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ANNUAL INDUSTRY REPORT

MANUFACTURES OF THE NON-FERROUS METALS

THE BRASS AND COPPER PRODUCTS INDUSTRY, 1942

This report covers the operations of brass foundries and other plants in Canada engaged chiefly in the manufacture of commodities, other than electrical equipment, from brass, bronze or copper. Ninety-two foundries and fifty-seven fabricating plants reported under this industry in 1942 and their production was valued at \$164,291,350. In 1941 the corresponding total amounted to \$100,588,991 and in 1940 to \$57,238,558.

Products manufactured during 1942 by firms in this group included ingots, bars, rods, plates, sheets, discs, cups, tubing, and such further fabricated lines as wire cloth, valves, cartridge cases, kettles and tanks, plumbing supplies, gas and water meters, fire extinguishers, lightning rods, metal fasteners, automobile hardware, etc. Copper wire and cable, lighting fixtures, switches and other such articles for electrical purposes have not been listed in this group but have been classified to the Electrical Apparatus and Supplies Industry which is dealt with in a separate report.

Brass foundry departments which were run by iron foundries or by manufacturers of machinery, farm implements, etc., as a secondary or minor part of their operations, are not included in this group as, in such instances, separate reports were not required for the brass foundry divisions and all data concerning same were included in the industries of major importance. It is believed that there are in Canada about 350 brass foundries in all.

A total of 149 plants was included in this group during 1942, of which 92 were located in Ontario, 37 in Quebec, 12 in British Columbia, 6 in Manitoba and 1 each in New Brunswick and Alberta. Ontario's factories accounted for 57 per cent of the total production and Quebec's plants for 40 per cent.

Capital employed in 1942 was reported at \$66,282,716, of which \$25,383,517 represented the value of land, buildings and equipment, \$16,200,942 the value of inventories, and \$24,698,257 the total operating capital.

The number of employees in 1942 was 17,454 compared with 13,190 and salaries and wages aggregated \$29,269,030 as against \$19,560,353 in 1941.

Table 1 - PRINCIPAL STATISTICS, 1939-1942

Year	Number of plants	Capital employed \$	Average number of em- ployees	Salaries and wages \$	Cost of fuel and electricity at works \$	Cost of materials at works \$	Gross sell- ing value of products at works \$
<u>1 9 3 9</u>							
Foundries making taps, valves, etc.	14	7,902,637	1,510	2,093,679	129,725	1,219,642	4,678,900
Other brass and bronze foundries ..	63	9,452,674	2,151	3,031,128	354,765	6,770,011	12,939,038
Fabricating plants (not foundries).	52	7,750,267	1,356	1,581,233	132,745	10,971,475	14,493,974
TOTAL - 1939	129	25,105,578	5,217	6,706,040	617,235	18,961,128	32,111,912
<u>1 9 4 0</u>							
Foundries making taps, valves, etc.	13	8,961,779	2,294	2,949,492	177,804	2,040,290	7,124,507
Other brass and bronze foundries ..	69	15,702,257	3,686	5,640,209	626,382	14,992,042	27,195,485
Fabricating plants (not foundries).	50	8,266,508	1,374	1,781,874	99,977	13,164,587	22,918,566
TOTAL - 1940	132	32,930,544	7,354	10,371,575	904,663	35,196,919	57,238,558
<u>1 9 4 1</u>							
Foundries making taps, valves, etc.	14	9,964,671	3,136	4,313,321	228,354	4,165,557	11,698,026
Other brass and bronze foundries ..	74	36,515,123	7,558	11,794,049	1,304,235	36,901,375	62,192,501
Fabricating plants (not foundries).	55	11,413,103	2,496	3,452,383	182,513	18,342,927	26,696,464
TOTAL - 1941	143	57,892,897	13,190	19,560,353	1,715,107	59,409,859	100,538,991
<u>1 9 4 2</u>							
Foundries making taps, valves, etc.	13	10,942,886	3,810	5,907,812	257,060	6,204,074	18,030,253
Other brass and bronze foundries ..	79	43,927,659	10,070	18,012,594	1,849,122	59,762,016	114,104,493
Fabricating plants (not foundries).	57	11,412,171	3,574	5,343,624	271,126	19,436,604	32,156,604
TOTAL - 1942	149	66,282,716	17,454	29,269,030	2,377,308	85,452,694	164,291,350

