CANADA

DOMINION BUREAU OF STATISTICS

THE ALUMINIUM WARE MANUFACTURING INDUSTRY IN CANADA IN 1920

Advance Chapter of

"Non-Ferrous Metals and their Products in Canada in 1920"

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Prepared in the

MINING, METALLURGICAL
and CHEMICAL Branch

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Published by Authority of the Right Hon. Sir George E. Foster, G. C. M. G., M. P.

Minister of Trade and Commerce.

OTTAWA

1921

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Aluminium manufacturing in Canada may be divided into two industries; the smelting of imported ores, represented by one firm, the Northern Aluminium Co. at Shawinigan Falls, Quebec, and the aluminium ware manufacturing industry which is carried on in Ontario by four separate concerns. These are, the Northern Aluminium Co., which in addition to the smelter at Shawinigan Falls, Que., operates a fabricating plant at Toronto for the manufacture of all kinds of aluminium utensils; the W.H. Shambrook Co., Ltd., of Hamilton; the Lewis McLean Co., Ltd., of Toronto and the Aluminium Ware Manufacturing Co., Ltd., of Oakville. This report is descriptive of the aluminium ware manufacturing industry only; the smelting of aluminium ores will be discussed in the report on the smelting and refining of non-ferrous metals.

The ores of aluminium are not found in Canada and the entire industry consequently is dependent on imported supplies of the ores and metals. In the first table the imports and exports of aluminium and its products, compiled from the data given in the Reports on the the Trade of Canada are shown with the values of the aluminium ware manufactured as reported by the four Ontario plants. A close approximation of the Canadian consumption of aluminium articles may be obtained by taking the sum of the values opposite the items "Imports" and "Manufactured in Canada," and deducting the values of the "Exports" shown in the column headed "Kitchen or Hollow Ware and other Manufactured Articles." This gives a value of $1,990,528; the Canadian production, therefore, in 1920, supplied 70% of the domestic demand.

For the information of the reader, certain data regarding imports and exports of aluminium ingots, blocks, bars, rods, plates, etc., have been included. The Canadian production of the metal has been omitted since, as noted above, only one firm in Canada smelts aluminium ores.

Table 1, IMPORTS, EXPORTS AND MANUFACTURES

CLASS		Ores and Metal		Aluminium Products		
		Ores of Aluminium (Bauxite, Cryolite etc.)	Ingots, Block Bars, Rods, Plates, etc.	Kitchen or Hollow Ware and Other Mfd. Articles	Aluminium Leaf or Foil	Alu Sulph
Imports	cwt.	1,166,990	1,850,687	...	...	...
	$	2,052,478	623,232	772,691	194,618	390,395
Exports	lbs.	...	19,716,300	...	...	...
	$	...	6,094,628	175,057	...	...
Manufactured in Canada		...	Omitted			
		...	Omitted	$1,392,894	...	...

The next two tables show the materials used and products manufactured and their values; the difference between these amounts is $1,036,925, which represents the value added to the materials used by the process of manufacturing.

Table 2, MATERIALS USED

ARTICLE	Unit of Measure	Quantity	Total Cost at Works
1. Fabricated & Sheet Aluminium.....	Lbs.	1,613,979	$511,699
2. Black Iron.....	"	8,603	$ 862
3. Tin and Zinc.....	"	2,596	$ 1,502
4. Wire.....	"	10,950	$ 818
5. Trimmings (Handles, knobs, etc)....	"	...	$ 12,489
6. Buffs.....	"	3,600	$ 4,102
7. Tripoli.....	"	5,592	$ 615
8. White finish and Emery.....	"	804	$ 144
9. Rivets.....	"	1,135	$ 613
10. Containers, Boxes, Barrels, etc....	"	...	$ 7,185
11. All other materials.....	"	...	$ 70,843
T O T A L.....			$610,872

Table 3, PRODUCTS MANUFACTURED

ARTICLE	Unit of Measure	Quantity	Total Selling value at works
1. Aluminium Fabricated Products.....	Lbs.	1,711,121	$1,114,092
2. Aluminium Ingot.....	"	92,823	$ 29,788
3. Aluminium Cooking Utensils.....	"	...	$ 278,902
4. Other Products.....	"	...	$ 225,115
T O T A L.....		???.....	$1,647,797

PITAL INVESTED:

The total amount of capital invested in t' industry in Canada in 1920 was $3,244,566 covering the fol' items: Machinery and Tools, $241,235; materials on hand and in process, $1,029,210; and cash trading and operating accounts, bills receivable, etc., $605,080.

