CANADA—DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH

Manufactures of the
NON-FERROUS METALS
IN CANADA
1926

Published by Authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1928

NOTES ON STATISTICS OF PRODUCTION

In the collection of production data, the Dominion Bureau of Statistics makes a division between primary and secondary production. In the first-named class, there are separate sections for the collection of statistics on (a) **Agricultural Products,** (b) **Furs,** (c) **Fish,** (d) **Forest Products,** (e) **Mineral Products.** In the second are included (a) **Manufacturing,** and (b) **Construction.**

The scheme of classification used for the collection of data on the manufacturing industries of Canada provides for a grouping of producing concerns according to the principal component material of the major products made. For example, the leather goods industry is classified under "Animal Products"; the pulp and paper industry, under "Wood and Paper," etc.

In order that students of the Bureau reports on manufactures may have a true conception of the plan followed, an outline of the scheme of classification in use is given below:

MANUFACTURES OF:—

(1) **Vegetable Products,** including—Coffee and Spices; Cocoa and Chocolate; Preserved and Canned Products; Pickles, Vinegar and Cider; Flour and Cereals; Bread and other Bakery Products; Macaroni and Vermicelli; Distilled and Brewed Liquors and Wines; Rubber Products; Starch and Glucose; Sugar; Tobacco Products; Linseed Oil and Oil Cake.

(2) **Animal Products,** including—Fish and Fish Products; Dairy Factory Products; Meat and Meat Products; Leather and Leather Products; Furs and Fur Products.

(3) **Textiles and Textile Products,** including—Cotton Textiles (Cloth, Yarn, Thread and Waste); Woollen Textiles (Cloth, Yarn, Blankets, Felt and Waste); Silk Products; Factory-Made Clothing; Carpets, Rugs and Mats; Cordage, Rope and Twine.

(4) **Wood and Paper,** including—Pulp and Paper Mill Products; Paper Goods; Printing, Publishing and Lithographing; Saw and Planing Mill Products; Furniture; Carriages, Wagons and Sleighs; Wooden Containers; Woodenware; Turned Wood Products; and the Output of Similar Wood-Using Industries.

(5) **Iron and Steel and their Products,** including—Pig Iron and Ferro-Alloys; Steel and Rolled Products; Castings and Forgings; Boilers, Tanks and Engines; Agricultural Implements; Machinery; Automobiles; Auto Accessories; Bicycles; Railway Rolling Stock; Wire and Wire Goods; Sheet Metal Products; Hardware and Tools; Miscellaneous Iron and Steel Products.

(6) **Manufactures of Non-Ferrous Metal Products,** including—Aluminium Products; Brass and Copper Products; Lead, Tin and Zinc Products; Precious Metal Products; Electrical Apparatus and Supplies; Miscellaneous Non-Ferrous Metal Products.

(7) **Manufactures of Non-Metallic Mineral Products,** including—Aerated Waters; Asbestos and Allied Products; Cement Products and Sand-Lime Brick; Coke and By-Products; Illuminating and Fuel Gas; Glass (blown, cut, ornamental, etc.); Products from Imported Clay; Petroleum Products; Monumental and Ornamental Stone; Miscellaneous Manufactured Non-Metallic Mineral Products, including (a) Artificial Abrasives, (b) Abrasive Products, (c) Artificial Graphite and Electrodes, (d) Gypsum Products, (e) Mica Trimmings.

(8) **Chemicals and Allied Products,** including—Coal Tar and its Products; Acids, Alkalies, Salts and Compressed Gases; Explosives, Ammunition, Fireworks and Matches; Fertilizers; Medicinal and Pharmaceutical Preparations; Paints, Pigments and Varnishes; Soaps, Washing Compounds, and Toilet Preparations; Inks, Dyes, and Colours; Wood Distillates and Extracts; Miscellaneous Chemical Products.

(9) **Miscellaneous Products,** including—Brooms and Brushes; Electric Light and Power; Musical Instruments, etc.

Statistics of manufactures are also classified according to the **use** or **purpose** of the end products as follows:

(1) **Food,** including—Breadstuffs; Fish; Nuts, Fruits and Vegetables; Meats; Milk Products; Oils and Fats; Sugar; Infusions; Miscellaneous.

(2) **Drink and Tobacco,** including—Beverages, alcoholic; Beverages, non-alcoholic; Tobacco.

(3) **Clothing,** including—Boots and Shoes; Fur Goods; Garments and Personal Furnishings; Gloves and Mitts; Hats and Caps; Knitted Goods; Waterproofs; Miscellaneous.

(4) **Personal Utilities,** including—Jewellery and Time Pieces; Recreational Supplies; Personal Utilities, n.e.s.

(5) **House Furnishings.**

(6) **Books and Stationery.**

(7) **Vehicles and Vessels.**

(8) **Producers' Materials,** including—Farm Materials; Manufacturers' Materials; Building Materials; General Materials.

(9) **Industrial Equipment,** including—Farming Equipment; Manufacturing Equipment; Trading Equipment; Service Equipment; Light, Heat and Power Equipment; General Equipment.

(10) **Miscellaneous.**

PREFACE

Development of Canada's resources in the field of the non-ferrous metals has been rapid in recent years; smelting and refining plant outputs in 1926 were valued at more than double the sum reported in 1923. Manufactures of the non-ferrous metals have shown a steady but less spectacular advance, and the importance of this group of industries as a factor in the economic progress of Canada has thus grown year by year.

In 1926, capital investment in the manufactures of the non-ferrous metals reached $202,503,426, in which total some 403 plants were represented. Production values at $183,501,723 approached the expected dollar for dollar ratio with capital employed, and at that total marked an advance of nearly 15 per cent over the aggregate value reported for 1925, thus establishing a new record value for the output of these industries. In each successive year since 1922, new record output values have been thus established.

A new feature of the present report is the inclusion of a chapter on the non-ferrous smelting and refining industry. In previous reports, the totals for this industry have been shown for reference purposes but now smelting and refining have been incorporated as one of the industries under review.

In other respects, the format of the present report is similar to that followed in other years. Each industry is reviewed in a separate chapter, and a directory of concerns is given at the end of the report.

On the next preceding page will be found a description of the Bureau's classification of industries, which shows the place in the general scheme held by the industries under review in the report.

Co-operation on the part of the operators, has done much to facilitate the work of the Bureau in the preparation of this report. To all who have contributed information or advice, the Bureau extends its cordial thanks.

Preparation of the present report has been carried out by Mr. H. McLeod, B.Sc., under the direction of Mr. S. J. Cook, B.A., A.I.C., F.C.I.C., Chief of the Mining, Metallurgical and Chemical Branch of the Bureau.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, January 21, 1928.

TABLE OF CONTENTS

TABLE 1.—SUMMARY STATISTICS RELATING TO THE MANUFACTURES OF THE NON-FERROUS METALS IN CANADA, 1922-1926

Year	Number of plants	Capital employed $	Number of employees	Salaries and wages $	Cost of materials $	Selling value of products $	Value added by manufacturing $
ALUMINIUM PRODUCTS							
1922	9	7,632,722	707	817,864	1,997,488	3,851,925	1,854,437
1923	11	8,994,806	1,007	1,196,287	3,192,546	7,017,830	3,825,284
1924	11	8,936,025	1,098	1,362,774	3,454,116	7,700,822	4,246,706
1925	12	9,191,213	1,169	1,406,919	3,688,761	9,137,305	5,448,544
1926	12	3,930,336	428	554,024	801,835	1,917,810	1,115,975
BRASS AND COPPER PRODUCTS							
1922	83	17,608,876	3,457	4,079,825	5,106,224	12,253,691	7,147,467
1923	81	20,322,808	4,097	4,773,528	7,548,898	16,793,595	9,244,697
1924	81	18,594,443	3,747	4,604,293	7,889,367	15,487,826	7,598,459
1925	91	20,508,838	4,032	4,985,645	10,147,373	19,155,309	9,007,936
1926	98	20,764,404	4,533	5,716,529	11,810,686	22,028,636	10,217,950
LEAD, TIN AND ZINC PRODUCTS							
1922	19	3,213,867	534	728,502	2,048,431	3,118,445	1,070,014
1923	20	1,749,383	193	246,528	1,556,716	2,181,273	624,557
1924	20	3,229,833	480	557,476	2,404,827	3,353,910	949,083
1925	22	3,782,120	529	619,973	3,130,257	4,103,732	973,475
1926	25	4,241,731	609	806,849	3,766,648	5,184,096	1,417,448
PRECIOUS METAL PRODUCTS							
1922	97	10,653,458	2,725	3,464,613	3,926,116	9,815,697	5,889,581
1923	97	9,760,071	2,648	3,572,255	3,950,186	10,072,672	6,122,486
1924	104	10,440,218	2,473	3,235,981	3,941,706	9,449,284	5,507,578
1925	108	10,130,772	2,556	3,346,867	3,991,106	9,581,773	5,590,667
1926	109	10,545,761	2,831	3,625,770	4,456,047	10,751,795	6,295,748
ELECTRICAL APPARATUS AND SUPPLIES							
1922	101	62,436,282	10,830	12,162,607	17,546,839	41,208,368	23,661,529
1923	108	65,077,942	13,268	14,991,550	20,257,301	51,360,400	25,103,939
1924	109	72,301,204	13,670	16,089,492	24,370,996	56,490,465	32,119,469
1925	122	75,375,623	14,112	16,472,357	25,434,836	60,158,837	34,724,001
1926	132	80,323,534	15,246	18,626,500	30,195,935	69,767,308	39,571,373
MISCELLANEOUS NON-FERROUS METAL PRODUCTS							
1922	16	663,070	169	198,218	236,797	607,567	370,770
1923	16	739,457	196	251,856	269,557	773,556	503,999
1924	16	853,248	202	268,823	322,001	741,066	419,065
1925	17	919,733	233	313,145	346,518	999,277	652,759
1926	18	918,420	222	286,537	344,196	998,512	654,316
Total for All Industries Listed Above							
1922	325	102,208,275	18,222	21,451,629	30,861,895	70,855,693	39,993,798
1923	333	106,644,467	21,409	25,032,004	42,775,264	88,199,326	45,424,062
1924	341	114,354,971	21,670	26,118,839	42,383,013	93,223,373	50,840,360
1925	372	119,908,299	22,631	27,141,906	46,738,851	103,136,233	56,397,382
1926	394	120,724,186	23,869	29,616,209	51,375,347	110,648,157	59,272,810

TABLE 1.—SUMMARY STATISTICS RELATING TO THE MANUFACTURES OF THE NON-FERROUS METALS IN CANADA, 1922-1926—Concluded

Year	Number of plants	Capital employed $	Number of employees	Salaries and wages $	Cost of materials $	Selling value of products $	Value added by manufacturing $
NON-FERROUS METAL SMELTING AND REFINING							
1922	13	63,160,551	3,384	5,042,787	† 7,172,000	23,637,205	* 16,465,205
1923	10	64,290,931	4,968	7,930,236	14,839,085	35,254,048	20,414,963
1924	9	66,337,664	5,521	8,136,251	20,394,535	42,154,808	21,760,273
1925	6	61,691,928	5,104	8,568,997	27,329,409	56,633,793	29,304,384
1926	9	81,779,240	6,226	9,584,938	39,237,657	72,853,566	33,615,909
GRAND TOTAL							
1922	338	165,368,826	21,606	26,494,416	38,033,895	94,492,898	56,459,003
1923	343	170,935,398	26,377	32,962,240	57,614,349	123,453,374	65,839,025
1924	359	180,692,635	27,191	34,255,090	62,777,518	135,378,181	72,600,633
1925	378	181,600,227	27,735	35,713,903	74,068,360	159,770,026	85,701,766
1926	403	202,503,426	30,095	39,201,147	90,613,004	183,501,723	92,888,719

* Value of shipments from metallurgical works less cost of ores, concentrates, matte, etc., treated.
† Estimated cost of ores treated.

DOMINION BUREAU OF STATISTICS

R. H COATS, B.A., F.S.S., (Hon.) F.R.S.C., Dominion Statistician.

S. J. COOK, B.A., A.I.C., F.C.I.C., Chief of the Mining, Metallurgical and Chemical Branch.

MANUFACTURES OF THE NON-FERROUS METALS IN CANADA, 1926

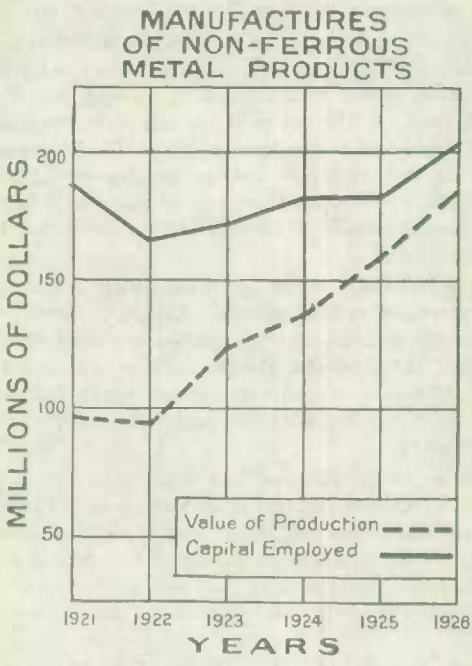
CHAPTER ONE

GENERAL REVIEW

(a) Summary

Including the production from non-ferrous metal smelters and refineries, manufactures of the non-ferrous metals in Canada during 1926 amounted in value to $183,501,723 which was the highest output ever recorded for this group of industries and exceeded by 24 million dollars the former high mark of $159,770,026 established in 1925.

Prior to 1926, the non-ferrous metal smelters and refineries were not included among the plants classified as belonging to the "Manufactures of the Non-Ferrous Metals," although summary statistics were shown as of interest to the producers in this group. But as smelting and refining are essentially manufacturing processes and as the consensus of opinion seemed to be that such plants should be grouped with the other manufacturing industries now under review, statistics for these smelters and refineries have been incorporated as a part of this report, which now includes the following industries: (a) manufactures of aluminium kitchenware and other aluminium products; (b) brass and copper foundries; (c) the white metal industries making babbitt, solders, type metal, etc.; (d) concerns manufacturing jewellery, silverware and other products in which precious metals form the chief component of value; (e) producers of electrical apparatus and supplies in which large quantities of brass, copper, lead and other non-ferrous metals are used; (f) a miscellaneous group including firms which manufacture lamps and lanterns, screens, weather-stripping, etc., and (g) the non-ferrous metal smelting and refining industry.



As thus defined, the industry, "Manufactures of the Non-Ferrous Metals" in Canada during 1926 produced commodities valued at $183,501,723; the number of plants in operation was 403; capital employed stood at $202,503,426; the average number of employees each month was 30,095, and the total expenditures for salaries and wages during the year amounted to $39,201,147.

Production of aluminium kitchenware and other aluminium products (excepting pig aluminium and fabricated products from the smelters at Arvida and Shawinigan Falls) amounted

in value to $1,917,810; brass and copper products such as castings, bars, sheets, etc., reached a total value of $22,028,636 or 3 million dollars above the figure for 1925; lead, tin and zinc products were worth $5,184,096, an increase of a million dollars over the previous year; precious metal products including jewellery, silverware, dental supplies, etc., amounted in value to $10,751,795, a gain of 1·2 million dollars over 1925; electrical apparatus and supplies showed a gain of 9·6 million dollars to $69,767,308; miscellaneous non-ferrous metal products were valued at $998,512; and products from the non-ferrous smelters and refineries including aluminium, lead, zinc, copper, nickel, matte, etc., amounted in value to $72,853,566.

In 1926 there were 403 plants in Canada engaged in the production of non-ferrous metals and their products. Twelve concerns made aluminium products such as kitchen utensils, boot and shoe lasts, etc.; 98 plants fabricated brass and copper products; 25 made lead, tin and zinc products; 109 manufactured precious metal products; 132 produced electrical apparatus and supplies; 18 made miscellaneous products; and 9 were engaged in the smelting of non-ferrous ores and the refining of the smelter products. Compared with 1925 there was a net gain of 25 establishments of which 10 were in the electrical apparatus group, 7 in the brass and copper industry, 3 in the smelting and refining group, 3 in the lead, tin and zinc products industry, 1 in the miscellanous non-ferrous metal industry and 1 in the precious metal products industry.

Capital employed in the manufacture of non-ferrous metal products in 1926 amounted to $202,503,426 of which $112,145,060 represented the value of lands, buildings, machinery and tools; $49,308,788 was the value of materials on hand and stocks in process at the end of the year; and $41,049,578 was the total of cash, trading and operating accounts. The smelting industry showed the highest investment at $81,779,240; the electrical apparatus industry was second at $80,323,534, and the brass and copper group was next at $20,764,404. Precious metal products, the lead, tin and zinc group, aluminium products, and the miscellaneous group followed in the order named. Investment in plants in Ontario amounted to $118,703,376 or 59 per cent of the total for Canada; Quebec was next at $52,078,203; British Columbia was third with $28,947,695, and each of the other provinces showed smaller total investments.

In this industrial group the average number of people employed in 1926 was 30,095 as compared with 27,735 in the previous year. By provinces, the number of employees were as follows: Ontario, 18,149; Quebec, 8,244; British Columbia, 3,092; Manitoba, 224; Alberta, 47; Nova Scotia, 15; New Brunswick, 323 and Saskatchewan 1. The trend of the industry throughout the year was reflected in the average number of wage-earners employed each month. In January there were 22,876 wage-earners employed in the various plants and the number remained at about this mark for the first five months of the year. In June there was an increase to 23,149 and a further gradual gain each month until a maximum of 26,342 was reached in October. The year closed with 25,869 names on the various pay-rolls.

Ontario led in the manufacture of non-ferrous metal products with a total of 273 plants in operation and an aggregate output valued at $104,466,283. British Columbia was second with 24 establishments and an output worth $38,608,106, and Quebec was third with 77 factories and a production valued at $37,651,627. In Manitoba, the 16 plants in operation had an output worth $1,688,099; the 6 plants in Alberta produced commodities worth $402,947; production from the 3 factories in New Brunswick totalled $644,689; and Nova Scotia had 3 plants and an output worth $31,972.

Fuel and electricity used by firms in this group in 1926 cost $7,895,428 delivered at the works. Expenditure for electric power totalled $3,020,446 and fuel of all kinds cost $4,874,982. A total of 260,441 tons of coke, 253,426 tons of bituminous coal, 4,990 tons of anthracite coal, 6,542,021 gallons of fuel oil and gasoline, 512,212 M. cubic feet of gas and 6,448 cords of wood were used in the plants in this industry. Ontario's factories used fuel and electricity worth $3,755,134; plants in British Columbia used $2,783,767 worth and concerns in Quebec paid out $1,295,386 for fuel and power.

Imports into Canada of non-ferrous metals and their products during the calendar year 1926 reached a total value of $50,765,605 or about 4 million dollars above the corresponding figure for 1925. United States supplied goods worth $40,365,184 or 79 per cent of Canada's imports of this class. Exports amounted in value to $82,009,639 as compared with $103,709,496 in 1925. Shipments to United States during the year totalled $40,467,725 and $13,860,498 worth went to the United Kingdom.

Prices of non-ferrous metals and their products were lower in 1926. The index number, though higher than for the years 1921 to 1924, was lower than in 1925. The index for 1924 was 96·3; for 1925-105·6; and for 1926-101·6. The index was lower in all sub-groups except brass sheets, tin and solder. In January, 1926, the index for non-ferrous metals, based on 1913 prices as 100, stood at 107·9, thereafter declining steadily to 100·7 in May, after which it improved slightly to 101·7 in July and then declined steadily to the low point for the year at 96·7 in December.

(b) By Industries

Aluminium Products.—The aluminium products industry in Canada, as reviewed in 1926, includes all plants engaged in the manufacture of aluminium kitchenware, boot and shoe lasts, and other articles of aluminium. Prior to 1926, data for the smelter at Shawinigan Falls, P.Q., was included in this group but in this report, both the plant at Shawinigan Falls, and the new smelter at Arvida, P.Q., are now reviewed in the industry dealing with the smelting of non-ferrous metals in Canada.

In 1926 there were 12 plants in Canada which manufactured aluminium products of various kinds; all were located in Ontario. Production from these factories was worth $1,917,810, of which $1,028,261 was the value of kitchen utensils of all kinds. Capital employed was reported at $3,930,336; the average number of employees each month was 428; expenditures for salaries and wages during the year totalled $554,024, and the cost of materials used in manufacturing was $801,835 delivered at the plants.

Brass and Copper Products.—The brass and copper products industry in Canada covers the operations of plants which made commodities consisting principally of brass or copper, whether rolled, cast or fabricated. In 1926, there were 98 plants in this group distributed by provinces as follows: Ontario, 64; Quebec, 19; British Columbia, 8; Manitoba, 3; Nova Scotia, 2; Alberta and New Brunswick, 1 each.

Production during 1926 was valued at $22,028,636, an increase of 3 million dollars over the total for 1925 and the highest on record for this group. Plants in Ontario made brass and copper products worth $15,745,357 while factories in Quebec reported a total output worth $4,268,344. Capital employed was also higher at $20,764,404 and the number of employees at 4,533 was 500 above the figure for 1925.

Principal products of the industry included rods, castings and machinery fittings; plates, sheets, wire and bars of brass, bronze or copper; brass valves, taps and other water and steam fittings; wire cloth of brass and bronze; gas and water meters; electric fixtures; lightning rods; and similar commodities.

Lead, Tin and Zinc Products.—This group includes all firms in Canada manufacturing white metal alloys such as solder, babbitt metal and type metal; the manufacturers of lead pipe, sheet, etc.; and the small refiners of scrap producing lead, tin, zinc, aluminium and other metals.

In 1926, there were 25 factories included in this industrial group; 11 were in Ontario, 7 in Quebec, 3 in British Columbia, 3 in Manitoba and 1 in New Brunswick.

Capital employed in these concerns amounted to $4,241,731 in 1926; employees numbered 609 on the average; salaries and wages aggregated $806,849 for the year; fuel and electricity cost $64,631, and the sum of $3,766,648 was paid for materials which were used to produce commodities worth $5,184,096. This output was a million dollars above the corresponding figure for 1925.

The industry was centred in Ontario and Quebec. The 11 plants in Ontario employed 506 people and produced goods worth $3,404,910 while the 7 factories in Quebec gave work to an average of 56 people and had a total output valued at $1,204,026.

In 1925, there were 22 concerns in this group; capital was reported at $3,782,120; the average number of employees was 529 and production was valued at $4,103,732.

Precious Metal Products.—The precious metal products industry includes all plants which manufactured dental gold and other dental supplies, silverware and silver-plated ware, jewellery, clocks and watches, etc. A total of 109 factories in Canada came within this classification in 1926; of these 15 produced refined metals and dental supplies; 13 made silverware and silver-plated ware; and 81 manufactured jewellery, clocks, watches, etc. By provinces the distribution was as follows: Ontario, 70; Quebec, 26; British Columbia, 6; Manitoba, 3; Nova Scotia, New Brunswick, Saskatchewan and Alberta 1 each.

Production in 1926 was valued at $10,751,795, an increase of 12 per cent over the output value for 1925; capital employed was higher at $10,545,761 of which $4,625,785 represented the value of lands, plants, machinery, etc.; and an average of 2,831 workers were paid $3,625,770 in salaries and wages.

Jewellery was the principal product and accounted for about one-third of the total production for the industry; output of clocks, watches and watch cases was higher than in 1925, and the output of silver electro-plated ware was considerably greater than in the previous year.

Electrical Apparatus and Supplies.—Further expansion characterized the electrical apparatus industry in 1926 when the output value amounted to $69,767,308, an increase of 9·5 million dollars over the former record established in 1925.

The industry includes all plants manufacturing apparatus for use in the generation, transmission or utilization of electrical energy. Motors, generators, batteries, radio apparatus, incandescent lamps, telephone materials, transformers, vacuum cleaners, switchboards, electrical fixtures, household utilities of all kinds were among the main products listed in 1926. The operations of 132 factories were covered by this industry in 1926 and the distribution by provinces was as follows: Ontario, 98; Quebec, 19; Manitoba, 6; British Columbia, 5; and Alberta, 4.

These plants reported a working capital of $80,323,534, and employed an average of 15,246 people each month of the year. Materials used cost $30,195,935; copper, brass, lead, glass, porcelain, insulating materials, iron and steel were among the more important of the commodities used in the manufacture of electrical supplies.

In 1925, there were only 122 plants in this group, employees numbered 14,112 and the total production was valued at $60,158,837.

Miscellaneous Non-Ferrous Metal Products.—Several firms in Canada used non-ferrous metals in the production of certain commodities which do not naturally fall in any of the other industrial groups. These concerns have been grouped under the miscellaneous non-ferrous metal products industry. In 1926, there were 18 establishments listed in this group; 13 were in Ontario, 4 in Quebec and 1 in Manitoba. Capital employed by these plants totalled $918,420; the average number of employees was 222, and the aggregate production was valued at $998,512. Weatherstripping, lamps and lanterns, railway and marine lamps and similar commodities were made in this industry.

Non-Ferrous Metal Smelting and Refining.—This industry covers the operation of plants in Canada engaged in the smelting of ores of aluminium, copper, lead, nickel and other non-ferrous metals and in the refining of the smelter products. Prior to 1926 this group was reviewed as a part of the mining industry only but as the operations are essentially of a manufacturing nature, the industry, has been incorporated also as a part of the census of manufactures. The aluminium smelter at Shawinigan Falls, Quebec, previously included under the manufactures of aluminium, has been classed with the other smelters treating ores of the non-ferrous metals.

In 1926, there were 9 plants in this group operated by 7 different companies. Capital employed was reported at $81,779,240; employees numbered 6,226; payments in salaries and wages amounted to $9,584,938; materials cost $39,237,657, and the value of products from smelters and refineries amounted to $72,853,566.

(c) By Provinces

Nova Scotia.—Only 3 establishments in Nova Scotia reported a production of non-ferrous metal products in 1926. Two concerns were included in the brass and copper products industry and the other plant was classified in the precious metal products group. Production from these concerns was valued at $31,972. Capital employed amounted to $93,286, and the average of 15 employees were paid the sum of $18,201 for salaries and wages during the year. In 1925, there were only 2 firms in Nova Scotia included in the non-ferrous metal products group.

New Brunswick.—One brass foundry, one plant making lead pipe as a principal product, and another factory making dental supplies, were the only concerns in New Brunswick classified under the manufactures of non-ferrous metals in 1926. These 3 plants represented a working capital of $548,416, afforded employment to an average of 323 people and had a combined production valued at $644,689.

In 1925, there were 4 plants in New Brunswick in this group and 269 people were employed to make commodities worth $503,517.

Quebec.—In 1926, there were 77 plants in Quebec manufacturing products from non-ferrous metals. By industries, the distribution was as follows: 19 factories made brass and copper products; 7 produced white metal alloys; 26 made precious metal products; 19 manufactured electrical apparatus and supplies; 4 plants were in the miscellaneous group; and 2 aluminium smelters treated imported bauxite or alumina to make aluminium ingots, bars, etc.

The combined production of these plants was valued at $37,651,627 of which the electrical apparatus and supplies industry contributed $20,482,397; capital employed amounted to $52,078,203; the average number of employees was 8,244 and payments in salaries and wages totalled $10,258,071; materials used in manufacture cost $15,602,697, and expenditures for fuel and electricity reached the sum of $1,295,386.

In the previous year, 1925, there were also 77 plants in operation but only 7,545 people were employed and the total production was valued at $32,469,871.

Ontario.—The manufacture of non-ferrous metals in Canada is centred largely in the province of Ontario. In 1926 there were 403 plants in this line of work in the Dominion of which 273 were in Ontario, and of a total production in Canada valued at $183,501,723 Ontario accounted for $104,466,283.

The most important group in Ontario was the electrical apparatus and supplies industry with 98 operating plants and a total output valued at $48,677,155. The smelting and refining industry was second with only 5 plants and an output worth $25,731,577. Manufactures of brass and copper held third place with 64 factories and an aggregate production worth $15,745,357; the 70 plants making precious metal products yielded commodities valued at $8,102,748; lead, tin and zinc products totalled $3,404,910 in value; aluminium manufactures (chiefly kitchenware) were valued at $1,917,810; and the output from the miscellaneous non-ferrous metal products group sold for $886,726.

With 3,465 salaried employees and 14,684 wage-earners, the non-ferrous metal products group in Ontario gave employment to an average of 18,149 people during each month of the year, and payments for salaries and wages amounted in all to $22,813,263. Capital employed was reported at $118,703,376, fuel and electricity cost $3,755,134, and expenditures for raw materials for manufacturing purposes amounted to $44,913,846.

Manitoba.—In 1926 Manitoba had 3 plants in the brass and copper industry; 3 in the lead, tin and zinc products group; 3 in the precious metal products industry; 6 making electrical apparatus and supplies; and 1 making miscellaneous non-ferrous goods. These 16 plants used raw materials costing $1,022,531 delivered at the plant and employed 224 people to produce non-ferrous metal products worth $1,688,099.

Saskatchewan.—Saskatchewan had only 1 plant in this group of industries; it was a small concern making precious metal products.

Alberta.—With 6 plants making non-ferrous metal products, Alberta contributed only $402,947 to the total manufactures of non-ferrous metals in Canada. Employees in plants in this province numbered 47 and payments in salaries and wages totalled $64,773. Alberta had 4 factories making electrical supplies, 1 making brass and copper products, and 1 in the precious metal products industry.

In 1925, there were 7 plants in this group and production was valued at $373,949.

British Columbia.—Smelting of non-ferrous ores and the refining of smelter products was the most important of the industries in British Columbia classified under the manufactures of the non-ferrous metals. There were also 8 factories making brass and copper products, 6 making precious metal products, 5 manufacturing electrical supplies, 3 making lead, tin and zinc products and 2 in the non-ferrous smelting and refining industry. The 24 plants in this group employed 3,092 people, paid out $5,446,254 in salaries and wages, expended $2,783,767 for fuel and electricity, and produced commodities worth $38,608,106. Figures for 1925 are not comparable as the works at Trail and the smelter at Anyox were not included in this group in that year.

(d) Prices

(Prepared in the Internal Trade Branch)

The index number for non-ferrous metals and their products though higher than those for the years 1921 to 1924, was lower than that for 1925. The index for 1924 was 96·3; for 1925—105·6; and for 1926—101·6. All sub-groups were lower except brass sheets, tin and solder.

Aluminium.—Aluminium was 25½c. in January and 23½c. in December, the average being 24c. as compared with 25c. in 1925. There was again increased world production which was estimated at about 210,000 long tons. In Europe a combine was formed to regulate production and stabilize prices. This included German, Swiss, French and British producers. The competition of the Aluminium Company of America is feared by Europeans particularly because of the new plant at Arvida, P.Q., which will ultimately have a working capacity of 180,000 tons per annum, though that will probably not be attained for a couple of years.

Antimony.—Antimony because of the Chinese troubles was very high at the beginning of the year but the situation regarding supplies became easier in the spring. Prices fluctuated considerably thereafter because of the uncertain situation. Chinese antimony, 99 per cent, in less than carload lots, was 18c. per pound at the beginning of the year, 9½c. in June, 16½c. in September, and 13c. in December.

Brass.—Brass, reflecting higher prices for some of its constituent metals, was higher. 4′ x 2′, 14-20 gauge rose from 28·4 cents per lb. in 1925 to 28·8 cents in 1926.

Copper and its Products.—This group reached a slightly lower price level in 1926 the index being 103·3 as compared with 104·4 in 1925. Electrolytic copper ingots were $16.17 per cwt. in 1925 and $15.92 in 1926. Copper wire bars declined from 14·2c. per lb. in 1925 to 14 cents in 1926.

In spite of an increased production which one estimate, places at 1,479,000 tons as compared with 1,430,000 in 1925, world consumption was able to take care of supplies and the year closed with smaller stocks than at the same time in 1925. As a result of the good demand price fluctuations were within narrow limits and are to be accounted for largely by veering opinion with regard to the formation of the association which ultimately became known as the Copper Exporters Inc. This association has really the nature of a cartel. Its alleged aims are (1) To stabilize prices. (2) To eliminate the middlemen in European markets and deal directly with consumers. (3) To stimulate European consumption which lags behind that of America. (4) To remove competition among producers. It is claimed that at least 90% of world productive capacity has come into the organization. In the early part of 1926 the formation of the association was commenced and as a result prices rose in February. They fell in March again on rumors of difficulties encountered by the movement and lack of information. For the rest of the year the coal strike and favourable or unfavourable opinion regarding development in the formation of the Export Association were the main factors in the price movement. In the Canadian market the range was $15.45 in December and $16.15 in February, August, September and October.

Lead and its Products.—Index numbers were 201·8 in 1925 and 183·7 in 1926. Pig lead declined from $9.10 in January to $7.55 in May, recovered to $8.25 in August and closed the year at $7.80. Lead pipe dropped from $15.75 to $14.85 during the course of the year. Early in 1926 demand for lead in Britain, Germany and the United States was on the decline and prices fell. About June there was a revival of demand in Europe but towards the end of the year prices declined again due largely to slackening business in France and Italy. Though the situation was easier in 1926 as regards supplies nevertheless the future outlook for lead has not been improved by the discovery of new and abundant sources of supply.

Nickel.—Nickel ingots 98·5 per cent averaged 29¾c. per pound in 1926 as compared with 30c. in 1925, this being the price for contract quantities.

Silver.—Fine silver at the smelter declined from 69·4c. per ounce in 1925 to 62·2 cents in 1926, but averages do not reveal the full extent of the drop. In January the price was 68·7 cents per fine ounce and by December it had fallen to 53·8 cents. This serious fall has been attributed by some to the influence of the Report of the Royal Commission appointed to investigate the Indian currency. It was feared at first that the recommendation of the commission

would involve the diminution of Indian demands for silver and possibly the throwing of considerable quantities on the market. Such fears, however, are probably unfounded as the recommendations were designed to safeguard silver values. A more important influence on silver prices during the year seems in reality to have been the disturbed conditions in China.

Tin.—Tin ingots, Straits, averaged 59½c. per pound at Toronto in 1925 and 66·9 cents in 1926. Production of tin fell off during the year in China because of the civil war, and in the Federated Malay States because of very unsatisfactory weather conditions which interfered with mining. In spite of decreased consumption in Great Britain because of the strike, world consumption was apparently still in excess of current supplies and it is reported that supplies in London were reduced by more than 1,400 tons.

Zinc Spelter.—Spelter averaged $9.20 per cwt. in 1925 and $8.96 in 1926. In January the price was $10.15, in May $8.35, in July $9.07 and in December $8.60. World production increased, one estimate being 1,170,000 long tons as against 1,113,000 in 1925. Consumption did not keep pace, stocks in the United States increasing to 22,000 short tons as compared with 9,000 in January.

Table 2.—Principal Statistics Relative to the Manufactures of Non-Ferrous Metals in Canada, by Industries and by Provinces, 1925

Industry	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan and Alberta	British Columbia	Canada*
ALUMINIUM PRODUCTS—								
Number of plants			1	11				12
Capital employed $								9,191,213
Salaried employees: Male								84
Female								26
Wage-earners: Male								974
Female								85
Total employees								1,169
Salaries and wages: Salaries $								205,758
Wages $								1,201,161
Total $								1,406,919
Cost of fuel and electricity $								766,231
Cost of materials $								3,688,761
Value of products $								8,137,305
BRASS AND COPPER PRODUCTS—								
Number of plants	1	1	20	58	3	1	7	91
Capital employed $			5,495,621	12,885,924	758,822		100,703	20,508,838
Salaried employees: Male			154	364	18		10	596
Female			23	100	1			131
Wage-earners: Male			655	1,998	48		36	2,932
Female			69	282	1			373
Total employees			901	2,744	68		46	4,032
Salaries and wages: Salaries $			333,035	830,289	36,129		19,815	1,299,668
Wages $			821,010	2,580,778	50,953		42,953	3,685,977
Total $			1,154,045	3,411,067	87,082		62,768	4,985,645
Cost of fuel and electricity $			115,485	356,012	14,894		6,030	517,887
Cost of materials $			1,200,100	8,052,255	516,071		54,180	10,147,373
Value of products $			3,405,949	14,035,823	796,369		152,882	19,155,309
LEAD, TIN AND ZINC PRODUCTS—								
Number of plants		1	7	9	2		3	22
Capital employed $			738,692	2,628,097			175,334	3,782,129
Salaried employees: Male			17	60			3	87
Female			8	23			5	49
Wage-earners: Male			27	313			14	366
Female				30				36
Total employees			52	432			22	529
Salaries and wages: Salaries $			62,951	133,285			13,880	226,626
Wages $			32,017	335,965			14,569	383,347
Total $			94,968	469,240			28,449	619,973
Cost of fuel and electricity $			9,978	39,831			2,167	54,494
Cost of materials $			731,256	2,048,189			140,480	3,130,257
Value of products $			976,551	2,671,884			209,070	4,103,732

Table 2.—Principal Statistics Relative to the Manufactures of Non-Ferrous Metals in Canada, by Industries and by Provinces, 1925—Concluded.