NOTE: Above data for foundries are only for the foundries which were occupied chiefly in making valves, plumbers' goods, castings, etc., as their regular line of goods for sale. Brass foundry departments which were run by iron foundries or by manufacturers of machinery, etc., as a secondary or minor part of their operations are not included as, in such cases, separate reports were not required for the brass foundry divisions.

Ingot makers are included with foundries as also are the concerns which make brass and roll same into rods, sheets, cartridge discs, etc.

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1941 and 1942

Province	Number of plants	Capital employed \$	Average number of em- ployees	Salaries and wages \$	Cost of fuel and electricity at works \$	Cost of materials at works \$	Gross sell- ing value of products at works \$
<u>1 9 4 1</u>							
Quebec	32	23,159,454	4,710	6,947,327	748,569	23,783,386	33,651,457
Ontario	82	32,512,711	7,693	11,611,866	888,777	34,343,772	58,368,770
British Columbia ...	11	326,228	141	243,900	10,689	254,359	645,617
Manitoba	5)						
New Brunswick	1)	1,894,504	646	757,260	67,072	1,028,342	2,423,147
Alberta	1)						
CANADA	132	57,892,897	13,190	19,560,353	1,715,107	59,409,859	100,588,991
<u>1 9 4 2</u>							
Quebec	37	27,671,527	6,519	11,142,124	1,060,756	33,626,104	66,274,520
Ontario	92	35,994,631	9,922	16,593,504	1,214,176	50,042,186	93,357,090
British Columbia ...	12	510,855	268	521,933	24,058	497,324	1,558,463
Manitoba	6)						
New Brunswick	1)	2,105,703	745	1,011,469	78,318	1,287,080	3,101,277
Alberta	1)						
CANADA	149	66,282,716	17,454	29,269,030	2,377,308	85,452,694	164,291,350

Table 3 - CAPITAL EMPLOYED, BY CLASSES AND BY PROVINCES, 1941 and 1942 (On the last day of the year)

Province	Present value of land, buildings, fixtures, machinery and tools \$	Value of Inventories Materials, fuel and other sup- plies on hand and stocks in process \$	Finished products on hand \$	Cash, bills and accounts receivable, prepaid ex- penses etc. \$	TOTAL CAPITAL EMPLOYED \$
<u>1 9 4 1</u>					
Quebec	10,976,868	5,043,914	1,311,171	5,827,501	23,159,454
Ontario	12,169,394	7,996,217	2,402,246	9,944,854	32,512,711
British Columbia	125,303	43,575	18,448	138,902	326,228
Other provinces.	603,335	553,619	117,864	613,686	1,894,504
CANADA	23,874,900	13,637,325	3,849,729	16,530,943	57,892,897
<u>1 9 4 2</u>					
Quebec	11,511,247	3,642,661	1,512,955	11,004,664	27,671,527
Ontario	13,080,767	8,015,048	2,329,011	12,569,805	35,994,631
British Columbia	205,974	42,545	26,182	236,154	510,855
Other provinces.	535,529	536,640	95,900	887,634	2,105,703
CANADA	25,333,517	12,236,894	3,964,048	24,698,257	66,282,716

