	$ cts.
Iron or steel bridges or parts thereof, iron or steel structural work, columns, shapes, or sections, drilled, punched, or in any further stage of manufacture, than as rolled or cast, n.o.p.	Tons.	18,171·1	910,052	50 08	.....	971,735	.....
Iron in pig	"	291,813	3,813,034	13 07	235,843	3,234,877	13 72
Iron in pig charcoal	"	91	1,183	13 00	926	12,528	13 53
Locks of all kinds	$	.....	669,185	.....	.....	568,263	.....
Machines, machinery, etc.—							
Automobiles and motor vehicles of all kinds	No.	8,377	9,738,839	1,162 57	6,956	8,233,529	1,183 66
Automobiles and motor vehicles, parts of	$	.....	778,948	.....	.....	3,004,156	.....
Cranes and derricks	No.	285	744,711	2,613 02	360	850,686	2,363 02
Fanning mills	"	1,258	24,179	19 22	1,199	22,915	19 11
Grain crushers	"	204	3,080	15 10	421	6,469	15 37
Hay presses	"	.....	.....	.....	219	43,779	199 90
Windmills and complete parts thereof	"	994	35,011	35 22	.....	43,562	.....
Ore crushers and rock crushers, stamp mills, cornish and belted rolls, rock drills, air compressors, cranes, derricks, and percussion coal cutters	$	.....	451,377	.....	.....	601,531	.....
Portable machines:—							
Fodder or feed cutters	No.	527	9,892	18 77	2,053	19,016	9 26
Horse powers for farm purposes	"	12	310	25 83	12	265	22 09
Portable engines with boilers in combination and traction engines for farm purposes	"	4,024	7,369,219	1,831 32	1,864	3,539,078	1,898 65
Portable sawmills and planing mills	"	13	12,366	951 23	31	10,284	331 74
Steam shovels	"	102	513,720	5,036 47	97	603,827	6,225 02
Threshing machine separators	"	3,293	2,176,077	660 82	1,820	1,025,296	563 [illegible]

Threshing machine separators, parts of, including wind-stackers, baggers, weighers and self-feeders for same, and finished parts thereof for repairs, when imported separately	$	.....	486,954	.....	.....	499,832	.....
All other portable machines, n.o.p., and parts	"	.....	132,546	.....	.....	60,552	.....
Concrete mixing machines	No.	.....	.....	.....	208	110,059	529 13
Sewing machines	"	19,556	430,066	21 99	18,446	364,265	19 75
Sewing machines, parts of	$	.....	130,354	.....	.....	119,061	.....
Adding machines	No.	.....	.....	.....	1,678	269,358	160 52
Machines, typewriting	"	18,146	1,141,903	62 93	13,997	848,834	60 64
Machines, type-casting and type-setting, and parts thereof, adapted for use in printing offices	"	.....	438,632	.....	.....	150,975	.....
Machines specially designed for ruling, folding, binding, embossing, creasing, or cutting paper or cardboard, when for use exclusively by printers, bookbinders, and by manufacturers or articles made from paper or cardboard, including parts thereof, composed wholly or in part of iron, steel, brass, or wood	"	.....	384,870	.....	.....	363,600	.....
Lithographic presses and type-making accessories for same	$	.....	112,400	.....	.....	610,189	.....
Printing presses	"	.....	598,302	.....	.....		.....
Cement making machines	"	.....	.....	.....	.....	187,991	.....
Coal handling machines	"	.....	.....	.....	.....	120,359	.....
Paper and pulp mill machines	"	.....	.....	.....	.....	417,898	.....
Rolling mill machines	"	.....	.....	.....	.....	123,758	.....
Sawmill machines	"	.....	.....	.....	.....	189,976	.....
Machinery of a class or kind not made in Canada and parts thereof adapted for carding, spinning, weaving, braiding, or knitting fibrous material, when imported by manufacturers for such purposes	"	.....	1,371,120	.....	.....	2,180,923	.....
All machinery composed wholly or in part of iron or steel, n.o.p., and iron or steel castings, and iron or steel integral parts of all machinery specified in tariff item 453	"	.....	19,789,912	.....	.....	17,118,296	.....
Machines, washing	No.	11,959	105,828	8 85	9,578	88,420	9 23
Nails and spikes, composition and sheathing nails	Tons	278·8	19,194	68 85	293·9	17,725	60 31
Nails and spikes, cut (ordinary builders)	"	629·7	24,331	38 64	202·8	9,127	45 00
Railway spikes	"	7,792·1	241,254	30 96	5,272·6	194,194	36 83
Nails, wire of all kinds, n.o.p.	"	2,111·7	124,899	59 15	1,473·1	91 814	62 33
Pumps, hand, n.o.p.	No.	34,296	148,487	4 33	32,662	131,463	4 02
Pumps, steam	"	.....	.....	.....	1,707	277,709	162 69
Iron and steel railway bars or rails of any form, punched or not, n.o.p., for railways which term for the purposes of this item shall include all kinds of railways, street railways and tramways, even although they are used for private purposes only, and even although they are not used or intended to be used in connexion with the business of common carrying of goods or passengers	Tons	150,538	3,867,833	25,69	177,041	4,886,117	27 59
Railway fish plates	"	2,084	87,968	42 21	3,366	146,493	43 52
Railway tie-plates	"	639	21,937	34 33	2,014	88,220	43 80
Rolled iron or steel angles, tees, beams, channels, girders and other rolled shapes or sections, not punched or drilled or further manufactured than rolled, n.o.p.	"	89,462·4	2,510,757	28 06	107,494·8	3,201,384	29 78

