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Science and Industry Division

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

VANCOUVER

JUN 30 1941

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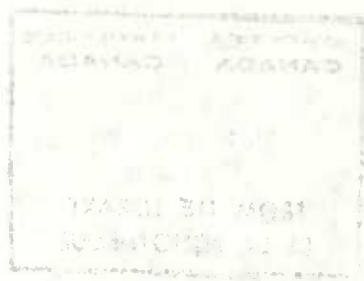


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ANNUAL INDUSTRY REPORTMANUFACTURES OF THE NON-FERROUS METALS GROUPTHE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939

This industrial group includes most of the concerns in Canada which manufacture equipment for use in the generation, transmission and utilization of electricity. However, it is not possible to include all such producers in this industry as the system of classification which is used for the annual Census of Industry provides for the grouping of concerns according to the chief component material of the major product made, and, under this system, some important manufacturers of electrical supplies must be allotted to other industries. For example, since clay is the chief material used in making porcelain insulators, the producers of these goods have been classified to the Clay Products Industry under the main group which embraces all manufactures of non-metallic minerals; similarly, the makers of electric washing machines have been included in the Machinery Industry of the iron and steel group. Again, some electrical supplies were made as minor products of plants which were primarily engaged in other lines of business and, therefore, were included in other industries. The output of electrical apparatus in these other industries, including electrical accessories for automobile and household use but excluding office and industrial machinery, amounted in value to about \$16,600,000 in 1939. The items which go to make up this outside production are shown in Table 13, in as much detail as it is possible without violating the secrecy clause of the Statistics Act, which provides that the Bureau may not publish information pertaining to individual companies.

Statistics given in Tables 1 to 12 of this report cover only the concerns in the Electrical Apparatus and Supplies Industry. Table 13 shows the output of certain electrical apparatus by firms in other industries and Tables 14 to 32 give the total Canadian output (regardless of the industry in which produced) of motors, generators, transformers, batteries, washing machines, vacuum cleaners, lighting fixtures, wire and cable, refrigerators, stoves, water tank heaters, radio tubes, conduit, radios, ironers, oil burners, incandescent lamps, switch gear and wiring devices.

Production by firms in the Electrical Apparatus and Supplies Industry was valued at \$89,060,578 in 1939, a slight decline from the 1938 total of \$90,129,119. The 190 firms reporting in this group for 1939 were distributed across Canada as follows: 140 in Ontario, 27 in Quebec, 10 in Manitoba, 9 in British Columbia and 4 in Alberta. These plants had a fixed and working capital of \$102,245,833 and gave employment to a monthly average of 20,261 people who were paid \$25,711,092 in salaries and wages. Materials worth \$39,331,766 were purchased for use in manufacturing processes and an additional \$1,266,471 was spent for fuel and electricity.

Imports into Canada under the heading of electrical apparatus were valued at \$13,751,833 in 1939 against \$13,053,526 in the previous year. Exports of Canadian goods of this class were appraised at \$3,229,469 and re-exports at \$236,786. Corresponding totals for 1938 showed exports at \$4,114,160 and re-exports at \$310,477.

Table 1 - PRINCIPAL STATISTICS, 1929 - 1939

Year	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
		\$		\$	\$	\$	\$
1929	139	101,767,108	20,871	26,725,215	1,098,506	49,623,322	113,796,002
1930	149	102,979,896	20,568	26,260,004	1,082,700	43,111,629	104,577,790
1931	163	100,057,945	18,207	22,474,319	950,975	32,385,542	81,578,595
1932	169	82,458,754	14,305	16,262,368	976,453	20,414,844	53,264,918
1933	174	80,844,131	11,767	12,428,430	851,575	14,504,269	37,012,509
1934	174	77,980,366	13,657	15,220,022	986,528	21,308,006	50,234,811
1935	182	75,499,255	15,549	17,594,759	1,070,801	25,409,806	61,152,834
1936	186	79,794,524	17,037	19,501,882	1,187,942	30,484,468	72,288,548
1937	191	97,187,305	21,706	26,291,436	1,331,249	41,695,446	98,841,992
1938	188	97,122,970	20,353	24,978,077	1,199,103	35,916,544	90,129,119
1939	190	102,245,833	20,261	25,711,092	1,266,471	39,331,766	89,060,578
Per cent change							
1939 from 1938 ..	...	+ 5.3	- 0.5	+ 2.9	+ 5.6	+ 9.5	- 1.2

NOTE: Profits or losses cannot be calculated from the above figures as data are not available for general expense items, such as, interest, rent, depreciation, taxes, insurance, advertising, etc.

Table 2 - PRINCIPAL STATISTICS, BY SUB-GROUPS, 1936 - 1939

Year	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of materials at works	Gross selling value of products at works
Motors, generators and transformers, chiefly -				\$	\$	\$
1936	13	29,978,850	5,946	6,610,410	7,216,954	19,513,644
1937	19	43,583,399	9,012	11,383,851	13,274,993	35,202,530
1938	22	43,476,813	8,743	10,934,820	10,584,446	33,606,873
1939	24	44,917,841	8,571	11,207,193	11,325,797	30,005,774
Batteries, chiefly -				\$	\$	\$
1936	26	7,382,437	1,092	1,367,646	3,423,511	7,091,456
1937	27	7,228,584	1,143	1,524,744	4,074,846	7,925,917
1938	27	8,725,816	1,157	1,593,680	4,235,364	8,230,633
1939	27	9,524,430	1,243	1,718,881	4,740,716	9,206,865
Radios and parts, chiefly -				\$	\$	\$
1936	23	8,277,402	2,817	2,656,103	5,987,668	12,628,297
1937	24	9,907,812	3,108	3,141,528	6,464,038	13,406,418
1938	21	8,946,284	2,801	2,802,952	5,404,617	10,853,672
1939	20	9,535,724	2,834	3,006,845	5,535,505	11,232,150
Appliances, chiefly (vacuum cleaners, refrigerators, stoves, etc.) -				\$	\$	\$
1936	31	6,210,018	1,282	1,514,161	3,575,645	7,685,160
1937	35	5,917,333	1,285	1,470,830	3,217,467	7,757,469
1938	36	6,125,304	1,269	1,544,742	4,146,804	8,734,908
1939	36	6,548,960	1,455	1,536,325	5,078,626	9,408,345
Cables and conduits, chiefly -				\$	\$	\$
1936	12	20,187,638	3,394	4,564,697	6,354,887	14,559,182
1937	13	22,923,257	4,760	6,039,529	10,601,180	24,370,967
1938	11	22,874,459	4,440	5,829,339	8,068,397	20,276,661
1939	12	23,833,682	4,292	5,924,096	9,166,452	20,809,183
Lighting fixtures, chiefly -				\$	\$	\$
1936	20	1,088,338	448	436,536	644,583	1,476,924
1937	21	1,800,787	714	754,994	1,079,025	2,518,128
1938	18	1,200,034	485	513,883	681,969	1,784,374
1939	21	1,564,883	623	653,264	932,165	2,297,111
Switchgear, panel boards, and wiring devices, chiefly -				\$	\$	\$
1936	22	2,656,396	822	862,717	1,304,646	2,888,605
1937	23	2,754,173	825	870,078	1,510,572	3,545,954
1938	28	3,855,654	1,036	1,198,626	2,132,883	4,542,788
1939	24	4,352,831	1,087	1,249,196	2,069,035	4,372,962
Other electrical equipment, chiefly -				\$	\$	\$
1936	39	3,904,445	1,236	1,479,612	1,976,594	6,445,280
1937	29	3,072,560	859	1,133,832	1,473,335	4,114,609
1938	25	1,920,606	422	560,035	663,864	2,099,210
1939	26	1,967,482	156	415,292	483,470	1,728,185
TOTAL	1936	186	79,794,524	17,037	19,501,882	30,484,468
	1937	191	97,187,905	21,706	26,291,436	41,695,446
	1938	188	97,122,970	20,353	24,978,077	35,916,344
	1939	190	102,245,833	20,261	25,711,092	39,371,766
						89,060,578