Table 4 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1941 and 1942

TABLE 1.—EMPLOYERS, EMPLOYEES AND WAGES, BY PROVINCE, 1941 AND 1942								
Province	Average Number of Employees					Salaries	Wages	TOTAL
	On Salaries		On Wages		TOTAL			SALARIES
	Male	Female	Male	Female				and WAGES
						\$	\$	\$
<u>1941</u>								
Quebec	404	192	3,854	260	4,710	1,195,101	5,752,226	6,947,327
Ontario	764	348	5,837	744	7,693	2,306,819	9,305,047	11,611,866
British Columbia	20	5	116	...	141	64,023	179,877	243,900
Other provinces.	59	5	535	47	646	136,914	620,346	757,260
CANADA	1,247	550	10,342	1,051	13,190	3,702,857	15,857,496	19,560,353
<u>1942</u>								
Quebec	444	221	5,239	615	6,519	1,315,446	9,826,678	11,142,124
Ontario	787	494	7,221	1,420	9,922	2,629,624	13,963,880	16,593,504
British Columbia	28	6	230	4	268	95,441	426,492	521,933
Other provinces.	66	16	543	120	745	162,204	849,265	1,011,469
CANADA	1,325	737	13,233	2,159	17,454	4,202,715	25,066,315	29,269,030

Table 5 - WAGE-EARNERS, BY MONTHS, 1941 and 1942 (On the last work day of each month)

Month	1941			1942		
	Male	Female	TOTAL	Male	Female	TOTAL
January	8,383	824	9,207	12,303	1,466	13,769
February	8,775	837	9,612	12,606	1,552	14,158
March	9,240	861	10,101	12,940	1,635	14,575
April	9,439	850	10,289	13,078	1,822	14,900
May	9,956	902	10,858	13,213	2,062	15,275
June	10,377	960	11,337	13,314	2,167	15,471
July	10,794	1,046	11,840	13,345	2,388	15,733
August	11,041	1,116	12,157	13,471	2,490	15,961
September	11,225	1,198	12,423	13,590	2,548	16,138
October	11,470	1,217	12,687	13,675	2,579	16,254
November	11,724	1,374	13,098	13,743	2,613	16,356
December	11,738	1,426	13,164	13,571	2,589	16,160
AVERAGE	10,342	1,051	11,393	13,233	2,159	15,392

Table 6 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1941 and 1942 (In one week in month of highest employment; overtime included)

Hours worked per week	Number of Wage-Earners			
	1941		1942	
	Male	Female	Male	Female
30 hours or less	289	111	423	97
31-43 hours	501	108	970	233
44 hours	398	94	617	171
45-47 hours	1,037	183	823	289
48 hours	3,100	188	2,802	600
49-50 hours	951	254	1,363	386
51-54 hours	861	184	1,507	195
55 hours	357	47	587	133
56-64 hours	3,850	239	4,188	512
65 hours and over	931	8	1,008	12
TOTAL	12,325	1,416	14,288	2,628
Total wages paid in selected week \$	384,634	24,064	531,590	59,187

Table 7 - FUEL AND ELECTRICITY USED, 1941 and 1942

Kind	Unit of measure	1 9 4 1		1 9 4 2	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Bituminous coal--Canadian	ton	11,694	82,539	13,583	108,687
Imported	ton	19,110	132,924	24,628	191,251
Anthracite coal	ton	5,344	43,443	5,487	49,672
Lignite coal	ton	...	...	...	...
Coke	ton	12,783	139,735	3,508	43,432
Gasoline	Imp.gal.	173,782	45,601	396,330	62,873
Kerosene	Imp.gal.	38,179	6,252	41,430	6,699
Fuel oil	Imp.gal.	4,510,071	358,648	6,343,247	562,129
Wood	cord	351	2,175	365	2,834
Gas--Manufactured	M cu.ft.	52,024	38,951	96,962	66,259
Natural	M cu.ft.	50,121	19,535	62,026	23,933
Other fuel .....	...	...	34,458	...	97,471
Electricity purchased ...	K.W.H.	110,701,486	810,846	167,718,832	1,162,068
TOTAL .....	...	...	1,715,107	...	2,377,308