Imports of Iron and Steel Goods Subject to Duty—*Continued.*

Material.		Twelve months ending March, 1913.			Calendar year, 1913.		
		Quantity.	Value.	Value per unit.	Quantity.	Value.	Value per unit.
			$	$ cts.		$	$ cts.
Rolled iron or steel beams, channels, angles, and other rolled shapes of iron and steel, not punched, drilled or further manufactured than rolled, weighing not less than 35 pounds per lineal yard, not being square, flat, oval, or round shapes, and not being railway bars or rails	Tons.	200,678·5	5,319,456	26 51	249,435·1	7,074,279	28 36
Rolled iron or steel hoop, band, scroll, or strip, 12 inches or less in width, No. 13 gauge and thicker, n.o.p.	"	7,946·4	255,828	32 19	7,342·6	246,635	33 59
Rolled iron or steel, hoop, band, scroll, or strip, No. 14 gauge and thinner, galvanized or coated with other metal or not, n.o.p.	"	17,702·1	717,148	40 51	13,985·8	651,338	46 57
Rolled iron or steel sheets or plates, sheared or unsheared, and skelp iron or steel, sheared or rolled grooves, n.o.p.	"	42,116·7	1,225,605	29 10	47,444·4	1,517,344	31 98
Rolled iron or steel plates not less than 30" in width and not less than ¼" in thickness, n.o.p.	"	56,436·8	1,547,067	27 41	65,190·6	1,939,739	29 75
Rolled iron or steel sheets, polished or not, No. 14 gauge and thinner, n.o.p.	"	66,065·1	3,075,053	46 55	51,776·5	2,545,347	49 16
Rolls of chilled iron or steel	"	143·3	7,335	51 19	194·5	11,457	58 90
Sad or smoothing hatters' and tailors' irons	$	.....	15,996	.....	.....	10,945	.....
Safes, doors for safes and vaults	"	.....	247,068	.....	.....	192,803	.....
Screws, iron and steel, commonly called wood screws n.o.p., including lag or coach screws, plated or not, and machine or other screws n.o.p.	Gross	973,423	117,085	12	.....	110,442	.....
Scales, balances, weighing beams, and strength-testing machines of all kinds	$	.....	189,823	.....	.....	178,365	.....
Shafting, round, steel, in bars not exceeding 2½" diameter	Tons	3,979	142,346	35 77	4,416·6	161,238	36 51
Shafting, steel, turned, compressed or polished	$	.....	.....	.....	.....	15,074	.....
Sheets or plates of steel, cold rolled with sheared edges over 14 gauge, and not less than 1½" wide for the manufacture of mower bars, hinges, typewriters, and sewing machines	Tons.	859·8	37,660	43 80	742·1	30,294	40 82
Sheets, flat, of galvanized iron or steel	"	27,853·8	1,537,691	55 21	19,416·7	1,193,044	61 44
Sheets, iron or steel, corrugated, galvanized	"	357	23,131	64 79	203·2	14,975	73 70