Table 3 - PRINCIPAL STATISTICS, BY PROVINCES, 1938 and 1939

Province	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works		Cost of materials at works	Gross selling value of products at works
					\$	\$		
<u>1938</u>								
Quebec	27	22,905,949	5,215	6,449,159	304,978	8,407,807	20,937,284	
Ontario	136	73,524,692	14,908	18,247,713	872,121	27,106,345	68,249,332	
Manitoba	10	387,428	123	150,348	14,501	286,785	543,149	
Alberta	4	80,692	26	22,131	1,862	28,184	67,050	
British Columbia ...	11	224,209	81	108,726	5,641	137,223	332,504	
CANADA	188	97,128,970	20,353	24,978,077	1,199,103	35,916,344	92,129,119	

<u>1939</u>							
Quebec	27	25,244,787	5,010	6,501,725	831,343	8,777,582	20,375,847
Ontario	140	78,298,175	15,027	18,917,134	913,187	30,144,956	67,733,158
Manitoba	10	400,858	124	162,949	15,264	265,585	588,971
Alberta	4	76,865	26	27,563	1,810	33,765	90,220
British Columbia ...	9	225,148	74	101,721	4,862	109,878	272,382
CANADA	190	102,845,835	20,261	25,711,092	1,266,471	39,331,766	89,060,578

Table 4 - CAPITAL EMPLOYED, BY PROVINCES, 1938 and 1939

Province	Present value of lands, buildings, fixtures, machinery and tools	Inventory value of materials and finished products on hand and stocks in process	Operating capital (cash, trading and operating accounts and bills receivable)	TOTAL CAPITAL EMPLOYED
				\$
<u>1938</u>				
Nova Scotia and Quebec	12,030,477	5,396,385	5,479,087	22,905,949
Ontario	28,803,180	19,820,898	24,900,614	73,524,692
Manitoba	162,552	128,111	96,765	387,428
Alberta	35,345	24,452	20,895	80,692
British Columbia	102,001	71,642	50,566	224,209
CANADA	41,133,555	25,441,488	30,547,927	97,122,970
<u>1939</u>				
Quebec	11,933,347	5,306,213	6,005,227	23,244,787
Ontario	27,467,218	23,036,986	27,793,971	78,298,175
Manitoba	161,072	152,900	86,886	400,858
Alberta	37,424	24,753	14,688	76,865
British Columbia	96,943	72,080	56,125	225,148
CANADA	39,696,004	29,592,932	33,956,897	102,245,833

Table 5 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1938 and 1939

Province	Average number of employees						Salaries \$	Wages \$	TOTAL SALARIES and WAGES \$			
	On Salaries		On Wages		TOTAL							
	Male	Female	Male	Female	Male							
<u>1938</u>												
Quebec	1,131	375	2,707	1,002	5,215	2,922,535	3,526,624	6,449,159				
Ontario	3,043	1,062	8,539	2,264	14,908	7,588,559	10,659,154	18,247,715				
Manitoba	35	6	80	2	123	87,867	62,481	150,348				
Alberta	6	2	18	...	26	8,047	14,084	22,131				
British Columbia	24	4	53	...	81	52,474	56,252	108,726				
CANADA	4,239	1,449	11,597	3,268	20,353	10,659,482	14,318,595	24,978,077				
<u>1939</u>												
Quebec	1,127	384	2,553	946	5,010	2,960,388	3,541,337	6,501,725				
Ontario	3,164	1,107	8,297	2,459	15,027	8,445,437	10,471,697	18,917,134				
Manitoba	37	6	78	3	124	94,418	68,531	162,949				
Alberta	5	2	19	...	26	9,591	17,972	27,563				
British Columbia	24	3	47	...	74	51,436	50,285	101,721				
CANADA	4,357	1,502	10,994	3,408	20,261	11,561,270	14,149,822	25,711,092				

Table 6 - WAGE-EARNERS, BY MONTHS, 1938 and 1939 (On the last work-day of each month)

Month	1 9 3 8			1 9 3 9		
	Male	Female	TOTAL	Male	Female	TOTAL
January	11,789	3,330	15,119	10,247	2,839	13,086
February	11,480	3,148	14,628	10,089	2,811	12,900
March	11,565	3,211	14,776	10,136	2,910	13,046
April	11,436	3,177	14,613	10,284	2,866	13,150
May	11,569	3,230	14,799	10,562	3,087	13,549
June	11,564	3,425	14,987	10,770	3,422	14,192
July	11,826	3,443	15,269	10,677	3,559	14,236
August	11,813	3,599	15,412	10,854	3,711	14,565
September	11,360	3,558	14,918	11,328	3,871	15,159
October	11,421	3,481	14,802	11,788	3,982	15,770
November	10,754	3,047	13,801	11,988	4,065	16,053
December	10,237	2,724	12,961	11,967	3,786	15,753
AVERAGE	11,397	3,268	14,665	10,994	3,408	14,402

Table 7 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1939 (In one week of month of normal employment; overtime not included)

Regular hours worked per week	Number of wage-earners	Per cent of total	Regular hours worked per week	Number of wage-earners	Per cent of total
30 hours or less	238	1.5	51 - 54 hours	288	1.9
31 - 43 hours	2,046	13.3	55 hours	303	2.0
44 hours	5,964	38.9	56 - 64 hours	300	2.0
45 - 47 hours	3,863	25.2	65 hours or over	234	1.5
48 hours	1,309	8.5	Total	15,345	100.0
49 - 50 hours	800	5.2	Total wages paid in selected week	\$ 321,844	