Table 8 - POWER EQUIPMENT, 1941 and 1942

	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
<u>1 9 4 1</u>				
Steam engines and turbines	4	825	4	430
Gasoline, gas and oil engines	1	75	...	...
Electric motors run by purchased power	3,911	57,169	181	2,432
TOTAL	3,916	58,069	185	2,862
Electric motors run by primary power .....	...	...	...	...
Stationary boilers	46	4,941	2	550
<u>1 9 4 2</u>				
Steam engines and turbines	3	325	5	780
Gasoline, gas and oil engines	2	82	1	3
Hydraulic turbines or water wheels	1	25	...	...
Electric motors run by purchased power	4,714	47,957	328	4,434
TOTAL	4,720	48,389	334	5,217
Electric motors run by primary power
Stationary boilers	49	6,084	1	500
Motor generator sets	34	10,754

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Table 9 - MATERIALS USED IN MANUFACTURING, 1941 and 1942

Material	Unit of measure	1 9 4 1		1 9 4 2	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Aluminium -					
Ingots	lb.	1,351,083	269,963	2,363,724	460,714
Scrap	lb.	1,016,224	155,011	745,165	100,775
Other forms	lb.	...	188,664	...	350,268
Antimony	lb.	12,674	2,004	25,883	3,821
Brass -					
Ingots	lb.	5,329,924	612,869	11,301,789	1,548,065
Scrap	lb.	40,407,716	3,440,020	109,481,570	9,065,067
Bars and rods	lb.	9,830,063	1,394,365	18,560,528	2,552,056
Discs for cartridge cases (purchased) ..	lb.	23,555,545	4,238,437	66,351,532	12,144,308
Plates, sheets and strip	lb.	2,619,681	573,413	1,668,686	406,129
Pipe and tubing	lb.	623,756	166,633	698,624	210,235
Wire	lb.	1,141,857	283,774	843,262	180,644
Castings	lb.	923,513	220,962	1,593,611	280,054
Other forms	lb.	...	265,846	...	417,859
Bronze -					
Ingots	lb.	5,929,646	815,855	11,878,222	1,774,634
Scrap	lb.	17,017,522	1,586,212	19,442,563	1,923,051
Bars and rods	lb.	131,847	36,652	160,010	35,122
Plates, sheets and strip	lb.	196,141	97,154	77,251	31,547
Wire	lb.	1,151,811	524,065	1,032,410	516,917
Castings	lb.	253,590	85,957	355,366	120,053
Other forms	lb.	...	30,458	...	88,263
Copper -					
Ingots, slabs, wire bars, etc.	lb.	276,679,478	32,109,007	335,793,693	38,422,700
Scrap	lb.	12,193,005	1,310,365	12,617,777	1,326,630
Rods	lb.	171,350	22,038	10,848	2,353
Pipe and tubing	lb.	188,074	44,007	191,106	44,705
Plates, sheets and strip	lb.	971,838	216,256	846,308	239,607
Wire	lb.	384,929	77,984	348,000	65,215
Other forms	lb.	...	39,125	...	55,085
Lead -					
Pig	lb.	1,459,661	75,726	1,780,402	91,070
Scrap	lb.	684,174	37,038	641,465	29,443
Other forms	lb.	...	59,430	...	44,121
Monel metal	lb.	125,875	52,275	125,829	61,281
Nickel	lb.	783,090	232,303	716,650	211,421
Nickel-silver, all forms	lb.	2,466,151	321,716	1,736,941	272,602
Silicon metal	lb.	...	...	285,177	52,311
Silver, fine	oz.	...	...	240	206
Tin--Ingots-					
Phosphor tin ...	lb.	967	696	99,614	19,456
Other tin ingots	lb.	874,421	523,059	494,417	295,816
Scrap	lb.	64,535	29,507	20,877	7,248
Other forms	lb.	...	9,189	...	74,708

Table 9 - MATERIALS USED IN MANUFACTURING, 1941 and 1942 (Concluded)