Sheets, iron or steel corrugated not galvanized	Tons	376·2	16,361	43 49	293·3	13,895	47 37
Skates, of all kinds, roller or other, and parts thereof	Pairs	118,453	72,258	61	.....	79,972	.....
Skelp iron or steel, sheared or rolled in grooves, imported by manufacturers of wrought iron or steel pipe, for use exclusively in the manufacture of wrought iron or steel pipe in their own factories	Tons	112,996·2	2,779,978	24 60	106,963·5	2,957,887	27 65
Steel billets, n.o.p.	"	2,174·5	48,600	22 35	452·5	14,784	32 67
Stoves, of all kinds, for coal, wood, oil, spirits or gas	$	.....	1,057,647	.....	.....	902,256	.....
Stove urns of metal, and dovetails, chaplets, and hinge tubes of tin for use in the manufacture of stoves	"	.....	28,239	.....	.....	25,748	.....
Switches, frogs, crossings, and intersections for railways	Tons	3,056·5	312,794	102 34	.....	324,694	.....
Iron or steel railway bars or rails, which have been in use in the tracks of railways in Canada and which have been exported from Canada, and returned thereto after having been re-rolled, and weighing not less than 56 pounds per lineal yard when re-rolled and which are to be used by the railway company importing them on their own tracks	"	.....	.....	.....	.....	.....	.....
Tubing:—							
Wrought or seamless tubing, iron or steel, plain or galvanized, threaded and coupled, or not, over 4" diameter, n.o.p.	$	.....	1,586,452	.....	.....	774,683	.....
Wrought or seamless tubing, iron or steel, plain or galvanized, threaded and coupled, or not, 4" and less in diameter, n.o.p.	"	.....	486,067	.....	.....	419,294	.....
Seamless steel tubing, valued at not less than 3½ cents per lb	Tons	538·8	54,986	102 05	724·6	82,538	113 91
Rolled or drawn square tubing of iron or steel, adapted for use in the manufacture of agricultural implements	$	.....	20,089	.....	.....	14,895	.....
Iron or steel pipe or tubing, plain or galvanized, riveted, corrugated or otherwise specially manufactured, including lockjoint pipe, n.o.p.	"	.....	1,014,005	.....	.....	1,572,658	.....
Iron or steel pipe, not butt or lap welded, and wire bound wooden pipe, not less than 30" internal diameter when for use exclusively in alluvial gold mining	"	.....	3,467	.....	.....	84	.....
Ware—Agate, granite, or enamelled iron or steel ware	"	.....	311,832	.....	.....	349,564	.....
Ware—Iron or steel hollow ware, plain black or coated, n.o.p., and nickel and aluminium kitchen or household hollow ware	"	.....	182,556	.....	.....	224,552	.....
Wire bale ties	Bundles of 250 ties	7,848	4,850	62	.....	5,943	.....
Wire bound wooden pipe, n.o.p.	$	.....	757	.....	.....	723	.....
Wire cloth or woven wire and netting of iron and steel	Tons	1,770·6	196,374	110 91	2,370·8	260,186	109 75
Wire, crucible cast steel, valued at not less than 6 cents per lb	"	122·3	36,501	298 45	122·9	38,687	314 79
Wire screens, doors, and windows	$	.....	42,650	.....	.....	49,703	.....
Wire buckthorn strip fencing, woven wire fencing, and wire fencing, of iron and steel, n.o.p., not to include woven wire or netting made from wire, smaller than No. 14 gauge, not to include fencing or wire larger than No. 9 gauge	Tons	826·6	74,352	89 95	938·9	74,774	79 64
Wire, single or several, covered with cotton, linen, silk, rubber, or other material, including cable so covered	"	.....	1,219,534	.....	.....	1,099,921	.....
Wire of iron and steel all kinds, n.o.p.	"	5,907·5	324,097	54 86	6,105·3	332,419	54 44
Wire rope, stranded or twisted wire clothes lines, picture or other twisted wire, and wire cables, n.o.p.	"	4,681·7	619,062	132 23	4,339·3	642,905	148 16
Iron or steel nuts, rivets, or bolts with or without threads, nut bolt, and hinge blank, and T and strap hinges of all kinds, n.o.p.	"	4,422·5	341,631	77 25	3,792·2	324,320	85 52