Table 8 - FUEL AND ELECTRICITY USED, 1938 and 1939

Kind	Unit of measure	1 9 3 8			1 9 3 9		
		Quantity	Cost at works	Quantity	Cost at works		
Bituminous coal - Canadian	short ton	21,730	127,124	25,113	145,175		
Imported	short ton	41,423	239,975	41,839	246,367		
Anthracite coal	short ton	3,435	26,599	2,673	21,382		
Coke	short ton	1,025	11,195	1,130	11,831		
Gasoline	Imp.gal.	8,145	2,447	17,078	3,275		
Kerosene	Imp.gal.	4,306	694	2,640	398		
Fuel oil	Imp.gal.	1,374,401	96,723	1,395,072	92,609		
Wood	cord	212	856	74	459		
Gas - Manufactured	M cu. ft.	133,068	91,512	519,240	98,659		
Natural	M cu. ft.	18,700	13,050	21,927	12,573		
Other fuel .....	\$	...	482	...	445		
Electricity purchased	K. W. H.	58,239,784	588,643	68,859,638	633,198		
TOTAL .....	\$	...	1,199,103	...	1,266,471		
Electricity generated for own use	K. W. H.	10,040,300	...	10,206,060	...		

Table 9 - POWER EQUIPMENT, 1938 and 1939

	Ordinarily in use			In reserve or idle		
	Number of units	Total rated horse power	Number of units	Total rated horse power		
1 9 3 8						
Steam engines and turbines	13	3,245	3	4,300		
Diesel engines	1	30	...	...
Gasoline, gas and oil engines	1	15	...	...
Hydraulic turbines or water wheels	7	4,400	...	...
Electric motors run by purchased power	10,137	67,557	352	2,011		
TOTAL	10,159	75,247	353	6,311		
Electric motors run by power generated by above primary units	1,041	5,566	...	...
Stationary boilers	83	10,594	8	1,554		

Table 9 - POWER EQUIPMENT, 1938 and 1939 - (Concluded)

		Ordinarily in use		In reserve or idle	
		Number of units	Total rated horse power	Number of units	Total rated horse power
<u>1 9 3 9</u>					
150	Steam engines and turbines	16	7,530	2	415
649	Diesel engines .....	...	...	...	...
192	Gasoline, gas and oil engines	4	100	2	247
236	Hydraulic turbines or water wheels	7	4,400	...	...
565	Electric motors run by purchased power	10,348	79,772	403	2,797
159	TOTAL	10,375	91,602	407	3,459
770	Electric motors run by power generated by above primary units	1,275	12,090	1	100
053	Stationary boilers	88	10,861	12	1,276
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Table 10 - MATERIALS USED IN MANUFACTURING, 1938 and 1939

Materials	Unit of measure	1 9 3 8		1 9 3 9	
		Quantity	Cost at works	Quantity	Cost at works
\$					
Aluminium -					
Castings	lb.	345,987	151,653	411,555	186,594
Ingot and scrap	lb.	71,125	14,254	122,887	24,621
Punchings and spinnings	lb.	81,102	44,224	62,372	30,607
Rods and bars	lb.	569,219	118,274	673,750	124,821
Sheets	lb.	193,174	63,859	416,569	149,114
Other	lb.	200,156	80,037	186,583	103,598
Ammonium chloride (sal ammoniac)	lb.	1,182,147	35,456	1,656,190	54,878
Antimony	lb.	76,149	10,997	140,786	18,641
Argon	cu. ft.	119,292	49,758	160,461	52,404
Asbestos -					
Board	lb.	178,401	52,477	179,631	50,521
Yarn	lb.	71,851	27,424	120,394	46,474
Tape	lb.	14,945	15,602	21,550	11,194
Bakelite in all forms .....	\$	...	274,853	...	409,999
Battery boxes	no.	668,309	381,867	762,495	405,431
Brass and bronze -					
Castings	lb.	886,512	273,363	893,891	287,420
Rods and bars	lb.	1,237,443	205,760	1,643,625	268,895
Tubing and pipe	lb.	88,369	27,425	85,450	26,524
Lamp bases .....	\$	...	237,681	...	...
Sheets	lb.	751,633	164,893	952,717	204,650
Screws .....	\$	...	69,571	...	75,552
Other .....	\$	...	47,033	...	109,265
Carbon brushes, brush stock and plates .....	\$	...	91,074	...	110,419
Carbon electrodes .....	\$	...	85,502	...	97,622
Cooper -					
Castings	lb.	89,121	27,861	66,283	20,962
Ingots, slabs, wire bars, etc.	lb.	669,615	135,642	694,178	138,388
Rods, including wire rods	lb.	24,152,604	3,045,196	29,159,186	5,242,545
Scrap	lb.	42,751	5,239	44,554	4,612
Tubing and pipe	lb.	322,969	94,466	303,897	89,741
Sheets and plates	lb.	353,806	75,529	446,535	125,259
Wire, bare	lb.	4,955,851	751,885	5,216,630	825,455
Wire, enamelled .....	\$	...	395,887	...	351,172
Wire, other insulated .....	\$	...	821,589	...	939,583
Cotton and linen yarns .....	\$	...	662,865	...	743,408
Cotton sheets, tapes and webbing .....	\$	...	89,003	...	94,248
Cork sheet, etc. ....	\$	...	18,679	...	33,368
Fibre rod, sheet, tubing, etc. ....	\$	...	110,929	...	121,306
Frit for enamelling	lb.	578,014	48,515	459,637	37,666
Glass bulbs, tubing and cane .....	\$	...	470,111	...	561,911
Insulating varnishes, japans, lacquers, etc.	\$...	96,866	...	106,954
Insulating waxes	\$...	97,962	...	141,876
Insulators, porcelain	\$...	347,934	...	394,864

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Table 10 - MATERIALS USED IN MANUFACTURING, 1938 and 1939 - (Concluded)