Industry	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan and Alberta	British Columbia	Canada*
PRECIOUS METAL PRODUCTS—								
Number of plants	1	1	26	69	4	3	4	108
Capital employed $			1,648,166	8,328,416	57,137		40,505	10,130,772
Salaried employees: Male			56	238	3		3	308
Female			42	131	3		2	180
Wage-earners: Male			483	1,105	28		31	1,657
Female			136	273	2			411
Total employees			717	1,747	36		36	2,556
Salaries and wages: Salaries $			151,401	815,876	11,428		6,367	997,753
Wages $			623,529	1,631,483	36,229		45,589	2,349,114
Total $			774,930	2,447,359	47,657		51,956	3,346,867
Cost of fuel and electricity $			7,771	78,236	952		406	87,973
Cost of materials $			1,003,370	2,933,806	18,421		22,361	3,991,106
Value of products $			2,215,944	7,144,408	79,556		92,590	9,581,773
ELECTRICAL APPARATUS AND SUPPLIES—								
Number of plants		1	19	91	5	4	2	122
Capital employed $			21,333,492	53,563,573	330,678	42,019		75,375,623
Salaried employees: Male			959	1,386	17	5		2,374
Female			292	530	2			826
Wage-earners: Male			2,713	5,402	52	11		8,206
Female			1,140	1,550	4			2,706
Total employees			5,104	8,868	75	16		14,112
Salaries and wages: Salaries $			2,228,732	3,356,722	39,523	8,700		5,648,877
Wages $			4,214,945	6,505,524	59,815	10,634		10,823,480
Total $			6,443,677	9,862,246	99,338	19,334		16,472,357
Cost of fuel and electricity $			325,803	619,071	3,614	2,275		953,478
Cost of materials $			8,007,849	17,126,501	207,499	16,754		25,434,836
Value of products $			18,568,118	40,952,860	424,498	32,782		60,158,837
MISCELLANEOUS NON-FERROUS METAL PRODUCTS—								
Number of plants			4	12	1			17
Capital employed $				793,680				919,733
Salaried employees: Male				34				42
Female				2				4
Wage-earners: Male				105				132
Female				55				55
Total employees				196				223
Salaries and wages: Salaries $				84,673				112,700
Wages $				175,312				200,145
Total $				259,985				313,145
Cost of fuel and electricity $				5,416				6,378
Cost of materials $				314,153				346,518
Value of products $				916,772				999,277
ALL INDUSTRIES (†)—								
Number of plants	2	4	77	250	15	8	16	372
Capital employed $			34,469,187	82,308,750	1,352,577	729,685	386,193	119,908,299
Salaried employees: Male			1,233	2,127	43	21	21	3,491
Female			378	801	9		8	1,207
Wage-earners: Male			4,579	9,223	137	30	105	14,267
Female			1,355	2,271	7			3,666
Total employees			7,545	14,422	196	51	134	22,631
Salaries and wages: Salaries $			2,893,306	5,337,243	101,080	29,541	52,662	8,491,382
Wages $			6,496,050	11,650,797	157,197	34,746	129,491	18,653,524
Total $			9,389,356	16,988,040	258,277	64,287	182,153	27,144,906
Cost of fuel and electricity $			1,182,583	1,141,976	21,897	9,558	9,462	2,386,441
Cost of materials $			13,875,495	31,262,663	936,851	247,044	278,300	46,738,851
Value of products $			32,469,871	67,637,048	1,526,443	383,307	588,942	103,136,233

*Where fewer than 3 firms in 1 province were engaged in the same industry, the data for these companies are not shown by provinces but they are included in the Canada totals for each industry.

† Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 3—Principal Statistics Relative to the Manufactures of Non-Ferrous Metals in Canada, by Industries and by Provinces, 1926

Industry	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada*
ALUMINIUM PRODUCTS—								
Number of plants	...	...	...	12	...	...	...	12
Capital employed $	...	...	...	3,930,336	...	...	...	3,930,336
Salaried employees: Male	...	...	...	46	...	...	...	46
Female	...	...	...	14	...	...	...	14
Wage-earners: Male	...	...	...	304	...	...	...	304
Female	...	...	...	64	...	...	...	64
Total employees	...	...	...	428	...	...	...	428
Salaries and wages: Salaries $	...	...	...	116,594	...	...	...	116,594
Wages $	...	...	...	437,430	...	...	...	437,430
Total $	...	...	...	554,024	...	...	...	554,024
Cost of fuel and electricity $	...	...	...	48,293	...	...	...	48,293
Cost of materials $	...	...	...	801,835	...	...	...	801,835
Value of products $	...	...	...	1,917,810	...	...	...	1,917,810
BRASS AND COPPER PRODUCTS—								
Number of plants	2	1	10	68	3	1	8	98
Capital employed $	...	...	5,592,055	13,041,726	737,386	...	109,335	20,761,404
Salaried employees: Male	...	...	176	391	10	...	12	650
Female	...	...	20	121	1	...	1	157
Wage-earners: Male	...	...	796	2,212	50	...	44	3,363
Female	...	...	67	269	...	...	...	363
Total employees	...	...	1,065	2,994	67	...	57	4,533
Salaries and wages: Salaries $	...	...	415,690	951,527	35,480	...	23,285	1,521,160
Wages $	...	...	1,104,296	2,740,838	57,984	...	46,791	4,195,369
Total $	...	...	1,519,986	3,692,365	93,464	...	70,076	5,716,529
Cost of fuel and electricity $	...	...	116,064	360,802	17,336	...	5,965	533,893
Cost of materials $	...	...	1,512,767	9,362,400	557,697	...	58,256	11,810,686
Value of products $	...	...	4,268,344	15,745,357	866,866	...	170,194	22,628,636
LEAD, TIN AND ZINC PRODUCTS—								
Number of plants	...	1	7	11	3	...	3	25
Capital employed $	...	...	888,002	2,928,286	220,286	...	...	4,241,731
Salaried employees: Male	...	...	17	69	6	...	...	96
Female	...	...	9	24	3	...	...	41
Wage-earners: Male	...	...	30	362	13	...	...	422
Female	...	...	...	50	...	...	...	50
Total employees	...	...	56	506	22	...	...	609
Salaries and wages: Salaries $	...	...	71,115	155,595	14,800	...	...	257,870
Wages $	...	...	35,815	483,593	12,874	...	...	548,979
Total $	...	...	106,939	639,188	27,674	...	...	806,849
Cost of fuel and electricity $	...	...	9,926	49,158	2,717	...	...	61,631
Cost of materials $	...	...	810,355	2,533,040	217,515	...	...	3,766,648
Value of products $	...	...	1,204,020	3,404,910	281,010	...	...	5,184,096
PRECIOUS METAL PRODUCTS—								
Number of plants	1	1	26	70	3	1	6	†109
Capital employed $	...	...	...	8,694,845	46,087	...	40,102	10,545,761
Salaried employees: Male	...	...	...	265	3	...	6	335
Female	...	...	...	145	4	...	2	201
Wage-earners: Male	...	...	...	1,254	31	...	34	1,825
Female	...	...	...	320	3	...	...	470
Total employees	...	...	...	1,984	41	...	42	2,831
Salaries and wages: Salaries $	...	...	...	892,588	12,118	...	10,861	1,093,253
Wages $	...	...	...	1,787,512	41,315	...	54,388	2,532,017
Total $	...	...	...	2,680,100	53,433	...	65,249	3,625,270
Cost of fuel and electricity $	...	...	...	86,019	1,012	...	778	97,146
Cost of materials $	...	...	...	3,378,638	23,409	...	39,557	4,456,047
Value of products $	...	...	...	8,102,748	88,034	...	129,568	10,751,795
ELECTRICAL APPARATUS AND SUPPLIES—								
Number of plants	...	...	19	98	6	4	5	132
Capital employed $	...	...	23,105,967	56,694,868	363,009	72,927	86,763	80,323,534
Salaried employees: Male	...	...	1,051	1,554	18	5	8	2,636
Female	...	...	340	629	3	...	1	973
Wage-earners: Male	...	...	2,776	6,053	68	11	36	8,941
Female	...	...	1,083	1,606	4	...	...	2,693
Total employees	...	...	5,250	9,842	93	16	45	15,246
Salaries and wages: Salaries $	...	...	2,459,032	3,736,788	53,900	8,700	17,901	6,276,321
Wages $	...	...	4,253,908	7,980,948	66,162	11,925	37,236	12,350,179
Total $	...	...	6,712,940	11,717,736	120,062	20,625	55,137	18,626,500
Cost of fuel and electricity $	...	...	345,043	711,369	4,078	2,237	2,694	1,065,121
Cost of materials $	...	...	9,224,845	20,690,096	223,336	19,249	38,409	30,195,935
Value of products $	...	...	20,482,397	48,677,155	450,651	45,094	112,011	69,767,308

Table 3.—Principal Statistics Relative to the Manufactures of Non-Ferrous Metals in Canada, by Industries and by Provinces, 1926—Concluded

Industry	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Alberta	British Columbia	Canada*
MISCELLANEOUS NON-FERROUS METAL PRODUCTS—								
Number of plants			4	13	1			18
Capital employed $				808,722				918,420
Salaried employees: Male				30				38
Female				1				3
Wage-earners: Male				121				110
Female				37				41
Total employees				189				222
Salaries and wages: Salaries $				73,110				101,423
Wages $				164,171				185,114
Total $				237,281				286,537
Cost of fuel and electricity $				7,727				9,117
Cost of materials $				293,395				344,196
Value of products $				886,726				998,512
NON-FERROUS METAL SMELTING AND REFINING—								
Number of plants			2	5			2	9
Capital employed $				32,604,613				81,779,240
Salaried employees: Male				160				590
Female				15				45
Wage-earners: Male				2,031				5,591
Female								
Total employees				2,206				6,226
Salaries and wages: Salaries $				502,048				1,240,936
Wages $				2,790,521				8,311,002
Total $				3,292,569				9,584,938
Cost of fuel and electricity $				2,491,706				6,076,627
Cost of materials $				7,834,442				39,237,657
Value of products $				25,751,577				72,853,566
ALL INDUSTRIES (†)—								
Number of plants	**3**	**3**	**77**	**273**	**16**	**6**	**24**	**403**
Capital employed $	**93,286**	**548,416**	**42,078,203**	**118,703,376**	**1,366,768**	**763,005**	**28,947,695**	**202,503,426**
Salaried employees: Male	**3**	**47**	**1,478**	**2,515**	**44**	**15**	**289**	**4,391**
Female	**2**	**8**	**437**	**950**	**11**		**26**	**1,434**
Wage-earners: Male	**10**	**211**	**5,928**	**12,338**	**162**	**32**	**2,777**	**26,589**
Female		**27**	**1,301**	**2,346**	**7**			**3,684**
Total employees	**15**	**323**	**8,244**	**18,149**	**224**	**47**	**3,096**	**30,095**
Salaries and wages: Salaries $	**8,740**	**80,771**	**3,265,255**	**6,428,250**	**117,098**	**24,357**	**683,586**	**10,608,057**
Wages $	**9,461**	**222,381**	**6,902,816**	**16,385,013**	**178,335**	**40,416**	**4,795,668**	**28,593,090**
Total $	**18,201**	**303,152**	**10,258,071**	**22,813,263**	**295,433**	**64,773**	**5,416,254**	**39,201,147**
Cost of fuel and electricity $	**2,131**	**23,751**	**1,295,386**	**3,755,134**	**25,158**	**9,926**	**2,783,767**	**7,895,138**
Cost of materials $	**11,695**	**90,378**	**15,602,697**	**14,913,846**	**1,022,531**	**262,270**	**28,707,183**	**90,613,004**
Value of products $	**31,972**	**644,689**	**37,651,627**	**104,466,283**	**1,688,699**	**402,947**	**38,608,106**	**183,501,723**

* Where fewer than 3 firms in 1 province were engaged in the same industry, the data for these companies are not shown by provinces but they are included in the Canada totals for each industry.

(†) Includes also data for 1 plant in Saskatchewan.

Table 4.—Capital Employed in the Manufacture of Non-Ferrous Metal Products in Canada by Industries, 1925* and 1926

Industry	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total	Lands, buildings, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Aluminium products	5,728,706	1,825,367	1,637,140	**9,191,213**	2,301,226	968,530	660,580	**3,930,336**
Brass and copper products	9,036,559	5,536,150	5,936,129	**20,508,838**	9,617,899	5,445,768	5,700,937	**20,764,404**
Lead, tin and zinc products	1,633,646	1,051,702	1,096,772	**3,782,126**	1,697,921	1,344,279	1,199,531	**4,241,731**
Precious metal products	4,544,742	3,364,117	2,221,913	**10,130,772**	4,625,785	3,562,915	2,357,061	**10,545,761**
Electrical apparatus and supplies	37,000,484	19,391,557	18,083,582	**75,375,623**	38,418,928	20,693,060	21,211,540	**80,323,534**
Miscellaneous non-ferrous metal products	472,242	224,599	222,892	**919,733**	507,253	259,199	151,968	**918,420**
Non-ferrous metal smelting and refining					54,976,248	17,035,037	9,767,955	**81,779,240**
Total	**59,316,379**	**31,393,492**	**29,198,428**	**119,908,299**	**112,145,660**	**49,308,788**	**41,049,578**	**202,503,426**

* Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 5.—Capital Employed in the Manufacture of Non-Ferrous Metal Products in Canada by Provinces, 1925* and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total	Lands, buildings, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Nova Scotia and New Brunswick	308,779	198,147	164,771	671,697	283,662	174,172	183,868	641,702
Quebec	18,529,162	9,422,568	6,507,457	34,459,187	33,629,353	11,371,359	7,077,491	52,078,203
Ontario	39,824,399	21,190,652	21,293,699	82,308,750	59,319,292	29,626,492	29,557,592	118,703,376
Manitoba	319,928	386,882	645,767	1,352,577	313,296	352,915	700,557	1,366,768
Saskatchewan and Alberta	201,380	73,601	454,704	729,685	199,277	87,118	479,287	765,682
British Columbia	132,731	121,642	132,030	386,403	18,200,180	7,696,732	3,050,783	28,947,695
Canada	**59,316,379**	**31,393,492**	**29,198,428**	**119,908,299**	**112,145,060**	**49,308,788**	**41,049,578**	**202,503,426**

*Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 6.—Number of Wage-Earners Employed in Manufacture of Non-Ferrous Metal Products in Canada, by Months and by Industries, 1925

Month	Industry						Total
	Aluminium products	Brass and copper products	Lead, tin and zinc products	Precious metal products	Electrical apparatus and supplies	Miscellaneous non-ferrous metal products	
January	1,033	2,957	358	1,973	11,329	166	17,816
February	1,064	3,096	381	2,017	10,649	157	17,361
March	1,082	3,228	396	2,027	10,422	158	17,313
April	1,072	3,281	388	2,010	10,192	159	17,102
May	1,088	3,354	409	1,965	10,257	166	17,239
June	1,075	3,329	429	1,920	10,274	171	17,198
July	1,044	3,357	382	1,890	10,294	173	17,140
August	1,003	3,355	425	1,987	10,604	186	17,620
September	1,045	3,359	408	2,122	11,278	195	18,405
October	1,028	3,442	414	2,229	11,855	211	19,179
November	1,031	3,501	417	2,300	11,837	223	19,309
December	1,022	3,407	414	2,278	11,723	226	19,070
*Average	1,059	3,305	402	2,068	10,912	187	17,933

* **Note on the Method of Computing the Average Number of Wage-earners for Each Industry.**—If a company works only 3 months in the year; the average number of wage-earners for this company is obtained by adding the monthly figures and dividing by 3. If a second company operates every month in the year; the average number of wage-earners for this company is obtained by adding the monthly figures and dividing by 12. The average number of wage-earners for each other company in the industry is computed in the same way. The average number of wage-earners in the industry during the year is the sum of these individual averages.

Table 7.—Number of Wage-Earners Employed in the Manufacture of Non-Ferrous Metal Products in Canada, by Months and by Industries, 1926

Month	Industry							Total
	Aluminium products	Brass and copper products	Lead, tin and zinc products	Precious metal products	Electrical apparatus and supplies	Miscellaneous non-ferrous metal products	Non-ferrous metal smelting and refining	
January	356	3,528	426	2,231	11,021	152	5,162	22,876
February	361	3,650	438	2,238	10,826	153	5,192	22,858
March	368	3,672	460	2,240	10,780	157	5,231	22,908
April	370	3,693	448	2,251	10,665	164	5,278	22,842
May	369	3,786	470	2,263	10,713	172	4,968	22,741
June	365	3,846	480	2,255	11,054	188	4,961	23,149
July	370	3,826	465	2,231	11,342	184	5,220	23,635
August	357	3,807	490	2,255	11,644	176	5,581	24,310
September	370	3,768	475	2,347	12,381	190	5,808	25,339
October	372	3,706	490	2,417	13,044	206	6,107	26,342
November	371	3,693	488	2,417	13,004	209	6,129	26,311
December	365	3,629	494	2,343	12,926	208	5,904	25,869
*Average	368	3,726	472	2,295	11,637	181	5,591	24,270

* See note, page 17.

Table 8.—Number of Wage-Earners Employed in the Manufacture of Non-Ferrous Metal Products in Canada by Months and by Provinces, 1925

Month	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan and Alberta	British Columbia	Canada
January	9	140	5,819	11,593	127	30	98	17,816
February	9	170	5,896	11,030	129	28	102	17,364
March	8	193	5,969	10,878	135	31	99	17,313
April	9	187	5,849	10,793	136	28	100	17,102
May	9	170	5,838	10,949	140	28	105	17,239
June	10	178	5,765	10,983	133	26	103	17,198
July	10	213	5,715	10,945	131	25	101	17,140
August	10	238	5,666	11,432	141	28	105	17,620
September	10	244	5,862	11,998	148	32	111	18,405
October	12	267	6,148	12,439	166	38	109	19,179
November	13	294	6,320	12,372	162	33	115	19,309
December	14	299	6,318	12,133	166	33	107	19,070
***Average**	**10**	**216**	**5,934**	**11,494**	**144**	**30**	**105**	**17,933**

* See note, page 17.

Table 9.—Number of Wage-Earners Employed in the Manufacture of Non-Ferrous Metal Products in Canada, by Months and by Provinces, 1926

Month	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan and Alberta	British Columbia	Canada
January	10	265	6,043	13,881	180	35	2,462	22,876
February	10	281	6,036	13,773	167	31	2,560	22,858
March	10	276	6,011	13,775	162	34	2,610	22,908
April	10	244	5,940	13,803	158	33	2,645	22,842
May	10	246	6,004	13,666	160	33	2,622	22,741
June	10	283	6,022	13,991	157	33	2,653	23,149
July	10	287	6,118	14,466	161	33	2,560	23,635
August	10	291	6,217	14,816	177	33	2,766	24,310
September	11	278	6,420	15,451	181	33	2,965	25,339
October	11	257	6,630	16,063	180	32	3,169	26,342
November	12	269	6,522	16,090	175	34	3,209	26,311
December	12	237	6,347	16,016	171	34	3,052	25,859
***Average**	**10**	**268**	**6,329**	**14,684**	**169**	**33**	**2,777**	**24,270**

* See note, page 17.

Table 10.—Hours of Labour (in the Month of Greatest Employment) in the Non-Ferrous Metal Products Industry in Canada, by Industries and by Provinces, 1925

Industry	Number of wage-earners working per day of				Average number of hours worked per man per week per working days of			
	8 hours or less	9 hours	10 hours	Over 10 hours	8 hours or less	9 hours	10 hours	Over 10 hours
(a) By Industries—								
Aluminium products	436	454	218	55	46	51	56	60
Brass and copper products	1,104	2,054	823	56	46	49	58	71
Lead, tin and zinc products	64	317	14	32	45	49	56	64
Precious metal products	1,289	796	110	220	44	50	57	80
Electrical apparatus and supplies	6,943	4,895	467	248	44	51	62	77
Miscellaneous non-ferrous metal products	70	122	37	12	45	49	58	71
Total	**9,906**	**8,638**	**1,669**	**623**	**45**	**50**	**58**	**72**
(b) By Provinces—								
Nova Scotia and New Brunswick	15	279	.....	17	46	50	.....	72
Quebec	4,481	1,829	344	194	45	50	58	70
Ontario	5,220	6,398	1,316	403	45	50	58	73
Manitoba	81	93	8	3	44	50	59	65
Alberta and Saskatchewan	8	31	.....	1	45	49	.....	78
British Columbia	101	8	1	5	44	54	61	66
Canada	**9,906**	**8,638**	**1,669**	**623**	**45**	**50**	**58**	**72**

Table 11.—Hours of Labour (in the Month of Greatest Employment) in the Non-Ferrous Metal Products Industry in Canada, by Industries and by Provinces, 1926

Industry	Number of wage-earners working per day of				Average number of hours worked per man per week per working days of			
	8 hours or less	9 hours	10 hours	Over 10 hours	8 hours or less	9 hours	10 hours	Over 10 hours
(a) By Industries—								
Aluminium products	12a	25	216	39	44	48	55	61
Brass and copper products	972	2,266	818	42	45	50	57	69
Lead, tin and zinc products	68	429	14	12	44	50	55	67
Precious metal products	1,370	1,031	138	177	44	48	54	66
Electrical apparatus and supplies	8,592	4,415	694	291	45	50	57	74
Miscellaneous non-ferrous metal products	83	120	17	.....	45	51	55	.....
Non-ferrous metal smelting and refining	5,791	458	140	2	55	54	56	84
Total	**17,001**	**8,744**	**2,037**	**563**	**45**	**50**	**56**	**70**
(b) By Provinces—								
Nova Scotia and New Brunswick	11	292	.....	.....	46	50	.....	.....
Quebec	4,439	1,904	560	172	45	50	56	71
Ontario	9,253	6,402	1,463	369	45	49	56	69
Manitoba	75	109	8	10	44	49	59	66
Alberta and Saskatchewan	4	28	5	1	44	50	50	78
British Columbia	3,219	9	1	1a	46	47	50	73
Canada	**17,001**	**8,744**	**2,037**	**563**	**45**	**50**	**56**	**70**

Table 12.—Fuel and Electricity Used in the Manufacture of Non-Ferrous Metal Products in Canada, by Kinds and by Provinces, 1925*

Province	Anthracite coal	Bituminous coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Electricity used	Total value
	Tons	Tons	Tons	Gals.	M cu. ft.	Cord		K.W.H.	$
Nova Scotia and New Brunswick—									
Quantity	.....	1,024	48	56,260	884	.....	.....	290,342	.....
Value	$.....	$ 4,222	$ 547	$ 7,422	$ 1,104	.....	$ 500	$ 6,956	$ 20,745
Quebec—									
Quantity	3,317	25,481	2,745	670,065	46,983	161	.....	375,864,245	.....
Value	$ 38,039	$ 153,674	$ 34,033	$ 56,624	$ 27,953	$ 1,458	$ 369	$ 870,653	$1,182,803
Ontario—									
Quantity	2,993	68,752	4,905	1,789,395	190,232	347	.....	38,262,581	.....
Value	$ 36,086	$ 352,851	$ 30,980	$ 180,864	$ 91,333	$ 2,447	$ 9,341	$ 438,074	$1,141,976
Manitoba—									
Quantity	10	282	74	85,752	561	42	.....	141,792	.....
Value	$ 215	$ 2,944	$ 1,118	$ 10,697	$ 893	$ 410	$ 2,475	$ 3,145	$ 21,897
Alberta and Saskatchewan—									
Quantity	.....	6	294	203	2,423	33	.....	83,796	.....
Value	.....	$ 24	$ 4,149	$ 55	$ 938	$ 167	$ 2,382	$ 1,843	$ 9,558
British Columbia—									
Quantity	.....	81	218	15,201	1,388	61	.....	58,949	.....
Value	$.....	$ 834	$ 2,927	$ 1,519	$ 1,460	$ 283	$ 2,439	$ 9,462	
CANADA—									
Quantity	**6,320**	**95,626**	**8,284**	**2,616,876**	**242,471**	**644**	.....	**414,710,705**	.....
Value	**$ 74,340**	**$ 514,549**	**$ 73,754**	**$ 257,181**	**$ 123,681**	**$ 4,765**	**$ 15,067**	**$1,323,104**	**$2,386,441**

*Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 13.—Fuel and Electricity Used in the Manufacture of Non-Ferrous Metal Products in Canada, by Kinds and by Provinces, 1926

Province	Anthracite coal	Bituminous coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Electricity used	Total value
	Tons	Tons	Tons	Gals.	M cu. ft.	Cord		K.W.H.	$
Nova Scotia and New Brunswick—									
Quantity	.....	2,120	50	63,945	.....	.....	.....	208,486	.....
Value	$	$ 10,562	$ 580	$ 9,963	.....	.....	$ 625	$ 4,155	$ 25,885
Quebec—									
Quantity	2,594	25,862	4,603	659,317	28,396	116	.....	452,475,310	.....
Value	$ 27,334	$ 155,437	$ 59,676	$ 57,213	$ 30,554	$ 1,013	$ 395	$ 963,764	$1,295,386
Ontario—									
Quantity	2,380	183,686	152,933	4,867,093	115,608	5,999	.....	122,508,208	.....
Value	$ 25,223	$ 948,944	$1,413,881	$ 488,020	$ 102,294	$ 40,342	$ 2,061	$ 734,369	$3,755,134
Manitoba—									
Quantity	16	305	97	93,164	577	68	.....	220,972	.....
Value	$ 313	$ 2,896	$ 1,502	$ 12,172	$ 963	$ 604	$ 2,649	$ 4,057	$ 25,156
Alberta and Saskatchewan—									
Quantity	.....	5	338	1,102	1,524	42	.....	93,655	.....
Value	.....	$ 25	$ 4,642	$ 365	$ 689	$ 213	$ 2,291	$ 1,875	$ 10,100
British Columbia—									
Quantity	.....	41,448	102,420	857,400	360,107	223	.....	357,709,304	.....
Value	.....	$ 282,576	$1,054,662	$ 80,296	$ 52,366	$ 1,641	.....	$1,312,226	$2,783,767
CANADA—									
Quantity	**4,990**	**253,426**	**260,441**	**6,542,021**	**512,212**	**6,448**	.....	**933,305,995**	.....
Value	$ **53,870**	$**1,400,440**	$**2,534,943**	$ **648,029**	$ **186,866**	$ **43,813**	$ **8,021**	$**3,020,446**	$**7,895,428**

Table 14.—Fuel and Electricity Used in the Manufacture of Non-Ferrous Metal Products in Canada, by Kinds and by Industries, 1925*

Industry	Anthracite coal	Bituminous coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Electricity used	Total value
	Tons	Tons	Tons	Gals.	M cu. ft.	Cords		K.W.H.	$
Aluminium products—									
Quantity	22	16,166	1,003	33,921	9,455	.....	.....	368,206,030	.....
Value	$ 306	$ 41,206	$ 12,685	$ 3,476	$ 3,648	.....	.....	$ 704,910	$ 766,231
Brass and copper products—									
Quantity	3,883	11,918	6,132	1,444,948	75,776	529	.....	13,019,416	.....
Value	$ 44,418	$ 67,953	$ 48,723	$ 144,499	$ 12,567	$ 3,658	$ 12,349	$ 183,720	$ 517,887
Lead, tin and zinc products—									
Quantity	86	1,823	148	172,224	3,910	28	.....	749,283	.....
Value	$ 1,479	$ 12,524	$ 1,922	$ 20,888	$ 3,976	$ 185	.....	$ 13,520	$ 54,494
Precious metal products—									
Quantity	329	5,347	51	31,401	23,141	21	.....	2,600,006	.....
Value	$ 5,042	$ 36,952	$ 438	$ 3,556	$ 8,505	$ 220	$ 470	$ 32,790	$ 87,973
Electrical apparatus and supplies—									
Quantity	1,948	59,943	945	933,076	129,988	65	.....	30,581,144	.....
Value	$ 22,793	$ 353,020	$ 9,961	$ 84,404	$ 94,754	$ 694	$ 2,248	$ 385,604	$ 953,478
Miscellaneous non-ferrous metal products—									
Quantity	52	429	5	316	201	1	.....	154,826	.....
Value	$ 302	$ 2,894	$ 25	$ 358	$ 231	$ 8	.....	$ 2,560	$ 6,378
TOTAL—									
Quantity	**6,320**	**95,626**	**8,284**	**2,616,876**	**242,471**	**644**	.....	**414,710,705**	.....
Value	$ **74,349**	$ **514,549**	$ **73,754**	$ **357,181**	$ **123,681**	$ **4,765**	$ **15,067**	$**1,323,101**	$**2,386,441**

*Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 15.—Fuel and Electricity Used in the Manufacture of Non-Ferrous Metal Products in Canada, by Kinds and by Industries, 1926

Industry	Anthracite coal	Bituminous coal	Coke	Gasoline and fuel oil	Gas	Wood	Other fuel	Electricity used	Total value
	Tons	Tons	Tons	Gals.	M cu. ft.	Cords		K.W.H.	$
Aluminium products—									
Quantity	13	2,327	636	33,598	2,164	2	.....	2,051,712	.....
Value	$ 202	$ 13,111	$ 5,776	$ 3,470	$ 2,329	$ 20	$ 711	$ 22,674	$ 48,293
Brass and copper products—									
Quantity	2,557	14,240	5,289	1,345,098	14,699	348	.....	15,726,071	.....
Value	$ 23,844	$ 85,173	$ 64,170	$ 143,777	$ 14,055	$ 2,396	$ 6,185	$ 194,293	$ 533,893
Lead, tin and zinc products—									
Quantity	110	1,972	84	251,364	5,229	36	.....	793,683	.....
Value	$ 1,812	$ 14,093	$ 995	$ 29,056	$ 2,221	$ 222	.....	$ 16,232	$ 64,631
Precious metal products—									
Quantity	375	5,178	81	41,407	10,556	23	.....	2,375,568	.....
Value	$ 4,739	$ 36,770	$ 799	$ 5,302	$ 10,258	$ 247	$ 550	$ 38,481	$ 97,146
Electrical apparatus and supplies—									
Quantity	1,584	89,845	1,221	1,084,809	113,401	80	.....	36,026,076	.....
Value	$ 17,143	$ 362,958	$ 12,902	$ 102,758	$ 106,105	$ 651	$ 566	$ 461,338	$1,065,421
Miscellaneous non-ferrous metal products—									
Quantity	66	506	.....	.....	1,344	1	.....	150,238	.....
Value	$ 726	$ 3,767	.....	.....	$ 1,087	$ 4	$ 9	3,824	$ 9,417
Non-ferrous metal smelting and refining—									
Quantity	285	139,364	253,130	3,785,745	364,819	5,958	.....	876,182,647	.....
Value	$ 4,404	$ 883,568	$2,450,301	$ 363,666	$ 50,811	$ 40,273	.....	$2,283,604	$6,076,627
TOTAL—									
Quantity	**4,990**	**253,426**	**260,441**	**6,542,021**	**512,212**	**6,448**	.....	**933,305,995**	.....
Value	**$ 52,870**	**$1,400,440**	**$2,531,943**	**$ 648,029**	**$ 186,866**	**$ 43,813**	**$ 8,021**	**$3,020,446**	**$7,895,428**

Table 16.—Power Employed in the Manufacture of Non-Ferrous Metal Products in Canada, by Classes and by Industries, 1925*

Industry	Steam engines and turbines	Internal combustion engines	Hydraulic turbines on water wheels	*Total primary power*	Electric motors run by purchased power	**Total power employed**	Electric motors run by power in the same plant	*Total electric motors*	Boilers
Aluminium products—									
No.	1	.....	11	*12*	60	**72**	110	*170*	1
H.P.	10	.....	51,125	*51,135*	1,510	**52,645**	2,059	*4,169*	125
Brass and copper products— No.	6	2	1	*9*	597	**606**	21	*618*	25
H.P.	1,040	135	25	*1,200*	14,640	**15,840**	427	*15,073*	2,775
Lead, tin and zinc products— No.	1	1	.....	*2*	107	**109**	.....	*107*	3
H.P.	20	25	.....	*45*	1,815	**1,860**	.....	*1,815*	132
Precious metals products— No.	2	.....	.....	*2*	447	**449**	16	*463*	17
H.P.	90	.....	.....	*90*	2,310	**2,400**	335	*2,645*	1,019
Electrical apparatus and supplies— No.	7	5	7	*19*	2,488	**2,507**	1,591	*4,079*	58
H.P.	6,085	13	4,400	*10,498*	27,229	**36,727**	10,409	*37,637*	9,656
Miscellaneous non-ferrous metal products— No.	.....	.....	.....	.....	29	**29**	.....	*29*	2
H.P.	.....	.....	.....	.....	417	**417**	.....	*417*	150
Total— No.	**17**	**8**	**19**	*44*	**3,728**	**3,772**	**1,738**	*5,466*	**106**
H.P.	**7,245**	**173**	**55,550**	*62,998*	**47,927**	**110,895**	**13,829**	*61,756*	**13,857**

*Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 17.—Power Employed in the Manufacture of Non-Ferrous Metal Products in Canada by Classes and by Industries, 1926

Industry		Steam engines and turbines	Internal combustion engines	Hydraulic turbines or water wheels	*Total primary power*	Electric motors run by purchased power	**Total power employed**	Electric motors run by power in the same plant	*Total electric motors*	Boilers
Aluminium products	No.	.....	.....	.....	.....	59	**59**	.....	*59*	3
	H.P.	.....	.....	.....	.....	1,389	**1,389**	.....	*1,389*	400
Brass and copper products	No.	6	5	1	*12*	646	**658**	28	*674*	27
	H.P.	1,040	133	25	*1,198*	15,744	**16,942**	487	*16,231*	2,990
Lead, tin and zinc products	No.	1	1	.....	*2*	109	**111**	.....	*109*	4
	H.P.	20	25	.....	*45*	1,875	**1,920**	.....	*1,875*	152
Precious metal products	No.	.....	.....	.....	.....	524	**524**	27	*551*	17
	H.P.	.....	.....	.....	.....	2,809	**2,809**	136	*2,945*	96
Electrical apparatus and supplies	No.	7	.....	7	*14*	2,905	**2,919**	1,563	*4,468*	65
	H.P.	6,085	.....	4,400	*10,485*	28,812	**39,297**	9,340	*58,152*	10,233
Miscellaneous non-ferrous metal products	No.	.....	.....	.....	.....	49	**49**	.....	*49*	2
	H.P.	.....	.....	.....	.....	153	**153**	.....	*153*	150
Non-ferrous metal smelting and refining	No.	27	1	21	*49*	1,303	**1,352**	517	*1,820*	17
	H.P.	12,855	53	64,435	*77,343*	89,017	**166,360**	19,134	*108,151*	5,709
Total	**No.**	**41**	**7**	**29**	*77*	**5,595**	**5,672**	**2,135**	*7,730*	**135**
	H.P.	**30,000**	**211**	**68,860**	*89,071*	**139,799**	**228,870**	**29,097**	*168,896*	**20,599**

Table 18.—Power Employed in the Manufacture of Non-Ferrous Metal Products in Canada, by Classes and by Provinces, 1925*

Province		Steam engines and turbines	Internal combustion engines	Hydraulic turbines or water wheels	*Total primary power*	Electric motors run by purchased power	**Total power employed**	Electric motors run by power in the same plant	*Total electric motors*	Boilers
Nova Scotia and New Brunswick	No.	1	1	.....	*2*	39	**41**	4	*43*	2
	H.P.	500	25	.....	*525*	363	**888**	80	*443*	500
Quebec	No.	8	.....	12	*20*	603	**623**	950	*1,553*	17
	H.P.	6,025	.....	51,150	*57,175*	4,507	**61,682**	8,763	*13,270*	3,993
Ontario	No.	8	7	7	*22*	2,991	**3,013**	776	*3,767*	84
	H.P.	720	148	4,400	*5,268*	42,425	**47,693**	4,950	*47,375*	9,281
Manitoba	No.	.....	.....	.....	.....	52	**52**	.....	*53*	2
	H.P.	.....	.....	.....	.....	368	**368**	.....	*368*	80
Alberta and Saskatchewan	No.	.....	.....	.....	.....	20	**20**	.....	*20*	1
	H.P.	.....	.....	.....	.....	143	**143**	.....	*143*	3
British Columbia	No.	.....	.....	.....	.....	23	**23**	8	*31*	.....
	H.P.	.....	.....	.....	.....	121	**121**	36	*157*	.....
Canada	**No.**	**17**	**8**	**19**	*44*	**3,728**	**3,772**	**1,738**	*5,466*	**106**
	H.P.	**7,245**	**173**	**55,550**	*62,968*	**47,927**	**110,895**	**13,829**	*61,756*	**13,857**

*Data for smelters (excepting aluminium smelters) and refineries were not included in 1925.