Imports of Iron and Steel Goods Subject to Duty—*Continued.*

Material.		Twelve months ending March, 1913.			Calendar Year, 1913.		
		Quantity.	Value.	Value per unit.	Quantity.	Value.	Value per unit.
			$	$ cts.		$	$ cts.
Iron or steel scrap, wrought, being waste or refuse, including punchings, cuttings, and clippings of iron or steel plates or sheets having been in actual use: crop ends of tin plate bars, blooms, and rails, the same not having been in actual use	Tons.	56,804·4	810,564	14 27	54,869·3	828,860	15 10
Penknives, jack-knives, and pocket knives of all kinds	$	.....	127,908	.....	.....	103,792	.....
Knives and forks of steel, plated or not, n.o.p.	"	.....	361,686	.....	.....	342,946	.....
All other cutlery, n.o.p.	"	.....	899,528	.....	.....	875,316	.....
Guns, rifles, including air guns and air rifles (not being toys), muskets, cannons, pistols, revolvers, or other firearms	"	.....	900,031	.....	.....	887,236	.....
Bayonets, swords, fencing foils, and masks	"	.....	7,465	.....	.....	7,453	.....
Needles of any material or kind, n.o.p.	"	.....	148,969	.....	.....	140,685	.....
Steel, chrome steel	Tons.	408·8	38,879	95·11	323	29,657	91 82
Steel plate, universal mill or rolled edge plates of steel over 12" wide, imported by manufacturers of bridges or of structural work, or for use in car construction	"	52,645·6	1,384,935	26·31	62,543·6	1,812,399	28 98
Steel in bars or sheets to be used exclusively in the manufacture of shovels when imported by the manufacturers of shovels	"	2,152·3	60,027	27·89	2,985·8	88,421	29 61
Rolled iron or steel, or cast steel in bars, bands, hoops, scroll, or strip, sheet, or plate of any size, thickness, or width, galvanized or coated with any material or not, and steel blanks for the manufacture of milling cutters, when of greater value than 3½ cents per pound	"	10,249	1,226,071	119 63	9,907·9	1,197,321	120 84
Steel balls adapted for use in bearings of machinery and vehicles	$	.....	27,511	.....	.....	27,134	.....
Flat steel, cold rolled, not over ¼" thick, for the manufacture of cups and cones for ball bearings	Tons.	30·2	1,886	62 45	26·8	2,222	82 91
Steel wool	"	16·5	4,730	286 67	.....	4,995	.....
Tools and implements—							
Adzes, cleavers, hatchets, wedges, sledges, hammers, crowbars, cant-dogs and track tools, picks, mattocks and eyes and poles for the same.	$	.....	139,584	.....	.....	91,339	.....
Axes	Doz.	13,807	72,127	5 22	11,492	66,088	5 75

Saws	§	.....	163,200	.....	.....	155,005	.....
Files and rasps, n.o.p	"	.....	158,719	.....	.....	149,962	.....
Tools, hand or machine, of all kinds, n.o.p	"	.....	1,107,217	.....	.....	985,772	.....
Knife blades or blanks, and table forks of iron and steel, in the rough, not handled, filed, ground, or otherwise manufactured	"	.....	180	.....	.....	278	.....
Manufactures, articles or wares of iron and steel, or of which iron and steel (or either) are the component materials of chief value, n.o.p	"	.....	11,765,265	.....	.....	11,206,350	.....
Total			129,131,275			125,082,378	

Imports of Iron and Steel Goods Free of Duty.