Materials	Unit of measure	1 9 3 8		1 9 3 9	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Iron and steel -					
Pig iron	long ton	1,393	34,511	1,484	49,264
Iron castings .....	\$	...	778,215	...	461,341
Steel castings	short ton	315	68,264	293	69,496
Steel forgings	short ton	225	35,668	262	45,051
Steel bars	short ton	2,627	250,846	1,557	125,542
Steel rods	short ton	1,097	203,310	1,811	253,276
Iron and steel pipe	short ton	...	686,055	...	820,915
Steel sheets .....	\$	...	1,297,804	...	1,655,736
Steel wire .....	\$	...	164,585	...	255,794
Structural steel	short ton	2,467	145,780	2,824	170,424
Steel strip	short ton	3,521	386,985	3,660	399,984
Stampings .....	\$	...	379,260	...	296,275
Bolts, nuts and screws .....	\$	...	298,964	...	288,088
Steel, alloy, including stainless .....	\$	...	63,091	...	188,853
Other iron and steel .....	\$	...	305,043	...	372,677
Lead -					
Pig	lb.	21,467,082	975,748	23,218,853	1,002,973
Scrap	lb.	154,125	6,718	237,026	7,274
Other	lb.	874,760	48,160	2,149,838	121,067
Lead oxide (litharge and red lead)	lb.	1,764,571	123,903	1,997,898	144,809
Lumber	M bd. ft.	5,533	238,828	4,680	213,591
Manganese dioxide	lb.	4,187,176	84,368	5,597,349	108,558
Mica .....	\$	...	66,877	...	83,355
Mineral wool	lb.	404,535	9,423	349,634	9,257
Nickel-silver tubing	ft.	70,542	4,410	157,824	5,797
Nitrogen	cu. ft.	435,413	5,363	553,510	13,258
Oil -					
Transformer	Imp. gal.	760,672	173,176	555,847	132,116
Switch	Imp. gal.	25,363	6,131	31,176	7,389
Paints, stains, lacquers .....	\$	...	256,951	...	245,313
Paper .....	\$	...	302,372	...	320,426
Pressboard .....	\$	...	77,736	...	81,359
Radio cabinets .....	\$	...	1,024,044	...	870,721
Radio parts for assembling .....	\$	...	2,605,550	...	2,546,811
Radio tubes purchased and used to equip radio receiving sets manufactured	No.	1,537,846	755,270	1,766,990	830,509
Refrigerator cabinets .....	\$	...	63,908	1,348	69,589
Refrigerator parts .....	\$	...	991,897	...	1,780,353
Resistance wire .....	\$	...	90,707	...	95,604
Rubber, crude	lb.	844,370	108,963	1,289,337	248,951
Rubber, other	lb.	1,055,578	143,631	1,641,750	195,429
Silk, artificial	lb.	22,637	26,580	31,177	34,871
Steel tanks	No.	...	104,201	6,154	95,514
Sulphuric acid, 66° Be	lb.	4,123,474	60,279	4,509,837	61,891
Talc	lb.	298,362	3,653	388,362	5,636
Thermometers	No.	...	44,114	19,698	37,939
Tungsten wire .....	\$	...	50,594	...	52,207
Wood battery separators .....	\$	...	180,180	...	170,241
Zinc -					
Ingot and bar	lb.	1,117,940	75,009	1,764,270	123,625
Sheets	lb.	2,319,830	186,622	2,919,148	220,178
Zinc chloride	lb.	436,562	21,909	600,074	33,491
Electric motors purchased .....	\$	...	423,435	...	416,866
All other materials .....	\$	...	10,926,828	...	11,989,785
Containers and packing material .....	\$	...	756,070	...	791,659
TOTAL .....	\$	... 35,916,544		... 39,331,766	

Table 11 - PRODUCTS MADE IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1938 and 1939

NOTE - In the Census of Industry the reporting firms are classified to certain industries in accordance with the nature of the main products which they manufacture. Data in this table represent only the output of concerns classified to the Electrical Apparatus and Supplies Industry (see Directory). The figures for the individual items do not necessarily represent the total output in Canada as these articles may have been produced as minor products by companies which have been classified to other industrial groups. The asterisk(x) indicates that the article was made also in other industries. For the total Canadian output of certain major items, see Tables 13 to 31.

Products	Unit of measure	1 9 3 8		1 9 3 9	
		Quantity	Gross selling value at works	Quantity	Gross selling value at works
Appliances, motor driven, and parts, including vacuum cleaners(x), fans, washing machines(x), electric clocks(x), electric shavers(x), furnace blowers(x), air conditioners(x), floor polishers(x), clippers, etc. (See Tables 17, 18, 21 and 28)	\$	...	3,552,479	...	3,055,525
Batteries and parts (See Table 21)	\$	...	6,209,421	...	7,105,076
Conduit and fittings(x) (See Table 14)	\$	...	1,132,898	...	1,207,595
Converter equipment -					
Motor generator sets, A.C. to D.C.	no.	66	386,580	50	84,213
Motor generator sets, A.C. to A.C.	no.	...	...	...	...
Other converter equipment and parts	\$	...	47,538	...	...
Cooking and heating apparatus, electric -					
Stoves, grills, etc.(x) (See Table 24)	\$	...	985,793	...	1,155,534
Heating elements (sold separately)	\$	...	134,772	...	118,928
Heaters, air and space(x)	no.	11,528	34,298	11,042	45,279
Heaters, water, domestic(x) (See Table 26)	no.	17,478	100,685	20,802	105,137
Heating pads, electric	no.	11,018	29,613	20,715	55,851
Toasters -					
Commercial	no.	35,959	42,946	43,977	45,616
Domestic - Sandwich	no.	26,683	61,349	32,057	74,595
Other	no.	76,669	147,846	87,859	164,728
Percolators and coffee urns, electric	no.	1,228	5,614	791	2,205
Glass coffee makers, electric	no.	21,196	83,509	25,003	97,031
Irons, flat, electric - Automatic	no.	36,178	150,433	36,607	147,997
Non-automatic	no.	140,164	220,405	151,789	237,180
Waffle irons, electric	no.	2,704	9,443	5,756	12,201
All other cooking and heating apparatus	\$	...	95,734	...	35,681
Cutouts and fuses -					
Primary cutouts, all types	no.	...	165,085	21,472	160,037
Cutouts for cartridge and plug fuses	no.	...	112,672	57,571	14,478
Cartridge and other fuses and renewals	\$	...	312,069	...	369,814
Generators, A.C. and D.C. and parts (See Table 15).	no.	218	1,610,504	218	1,345,168
Industrial electrical heating equipment -					
Furnaces, resistance, induction and arc types	no.	50	90,233	73	102,889
Industrial ovens and commercial cooking ovens	no.	...	12,917	10	6,513
Other industrial heating equipment	\$	...	125,437	...	82,048
Instruments and meters (except ammeters for autos)-					
Demand meters	no.	5,106	93,748	10,854	216,087
Watthour meters	no.	167,864	1,404,313	149,757	1,372,005
Electrical indicating and graphic instruments	no.	1,404	64,671	1,176	59,161
Other electrical instruments and meters	no.	...	65,733	1,017	61,740
Meter and instrument parts	\$	...	133,384	...	157,234
Lamps, incandescent -					
Standard size	no.	20,634,204	3,409,585	24,161,955	3,828,252
Miniature size	no.	11,087,021	597,196	12,722,002	592,550
Lighting fixtures(x) (See Table 22)	\$	...	1,899,845	...	2,301,315
Line material (excluding wire and insulators)	\$	...	540,784	...	274,604
Motors, A.C. and D.C. and parts(x) (See Table 16)..	\$	...	6,161,573	177,976	4,791,806
Panel boards and cabinets	no.	...	332,480	...	351,581
Radio apparatus and parts(x) (except tubes and transformers) (See Table 23)	\$	...	10,534,260	...	10,356,245