Table 19.—Power Employed in the Manufacture of Non-Ferrous Metal Products in Canada, by Classes and by Provinces, 1926

Province		Steam engines and turbines	Internal combustion engines	Hydraulic turbines on water wheels	*Total primary power*	Electric motors run by purchased power	**Total power employed**	Electric motors run by power in the same plant	*Total electric motors*	Boilers
Nova Scotia and New Brunswick	No.	1	1	.....	*2*	30	**32**	.....	*30*	2
	H.P.	500	25	.....	*525*	488	**1,013**	.....	*488*	500
Quebec	No.	8	.....	12	*20*	663	**683**	975	*1,638*	20
	H.P.	6,025	.....	51,150	*57,175*	4,905	**62,080**	9,302	*14,207*	4,082
Ontario	No.	23	6	7	*36*	4,092	**4,128**	754	*4,846*	109
	H.P.	5,285	186	4,400	*9,871*	76,694	**86,565**	3,806	*80,500*	15,873
Manitoba	No.	.....	.....	.....	.....	56	**56**	.....	*56*	2
	H.P.	.....	.....	.....	.....	415	**415**	.....	*415*	21
Alberta and Saskatchewan	No.	.....	.....	.....	.....	24	**24**	.....	*24*	2
	H.P.	.....	.....	.....	.....	149	**149**	.....	*149*	123
British Columbia	No.	9	.....	10	*19*	730	**749**	406	*1,156*	.....
	H.P.	8,100	.....	13,310	*21,500*	57,148	**78,648**	15,989	*73,137*	.....
Canada	**No.**	**41**	**7**	**29**	*77*	**5,595**	**5,672**	**2,135**	*7,750*	**135**
	H.P.	**20,000**	**211**	**68,860**	*89,071*	**139,799**	**228,870**	**29,097**	*168,806*	**20,599**

Table 20.—Alphabetical List of Materials Used in the Industries Classified under Manufactures of Non-Ferrous Metals in Canada, 1926

Material	Industry number (See list page 28)	Unit of measure	Quantity	Cost
				$
Acid, sulphuric 66° Bé	5	lb.	2,533,424	47,596
Alloys, white metal	3	lb.	1,248,985	97,016
Aluminum bars, rods, sheets and wire	5	lb.	5,101,249	776,750
Aluminum castings	5	lb.	558,713	148,216
Aluminum, pig and scrap	5	lb.	114,919	37,273
Ammonium chloride	5	lb.	969,864	54,369
Ammonium nitrate	4	lb.	2,500	425
Antimony	5	lb.	87,369	13,362
Antimony, regulus—				
From England	3	lb.	90,068	13,039
From United States	3	lb.	120,000	16,900
From other countries	3	lb.	422,584	58,685
Articles, other manufactured	2	.....	.....	259,356
Asbestos paper	6	lb.	1,518	1,139
Babbitt	2	lb.	2,200	991
Bolts, nuts, rivets and screws	2	.....	.....	50,104
Brass	1-3-6	lb.	545,624	62,750
Bronze	5-6	lb.	35,847	12,750
Brass and copper	4	.....	.....	87,679
Brass and copper castings and punchings	5	lb.	758,189	141,135
Brass and copper rods, bars, tubes, pipes, sheet and wire	5	lb.	46,459,048	7,635,519
Britannia metal, including blanks for plating	4	.....	.....	49,594
Buffing material	1	.....	.....	2,713
Carbon for brushes, electrodes, etc	5	.....	.....	181,349
Carbon flour	5	lb.	101,796	4,123
Carpet	6	.....	.....	1,069
Castings—				
Brass	2-6	lb.	680,414	2,764,964
Bronze	2	lb.	6,196,389	
Copper	2	lb.	8,242,696	
Other non-ferrous metals	2	lb.	4,189,389	
Celluloid	4	.....	.....	4,152
Charcoal	2	bu.	9,878	2,311
Chemicals, n.e.s.	5	.....	.....	107,040
Clays and marls	5	lb.	1,635,617	16,464
Coke	2-5	ton	925	7,889
Copper, pig and scrap	3-5-6	lb.	1,081,232	140,284
Copper sulphate	5	lb.	124,068	19,081
Cotton and linen (yarns, sheets, tapes and webbing)	5	.....	.....	879,864
Crucibles	2	.....	.....	9,642
Crystals, watch	4	.....	.....	18,270

Table 20.—Alphabetical List of Materials Used in the Industries Classified under Manufactures of Non-Ferrous Metals in Canada, 1926—Continued

Material	Industry number (See list page 28)	Unit of measure	Quantity	Cost
				$
Dental supplies	4	.....	.....	2,488
Electrical supplies and parts, n.e.s.	5	.....	.....	4,662,210
Foundry facings	2	.....	.....	8,955
Gas, acetylene and oxyacetylene	1	cu. ft.	16,450	364
Glass and porcelain	5	.....	.....	970,837
Glassware and liners	4	.....	.....	62,708
Gold	4	.....	.....	1,193,692
Graphite	5	lb.	88,430	8,897
Ingots and bars—				
Brass	2	lb.	1,610,611	3,954,807
Bronze	2	lb.	1,777,268	
Copper	2	lb.	23,341,947	
Other non-ferrous metals	2	lb.	1,644,401	
Insulating paints, varnishes, japans, shellacs and lacquers	5	.....	.....	278,652
Insulating waxes	5	lb.	2,808,415	138,616
Insulating material, n.e.s.	5	.....	.....	1,245,947
Iron, galvanized	6	lb.	10,227	564
Iron oxide	1	lb.	37,100	1,609
Iron, pig	2-5	long ton	5,191	133,110
Iron and steel castings, punchings, and forgings	2-5-6	short ton	5,101	844,851
Iron and steel rods, bars, tubes, pipes, sheets and wire	5	short ton	24,808	2,773,840
Iron and steel, n.e.s	1-2	.....	.....	118,777
Iron and steel scrap	2-5	lb.	4,385,394	35,442
Jewellers' findings	4	.....	.....	83,785
Jewellers' waste and scrap	4	.....	.....	2,612
Jewels for watch movements	4	.....	.....	179
Lead, pig—				
From England	3	lb.	24,317	1,869
From United States	3	lb.	822,337	70,048
From Canada	3	lb.	9,405,615	826,673
Lead, pig and scrap	3-5	lb.	25,138,082	2,038,709
Lead, sheets, bars and tubes	5	lb.	1,687,301	186,402
Lead and tin alloys	3	lb.	2,309,887	202,122
Leather	2	.....	.....	13,234
Lenses for railway and marine lamps	6	.....	.....	4,395
Litharge or red lead	5	lb.	1,274,002	125,686
Lumber	2-5	.....	.....	85,377
Manganese ore	5	lb.	221,029	9,129
Magnesia tar	1	lb.	2,976	121
Magnesite	1	lb.	7,225	319
Magnesium, bars, sheets and wire	5	lb.	12,313	2,348
Mantle caps, knitted	6	No.	85,651	8,949
Metals, other, including scrap	3	lb.	3,255,831	238,215
Metals, other, base and alloys	4	.....	.....	98,594
Metals, precious, n.e.s.	4	.....	.....	8,238
Mica	5	lb.	88,909	110,434
Mouldings, steel	6	lb.	17,037	2,896
Nails	6	.....	.....	792
Nickel	3	lb.	94,229	28,530
Nickel oxide	1	lb.	315	122
Nickel-silver, including blanks for plating	4	.....	.....	400,282
Nickel thermit	1	lb.	605	223
Nitrogen and argon	5	cu. ft.	612,842	37,150
Ores, concentrates, residues, etc.	7	ton	2,552,014	39,237,657
Oxygen	5	cu. ft.	117,925	2,243

Table 20.—Alphabetical List of Materials Used in the Industries Classified under Manufactures of Non-Ferrous Metals in Canada, 1926—Concluded

Material	Industry number (See list page 28)	Unit of measure	Quantity	Cost
				$
Paper	4			7,560
Phosphorus	3	lb.	1,460	667
Pitch, asphaltic	5	lb.	147,000	6,000
Plaster of Paris	1			146
Plates, tin and terne	6			3,891
Plates and sheets—				
Brass	2	lb.	808,092	
Bronze	2	lb.	37,516	466,396
Copper	2	lb.	844,600	
Other non-ferrous metals	2	lb.	269,490	
Plates and sheets, iron and steel	2	lb.	422,089	27,471
Plating and polishing supplies	2			98,843
Platinum	4			113,251
Precious stones	4			691,877
Protectors, steel	6			1,513
Ribbon	4			4,091
Rods—				
Brass	2	lb.	1,498,365	
Bronze	2	lb.	26,508	312,737
Copper	2	lb.	35,412	
Other non-ferrous metals	2	lb.	18,097	
Rouge and other polishes	4			22,472
Rubber, crude	5-6			475,084
Rubber, reclaimed or compounded	5			140,470
Sand, moulding and other	1-2	lb.	6,345,726	17,085
Scrap—				
Brass	2	lb.	7,671,358	
Bronze	2	lb.	842,982	1,819,019
Copper	2	lb.	5,086,541	
Other non-ferrous metals	2	lb.	1,959,008	
Screen material	6			450
Silver	4			394,737
Slag	1	lb.	7,736	249
Solder	2-4-6			12,445
Spelter	3	lb.	265,674	22,062
Springs for clocks and watches	4			21,680
Stampings, metal	6	lb.	11,288	5,842
Steel, cutlery	4			27,250
Steel, cutlery, stainless	4			21,620
Tin	1-4			77,216
Tin, blocks	3	lb.	50	40
Tin, pig, Straits	3	lb.	1,472,365	940,133
Tin, pig, other brands	3	lb.	1,036,340	648,368
Trimmings (knobs, handles, etc.)	1			33,877
Tubing and pipe—				
Brass	2	lb.	479,231	
Bronze	2	lb.	9,553	182,443
Copper	2	lb.	223,619	
Other non-ferrous metals	2	lb.	19,025	
Tungsten	5			133,822
Watch wheels and other parts	4			115,907
Wax	4			2,033
Wire—				
Brass	2	lb.	448,984	
Bronze	2	lb.	410,972	435,584
Copper	2	lb.	362,595	
Other non-ferrous metals	1-2-6	lb.	56,004	
Wire, resistance	5	lb.	58,189	77,468
Wire, rubber-covered	5	lb.	2,144,175	50,309
Wire cloth, bronze	6	sq. ft.	28,397	2,059
Zinc, including scrap	3-6	lb.	853,345	69,861
Zinc bars, sheets and wire	5	lb.	2,049,304	211,862
Zinc, pig	5	lb.	208,139	18,909
Containers and packing material	All industries			917,022
All other materials	All industries			7,982,461
Total				**90,613,004**

Table 21.—Alphabetical List of Products Made in the Industries Classified under Manufactures of the Non-Ferrous Metals in Canada, 1926

Product	Industry number (See list at end of table)	Unit of measure	Quantity	Total selling value
				$
Alloys and gold-filled wire	4			166,464
Aluminium kitchenware	1			1,028,201
Aluminium products, n.e.s.	1–3			827,176
Annunciators, bells, clocks, time recorders, flashers, signalling apparatus	5			35,712
Auto parts and accessories	2–5			422,080
Babbitt metal	2–3	lb.	4,999,541	1,185,209
Batteries—				
Storage for radio:				
"A" type for filament lighting	5	No.	43,226	432,433
"B" type for plate supply	5	No.	6,297	65,854
Storage for automobile and internal combustion engines starting and ignition	5	No.	324,405	3,458,846
Storage for all other purposes	5	No.	24,377	395,300
Primary dry cell type for radio	5	No.	23,607,779	1,825,799
Primary, dry cell type, for all other purposes	5	No.	7,382,804	1,465,701
Parts and supplies	5			123,493
Battery eliminators for radio use	5			43,420
Castings, white metal alloy	3	lb.	97,185	19,208
Castings, aluminium	1–3	lb.	52,394	21,936
Castings, brass and bronze	1–3	lb.	562,504	182,126
Castings, other	2–3			344,820
Castings and machinery fittings—				
Brass	2	lb.	3,479,790	4,187,271
Bronze	2	lb.	11,627,046	
Copper	2	lb.	27,281	
Other metals	2	lb.	4,019,268	
Clocks	4			542,997
Conduit and moulding, interior, and fittings for same	5			1,047,846
Controllers, rheostats, auto starters, exclusive of any reported with generators and motors or on switchboards	5			200,194
Cutlery of stainless steel	4			125,900
Cutlery, other, not plated	4			53,651
Dental supplies	4			48,008
Fans, A.C. and D.C.	5	No.	1,143	31,525
Fire department supplies	2			101,348
Fittings, brass water and steam	2			2,817,303
Fixtures, electric	2			466,722
Fixtures, lighting	5			1,312,029
Fuses and fuse wire	5			287,284
Generators, A.C. and D.C.	5			3,222,339
Hardware, builders', casket and other	2–3–5			368,389
Heaters, water and air	5	No.	35,230	300,200
Hollowware and flatware, sterling silver	4			622,855
Hollowware and spinnings, brass and copper	2			101,095
Ingots and bars—				
Brass	2	lb.	232,725	73,866
Bronze	2	lb.	78,170	
Copper	2	lb.	3,700	
Other metals	2	lb.	45,652	
Instruments: Ammeters, voltmeters, wattmeters, watt-hour meters, etc.	5			39,803
Irons, flat, electric	5	No.	148,206	314,690
Jewellery	4			3,169,911
Lamps, lanterns, and burners	6			436,739
Lamps, incandescent—				
Regular, carbon	5	No.	119,651	28,044
Regular, tungsten, vacuum	5	No.	9,691,752	1,903,044
Regular, tungsten, gas filled	5	No.	3,393,370	1,659,436
Automobile, decorative	5	No.	2,624,550	389,317
Lead—				
Bars and ingots	3	lb.	1,844,715	167,885
Pipe	3	lb.	4,749,162	638,705
Sheet	3	lb.	1,876,935	193,038
Traps and fittings	3	lb.	797,017	137,032
Lightning arresters	5			180,112
Lightning rods and supplies	2			184,561
Line material—				
Light, power, telegraph and telephone, overhead trolley, line insulators, glass, porcelain and composition	5			741,163

Table 21.—Alphabetical List of Products Made in the Industries Classified under Manufactures of the Non-Ferrous Metals in Canada, 1926—Continued

Product	Industry number (See list at end of table)	Unit of measure	Quantity	Total selling value
				$
Machinery and parts (of brass and copper)	2	.....	.....	63,215
Metals, refined—				
Aluminum	3	lb.	70,638	16,712
Gold, including dental gold	4	.....	.....	744,033
Lead	3	lb.	732,241	76,116
Platinum	4	.....	.....	5,776
Silver	4	.....	.....	13,294
Tin	3	lb.	190,542	125,729
Zinc	3	lb.	520,161	44,973
Meters, gas and water	2	No.	27,060	344,477
Meters, watt-hour, service type, including any accompanying transformers	5	No.	88,634	970,446
Motors, A.C. stationary, for power purposes including control equipment	5	No	7,716	3,935,949
		H.P.	228,352	
Motors, A.C., fractional h.p. for domestic and utility appliances	5	No.	35,745	266,114
Motors, A.C., any types not elsewhere reported	5	No.	1,762	32,979
Motors, A.C., parts and supplies for	5	.....	.....	160,630
Motors, D.C., including parts and supplies for same	5	.....	.....	830,871
Motor-generator sets, dynamotors, etc., and parts and supplies for same	5	.....	.....	408,056
Panel boards and cabinets	5	.....	.....	384,391
Pipe, brass and copper	2	lb.	26,800	9,964
Plated-ware, electro-silver—				
(a) On Britannia metal;				
Hollowware	2–4	.....	.....	705,440
Flatware	4	.....	.....	473,452
Cutlery	4	.....	.....	88,685
(b) On nickel silver;				
Hollowware	4	.....	.....	444,480
Flatware	4	.....	.....	989,855
Cutlery	4	.....	.....	343,902
Plates and sheets—				
Brass	2	lb.	6,374,493	
Bronze	2	lb.	400,514	2,989,293
Copper	2	lb.	4,626,181	
Other metals	2	lb.	1,094,829	
Plumbers' supplies	2	.....	.....	373,624
Radio equipment and supplies—				
Aerial material	5	.....	.....	10,544
Condensers	5	.....	.....	13,281
Panels and parts	5	.....	.....	64,967
Rheostats and resistances	5	.....	.....	22,978
Telephones	5	.....	.....	126,965
Transformers	5	.....	.....	26,855
Vacuum tubes	5	.....	.....	1,261,802
Complete radio receiving sets	5	No.	40,600	2,111,578
Apparatus or parts, n.e.s.	5	.....	.....	217,127
Railway goods	2	.....	.....	514,128
Rectifiers and parts	5	.....	.....	128,522
Rods—				
Brass	2	lb.	4,084,479	
Bronze	2	lb.	361,534	4,288,892
Copper	2	lb.	22,612,838	
Other	2	lb.	7,818	
Scrap	2–3–5	.....	.....	358,948
Searchlights, projectors, focusing lamps, headlights	5–6	.....	.....	58,451
Smelter and refinery products	7	.....	.....	72,853,506
Sockets, receptacles, rosettes, attaching plugs, cutouts	5	.....	.....	880,036
Solders—				
2 and 1 wiping	3	lb.	532,843	168,510
60–40 joint	3	lb.	322,390	108,283
45–55 strictly	3	lb.	1,071,091	378,432
50–50 guaranteed	3	lb.	623,233	232,776
Stoves, ranges, radiators and parts	1–2–5–6	.....	.....	694,847
Switches, electric, all kinds	5	.....	.....	1,204,247
Switchboards, light and power	5	.....	.....	1,729,506
Tanks	2	.....	.....	253,791
Telephone material	5	.....	.....	7,508,589
Transformers—				
Power and service types, 50 k.w. and over, including oil, fuse boxes, etc.	5	No.	4,118	3,628,794
		k.w.	503,766	
Power and service types, under 50 k.w., including oil, fuse boxes, etc.	5	No.	7,709	1,023,768
		k.w.	700,201	
All other types, including feeder regulators, auto-transformers, etc., n.e.s.	5	.....	.....	154,558
Type and type metal—				
Containing less than 90 per cent lead	3	lb.	1,237,990	143,068
Containing more than 90 per cent lead	3	lb.	1,253,094	151,584

Table 21.—Alphabetical List of Products Made in the Industries Classified under Manufactures of the Non-Ferrous Metals in Canada, 1926—Concluded

Product	Industry number (See list at end of table)	Unit of measure	Quantity	Total selling value
				$
Pneumatic apparatus, parts and supplies	5			1,930,348
Vacuum cleaners	5	No.	43,454	1,345,427
Washers, floor polishers and other domestic and utility small motor appliances	1-5			277,204
Watches	4			313,744
Watch cases	4			476,884
Weatherstrip, metal	6			109,814
Wire cloth, brass	2	sq. ft.	1,983,576	984,955
Wires and cables—				
Copper, bare	5			3,615,193
Copper, insulated	5			9,318,214
Wiring materials and sundries, n.e.s.	5			1,126,962
Other electrical apparatus and supplies not reported elsewhere	5			1,557,330
Amount received for custom work and repairs	1-2-4-5-6			1,821,400
All other products including architectural brass and bronze work, art goods, blanks for plating, bells and gongs, portable electric blowers, candlesticks, cushions and runners, car heaters, extruded products, flannel rolls, furnace trimmings, gasoline tank fittings, goldleaf, glassware, spark plugs, gasoline irons, lamp standards and shades, mantles, bronze memorials, baking, tempering and enamelling ovens, metal pens and pencils, paper cups, packing metal, phosphor tin, pulpmill specialties, relays, gasoline stoves, train order signals, thermit, collapsible tubes, brass and copper tubing, electric refrigerators, electric boilers, and various other similar products	All industries			7,324,259
Total				**183,501,723**

KEY TO THE NUMBERED INDUSTRIES

1. Aluminium Products.
2. Brass and Copper Products.
3. Lead, Tin and Zinc Products.
4. Precious Metal Products.
5. Electrical Apparatus and Supplies.
6. Miscellaneous Non-Ferrous Metal Products.
7. Non-Ferrous Metal Smelting and Refining.

Table 22.—Principal Imports into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
ALUMINIUM AND ITS PRODUCTS							
Alumina	cwt.	1,323,145	1,568,908	.....	672	1,323,145	1,568,228
	$	2,587,509	3,634,939	.....	508	2,587,509	3,634,108
Cryolite or kryolite (ore)	cwt.	13,393	78,336	.....	.....	13,364	78,336
	$	87,852	473,523	.....	.....	87,677	473,523
Aluminium in ingots, blocks, bars, rods, strips, sheets or plates	lb.	714,352	1,084,178	484,605	874,093	229,592	210,085
	$	225,350	293,468	148,636	229,029	76,689	64,439
Aluminium leaf or foil	$	210,425	195,979	90,541	94,341	28,966	46,224
Aluminium tubing in lengths of not less than 6 feet, not polished, bent or otherwise manufactured	lb.	87,485	68,993	1,812	712	85,648	67,061
	$	49,866	37,774	583	383	49,269	36,455
Aluminium kitchen or household hollow ware, n.o.p.	$	347,778	267,063	14,343	8,340	307,613	236,120
Aluminium, manufactures of, n.o.p.	$	526,282	670,409	16,126	17,457	481,715	611,935
Total aluminium and its products	$	4,035,062	5,573,155	270,229	350,058	3,619,438	5,102,804

Table 22.—Principal Imports Into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Continued.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
BRASS AND ITS PRODUCTS							
Brass in blocks, ingots or pigs	cwt.	2,463	5,246	22	.....	2,441	5,246
	$	27,170	62,944	358	.....	26,812	62,944
Brass scrap	cwt.	33,092	31,047	.....	.....	30,494	29,105
	$	323,066	297,148	.....	.....	304,798	284,464
Brass caps, adapted for use in the manufacture of electric batteries	$	15,654	16,771	.....	.....	15,654	16,771
Brass cups, being rough blanks, for the manufacture of paper shells and cartridges, when imported by manufacturers of brass and paper shells or cartridges, for use exclusively in the manufacture of such articles in their own factories	$	107,150	101,347	31,147	39,762	76,003	61,585
Brass in bars and rods, in coils or otherwise, not less than 6 feet in length	cwt.	8,492	9,902	2,205	3,472	6,287	6,430
	$	163,436	174,493	34,789	51,671	128,647	122,816
Brass in strips, sheets or plates, not polished, planished or coated	cwt.	10,370	13,722	463	689	9,877	13,033
	$	171,674	253,834	10,670	14,373	161,004	239,461
Brass tubing, not polished, bent or otherwise manufactured, in lengths not less than 6 feet	lb.	2,045,176	2,933,727	336,144	462,373	1,709,032	2,452,279
	$	506,338	699,912	80,601	106,890	425,737	589,144
Carburettors of brass	$	262,764	76,200	2,531	1,094	257,645	73,995
Pumps, hand, brass, n.o.p.	$	14,388	23,849	829	455	13,478	23,014
Valves, brass	$	214,332	276,253	6,590	4,230	206,448	271,575
Wire, plain, brass	lb.	453,543	474,696	56,241	22,395	395,875	439,021
	$	109,763	125,287	17,306	7,066	92,067	113,560
Wire cloth, or woven wire of brass, n.o.p.	$	141,035	89,656	61,987	17,252	31,805	40,291
Manufactures of brass, n.o.p.	$	2,318,535	2,798,285	261,666	272,796	1,839,363	2,288,876
Total brass and its products	$	4,375,905	4,995,981	508,474	515,589	3,579,461	4,188,496
COPPER AND ITS PRODUCTS							
Copper ore and concentrates	cwt.	4	16	.....	.....	2	15
	$	351	845	.....	.....	190	792
Copper, precipitate of, crude	lb.	5,678	.....	5,678	.....	.....	.....
	$	661	.....	661	.....	.....	.....
Copper in blocks, pigs or ingots	lb.	8,621,899	8,039,758	.....	.....	8,621,899	8,039,758
	$	1,227,315	1,137,701	.....	.....	1,227,315	1,137,701
Copper, scrap	cwt.	39,648	47,155	.....	.....	39,074	47,088
	$	540,667	623,031	.....	.....	535,102	622,679
Copper, in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires, electric wires and electric cables, for use only in the manufacture of such articles in their own factories; also copper bars for use only in the manufacture of rods to be used exclusively in the manufacture of electrical conductors and copper rods for such manufacture, the individual units of such electrical conductors not exceeding the area of No. 7-0 gauge conductor	cwt.	248,123	170,219	11	.....	247,745	169,412
	$	3,610,541	2,511,834	237	.....	3,611,589	2,500,950
Copper, in bars and rods, in lengths of not less than 6-feet, unmanufactured	cwt.	6,694	25,403	108	120	6,586	25,248
	$	130,802	469,843	1,956	2,123	128,846	467,082
Copper, in strips, sheets or plates, not polished, planished or coated	cwt.	16,421	20,361	528	368	15,893	19,993
	$	352,479	429,899	12,188	9,204	340,291	420,665
Copper tubing in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured	lb.	1,815,086	2,587,584	108,420	217,460	1,706,666	2,348,072
	$	448,432	579,539	25,660	50,528	422,772	523,888
Copper rollers adapted for use in calico printing	$	.....	350	.....	350	.....	.....
Copper wire, single or several, covered with cotton, linen, silk, rubber or other material, including cable so covered	$	494,868	562,982	92,570	72,446	399,202	489,266
Copper wire, plain, tinned or plated	lb.	394,573	442,190	79,298	49,588	315,275	392,602
	$	119,708	115,503	17,799	8,505	101,909	106,998
Copper wire cloth, or woven wire of copper	$	8,962	52,116	1,755	10,740	1,910	7,434
Copper, manufactures of, n.o.p.	$	474,286	587,940	28,704	37,405	437,711	543,511
Total copper and its products	$	7,415,072	7,071,553	181,530	191,301	7,206,837	6,820,966

Table 22.—Principal Imports into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Continued

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
LEAD AND ITS PRODUCTS							
Pig and block lead	lb.	485,302	751,381	47,305	427,195	437,997	324,186
	$	50,303	65,191	3,615	29,651	46,688	35,540
Old and scrap lead	lb.	53,228	24,724	.....	11,186	18,480	900
	$	3,430	1,486	.....	793	1,397	50
Bars and sheets, lead	lb.	122,795	100,337	32,097	54,436	90,698	42,117
	$	12,401	9,824	2,832	4,582	9,569	4,926
Pipe, lead	lb.	48,847	151,773	39,055	139,265	9,792	1,590
	$	5,181	13,140	3,634	12,089	1,547	251
Shot and bullets, lead	lb.	6,359	10,283	196	425	6,163	9,855
	$	981	1,340	60	67	921	1,273
Tea lead	lb.	134,423	49,480	98,132	49,280	36,291	200
	$	16,352	5,912	11,828	5,886	4,524	26
Manufactures of lead, n.o.p.	$	227,793	280,242	103,814	134,381	74,712	93,501
Total lead and its products	$	316,441	377,135	125,783	187,449	139,358	135,567
NICKEL AND ITS PRODUCTS							
Nickel, nickel silver and German silver, in ingots or blocks, n.o.p.	lb.	10,588	7,255	111	.....	10,447	7,255
	$	2,978	3,062	27	.....	2,951	3,062
Nickel in bars and rods, strips, sheets and plates	lb.	895,310	1,110,429	1,210	.....	894,100	1,110,429
	$	170,143	250,763	559	.....	169,584	250,763
Nickel silver and German silver in bars, rods, strips, sheets, plates or anodes	lb.	165,199	73,728	36,141	13,671	129,058	60,057
	$	47,825	24,459	14,786	5,653	33,039	18,806
German, Nevada and nickel silver, manufactures of, not plated	$	251,572	313,484	23,117	23,374	223,062	283,958
Nickel-plated household hollow-ware	$	17,288	25,620	1,315	5,764	15,736	18,921
Nickel-plated ware, n.o.p.	$	1,394,478	1,593,559	131,680	149,974	1,206,852	1,320,829
Total nickel and its products	$	1,884,284	2,210,947	171,484	184,765	1,651,224	1,896,339
PRECIOUS METALS AND THEIR PRODUCTS							
Bullion or gold fringe	$	24,177	38,210	640	395	12,467	20,527
Electro-plated ware and gilt ware, n.o.p.	$	714,172	880,532	560,153	629,397	122,161	178,242
Gold and silver sweepings	$	2,793	2,329	.....	.....	2,733	1,233
Gold, silver and Dutch or schlag metal leaf	$	84,860	92,685	41,809	41,003	31,007	34,247
Gold, manufactures of, n.o.p.	$	.....	98,352	.....	2,017	.....	93,273
Medals of gold, silver or copper, and other metallic articles, actually bestowed as trophies or prizes, and received and accepted as honorary distinctions, and cups or other metallic prizes won in bona fide competitions	$	19,422	17,692	7,040	5,822	12,167	10,927
Platinum and black oxide of copper for use in the manufacture of chlorate and colours	lb.	50	.....	.....	.....	50	.....
	$	125	.....	.....	.....	125	.....
Platinum crucibles	$	39,939	8,255	.....	347	39,939	7,908
Platinum retorts, pans, condensers, other tubing and pipe, and preparations of platinum, when imported by manufacturers of sulphuric acid, for use exclusively in the manufacture or concentration of sulphuric acid in their own factories	$	58,741	22,317	39,177	.....	19,564	22,317
Platinum wire and platinum in bars, strips, sheets or plates	$	177,109	105,836	220	5,057	176,889	100,779
Silver and other coin, foreign, except gold	$	61	55	.....	.....	61	55
Silver in bars, blocks, ingots, drops, sheets or plates, unmanufactured	$	1,080,846	972,406	2,363	12,459	1,078,483	959,947
Silver, manufactures of, n.o.p., and articles consisting wholly or in part of sterling or other silverware	$	230,431	359,873	160,397	217,489	63,839	92,814
Manufactures of gold and silver, n.o.p.	$	153,371	.....	17,363	.....	131,725	.....
Total precious metals and their products	$	2,586,047	2,598,542	829,162	913,986	1,691,160	1,522,269

Table 22.—Principal Imports into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Continued.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
TIN AND ITS PRODUCTS							
Tin in blocks, pigs and bars	cwt.	44,409	50,858	18,646	16,435	14,672	26,312
	$	2,577,974	3,258,515	1,069,540	1,057,174	877,143	1,677,831
Tinfoil	lb.	527,094	296,736	2,448	8,023	523,946	288,713
	$	231,836	148,292	1,729	7,545	229,731	140,747
Tubes, collapsible	$	35,262	49,152	12,101	24,835	23,155	24,252
Total tin and its products	$	2,845,072	3,455,959	1,083,370	1,089,554	1,130,029	1,842,830
ZINC AND ITS PRODUCTS							
Zinc spelter	lb.	1,393,475	1,312,169	22,410	11,200	1,371,065	1,287,499
	$	111,994	96,275	1,856	949	110,138	93,209
Zinc in blocks, pigs, bars and rods	lb.	71,913	31,663	56,626	.....	15,287	31,663
	$	6,485	3,030	5,284	.....	1,201	3,030
Zinc in sheets and plates	lb.	4,744,878	5,704,810	157,655	184,495	3,056,935	3,740,932
	$	457,462	564,272	13,810	17,765	311,121	374,554
Zinc, seamless drawn tubing	lb.	8	.....	.....	.....	8	.....
	$	1	.....	.....	.....	1	.....
Zinc dust	lb.	301,926	361,763	56	256	301,855	361,477
	$	32,137	37,450	7	33	32,126	37,411
Zinc, manufactures of, n.o.p.	$	178,406	164,376	169	1,398	177,307	162,397
Total zinc and its products	$	786,545	865,403	21,126	20,145	631,894	670,601
OTHER NON-FERROUS METAL PRODUCTS							
ALLOYS, N.O.P.							
Babbitt metal in blocks, bars, plates and sheets	cwt.	1,216	2,517	47	182	606	1,216
	$	20,270	32,906	1,419	3,934	14,405	22,254
Britannia metal in blocks, pigs or bars	cwt.	15	36	.....	.....	15	36
	$	604	1,582	.....	.....	604	1,582
Britannia metal, manufactures of, not plated	$	23,399	31,166	10,398	17,791	11,568	12,561
Phosphor tin and phosphor bronze in blocks, bars, plates, sheets and wire	lb.	635,210	665,226	261,345	196,490	353,274	402,743
	$	272,720	267,222	105,004	72,962	159,737	168,890
Yellow metal in bars, bolts and sheets, for use in the construction or repairs of vessels	cwt.	241	149	28	37	213	112
	$	4,390	2,700	481	627	3,909	2,073
Total alloys, n.o.p.	$	321,383	335,576	117,902	95,314	190,223	207,360
CLOCKS AND WATCHES							
Clocks	$	634,455	865,774	36,275	32,320	344,459	396,064
Clock and watch keys, clock movements and clock cases	$	122,723	159,038	10,832	10,284	92,447	126,671
Time recorders and parts	$	20,160	17,108	644	4,123	18,173	11,466
Watches	$	223,335	301,233	6,641	6,237	10,165	13,436
Watch cases and parts thereof, finished or unfinished	$	233,508	298,976	1,694	3,766	157,321	193,561
Watch actions and movements and parts thereof, finished or unfinished, including winding bars and sleeves	$	1,110,540	1,499,125	6,516	9,267	385,471	449,575
Total clocks and watches	$	2,344,721	3,141,254	62,602	65,997	1,008,036	1,190,773
ELECTRIC APPARATUS, N.O.P., LAMPS AND FIXTURES							
Electric batteries, primary	$	44,418	163,991	947	466	43,032	163,103
Electric batteries, storage, n.o.p.	No.	26,811	40,287	2,344	895	24,362	39,392
	$	1,042,152	716,553	483,845	327,444	576,530	389,003
Electric heating and cooking apparatus	$	149,615	162,206	11,903	685	131,857	161,065
Electric dynamos and generators, n.o.p.	$	1,055,050	1,178,380	176,300	268,353	827,320	834,665
Electric fans	No.	4,978	7,529	.....	6	4,948	7,523
	$	52,577	68,819	.....	850	50,293	67,909
Electric fuses, fuse plugs and cutouts	$	148,231	193,304	159	181	147,615	192,646

Table 22.—Principal Imports into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Continued.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
OTHER NON-FERROUS METAL PRODUCTS—Continued							
ELECTRIC APPARATUS, N.O.P., LAMPS AND FIXTURES—Concluded							
Lamps, electric, arc	$	39,487	36,254	.....	.....	39,286	35,508
Lamps, electric, incandescent, carbon filament	No.	911,427	1,496,694	835	515	212,561	156,806
	$	66,385	77,462	401	220	17,090	9,907
Lamps, electric, incandescent, metal filament	No.	3,553,966	2,881,548	9,124	10,407	502,618	452,088
	$	418,521	270,719	3,207	2,713	84,485	88,156
Electric light fixtures and parts thereof, of metal	$	585,758	709,417	7,874	9,427	548,777	679,364
Lightning arresters, choke coils, reactors and other protective devices	$	75,160	75,396	247	11,764	74,913	63,629
Meters, electric	$	280,580	398,283	29,494	63,473	251,005	334,495
Motors, electric	$	2,239,020	2,403,668	344,353	467,860	1,843,617	1,917,870
Rheostats, controllers and other starting and controlling devices	$	323,512	343,624	39,089	59,777	284,380	283,847
Self-contained lighting outfits	$	124,312	31,125	12,567	6,129	111,745	24,996
Sockets, outlets and receptacles	$	180,438	261,456	193	.....	167,071	247,532
Spark plugs, magnetos and other ignition apparatus	$	680,657	659,226	4,364	5,504	676,233	653,716
Switches, switchboards, n.o.p., circuit breakers and parts	$	1,145,370	1,274,710	133,349	71,889	1,009,295	1,157,773
Telegraph instruments	$	104,537	230,261	10,673	29,841	93,864	200,420
Telephone instruments	$	501,699	872,334	74,056	187,033	427,593	685,301
Transformers	$	216,737	289,437	8,864	23,886	201,900	249,394
Radio tubes	$	.....	134,125	.....	22,233	.....	106,495
Radio and wireless apparatus, n.o.p.	$	3,463,501	2,578,489	193,222	96,226	3,247,449	2,460,758
Electric apparatus, n.o.p.	$	3,078,286	3,802,954	142,685	150,672	2,889,415	3,588,812
Total electric apparatus, n.o.p., lamps and fixtures	$	16,016,003	16,932,193	1,657,792	1,806,626	13,744,765	14,596,424
GAS APPARATUS							
Gas, coal oil or other lighting fixtures, n.o.p., of metal, including lava or other tips, burners, collars, galleries and shade holders	$	76,768	71,834	4,502	1,538	70,887	69,817
Gas mantles and incandescent gas burners	$	52,575	48,496 52,170	1,522 1,233	1,711	46,719 46,561	42,237 45,246
Gas meters and finished parts thereof	$	47,794			6,924		
Total gas apparatus	$	177,137	172,500	7,257	10,173	164,167	157,300
PRINTING MATERIALS							
Stereotypes, electrotypes and celluloids and bases for the same, composed wholly or partly of metal or celluloid, n.o.p., and copper shells for such stereotypes, electrotypes and celluloids	sq. in.	112,493	330,172	.....	2,474	112,493	327,698
	$	10,773	13,506	.....	328	10,773	13,178
Stereotypes, electrotypes and celluloids of books, and bases and matrices and copper shells for the same, whether composed wholly or in part of metal or celluloid	sq. in.	1,062,563	1,060,990	3,598	17,464	1,058,941	1,043,526
	$	57,539	59,558	449	750	57,078	49,808
Stereotypes, electrotypes and celluloids for almanacs, calendars, illustrated pamphlets, newspaper or other advertisements, n.o.p., and matrices or copper shells for such stereotypes, electrotypes and celluloids	sq. in.	3,150,590	3,932,276	12,743	21,180	3,134,656	3,908,965
	$	160,841	235,960	1,513	2,129	158,978	233,631
Type metal in blocks, bars, plates and sheets	lb.	1,235	6,686	.....	.....	785	6,686
	$	181	963	.....	.....	172	963
Type for printing, including chases, quoins and slugs of all kinds	$	100,118	119,510	21,320	14,886	76,545	101,731
Total printing materials	$	329,452	420,497	23,282	18,093	303,546	399,311

Table 22.—Principal Imports into Canada for Consumption of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Continued.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
OTHER NON-FERROUS METAL PRODUCTS—Continued							
MISCELLANEOUS NON-FERROUS METAL PRODUCT							
Manganese, oxide of	cwt.	1,146,489	767,539	164	115,200	1,146,325	652,339
	$	1,171,433	776,579	673	71,644	1,170,760	704,935
Ores of metals, n.o.p.	cwt.	197,436	568,447	8,981	.....	188,455	568,385
	$	303,300	484,659	8,312	3,774	294,988	480,463
Antimony, or regulus of, not ground, pulverized or otherwise manufactured	lb.	1,089,879	1,268,712	315,218	44,800	774,661	1,124,604
	$	181,886	162,530	48,407	7,049	133,479	144,487
Bismuth, metallic, in its natural state	lb.	3,139	3,055	2,747	2,275	392	780
	$	7,788	7,861	6,686	5,537	1,102	2,324
Composition metal and plated metal in bars, ingots or cores, for the manufacture of watch cases, jewellery, filled gold and silver seamless wire, and for dental purposes	$	7,358	19,615	104	153	7,247	19,462
Ingot moulds for use in the production of steel	$	230,413	187,234	65,729	.....	164,684	187,234
Ingot moulds, n.o.p.; glass moulds of metal	$	3,130	4,075	.....	.....	3,130	4,075
Mercury or quicksilver	lb.	155,575	114,450	8,773	14,802	101,802	35,688
	$	130,401	105,138	7,558	14,944	86,804	37,134
Metallic elements and tungstic acid, when imported by manufacturers of metal filaments for electric lamps, for use only in their own factories	$	103,091	119,625	5,354	1,071	85,215	111,687
Metal parts, unfinished, for the manufacture of spectacle and eye-glass frames	$	47,099	77,144	.....	.....	47,099	77,144
Tagging metal, plain, japanned or coated, in coils, not over 1¼ inches in width, when imported by manufacturers of shoe and corset laces, for use exclusively in the manufacture of such articles in their own factories	cwt.	301	448	.....	.....	301	448
	$	6,916	9,905	.....	.....	6,916	9,905
Anodes of nickel, zinc, copper, silver or gold	$	3,856	6,495	2,413	.....	1,282	6,495
Bells, when imported for use of churches only	$	65,705	70,001	21,991	7,372	9,273	16,789
Bells and gongs, n.o.p.	$	50,097	56,881	6,007	4,851	39,790	48,332
Bronze works of art, cast from models made in Canada and designed by sculptors domiciled therein	$	8,342	11,049	.....	132	6,456	6,542
Buckles and clasps of iron, steel, brass or copper, all kinds, n.o.p. (not being jewellery)	$	183,233	183,248	10,144	4,560	168,832	170,018
Cages, bird, squirrel and rat, of wire, and metal parts thereof	$	19,352	24,101	2,118	3,247	10,527	13,972
Chronometers and compasses for ships	$	12,114	15,191	2,203	4,954	9,785	10,237
Glove fasteners, metal, shoe eyelets, corset eyelets, shoe eyelet hooks and shoe lace wire fasteners	$	284,029	303,060	207	3,528	272,550	286,831
Lamps, side lights, head lights and lanterns, n.o.p.	$	751,447	956,763	27,241	34,193	700,695	871,268
Nails and tacks, brass and copper	$	3,937	2,234	666	763	2,580	1,436
Parts of cameras, special parts in the rough, when imported by manufacturers of cameras for use only in the manufacture of cameras	$	235,368	444,327	.....	.....	235,368	444,327
Patterns of brass, iron, steel or other metal, not being models	$	11,970	16,533	.....	.....	11,970	16,533
Rivets, burrs and washers, brass and copper	$	71,078	32,681	801	591	69,522	30,055
Tinsel thread and tinsel wire, for the manufacture of braids, cords, tassels, ribbons and trimmings	$	55,889	70,276	93	226	33,080	25,147
Tubing, brass or copper, not more than ¼ inch in diameter, in lengths not less than 6 feet, coated with metal, and not polished, bent or otherwise manufactured	lb.	.....	1,660	.....	.....	.....	1,660
	$	.....	391	.....	.....	.....	391

Table 22.—Principal Imports for Consumption into Canada of Non-Ferrous Metals and their Products during the Fiscal Years ended March 31, 1926 and 1927; also Imports from the United Kingdom and the United States, 1926 and 1927.—Concluded.