Material.		Twelve months ending March, 1913.			Calendar Year, 1913.		
		Quantity.	Value.	Value per unit.	Quantity.	Value.	Value per unit.
			$	$ cts.		$	$
Anchors for vessels	Tons.	358·4	30,288	84 51	330·4	27,282	82 57
Chain, malleable sprocket or link belting	$	.....	273,697	.....	.....	303,463	.....
Cream separators, and steel bowls for	"	.....	467,849	.....	.....	429,741	.....
Cream separators—materials which enter into the construction and form part of when imported by manufacturers of cream separators to be used in the manufacture thereof	"	.....	229,094	.....	.....	277,660	.....
Gas buoys—The following articles and materials, when imported by manufacturers of automatic gas buoys and automatic gas beacons, for use in the manufacture of such buoys and beacons for the Government of Canada or for export, viz., iron or steel tubes over 16" in diameter; flanged and dished steel heads made from boiler plate, over 5 feet in diameter; hardened steel balls, not less than 3" in diameter; acetylene gas lanterns and parts thereof, and tobin bronze in bars or rods.	"	.....	21,174	.....	.....	7,035	.....
Gun barrels, in single tubes, forged, rough bored	"	.....	460	.....	.....	.....	.....
Iron or steels rods over $\frac{5}{16}$" in diameter for manufacturing of chain	Tons.	1,952·4	49,624	25 42	1,093·2	30,777	28 15
Iron or steel, rolled round wire rods, in the coil, not over $\frac{3}{8}$" in diameter, when imported by wire manufacturers for use in making wire in the coil in their own factories	"	91,919·3	2,144,405	23 33	79,608·4	1,962,235	24 65
Boiler plate of iron or steel not less than 30" in width, and not less than $\frac{1}{4}$" in thickness, for use exclusively in the manufacture of boilers	"	21,535·1	663,105	30 79	24,348·2	804,582	33 04
Flat galvanized iron or steel sheets	"	28,095	1,717,963	61 11	34,768·4	2,135,558	61 42
Rolled iron and steel, and cast steel in bars, band, hoop, scroll or strip, sheet or plate of any size, thickness, or width: galvanized or coated with any material or not, and steel blanks for the manufacture of milling cutters, when of greater value than 3½ cts. per lb	"	4,983	727,546	146 01	4,813·8	798,549	165 89
Rolled iron or steel sheets in strips, polished or not, 14 gauge and thinner, n.o.p.	"	7,377·4	344,345	46 68	15,909·3	771,694	48 50
Rolled iron or steel, hoop, band, scroll, or strip, No. 14 gauge or thinner, galvanized or coated with other metal or not, n.o.p.	"	339·9	12,947	38 09	865·5	36,165	41 79

Iron tubing, lacquered or brass covered, not over 2″ in diameter, and brass trimmings, when imported by manufacturers of iron or brass bedsteads, for use exclusively for the manufacture of such articles in their own factories	$		336,024			285,798	
Iron tubing, brass covered, not over 2″ in diameter, in the rough where imported by manufacturers for use only in their own factories, in the manufacture of towel bars, bath tub rails and clothes carriers	"		345			408	
Iron tubing, lacquered or brass covered, not over 2″ in diameter, brass covered rods and brass trimmings, when imported by manufacturers of carriage rails, for use exclusively in the manufacture of such articles in their own factories	"		19,929			7,015	
Iron tubing for manufacture of extension rods for windows	"		7,804			5,285	
Iron or steel, beams, sheets or plates, ankles, knees, masts or parts thereof and cable chains for wooden, iron, steel or composite ships or vessels	Tons.	16,593·7	470,526	28 36	20,397·6	651,892	31 96
Locomotive and car wheel tires of steel in the rough	"	10,426·6	548,148	52 57	11,801·5	625,636	53 01
Manufactured articles of iron or steel or brass, which, at the time of their importation, are of a class or kind not manufactured in Canada, imported for use in the construction or equipment of ships or vessels	$		196,295			245,208	
Scrap iron and scrap steel, old, and fit only to be manufactured, being part of or recovered from any vessel wrecked in waters subject to the jurisdiction of Canada	Tons.	40	500	12 50	3·7	76	20 54
Skelp iron or steel, sheared or rolled in grooves, not over $4\frac{3}{4}$″ wide, for the manufacture of rolled iron tubes not over $1\frac{1}{2}$″ in diameter	"	1,033·1	27,209	26 34	849·1	22,959	27 04
Machinery:—							
Articles of metals as follows when for use exclusively in mining or metallurgical operations, viz: coal cutting machines, except percussion coal cutters, coal heading machines; coal augers; rotary coal drills; core drills; miners safety lamps and parts thereof, also accessories for cleaning, filling, and testing such lamps; electric or magnetic machines for separating or concentrating iron ores; furnaces for the smelting of copper, zinc, and nickel ores; converting apparatus for metallurgical processes in metals; copper plates, plated or not, machinery for extraction of precious metals by the chlorination or cyanide process; amalgam safes; automatic ore samplers; automatic feeders; retorts, mercury pumps, pyrometers; bullion furnaces; amalgam cleaners; blast furnace blowing engines; wrought iron tubing, butt or lap welded; threaded, or coupled or not, over 4″ in diameter; and integral parts of all machinery mentioned in this item; blowers of iron or steel for use in the smelting of ores, or in the reduction, separation, or refining of metals, rotary kilns, revolving roasters, and furnaces of metal designed for roasting ore, mineral rock or clay; furnace slag trucks, and slag pots of a class or kind not made in Canada, buddles, vanners, and slime tables adapted for use in gold mining	$		1,259,692			1,033,571	
Diamond drills, not to include motive power	"		68,313			70,549	
Appliances of iron and steel, of a class or kind not made in Canada, and elevators and machinery of floating dredges, when for use exclusively in alluvial gold mining	"		533,926			259,722	