Table 11 - PRODUCTS MADE IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1938 and 1939 (Concluded)

Products	Unit of measure	1938		1939	
		Quantity	Gross selling value at works	Quantity	Gross selling value at works
Rectifiers, for storage battery charging, and parts	no.	1,212	\$ 41,357	1,374	\$ 46,266
Refrigerators, electric(x) (See Table 25) .....	\$	... 7,775,974		... 7,679,022	
Switch gear and protective equipment (except telephone switchboards) (See Table 30) .....	\$	... 3,523,453		... 2,822,339	
Telephone material (telephones, switchboards, etc.)	\$	... 5,623,676		... 4,687,384	
Time switches	no.	... 38,490		1,414	27,664
Traffic signals and controls .....	\$	... 167,614		... 2,398	
Transformers and parts (See Table 18) .....	\$	... 5,787,177		... 4,755,557	
Therapeutic lamps and other electro-therapeutic apparatus .....	\$	... 114,413		... 62,348	
Vacuum tubes -					
Radio receiving tubes (See Table 27)	no.	1,969,598	\$ 1,108,408	2,527,200	\$ 1,246,372
Other vacuum tubes, including X-ray tubes .....	\$	... 92,137		... 90,999	
Welding apparatus .....	\$	... 166,379		... 174,616	
Wiring devices (except auto starting switches and time switches) (See Table 31) .....	\$	... 2,715,187		... 3,698,108	
Wires(x) and cables, except aluminium (See Table 19)	\$	... 13,185,137		... 14,496,967	
Receipts from custom and repair work .....	\$	... 940,190		... 1,165,368	
Any electrical apparatus not elsewhere reported, including articles reported by only 1 or 2 firms..	\$	... 6,542,741		... 3,201,236	
All other products .....	\$	... 1,209,135		... 4,707,459	
TOTAL .....	\$	... 90,129,119		... 89,060,578	

Table 12 - PRODUCTION OF CERTAIN ELECTRICAL APPARATUS BY FIRMS CLASSIFIED TO OTHER INDUSTRIES THAN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1937 - 1939

NOTE - Data given in this table represent the output of electrical appliances or equipment reported as minor products by concerns which have been classified to industries other than the Electrical Apparatus and Supplies Industry. (See supplement to Directory). These figures should be added to those given in Table 13 to arrive at the total Canadian output for these items. (See Tables 14 to 32).

Products	Gross selling value at works		
	1937	1938	1939
	\$	\$	\$
Washing machines, electric	5,091,846	\$ 3,967,808	\$ 4,034,421
Stoves, ranglettes, hot plates, etc., electric	1,756,364	1,895,093	1,935,168
Carbon and graphite electrodes	3,217,621	2,865,219	2,967,949
Ignition coils, automobile	322,618	290,972	232,962
Generators and starters, automobile	2,032,018	1,366,693	1,486,404
Oil burners	237,685	169,091	209,953
Signs, electric, including neon signs	1,323,748	1,472,881	1,411,894
Lighting fixtures	116,915	87,062	54,563
Blowers for domestic furnaces	69,779	58,931	51,254
Water tank heaters, electric	18,020	17,528	2,196
Air and space heaters	4,500	4,680	1,795
Spark plugs, electric irons, electric motors, vacuum cleaners, copper wire, electric refrigerators, porcelain insulators, etc.	5,568,769	4,326,967	4,204,057
TOTAL	19,759,883	16,522,925	16,610,596

Table 13 - PRODUCTION OF TRANSFORMERS IN CANADA, BY TYPES, 1938 and 1939

Type	1938			1939		
	Number	Total rating	Selling value at works	Number	Total rating	Selling value at works
		K.V.A.	\$		K.V.A.	\$
Distribution transformers, 200 k.v.a. and under, and 15,000 volts and below	17,226	159,642	2,179,979	15,860	162,573	2,131,755
Power transformers, 200 k.v.a. to 7,500 k.v.a. inclusive, over 15,000 volts to and including 132,000 volts	292	311,597	1,457,707	393	311,795	1,620,156
Power transformers, over 7,500 k.v.a. or over 132,000 volts	27	492,250	1,299,277	8	147,750	267,702
Current and potential transformers	4,657	...	184,543	5,072	...	115,085
Constant current transformers	50	...	15,913	69	612	80,973
Series lamp transformers	864	...	31,063	796	...	13,975
Luminous tube transformers	7,136	...	64,949	7,363	...	52,977
Ignition transformers	2,053	...	14,779	2,872	...	21,696
Radio transformers .....	...	...	160,263	...	...	123,586
All other transformers .....	...	...	161,216	...	...	188,979
Parts and supplies .....	...	...	217,488	...	...	138,675
TOTAL .....	...	...	5,787,177	...	...	4,755,557

Table 14 - PRODUCTION IN CANADA OF CONDUIT FOR ELECTRICAL WIRING, 1938 and 1939

Items	1938			1939		
	Quantity	Total	Selling value at works	Quantity	Total	Selling value at works
		\$				\$
Rigid iron conduit	lb.	11,700,092	945,502	13,760,186	1,092,414	
Flexible conduit (steel and non-metallic) ..	ft.	3,760,619	65,898	3,154,405	55,026	
Conduit fittings .....	\$	...	182,528	...	...	60,155
TOTAL .....	\$	...	1,193,928	...	...	1,207,595

Table 15 - PRODUCTION IN CANADA OF ELECTRIC GENERATORS AND PARTS, 1938 and 1939

	1938			1939		
	Number	Total rating	Selling value at works	Number	Total rating	Selling value at works
		\$				\$
Alternating current	80	179,228 k.v.a.	1,296,354	83	70,980	1,084,710
Direct current and including exciters	48	10,375 k.w.	176,149	47	4,053	146,572
Accessories and parts for generators.	...	...	93,925	...	...	103,620
TOTAL .....	...	...	1,572,428	...	...	1,534,702

Table 16 - PRODUCTION IN CANADA OF ELECTRIC MOTORS AND PARTS, 1938 and 1939 (From all industries)