Classification		Total imports for consumption Years ended March 31		Imports from United Kingdom Years ended March 31		Imports from United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
OTHER NON-FERROUS METAL PRODUCTS—Concluded							
MISCELLANEOUS NON-FERROUS METAL PRODUCTS—Concluded							
Wire, of brass, zinc, iron or steel, screwed or twisted, or flattened or corrugated, for use in connection with nailing machines for the manufacture of boots and shoes, when imported by manufacturers of boots and shoes, to be used exclusively for such purposes in their own factories	lb.	101,171	99,545	.....	.....	101,171	99,545
	$	37,495	21,873	.....	.....	37,495	21,873
Wire of all kinds, n.o.p.—	$	135,188	209,102	20,763	4,724	112,359	201,546
Non-ferrous metals and products, n.o.p.	$	137,926	218,576	5,118	20,207	128,174	190,426
Total	$	**47,692,985**	**52,747,842**	**5,302,581**	**5,642,570**	**38,911,300**	**42,872,108**

Table 23.—Principal Exports from Canada of Non-Ferrous Metals and their Products during Fiscal years ended March 31, 1926 and 1927; also Exports to the United Kingdom and the United States, 1926 and 1927.

Classification		Total exports Years ended March 31		Exports to United Kingdom Years ended March 31		Exports to United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
ALUMINIUM AND ITS PRODUCTS							
Aluminium scrap	cwt.	.....	6,082	.....	.....	.....	6,082
	$	.....	85,225	.....	.....	.....	85,225
Aluminium in bars, blocks, etc	cwt.	245,683	238,068	45,949	3,748	141,017	191,860
	$	6,006,390	5,347,969	1,147,825	91,692	3,382,964	4,207,101
Aluminium, manufactures of	$	670,950	1,150,025	45,926	80,361	101,308	564,418
Total aluminium and its products	$	6,677,340	6,583,219	1,193,751	172,053	3,484,272	4,856,744
BRASS AND ITS PRODUCTS							
Brass, old and scrap	cwt.	80,488	61,436	3,255	1,959	63,359	43,714
	$	677,440	540,505	34,813	21,686	501,992	351,978
Brass in bars, rods, strips, sheets, plates and tubing	cwt.	555	470	122	.....	234	.....
	$	11,994	11,384	3,500	.....	4,432	.....
Brass valves	$	128,912	203,348	28,036	110,303	11,169	3,655
Brass manufactures, n.o.p.	$	150,734	113,456	114,469	66,241	8,471	10,560
Total brass and its products	$	969,080	868,693	180,818	198,230	526,064	366,193
COPPER AND ITS PRODUCTS							
Copper, fine, contained in ore, matte, regulus, etc	cwt.	610,906	668,607	150,230	160,759	460,676	507,848
	$	7,037,206	7,835,143	1,129,985	1,207,227	5,907,221	6,627,916
Copper, blister	cwt.	515,500	468,606	.....	.....	515,500	468,606
	$	6,908,431	6,018,914	.....	.....	6,908,431	6,018,914
Copper, pig	cwt.	11	694	.....	112	11	.....
	$	126	8,861	.....	1,734	126	.....
Copper, old and scrap	cwt.	45,045	54,460	292	234	42,187	52,580
	$	506,702	540,515	3,565	2,580	471,417	517,403
Copper in bars, rods, strips, sheets, plates and tubing	cwt	1,585	2,815	697	819	50	.....
	$	44,569	78,105	22,889	26,432	938	.....
Copper wire and cable, insulated	$	380,346	387,573	51,931	22,667	3,691	1,954
Copper manufactures, n.o.p.	$	65,673	48,345	2,076	29	3,826	1,823
Total copper and its products	$	14,943,053	14,917,456	1,210,446	1,260,669	13,295,650	13,168,010

Table 23.—Principal Exports from Canada of Non-Ferrous Metals and their Products during Fiscal years ended March 31, 1926 and 1927; also Exports to the United Kingdom and the United States, 1926 and 1927—Continued.

Classification		Total exports Years ended March 31		Exports to United Kingdom Years ended March 31		Exports to United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
LEAD AND ITS PRODUCTS							
Lead, metallic, contained in ore, etc.	cwt.	122,417	136,458	.....	.....	58,599	86,271
	$	635,852	796,524	.....	.....	387,422	491,994
Lead in pigs, refined lead, etc.	cwt.	1,856,175	2,115,627	868,958	950,335	330	4,120
	$	13,292,720	12,667,959	6,017,173	5,391,431	1,097	25,578
Total lead and its products	$	13,928,572	13,464,483	6,017,173	5,391,431	388,519	517,572
NICKEL AND ITS PRODUCTS							
Nickel, contained in ore, matte or speiss	cwt.	403,528	365,089	237,564	223,982	117,474	94,223
	$	6,553,113	6,037,990	3,920,449	3,448,973	1,049,086	1,011,746
Nickel, fine	cwt.	307,286	258,758	2,962	19,323	293,554	205,874
	$	6,276,131	6,883,200	98,168	692,540	5,792,265	4,985,027
Total nickel and its products	$	12,829,244	12,921,190	4,018,617	4,141,513	6,841,351	5,996,773
PRECIOUS METALS							
Gold-bearing quartz, dust, nuggets and bullion obtained direct from mining operations	$	25,968,094	6,854,342	11,360	17,981	25,956,734	6,836,361
Jewellers' sweepings	$	333,024	316,355	6,858	28,565	326,166	287,790
Platinum, contained in concentrates or other forms	oz.	515	301	1	.....	514	301
	$	54,115	31,713	100	.....	54,015	31,713
Platinum, old and scrap	oz.	721	323	.....	3	721	320
	$	83,610	32,426	.....	300	83,610	32,126
Silver, contained in ore, concentrates, etc.	oz.	4,261,282	6,034,514	707	67,877	4,222,485	5,923,677
	$	2,674,483	3,528,065	496	33,941	2,648,644	3,469,224
Silver bullion	oz.	14,121,133	15,778,443	1,236,827	414,368	6,000,237	3,826,875
	$	9,691,093	9,448,269	826,892	264,287	4,173,538	2,319,039
Total precious metals	$	38,804,419	20,211,170	845,706	345,074	33,242,707	12,976,253
ZINC AND ITS PRODUCTS							
Zinc ore	ton	30,992	41,920	.....	.....	126	8,839
	$	956,480	1,393,368	.....	.....	5,836	225,971
Zinc spelter	cwt.	627,595	984,827	203,591	326,051	.....	.....
	$	4,876,525	6,896,054	1,528,063	2,155,510	.....	.....
Zinc scrap, dross and ashes	cwt.	.....	43,576	.....	7,579	.....	35,997
	$	.....	155,138	.....	31,791	.....	123,347
Total zinc and its products	$	5,833,005	8,444,560	1,528,063	2,187,301	5,836	349,318
ELECTRIC APPARATUS							
Batteries; telegraph, telephone and radio apparatus	$	390,732	429,909	7,092	2,485	35,068	39,229
Dynamos, generators and motors	$	58,032	74,160	16,380	1,472	33,587	21,587
Electric cooking and heating devices, domestic	$	343,359	588,591	4,189	9,103	7,791	9,009
Spark plugs, magnetos and other ignition apparatus	$	276,543	318,582	33,873	57,564	894	1,467
Electric apparatus, n.o.p.	$	336,824	287,169	47,748	55,570	29,105	36,683
Total electric apparatus	$	1,405,490	1,698,411	109,282	126,194	106,445	107,975
PRINTING MATERIALS							
Electrotypes and stereotypes	$	36,127	11,259	1,735	1,823	32,060	6,591

Table 23.—Principal Exports from Canada of Non-Ferrous Metals and their Products during Fiscal years ended March 31, 1926 and 1927; also Exports to the United Kingdom and the United States, 1926 and 1927.—Concluded.

Classification		Total exports Years ended March 31		Exports to United Kingdom Years ended March 31		Exports to United States Years ended March 31	
		1926	1927	1926	1927	1926	1927
MISCELLANEOUS NON-FERROUS METAL PRODUCTS							
Ore, antimony	ton	50	.....	.....	.....	50	.....
	$	2,000	.....	.....	.....	2,000	.....
Ore, Cobalt	ton	.....	479	.....	.....	.....	97
	$	.....	261,699	.....	.....	.....	9,713
Ore, manganese	ton	218	242	.....	.....	218	242
	$	3,907	4,364	.....	.....	3,907	4,364
Ores, other, n.o.p.	ton	600	129	1	6	12	79
	$	355,732	6,420	328	600	2,050	2,680
Arsenic, metallic	cwt.	6,766	.....	.....	.....	6,766	.....
	$	6,795	.....	.....	.....	6,795	.....
Cobalt, metallic	lb.	290,738	202,320	96,568	27,506	167,421	174,814
	$	660,958	363,570	234,981	65,263	361,353	298,307
Cobalt alloys	lb.	3,179	12,777	2,719	12,727	.....	.....
	$	7,237	28,673	6,068	28,473	.....	.....
Molybdenum	cwt.	224	209	.....	.....	224	209
	$	11,175	10,472	.....	.....	11,175	10,472
Plated ware, n.o.p.	$	27,661	38,026	2,934	3,786	9,683	17,220
Metallic scrap, dross and ashes, n.o.p.	cwt.	.....	107,955	.....	4,136	.....	101,361
	$	.....	220,909	.....	24,405	.....	186,218
Metals, other, unmanufactured	$	563,301	119,595	75,127	3,029	394,312	109,776
Metals, other, manufactured, n.o.p.	$	411,174	465,028	180,703	224,445	25,882	22,841
Total	$	**97,476,270**	**80,639,197**	**15,605,732**	**14,174,289**	**58,740,061**	**39,007,020**

Table 24.—Index Numbers of Prices for Non-Ferrous Metal Products 1914 and 1922-1926

(Average of 1913 prices=100)

	Commodity	1914	1922	1923	1924	1925	1926
1	Aluminium	77·7	81·6	96·3	103·0	104·3	100·0
2	Antimony	113·3	72·2	90·6	127·9	208·3	177·2
3	Brass sheets, 1′ x 2′, 14–20 gauge	162·5	147·5	129·2	119·3	118·4	120·1
	Copper and Its Products	86·8	101·1	108·8	98·9	101·4	103·3
4	Electrolytic copper, American	86·0	102·0	108·3	97·4	102·9	101·3
5	Copper sheet, base	87·5	94·6	104·0	92·0	99·7	101·3
6	Electrolytic copper wire bars, imported	85·8	87·7	94·0	85·0	91·4	90·1
7	Solid bare copper wire	87·8	102·6	111·7	104·5	109·0	107·4
	Lead and Its Products	98·0	139·4	159·7	179·3	201·8	183·7
8	Lead, domestic	95·9	133·2	153·2	173·1	195·0	175·8
9	Lead pipe	116·2	192·8	216·1	233·0	260·1	252·5
	Nickel Ingots	100·0	78·9	65·8	65·8	78·9	78·3
10	Nickel ingots, 96–98 per cent	100·0	78·9	65·8	65·8	78·9	78·3
	Silver	94·7	114·1	109·5	111·9	116·2	104·2
11	Silver, fine	94·7	114·1	109·5	111·9	116·2	104·2
	Tin, Ingots	81·6	78·1	102·1	114·6	127·4	143·9
12	Tin Ingots, Straits	81·6	78·1	102·1	114·6	127·4	143·9
	Zinc and Its Products	93·2	128·2	145·5	139·0	158·8	155·0
13	Spelter, American	91·4	127·6	144·8	138·2	158·7	154·4
14	Zinc sheets	113·9	135·4	153·4	149·0	159·7	161·0
	Solder	82·6	81·8	102·0	114·4	129·4	141·3
15	Solder, 50–50	82·6	81·8	102·0	114·4	129·4	141·3
	Index Number of Non-Ferrous Metals and their Products	**96·2**	**98·9**	**96·8**	**96·3**	**105·6**	**101·6**

CHAPTER TWO

ALUMINIUM PRODUCTS

The aluminium products industry in Canada, as reviewed in the present chapter, includes all plants engaged primarily in the manufacture of aluminium articles such as kitchen utensils, boot and shoe lasts, etc. Data pertaining to the production of pig aluminium from the ore are not included in this review. In previous years the output of the Aluminium Company of Canada, Limited, at Shawinigan Falls, which operates on imported ores, was considered in this industry; but in this report, statistics regarding the two aluminium smelters—the one at Shawinigan Falls, and the new smelter at Arvida, Quebec, have been included with the other non-ferrous metal smelters in the Non-Ferrous Metal Smelting Industry in Chapter Eight.

The aluminium industry in Canada dates from 1903 when the smelter was established at Shawinigan Falls. Here, the metal is extracted from imported ore by the electrolysis of a solution of alumina in a bath of molten aluminium fluoride. The resulting metal is cast in ingots some of which are then rolled into plates, sheets, etc., to form the raw materials for the aluminium products industry. Prior to 1926, this was the only plant in Canada making aluminium metal directly from the ore, but in that year the construction of the huge new smelter at Arvida, Quebec, which will eventually be the largest of its kind in the world, was commenced, and first shipments were made from this plant in the fall of 1926. Further mention of these developments are made in the chapter on the smelting of non-ferrous metals.

In 1926, there were 12 plants in Canada engaged in the manufacture of aluminium products of various kinds; all were located in Ontario. Kitchen utensils of all kinds were the main products and were made in 7 different establishments; 5 plants were engaged solely in the manufacture of kitchenware while the other 2 concerns also made quantities of other fabricated aluminium articles. Two other concerns made aluminium boot and shoe lasts; 1 made brush holders, bevel gears, valve cups and other miscellaneous articles; 1 made thermit and rail-welding parts; and another small concern produced small castings such as grocery scoops, measures and funnels.

Capital employed by these plants was reported at $3,930,336. The value of lands, buildings, plants and plant equipment amounted to $2,301,226; materials on hand and stocks in process were worth $968,530, and the value of all cash, trading and operating accounts and bills receivable was $660,580.

The average number of employees working in the various plants during 1926 was 428 including 46 male and 14 female salaried workers and 304 male and 64 female wage-earners. Payments in salaries over the yearly period totalled $116,594 and the sum of $437,430 was paid in wages, making thus an average yearly wage of $1,189 to each of the 368 wage-earners. Employment was very steady throughout the year, the lowest monthly figure being 356 in January and the highest 372 in October, showing a variation of only 4·5 per cent from the lowest figure. Of the 12 firms in this group, 4 employed fewer than 10 persons the year round, 4 employed between 10 and 25 people, 2 others between 25 and 50, and the remaining 2 concerns gave work to more than 50 people.

Fuel and electricity used in these plants was worth $48,293. Bituminous coal cost $13,111 delivered at the plant, and electric power to operate a total of 59 motors having an aggregate of 1,389 h.p., cost $22,674.

Materials used in manufacture cost $801,835 delivered at the works. Aluminium in the form of sheets, circles, etc. was the principal material used. The total cost of aluminium at the various plants was $716,552; trimmings, knobs, handles, etc. cost $33,877; buffing supplies, $2,713; and other materials, $38,904. Boxes, packages, etc. cost $9,789.

Products made during the year sold for $1,917,810 at the plants. As materials cost $801,835, the value added by manufacturing was $1,115,975. Output of kitchen utensils in 1926 was valued at $1,028,261 as compared with $1,056,920 in 1925. Of the producing companies in this industry, 4 each had outputs valued at less than $25,000; 2 others were each below $50,000; 2 others each below $100,000, and only 4 each reported outputs valued above the latter figure.

Imports of alumina, cryolite ore and aluminium in the form of ingots, bars, tubing, leaf or foil, household hollowware and other manufactures were worth $4,870,018 in 1926 as compared with $4,049,791 in 1925 and $3,680,049 in 1924. Exports of aluminium in ingots, bars, etc., and in manufactured articles totalled $7,088,807 in value as against $7,352,080 in 1925 and $4,758,287 in 1924. Imports of household hollowware were valued at $268,268, and other manufactures at $598,790, and exports of all aluminium manufactures in the same year reached a value of $1,188,-260.

Table 25.—Summary Statistics of the Aluminium Products Industry in Canada, 1926

Number of plants	12
Capital employed	$ 3,930,336
Number of employees	428
Salaries and wages	$ 554,024
Cost of fuel and electricity	$ 48,293
Cost of materials	$ 801,835
Selling value of products	$ 1,917,810
Value added by manufacturing	$ 1,115,975

Table 26.—Capital Employed in the Aluminium Products Industry in Canada, 1926

Cost of lands, buildings, fixtures, machinery and tools	$ 2,301,226
Cost of supplies and stock on hand	$ 968,530
Cash, trading and operating accounts and bills receivable	$ 660,580
Total	**$ 3,930,336**

Table 27.—Average Number of Employees, Salaries and Wages Paid in the Aluminium Products Industry in Canada, 1926

Average number of employees—	
Salaried employees—Male	46
Female	14
Wage-earners—Male	304
Female	64
Total	**428**
Salaries and wages—	
Salaries	$ 116,594
Wages	$ 437,430
Total	**$ 554,024**

Table 28.—Number of Wage-Earners Employed in the Aluminium Products Industry in Canada, by Months, 1926

Month	Male	Female	Total
January	295	61	356
February	293	68	361
March	304	64	368
April	303	67	370
May	301	68	369
June	301	64	365
July	306	64	370
August	301	56	357
September	304	66	370
October	310	62	372
November	307	64	371
December	298	67	365
*Average	304	64	368

*See footnote page 17.

Table 29.—Fuel and Electricity Used in the Aluminium Products Industry in Canada, 1926

Kind	Unit of measure	Quantity	Value
Bituminous coal	Short ton	2,327	13,111
Anthracite coal	Short ton	13	202
Coke	Short ton	636	5,776
Fuel oil	Imp. gal.	33,598	3,470
Wood	Cord	2	20
Gas	M cu. ft.	2,164	2,329
Other fuel			711
Electric power	K.W.H.	2,051,712	22,674
Total			**48,293**

Table 30.—Power Employed in the Aluminium Products Industry in Canada, 1926

	Number of units	Total H.P. (according to manufacturers' rating
Electric motors run by purchased power	59	1,389
Boilers	3	400

Table 31.—Materials Used in the Aluminium Products Industry in Canada, 1926

Kind	Unit of measure	Quantity	Cost at works
			$
Aluminium, partly fabricated, sheets, circles, etc	lb.	4,863,889	716,552
Trimmings, knobs, handles, etc			33,877
Buffing supplies			2,713
Containers, boxes, packages, etc			9,789
All other materials			38,904
Total			**801,835**

Table 32.—Products Made in the Aluminium Products Industry in Canada, 1926

Product	Selling value at works
	$
Kitchen utensils	1,028,261
All other products*	889,549
Total	**1,917,810**

* Includes other fabricated products, boot and shoe lasts, electric heaters, thermits, rail-welding parts, brush holders, bevel gears, scrap aluminium, bag rings, pulleys, valve caps, aircheats, automatic crucibles and other products.

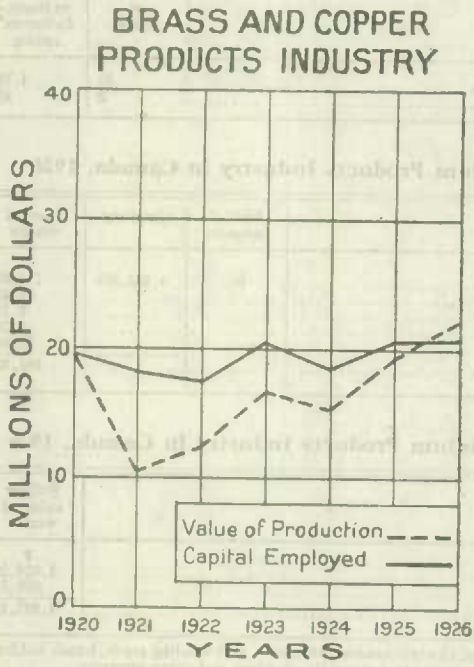
Table 33.—Imports into Canada and Exports of Aluminium and its Products, Calendar Years, 1924-1926

	1924		1925		1926	
	Pound	Value	Pound	Value	Pound	Value
		$		$		$
IMPORTS—						
Alumina	128,695,000	2,375,346	127,505,400	2,627,281	145,145,500	3,118,205
Cryolite ore	1,142,200	70,563	1,507,600	94,624	6,400,900	369,688
Aluminium—						
Ingots, blooms, bars	653,656	183,110	692,426	217,885	962,417	270,517
Tubing	47,247	27,064	82,086	45,409	76,113	42,003
Manufactures, n.o.p		485,037		519,653		598,790
Leaf or foil		135,316		202,823		202,547
Household hollowware		403,613		342,116		268,268
Total		**3,680,049**		**4,049,791**		**4,870,018**
EXPORTS—						
Aluminium—						
Ingots, bars, etc	18,146,700	3,990,857	27,267,800	6,558,910	25,177,000	5,900,547
Manufactures		767,430		793,170		1,188,260
Total		**4,758,287**		**7,352,080**		**7,088,807**

CHAPTER THREE

BRASS AND COPPER PRODUCTS

The brass and copper products industry includes those plants in Canada which are engaged mainly in the rolling and casting of copper, brass and bronze, and in the manufacture of such commodities as taps, valves, wire cloth, bells and gongs, furniture trimmings, lightning rods, etc., which are entirely or mostly made of brass, bronze or copper. These metals also enter into the construction of many other articles of commerce which do not appear among the products of this industry. Pure copper has a wide application in the manufacture of wire, cable and electrical apparatus of all kinds; in the automobile industry for starting, lighting and ignition systems, radiator cores and shells, headlights, hub caps, etc.; in the manufacture of washing machines, etc.; in the building trade for eavestroughing, roofing and weatherstripping, and for many other industrial uses. Brass and bronze also find wide use in industry, particularly for use as bearing metals and in the making of electrical fixtures, machine parts and fittings, ornamental work, etc., and in the form of tubes, plates and sheets meet a variety of industrial needs.



In 1926, there were 98 firms classified in the brass and copper group; 64 were in Ontario, 19 in Quebec, 8 in British Columbia, 3 in Manitoba, 2 in Nova Scotia, 1 in Alberta and 1 in New Brunswick. In the previous year, 1925, there were only 91 plants in this industry; for 1926, there was thus a loss of 1 active concern in Quebec and a gain of 6 in Ontario and 1 in each of the provinces of Nova Scotia and British Columbia.

Production from these plants in 1926 was valued at $22,028,636 which was an increase of almost 3 million dollars over 1925 and the highest output value ever shown for this group. Available records show that in 1919 there were 78 establishments in Canada mainly engaged in making brass and copper products, and 3,431 men were employed to produce $15,458,606 worth of manufactured materials for sale. By 1920, there were 79 plants in operation, the number of employees had increased to 4,461 and output was worth $19,516,187. In 1921, however, there was a sharp decline in output value to $10,477,206, but this loss was partially recovered in 1922 and 1923. A recession again occurred in 1924, but in the following year the output increased in value to $19,155,309, a total nearly equal to that established in 1920. In the year under review, 1926, a record output value for the industry was reached at $22,028,636.

Capital employed in the industry in 1926 was reported at $20,764,404 as compared with $20,508,838 in 1925; the value placed on property, buildings and plant equipment was $9,617,699, or more than half a million dollars higher than in 1925; inventories of stocks on hand and in process showed $5,445,768 or slightly less than in 1925, and the cash, trading and other accounts totalled $5,700,937, marking a drop of about $200,000 from the figure for the previous year. Plants in Ontario employed $13,041,726 capital or 63 per cent of the total for Canada; Quebec was next at $5,592,055; Manitoba, $737,386; followed by Alberta, New Brunswick and British Columbia in the order named. Ontario and Quebec reported increases in 1926 as against 1925, while the figures for the other provinces remained about the same as in the previous year.

The average number of employees in the various plants was 4,533 in 1926 as compared with 4,032 in the previous year. The number of salaried employees was 807 of whom 650 were male and 157 female; payments for salaries amounted to $1,521,160. Wage-earners numbered 3,726, including 3,363 male and 363 female workers, and wages paid during the year amounted to $4,195,369, giving an average yearly payment of $1,127 to each wage-earner. On the average, 2,994 people were employed in plants in Ontario, 1,065 in Quebec, 67 in Manitoba, 57 in British Columbia and 350 in Nova Scotia, New Brunswick and Alberta. Apparently, this line of business was very good throughout the year with only slightly better conditions during the summer months, for, according to monthly returns, the number of wage-earners working, which stood at 3,528 in January, increased steadily to 3,846 in June and then declined gradually to 3,629 in December.

Of the 98 plants in this industry, there were 9 which employed only 1 person the year round; 35 concerns employed fewer than 10 people in each; 18 firms averaged 11 to 25 employees in each; 17 from 26 to 50 people; 6 from 51 to 100 persons; 7 from 101 to 200 people, while the remaining 6 concerns each gave work to more than 200 people.

Fuel and electricity used in this industry cost $533,893 at the plant. Electricity cost $194,293; fuel oil, $141,366; coal, $113,774; coke, $64,170; and other fuel like gasoline, gas and wood was worth $20,290. A total of 674 electric motors with a rating of 16,231 h.p. was installed in the various plants; of these, 646 were operated on purchased power and 28 were driven on power generated in the establishments. Primary power units included 6 steam engines and turbines, 5 gas engines and 1 hydraulic turbine. Boilers installed numbered 27 with a total rating of 2,990 boiler h.p.

Materials used in manufacturing during 1926 cost $11,810,686, delivered at the works, as against a corresponding figure of $10,147,373 in 1925. During the year, some of the principal materials used were: 19,308,588 pounds of castings; 28,374,227 pounds of ingots and bars; 1,959,704 pounds of plates and sheets; 1,578,382 pounds of rods; 15,559,889 pounds of scrap; 731,428 pounds of tubing; and 1,278,555 pounds of wire of brass, copper, bronze and other non-ferrous metals. In addition there were used $284,216 worth of iron and steel in its various forms, $417,318 worth of manufactured articles, $63,270 worth of lumber, and $1,113,524 of other materials.

Production from the brass and copper products industry in 1926 was valued at $22,028,636 as compared with only $19,155,309 in 1925. Goods manufactured in this industry included 27 million pounds of brass, bronze and copper rods; 21 million pounds of castings and machinery fittings; 12 million pounds of plates and sheets; 2 million square feet of wire cloth; nearly 3 million dollars' worth of water and steam fittings of brass; over half-a-million dollars' worth of railway goods, and many other articles such as metal pens and pencils, brass fittings for rubber goods, tanks, brewery and distillery apparatus, fire extinguishers and fire department supplies, electric fixtures, iron valves, plumbers' supplies, gas and water meters, etc. There was a decline of 1·3 million dollars in the value of brass water and steam fittings, but production of brass, bronze and copper rods was higher by three-quarters of a million dollars; castings and machinery fittings increased a like amount; plates and sheets gained a half million dollars; and almost every other item on the list showed output values above the corresponding figures for 1925.

Only 4 plants in this industry had individual outputs valued at more than one million dollars; 8 other establishments each placed the value of their production above half a million dollars; 6 others above a quarter of a million dollars each; 12 others at more than $100,000 each; 15 others above $50,000 each; 16 more above $25,000 each; 20 more above $10,000 each; while only 17 failed to reach the last named figure.

A number of plants in this group confined their operations to the manufacture of a certain commodity. Five concerns made lightning rods only; 3 made gas meters only; 2 produced water meters and parts only; 2 made furniture trimmings only; 2 made only wire cloth of brass and bronze; 1 made eversharp pencils; 1 made brass fittings for rubber goods; 1 made copper, asbestos and lead gaskets; while a number made only taps, valves or plumbers' supplies; and a large number reported only under the item of castings and machinery fittings. Altogether valves, taps and bushings were made in 16 different establishments; auto accessories in 6 plants; electric fixtures in 8 factories; wire cloth in 4 plants; bells and gongs in 1 plant; brass and copper pipe in 3 plants; railway goods in 4 plants; ingots and bars in 6 plants; plates and sheets in 9 factories; rods in 7 factories; and castings and machinery fittings were reported as being produced in 43 different establishments.

Imports into Canada of copper in its various forms were valued at $6,752,068 in 1926 as compared with $7,628,341 in 1925. Copper in bars or rods for use in the manufacture of trolley, cable and wire was the largest item on the list and amounted to $2,212,715; other copper bars and rods were worth $490,222; copper in blocks, pigs or ingots amounted to $1,231,422; scrap copper to $408,999; copper strips, sheets, etc. $406,988; copper tubing, $579,044; covered copper wire and cable, $502,395 and copper sulphate, $158,992. Exports of copper were valued at $15,008,859 of which copper in ore and in matte worth $7,822,260 and blister copper at $6,055,266 were the main items. About 6 million pounds of scrap copper worth $614,108 were shipped out of Canada, and manufactures of all kinds reached a value of $517,225.

Imports of brass and brass products were valued at $4,934,224. Brass tubing at $672,435, sheets and plates at $264,193, scrap at $265,637, valves at $254,853, bars and rods at $190,436, plain wire at $126,360, wire cloth at $102,112, brass cartridge cups at $115,141, and carburettors at $146,248 were among the main items separately specified on the list. Exports of brass from Canada were valued at $853,755, of which scrap brass at $536,889 was the major item; valves were valued at $161,899 and other manufactures at $154,967.

Table 34.—Summary Statistics of the Brass and Copper Products Industry in Canada, 1922-1926

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel and electricity	Cost of materials	Selling value of products	Value added by manufacturing
		$		$	$	$	$	$
1922	83	17,608,876	3,457	4,079,825	357,608	5,106,224	12,253,691	7,147,467
1923	81	20,322,808	4,097	4,773,528	536,789	7,548,898	16,793,595	9,244,697
1924	81	18,594,443	3,747	4,604,293	453,764	7,889,367	15,487,826	7,598,459
1925	91	20,508,838	4,032	4,985,645	517,887	10,147,373	19,155,309	9,007,936
1926	98	20,764,404	4,533	5,716,529	533,893	11,810,686	22,028,636	10,217,950

Table 35.—Principal Statistics of the Brass and Copper Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Number of plants	Number of employees	Salaries and wages	Selling value of products	Number of plants	Number of employees	Salaries and wages	Selling value of products
			$	$			$	$
Quebec	20	901	1,154,045	3,405,949	19	1,065	1,519,986	4,268,344
Ontario	58	2,744	3,411,007	14,035,823	64	2,994	3,692,365	15,745,357
Manitoba	3	68	87,082	796,369	3	67	93,464	866,866
British Columbia	7	46	62,768	152,882	8	57	70,076	170,194
***Canada**	**91**	**4,032**	**4,985,645**	**19,155,309**	**98**	**4,533**	**5,716,529**	**22,028,636**

*Includes also data for 2 plants in Nova Scotia and 1 in each of the provinces of Alberta and New Brunswick in 1926. There was 1 plant less in Nova Scotia in 1925.

Table 36.—Capital Employed in the Brass and Copper Products Industry in Canada by Provinces, 1925 and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, fixtures, machinery and tools	Materials on hand, and stocks in process	Cash, trading, and operating accounts	**Total**	Lands, buildings fixtures, machinery and tools	Materials on hand, and stocks in process	Cash, trading, and operating accounts	**Total**
	$	$	$	$	$	$	$	$
Quebec	2,610,989	1,135,522	1,749,110	**5,495,621**	2,659,357	1,152,368	1,780,330	**5,592,055**
Ontario	5,779,383	4,009,287	3,097,254	**12,885,924**	6,307,614	3,960,354	2,773,758	**13,041,726**
Manitoba	158,626	139,758	462,438	**758,822**	160,523	100,295	476,568	**737,386**
British Columbia	55,507	17,830	27,366	**100,703**	56,101	21,048	32,186	**109,335**
***Canada**	**9,036,559**	**5,536,150**	**5,936,129**	**20,508,838**	**9,617,699**	**5,445,768**	**5,700,937**	**20,764,401**

*See footnote to Table 35.

Table 37.—Average Number of Employees, Salaries and Wages Paid in the Brass and Copper Products Industry in Canada, by Provinces, 1925 and 1926

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Male	Female				
1925						$	$	$
Quebec	154	23	655	69	901	333,035	821,010	1,154,045
Ontario	364	100	1,998	282	2,744	830,289	2,580,778	3,411,067
Manitoba	18	1	48	1	68	36,129	50,953	87,082
British Columbia	10	.....	36	.....	46	19,815	42,953	62,768
*Canada	596	131	2,932	373	4,632	1,299,668	3,685,977	4,985,645
1926								
Quebec	176	26	796	67	1,065	415,690	1,104,296	1,519,986
Ontario	391	122	2,212	269	2,994	951,527	2,740,838	3,692,365
Manitoba	16	1	50	.....	67	35,480	57,984	93,464
British Columbia	12	1	44	.....	57	23,285	46,791	70,076
*Canada	650	157	3,363	363	4,533	1,521,160	4,195,369	5,716,529

*See footnote to Table 35.

Table 38.—Number of Wage-Earners Employed in the Brass and Copper Products Industry in Canada, by Months, 1925 and 1926

Month	1925			1926		
	Male	Female	Total	Male	Female	Total
January	2,662	295	2,957	3,153	375	3,528
February	2,782	314	3,096	3,281	369	3,650
March	2,886	342	3,228	3,305	367	3,672
April	2,908	373	3,281	3,298	365	3,663
May	2,973	381	3,354	3,419	367	3,786
June	2,960	369	3,329	3,463	383	3,846
July	2,979	381	3,357	3,467	359	3,826
August	2,967	388	3,355	3,447	360	3,807
September	2,966	393	3,359	3,412	356	3,768
October	3,027	415	3,442	3,356	350	3,706
November	3,098	403	3,501	3,347	346	3,693
December	3,012	395	3,407	3,298	331	3,629
*Average	2,932	373	3,305	3,363	363	3,726

* See note page 17.

Table 39.—Hours of Labour (in Month of Greatest Employment) in the Brass and Copper Products Industry in Canada, by Provinces, 1926

Province	Average number of wage-earners working				Hours worked per man per week when working			
	8 hours or less per day	9 hours	10 hours	Over 10 hours	8 hours or less per day	9 hours	10 hours	Over 10 hours
1926								
Nova Scotia	8	.....	.....	.....	46	.....	.....	.....
New Brunswick	.....	288	.....	.....	.....	50	.....	.....
Quebec	483	261	205	6	45	49	56	70
Ontario	413	1,663	604	33	44	50	57	69
Manitoba	15	45	4	2	44	50	65	69
Alberta	2	9	5	1	40	45	50	78
British Columbia	51	.....	.....	.....	44	.....	.....	.....