Imports of Iron and Steel into Canada Free of Duty.—*Continued.*

Material.		Twelve months ending March, 1913.			Calendar year 1913.		
		Quantity.	Value.	Value per unit.	Quantity.	Value.	Value. per unit.
			$			$	
Well-drilling, and apparatus of a class or kind not made in Canada for drilling for water, natural gas or oil, and for prospecting for minerals, not to include motive power	$	.....	44,591	.....	.....	22,934	.....
Briquette making machines	"	.....	29,276	.....	.....	3,708	.....
Newspaper printing presses, of not less value by retail than $1,500 each, of a class or kind not made in Canada	No.	134	598,675	4,467 72	122	513,348	4,207 77
Machinery or tools not manufactured in Canada up to the required standard necessary for any factory to be established in Canada for the manufacture of rifles for the Government of Canada	$	.....	14,725	.....	.....	25,329	.....
All materials, or parts in the rough, unfinished, and screws, nuts, bands, and springs to be used in rifles to be manufactured at any such factory for the Government of Canada	"	.....	43,317	.....	.....	60,656	.....
Machines, typecasting and typesetting and parts thereof, adapted for use in printing offices	"	.....	.....	.....	.....	504,837	.....
Machinery of every kind, and structural iron and steel for use in the construction and equipment of factories for the manufacture of sugar from beet root	"	.....	61,113	.....	.....	19,449	.....
Machinery of a class or kind not made in Canada and parts thereof, for the manufacture of twine cordage, or linen, or for the preparation of flax fibre	"	.....	45,800	.....	.....	56,265	.....
Machines, traction ditching (not being ploughs) adapted for tile drainage on farms, valued at retail at not more than $3,000 each	No.	.....	.....	.....	138	54,681	396 24
Mould boards or shares, or plough plates, land sides, or other plates for agricultural implements, when cut to shape from rolled plates of steel, but not moulded, punched, polished, or otherwise manufactured	Tons.	6,890·5	388,863	56 43	4,963·6	290,245	58 47
Sewing machine attachments	$	.....	46,965	.....	.....	39,789	.....
Steel for manufacturing ball bearings	Tons.	1·1	166	150 91	.....	.....	.....
Steel balls adapted for use on bearings on machinery and vehicles	$	.....	2,159	.....	.....	1,996	.....
Steel, rolled, for saws and straw cutters, not tempered, or ground, nor further manufactured than cut to shape without indented edges	Tons.	1,206·2	176,142	146 03	1,309·9	187,929	143 46