	1938	1939			Selling value at works
		Number	Total rating	Selling value at works	
					\$
1/3 h.p. and under - single phase, A.C.	199,359	51,827 H.P.	1,870,266		
1/2 h.p. and 3/4 h.p. - single phase, A.C.	3,737	2,197 H.P.	119,278		
1 h.p. to 5 h.p. inclusive - single phase, A.C.	2,516	4,048 H.P.	156,677		
1/3 h.p. and under - polyphase, A.C.	430	142 H.P.	8,984		
1/2 h.p. and 3/4 h.p. - polyphase, A.C.	1,165	743 H.P.	50,217		
1 h.p. to 5 h.p. inclusive - polyphase, A.C.	6,012	15,951 H.P.	477,114		
1 1/2 h.p. and under - D.C.	3,478	949 H.P.	58,949		
1 1/2 h.p. and 3/4 h.p. - D.C.	127	77 H.P.	3,178		
1 h.p. to 5 h.p. inclusive - D.C.	83	138 H.P.	3,478		
Over 5 to 200 h.p. - induction	2,683	63,699 H.P.	892,909		
Over 5 to 200 h.p. - D.C.	17	509 H.P.	21,710		
201 h.p. and over - induction	50	19,975 H.P.	209,300		
201 h.p. and over - D.C.	4	10,300 H.P.	250,769		
Railway and vehicle motors, A.C. and D.C.	889	31,847 H.P.	453,411		
Synchronous condensers and motors	73	27,494 K.V.A.	228,469		
Starting and control equipment for electric railway and vehicle motors ....	...	...	369,097		
Starting and control equipment for other motors ....	...	...	1,079,881		
Accessories and parts for electric motors ....	...	...	187,276		
TOTAL .....	...	...	6,420,973		

Table 16 - PRODUCTION IN CANADA OF ELECTRIC MOTORS AND PARTS, 1938 and 1939 (From all industries) (Concluded)

	Number	Total rating	Selling value at works
<u>1 9 3 9</u>			
1/3 h.p. and under - single phase, A.C.	185,421	47,370 H.P.	1,568,266
1/2 h.p. and 3/4 h.p. - single phase, A.C.	5,884	2,993 H.P.	171,112
1 h.p. to 5 h.p. inclusive - single phase, A.C.	2,271	3,326 H.P.	139,435
1/2 h.p. and under - polyphase, A.C.	866	139 H.P.	13,451
1/2 h.p. and 3/4 h.p. - polyphase, A.C.	8,082	1,386 H.P.	100,518
1 h.p. to 5 h.p. inclusive - polyphase, A.C.	8,000	16,144 H.P.	473,736
1/2 h.p. and under - D.C.	1,564	468 H.P.	25,973
1/2 h.p. and 3/4 h.p. - D.C.	57	33 H.P.	1,478
1 h.p. to 5 h.p. inclusive - D.C.	19	48 H.P.	2,279
Over 5 to 200 h.p. - induction	2,663	29,716 H.P.	768,215
Over 5 to 200 h.p. - D.C.	22	882 H.P.	29,380
201 h.p. and over - induction	44	17,075 H.P.	162,388
201 h.p. and over - D.C.	4	3,450 H.P.	55,550
Railway and vehicle motors, A.C. and D.C.	91	46 H.P.	6,377
Synchronous condensers and motors	71	28,879 K.V.A.	218,050
Starting and control equipment for electric motors ...	...	...	1,109,531
Accessories and parts for electric motors ....	...	...	182,303
TOTAL ....	...	...	5,022,572

Table 1

Table 16 - PRODUCTION OF DOMESTIC WASHING MACHINES IN CANADA, 1927 - 1939 (From all industries)

Year	HAND	ELECTRIC		OTHER POWER		TOTAL		
		Selling Number	value at works	Selling Number	value at works	Selling Number	value at works	
1927	21,841	356,409	38,409	4,606,631	1,986	133,452	62,136	5,096,492
1928	22,118	374,491	60,871	7,724,740	3,408	217,028	86,297	8,211,259
1929	25,586	487,516	70,261	9,109,794	4,377	479,135	100,224	10,076,445
1930	16,038	339,917	67,577	8,907,068	2,448	244,726	86,058	9,391,711
1931	16,189	331,732	59,443	6,490,378	1,061	96,348	76,693	6,918,458
1932	10,416	122,695	47,440	3,158,122	630	36,520	58,496	3,317,337
1933	7,852	84,941	50,597	2,723,847	482	35,243	58,931	2,844,031
1934	9,325	116,998	73,657	3,607,088	1,097	96,912	84,079	3,820,998
1935	7,445	79,033	75,121	3,600,304	2,110	163,256	84,676	3,849,193
1936	11,557	142,474	89,334	4,351,912	1,747	126,244	102,638	4,600,630
1937	12,248	139,839	115,335	5,414,315	5,842	401,390	135,475	5,955,604
1938	8,967	105,556	91,159	4,553,465	5,724	399,425	105,550	5,058,740
1939	6,513	72,058	92,057	4,549,421	5,312	364,254	103,882	4,985,733

Table 16

Table 17 - PRODUCTION OF DOMESTIC ELECTRIC IRONERS(x) IN CANADA, 1935 - 1939 (From all industries)

Year		Number	Selling value at works
1935		9,028	364,526
1936 - Operated by own motor		5,435	303,309
Attached to washing machines		3,381	62,768
TOTAL - 1936		8,326	372,078
1937 - Operated by own motor		3,522	224,360
Attached to washing machine		1,101	30,608
TOTAL - 1937		4,723	254,977
1938 - Operated by own motor		2,312	177,849
Attached to washing machine		856	25,761
TOTAL - 1938		3,368	202,610
1939 - Operated by own motor		1,714	192,613
Attached to washing machine		587	42,356
TOTAL - 1939		2,301	114,969

Table 21

(x) Includes some gas and steam operated ironers.

Table 22

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Table 23

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Table 19 - PRODUCTION(x) OF ELECTRICAL WIRES AND CABLES, 1937 - 1939 (From all industries)

	Selling Value at Works	1937	1938	1939
Copper, bare	\$ 3,431,638	2,147,729	2,438,005	
Weatherproof	1,582,800	1,416,084	1,508,401	
Rubber insulated, braided	2,815,097	2,351,706	1,888,029	
Cambric insulated, braided	143,696	105,895	102,307	
Rubber insulated, leaded	348,877	360,687	416,628	
Cambric insulated, leaded	465,064	118,011	90,156	
Paper insulated, leaded	535,461	615,593	505,898	
Rubber insulated telephone wires	1,027,827	1,025,250	1,111,451	
Paper insulated telephone cable	1,073,069	900,195	668,291	
Flexible cords, except telephone and switchboard cords	793,217	721,643	902,415	
Armoured cable		28,687	35,363	
Signal and control cable		731,694	756,915	
Magnet wire - enamelled	2,957,667	425,590	540,659	
all other		334,759	556,498	
Non-metallic sheathed cable		1,112,650	2,261,537	
All other wires and cables				
TOTAL	15,174,413	12,678,886	14,578,098	

(x) Except aluminium wire and cable.