Table 40.—Fuel and Electricity Used in the Brass and Copper Products Industry in Canada, 1925 and 1926

Kind	Unit of measure	1925		1926	
		Quantity	Value	Quantity	Value
		No.	$	No.	$
Anthracite coal	short ton	3,883	44,418	2,557	23,844
Bituminous coal	short ton	11,918	67,953	14,240	85,173
Lignite coal	short ton	657	4,717	687	4,757
Coke	short ton	6,132	48,723	5,289	64,170
Fuel oil	gallon	1,442,873	143,950	1,337,745	141,366
Gasoline	gallon	2,075	549	7,353	2,411
Gas	M. cu. ft.	75,776	12,567	14,699	14,055
Wood	cord	529	3,668	348	2,396
Other fuel			7,632		1,428
Electric power	k.w.h.	13,019,416	183,720	15,726,071	194,293
Total			**517,887**		**533,893**

Table 41.—Power Employed in the Brass and Copper Products Industry in Canada, 1925 and 1926

Description	1925		1926	
	Number of units	Total h.p. according to manufacturers' rating	Number of units	Total h.p. according to manufacturers' rating
Steam engines and turbines	6	1,040	6	1,040
Gas engines	1	125	5	133
Oil and gasoline engines	1	10		
Hydraulic turbines or water wheels	1	25	1	25
Total primary power	*9*	*1,200*	*12*	*1,198*
Electric motors run by purchased power	597	14,646	646	15,744
Total power employed	**606**	**15,846**	**658**	**16,942**
Electric motors run by power in the same plant	21	427	28	487
Total electric motors	*618*	*15,073*	*674*	*16,231*
Boilers	25	2,775	27	2,990

Table 42.—Materials Used in the Brass and Copper Products Industry in Canada, 1925 and 1926

Material	Unit of measure	1925		1926	
		Quantity	Cost at works	Quantity	Cost at works
Non-Ferrous Metals—			$		$
Castings—					
Brass	lb.	381,581		680,114	
Bronze	lb.	3,182,367	1,931,719	6,196,389	2,764,861
Copper	lb.	5,938,223		8,242,696	
Other	lb.	3,638,903		4,189,389	
Ingots and Bars—					
Brass	lb.	1,973,386		1,610,611	
Bronze	lb.	4,631,925	3,765,146	1,777,268	3,954,807
Copper	lb.	19,165,625		23,341,947	
Other	lb.	1,750,620		1,644,401	
Plates and Sheets—					
Brass	lb.	1,002,017		808,092	
Bronze	lb.	50,568	545,435	37,516	466,396
Copper	lb.	1,200,491		844,600	
Other	lb.	419,513		269,496	
Rods—					
Brass	lb.	1,947,405		1,498,365	
Bronze	lb.	9,325	418,355	26,508	312,737
Copper	lb.	313		35,412	
Other	lb.	214,316		18,097	

Table 42.—Materials Used in the Brass and Copper Products Industry in Canada, 1925 and 1926—Concluded

Material	Unit of measure	1925 Quantity	1925 Cost at works	1926 Quantity	1926 Cost at works
			$		$
Non-Ferrous Metals—Con.					
Scrap—					
Brass	lb.	7,794,999		7,671,358	
Bronze	lb.	509,863	1,813,125	842,982	1,819,619
Copper	lb.	5,393,090		5,086,541	
Other	lb.	279,864		1,959,008	
Tubing—					
Brass	lb.	620,372		479,231	
Bronze	lb.	1,980	212,785	9,553	182,443
Copper	lb.	196,303		223,619	
Other	lb.	3,281		19,025	
Wire—					
Brass	lb.	309,034		448,984	
Bronze	lb.	389,729	397,380	410,972	431,495
Copper	lb.	484,513		362,595	
Other	lb.	.....		56,004	
Iron and Steel—					
Pig iron	lb.	3,588,480	44,648	5,216,960	61,564
Scrap	lb.	3,178,016	37,439	2,445,394	20,080
Iron castings	lb.	590,421	47,075	806,903	63,346
Steel castings	lb.	146,371	7,288	158,235	9,333
Sheets and plates	lb.	392,176	34,529	422,089	27,471
Other forms	.....	.....	33,996	.....	102,422
Manufactured Articles—					
Bolts, nuts and rivets and screws	.....	.....	35,441	.....	50,164
Foundry facings	.....	.....	19,131	.....	8,955
Plating and polishing supplies	.....	.....	65,005	.....	98,843
Other manufactured articles	.....	.....	217,385	.....	259,356
Lumber	ft. b. m.	750,000	37,168	2,857,000	63,270
Moulding and other sands	lb.	6,621,227	16,268	6,301,939	16,880
All other materials	.....	.....	468,055	.....	1,096,644
Total	.....	.....	**10,147,373**	.....	**11,810,686**

Table 43.—Products of the Brass and Copper Industry in Canada, 1925 and 1926

Product	Unit of measure	1925 Quantity	1925 Selling value	1926 Quantity	1926 Selling value
			$		$
Ingots and Bars—					
Brass	lb.	181,560		232,725	
Bronze	lb.	800	69,897	78,170	73,866
Other metals	lb.	85,841		49,352	
Plates and Sheets—					
Brass	lb.	5,791,766		6,374,493	
Bronze	lb.	414,776	2,550,972	400,544	2,989,293
Copper	lb.	3,874,861		4,626,181	
Other metals	lb.	771,528		1,094,829	
Rods—					
Brass	lb.	4,333,761		4,084,479	
Bronze	lb.	140,693	3,531,511	361,544	4,288,892
Copper	lb.	17,563,395		22,612,838	
Other metals	lb.	56,004		7,818	
Tubing, Seamless or Brazed—					
Brass	lb.	6,250	12,194	.....	238
Copper	lb.	25,837		2,087	
Wire—					
Brass	lb.	217,232	47,933	349,296	75,681
Other metals	lb.	20,000		.....	
Castings and Machinery Fittings—					
Brass	lb.	2,315,728		3,479,790	
Bronze	lb.	12,597,525	3,796,417	11,627,046	4,486,014
Copper	lb.	19,404		27,284	
Other metals	lb.	4,776,915		6,019,268	

Table 43.—Products of the Brass and Copper Industry in Canada, 1925 and 1926—Con.

Product	Unit of measure	1925		1926	
		Quantity	Selling Value	Quantity	Selling Value
			$		$
Auto accessories					357,553
Bells and gongs			45,940		
Brass and copper hollowware, spinnings and stampings			117,361		101,095
Brass water and steam fittings—including bushings, taps, valves, etc			4,100,242		2,817,303
Builders' hardware			102,598		294,286
Electric fixtures			428,411		466,722
Lightning rods and supplies			210,203		184,561
Machinery and parts			70,981		63,215
Meters, gas and water, and parts	No.			27,060	344,477
Tanks			230,770		253,791
Wire cloth, brass and bronze	sq. ft.	1,644,038	884,657	1,983,576	984,955
Railway goods			258,969		514,128
Stoves, radiators and parts			82,078		
Amount received for custom and repair work			277,833		438,692
*All other products including products of 1 or 2 firms			2,336,342		3,293,874
Total			**19,155,309**		**22,028,636**

*Includes iron valves, hydrants, brass for rubber goods, plumbers' supplies, metal pens and pencils, brewery and distillery apparatus, architectural brass work, scrap, bells and gongs, gas cocks for stoves, brewery apparatus, fire department supplies, and other products.

Table 44.—Imports into Canada of Certain Brass and Copper Products, Calendar Years, 1925 and 1926

Commodity	1925		1926	
	Pounds	Value	Pounds	Value
		$		$
Copper and Copper Products—				
Copper in bars or rods, when imported by manufacturers of trolley, telegraph and telephone wires, electric wires and electric cables for use only in the manufacture of such articles in their own factories	26,385,300	3,857,482	15,131,400	2,212,715
Copper in bars or rods, in coil or otherwise, in lengths of not less than 6 feet, unmanufactured	482,500	95,563	2,627,900	490,222
Copper in blocks, pigs or ingots	7,934,779	1,138,740	8,599,699	1,231,422
Copper, old and scrap	4,174,100	572,656	3,039,400	408,999
Copper ore and concentrates	300	269	1,700	927
Copper in strips, sheets or plates not polished or coated	1,971,300	400,229	1,882,400	406,988
Copper tubing in lengths of not less than 6 feet, and not polished, bent or otherwise manufactured	1,611,987	390,881	2,535,796	579,044
Copper wire, plain, tinned or plated	287,654	104,686	420,361	111,504
Copper wire cloth, or woven wire of copper		4,379		51,390
Copper wire, single or several, covered with cotton, linen, silk, rubber or other material, including cable so covered		487,779		502,395
Copper, all other, manufactures of, n.o.p.		415,625		578,068
Copper, precipitate of, crude	5,678	661		
Anodes of nickel, zinc, copper, silver or gold		4,084		4,896
Copper, sub-acetate of, or verdigris, dry	4,083	812	31,755	2,260
Copper, sulphate of (blue vitriol)	3,027,088	146,833	3,385,239	158,992
Copper, sulphate of, dehydrated, for agricultural or spraying purposes	156,808	7,662	229,228	11,896
Copper rollers adapted for use in calico printing				350
Total copper and ropper products		**7,628,341**		**6,752,068**

Table 44.—Imports into Canada of Certain Brass and Copper Products, Calendar Years, 1925 and 1926—Concluded

Commodity	1925		1926	
	Pounds	Value	Pounds	Value
		$		$
Brass and Brass Products—				
Brass in blocks, pigs and ingots	263,000	30,461	432,300	51,971
Brass, old and scrap	3,604,900	344,303	2,669,500	265,637
Brass tubing	1,966,480	485,961	2,726,066	672,435
Brass wire, plain	366,032	87,724	487,881	126,360
Brass bars and rods	685,300	131,182	1,077,300	190,436
Brass strips, sheets or plates	948,400	155,089	1,424,700	264,193
Brass wire cloth, n.o.p.		125,752		102,112
Brass, cup for manufacture of shells		106,373		115,141
Brass caps for electric batteries		16,522		17,094
Brass pumps, hand		15,739		20,567
Nails, tacks, etc., brass and copper		4,503		1,777
Brass and copper rivets, burrs and washers		45,334		49,006
Brass valves		206,540		254,853
Brass, other manufactures, n.o.p.		2,194,641		2,656,394
Brass carburettors		252,521		146,248
Total brass and brass products		**4,282,645**		**4,934,224**
Miscellaneous—				
Bells and gongs, n.o.p.		48,364		58,650
Bronze works of art cast from models made in Canada and designed by sculptors domiciled therein		10,247		11,293
Gas meters and finished parts thereof		47,584		34,701
Metal parts, unfinished, for the manufacture of spectacle and eyeglass frames		36,695		70,738
Buckles and clasps of iron, steel, brass or copper, all kinds, n.o.p. (not being for jewellery)		183,702		175,000
Cages of wire, and metal parts thereof		17,627		23,606
Wire, of brass, zinc, iron or steel for use in connection with nailing machines in the manufacture of boots and shoes	97,380	35,928	101,860	28,015
Wire of all kinds, n.o.p.		124,697		184,129
Total miscellaneous		**524,841**		**586,132**

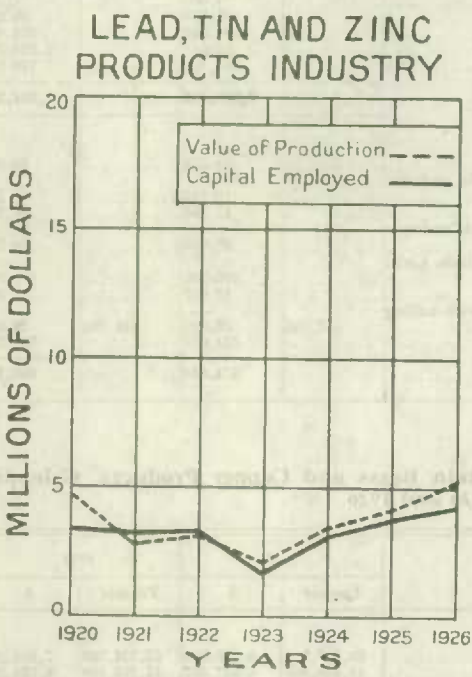
Table 45.—Exports from Canada of Certain Brass and Copper Products, Calendar Years, 1925 and 1926

Commodity	1925		1926	
	Pounds	$	Pounds	$
Copper and Copper Products:—				
Copper, fine, contained in ore, matte, regulus, etc.	60,527,500	6,969,960	67,108,300	7,822,200
Copper, blister	48,558,500	6,547,397	45,250,300	6,055,266
Copper, old and scrap	5,601,700	658,458	5,972,400	614,108
Copper, pig	1,100	126	58,200	7,127
Copper in bars, rods, strips, sheets, plates and tubing	156,300	45,599	256,900	72,475
Copper wire and cable		404,600		380,311
Copper manufactures, n.o.p.		59,792		57,312
Total copper and copper products		**14,685,932**		**15,008,859**
Brass and Brass Products—				
Brass, old and scrap	9,819,600	838,908	6,071,400	536,889
Brass rods, sheets and tubing	49,400	10,663	59,900	13,089
Brass valves		160,727		161,899
Brass, manufactures of, n.o.p.		114,676		141,878
Total brass and brass products		**1,124,974**		**853,755**

CHAPTER FOUR

LEAD, TIN AND ZINC PRODUCTS

The lead, tin and zinc products industry includes all plants in Canada which were engaged chiefly in the manufacture of white metal alloys such as babbitt metal, solders and type metal; in the production of lead pipe, bars, sheets, fittings and similar commodities; and in the refining of scrap metal to recover zinc, tin, lead, copper and other non-ferrous metals. These commodities find wide application in industry and the demand is well maintained from year to year. Babbitt metal is used extensively for bearings in all classes of machinery; the consumption of solders in manufacturing and plumbing takes up a large annual output; collapsible tubes have a wide market as containers for tooth paste, etc.; lead pipes are necessary for certain uses in chemical plants, for house plumbing, conduit, etc.; the printing and engraving trades use large quantities of type metal, and the recovery of non-ferrous metals from scrap brought from junk dealers and other sources amounts annually to a considerable business.



In 1926, there were 25 different establishments in this industrial group; 11 were located in Ontario, 7 in Quebec, 3 in British Columbia, 3 in Manitoba and 1 in New Brunswick. Returns were received from 2 new concerns in Ontario and 1 in Manitoba, making, thus, a net increase of 3 over the total for the previous year when only 22 plants were in operation in this industry.

Production from these plants in 1926 was valued at $5,184,096 which was the highest attained in this industry since yearly records were commenced in 1919; the previous high mark was registered in 1920. In 1919, there were 11 plants included in this group and output was reported at $3,080,008, while in the following year, 1920, the 18 concerns in operation employed 506 people and made commodities worth $4,574,165. In 1921, output value declined to $2,886,415; this was partly due to a natural lull in the industry during the general post-war industrial depression and partly because of general deflation of prices as evidenced by the fact that the index number of prices for solders declined from 133·3 in 1920 to 82·4 in 1921 and for lead pipe from 248·7 to 191·0 in the same period. Production was maintained at about the same figure in 1922 but records for 1923 showed a further serious depression; output in that year was worth only $2,181,273 and only 193 people were employed. A good recovery was made in 1924 to $3,353,910; again, in 1925, an increase of 22 per cent was reported and in 1926 a further gain of a million dollars to $5,184,096 with 25 plants in operation and 609 people employed.

The industry is still centred in Ontario and the 11 plants in that province produced commodities worth $3,404,910 or 66 per cent of the total for Canada; concerns in Quebec had a combined output worth $1,204,026; and British Columbia, New Brunswick and Manitoba were also small producers. Each province reported a higher output than in 1925.

Capital employed by the firms in this group was reported at $4,241,731 which was an increase of almost half a million over the figure for 1925. Fixed assets such as properties, plants and machinery were valued at $1,697,921 or about the same figure as in 1925; materials on hand and in process, however, increased 28 per cent to $1,344,279, and the value of all cash, trading and operating accounts was slightly higher at $1,199,531. Investment in Ontario's plants was given at $2,928,266 or about two-thirds of the total for Canada, and Quebec accounted for the greater part of the remainder.

On the average there were 609 people employed in the various plants in this industry and of this total, 506 were working in plants in Ontario, 56 in Quebec and only 47 in the other provinces. The 137 salaried employees were paid $257,870 during the year and the 472 wage-earners received $548,979 making a total payment of $806,849 for salaries and wages as against a corresponding figure of $619,973 in 1925.

A monthly record of the average number of wage-earners in the industry indicates improved conditions in the last half of the year. In January, 426 wage-earners were employed; but, by June, the number had increased gradually to 480, and, by August, had improved further to 490 and remained in that neighbourhood for the remainder of the year.

Of the 25 plants operating, 15 each employed fewer than 10 people; 5 other concerns each showed 10 to 25 employees on their payrolls, and all but 1 of the remaining factories employed less than 100 hands in each.

Fuel and electricity consumed for heat and power cost $64,631. Fuel oil appears to have been the principal fuel with a total consumption of 228,656 gallons at a cost of $22,203. Bituminous coal cost $14,093; anthracite coal, $1,812; coke, $995; gasoline, $6,853; gas, $2,221 and wood, $222. Electric power which was used to drive 109 motors having a total of 1,875 h.p. cost $16,232. Only 1 steam engine, 1 oil or gasoline engine and 4 boilers were installed in these establishments.

Materials used in the manufacture of white metal products in 1926 cost $3,766,648 as compared with $3,130,257 in 1925. Slightly over 10 million pounds of pig lead costing $898,590 were used in 1926; most of this lead was produced in Canada although nearly a million pounds was brought from the United States and small amounts were imported from England. The quantity of pig tin used was slightly more than 2·5 million pounds valued at $1,588,501, and 632,652 pounds of antimony regulus worth $88,624 were imported for use in the plants in this industry. Other metals and scrap cost $1,086,651, and other materials, $104,282.

Production of the white metal alloys industry amounted in value to $5,184,096 and included nearly 5 million pounds of babbitt metal valued at $1,158,988; about 2·6 million pounds of solder worth $888,001; over 4·7 million pounds of lead pipe at $638,705; other lead including bars, ingots, sheets, traps and fittings, antimonial lead, etc., worth $833,028; nearly 2·5 million pounds of type and type metal at $294,652; metals such as aluminium, copper, lead, tin and zinc recovered from scrap, 1·6 million pounds worth $277,349; and other articles including collapsible tubes, non-ferrous metal castings of all kinds, etc. Practically every item on the list was above the corresponding figure for 1925.

Of the 25 plants in this group, only 2 reported outputs valued at more than a million dollars; 1 other made goods worth more than half a million dollars; 2 other establishments each showed an output valued above a quarter of a million dollars; 7 others above $100,000 each; 5 more above $25,000 each; 5 others above $10,000 each; while only 3 concerns reported outputs valued at less than $10,000.

Babbitt metal was produced in 13 different plants; solders in 13 different establishments; lead bars and ingots in 10 plants; lead pipe in 10 plants; lead sheet in 4; collapsible tubes in 2; antimonial lead in 2; refined aluminium in 2; refined copper in 1; refined lead in 4; refined tin in 5; refined zinc in 6; and type metal in 12 different plants. Some manufacturers made only one product; 1 concern made babbitt metal only; 2 produced lead pipe only; 1 made type metal only; 2 made antimonial lead only; 2 manufactured collapsible tubes only; 1 made only nickel anodes; and 1 made only packing metal.

Imports of lead and its products including pigments and other chemicals such as litharge, lead nitrate, etc., amounted in value to $729,196 as against a corresponding figure of $588,304 in 1925. Litharge, acetate and nitrate of lead, and lead pigments made up $363,324 of this total; manufactures, $298,201; and scrap, $67,671. Exports consisted almost entirely of lead in ore and pig lead although some lead pigment was also exported. The total value of these shipments was $13,816,382.

Imports of tin and its products amounted in value to $4,997,968. Tin in pig, blocks and bars made up the bulk of the Canadian imports and was worth $3,263,513. Tin cans at $666,281; tinware of all kinds at $685,655; tin foil at $179,265; and collapsible tubes at $43,318 were the important manufactured articles on the list. More pig tin was imported in 1926 than in 1925, but the other items remained at about the same figure as in the previous year. There was no export of tin or tin products. There is no production of tin in Canada and the industries using tin must necessarily depend on the foreign market for their raw material.

Imports of zinc and its products reached a value of $1,890,328 of which $582,784 was in the form of spelter; $943,724 as zinc dust; $160,383 as chemicals; $46,800 as blocks, pigs and sheets; and only $156,637 as manufactures. There was a considerable increase in the imports of spelter but the other items listed showed but little variation. Exports of zinc consisted almost entirely of spelter and ore, but some scrap, dross and ashes were shipped to other countries during the year. The total value of exports was $8,501,041.

Imports of babbitt metal amounted to 306,500 pounds worth $37,611, most of which came from the United States. There was only a small import of type metal amounting to $913, but $117,073 worth of type for printing was brought into Canada. No data are available which show the imports into Canada or exports of solders of all kinds.

Table 46.—Summary Statistics of the Lead, Tin and Zinc Products Industry in Canada, 1922-1926

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel and electricity	Cost of materials	Selling value of products	Value added by manufacturing
		$		$	$	$	$	$
1922	19	3,213,867	534	728,502	46,157	2,048,431	3,118,445	1,070,014
1923	20	1,749,383	193	246,528	24,277	1,556,716	2,181,273	624,557
1924	20	3,229,833	480	557,476	78,214	2,404,827	3,353,910	949,083
1925	22	3,782,120	529	619,973	54,494	3,130,257	4,103,732	973,475
1926	25	4,241,731	609	806,849	64,631	3,766,648	5,184,096	1,417,448

Table 47.—Principal Statistics of the Lead, Tin and Zinc Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Number of plants	Number of employees	Salaries and wages	Selling value of products	Number of plants	Number of employees	Salaries and wages	Selling value of products
			$	$			$	$
Quebec	7	52	94,968	976,551	7	56	106,930	1,204,026
Ontario	9	432	469,240	2,671,884	11	506	639,188	3,404,910
British Columbia	3	22	28,449	209,070	3	22	29,757	274,541
***Canada**	**22**	**529**	**619,973**	**4,103,732**	**25**	**609**	**806,849**	**5,184,096**

*Includes also data for 1 plant in New Brunswick and 3 in Manitoba.

Table 48.—Capital Employed in the Lead, Tin and Zinc Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, fixtures, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total	Lands, buildings, fixtures, machinery and tools	Materials on hand and stocks in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Quebec	244,765	262,357	231,570	738,692	244,852	411,079	232,071	888,002
Ontario	1,268,341	635,083	724,673	2,628,097	1,333,656	761,822	832,788	2,928,266
British Columbia	44,040	56,738	74,556	175,334	32,913	68,427	72,255	173,595
*Canada	1,633,646	1,651,702	1,696,772	3,782,123	1,697,921	1,344,279	1,199,531	4,241,731

*See footnote to Table 47.

Table 49.—Average Number of Employees, Salaries and Wages Paid in the Lead, Tin and Zinc Products Industry in Canada, by Provinces, 1925 and 1926

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Male	Female				
1925						$	$	$
Quebec	17	8	27	.....	52	62,951	32,017	94,968
Ontario	60	23	313	36	432	133,285	335,955	469,240
British Columbia	3	5	14	.....	22	13,880	14,569	28,449
*Canada	87	40	366	36	529	226,626	393,347	619,973
1926								
Quebec	17	9	30	.....	56	71,115	35,815	106,930
Ontario	69	24	363	50	506	155,595	483,593	639,188
British Columbia	3	4	15	.....	22	13,810	15,947	29,757
*Canada	96	41	422	50	609	257,870	548,979	806,849

*See footnote to Table 47.

Table 50.—Number of Wage-Earners Employed in the Lead, Tin and Zinc Products Industry in Canada, by Months, 1925 and 1926

Month	1925			1926		
	Male	Female	Total	Male	Female	Total
January	330	28	358	389	37	426
February	350	31	381	399	39	438
March	365	31	396	422	38	460
April	354	34	388	407	41	448
May	377	32	409	428	42	470
June	395	34	429	435	45	480
July	345	37	382	411	54	465
August	388	37	425	436	54	490
September	373	35	408	412	63	475
October	370	44	414	422	68	490
November	372	45	417	426	62	488
December	368	46	414	430	64	494
*Average	366	36	402	422	50	472

*See footnote page 17.

Table 51.—Hours of Labour (In Month of Greatest Employment) in the Lead, Tin and Zinc Products Industry in Canada, by Provinces, 1926

Province	Number of wage-earners working				Hours worked per man per week when working			
	8 hours or less per day	9 hours	10 hours	Over 10 hours	8 hours or less per day	9 hours	10 hours	Over 10 hours
New Brunswick	1	.....	.....	.....	48	.....	.....	.....
Quebec	6	23	2	.....	44	49	55	.....
Ontario	48	390	12	12	43	50	56	67
Manitoba	5	9	.....	.....	46	50	.....	.....
British Columbia	8	7	.....	.....	44	50	.....	.....

Table 52.—Fuel and Electricity Used in the Lead, Tin and Zinc Products Industry in Canada, 1925 and 1926

Kind	Unit of measure	1925		1926	
		Quantity	Value	Quantity	Value
		No.	$	No.	$
Anthracite coal	short ton	86	1,479	110	1,812
Bituminous coal	short ton	1,823	12,524	1,972	14,093
Coke	short ton	148	1,922	84	995
Fuel oil	gallon	151,365	14,620	228,656	22,203
Gasoline	gallon	20,859	6,268	22,798	6,853
Gas	M cu. ft.	3,910	3,976	5,229	2,221
Wood	cord	28	185	36	222
Electric power	k.w.h.	749,283	13,520	793,683	16,232
Total			**54,494**		**64,631**

Table 53.—Power Employed in the Lead, Tin and Zinc Products Industry in Canada, 1925 and 1926

Description	1925		1926	
	Number of units	Total h.p. according to manufacturers' rating	Number of units	Total h.p. according to manufacturers' rating
Steam engines and turbines	1	20	1	20
Oil and gasoline engines	1	25	1	25
Total primary power	*2*	*45*	*2*	*45*
Electric motors run by purchased power	107	1,815	109	1,875
Total power employed	**109**	**1,860**	**111**	**1,920**
Total electric motors	*107*	*1,815*	*109*	*1,875*
Boilers	3	132	4	152

Table 54.—Materials Used in the Lead, Tin and Zinc Products Industry in Canada, 1925 and 1926

Material	Unit of measure	1925		1926	
		Quantity	Cost at works	Quantity	Cost at works
			$		$
Antimony regulus—					
From England	lb.	121,119	18,983	90,068	13,039
From United States	lb.	105,000	15,750	120,000	16,909
From other countries	lb.	354,009	39,809	422,584	58,085
Lead, pig—					
From England	lb.	212,750	20,879	24,317	1,809
From United States	lb.	3,499,410	313,821	822,337	70,048
From Canada	lb.	4,864,240	421,335	9,405,615	826,673
Lead and tin alloys	lb.	962,115	115,028	2,309,887	202,122
Phosphorus	lb.	320	137	1,460	667
Spelter	lb.	224,283	16,863	265,674	22,062
Tin—					
Pig, Straits	lb.	1,119,159	656,590	1,472,365	940,133
Pig, other brands	lb.	999,858	566,174	1,030,346	648,368
Block	lb.	15,303	8,121	50	40
Other metal, scrap, etc.—					
Alloys of white metal	lb.	1,469,823	143,289	1,248,985	97,016
Aluminium	lb.	153,843	33,207	182,422	40,980
Brass	lb.	346,942	34,754	498,198	50,593
Copper	lb.	789,886	97,755	410,498	52,203
Nickel	lb.	83,160	20,799	94,229	28,530
Lead	lb.	4,849,071	350,784	4,680,961	302,485
Zinc	lb.	540,622	38,979	699,772	51,648
Unspecified	lb.	2,880,418	133,461	3,255,834	238,215
Shipping containers, of all kinds			38,203		13,035
All other materials			47,453		91,247
Total			**3,130,257**		**3,766,648**

Table 55.—Products of the Lead, Tin and Zinc Products Industry in Canada, 1925 and 1926

Product	Unit of measure	1925		1926	
		Quantity	Selling value	Quantity	Selling value
			$		$
Babbit metal	lb.	4,286,973	1,044,050	4,891,121	1,158,988
Castings—					
Brass and bronze	lb.	510,375	103,020	561,669	181,850
Other	lb.	194,238	68,992	315,601	80,214
Lead—					
Bars and ingots	lb.	1,237,532	124,862	1,844,715	137,885
Pipe	lb.	3,698,209	530,015	4,749,102	928,705
Sheet	lb.	1,768,902	199,482	1,876,935	193,038
Traps and fittings	lb.	440,375	73,750	797,017	137,032
Lead, n.e.s., including antimonial lead, extruded products, etc.	lb.	2,039,437	209,684	3,159,526	335,073
Solders—					
2 and 1 wiping	lb.	317,572	96,065	532,843	168,510
60-40 joint	lb.	227,560	68,686	322,390	108,283
45-55 strictly	lb.	1,138,380	372,827	1,071,091	378,432
50-50 guaranteed	lb.	444,892	158,391	632,233	232,770
Solders, n.e.s.	lb.	202,049	71,039		
Refined metals—					
Aluminium	lb.	205,151	48,547	70,638	16,712
Copper	lb.			100,502	13,819
Lead	lb.	879,811	73,270	732,241	70,116
Phosphor tin	lb.			15,405	11,477
Tin	lb.	50,441	25,945	175,137	114,252
Zinc	lb.	375,194	34,235	520,161	44,973
Scrap sold			40,187		180,618
Type and type metal—					
Containing less than 90 per cent lead	lb.	1,465,579	168,257	1,237,990	143,068
Containing more than 90 per cent lead	lb.	776,680	78,537	1,253,094	151,584
All other products including products of 1 or 2 firms*			453,882		644,691
Total			**4,103,732**		**5,181,096**

*Includes aluminium ware, nickel plating and polishing work, packing metal, collapsible tubes and other products.

Table 56.—Imports into Canada of Certain Lead, Tin and Zinc Products, Calendar Years, 1925 and 1926

Commodity	1925		1926	
	Quantity	Value	Quantity	Value
	Pounds	$	Pounds	$
Tin and Tin Products—:				
Tin in blocks, pigs and bars	4,396,100	2,459,830	5,107,900	3,263,513
Tin foil	558,997	222,657	304,242	179,265
Strip waste	1,000	38	498,200	3,139
Collapsible tubes	.....	27,500	.....	43,318
Dairy tin	.....	64,990	.....	80,716
Tinware, etc. (a)	.....	593,579	.....	685,655
Tin cans and containers	.....	679,718	.....	666,281
Tin crystals or bichloride of tin	149,301	46,671	223,913	76,081
Total tin and tin products	.....	4,094,983	.....	4,997,968
Lead and Lead Products:—				
Old and scrap, pig and block	565,555	50,606	766,939	67,671
Bars and sheets	104,814	10,554	116,846	11,887
Litharge	1,515,300	159,576	2,229,600	223,839
Acetate and nitrate of lead	222,535	20,516	140,046	13,492
Other manufactures	.....	237,717	.....	263,398
Pipe lead	42,592	4,099	116,344	11,011
Shots and bullets	6,040	923	12,316	1,543
Tea lead	131,402	16,260	83,531	10,362
Lead pigments—				
Dry white lead	47,549	4,749	60,606	5,539
White lead, ground in oil	127,016	14,795	73,468	7,539
Dry red lead and orange mineral	628,648	68,509	1,158,873	112,915
Total lead and lead products	.....	588,304	.....	729,196
Zinc and Zinc Products:—				
Zinc, in blocks, pigs and sheets	315,440	28,664	435,440	46,800
Zinc, as spelter	4,322,335	407,236	5,797,282	582,784
Zinc white (80% Zn.)	1,265,510	100,736	1,122,640	86,779
Zinc, dust (90% Zn.)	13,301,222	923,755	13,278,306	943,724
Zinc, sulphate and chloride of (44% Zn.)	1,070,595	47,450	1,650,725	73,604
Zinc, manufactures of	.....	178,230	.....	156,637
Total zinc and zinc products	.....	1,686,071	.....	1,890,328
Printing Materials:—				
Stereotypes, electrotypes and celluloids and bases for the same, composed wholly or partly of metal or celluloid, n.o.p., and copper shells for such stereotypes, electrotypes and celluloids	.....	9,553	.....	13,314
Stereotypes, electrotypes and celluloids of books, and bases and matrices and copper shells for the same, whether composed wholly or in part of metal or celluloid	.....	59,521	.....	52,643
Stereotypes, electrotypes and celluloids for almanacs, calendars, illustrated pamphlets, newspaper or other advertisements, n.o.p., and matrices or copper shells for such stereotypes, electrotypes and celluloids	.....	157,200	.....	211,839
Type metal in blocks, bars, plates and sheets	788	147	6,323	933
Type for printing, including chases, quoins and slugs of all kinds	.....	96,928	.....	117,073
Total printing materials	.....	323,349	.....	395,782
Alloys:—				
Babbitt metal in blocks, bars, plates and sheets	60,800	14,841	306,500	37,611
Britannia metal in blocks, pigs or bars	2,500	1,023	3,600	1,582
Britannia metal, manufactures of, not plated	.....	23,101	.....	29,885
Phosphor tin and phosphor bronze in blocks, bars, plates, sheets and wire	558,879	238,002	649,168	267,498
Yellow metal, in bars, bolts and sheets, for use in the construction or repairs of vessels	18,700	3,336	19,300	3,574
Total alloys	.....	280,303	.....	340,150
Other Products:—				
Metal glove fasteners, shoe eyelets, corset eyelets, shoe eyelet hooks and shoe lace fasteners	.....	289,131	.....	302,629
Tagging metal, plain, japanned or coiled imported by manufacturers of shoe and corset laces for use in their own factories	.....	6,239	.....	8,738
Bells, when imported for use of churches only	.....	57,965	.....	63,969
Total other products	.....	353,335	.....	375,336

Table 57.—Exports from Canada of Lead and Zinc, Calendar Years, 1925 and 1926

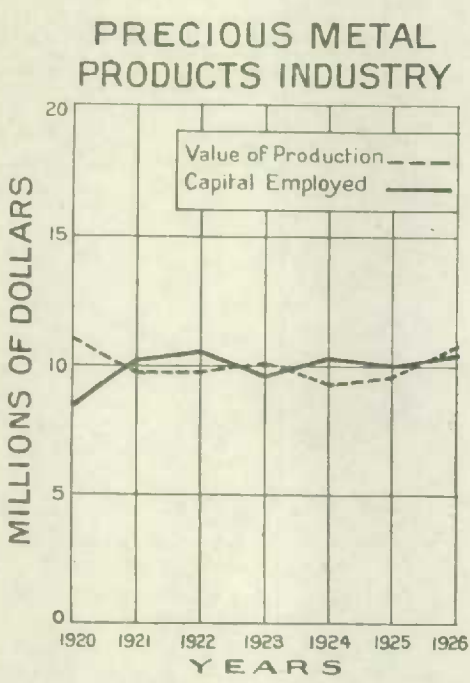
Commodity	1925		1926	
	Quantity	Value	Quantity	Value
	Pounds	$	Pounds	$
Lead:—				
Lead in ore	37,504,500	2,341,679	13,644,900	796,412
Pig lead	160,130,800	11,809,305	202,510,300	12,983,907
Lead Pigments:—				
White lead, dry or in oil	4,391	45,237	3,432	36,063
Total		**14,196,221**		**13,816,382**
Zinc—				
Ore	48,340	1,778,019	41,917	1,393,165
Spelter	49,826,000	3,781,011	96,008,000	7,107,876
Total		**5,559,03**		**8,501,041**
Printing materials:—				
Electrotypes and stereotypes		37,659		20,232

CHAPTER FIVE

PRECIOUS METAL PRODUCTS

The precious metal products industry in Canada includes all plants engaged in the manufacture of silver and silver-plated ware, dental gold and other dental supplies, clocks, watches, rings, chains and other jewellery. Manufacturing jewellers come within the scope of this review, but the many jewellery shops which conduct only a repair business are not included.

A total of 109 establishments came within this category in 1926 as compared with a number of 108 in 1925. Seventy plants were located in Ontario; 26 in Quebec; 6 in British Columbia; 3 in Manitoba; and 1 in each of the provinces of Nova Scotia, New Brunswick, Saskatchewan and Alberta. During the year, returns were received from 5 new plants in Ontario; 2 in British Columbia; and 1 in Quebec; but 4 others in Ontario, and 1 in each of Manitoba, Alberta and British Columbia did not operate, there being thus only a net gain of 1 active plant for the industry in 1926. Of the reporting plants, 15 produced refined metals and dental supplies; 13 made silverware and silver plated ware; and 81 were engaged chiefly in the manufacture of jewellery, clocks, watches, etc.



Production from these 109 plants reached an aggregate value of $10,751,795 which represented an increase of 12 per cent over the output value of $9,581,773 in 1925. Production value in 1926 was also the highest for this industry since 1920 when a total of $11,079,293 was attained; the lowest value reported for the industry in recent years was recorded in 1924 at $9,449,284. Ontario and Quebec accounted for most of the output in 1926; production in Ontario was worth $8,102,748 while Quebec's plants made commodities valued at $2,386,415.

Capital employed in the manufacture of precious metal products in 1926 was $10,545,761. An amount of $4,625,785 was invested in lands, buildings and equipment; the value of inventories was placed at $3,562,915, and $2,357,061 was the total of cash, trading and operating accounts, bills receivable, etc. Plants in Ontario reported a capital of $8,694,845, and Quebec with $1,745,754 accounted for the bulk of the remainder.

The average number of employees in 1926 was 2,831, including 1,984 people working in the plants in Ontario, 747 in Quebec, 41 in Manitoba, 42 in British Columbia and 17 in the other provinces. Salaried employees numbered 536 and their salaries for the year totalled $1,093,753, while an average of 2,295 wage-earners were paid $2,532,017 during the year. There was very little fluctuation in the monthly figures on the number of wage-earners employed. In January, 2,231 names were on the rolls and the number remained about the same until September when an increase to 2,347 was recorded. A further gain to 2,417 was reported in October and November but the year closed with 2,343 wage-earners employed.

Classified according to the number of employees in each, the 109 plants were grouped as follows: 1 employee, 9 plants; 2-5 employees, 32 plants; 6-10 employees, 18 plants; 11-25 employees 26 plants; 26-50 employees, 9 plants; 51-100 employees, 5 plants; over 100 employees, 10 plants.

A total of 551 electric motors with an aggregate rating of 2,945 h.p. were in use in the various manufacturing plants and the consumption of electric power totalled 2,375,568 k.w.h. at a cost of $38,481. Fuel consumed during the year cost $58,665. Bituminous coal cost $36,770; gas, $10,258; anthracite coal, $4,739; fuel oil, $3,777; and other fuel, $3,121.

Materials costing $4,456,047 were used in the manufacture of precious metal products in 1926. In the accompanying table the items have been arranged under the three sections of the industry. Gold worth $507,014 was the chief item on the list of materials used in the manufacture of dental supplies; precious metals and precious stones together worth about 1·5 million dollars were the more costly materials used in the jewellery industry which consumed commodities worth $2,446,897 in all; and silver metal, nickel-silver base metal and blanks, glassware and liners, tin, and Britannia metal were the more important of the commodities costing $1,243,189 which entered into the manufacture of silver and silver-plated ware.

Production in 1926 was valued at $10,751,795 of which $1,032,080 was the output value of firms refining metals and making dental supplies of all kinds; $5,828,444 was the value for the jewellery, clocks and watches section; and $3,891,271 represented the output value for the silverware group. Products in this industry included over 3 million dollars' worth of jewellery; almost 3 million dollars of electro-silver-plated ware plated; and 1·3 million dollars' worth of clocks, watches and watch cases; sterling silver hollowware and flatware to a value of more than $234,591, and many other commodities such as bronze tablets and castings, alloy and gold-filled wire, blanks for plating, casket hardware, unplated cutlery, glassware, metal notions, brass and copper tubing, paper cups, etc.

According to production values the plants were grouped as follows: under $10,000 each, 29 plants; $10,000 to $25,000 each, 19 plants; $25,000 to $50,000 each, 20 plants; $50,000 to $100,000 each, 13 plants; $100,000 to $250,000, 13 plants; $250,000 to $500,000, 11 plants; over $500,000, only 4 concerns.

Refined metals were produced in 11 different plants; dental supplies (gases, teeth, bridges, etc.) in 4 plants; gold leaf in 2; alloys and gold-filled wire in 5; clocks in 3, watches in 5; watch cases in 5; electro-plated hollowware on Britannia metal in 6, flatware in 3, and cutlery in 2; electro-plated hollowware on nickel silver in 7, flatware in 4, and cutlery in 4. Sterling silver hollowware and flatware were made in 6 different establishments; stainless steel cutlery in 3; casket hardware in 1; and jewellery in 76 different factories.

Imports of gold coin and bullion during the calendar year 1926 amounted in value to $47,125,840; silver bullion, coins and sterling silver totalled $1,451,149; manufactures of gold and silver including electroplated ware, $992,331; articles of platinum were worth $187,421; clocks, watches, watch cases, movements, etc., were valued at $3,100,743; jewellery at $1,413,911; and regalia and badges at $33,914. Exports of gold coin and bullion were valued at $69,822,959; gold bearing quartz, dust, etc., $7,340,451; silver bullion, ore and concentrates, $13,106,777; platinum in concentrates and in scrap, $94,932; and plated ware, $40,681.