Steel strips, and flat steel wire when imported into Canada by manufacturers of buckthorn and plain strip fencing for use exclusively in their own factories in the manufacture thereof	Tons.	3	253	84 33	0·9	92	102 22
Steel wire, Bessemer soft drawn spring of Nos. 10, 12, and 13 gauge, respectively, and homo steel spring wire of Nos. 11 and 12 guage, respectively, when imported by manufacturers of wire mattresses, to be used exclusively in their own factories in the manufacture of such articles	"	1,014·4	46,219	45 56	1,032	48,042	46 55
Steel, crucible sheet, 11 to 16 gauge, 2½" to 18" wide for the manufacture of mower and reaper knives when imported by manufacturers thereof for use exclusively in the manufacture of such articles in their own factories	"	847·7	53,088	62 63	593·8	46,491	78 29
Steel No. 20 gauge and thinner, but not thinner than 30 gauge, for the manufacture of corset steels, clock springs, and shoe shanks, imported by manufacturers of such articles for exclusive use in the manufacture of such articles in their own factories	"	11·2	1,490	133 04	48·9	6,891	140 92
Steel wire, flat, of 16 gauge or thinner, imported by the manufacturers of crinoline, and corset wires and dress stays, for use exclusively in the manufacture of such articles in their own factories	"	432·9	53,968	124 67	377·4	50,227	133 09
Steel, No. 12 gauge and thinner, but not thinner than No. 30 gauge, for the manufacture of buckle clasps, bed fasts, furniture casters, and ice-creepers, imported by the manufacturers of such articles, for use exclusively in the manufacture of such articles in their own factories	"	179·4	9,387	52 32	179·6	10,084	56 15
Steel No. 24 and 17 gauge, in the sheets 63" long and from 18" to 32" wide, when imported by the manufacturers of tubular bow sockets for use exclusively in the manufacture of such articles in their own factories	"	109·4	4,269	39 02	88·5	3,566	40 29
Steel springs for the manufacture of surgical trusses, when imported by manufacturers of surgical trusses for use exclusively in the manufacture thereof in their own factories	"	1·2	690	575 00	0·6	264	440 00
Swedish rolled iron, and Swedish rolled steel nail rods, under half an inch in diameter, for the manufacture of horseshoe nails	"	1,177·1	53,067	45 08	4,419·7	119,225	26 98
Steel seamless tubing valued at not less than 3½ cents per pound	"	104·4	17,717	169 70	114·5	21,092	184 21
Steel rolled or drawn square tubing adapted for use in the manufacture of agricultural implements	$	.....	196	.....	.....	.....	.....
Steel or iron tubes, rolled, not joined or welded, not more than 1½" in diameter, n.o.p.	"	.....	35,847	.....	.....	33,921	.....
Seamless steel, or wrought iron boiler tubes, including flues and corrugated tubes for marine boilers	"	.....	903,016	.....	.....	1,048,288	.....
Barbed fencing wire of iron or steel	Tons.	22,306·1	887,974	39 81	13,451·7	566,670	42 13
Wire crucible cast steel, valued at not less than 6 cents per pound	"	7·8	2,344	300 51	6·5	1,947	299 54
Wire, curved or not, galvanized iron or steel, Nos. 9, 12, and 13 gauge	"	41,169·9	1,414,429	34 36	38,282·8	1,387,528	36 24
Wire rope for use exclusively for rigging of ships and vessels	"	67·1	9,930	147 99	119·2	13,226	110 95
Wire, steel, valued at not less than 2¾ cents per pound when imported by manufacturers of rope for use exclusively in the manufacture of rope	"	2,250·3	172,790	76 79	3,296·6	258,399	78 38
Total		.....	15,269,674	.....	.....	16,189,979	.....

Imports of Iron and Steel into Canada from the United States.*

Material.		Twelve months ending June, 1912.		Twelve months ending June, 1913.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Bar iron	Short Tons.	9,591·9	308,745	11,773·8	429,181
Bars or rods of steel—					
Wire rods	"	53,582·9	1,412,910	82,474·3	2,134,198
All other	"	95,215·9	2,859,441	124,761·6	3,921,471
Billets, ingots and blooms of steel	"	60,008·5	1,200,710	87,968·2	1,865,120
Bolts, nuts, rivets and washers	"	(a)	.....	3,220·2	218,805
Hoop, band and scroll	"	7,206·2	281,946	9,436·3	376,561
Horseshoes	"	(a)	.....	271·1	24,894
Nails and spikes—					
Cut	"	5,419·6	159,215	8·3	488
Railroad spikes	"	(a)	.....	6,218·4	224,193
Wire	"	1,245·9	52,498	2,262·4	106,693
All other, including tacks	"	3,113·1	176,371	628·0	48,063
Pig-iron	"	157,480·9	1,979,355	248,846·1	3,124,550
Pipes and fittings	"	76,248·5	3,578,892	78,618·7	4,175,057
Radiators and cast-iron heating boilers	"	3,819·9	250,552	8,989·5	653,182
Rails for railways	"	132,973·1	3,369,894	155,051·7	3,980,657
Scrap and old, fit only for remanufacture	"	64,365·3	737,167	84,523·0	1,032,971
Sheets and plates—					
Iron, galvanized	"			41,505·6	2,428,687
" all other	"	43,790·6	2,030,648	15,568·1	692,434
Steel, plates	"			220,528·7	6,706,433
" sheets	"	209,207·2	7,457,232	120,309·0	3,916,764
Structural iron and steel	"	144,721·9	5,150,353	269,250·2	9,242,288
Tin plates, terne plates, and taggers tin	"	42,336·8	2,985,065	58,289·2	4,065,672
Wire and manufactures of—					
Wire, barbed	"	21,497·9	895,725	16,094·8	656,185
" all other	"	43,638·2	1,759,586	49,318·8	1,912,069
		1,175,464·3	36,637,305	1,695,916·0	51,936,616