MISCELLANEOUS EXPENSES:

The miscellaneous expenses incurred during the year, chargeable to manufacturing are shown as follows:

Table 4. MISCELLANEOUS EXPENSES DURING THE YEAR.

Rent of offices, works and machinery		$ 1,650
Rent of power		$ 11,074
Insurance (Premium for year only)		$ 28,534
Taxes: (Excess profits tax		$153,226
(Provincial & municipal		$ 7,582
Advertising expenses		$ 23,141
Travelling expenses		$ 10,710
Repairs to buildings and machinery		$166,533
All other sundry expenses (not including fuel, costs of materials used, salaries or wages)		$419,776
T O T A L		$822,226

POWER EMPLOYED:

Nearly all the prime movers for the machinery used were electrically operated; 22 motors with a total rating of 882 horse-power being driven by purchased power. One 50 H.P. steam engine was employed. Details regarding the power used are shown in the next table.

Table 5. POWER USED.

CLASS	Number of Units	Total H.P. according to manufacturer's rating.	Total H.P. Used
Boilers	2	200	150
Steam Engines	1	50	20
Electric Motors	22	882	540

FUEL USED:

The fuel item in this industry consisting of coal, fuel oil and artificial gas was small, amounting to a total of $23,401

Table 6, FUEL USED.

KIND	Unit	CANADIAN Quantity	CANADIAN Cost	FOR Quantit	FOR
Bituminous Coal, lump...	Short Tons	...	$ ...	146	
" " run of mine	"	...	$ ...	2,492	$16,
Anthracite Coal, lump...	"	40	$ 330	...	...
Oil (Fuel).....	Imp.Gals.	41,354	$6,834	...	...
Gas (Artificial).....	1000 cu. ft.	20,641	$ 714	...	...
T O T A L.....			$7,878	.....	$16,523

TIME IN OPERATION, SALARIES AND WAGES PAID:

With the exception of one plant which was idle during the first four months, the industry as a whole was active throughout the year. On the basis of one plant there were 1,056 days on full-time-operation, 5 days part time and 155 days idle. The average day's work was one of 9 hours with a 50-hour week. A total of $351,643 was paid as wages to an average of 291 people, 241 of whom were men, and 50 women. The total number of individuals entered on the pay-list during the year was 640. To those of the salaried list, $45,698 was paid to 13 superintendents while 67 men and 31 women-clerks and stenographers, etc., drew $150,461 making a total of $196,159. The salaried officials monthly pay-roll list and the number of wage-earners classified according to their weekly rates of wages are shown below.

Table 7, SALARIED EMPLOYEES.

	No. Male	No. Female	Total Salaries
Officers, Superintendents, etc.	13	...	$ 45,598
Clerks, Stenographers, Salesmen, etc.....	67	31	$150,461
T O T A L.....	80	31	$196,159

Table 8, WAGE-EARNERS, NUMBER ON PAY-ROLL ON 15th OF EACH MONTH

Month	No.Male	No.Female	Month	No.Male	No.Female	Month	No.Male	No.Female
Jan.	208	37	May	219	35	Sept.	259	62
Feb.	212	43	June	252	46	Oct.	270	64
Mar.	228	37	July	241	54	Nov.	278	65
Apr.	208	37	Aug.	257	65	Dec.	264	58

Table 9, CLASSIFICATION OF WAGE-EARNERS ACCORDING TO WEEKLY

as of December 15, 1920

WEEKLY WAGE RATES.	Over 16 years of Age		Under 16 yea Age	
	Male No.	Female No.	Male No.	Female No.
Between $5.00 and $10.0....	8	10	...	...
Between $10.00 and $20.00..	39	44	1	...
Between $20.00 and $30.00..	176	2	...	...
$30.00 and over....	38	...	...	...

The aluminium industry in America dates from 1890 when the first successful process was worked out for the economical extraction of the metal from its ores. The lightness and ductility of the metal, and the fact that it is not readily attacked by organic acids, air or water, together with the fact that it transmits heat readily, soon brought it into favor as a materialf for kitchen utensils and it is in this connection that it has become so well known. Large quantities of aluminium wire are now used for electric transmission lines and quantities are used in the manufactures of such apparatus as cream separator parts and other light machinery. Alloyed with magnesium it finds extensive use as an alloy possessing great tensile strength which can be soldered. Aluminium bronzes, too, are finding extensive uses, and during the war great quantities were used in the manufacture of aeroplane engines and parts.

The aluminium ware manufacturing industry in Canada is expanding rapidly to meet the demand which has been created, and the future of this comparatively new industry is very promising.

This reportsis one of a number published by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics relating to the manufacture of chemical and mineral products in Canada. A complete list of these publications may be obtained on request.

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