Table 58.—Summary Statistics of the Precious Metal Products Industry in Canada, 1922-1926

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel and electricity	Cost of materials	Selling value of products	Value added by manufacturing
		$		$	$	$	$	$
1922	97	10,653,458	2,725	3,464,613	69,975	3,926,116	9,815,697	5,889,581
1923	97	9,760,071	2,648	3,572,255	88,911	3,950,186	10,072,672	6,122,486
1924	104	10,440,218	2,473	3,235,981	89,041	3,941,706	9,449,284	5,507,578
1925	108	10,130,772	2,556	3,346,867	87,973	3,991,106	9,581,773	5,590,667
1926	109	10,545,761	2,831	3,625,770	97,146	4,456,047	10,751,795	6,295,748

Table 59.—Principal Statistics of the Precious Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Number of plants	Number of employees	Salaries and wages	Selling value of products	Number of plants	Number of employees	Salaries and wages	Selling value of products
			$	$			$	$
Quebec	26	717	774,930	2,215,944	26	747	803,425	2,386,415
Ontario	69	1,747	2,447,359	7,144,408	70	1,984	2,680,100	8,102,748
Manitoba	4	36	47,657	79,556	3	41	53,433	88,034
British Columbia	4	36	51,956	92,590	6	42	65,249	129,568
*Canada	108	2,556	3,346,867	9,581,773	109	2,831	3,625,770	10,751,795

*Includes also data for 1 plant in Nova Scotia, 1 in New Brunswick, 1 in Saskatchewan for both years and for 2 in Alberta in 1925 and 1 in Alberta in 1926.

Table 60.—Capital Employed in the Precious Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, fixtures, machinery and tools	Materials on hand and stock in process	Cash, trading and operating accounts	Total	Lands, buildings, fixtures, machinery and tools	Materials on hand, and stock in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Quebec	754,529	651,229	278,408	1,684,166	810,482	648,040	287,232	1,745,754
Ontario	3,736,612	2,667,172	1,924,632	8,328,416	3,767,223	2,874,329	2,053,293	8,691,845
Manitoba	28,823	23,593	4,721	57,137	25,054	18,675	2,358	46,087
British Columbia	12,414	18,017	10,074	40,505	12,226	17,759	10,117	40,102
*Canada	4,544,742	3,364,117	2,221,913	10,130,772	4,625,785	3,562,915	2,357,061	10,545,761

*See footnote to Table 59.

Table 61.—Average Number of Employees, Salaries and Wages Paid in the Precious Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Male	Female				
1925						$	$	$
Quebec	56	42	483	136	717	151,401	623,529	774,930
Ontario	238	131	1,105	273	1,747	815,876	1,631,483	2,447,359
Manitoba	3	3	28	2	36	11,428	36,229	47,657
British Columbia	3	2	31		36	6,367	45,589	51,956
*Canada	308	180	1,657	411	2,556	987,753	2,349,114	3,346,867
1926								
Quebec	57	48	495	147	747	170,746	632,679	803,425
Ontario	265	145	1,254	320	1,984	892,588	1,787,512	2,680,100
Manitoba	3	4	31	3	41	12,118	41,315	53,433
British Columbia	6	2	34		42	10,861	54,388	65,249
*Canada	335	201	1,825	470	2,831	1,093,753	2,532,017	3,625,770

*See footnote to Table 59.

Table 62.—Number of Wage-Earners Employed in the Precious Metal Products Industry in Canada, by Months, 1925 and 1926

Month	1925			1926		
	Male	Female	Total	Male	Female	Total
January	1,579	394	1,973	1,740	491	2,231
February	1,596	421	2,017	1,759	479	2,238
March	1,615	412	2,027	1,761	479	2,240
April	1,608	402	2,010	1,788	466	2,254
May	1,595	370	1,965	1,802	461	2,263
June	1,555	365	1,920	1,802	453	2,255
July	1,543	347	1,890	1,776	455	2,231
August	1,621	366	1,987	1,819	436	2,255
September	1,690	432	2,122	1,867	480	2,347
October	1,766	463	2,229	1,901	516	2,417
November	1,823	477	2,300	1,902	515	2,417
December	1,808	470	2,278	1,845	498	2,343
*Average	1,657	411	2,068	1,825	470	2,295

*See note page 17.

Table 63.—Hours of Labour (In Month of Greatest Employment) in the Precious Metal Products Industry in Canada, by Provinces, 1926

Province	Number of wage-earners working				Hours worked per man, per week when working			
	8 hours or less per day	9 hours	10 hours	Over 10 hours	8 hours or less per day	9 hours	10 hours	Over 10 hours
Nova Scotia		4				50		
New Brunswick	2				45			
Quebec	334	352	116	86	44	50	56	64
Ontario	993	660	17	72	44	48	56	66
Manitoba	17	6	4	8	42	49	54	64
Saskatchewan		1				54		
Alberta		6				47		
British Columbia	24	2	1	11	44	45	50	73

Table 64.—Fuel and Electricity Used in the Precious Metal Products Industry in Canada, 1925 and 1926

Kind	Unit of measure	1925		1926	
		Quantity	Value	Quantity	Value
		No.	$	No.	$
Anthracite coal	short ton	329	5,042	375	4,739
Bituminous coal	short ton	5,347	36,952	5,178	36,770
Coke	short ton	51	438	81	799
Fuel oil	gallon	30,209	3,205	32,391	3,777
Gasoline	gallon	1,282	351	9,016	1,525
Gas	M. cu. ft.	23,141	8,505	10,556	10,258
Wood	cord	21	220	23	247
Other fuel			470		550
Electric power	k.w.h.	2,000,006	32,790	2,375,568	38,481
Total			**87,973**		**97,146**

Table 65.—Power Employed in the Precious Metal Products Industry in Canada, 1925 and 1926

Description	1925		1926	
	Number of units	Total h.p. according to manufacturers' rating	Number of units	Total h.p. according to manufacturers' rating
Steam engines and turbines	2	90		
Total primary power	2	90		
Electric motors run by purchased power	447	2,310	551	2,945
Total power employed	449	2,400	551	2,945
Electric motors run by power in the same plant	16	335		
Total electric motors	463	2,645	551	2,945
Boilers	17	1,019	17	965

Table 66.—Materials Used in the Precious Metal Products Industry in Canada, 1925 and 1926

Material	Total cost at works	
	1925	1926
	$	$
Dental Supplies Section, Including Refining of Scrap		
Precious metals—		
Gold	519,455	507,014
Silver	47,874	4,368
Platinum	4,461	6,450
Other	3,191	4,636
Base metals and alloys—		
Nickel silver, including blanks for plating	...	1,793
Brass and copper	...	373
Tin	...	225
Other base metals and alloys	11,484	4,643
Other materials—		
Jewellers' waste and scrap	...	353
Dental sundries	34,579	2,488
Rouge and other polishes	...	18
Paper boxes and packing materials	...	957
All other materials	5,281	232,643
Total	626,325	765,961
Jewellery, Clocks and Watches Section		
Precious metals—		
Gold	632,063	649,344
Silver	166,154	150,385
Platinum	115,835	105,937
Other	...	7,247
Base metals and alloys—		
Britannia metal, including blanks for plating	...	5,100
Nickel-silver, including blanks for plating	...	10,600
Cutlery steel	...	16,980
Brass and copper	...	77,766
Tin	...	3,260
Solder	4,062	4,720
Other base metals, n.e.s.	119,725	89,284
Other materials—		
Jewellers' findings, waste and scrap	80,734	86,044
Precious stones	595,956	688,090
Crystals	14,278	17,317
Clock and watch springs	14,519	24,680
Wheels and other watch parts	38,072	115,907
Celluloid	...	1,890
Rouge and other polishes	6,415	5,264
Paper boxes and packing materials	45,418	58,196
All other materials	568,822	328,906
Total	2,403,253	2,446,897
Silverware		
Precious metals—		
Gold	3,025	37,334
Silver	186,483	240,001
Other	...	1,006
Base metals and alloys—		
Britannia metal, including blanks for plating	20,301	44,494
Nickel silver, including blanks for plating	304,286	387,889
Cutlery steel, including stainless steel	16,674	31,890
Brass and copper	4,397	9,540
Tin	67,043	72,997
Solder	2,531	3,016
Other base metals and alloys	3,170	4,747
Other materials—		
Crystals	...	953
Celluloid	2,722	2,262
Glassware and linens	27,255	62,708
Rouge and other polishes	12,861	17,190
Paper boxes and packing materials	45,178	67,333
All other materials	265,599	259,856
Total	961,528	1,243,189
Total	**3,991,106**	**4,456,047**

Table 67.—Products of the Precious Metal Products Industry in Canada, 1925 and 1926

Product	Selling value	
	1925	1926
	$	$
Dental Supplies' Section		
Refined Metals—		
Gold, including dental gold and gold leaf	732,950	745,690
Silver	29,116	12,752
Platinum	7,000	5,398
Dental supplies (gases, teeth, bridges, etc.)	149,612	48,068
Alloys and gold filled wire	38,725	166,464
Job work and repairs	12,829	4,469
Other products (1)	142,749	49,199
Total	1,112,981	1,032,080
Jewellery, Clocks and Watches Section		
Clocks	404,245	542,997
Jewellery	3,321,598	3,120,665
Silver and silver-plated wares	411,119	422,718
Watches	231,297	313,744
Watch cases	438,544	447,360
Job work and repairs	431,320	456,222
Other products (2)	311,917	524,738
Total	5,550,040	5,828,444
Silverware Section		
Electro-silver-plated ware—		
(a) On Britannia metal—		
Hollowware	709,880	668,359
Flatware and cutlery	762,325	560,337
(b) On Nickel-Silver—		
Hollowware	198,288	443,530
Flatware	737,224	989,855
Cutlery	58,512	343,902
Sterling silver hollowware and flatware	53,690	234,501
Cutlery, of stainless steel	41,846	125,900
Cutlery, other, not plated	55,325	53,651
Job work and repairs	22,232	22,941
Other products (3)	219,430	448,205
Total	2,918,752	3,891,271
Total	**9,581,773**	**10,751,795**

(1) Includes brass and copper tubing, jewellery, etc.
(2) Includes refined metals, casket hardware, bronze tablets, badges, etc.
(3) Includes casket hardware, glassware, jewellery, watch cases, paper cups, etc.

Table 68.—Imports into Canada of Certain Precious Metal Products, Calendar Years, 1925 and 1926

Commodity	1925	1926
	Value	Value
	$	$
Platinum—		
Platinum retorts	41,006	40,028
Platinum wire, and in bars, strips, etc	157,914	138,433
Platinum crucibles	39,685	8,960
Total platinum	238,605	187,421
Gold—		
Coin and bullion—		
Coins, British, Canadian and foreign gold coins	49,477,383	45,077,807
Gold bullion, in bars, blocks, ingots, drops, sheets or plates, unmanufactured	1,031,597	2,048,033
Total coin and bullion	50,508,980	47,125,840
Gold, other—		
Bullion or fringe gold	27,215	34,836
Manufactures of gold and silver—		
Leaf	76,364	87,597
Sweepings	2,282	2,676
Manufactures, n.o.p.	147,839	*
Electroplated ware	707,726	846,216
Medals of gold, silver or copper, and other metallic articles, actually bestowed as trophies or prizes, and received and accepted as honorary distinctions, and cups or other metallic prizes won in bona fide competitions		21,006
Total other gold	961,426	992,331

Table 68.—Imports into Canada of Certain Precious Metal Products, Calendar Years 1925 and 1926.—Concluded

Commodity	1925	1926
	Value	Value
	$	$
Silver—		
Silver bullion in bars	1,025,109	1,011,015
Sterling silver	210,384	440,079
Silver coin	61	55
Total silver	1,235,554	1,451,149
Nickel and its products—		
Nickel, nickel silver or German silver in ingots or blocks, n.o.p.	1,398	4,897
Nickel in bars and rods, strips, sheets and plates	150,167	206,466
Nickel silver and German silver in bars, rods, strips, sheets, plates or anodes	60,144	31,491
German, Nevada and nickel silver, manufactures of, not plated	224,984	312,568
Nickel-plated household hollowware	22,907	17,461
Nickel-plated ware, n.o.p.	1,371,161	1,526,959
Total nickel and its products	1,830,761	2,099,842
Clocks and watches—		
Clocks	570,696	862,515
Clock and watch keys, clock movements and clock cases	124,299	156,566
Time recorders and parts	16,854	17,364
Watches	209,608	275,033
Watch cases and parts thereof, finished or unfinished	220,503	201,267
Watch actions and movements and parts thereof, finished or unfinished, including winding bars and sleeves	1,175,558	1,497,998
Total clocks and watches	2,317,518	3,100,743
Miscellaneous—		
Composition metal and plated metal, in bars, ingots or cores, for the manufacture of watch cases, jewellery, filled gold, and silver seamless wire, and for dental purposes	7,918	15,774
Jewellery, n.o.p.	1,218,730	1,413,911
Jewel cases		
Chronometers and compasses for ships	10,894	15,745
Regalia and badges	35,866	33,914
Total miscellaneous	1,273,408	1,479,344

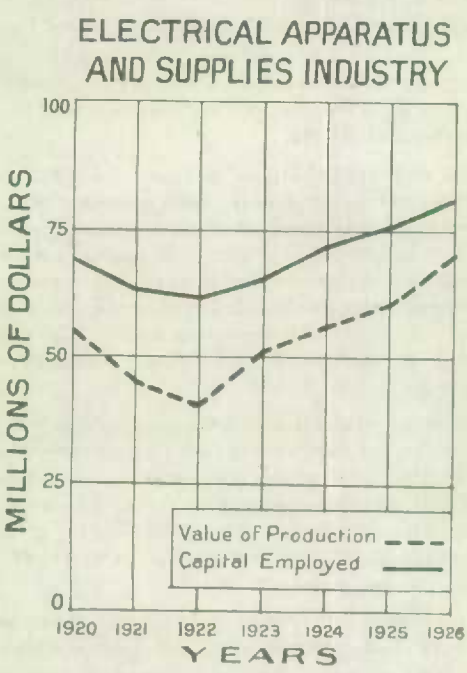
Table 69.—Exports from Canada of Certain Precious Metals and Their Products, Calendar Years, 1925 and 1926

Commodity	1925		1926	
	Quantity	Value	Quantity	Value
		$		$
Gold—				
Coin and bullion—				
Gold coin—				
Canadian				4,000,000
Foreign		3,026		24,010,603
Gold bullion—				
Canadian		333,090		41,812,356
Foreign				
Total—Canadian		333,090		45,812,356
Foreign		3,026		24,010,603
Gold-bearing quartz, dust, nuggest and bullion obtained direct from mining operations		31,432,647		7,340,451
	Ounces	$	Ounces	$
Silver—				
Silver contained in ore, concentrates, etc.	4,754,915	3,021,418	5,890,280	3,546,952
Silver bullion	14,316,797	9,861,219	15,241,853	9,559,825
Silver coin		2,089		
Total silver	19,071,712	12,884,726	21,132,133	13,106,777
Platinum—				
Contained in concentrates	404	42,489	520	54,747
Platinum, old and scrap	655	76,423	396	40,185
Total platinum	1,059	118,912	916	94,932
Miscellaneous—				
Plated ware, n.o.p.		27,494		40,081

CHAPTER SIX

ELECTRICAL APPARATUS AND SUPPLIES

The electrical apparatus and supplies industry in Canada includes all firms engaged primarily in the manufacture of equipment for use in the transmission, generation and utilization of electrical energy. In 1926 there were 132 establishments under this classification, and the distribution by provinces was as follows: Ontario, 98; Quebec, 19; Manitoba, 6; British Columbia, 5; and Alberta, 4. There was thus a gain of 10 over the number of active plants in 1926 when the 122 establishments were located as follows: Ontario, 91; Quebec, 19; Manitoba, 5; Alberta, 4; British Columbia, 2; and New Brunswick 1.



Due to many new power developments in Canada, the growth of the radio industry, the increased consumption of electric batteries for use in automobiles and with radio sets, and the greater uses of electrical equipment of all kinds in the industry and in the home, the electrical apparatus industry has shown a continued expansion during the last few years. In 1919, when the compilation of yearly records was started, there were only 100 plants classified in the electrical supplies group, employees numbered 9,594 and production for the year was valued at $34,427,978. In the following year, which was a time of great industrial activity with prevailing prices at the highest peak since the war, 1 less firm reported but an average of 14,115 people were employed and the total output was worth $55,965,896. However, during the 2 succeeding years there was a period of industrial depression in Canada during which there was a re-adjustment to new conditions and a disposal of surplus stocks accumulated during the excessive expansion in 1920; this was accompanied by a considerable decline in commodity prices. In 1922, the 101 plants had a combined output worth $41,208,368. In 1923, a considerable recovery brought the total value up to $51,360,400 and in the following year there was a further increase of 10 per cent to $56,490,465. In 1925, the number of plants was 122 and 14,112 people were employed to make commodities worth $60,158,837, a gain in output value of 6 per cent over 1924; and in 1926, there was a gain of 10 plants, a record employment roll of 15,246 and a new high output value of $69,767,308.

Capital employed in the plants producing electrical supplies in 1926 was 5 million dollars above the figure for 1925 and amounted to $80,323,534. Investment in lands, buildings and plant equipment amounted to $38,418,928, an increase of half a million dollars over 1925; the value of stocks on hand and materials in process was $20,693,060, and cash, trading and operating accounts totalled $21,211,546. Plants in Ontario represented a capital of $56,694,868; Quebec's concerns accounted for $23,105,967; Manitoba, $363,009; Alberta, $72,927; and British Columbia, $86,763. Totals for each province showed increases over the corresponding figures for 1925.

The average number of workers employed in the various plants in 1926 was 15,246 which was the highest figure ever shown for the industry and compares with an average of 14,112 in 1925. Returns show that the 3,609 salaried employees were paid $6,276,321 for salaries during

the year and the 11,637 wage-earners received wages aggregating $12,350,179, giving thus, an average yearly income of $1,061 to each wage-earner. Of the total number of persons employed in the industry, 9,842 worked in plants in Ontario, 5,250 in Quebec, 93 in Manitoba, 45 in British Columbia and 16 in Alberta.

As indicated by the monthly records on the number of wage-earners employed, the industry showed considerable improvement in the last half of the year. In January, there were 11,021 wage-earners employed. Then slight recessions occurred each month until a minimum of 10,665 was reached in April. Thereafter, steady improvement was shown with 11,054 names on the rolls in June, and the maximum of 13,044 in October. The year closed with 12,926 workers in the different plants. Female wage-earners numbered 2,693 or 23 per cent of the total for the industry.

Classified according to the number of employees the plants were grouped as follows: 7 firms with only 1 employee; 42 with 2-10 employees; 29 with 11-25 workers; 15 with 26-50 workers; 17 with 51-100 employees; 12 with 101-200 employees, and 10 plants each employed more than 200 people.

Expenditures for fuel and electricity during the year amounted to $1,065,421. Electric power cost $461,338; bituminous coal, $363,958; gas, $106,105; fuel oil, $92,086; coke, $12,902; anthracite coal, $17,143; gasoline, $10,672; and other fuel, $1,217.

Materials used in manufacturing during 1926 cost $30,195,935, an increase of 4·8 million dollars over the corresponding figure for 1925. Brass and copper were the most important of the materials consumed with iron and steel, lead, and insulating materials of all kinds of next importance. About 24,000 tons of brass and copper in rods, bars, sheets, wire, castings, etc., worth $7,864,154 were used during 1926; also, 34,000 short tons of iron and steel in its various forms at a cost of $3,630,051 delivered at the works; 11,000 tons of lead worth $1,922,626; glass and porcelain, $970,837; rubber, $613,120; cottons, linens, tape, etc., $879,864; insulating paints, $278,652; insulating waxes, $138,616; and other insulating materials $1,245,947. Other commodities are listed in detail in the tables.

Production of electrical apparatus and supplies in Canada during 1926 amounted in value to $69,767,308, the highest output value ever recorded for the industry and 16 per cent above the figure for 1925. Included in the output of the firms listed in this group were: copper wire and cable, $12,933,407; electric batteries, $7,643,933; telephone material at $7,508,589; electric motors worth $5,112,866; transformers, $4,807,120; incandescent lamps, $3,979,841; radio apparatus (exclusive of batteries) $3,856,097; generators, $3,222,339; vacuum cleaners, $1,345,427; and many other electrical devices, pieces of apparatus, and supplies.

Analysis of returns received from firms in this industry showed alternating current motors were made in 6 different plants, storage batteries in 17 plants, dry cells in 4 plants, battery eliminators in 2, cooking and heating apparatus in 17, direct current motors in 3, alternating current generators in 2, electric fans in 2, fuses and fuse wire in 3, incandescent lamps in 7, spark plugs and parts in 2, interior conduit and fittings in 3, lighting fixtures in 16, motor generator sets in 2, radio apparatus in 21, rectifiers in 4, electric refrigerators in 2, transformers in 8, vacuum cleaners in 6, wires and cables in 7 different plants, and each of the following commodities were made by only 1 concern: electric clippers, pneumatic apparatus, electric blowers, electric tools, bakelite products, electric washing machines, aluminium wire, oil fuse cutouts, direct current generators, electric boilers, telephone material and generator brushes.

A great number of the firms specialized in the production of a single commodity. Seventeen plants made storage batteries only; 4 made dry cells only; 8 made only electric cooking and heating apparatus; 1 made fuse and fuse wire only; 5 made incandescent lamps only; 1 made spark plugs only; 9 made lighting fixtures only; 2 made electric refrigerators only; 1 made rectifiers only; 1 made transformers only; 4 made vacuum cleaners only; 4 made wire and cable only; 11 made radio supplies only; 1 made only X-ray tubes, etc.; 1 made electric clippers only; and 1 made only battery boxes.

According to output values the 132 plants were grouped as follows: production value under $10,000, 19 plants; $10,000—$25,000 each, 19 plants; $25,000—$50,000, 17 plants; $50,000—$100,000, 12 plants; $100,000—$250,000, 31 plants; $250,000—$500,000, 12 plants; $500,000—$1,000,000, 10 plants; 1-2 million dollars, 4 plants; 2-5 million dollars, 5 plants; over 5 million, 3 plants.

Imports into Canada of electrical apparatus, lamps and fixtures during the calendar year 1926 amounted in value to $16,697,091 as against a corresponding figure of $15,501,301 in 1925. Among the more important items on the list were the following: radio and wireless apparatus, $2,786,448; electric motors, $2,386,197; dynamos and generators, $1,227,792; switches, switchboards, circuit breakers and parts, $1,238,339; storage batteries, $773,529; telephone instruments, $765,140; spark plugs, magnetos and other ignition apparatus, $629,951; light fixtures and parts, $661,508.

Table 70.—Summary Statistics of the Electrical Apparatus and Supplies Industry in Canada, 1922-1926

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel and electricity	Cost of materials	Selling value of products	Value added by manufacturing
		$		$	$	$	$	$
1922	101	62,436,282	10,630	12,162,607	626,334	17,546,839	41,208,368	23,661,529
1923	108	65,077,942	13,268	14,991,550	954,987	26,257,361	51,360,400	25,103,039
1924	109	72,301,204	13,670	16,089,492	884,808	24,370,996	56,490,465	32,119,469
1925	122	75,375,623	14,112	16,472,357	953,478	25,434,830	60,158,837	34,724,001
1926	132	80,323,534	15,246	18,626,500	1,065,421	30,195,935	69,767,308	39,571,373

Table 71.—Principal Statistics of the Electrical Apparatus and Supplies Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Number of plants	Number of employees	Salaries and wages	Selling value of products	Number of plants	Number of employees	Salaries and wages	Selling value of products
			$	$			$	$
Quebec	19	5,104	6,443,677	18,568,118	19	5,250	6,712,940	20,482,397
Ontario	91	8,868	9,862,246	40,952,860	98	9,842	11,717,736	48,677,155
Manitoba	5	75	99,338	424,498	6	93	120,062	450,651
Alberta	4	16	19,334	32,782	4	16	20,625	45,094
British Columbia					5	45	55,137	112,011
*Canada	122	14,112	16,472,357	60,158,837	132	15,246	18,626,500	69,767,308

*In 1925, totals includes also data for 1 plant in New Brunswick and 2 in British Columbia.

Table 72.—Capital Employed in the Electrical Apparatus and Supplies Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, fixtures, machinery and tools	Materials on hand, and stocks in process	Cash, trading and operating accounts	Total	Lands, buildings, fixtures, machinery and tools	Materials, on hand, and stocks in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Quebec	11,414,928	6,418,182	3,500,382	21,333,492	12,306,507	6,981,261	3,818,199	23,105,967
Ontario	26,343,716	12,784,502	14,435,355	53,563,573	26,002,093	13,500,545	17,192,230	56,694,868
Manitoba	78,829	134,751	117,098	330,678	62,719	136,439	163,851	363,009
Alberta	17,241	19,065	5,713	42,019	16,535	40,030	16,362	72,927
British Columbia					31,074	34,785	20,904	86,763
Canada*	37,900,484	19,391,557	18,083,582	75,375,623	38,418,928	20,693,060	21,211,546	80,323,534

*See footnote to Table 71.

Table 73.—Average Number of Employees, Salaries and Wages Paid in the Electrical Apparatus and Supplies Industry in Canada, by Provinces, 1925 and 1926

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Male	Female				
1925						$	$	$
Quebec	959	292	2,713	1,140	5,104	2,228,732	4,214,945	6,443,677
Ontario	1,386	530	5,402	1,550	8,868	3,356,722	6,505,524	9,862,246
Manitoba	17	2	52	4	75	39,523	59,815	99,338
Alberta	5	.....	11	.....	16	8,700	10,634	19,334
*Canada	2,374	826	8,206	2,706	14,112	5,648,877	10,823,480	16,472,357
1926								
Quebec	1,051	340	2,776	1,083	5,250	2,456,032	4,253,908	6,712,940
Ontario	1,554	629	6,053	1,606	9,842	3,736,788	7,980,948	11,717,736
Manitoba	18	3	68	4	93	53,900	66,162	120,062
Alberta	5	.....	11	.....	16	8,700	11,925	20,625
British Columbia	8	1	36	.....	45	17,901	37,236	55,137
Canada	2,636	973	8,944	2,693	15,246	6,276,321	12,350,179	18,626,500

*See footnote to Table 71.

Table 74.—Number of Wage-Earners Employed in the Electrical Apparatus and Supplies Industry in Canada, by Months, 1925 and 1926

Month	1925			1926		
	Male	Female	Total	Male	Female	Total
January	8,460	2,869	11,329	8,368	2,653	11,021
February	8,077	2,572	10,649	8,318	2,508	10,826
March	7,944	2,478	10,422	8,329	2,451	10,780
April	7,806	2,386	10,192	8,266	2,399	10,665
May	7,894	2,363	10,257	8,353	2,360	10,713
June	7,904	2,370	10,274	8,616	2,438	11,054
July	7,872	2,422	10,294	8,797	2,545	11,342
August	7,972	2,632	10,604	8,952	2,692	11,644
September	8,309	2,967	11,276	9,406	2,975	12,381
October	8,673	3,182	11,855	9,903	3,141	13,044
November	8,765	3,072	11,837	9,930	3,074	13,004
December	8,756	2,967	11,723	9,884	3,042	12,926
*Average	8,206	2,706	10,912	8,944	2,693	11,637

*See note page 17.

Table 75.—Hours of Labour (In Month of Greatest Employment) in the Electrical Apparatus and Supplies Industry in Canada, by Provinces, 1926

Month	Number of wage-earners working				Hours worked per man per week when working			
	8 hours or less per day	9 hours	10 hours	Over 10 hours	8 hours or less per day	9 hours	10 hours	Over 10 hours
Quebec	3,047	881	109	78	44	48	59	74
Ontario	5,462	3,473	585	213	45	50	57	74
Manitoba	38	49	.....	.....	44	49	.....	.....
Alberta	2	12	.....	.....	48	52	.....	.....
British Columbia	44	.....	.....	.....	45	.....	.....	.....

Table 76.—Fuel and Electricity Used in the Electrical Apparatus and Supplies Industry in Canada, 1925 and 1926

Kind	Unit of measure	1925		1926	
		Quantity	Value	Quantity	Value
		No.	$	No.	$
Anthracite coal	short ton	1,948	22,793	1,584	17,143
Bituminous coal	short ton	59,943	353,020	89,845	363,958
Coke	short ton	945	9,061	1,221	12,902
Fuel oil	gallon	877,072	70,401	1,048,535	92,086
Gasoline	gallon	56,904	14,003	36,274	10,672
Gas	M cu. ft.	120,988	94,754	113,401	106,105
Wood	cord	65	694	80	651
Other fuel			2,248		566
Electric power	k.w.h.	30,581,144	385,604	36,020,076	451,238
Total			**953,478**		**1,065,421**

Table 77.—Power Employed in the Electrical Apparatus and Supplies Industry in Canada, 1925 and 1926

Description	1925		1926	
	Number of units	Total h.p. according to manufacturers' rating	Number of units	Total h.p. according to manufacturers' rating
Steam engines and turbines	7	6,085	7	6,085
Gas engines	4	8		
Oil and gasoline engines	1	5		
Hydraulic turbines or waterwheels	7	4,400	7	4,400
Total primary power	*19*	*10,498*	*14*	*10,485*
Electric motors run by purchased power	2,488	27,229	2,905	28,812
Total power employed	**2,507**	**37,727**	**2,919**	**39,297**
Electric motors run by power in the same plant	1,591	10,408	1,563	9,340
Total electric motors	*4,079*	*37,637*	*4,468*	*38,152*
Boilers	58	9,656	65	10,233

Table 78.—Materials Used in the Electrical Apparatus and Supplies Industry in Canada 1925 and 1926

Material	Unit of measure	1925		1926	
		Quantity	Cost at works	Quantity	Cost at works
			$		$
Iron—					
Pig and scrap	long ton	2,356	51,192	2,862	71,546
Iron castings purchased	short ton	3,047	539,581	970	15,362
Steel castings, punchings and forgings purchased	short ton			4,601	769,303
Iron and steel rods, bars, tubes, pipes, sheets and wire	short ton	23,482	1,817,154	24,808	2,773,840
Copper—					
Pig and scrap	lb.	726,357	116,717	668,926	87,500
Brass and copper castings and punchings purchased	lb.	3,513,371	138,663	758,189	141,135
Brass and copper rods, bars, tubes, pipe, sheets and wire	lb.	35,254,095	5,808,707	46,459,048	7,635,519
Aluminium—					
Pig and scrap	lb.	116,719	34,940	114,919	37,273
Castings purchased	lb.	200,159	105,928	558,713	148,216
Rods, bars, tubes, sheets and wire	lb.	129,689	41,327	54,938	19,218
Lead—					
Pig and scrap	lb.	14,191,922	1,331,285	20,451,421	1,736,224
Sheets, bars and tubes	lb.	2,113,110	315,670	1,687,301	186,402
Magnesium: bars, sheets and wire	lb.	11,541	5,423	12,313	2,348
Zinc—					
Pig	lb.	1,300,098	147,030	208,139	18,909
Bars, sheets and wire	lb.	1,086,318	131,579	2,049,304	211,862
Resistance wire	lb.	1,488,514	63,520	58,189	77,468
Carbon for brushes, electrodes, etc	lb.	.....	180,396	.....	181,349
Mica	lb.	63,107	69,040	88,909	110,434
Glass and porcelain	.....	.....	833,384	.....	970,837
Rubber crude	lb.	261,341	373,097	806,477	466,650
Rubber reclaimed or compounded	lb.	.....	162,818	.....	146,470
Cotton and linen yarns, sheets, tapes and webbings	.....	.....	998,725	.....	879,864
Insulating paints, varnishes, japans, shellacs and lacquers	.....	.....	281,113	.....	278,652
Insulating waxes	lb.	2,506,692	129,214	2,808,415	138,616
Insulating materials not otherwise specified	.....	.....	895,102	.....	1,245,947
Clays and marls	lb.	1,824,900	19,348	1,635,617	16,464
Tungsten, crude or finished	metre	9,883,953	150,179	.....	133,822
Nitrogen and argon gas	cu. ft.	.....	22,941	612,842	37,150
Copper sulphate	lb.	847	73	124,068	19,081
Sulphuric acid (66° Bé)	lb.	1,641,455	32,791	2,533,424	47,596
Ammonium chloride (sal ammoniac)	lb.	913,845	54,334	969,864	54,366
Chemicals and acids not otherwise specified	.....	.....	120,975	.....	107,640
Electrical apparatus or parts purchased not otherwise specified	.....	.....	2,163,413	.....	2,757,612
Electrical supplies or parts purchased, not otherwise specified	.....	.....	2,419,992	.....	1,904,598
Shipping containers and packing material	.....	.....	830,713	.....	760,337
All other materials	.....	.....	5,048,472	.....	6,006,322
Total	.....	.....	**25,434,836**	.....	**30,195,935**

Table 79.—Products Made in the Electrical Apparatus and Supplies Industry in Canada, 1925 and 1926

Product	1925			1926		
	Number	Total rating	Selling value, boxed, f.o.b. works	Number	Total rating	Selling value, boxed, f.o.b. works
			$			$
Alternating current generators	174	356,687 k.w.	2,741,294	184	350,835 k.w.	3,150,831
Annunciators, bells, clocks, time recorders, flashers, signalling apparatus			33,603			35,712
Alternating current motors—						
Stationary, for power purposes, including control equipment	3,446	54,743 h.p.	1,116,837	7,718	228,352 h.p.	3,935,949
Traction, including control equipment and other accessories	1,938	41,748 h.p.	1,030,647			
Fractional horse power, for domestic and utility appliances	26,395		436,125	35,745		266,114
Any types not elsewhere reported, including control equipment and other accessories	2	550 h.p.	12,175	1,762		32,979
Parts and supplies for same			337,196			160,630
Batteries—						
Storage for radio:						
"A" type for filament lighting	32,376		367,480	43,226		432,433
"B" type for plate supply	12,889		165,388	6,297		65,854
Storage, for internal combustion engine starting and ignition	238,316		2,857,547	324,405		3,458,846
Storage, for all other purposes	13,943		255,900	24,377		395,300
Primary, dry cell type for radio	19,711,607		1,705,301	23,607,779		1,825,799
Primary dry cell type for all other purposes	7,036,204		1,480,803	7,382,804		1,465,701
Parts and supplies			53,759			123,493
Battery eliminators for radio use						43,420
Controllers, rheostats, auto-starters, exclusive of any reported with generators and motors or on switch boards			31,774			200,194
Cooking and heating apparatus—						
Flat irons	104,942		341,451	148,206		314,600
Stoves and ranges	5,815		438,014	587		493,287
Water heaters and air heaters	32,080		296,817	35,230		300,200
Domestic and commercial utility devices not elsewhere reported			290,358			358,123
Direct current radiators	34	313 k.w.	17,525			71,508
Direct current motors—						
All kinds, including control equipment	450	5,099 h.p.	297,604	546		717,194
Parts and supplies for same			120,908			113,677
Fans, electric	2,021		51,479	1,143		31,525
Fuses and fuse wire			252,282			287,284
Incandescent lamps—						
Regular, carbon, all other classes	185,028		41,906	119,651		28,044
Regular, tungsten, vacuum, for street series lighting	889,329		162,254			
Regular, tungsten, vacuum, all other classes	7,382,642		1,556,310	9,691,752		1,903,044
Regular, tungsten, gas filled for street lighting	427,476		209,706			
Regular, tungsten, gas filled, all other classes	1,830,310		950,597	3,393,370		1,659,436
Automobile, decorative, miniature, and any others not elsewhere reported	2,345,610		356,814	2,624,550		389,317
Bulbs, bases, or other parts			4,250			82,944
Instruments—						
Ammeters, volmeters, wattmeters, watt-hour meters, etc., portable type, including accompanying transformers			13,425			
Ammeters, volmeters, wattmeters, watt-hours meters, etc., switch board type, including accompanying transformers			20,289			39,803
Interior conduit and moulding, and fittings for same			721,912			1,047,846
Knobs, cleats, tubes, bushings, wiring insulators			108,021			32,926
Lighting fixtures			1,224,630			1,312,029
Lightning arresters			133,559			180,112

Table 79.—Products Made in the Electrical Apparatus and Supplies Industry in Canada, 1925 and 1926—Concluded

Product	1925			1926		
	Number	Total rating	Selling value, boxed, f.o.b. works	Number	Total rating	Selling value, boxed, f.o.b. works
			$			$
Line material—						
Light and power, excluding line insulators			405,715			536,303
Telegraph and telephone, excluding line insulators			130,000			150,000
Overhead trolley			50,605			54,799
Line insulators, glass, porcelain, and composition			120			61
Motor-generator sets, dynamotors, rotary converters, double current generators, balancer sets, boosters	60	6,495 k.w.	211,470	71	10,991 k.w.	341,852
Parts and supplies for same			4,158			66,204
Panel boards and cabinets			228,335			384,391
Pneumatic tools and parts			1,221,003			1,930,348
Radio apparatus and supplies:—						
Aerial material, (wire, insulators, ground clamps, lightning arresters, spreaders)						10,544
Condensers			41,026			11,281
Coils and couplers			1,017			
Panels and parts (switches, dials, knobs, binding posts, keys, sockets)			88,103			64,067
Rheostats and resistances			918			22,978
Telephones (head sets, loud speakers, microphones)			412,556			126,065
Transformers			36,816			26,855
Vacuum tubes	940,356		1,299,684			1,261,802
Apparatus or parts not elsewhere reported			178,560			103,088
Receiving and transmitting sets, complete	48,531		2,278,292	40,711		2,225,617
Rectifiers for storage battery charging—all types	4,089		61,013			127,182
Parts and supplies for same			450			1,340
Scrap			151,469			139,144
Searchlights, projectors, focussing lamps, headlights			43,024			51,801
Switch boards, light and power			1,895,281			1,729,506
Sockets, receptacles, rosettes, attaching plugs, cutouts			819,298			880,036
Switches, all kinds, with plates and other fittings and accessories			1,146,229			1,204,247
Telephone material, including switch boards, telephones, transmitters, receivers, parts and supplies			7,771,933			7,508,589
Transformers:—						
Power and service, types, including oil, fuse boxes, etc.—						
50 k.w. and over	2,739		1,694,100	4,118	503,766 k.w.	3,628,794
Under 50 k.w.	7,704		1,813,374	7,709	700,201 k.w.	1,023,768
All other types, including feeder regulators, auto-transformers, etc			177,363			154,558
Vacuum cleaners	44,441		1,543,560	43,454		1,345,427
Vacuum tubes, X-Ray tubes, glower lamps, vapour lamps, etc			82,427			94,723
Watt-hour meters, service type, including any accompanying transformers and other accessories	90,626		908,129	88,634		970,446
Washers, floor polishers, refrigerating equipment, and other domestic and utility small motor appliances not elsewhere reported			119,394			97,900
Wires and cables:—						
Copper, bare			2,609,710			3,615,193
Copper, insulated			8,336,216			9,318,214
Wiring material and sundries not elsewhere reported			50,926			269,087
*Any other apparatus or supplies not reported elsewhere			3,438,084			4,550,647
Any repair parts not reported elsewhere, and repairs			672,790			770,407
Total			**60,158,837**			**69,767,398**

*Includes spark plugs, carbon brushes, electric boilers, dusting tools, auto parts, oil fuse cutouts, casket hardware, electric muffle furnaces, and other products.