Builders' hardware and tools—					
Locks	$	.....	1,762,066	.....	479,985
Hinges, and other builders' hardware	"	.....	.....	.....	1,712,768
Car wheels	No.	3,749	36,021	14,640	107,300
Castings, not elsewhere specified	$	.....	1,312,729	.....	1,656,680
Cutlery—					
Razors	"	.....	(a)	.....	46,962
Table	"	.....	27,841	.....	24,409
All other	"	.....	175,666	.....	132,951
Enamelware—					
Baths, tubs	No.	.....	(a)	2,058	38,415
Lavatories and sinks	$	.....	(a)	.....	156,987
All other	"	.....	(a)	.....	163,394
Firearms	"	.....	503,710	.....	679,784
Machinery, machines and parts of—					
Adding machines	No.	.....	288,617	1,551	331,477
Air-compressing machinery	"	.....	(a)	.....	333,448
Brewers machinery	"	.....	112,627	.....	311,638
Cash registers	"	1,026	81,234	1,894	124,133
Cream separators	"	.....	(a)	8,980	344,424
Electrical machinery	$	.....	1,869,761	.....	.....
Elevators and elevator machinery	"	.....	(a)	.....	423,725
Laundry machinery	"	.....	167,735	.....	232,726
Lawn mowers	"	.....	(a)	.....	51,379
Metal working machinery (including metal working machine tools)	"	.....	1,362,326	.....	2,326,270
Milling machinery	"	.....	(a)	.....	423,227
Mining machinery	"	.....	1,224,011	.....	2,223,659
Paper-mill machinery	"	.....	(a)	.....	930,196
Printing presses and parts of	"	.....	1,265,657	.....	920,522
Pumps and pumping machinery	"	.....	701,144	.....	878,431
Refrigerating machinery, ice-making machinery, etc	"	.....	170,564	.....	289,777
Sewing machines and parts of	"	.....	484,687	.....	527,726
Shoe machinery	"	.....	274,388	.....	300,356
Steam and other power engines and parts of—					
Electric locomotives	No.	8	46,745	21	146,458
Gas, stationary	"	766	130,713	991	149,648
Gasoline, automobile	"	6,844	769,195	8,906	753,702
" marine	"	1,842	305,842	1,771	385,134
" stationary	"	5,096	754,570	9,699	1,269,428
" traction	"	1,710	3,166,507	2,013	3,675,691
Steam, locomotives	"	107	472,046	160	1,182,993
" marine	"	3	18,000	79	26,838
" stationary	"	245	247,729	360	260,042
" traction	"	259	478,526	540	1,058,600
Engines, all other	"	.....	(a)	1,450	871,371
All other engines and parts of	$	.....	1,910,440	.....	1,436,820
Sugar-mill machinery	"	.....	24,431	.....	35,761

Imports of Iron and Steel into Canada from the United States.—*Continued.*

		Twelve months ending June, 1912.		Twelve months ending June, 1913.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Machinery, machines and parts of—*Concluded.*					
Textile machinery	$	.....	(a)	.....	858,568
Typesetting machines, linotype and others	"	.....	(a)	.....	394,635
Typewriting machines and parts of	"	.....	944,600	.....	954,904
Windmills and parts of	"	.....	71,044	.....	59,720
Woodworking machinery, sawmill machinery	"	.....	382,752	.....	439,173
Woodworking machinery, all other	"	.....	375,446	.....	477,345
All other	"	.....	10,627,184	.....	10,872,249
Railway truck material (except rails and spikes) such as switches, frogs, fish-plates, splice-bars, etc.	"	.....	(a)	.....	73,261
Safes	No.	4,320	217,860	3,403	208,277
Scales, and balances	$	.....	159,851	.....	158,349
Stoves, ranges and parts of	"	.....	1,041,935	.....	1,314,725
Tools not elsewhere specified—					
Axes	"	.....	(a)	.....	83,122
Hammers and hatchets	"	.....	(a)	.....	74,947
Saws	"	.....	267,810	.....	346,887
Shovels and spades	"	.....	(a)	.....	23,099
All other	"	.....	1,686,924	.....	1,866,713
Wire manufactures—woven wire fencing	"	.....	(a)	.....	114,395
Wire manufactures—all others		.....	(a)	.....	430,288
All other manufactures of steel		.....	10,100,055	.....	7,877,122
		.....	46,020,989	.....	54,053,014
Total value		.....	82,658,294	.....	105,989,630

*Compiled from Commerce and Navigation of the United States, Washington, D.C.

(a) Not separately stated in 1912.