Table 20 - PRODUCTION OF ELECTRIC VACUUM CLEANERS AND PARTS, 1936 - 1939 (From all industries)

	1936	1937	1938	1939
Electric floor models	No. 40,621 \$ 1,473,656	44,721 1,701,307	40,897 1,517,631	47,118 1,721,011
Electric hand models	No. 7,058 \$ 109,214	4,017 41,743	5,521 62,675	2,551 29,145
Attachments and parts for above	\$ 347,276	293,270	216,724	255,968
TOTAL	\$ 1,930,146	2,036,320	1,797,930	2,006,124

Table 21 - PRODUCTION OF ELECTRIC BATTERIES, BY TYPES, 1938 and 1939

Kinds	1938	1939	
	Selling value Number	Selling value Number	
<u>STORAGE</u> -			
For internal combustion engine starting and ignition	643,840	2,652,248	690,536
For farm lighting plants (cells)	21,446	114,125	30,346
For railway service (cells)	4,401	84,763	4,487
For telephone switchboards	1,675	36,756	1,751
For motorcycle starting	2,685	8,187	2,952
For all other purposes .....	...	415,622	...
Total Storage .....	...	3,341,681	3,813,317
<u>DRY CELL</u> -			
6 inch cells	(cells) 1,127,008	309,133	1,395,162
E and C for radio	(cells) 23,550,787	1,347,703	33,787,639
Flashlight	(cells) 10,584,108	627,887	12,828,347
Other dry cells	(cells) 216,857	14,045	126,837
Total Dry Cells .....	...	2,298,768	2,853,722
Parts and supplies, including all other dry cells and primary wet cells .....	...	568,972	638,237
<u>TOTAL</u> .....	...	6,309,421	7,105,076

Table 22 - PRODUCTION IN CANADA OF ELECTRIC LIGHTING FIXTURES, 1937 - 1939 (From all industries)

	Selling Value at Works		
	1937	1938	1939
Interior lighting fixtures, residential	\$ 1,120,958	\$ 680,465	\$ 881,765
Interior lighting fixtures, metal reflectors	130,774	123,327	186,550
Interior store and office lighting fixtures	285,520	135,905	384,590
All other interior lighting fixtures	106,452	163,403	216,565
Exterior lighting fixtures	8,034	2,171	...
Exterior lighting control devices	30,393	68,300	108,813
Searchlights and floodlights	342,262	377,250	378,697
All other lighting equipment			
TOTAL LIGHTING FIXTURES	2,084,399	1,699,429	2,355,878

Table 23 - PRODUCTION OF COMPLETE RADIO RECEIVING SETS IN CANADA, 1925 - 1939

Year	Number of sets	Selling value at works(x)	Year	Number of sets	Selling value at works(x)
1925	48,531	\$ 2,278,292	1933	112,273	\$ 4,401,513
1926	42,430	2,253,098	1934	168,710	8,196,248
1927	47,500	3,748,622	1935	191,823	9,493,399
1928	61,032	7,486,127	1936	257,896	11,388,173
1929	150,050	15,604,145	1937	289,247	11,696,717
1930	170,082	19,196,936	1938	242,721	8,801,981
1931	231,711	18,555,710	1939	348,507	8,678,130
1932	121,468	6,808,877			

(x) Not list prices.

Table 24 - NUMBER and FACTORY SELLING VALUE OF STOVES MADE IN CANADA, 1937 - 1939

Kind		1937	1938	1939
Coal and wood cooking stoves and ranges, all styles	No.	102,306	85,006	89,875
	\$	4,811,531	3,947,666	4,283,759
Coal and wood heating stoves (including all heaters, circulators, Quebec, box, Oak, Franklyn, Globe or laundry)	No.	120,635	77,540	102,126
	\$	1,118,159	799,624	968,106
Combination for gas and coal	No.	11,015	8,954	10,178
	\$	661,570	607,429	765,312
Combination for coal and electric	No.	2,886	2,041	2,164
	\$	251,342	181,062	192,571
Gas cooking stoves and ranges, not combinations, including all styles with ovens	No.	27,900	23,395	25,292
	\$	1,154,213	938,892	1,102,172
Electric cooking stoves and ranges over 35 amperes, all styles with ovens	No.	35,205	32,513	33,227
	\$	2,540,456	2,312,034	2,504,570
Electric ranglettes, including cord attachment and oven as one unit	No.	11,741	11,864	12,725
	\$	197,879	200,381	232,982
Electric cooking plates and grills	No.	65,328	69,704	77,441
	\$	149,472	157,679	158,759
Gas cooking plates	No.	4,088	2,757	3,227
	\$	14,425	8,698	13,801
Gas heating stoves	No.	2,485	2,893	2,472
	\$	38,020	43,999	47,530
Oil and gasoline stoves	No.	20,927	33,306	44,283
	\$	184,466	243,153	264,073
TOTAL	\$	11,117,533	9,440,617	10,533,235

Table 25 - PRODUCTION(1) IN CANADA OF ELECTRIC REFRIGERATION EQUIPMENT, 1929 - 1939

Years	Individual domestic type, complete, all sizes		All other types(2)		TOTAL	
	Number	\$	Number	\$	Number	\$
1929		Not available			4,687	1,608,304
1930		Not available			6,302	1,607,784
1931	9,879	1,708,327	4,514	1,088,590	14,193	2,796,917
1932	19,454	2,218,798	...	914,455	...	3,133,255
1933	15,059	1,896,033	1,590	305,688	16,649	2,201,721
1934	27,897	3,502,089	2,360	430,933	30,257	3,933,022
1935	22,452	2,835,079	4,615	609,472	27,067	3,444,551
1936	40,688	5,054,554	5,637	880,409	46,325	5,934,963
1937	52,068	5,793,926	12,950	1,337,110	65,018	7,131,036
1938	52,934	6,341,496	10,971	1,564,107	63,905	7,905,603
1939	51,534	5,914,220	...	1,624,228	...	7,538,448

(1) Production figures include equipment manufactured or assembled in Canada.

(2) Includes ice-cream cabinets, display cases, condensing units only, beverage coolers, etc.