Radio Apparatus.—Production of radio sets, parts and batteries in Canada during 1926 was valued at $6,377,901 or three-quarters of a million dollars below the corresponding figure for 1925. Returns were received from 44 establishments in this field of which 17 produced storage or dry cell batteries for radio purposes and 27 made radio sets or parts; of the latter number 10 firms were only producers of parts on a small scale. There were 21 firms in the electrical apparatus industry, 5 in the musical instrument group and 1 in the furniture industry engaged in making radio sets or parts in 1926. Vacuum tubes were made in 5 establishments, complete radio receiving sets in 13 different plants and transmitting sets in only 2 plants. The production of vacuum tubes amounted in value to $1,261,802 while complete radio sets were worth $2,253,098. Storage batteries for radio purposes were reported by 13 concerns and dry batteries were made in 4 different plants; the total output amounted in value to $2,324,086. There are also a great number of small producers throughout the country who assemble or build sets and parts; the industry has developed so rapidly in the last few years that as yet it has not been possible to get trace of all these smaller manufacturers.

As reported to the Bureau by Mr. Lynn W. Meekins, United States Trade Commissioner at Ottawa, the exports to Canada of radio sets and parts from the United States during the calendar year 1926 amounted in value to $2,872,991 and included the following items: 32,768 receiving sets worth $1,238,680; 96,059 tubes valued at $113,837; and $1,520,474 worth of parts and accessories.

Radio licences were issued by the *Department of Marine and Fisheries* during the twelve months ending March, 1927, to 215,650 persons as against 134,486 in the fiscal year ended March 31, 1926. Ontario led with a total of 102,504, Quebec was next with 39,207. Registrations in the other areas were as follows: Saskatchewan, 22,238; Manitoba, 18,005; British Columbia, 14,776; Alberta, 10,588; Nova Scotia, 4,998; New Brunswick, 2,968; Prince Edward Island, 289; Yukon, 31; and the Northwest Territories, 46. Licensed broadcasting stations numbered 72 distributed as follows: Ontario, 30; British Columbia, 9; Saskatchewan, 9; Alberta, 10; Quebec, 8; Nova Scotia, 1; Manitoba, 2; New Brunswick, 1; and Prince Edward Island, 2.

Table 80.—Radio Licences Issued in Canada, by Provinces, Fiscal Years Ending March 31, 1926 and 1927

(Supplied by *The Radio Branch, Department of Marine and Fisheries*)

Province	Year ended March 31st, 1926		Year ended March 31st, 1927	
	Receiving licences	Broadcasting licences	Receiving licences	Broadcasting licences
Prince Edward Island	202	1	289	2
Nova Scotia	3,288		4,998	1
New Brunswick	2,612	1	2,968	1
Quebec	21,141	4	39,207	8
Ontario	60,110	24	102,504	30
Manitoba	14,503	2	18,005	2
Saskatchewan	15,944	7	22,238	9
Alberta	7,152	6	10,588	10
British Columbia	9,494	10	14,776	9
Northwest Territories	17		46	
Yukon	23		31	
Total	**134,486**	**55**	**215,650**	**72**

Table 81.—Production of Radio Sets and Parts in Canada, 1925 and 1926

Item	Selling value at works	
	1925	1926
	$	$
Condensers	41,626	13,281
Panels and parts (switches, dials, binding posts, keys, sockets)	88,103	64,967
Telephones (head sets, loud speakers, microphones)	412,556	146,074
Transformers	36,816	26,855
Vacuum tubes	1,299,684	1,261,802
Complete radio receiving sets	2,667,999	2,253,098
Apparatus and parts not elsewhere reported, including complete transmitting sets	325,675	287,737
Radio batteries	2,238,169	2,324,086
Total	**7,110,628**	**6,377,900**

In addition to the above, the furniture industry in Canada produced radio cabinets worth $708,658.

Batteries.—Production of storage and dry cell batteries in Canada amounted in value to $7,767,426. The 21 plants in Canada manufacturing storage or dry cell batteries represented a capital investment of $7,519,866, and gave employment to an average of 1,271 workers throughout the year. Expenditures for manufacturing materials totalled $3,953,178 and payments in salaries and wages during the year amounted to $1,480,408. Of the producing companies, 21 in number, 6 had a production valued in excess of half-a-million dollars; 2 others exceeded the quarter million mark; 3 more were each above $100,000; and 10 were below this mark.

Storage batteries were made in 17 different establishments; the total production was valued at $4,352,433. The output included 49,523 batteries worth $498,287 designated for radio purposes; 324,405 worth $3,458,846 for automobiles and internal combustion engines, and 24,377 worth $395,300 for other purposes such as farm plant lighting, etc. Production of dry cell batteries amounted to 30,990,583 individual cells valued at $3,291,500. Only 4 plants in Canada produced dry cells in 1926 and the output included cells for radio, flashlight and other purposes. Battery parts and supplies were worth $123,493.

Imports of batteries during the calendar year totalled $908,904 in value and included 39,233 storage batteries worth $773,529 and primary electric batteries valued at $135,375. Exports are not shown separately in the trade report classification.

Table 82.—Production of Electric Batteries in Canada, 1925 and 1926

Type	1925		1926	
	Number	Selling value f.o.b. works	Number	Selling value f.o.b. works
		$		$
Storage batteries for radio—				
"A" type for filament lighting	32,378	367,480	43,226	432,433
"B" type for plate supply	12,889	165,388	6,297	65,854
Storage for automobile and internal combustion engines	238,316	2,857,547	324,405	3,458,846
Storage for all other purposes	13,943	255,990	24,377	395,300
Total storage batteries	297,524	3,646,405	398,305	4,352,433
Primary dry cell type for all purposes, including radio, flashlight, etc.	26,747,811	3,186,104	30,990,583	3,291,500
Parts and supplies	.....	53,759	.....	123,493
Total batteries and parts	.....	**6,886,268**	.....	**7,767,426**

Table 83.—Imports into Canada of Electrical Apparatus and Supplies, Calendar Years, 1925 and 1926

	1925		1926	
	Quantity	Value	Quantity	Value
		$		$
Electric batteries, primary		38,352		135,375
Electric batteries, storage No.	23,796	1,026,093	39,233	773,529
Electric cooking and heating apparatus		131,651		154,420
Electric dynamos and generators		907,907		1,227,792
Electric fans No.	4,773	51,836	7,654	68,804
Electric fuses, fuse plugs, and cutouts		145,477		191,101
Lamps, electric, arc		38,438		34,331
Lamps, electric, incandescent, carbon filament No.	914,047	67,401	1,256,294	71,618
Lamps, electric, incandescent, metal filament No.	3,287,202	415,830	2,943,644	265,544
Electric light fixtures and parts thereof, of metal		565,740		661,508
Lightning arresters, choke coils, re-actors and other protective devices		82,207		72,638
Meters, electric		247,987		376,181
Motors, electric		2,068,672		2,386,197
Rheostats, controllers and other starting and controlling devices		293,626		336,005
Self-contained lighting outfits		114,997		41,013
Sockets, outlets and receptacles		164,432		239,223
Spark plugs, magnetos and other ignition apparatus		643,831		629,951
Switches, switchboards, circuit breakers and parts		1,042,395		1,238,339
Telegraph instruments		107,714		165,479
Telephone instruments		372,696		765,140
Transformers		201,631		267,100
Radio and wireless apparatus, n.o.p.		3,009,202		2,786,448
Radio tubes				98,740
Electric apparatus, n.o.p.		3,162,120		3,710,555
Total		**15,501,301**		**16,697,091**

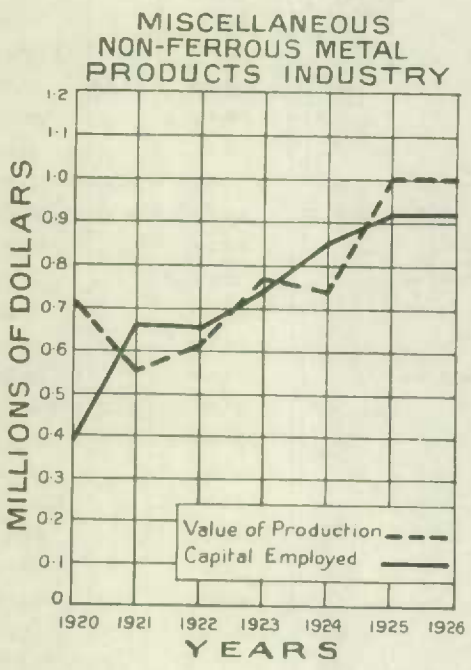
Table 84.—Exports from Canada of Electrical Apparatus and Supplies, Calendar Years, 1925 and 1926

Commodity	1925	1926
	Value	Value
	$	$
Batteries, telegraph and telephone apparatus	311,413	480,612
Dynamos, generators and motors	49,576	80,294
Electric cooking and heating devices	305,062	515,196
Spark plugs, magnetos and other ignition apparatus	290,880	287,558
Electric apparatus, n.o.p.	295,990	331,045
Total	**1,252,921**	**1,694,705**

CHAPTER SEVEN

MISCELLANEOUS NON-FERROUS METAL PRODUCTS

The firms included under this classification manufacture, from non-ferrous metals, certain commodities which cannot readily be listed under any of the other industrial groups. Weather-stripping, lamps and lanterns, lantern burners, etc., are the main products. The plants are comparatively small but the demand for their goods seems to be steady and the quantity produced annually is fairly constant.



In 1926, there were 18 establishments listed in the miscellaneous non-ferrous metal products group and, of these, 13 were in Ontario, 4 in Quebec, and 1 in Manitoba. During the year, 2 small manufacturers in Ontario were added to the Bureau's list of operating plants, while 1 other concern in that province was transferred to a different industry. There were 17 plants included in this group in 1925.

Production from these plants in 1926 was valued at $998,512. Manufacturers in Ontario produced goods worth $886,726, while concerns in Quebec made commodities worth $110,248.

Capital employed in this industry in 1926 was $918,420 of which $507,253 represented the value of lands, buildings and machinery; $259,199 was the value of stocks on hand and in process, and $151,968 was given as the total of cash, trading, operating and other open accounts. Investment in plants in Ontario amounted to $808,722, and in Quebec the total investment was $109,698.

Employees averaged 222 in number and disbursements for salaries and wages totalled $286,537. The 41 salaried employees received $101,423 and the 181 wage-earners were paid $185,114. There were 189 people employed in the plants in Ontario and 32 in Quebec. Of the 18 firms in this group, 7 were one-man concerns, 7 others employed fewer than 10 people in each, and only 4 reported a pay-roll carrying more than 10 names each.

Materials used in manufacturing during the year cost $344,196 delivered at the plants. It has been extremely difficult to compile definite information on the consumption of individual items as no scheduled list of materials was submitted to these manufacturers. As a result, various combinations of items were listed and it is not possible to separate them with any degree of accuracy. Brass, bronze, copper, zinc, galvanized iron and rubber were the main items on the list.

Lamps and lanterns, and weatherstripping of all kinds were the main products of the industry. According to reports received 12 concerns in this group were occupied only in the production of brass, bronze, zinc and copper weatherstripping; another plant made mine lamps only; another produced lamp burners and cigarette rollers; one made incandescent gas mantles and gas regulators; another made fly screens; one made railway and marine lamps and similar products; and another made gasoline vapour lamps and lanterns, mantles, gasoline irons and stoves, oil burners, and other similar commodities. The total production was valued at $998,512. Ten plants each reported a production valued at less than $10,000 and output values of six of the remainder were each below the $50,000 mark.

Imports into Canada of lamps, side lights, headlights and lanterns, during the calendar year 1926 amounted in value to $892,911 as compared with a corresponding figure of $739,982 in 1925. Gas mantles and incandescent gas burners worth $49,696 were also imported during the year.

Table 85.—Summary Statistics of the Miscellaneous Non-Ferrous Metal Products Industry in Canada, 1922-1926

Year	Number of plants	Capital employed	Number of employees	Salaries and wages	Cost of fuel and electricity	Cost of materials	Selling value of products	Value added by manufacturing
		$		$	$	$	$	$
1922	16	663,070	159	198,218	4,821	236,797	607,567	370,770
1923	16	739,457	196	251,856	6,495	269,557	773,556	503,999
1924	16	853,248	202	268,823	5,302	322,601	741,066	419,465
1925	17	919,733	233	313,145	6,378	346,518	999,277	652,759
1926	18	918,420	222	286,537	9,417	344,196	998,512	654,316

Table 86.—Principal Statistics of the Miscellaneous Non-Ferrous Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Number of plants	Number of employees	Salaries and wages	Selling value of products	Number of plants	Number of employees	Salaries and wages	Selling value of products
			$	$			$	$
Quebec	4	37	53,160	81,305	4	32	48,456	110,248
Ontario	12	196	259,985	916,772	13	189	237,281	886,726
***Canada**	**17**	**233**	**313,145**	**999,277**	**18**	**222**	**286,537**	**998,512**

*Includes data for 1 plant in Manitoba for both years.

Table 87.—Capital Employed in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	1925				1926			
	Capital employed as represented by				Capital employed as represented by			
	Lands, buildings, fixtures, machinery and tools	Materials on hand, and stocks in process	Cash, trading and operating accounts	Total	Lands, buildings, fixtures, machinery and tools	Materials on hand, and stocks in process	Cash, trading and operating accounts	Total
	$	$	$	$	$	$	$	$
Quebec	60,757	29,975	34,331	125,063	47,300	31,440	30,868	109,608
Ontario	416,835	194,544	188,301	793,680	459,863	227,759	121,100	808,722
***Canada**	**472,212**	**224,599**	**222,892**	**919,733**	**507,253**	**259,199**	**151,968**	**918,420**

Table 88.—Average Number of Employees, Salaries and Wages Paid in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, by Provinces, 1925 and 1926

Province	Average number of employees					Salaries and wages		
	Salaried employees		Wage-earners		Total	Salaries	Wages	Total
	Male	Female	Male	Female				
						$	$	$
1925								
Quebec	8	2	27		37	28,027	25,133	53,160
Ontario	34	2	105	55	196	84,673	175,312	259,985
***Canada**	**42**	**4**	**132**	**55**	**233**	**112,700**	**200,445**	**313,145**
1926								
Quebec	7	2	19	4	32	27,513	20,943	48,456
Ontario	30	1	121	37	189	73,110	164,171	237,281
***Canada**	**38**	**3**	**140**	**41**	**222**	**101,423**	**185,114**	**286,537**

*See footnote to Table 86.

Table 89.—Number of Wage-Earners Employed in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, by Months, 1925 and 1926

Month	1925			1926		
	Male	Female	Total	Male	Female	Total
January	122	44	166	122	30	152
February	112	45	157	123	30	153
March	112	46	158	125	32	157
April	115	44	159	127	37	164
May	122	44	166	134	38	172
June	125	46	171	146	42	188
July	126	47	173	142	39	181
August	131	55	186	138	38	176
September	132	63	195	145	45	190
October	138	73	211	157	49	206
November	146	77	223	159	50	209
December	146	80	226	160	48	208
*Average	132	55	187	140	41	181

*See note page 17.

Table 90.—Hours of Labour (In Month of Greatest Employment) in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, by Provinces, 1926

Province	Number of wage-earners working				Hours worked per man per week when working			
	8 hours or less per day	9 hours	10 hours	Over 10 hours	8 hours or less per day	9 hours	10 hours	Over 10 hours
Quebec	3	8	17	.....	48	52	55	.....
Ontario	80	112	.....	.....	45	51	.....	.....

Table 91.—Fuel and Electricity Used in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, 1925 and 1926

Kind	Unit of measure	1925		1926	
		Quantity	Value	Quantity	Value
		No.	$	No.	$
Anthracite coal	short ton	52	302	66	726
Bituminous coal	short ton	429	2,894	500	3,767
Lignite coal	short ton	.....	.....	1	9
Coke	short ton	5	25	.....	.....
Gasoline	gallon	316	358	.....	.....
Gas	M cu. ft.	201	231	1,344	1,087
Wood	cord	1	8	1	4
Electric power	k.w.h.	154,826	2,560	150,238	3,824
Total	.....	.....	**6,378**	.....	**9,417**

Table 92.—Power Employed in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, 1925 and 1926

Description	1925		1926	
	Number of units	Total h.p. according to manufacturers' rating	Number of units	Total h.p. according to manufacturers' rating
Electric motors run by purchased power	29	149	49	153
Total power employed	**29**	**149**	**49**	**153**
Total electric motors	*29*	*149*	*49*	*153*
Boilers	2	150	2	150

Table 93.—Materials Used in the Miscellaneous Non-Ferrous Metal Products Industry in Canada, 1925 and 1926

Material	Unit of measure	1925		1926	
		Quantity	Cost at works	Quantity	Cost at works
			$		$
Brass, bronze, copper and galvanized iron			155,277		204,109
Fringes, tassels, cords, etc.			30,921		
Iron, n.e.s.			2,685		4,382
Lenses	pieces	9,428	3,136	11,200	4,395
Lumber			6,419		
Metal stampings	lb.		1,225	11,288	5,842
Moulding			2,905		2,896
Nails and hardware, n.e.s.			1,072		792
Paint and varnishes	gal.	1,000	2,760		
Rubber					8,434
Silk			26,163		
Solder	lb.		368	1,217	414
Tin and terne plate	lb.	4,491	3,055		3,891
Wire and wire cloth			5,514		3,394
Zinc	lb.	85,579	11,870	153,573	18,213
Shipping containers, of all kinds			4,857		3,492
All other materials			88,291		83,942
Total			**346,518**		**344,196**

Table 94.—Products of the Miscellaneous Non-Ferrous Metal Products Industry in Canada 1925 and 1926

Product	Selling Value	
	1925	1926
	$	$
Lamps and lanterns	353,015	403,739
Weatherstripping (metal)	109,254	109,814
Other products*	456,176	361,613
Receipts for custom and repair work	80,832	123,346
Total	**999,377**	**998,512**

*Includes lamp burners, shades, mantles, gasoline irons and stoves, oil burners, cigarette rollers, screens, train order signals, car heaters, gas regulators, headlights and other products.

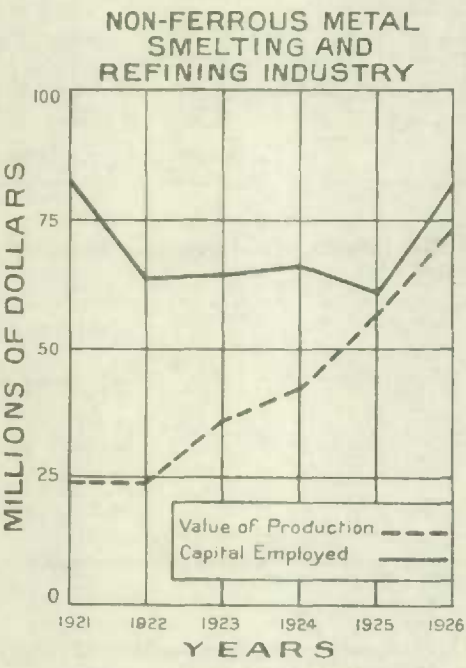
Table 95.—Imports into Canada of Certain Miscellaneous Non-Ferrous Metal Products, Calendar Years, 1925 and 1926

	1925	1926
	$	$
Lamps, side lights, headlights and lanterns, n.o.p.	739,982	892,911
Tinsel thread and tinsel wire, for the manufacture of braids, tassels, ribbons or trimmings	57,710	66,966
Gas, coal oil or other lighting fixtures, n.o.p., of metal, including lava or other tips, burners, collars, galleries and shade holders	70,810	73,900
Gas mantles and incandescent gas burners	56,807	49,696

CHAPTER EIGHT

NON-FERROUS SMELTING AND REFINING

This industry covers the operations of firms in Canada engaged in the smelting and refining of ores of aluminium, copper, lead, nickel and other non-ferrous metals. Prior to 1926, these operations were reviewed only under the mining industry, but as the consensus of opinion seemed to be that they are essentially of a manufacturing nature and so should be classified with the manufactures of the non-ferrous metals, the change has been made and data for 1926, on the smelting and refining industry have been included in this group for the first time.



In the treatment of ores, mining and milling operations are so closely associated that it is often impossible to make a separation of statistics between these two steps. There is less difficulty in drawing a line between mining and milling on the one hand, and smelting and refining on the other. This chapter is devoted to a consideration of the smelting and refining operations only. No mention has been made of the milling of gold and silver ores or of the refining of the mill product into bullion. Data for the Royal Mint have not been included but a separate table showing the production of refined metals is given at the end of the chapter. Various small concerns refining scrap metal in Canada have been considered under other industries and have not been mentioned in this review.

In 1926, there were 9 plants in this group operated by 7 different companies. There were 2 aluminium smelters producing pig aluminium from imported ores; 2 smelters treating nickel-copper ores from the Sudbury district and a refinery to treat the matte from one of these works; 1 smelter treating silver-cobalt ores from Cobalt, South Lorrain and Gowganda; 1 smelter operating on lead ore from Galetta, Ontario; 1 smelter treating British Columbia copper ores; and another smelter at Trail, B.C., treating chiefly lead-zinc ores from the Sullivan mine. The works at Trail have been considered as one plant, although there are in reality a smelter and several refineries at that point. Of the 9 plants included in this review, 2 were located in Quebec, 2 in British Columbia and 5 in Ontario.

In Quebec, the only smelters in operation in 1926 were those of the Aluminium Company of Canada, Limited, at Shawinigan Falls and Arvida, Quebec. The works at Shawinigan Falls have been in operation since 1903 treating imported alumina to make pig aluminium, part of which is further manufactured in the fabricating plant to produce fabricated and partly fabricated products. Recent interest, in this subject, has been centred in the construction of the huge new smelter at Arvida, Quebec. Immense power sites have been developed and a plant which will eventually be the largest of its kind in the world has been constructed. Part of the plant went into operation in the fall of 1926 using ores which had been partly processed in the parent company's plant in United States. The works are located on the Saguenay river at a point accessible to ocean-going steamers and it is intended, eventually, to bring the ore directly by water to the plant from deposits in South America.

A further development in Quebec was the construction of a new smelter at Noranda, in the Rouyn district. Construction of this immense smelter with a daily capacity of 1,000 tons was commenced early in 1927, and the first unit of 500 tons was blown in during December of that year. This smelter will treat the copper-gold ores from the newly-developed properties in northern Quebec.

Ontario had 4 smelters and 1 refinery in operation in 1926. The Mond Nickel Company Limited with a smelter at Coniston, Ontario, treated nickel-copper ores from its own mines in the Sudbury district to produce a matte which was shipped to the company's refinery at Clydach, Wales, where nickel metal, copper sulphate, gold, silver, and metals of the platinum group were recovered. The International Nickel Company of Canada, Limited, operated a smelter at Coniston and a refinery at Port Colborne, Ontario. The smelter treated ores from the company's own mines to produce a nickel-copper matte, part of which was shipped to Huntingdon, West Virginia, U.S.A., to be made into monel metal and the remainder was shipped to the company's refinery at Port Colborne where refined and electrolytic nickel, converter copper and sponge platinum were produced. The Deloro Smelting and Refining Company, Limited, with smelter at Deloro, Ontario, treated silver-cobalt ores from the districts of Cobalt, Gowganda and South Lorrain, and produced refined silver, cobalt metal, nickel oxides and salts, white arsenic, insecticides and stellite, an alloy of cobalt, chromium and tungsten used mainly as a metal-cutting tool. The Kingdon Mining, Smelting and Manufacturing Company, Limited, operated a lead mine, mill, and a small smelter or Scotch hearth at Galetta, Ontario. As the general statistics given by the last-named company were not separated by departments and as mining and milling predominate in this enterprise, data on capital investment, salaries, wages, etc., for this property were combined with the statistics on silver-lead-zinc mining but the value of the smelter production has been included with the figures for the other smelters.

British Columbia was the only other province in the Dominion in which non-ferrous metal smelters were in operation in 1926. In that province there were 2 plants, one operated by the Consolidated Mining and Smelting Company at Trail, and the other by the Granby Consolidated Mining, Smelting and Power Company Limited at Anyox. The smelter at Trail is the largest non-ferrous metallurgical works in the British Empire. There, facilities are provided for the treatment of lead ore and concentrates, zinc ore and concentrates, copper and gold ore and concentrates. This smelter purchases practically all the smelting ore mined in southern British Columbia but its main source of supply is from the great Sullivan zinc-lead mine at Kimberley, B.C., which is owned by the company. Each year new demands have been made on the capacity of the smelter and these have been met so readily that very little smelting ore within reasonable hauling distance is now sent elsewhere. The company also operates a concentrator to which mining companies that have no mill may send their ore.

In the northern part of the province, the copper smelter of the Granby Consolidated Mining, Smelting and Power Company, Limited, treated the ore from its own mine, the Hidden Creek, and did some custom work as well. During 1926 and in former years some concentrates from the company's concentrator were shipped to Tacoma, Washington, U.S.A., but a new sintering plant has been installed and the old one has been improved so that it is now expected the smelter will be able to handle all the concentrates produced by the mill.

Capital invested in the metallurgical plants in Canada, reviewed in this section, amounted to $81,779,240 in 1926 including $54,976,248 invested in lands, buildings, plants, machinery and tools; $17,035,037 in materials on hand, supplies, finished products and ore waiting to be treated; and $9,767,955 in cash, trading and operating accounts and bills receivable.

There were 6,226 employees including salaried workers and wage-earners engaged in this industry during the year. Salaries and wages reached a total of $9,584,938. Fuel cost $6,076,627 including coke at $2,450,301, electricity at $2,283,604, and bituminous coal at $883,568. The total power employed was 166,360 h.p., comprising 12,855 h.p. generated by steam engines and steam turbines; 53 h.p. from gasoline, oil and gas engines; 64,435 h.p. supplied by hydraulic turbines and water wheels; 89,017 h.p. by electric motors which were operated on purchased power. In addition 517 motors with a total rating of 19,134 h.p. were operated on power generated within the establishments by the primary power of the industry.

Owing to the difficulty of obtaining separate data on mining, milling and smelting operations, particularly in the case of companies carrying on all three operations at one point, it was necessary in some cases to use estimates for the value of the ores at the mine; in these cases every care was taken to establish fair values. As thus computed, the value of the 2,552,014 tons of ore charged to the furnaces in the several smelters amounted to $39,237,657. Sales of products from these smelters amounted to $72,853,566 showing that the value added in converting the ore to saleable products was $33,615,909.

Table 96.—Summary Statistics of the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

Number of plants in operation	9
Number of companies	7
Capital employed	$81,779,240
Number of employees	6,226
Salaries and wages	$ 9,584,938
Cost of fuel and electricity	$ 6,076,627
Estimated cost of ores, concentrates, etc.	$39,237,657
Value of products	$72,853,566
Estimated value added by manufacturing	$33,615,909

Table 97.—Capital Employed in the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

Value of lands, buildings, plants, machinery and tools	$54,076,248
Value of materials on hand, supplies, finished products, ore in storage	$17,035,037
Value of cash, trading and operating accounts, and bills receivable	$ 9,767,955
Total	**$81,779,240**

Table 98.—Average Number of Employees, Salaries and Wages Paid in the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

Number of employees:	
Salaried employees	635
Wage-earners:—	
January	5,162
February	5,192
March	5,231
April	5,278
May	4,968
June	4,961
July	5,220
August	5,581
September	5,808
October	6,107
November	6,129
December	5,904
Average	5,591
Total employees	**6,226**
Salaries and wages: —	
Salaries	$1,240,936
Wages	$8,344,002
Total	**$9,584,938**

Table 99.—Fuel and Electricity Used in the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

Kind	Unit of measure	Quantity	Value
			$
Bituminous coal	short ton	139,364	883,568
Anthracite coal	short ton	285	4,404
Coke	short ton	253,130	2,450,301
Gasoline	Imp. gal.	42,180	6,533
Fuel oil	Imp. gal.	3,743,565	357,133
Wood	cord	5,958	40,273
Gas	M. cu. ft.	364,819	50,811
Electricity purchased	k.w.h.	876,182,647	2,283,604
Total			**6,076,627**

Table 100.—Power Employed in the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

—	Number of units	Total h.p. according to manufacturers' rating
Steam engines and turbines	27	12,855
Gasoline, gas and oil engines	1	53
Hydraulic turbines or waterwheels	21	64,435
Total primary power	*49*	*77,343*
Electric motors run by purchased power	1,303	89,017
Total power employed	**1,352**	**166,360**
Electric motors run by power in the same plant	517	19,134
Total electric motors	*1,820*	*108,151*
Boilers	17	5,709

Table 101.—Materials Used and Products Made in the Non-Ferrous Metal Smelting and Refining Industry in Canada, 1926

MATERIALS USED:—	
Ores, concentrates, residues, etc., (2,552,014 tons)	$39,237,657
PRODUCTS MADE:—	
Gold, silver, blister copper, refined copper, lead, zinc, nickel, nickel-copper matte, nickel oxide, nickel salts, cobalt, cobalt salts, speiss residues, aluminium, base bullion	$72,853,566

Table 102.—Receipts at the Royal Mint, Ottawa, 1925 and 1926

Source	1925			1926		
	Gross weight	Precious metal content		Gross weight	Precious metal content	
		Fine gold	Fine silver		Fine gold	Fine silver
	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.
Nova Scotia	1,817·56	1,626·429	85·97	1,814·84	1,677·709	112·40
New Brunswick						
Quebec	8·61	8·596		43·26	30·159	3·67
Ontario	139,130·21	105,888·118	19,129·98	1,610,194·93	1,256,570·437	224,105·60
Manitoba	5,448·61	4,651·355	576·81	152·51	128·553	18·68
Saskatchewan	46·49	37·578	5·20	73·98	55·306	8·81
Alberta				5·16	4·045	0·41
British Columbia	2·09	1·553	0·16			
Dominion of Canada Assay Office, Vancouver*				124,477·87	104,252·882	16,658·25
Yukon						
Jewellery and scrap, various sources	20,992·07	8,217·515	3,203·42	29,271·71	12,696·275	4,684·32
Foreign	192·35	138·863	43·75	104·93	78·133	18·09
Total	**167,567·98**	**120,570·007**	**23,045·29**	**1,766,139·19**	**1,375,502·499**	**245,610·29**

*Gold from the Assay Office was shipped to the United States in 1925 instead of to the Royal Mint, Ottawa, as in former years.

Table 103.—Gold Bullion Received at Dominion of Canada Assay Office, Vancouver, B.C., 1926

—	No. of deposits	Weight before melting and assaying	Weight after melting and assaying	Net value of deposits
		Troy ounces	Troy ounces	$
BAR, NUGGET AND DUST, AMALGAM, ETC.—				
British Columbia	680	121,827·30	105,995·60	1,925,122·21
Yukon Territory	412	32,686·16	32,010·41	537,821·66
Alaska	6	164·36	155·90	2,760·62
Alberta	1	85·10	84·99	1,468·35
DENTAL AND JEWELLERY SCRAP—				
British Columbia	508	6,323·79	5,707·71	45,024·91
Alberta	99	800·38	694·09	7,166·42
Saskatchewan	30	325·76	262·63	3,126·89
Manitoba	16	393·71	368·22	1,837·52
Total	**1,752**	**162,606·56**	**145,279·61**	**2,524,337·58**

Table 104.—Imports into Canada of Certain Ores, Metals, and Smelter Products, Calendar Years 1925 and 1926

—		1925		1926	
		Quantity	Value	Quantity	Value
			$		$
Manganese, oxide of	cwt.	20,557,881	1,350,114	809,624	417,042
Ores of metal, n.o.p.	cwt.	194,365	296,005	734,049	730,279
Antimony, or regulus of, not ground or otherwise manufactured	lb.	897,298	124,394	1,139,748	183,127
Bismuth, metallic, in its natural state	lb.	3,018	6,486	3,129	8,480
Mercury or quicksilver	lb.	146,435	118,697	100,492	84,910
Metallic elements and tungstic acid, when imported by manufacturers of metal filaments for electric lamps for use only in their own factories			108,699		122,534
Alumina	lb.	127,505,400	2,627,281	145,145,500	3,118,205
Cryolite ore	lb.	1,507,600	94,624	6,400,900	369,688
Copper ore and concentrates	lb.	300	259	1,700	927
Copper in blocks, pigs or ingots	lb.	7,934,779	1,138,740	8,599,699	1,231,422
Gold coins			49,477,383		45,077,807
Gold bullion, in bars, blocks, ingots, etc			1,031,597		2,048,033
Lead, old and scrap, pig and block	lb.	505,555	50,606	766,939	67,671
Silver bullion in bars			1,025,109		1,011,015
Silver, sterling			210,384		440,079
Silver coin			61		55
Tin in blocks, pigs and bars	lb.	4,396,100	2,459,830	5,107,900	3,261,513
Zinc in blocks, pigs and sheets	lb.	315,440	28,664	435,440	46,800
Zinc as spelter	lb.	4,322,335	407,236	5,797,282	582,784

Table 105.—Exports from Canada of Certain Ores, Metals and Smelter Products, Calendar Years, 1925 and 1926

—		1925		1926	
		Quantity	Value	Quantity	Value
			$		$
Aluminium, ingots, bars, etc	lb.	27,267,800	6,558,910	25,177,000	5,900,547
Copper, fine, contained in ore, matte, regulus, etc	lb.	60,527,500	6,969,960	67,108,300	7,822,260
Copper, blister	lb.	48,558,500	6,547,397	45,256,300	6,055,266
Copper, old and scrap	lb.	5,601,700	658,458	5,972,400	614,108
Copper, pig	lb.	1,100	126	58,200	7,127
Gold coin			3,026		28,010,603
Gold bullion			333,090		41,812,356
Gold bearing quartz, dust, nuggets and bullion obtained direct from mining operations			31,432,647		7,340,451
Lead in ore	lb.	37,504,500	2,341,679	13,644,900	796,412
Lead, pig	lb.	160,130,800	11,809,305	202,510,300	12,983,907
Platinum in concentrates	oz.	404	42,489	520	54,747
Platinum, old and scrap	oz.	655	76,423	396	40,185
Silver, in ore, concentrates, etc	oz.	4,754,915	3,021,418	5,890,280	3,546,952
Silver bullion	oz.	14,316,797	9,861,219	15,241,853	9,559,825
Zinc ore	lb.	48,340	1,778,019	41,917	1,393,165
Zinc, spelter	lb.	49,826,000	3,781,011	96,008,000	7,107,876
Antimony ore	lb.			100,000	2,000
Cobalt ore	lb.			746,000	192,400
Manganese ore	lb.	972,000	15,949	484,000	4,364
Other ores, n.o.p.	lb.	1,458,000	379,790	432,000	110,530
Arsenic, metallic	lb.	973,500	10,590		
Cobalt, metallic	lb.	309,552	700,831	176,643	347,837
Cobalt alloys	lb.	460	1,169	13,890	29,361
Molybdenum	lb.	3,500	1,793	22,400	11,175
Metallic scrap, dross and ashes, n.o.p.	lb.			7,781,500	174,935
Metals, other, unmanufactured			977,184		654,684

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS

Aluminium Products

Name of Firm	Head Office Address	Location of Plant
Ontario—		
Aluminium Co. of Canada	Canada Life Bldg., 46 King St. W., Toronto	158 Sterling Road, Toronto.
Aluminium Last and Metal Foundry Co	88 Ontario St. S., Kitchener	Kitchener.
Aluminium Ware Manufacturing Co., Ltd	Colborne St., Oakville	Oakville.
Canada Aluminium Co	252 Madison Ave., Toronto	Toronto.
Canadian Die Castings, Ltd	18th St. and 3rd Ave. East, Owen Sound	Owen Sound.
Cashore & Christen	Owen Sound	Owen Sound.
Clark, Geo. C., Metal Last Co	1304 Harper Ave., Detroit, Mich	178 Walker Road, Walkerville.
Duro Aluminium Ltd	80 Park St. N., Hamilton	Hamilton.
Hamilton Aluminium Ware Co	13 Ferguson Ave. N., Hamilton	Hamilton.
Ideal Aluminium Products, Ltd	2480 Dundas St. W., Toronto	Toronto.
Metal and Thermit Co	120 Broadway, New York, N.Y., U.S.A	13 Emily St., Toronto.
Metal Stampings, Ltd	20-22 Hayter St., Toronto	Toronto.
Veribest Aluminium Co. of Canada	349 Carlaw Ave., Toronto	Toronto.