Material	Unit of measure	1941		1942	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Zinc -					
Ingots and slabs ...	lb.	50,061,499	2,831,901	76,990,715	4,370,655
Scrap	lb.	76,044	6,992	525,767	18,612
Sheets	lb.	389,332	64,229	176,639	22,472
Other forms	lb.	...	30,427	...	346,390
Other non-ferrous metals	lb.	1,326,954	289,671	...	296,675
Iron and steel -					
Pig iron	ton	3,056	82,571	2,247	58,690
Iron castings	ton	710	105,699	848	120,981
Steel castings	ton	222	173,218	227	225,371
Steel bars and rods.	ton	685	143,828	575	144,582
Steel wire	ton	602	139,717	519	107,617
Steel sheets	ton	1,363	200,067	527	70,676
Iron and steel scrap	ton	2,850	69,088	1,288	23,535
Other iron and steel	ton	...	345,298	...	521,801
Lumber	M bd.ft.	808	51,368	736	55,186
Crucibles .....	...	...	117,161	...	170,473
Foundry coke	ton	10,149	136,101	13,850	171,743
Foundry facings	lb.	272,185	8,837	181,843	7,243
Foundry sands	ton	10,274	57,912	12,809	67,291
Refractories .....	...	...	55,078	...	37,790
Other materials .....	...	...	4,005,190	...	4,557,506
Containers and packing materials .....	...	...	347,471	...	531,245
TOTAL ALL MATERIALS ..	...	...	59,409,859	...	85,452,694

Table 10 - PRODUCTS MADE, 1941 and 1942

NOTE: The data in this table are for the Brass and Copper Products Industry only, and do not necessarily represent the total Canadian output of the items that are listed. Concerns in other industries may have made such articles as secondary products.

	Unit of measure	1941		1942	
		Quantity	Gross selling value at works \$	Quantity	Gross selling value at works \$
Aluminium--Castings	lb.	1,089,254	778,633	1,588,158	1,418,899
Other forms ...	...	...	842,371	...	971,080
Brass and bronze -					
Ingots	ton	3,593	934,506	9,410	2,427,866
Castings	ton	14,850	6,396,910	17,347	8,986,216
Scrap	ton	4,202	745,198	4,854	1,583,744
Other forms (x)	ton	70,723	24,854,971	159,300	55,293,183
Copper sheets, wire rods, tubing, etc.	ton	88,878	25,950,709	84,572	25,245,611
Fire extinguishers	775,060	...	877,211
Hardware	773,975	...	898,491
Lighting fixtures	160,838	...	156,656



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Table 10 - PRODUCTS MADE, 1941 and 1942 (Concluded)

	Unit of measure	1 9 4 1		1 9 4 2	
		Quantity	Gross sell- ing value at works \$	Quantity	Gross sell- ing value at works \$
Lightning rods and supplies	99,320	...	72,390
Metal fasteners, all kinds	1,375,015	...	1,474,314
Meters, gas and water	454,306	...	304,002
Plumbers brass fittings - Tub fillers and showers..	296,365	...	269,354
Traps, drains, supplies and other tubular fittings	484,307	...	547,027
Stops and stop and drains	272,224	...	451,235
Sink faucets	363,659	...	394,624
Lavatory and bath faucets	357,483	...	420,687
Closet tank fittings	94,922	...	125,364
Any other plumbing fittings	299,164	...	287,077
Valves--Iron and steel body	1,535,645	...	1,941,758
Brass and bronze, including radiator valves and traps.	2,243,681	...	3,522,227
Steam boiler trimmings, including gauge cocks and water gauge mountings	375,541	...	202,413
Wire cloth of brass, bronze or Monel	sq.ft.	3,650,893	2,211,741	3,343,791	2,088,319
All other products, includ- ing munitions and special war work (xx)	27,912,447	...	54,331,602
TOTAL ALL PRODUCTS	100,588,991	...	164,291,350

(x) Includes bars, rods, sheets, tubing, discs for cartridge cases, cartridge cups, etc.

(xx) Includes cartridge cases, fuses, gaines, shells, ships' fittings, railway car fittings, pins, tanks and kettles, aircraft parts, etc.