Brass and Copper Products

Nova Scotia—		
Collings, Wm. & Son	711-713 Barrington St., Halifax	Halifax.
Halifax Brass Foundry	721 Robie St., Halifax	Halifax.
New Brunswick—		
McAvity, T. & Sons, Ltd	Rothesay Ave., St. John	St. John.
Quebec—		
Archambault Brass Foundry	3520 Henri Julien Ave., Montreal	Montreal.
Bessette, Ernest	479 Ontario St. E., Montreal	Montreal.
Booth Coulter Copper Smithing Co., Ltd	195 Wellington St., Montreal	Montreal.
Canada Brass Products Ltd	162 Craig St. W., Montreal	Montreal.
Canadian Bronze, Ltd	999 Delorimier Ave., Montreal	Montreal.
Clarke, C. O., & Bro	1510 St. Patrick St., Montreal	Montreal.
Cuthbert, W. R. & Co	36 Duke St., Montreal	41 Duke St., Montreal.
Eastern Brass Foundry Co	514 Harbour St., Montreal	Montreal.
Empire Brass Foundry	121 Nazareth St., Montreal	Montreal.
Excel Brass & Aluminium Works	107 Nazareth St., Montreal	Montreal.
Hayes, Richard	21 Fleurie St., Quebec	Quebec.
Hazel, James	120-130 Grant St., Quebec	Quebec.
Jenkins Bros., Ltd	103 St. Remi St., Montreal	Montreal.
Johnson Wire Works	50 Dagenais St., St. Henry, Montreal	Montreal.
Menagh, F. B	22 Jurors St., Montreal	Montreal.
Miller's Brass Foundry	259 Hertel St., Three Rivers	Three Rivers.
Mitchell, Robert Co., Ltd	64 Bekair Ave., Montreal	Montreal.
National Bronze Co., Ltd	145 Mill St., Montreal	Montreal.
New Brassware Company	2320 Aird Ave., Montreal	Montreal.
Stuebing Lift Truck System of Canada	22 St. Louis St., Granby	Granby.
Union Screen Plate Co. of Canada, Limited	146 Water St., Fitchburg, Mass., U.S.A	Main St., Lennoxville.
Ontario—		
Anaconda American Brass Ltd	Box 8, corner 8th St. and Birmingham Ave., New Toronto	New Toronto.
Atkins & Hoyle	Rear 88 River St., Toronto	Toronto.
Balfour & Sheratt	2 Frederick St., Toronto	Toronto.
Beaver Brass Mfg. Co. Ltd	83 Ryerson Ave., Toronto	Toronto.
Boag, John	398 Keele St., Toronto	2950 Dundas St., Toronto.
Booth Coulter Copper & Brass Co., Ltd	115 Sumach St., Toronto	Toronto.
Brilliant Brass Works	26 Mariposa Ave., Toronto	Toronto.
Bunker, Geo	363 Parliament St., Toronto	Toronto.
Canada Smelting & Refining Works	344½ Richmond St., London	London.
Canadian Meter Co. Ltd	88-90 Caroline St. N., Hamilton	Hamilton.
Canadian Brass Co., Ltd	415 Dundas St., Galt	Galt.
Canadian Gasket Co	Courtwright St., Bridgeburg	Bridgeburg.
Capital Brass Works	207 Booth St., Ottawa	Ottawa.
Capital Wire Cloth Mfg. Co., Limited	Hinton Ave., Ottawa	Ottawa.
Cole Manufacturing Co	Wellington St., Lindsay	Lindsay.
Cornwall Brass and Iron Foundry	214 Marlborough St., Cornwall	Cornwall.
Dean Bros	184 Richmond St. W., Toronto	Toronto.
Dodd and Struthers	Des Moines, Iowa	105 Sandwich St. E., Walkerville.
Dominion Brass Products, Ltd	33-5 Sherburne St., Toronto	Toronto.
Dominion Gas Meter Works	328 Wortley Rd., cor. Garfield Ave., London	London.
Dominion Lightning Rod Co	Queen St., Dundas	Dundas.
Dominion Smelting Works	McKay St., Ottawa	Ottawa.
Edmunds, J. H., & Co	225 Richmond St. W., Toronto	Toronto.
Empire Brass Mfg. Co	1100-1120 Dundas St. E., London	London.
Engravers Metal Co., Ltd	115 Sumach St., Toronto	Toronto.
Eugene F. Phillips Electrical Works, Ltd	De Gaspe and Marmier Sts., Montreal	Brockville.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Continued

Brass and Copper Products—Concluded

Name of Firm	Head Office Address	Location of Plant
Ontario—Concluded		
Galt Brass Co	471 Dundas St., Galt	Galt.
Guelph Brass and Aluminium Works	17 Division St., Guelph	Guelph.
Hahn Brass Co., Limited	Waterloo St., New Hamburg	New Hamburg.
Jeune Mfg. Co	1260 Queen St. W., Toronto	Toronto.
Keating, Wm	266 Macdonell Ave., Toronto	Toronto.
Kirkwood Mfg. Co., Ltd	South St., Preston	Preston.
Lauder and Company	1094 Adelaide St. W., Toronto	Toronto.
Lawrence, T. C. & Sons	48 Glenmorris St., Galt	Galt.
Malcolm Fittings, Ltd	64 Lombard St., Toronto	Toronto.
Mitchell Brass Foundry	400 Hanna St. E., Windsor	Windsor.
Monarch Brass Mfg. Co., Limited	71 Browns Ave., Toronto	Toronto.
Monarch Metal Co., Ltd	Main St. W., Hamilton	Hamilton.
Morrison, James Brass Mfg. Co., Ltd	93 Adelaide St. W., Toronto	Toronto.
Mueller, H., Mfg. Co., Ltd	Clifford St., Sarnia	Sarnia.
National Brass and Aluminium Foundry	117 St. Patrick St., Toronto	Toronto.
National Meter Co. of Canada, Ltd	151 Duchess St., Toronto	Toronto.
Neptune Meter Co	345 Sorauren Ave. Toronto	Toronto.
Niagara Wire Weaving Co	Robinson St., Niagara Falls	Niagara Falls.
Ottawa Car Mfg. Co., Ltd	301 Slater St., Ottawa	124 Slater St., Ottawa.
Petrie Brass Works	163 Sterling Road, Toronto	Toronto.
Penberthy Injector Co., Ltd	Corner Pitt and Windsor Sts., Windsor	Windsor.
Phillips, Eugene F., Electrical Works, Limited	De Gaspé and Mariner St., Montreal, Que	Brockville.
Porter, A. D. Mfg. Co., Ltd	Hobson St., Galt	Galt.
Quality Brass Foundry	Rossin House Lane, Toronto	Toronto.
Queen City Brass Foundry	28 Dalhousie St., Toronto	Toronto.
Reed-Binch Foundry, Ltd	12 Liberty St., Toronto	Toronto.
Robertson, Jas., Co., Limited	144 William St., Montreal, Que	207 Spadina Ave., Toronto.
Schrader's A., Son, Inc	470 Vanderbilt Ave., Brooklyn, N.Y	334 King St., Toronto.
Sheppard Chris. & Son	154 King St. E., Toronto 2	Toronto.
Shinn Mfg. Co. of Canada, Ltd	2024 N. Racine Ave., Chicago, Ill	133 Woolwich St., Guelph.
Standard Brass Foundry	Catherine St. N., Hamilton	Hamilton.
Standard Meter Co., Ltd., The	10 Morrow Ave., Toronto	Toronto.
Stratford Brass Co., Ltd	Corner Erie and Gore St., Stratford	Stratford.
Sully Brass Foundry, Ltd	2388 Dundas St., W., Toronto	Toronto.
St. Catharines Brass Works	62 George St., St. Catharines	St. Catharines.
St. Thomas Bronze Co., Ltd	1st Ave., St. Thomas	St. Thomas.
Tallman Brass & Metal Company	Corner Wilson and Sanford Ave., Hamilton	Hamilton.
Teeswater Lightning Rod Co	Teeswater	Teeswater.
Tickell, J. G., and Sons	560 King St. W., Toronto	Toronto.
Universal Lightning Rod Co	Queen St., Hespeler	Hespeler.
Walh Co., Limited	100 Sterling Road, Toronto	Toronto.
Wallaceburg Brass & Iron Mfg. Co., Ltd	Wallace St., Wallaceburg	Wallaceburg.
Wilson & Cousins	33-35 McCaul St., Toronto	Toronto.
Manitoba—		
Derby Specialty Mfg. Co	197 Princess St., Winnipeg	Winnipeg.
Northwestern Brass, Ltd	Bury St., Winnipeg	Winnipeg.
Winnipeg Brass & Fixture Company	1259 Riddle Ave., Winnipeg	Winnipeg.
Alberta—		
Northwestern Brass, Ltd	Bury St., Winnipeg, Man	1609-24th Ave. E., Calgary.
British Columbia—		
Dixon Fireplace Appliance Co	1064 Pender St. W., Vancouver	Vancouver.
Ellett Copper and Brass Co	334 Alexander St., Vancouver	Vancouver.
Hastings Brass Foundry	2559 Pender E., Vancouver	Vancouver.
Smith, Thos. Wm	632 Pembroke St., Victoria	Victoria.
Sumner Brass Foundry, Ltd	620 Bidwell St., Vancouver	Vancouver.
Vancouver Brass Works	1304 Keefer St., Vancouver	Vancouver.
Victoria Brass and Iron Works	Pioneer St., Esquimalt	Esquimalt.
Wilson's Brass Foundry	22 Second Ave. E., Vancouver	Vancouver.

Lead, Tin and Zinc Products

New Brunswick—		
Robertson James Co., Ltd	142 William St., Montreal, Quebec	1-29 Sheffield St., St. John.
Quebec—		
Dominion Metal Co	108-110 Frontenac St., Sherbrooke	Sherbrooke.
Eagle Smelting & Refining Works, Ltd	248 Richmond St., Montreal	Montreal.
Magnolia Metal Company	Room 4—394 St. James St., Montreal	Montreal.
Metal Smelters & Refiners, Ltd	41-55 Prince St., Montreal	Montreal.
Mount Royal Metal Co	145 Mill St., Montreal	Montreal.
Northern Smelting & Refining Co	38-40 Queen St., Montreal	Montreal.
Robertson, Jas., & Co., Ltd	142 William St., Montreal	Montreal.
Robertson, Thomas, & Co., Ltd	134 Craig St. W., Montreal	207 Common St., Montreal.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Continued

Lead, Tin and Zinc Products—Concluded

Name of Firm	Head Office Address	Location of Plant
Ontario—		
Canada Metal Co., Ltd	35-53 Fraser Ave., Toronto	Toronto.
Canadian Hanson & Van Winkle Co., Ltd	2-4 Silver St., Toronto	15-25 Morrow Ave., Toronto.
Canadian Type Foundries, Ltd	74 Market St., Toronto	Toronto.
Collapsible Tube & Containers, Ltd	95 Sterling Road, Toronto	Toronto.
Crane Packing Co., Ltd	922 Bruce Ave., Windsor	Windsor.
Frankel Bros., Ltd. (National Metal Co.)	Don and Eastern Ave., Toronto	Toronto.
Hoyt Metal Company	721 Eastern Ave., Toronto	Toronto.
Modern Machine Co	344 Queen St., Ottawa	Ottawa.
Moore Type Foundry	22 Temperance St., Toronto	Toronto.
Somerville, Fred., & Co	510 King St. W., Toronto	Toronto.
Spooner, Copperine Co., Ltd	Port Hope	Port Hope.
Watkins Mfg. Co. of Canada, Ltd	40-42 Lombard St., Toronto	Toronto.
Manitoba—		
Canada Metal Co	35 Frazer Ave., Toronto, Ont	301 Chambers St., Winnipeg.
Robertson, James Co., Ltd	175 Pacific Ave., Winnipeg	Winnipeg.
Union Metal Co	405 Langside St., Winnipeg	Winnipeg.
British Columbia—		
Canada Metal Co., Ltd	35 Frazer Ave., Toronto, Ont	1428Granville St., Vancouver.
Great Western Smelting & Refining Co	14 Second St. E., Vancouver	Vancouver.
Shivlock-Jackson, Ltd	341 Pender St. W., Vancouver	Vancouver.

Precious Metal Products

Nova Scotia—		
Eastwood, Jas	107 Archimedes St., New Glasgow	Dalhousie St., New Glasgow.
New Brunswick—		
Maritime Dental Laboratory	117 Union St., St. John	St. John.
Quebec—		
Acme Gold Co	89c Galt St., Sherbrooke	Sherbrooke.
Bramley, Wm. & Co	4 Dollard Lane, Montreal	Montreal.
Birks, Henry & Sons, Ltd	Phillips Square, Montreal	Montreal.
Canadian Refining Co., The	182 St. Catherine St., E., Montreal	Montreal.
Canadian Sturdy Chain Co	Box 767, Sherbrooke	18 George St., Sherbrooke.
Caron Brothers, Inc	Caron Bldg., Montreal	Montreal.
Coffee, J. G	119 St. Alexander, Montreal	Montreal.
Elite Metal Novelty Mfg. Co	141 St. Paul St. W., Montreal	Montreal.
Farmer Bros	40 St. Lawrence Blvd., Montreal	Montreal.
Grothe, Theodore A., & Fils	157 St. Lawrence, Montreal	Montreal.
Hemsley, Geo. T., Co	907 Bleury St., Montreal	18 Juror St., Montreal.
Hoichberg & Soltanoff	Room 404, 46 St. Alexander, Montreal	Montreal.
Ingersoll Watch Co., Inc	30 Irving Place, New York, N.Y., U.S.A	149 Catherine St., Montreal.
Lamond, C	18 Jurors St., Montreal	Montreal.
Lariviere, J. L. H	684 Lartigue, Montreal	Montreal.
Lasker, Moses	907 Bleury St., Montreal	Montreal.
Lemaitre, Paul, Ltee	12 Jeannoite St., Montreal	Montreal.
Mapping & Webb (Canada), Ltd	353 St. Catherine St. W., Montreal	Montreal.
Marion, Aly	222 Craig St. West, Montreal	Montreal.
McRae Stone Co., Ltd	137 Laurier Ave., Sherbrooke	Sherbrooke.
Montreal Dental Supply & Mfg. Co	406 Birks Bldg., 14 Phillips Sq., Montreal	Montreal.
Pepau, Paul	2789 Rue Drolet, Montreal	Montreal.
Roughton & Skelton	32 McGill College Ave., Montreal	Montreal.
Sloves, Annie	275 Craig St. W., Montreal	Montreal.
Smith, F. W., Mfg. Co	90 Main St., Hull	Hull.
Smith Patterson Co., Ltd	124 St. Antoine St., Montreal	Montreal.
Stephenson-Robillard Co	907 Bleury St., Montreal	Montreal.
Wallace, H. & Sons Mfg. Co	Cookshire	Cookshire.
Whiting & Davis Co	Laurier Ave., Sherbrooke	Sherbrooke.
Ontario—		
Allport, E. H	3604 Richmond St., London	London.
Allport Bros	284 Adelaide St. E., Toronto	Toronto.
American Watch Case Co. of Toronto, Ltd	511 King St. W., Toronto	Toronto.
Anthony Bros	39 Lombard St., Toronto	Toronto.
Artistic Jewellery Mfg. Co	70 Victoria St., Toronto	Toronto.
Baker, Geo. L	101 John St., Hamilton	Hamilton.
Baker, T. H., and Co., Ltd	115 Carling St., London	London.
Benedict Proctor Mfg. Co., Ltd	East Syracuse, N.Y., U.S.A	Trenton.
Berlin & Racycle Mfg. Co., Ltd	53 Frederick St., Kitchener	Kitchener.
Breadner Mfg. Co	1002 Somerset St. W., Ottawa	Ottawa.
Butterworth, L. R	176 Richmond St. W., Toronto	Toronto.
Burkhardt, Michael	81 Bond St., Toronto 2	Toronto.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Continued

Precious Metal Products—Continued

Name of Firm	Head Office Address	Location of Plant
Ontario—		
Canadian Seamless Wire Co., Ltd.	198 Clinton St., Toronto	Toronto.
Canadian Silversmiths, Ltd.	110 Adelaide St. W., Toronto	Toronto.
Canadian Wm. A. Rogers, Ltd.	330 Bay St., Toronto	570 King St. W., Toronto.
Capp, T. W., Company	176 Richmond St. W., Toronto	Toronto.
Cope, C. H.	51 Richmond St., E., Toronto	Toronto.
Cowdrill, S.	39 Lombard St., Toronto	Toronto.
Davis Mfg. Co.	11 Dundas St. W., Toronto 2	Toronto.
Donnelly, J., & Co.	101 Church St., Toronto	Toronto.
Eaton, T., Co., Ltd.	190 Yonge St., Toronto	Toronto.
Electric Chain Co. of Canada	23 River St., Toronto	Toronto.
Elliott & Bishop Co.	120 Adelaide St. W., Toronto	Toronto.
Ellis, P. W., & Co., Ltd.	31 Wellington St. E., Toronto	Toronto.
Excelsior Jewellery Mfg. Co.	36 Lombard St., Toronto	Toronto.
Feeney, J. J.	12 Market Lane, London	London.
Fort William Jewellery Co.	125 S. Syndicate Ave., Fort William	Fort William.
Fremes, S., & Co., Ltd.	333 Adelaide St. W., Toronto	Toronto.
Freidman & Hurwitz	176 Richmond St. W., Toronto	Toronto.
Goldsmith Bros. Smelting & Refining Co., Ltd.	21 Wilton Sq., Toronto	Toronto.
Goldstein Jewellery Manufacturing Co., Ltd.	180 John St., Toronto	Toronto.
Gray and Pullen	45 Richmond St. E., Toronto	Toronto.
Howard Jewellery Mfg. Co.	16 George St., Hamilton	Hamilton.
Imperial Refining & Smelting Works	34 Beverly St., Toronto	Toronto.
International Silver Co., Ltd.	146 Wellington St. N., Hamilton	Hamilton.
International Silver Co. of Canada, Ltd.	345 River Road, Niagara Falls	Niagara Falls.
Jackson, Howe and Brooks	11 Temperance St., Toronto	Toronto.
Jock & Co., J. J.	171 Mutual St., Toronto	Toronto.
Jones, Chas. F.	380 Clarence St., London	London.
Kent, Ambrose & Sons, Ltd.	156 Young St., Toronto	Toronto.
Knox, J. A., & Co.	159 Richmond St. W., Toronto	Toronto.
Lackie, Mfg. Co.	106 Lombard St., Toronto	Toronto.
Lees, Geo. H., & Co., Ltd.	47 Main St. E., Hamilton	Hamilton.
Levy Bros. Co., Ltd.	58-60 King St. E., Hamilton	Hamilton.
Maple Leaf Plating Co.	Smithville	Smithville.
Manufacturing J. B. Co.	176 Richmond St. W., Toronto	Toronto.
McElheran and Plant	66 Dundas St. W., Toronto	Toronto.
McGlashan Clarke Co., Ltd.	Palmer Ave., Niagara Falls	Niagara Falls.
Milroy, S. K.	234 Dundas St., London	London.
Mitchell, W. J.	84 Victoria St., Toronto	Toronto.
Murphy, Bruce	180 North St., Orillia	Orillia.
National Refining Co., Ltd.	34 Ross St., Toronto	Toronto.
Nolan, Jas. J.	39 Lombard St., Toronto	Toronto.
Oneida Community, Ltd.	Niagara Falls Center	Niagara Falls.
Parkinson, F. A.	444 Colborne St., Toronto	Toronto.
Platinum Art Co.	70 Lombard St., Toronto	Toronto.
Pugh, William Co.	159-161 Richmond St. W., Toronto	Toronto.
Roden Bros., Ltd.	345 Carlaw Ave., Toronto	Toronto.
Rogul, A.	23 Adelaide St. W., Toronto	Toronto.
Royal Mint	8 Sussex St., Ottawa	Ottawa.
Saunders, H. & A.	Corner King & John Sts., Toronto	Toronto.
Saunders, Lorie & Co., Ltd.	200 Adelaide W., Toronto	Toronto.
Standard Dental Co., Ltd.	178 Dalhousie St., Toronto	Toronto.
Sterling Craft	107 Richmond St. E., Toronto	Toronto.
Toronto Watch Case Repair Co.	404 Colborne St., Toronto	Toronto.
Traub Mfg. Co. of Canada, Ltd.	Imperial Bldg., Walkerville	Walkerville.
Unity Jewellery Mfg. Co.	60 Bond St., Toronto	Toronto.
Vallier & Millard	1 Duchess St., Toronto	Toronto.
Wade Manufacturing Co.	Cross St., Dundas	Dundas.
Wellings Mfg. Co. of Toronto, Ltd.	67 Richmond St. E., Toronto	Toronto.
Western Clock Company	Hunter St. E., Peterborough	Peterborough.
White, T., & Son	45 Richmond St. W., Toronto	Toronto.
Williams Gold Refining Co. of Canada, Ltd.	Courtwright St., Bridgeburg	Bridgeburg.
Manitoba—		
Armstrong, J. R.	279 Garry St., Winnipeg	Winnipeg.
Binder & Co.	307-322 Donald St., Winnipeg	Winnipeg.
Birks, Henry, & Sons, Ltd.	Philips Square, Montreal, Que.	Smith & Portage Ave., Winnipeg.
Dingwell, D. R., Ltd.	251 Portage Ave., Winnipeg	62 Albert St., Winnipeg.
Freedman, M. I.	222 Portage Ave., Winnipeg	Winnipeg.
Lewis, R.	490 Main St., Winnipeg	Winnipeg.
Saskatchewan—		
Harrington, E. & J.	1755 Scarth Ave., Regina	Regina.
Alberta—		
Birks, Henry, & Son	Phillips Square, Montreal, Que.	Herald Bldg., Calgary.
Calgary Dental Laboratory	608 Leeson-Lineham Blk., 8th Ave. W., Calgary.	Calgary.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Continued

Precious Metal Products—Concluded

Name of Firm	Head Office Address	Location of Plant
British Columbia—		
Birks, Henry & Sons, Ltd.	Phillips Square, Montreal, Que.	710 Grenville St., Vancouver.
Boris, Cecil Peetz	613 Yates St., Victoria	Victoria.
Flewwelling, E. R.	Room 12, 18 Hastings St. W., Vancouver	Vancouver.
Jacoby Bros.	123 Hamilton St., Box 402, Vancouver	Vancouver.
Pettigrew, J. D.	Bernard Ave., Kelowna	Kelowna.
Trayling & Waters	326 Hastings St. W., Vancouver	Vancouver.

Electrical Apparatus and Supplies

New Brunswick—		
Energy Electric Co., Ltd.	Pond St., St. John	St. John.
Quebec—		
Black & Decker Mfg. Co., Ltd.	10 St. Sophie Lane, Montreal	Montreal.
Canadian Laco Lamps, Ltd.	Bond Bldg., 66 Temperance St., Toronto	Toronto.
Canadian Marconi Co.	11 St. Sacrament St., Montreal	173 William St., Montreal.
Cote Bros. Mfg. Co., Ltd.	912-914 Chenneville St., Montreal	Montreal.
Devoe Electric Switch Co.	414 Notre Dame St., W., Montreal	Montreal.
Duncan Electrical Co., Ltd.	2 Inspector St., Montreal	Montreal.
Economy Fuse & Mfg. Co. of Canada, Ltd.	511 Unity Bldg., Montreal	Montreal.
Electrical Mfg. Co.	Montmagny	Montmagny.
Electrolier Mfg. Co., Ltd.	5849 Boyer St., Montreal	Montreal.
Haliburton & White Ltd.	314 Notre Dame W. Montreal	Montreal.
Hart Battery Co., Ltd.	St. Georges St., St. Johns	St. Johns.
Hughes, Benj., Electric Co.	298 Laguuchetiere St., W., Montreal	Montreal.
L. & N. Co., Ltd.	1 Richelieu St., St. Johns	St. Johns.
Leduc Electrical Co.	25 Cote St., Montreal	Montreal.
Lorimer Radio Electrics	274 Main St., Farnham	Farnham.
Magicoal Electric Fires (Canada) Ltd.	201 Mountain St., Montreal	Montreal.
Monarch Electric Co., Ltd.	Waterman St., St. Lambert	St. Lambert.
Northern Electric Co., Ltd.	121 Shearer St., Montreal	Montreal.
Philips, Eugene F., Electrical Works, Ltd.	De Gaspé & Mariner, Box 729, Montreal	Montreal.
Safety Car Heating & Lighting Co.	122 Versailles St., Montreal	Montreal.
Solex Co., Ltd.	4060 St. Lawrence St., Montreal	Montreal.
Ontario—		
Apex Electrical Manufacturing Co., Ltd.	1067 East 152nd St., Cleveland, Ohio, U.S.A.	102 Atlantic Ave., Toronto.
Banfield, W. H. & Son, Ltd.	732 Pape Ave., Toronto	Toronto.
Bakelite Corporation of Canada, Ltd.	163 Dufferin St., Toronto	Toronto.
Baird, W. & Son	568 Dundas St., Woodstock	Woodstock.
Base-O-Lite Products Co.	80 Victoria St., Toronto 2	Toronto.
Belleville Electric & Stampings Ltd.	105 Pinnacle St., Belleville	Belleville.
Benjamin Electric Mfg. Co. of Canada, Ltd.	11 Charlotte St., Toronto	Toronto.
Boston Insulated Wire & Cable Co.	118 Shaw St., Hamilton	Hamilton.
Branston, Charles A. & Co.	126 Wellington St., W., Toronto	Toronto.
Brock Snyder Mfg. Co.	17 John St., Grimsby	Grimsby.
Burgess Batteries, Ltd.	399-415 Buttery St., Niagara Falls	Niagara Falls.
Canada Wire & Cable Co., Ltd.	Leaside	Leaside.
Canada Batteries	360 Dufferin St., Toronto	Toronto.
Canadian Brandes, Ltd.	243 Church St., Toronto	Toronto.
Canadian Coil Co., Ltd.	Walker Power Bldg., Walkerville	Walkerville.
Canadian Crocker-Wheeler Co., Ltd.	George St., St. Catharines	St. Catharines.
Canadian Drill & Electric Box Co.	1402 Queen St. E., Toronto	Toronto.
Canadian General Electric Co., Ltd.	212 King St. W., Toronto	Peterborough.
Canadian General Electric Co., Ltd.	212 King St. W., Toronto	Lansdowne Ave., Toronto.
Canadian General Electric Co., Ltd.	212 King St., W., Toronto	Cor. Ward St. & Wallace Ave., Toronto.
Canadian General Electric Co., Ltd.	212 King St. W., Toronto	Park St., Peterborough.
Canadian General Electric Co., Ltd.	212 King St. W., Toronto	Cannon and Ashley Sts., Hamilton.
Canadian General Electric Co., Ltd.	212 King St. W., Toronto	Edison Works, 221 Dufferin St., Toronto.
Canadian National Carbon Co., Ltd.	46 King St. W. Canada Life Building, Toronto.	Hillcrest Park, Toronto.
Canadian Postel lock Nut & Bolt Co., Ltd.	Collingwood	Collingwood.
Canadian Radiant Electric Co.	26 John St., Grimsby	Grimsby.
Canadian Telephone & Supplies, Ltd.	331-33 King St. W., Toronto	Toronto.
Canadian Triangle Conduit Co., Ltd.	21 Prescott Ave., Toronto	Toronto.
Canadian Westinghouse Co., Ltd.	Sanford Ave., N., Hamilton	Hamilton.
Canfield Electrical Works	260 Geary Ave., Toronto	Toronto.
Chadwick, F., & Son, Brass Co.	1924 Rolus St., Hamilton	Hamilton.
Champion Spark Plug Co. of Canada, Ltd.	1416 Howard Ave., Windsor	Windsor.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Continued

Electrical Apparatus and Supplies—Continued

Name of Firm	Head Office Address	Location of Plant
Ontario—Concluded		
Christian Electric Co. of Canada, Ltd	523 Langlois St., Windsor	Windsor.
Clements Manufacturing Co., Ltd	78 Duchess St., Toronto	Toronto.
Commercial Fixture Co., Ltd	122 Adelaide St. W., Toronto	Toronto.
Continental Electric Co., Ltd	507 King St. E., Toronto	Toronto.
Crouse-Hinds Co. of Canada, Ltd	7 Labatt Ave., Toronto	Toronto.
Crown Electrical Mfg. Co., Ltd	21 Sydenham St., Brantford	Brantford.
Dalyte Electric Ltd	Surrey St., Guelph	Guelph.
De Forest Radio Corporation Ltd	245 Carlaw Ave., Toronto	Toronto.
Dominion Battery Co., Ltd	20 Trinity St., Toronto	Toronto.
Dominion Carbon Brush Co	250 Richmond St., W., Toronto	Toronto.
Dominion Electric Mfg. Co., Ltd	60 Sumach St., Toronto	Toronto.
Dominion Oil Cut Outs Co	250 Richmond St. W., Toronto	Toronto.
Durable Electric Appliance Co., Ltd	81 Jarvis St., Toronto	Toronto.
Eagle Star Battery Co., Ltd	382 Queen St., Ottawa	Ottawa.
Exide Batteries of Canada, Ltd	153 Dufferin St., Toronto	Toronto.
Factory Products, Ltd	473 College St., Toronto	Toronto.
Fada Radio, Ltd	821 Queen St. E., Toronto 8	Toronto.
Federal Radio Co., Ltd	26 Noble St., Toronto	Toronto.
Ferguson Pailin, Ltd	445 King St. W., Toronto	Toronto.
Ferranti Electric, Ltd	321 King St. E., Toronto 2	Toronto.
Forest Electric Co. of Canada, Ltd	32-34 Eastern Ave., Toronto 2	Toronto.
Galt Electric and Gas Fixtures Co	59 Queen St. E., Galt	Galt.
Hamilton Lamp Co	146 York St., Hamilton	Hamilton.
Hoover Co., Ltd	Gage and Barton Sts., Hamilton	Hamilton.
Ice-O-Matic Refrigeration Co., Ltd	Windsor	Windsor.
Jack Frost Ice Machine Co., Ltd	347 Sorauren Ave., Toronto 3	Toronto.
Jones & Moore Electric Co., Ltd	296 Adelaide St. W., Toronto	Toronto.
Keith Electric Refrigerator Co., Ltd	297 Campbell Ave., Toronto	Toronto.
Kelvinator of Canada Ltd	1152 Dundas St., London	London.
LaSalle Lead Products Ltd	630 Wyandotte St. E., Windsor	Windsor.
Lincoln Electric Co. of Canada, Ltd	65-7 Bellwoods Ave., Toronto	Toronto.
Live Wire Co., Ltd	Metcalfe St., Guelph	Guelph.
Maloney Electric Co. of Canada Ltd	213 Sterling Road, Toronto	Toronto.
Marr, W. P	66 Wallace Ave., Toronto	Toronto.
Metal Studios, Ltd	21 Walnut St. N., Hamilton	Hamilton.
Mis-Can-Ada Mfg. Co	12 Chamberlain Ave., Ottawa	Ottawa.
Monarch Battery Co., Ltd	275 Ontario St., Kingston	Kingston.
National Electric Heating Co., Ltd	544 Queen St. E., Toronto	Toronto.
Nesbitt Electric Mfg. Co., Ltd	60 Duchess St., Toronto	Toronto.
Oxley & Meredith	110 Church St., Toronto 2	Toronto.
Packard Electric Co., Ltd	13 Race St., St. Catharines	St. Catharines.
Phoenix Art Metal Mfrs	1102 Ossington Ave., Toronto	Toronto.
Pierce Fuse Corporation of Canada, Ltd	8 Lewis St., Bridgeburg	Bridgeburg.
Premier Vacuum Cleaner Co., Ltd	233 Richmond St. W., Toronto	Toronto.
Prest-O-Lite Company of Canada, Ltd	Canada Life Bldg., 46 King St. W., Toronto	Hillcrest Park, Toronto.
Radio Valve Co. of Canada, Ltd	212 King St. W., Toronto	Cannon and Ashley Sts., Hamilton.
Renfrew Electric Products, Ltd	Bonnechere St., Box 641, Renfrew	Renfrew.
Robbins & Myers Co	Morrell St., Brantford	Brantford.
Rogers Radio Ltd	56 Church St., Toronto 2	Toronto.
Sangamo Electric Co., of Canada, Ltd	420 Power Bldg., Montreal, Que	183-185 George St., Toronto.
Sepco Automatic Electric Heaters	39 Richmond St. E., Toronto	Toronto.
Service Lamp Co	197 King St., London	London.
Smith, Peter, Heater Co	6209 Hamilton Ave., Detroit, Mich	Walkerville.
Smith & Stone, Ltd	Georgetown	Georgetown.
Southern Electric Co	27 Wilton Sq., Toronto 2	Toronto.
Spanner Battery Box & Separator Co	15 Elm St., Toronto 2	Toronto.
Splitdorf Electrical Co., Ltd	493 Young St., Toronto	30 Carlton St., Toronto.
Square D. Company, Canada, Ltd	Walkerville	Walkerville.
Standard Bronze Co., Ltd	Rear 1 Trafalgar Ave., Toronto	145 Victoria St., Toronto
Standard Radio Mfg. Co	90 Chestnut St., Toronto	Toronto.
Standard Underground Cable Co. of Canada, Ltd	Sherman Ave., Hamilton	Hamilton.
Stromberg-Carlson Telephone Mfg. Co. of Canada, Ltd	211-219 Geary Ave., Toronto 4	Toronto.
Superior Electric Co., Ltd	197 John St., Pembroke	Pembroke.
Supreme Water Heater Mfg. Co	1 Carlton St., Toronto	Toronto.
Taylor Electric Mfg. Co., Ltd	526 Adelaide St., London	London.
Toronto and Hamilton Electric Co	99-103 McNab St. N., Hamilton	Hamilton.
Triplex Electric Co., Ltd	120 Wellington St. W., Toronto	Toronto.
United Electric Co. of Canada, Ltd	14 Breadalbane St., Toronto	Toronto.
Universal Cooler Co. of Canada, Ltd	Howard Ave., Windsor	Windsor.
U. S. Light & Heat Ltd	Cor. Welland Ave. and Park St., Niagara Falls	Niagara Falls.
Volta Mfg. Co., Ltd	Alexander St., Welland	Welland.
Wade Manufacturing Co	Cross St., Dundas	Dundas.
Walker, Hiram & Sons, Metal Products Ltd	Kildare Road, Walkerville	Walkerville.
Walsh Electrical Co., Ltd	465 Church St., Toronto	Toronto.
Willard Storage Battery Co., of Canada, Ltd	269 Campbell Ave., Toronto	Toronto.
Wonder Recharger Corporation Ltd	41 Baltic Ave., Toronto	Toronto.
White Radio Ltd	41 West Ave. N., Hamilton	Hamilton.

DIRECTORY OF FIRMS IN THE INDUSTRIES CLASSIFIED UNDER MANUFACTURES OF NON-FERROUS METALS—Concluded

Electrical Apparatus and Supplies—Concluded

Name of Firm	Head Office Address	Location of Plant
Manitoba—		
Burgess Dry Cells, Ltd.	14 Bury St., Winnipeg	Winnipeg.
Dominion Electric Co., Ltd.	69 Princess St., Winnipeg	Winnipeg.
Electric Heating Co., Ltd.	681 Notre Dame Ave., Winnipeg	Winnipeg.
Garry Mfg. Co., Ltd.	120 Lombard St., Winnipeg	Winnipeg.
Globelite Battery Co., Ltd.	147 Pacific Ave., Winnipeg	Winnipeg.
Johnson Electric Mfg. Co.	651 Sargent Ave., Winnipeg	Winnipeg.
Langley, G. E., Electrical Mfg. Co.	35 Martha St., Winnipeg	Winnipeg.
Moncrieff & Endress Ltd.	52 Adelaide St., Winnipeg	Winnipeg.
Radio Mfg. Co.	1375 Portage Ave., Winnipeg	Winnipeg.
Wahl Mfg. Co. of Canada	322 Donald St., Winnipeg	Winnipeg.
Saskatchewan—		
Arro Lite Co., Ltd.	433 Athabaska St. E., Moose Jaw	Moose Jaw.
Alberta—		
Alberta Battery Co.	420—9th Ave. E., Calgary	Calgary.
Blais Bros. Battery Co., Ltd.	10161—100A St., Edmonton	Edmonton.
Champion Battery Co.	410 S. Railway St., Medicine Hat	Medicine Hat.
Grant, W. W.	1003 -1st St. E., Calgary	Calgary.
Smith's Battery Station	211—10th Ave. W., Calgary	Calgary.
British Columbia—		
Cope & Son, Ltd.	150 Hastings St. W., Vancouver	Vancouver.
Coyle, Frank A.	1445 Venables St., Vancouver	Vancouver.
Electric Panel Mfg. Co.	1130 Richards St., Vancouver	Vancouver.
Farr, Robinson & Bird	546 Howe St., Vancouver	Vancouver.
Gethin Battery Co.	510 Hamby St., Vancouver	Vancouver.
Magic Battery House	690 Homer St., Vancouver	Vancouver.

Miscellaneous Non-Ferrous Metal Products

Quebec—		
Canada Metal Weatherstrip Co.	121 St. Henry St., Montreal	Montreal.
Piper, Hiram L., Co., Ltd.	75 St. Remi St., Montreal	Montreal.
White Bros.	1234 Van Horne Ave., Montreal	Montreal.
Ontario—		
Baetz Bros. Specialty Co., Ltd.	264 Victoria St., Kitcherner	21 Gaukel St., Kitchener.
Best Weather Strip Co., Ltd.	28-32 James St., Hamilton	Hamilton.
Chamberlain Metal Weather Strip Co.	Kingsville	Kingsville.
Coleman Lamp Co., Ltd.	Queen St. E. and Davis Ave., Toronto	Toronto.
Dewar Mfg. Co.	34-35th St., Brooklyn, N.Y.	77 York St., Toronto.
Ford's Golden Weather Strip Co.	111 Prospect St., Hamilton	Hamilton.
Furber, C. J. & Co.	Queen St., Durham	Durham.
Golden All-Metal Weather Strip Co.	417 Marguerette St., Toronto	Toronto.
Hamilton Weatherstrip & Screen Co.	354 Cumberland Ave., Hamilton	Hamilton.
Higgin Manufacturing Co.	Newport, Kentucky, U.S.A.	33-35 McCaul St., Toronto.
Ideal All-Metal Weatherstrip Co.	1107 Broadview Ave., Toronto	Toronto.
Moore Weatherstrip Co.	882 Palmerston Ave., Toronto	Toronto.
Peace William Co., Ltd.	Gerrard St., Hamilton	Hamilton.
Reliable Bronze Weatherstrip Co.	1212 Young St., Toronto 5	Toronto.
Schultz Manufacturing Co., Ltd.	156 York St., Hamilton	Hamilton.
Manitoba—		
Dennis, H. J.	284 Stradbrook Ave., Winnipeg	Winnipeg.

Non-Ferrous Metal Smelting and Refining

Quebec—		
Aluminium Company of Canada, Limited	Canada Life Bldg., 46 King St., Toronto, Ont.	Shawinigan Falls and Arvida.
Ontario—		
Deloro Smelting and Refining Co., Limited.	Deloro	Deloro.
International Nickel Co. of Canada, Limited	67 Wall St., New York, U.S.A.	Coppercliff and Port Colborne.
Kingdon Mining, Smelting and Power Co.	Galetta	Galetta.
Mond Nickel Co., Limited	Coniston	Coniston.
British Columbia—		
Consolidated Mining and Smelting Co.	Trail	Trail.
Granby Consolidated Mining, Smelting and Power Co.	Anyox	Anyox.