Table 26 - PRODUCTION OF DOMESTIC WATER TANK HEATERS, 1938 and 1939

	1 9 3 8		1 9 3 9	
	Selling value at works		Selling value at works	
	Number	\$	Number	\$
Cast iron for coal, wood or oil	5,029	50,981	6,898	56,947
Gas, automatic	3,920	218,124	4,064	190,889
Gas, not automatic	8,170	63,172	8,724	59,589
Electric, circulating type	3,666	67,160	4,370	53,493
Electric, immersion type	14,388	45,814	16,913	59,579
Electric, storage tank type	2,615	17,951	1,689	14,461
TOTAL	37,788	463,202	42,658	434,758

Table 27 - PRODUCTION IN CANADA AND IMPORTS OF RADIO RECEIVING TUBES, 1929 - 1939

Year	PRODUCTION		IMPORTS	
	Number	Selling value at works	Number	Value
1929	2,924,270	3,100,148	...	524,872
1930	3,116,096	3,181,276	...	327,728
1931	3,297,007	2,298,098	...	113,760
1932	2,747,456	1,610,850	55,762	60,157
1933	1,731,569	1,023,364	119,367	84,027
1934	2,367,674	1,389,815	266,283	155,271
1935	2,183,529	1,181,239	460,749	258,149
1936	2,952,415	1,545,823	565,873	289,659
1937	3,320,687	1,760,109	484,227	290,698
1938	1,969,598	1,108,408	440,294	213,433
1939	2,527,200	1,246,972	1,124,361	586,084

Table 28 - PRODUCTION OF OIL BURNERS IN CANADA, 1937 - 1939 (From all industries)

Type	1 9 3 7		1 9 3 8		1 9 3 9	
	No.	\$	No.	\$	No.	\$
Oil burners - Atmospheric gravity feed	2,133		1,937		612	
	58,971		48,988		14,184	
Power, for domestic and commercial uses	1,483		1,368		1,830	
	174,514		169,091		209,953	

Table 29 - PRODUCTION OF INCANDESCENT ELECTRIC LAMPS IN CANADA, 1931 - 1939

Year	STANDARD SIZE		MINIATURE SIZE	
	Number	Selling value at works \$	Number	Selling value at works \$
1931	18,205,931	4,044,243	7,255,194	655,015
1932	17,102,308	3,597,173	6,244,103	526,835
1933	15,176,002	3,230,911	5,763,149	485,166
1934	20,622,906	4,035,361	7,282,187	496,574
1935	23,026,982	4,155,803	9,832,118	633,769
1936	24,364,181	4,117,871	11,246,707	662,628
1937	25,689,598	4,477,267	12,362,115	744,011
1938	20,634,204	3,409,585	11,087,021	597,196
1939	24,161,955	3,828,252	12,722,002	592,550

Table 30 - PRODUCTION OF ELECTRICAL SWITCH GEAR AND PROTECTIVE EQUIPMENT (except telephone switchboards) 1938 and 1939

	Selling Value at Works	
	1938	1939
	\$	\$
Switchboard panels and equipment	1,438,628	1,405,565
Lightning arresters, other than radio, 15,000 volts and below..	149,907	95,676
Lightning arresters, above 15,000 volts	138,475	157,416
Oil circuit breakers	797,013	365,121
Air circuit breakers	277,561	236,554
Disconnecting switches - Up to and including 15,000 volts	243,324	191,266
Over 15,000 volts	130,655	87,382
Generator voltage regulators and accessories	16,285	213,975
Parts and supplies	531,611	230,399
TOTAL	3,523,459	2,983,154

Table 31 - PRODUCTION OF WIRING DEVICES (except automobile starting switches and time switches) 1938 and 1939

	Selling Value at Works	
	1938	1939
	\$	\$
Sockets (lamp holders) brass shell	227,462	170,740
Sockets (lamp holders) porcelain and moulded	130,071	205,123
Switches, surface and flush types	211,512	275,228
Switches, enclosed safety type	398,019	404,389
Switches, canopy	52,982	52,435
Switches, all other	252,636	294,709
Receptacles (convenience outlets), single and duplex	141,631	109,836
Wall plates for switches and outlets	47,410	56,574
Cord sets, all types	235,124	302,710
Attachement plugs, caps and cord connectors	73,693	87,352
Plug devices, caps and heater plugs	82,375	100,211
Other wiring devices	882,272	1,658,821
TOTAL	2,715,187	3,698,108

Table 32 - IMPORTS INTO CANADA OF ELECTRICAL APPARATUS, 1938 and 1939

	1 9 3 8	1 9 3 9		
	Quantity	Value	Quantity	Value
	\$		\$	
Batteries, primary, electric and galvanic, n.o.p. and complete parts (to March 31, 1938)	39,153	...	...
Batteries, primary (B) and (C) for radio (from April 1, 1938)	1,721	...	4,412
Batteries, electric and galvanic, primary, n.o.p. and complete parts (from April 1, 1938)	118,719	...	223,342
Batteries, electric, storage, and complete parts, n.o.p., including separator walls of wood, cut to size or not	91,191	...	133,647
Heating apparatus, n.o.p.	46,351	...	44,192
Electric dynamos and generators, n.o.p., and complete parts..	...	585,458	...	396,494

Table 33 -

Fuses, fuse parts, n.o.
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Lamps, elec
Lamps, elec
Lights - El
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Motors, elec
Motors for
Motors, elec
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coal mines
Electric dr
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Telephone a
Transformer
Radio tubes
Radio recei
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Table 33 -
Items

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Telegraph,
Radio and w
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Table 32 - IMPORTS INTO CANADA OF ELECTRICAL APPARATUS, 1938 and 1939 (Concluded)

		1 9 3 8	1 9 3 9		
		Quantity	Value	Quantity	Value
	Fuses, fuse plugs and cutouts, electric, and complete parts, n.o.p. ....	...	68,746	...	71,521
,015	Lamps, electric, arc ....	...	14,710	...	7,856
,835	Lamps, electric, incandescent, carbon filament No.	73,412	4,401	189,119	8,392
,166	Lamps, electric, incandescent, metal filament No.	10,182,669	242,257	15,005,892	553,558
,574	Lights - Electric head, side and tail lights, n.o.p.; electric torches or flashlights and parts ....	...	421,759	...	350,245
,769	Electric light fixtures and appliances, n.o.p. and complete parts ....	...	779,964	...	939,429
,628	Lightning arresters, choke coils, reactors and other protective devices, and complete parts, n.o.p. ....	...	55,273	...	55,939
,011	Electrical instruments or apparatus of precision, of a class or kind not made in Canada ....	...	98,443	...	225,840
,196	Meters, electric, and complete parts ....	...	182,146	...	168,420
,550	Motors, electric, n.o.p., and complete parts ....	...	1,880,553	...	1,628,116
	Motors for electric fans, n.o.p. No.	17,712	53,026	20,609	36,215
	Motors, electric, valued at less than \$10 each (from April 1, 1939) No.	...	...	36,577	158,368
	Rheostats, controllers and other starting and controlling devices, and complete parts ....	...	580,298	...	608,839
	Sad irons, electric, and complete parts ....	...	65,208	...	106,397
	Self-contained lighting outfits and complete parts, n.o.p. ....	...	3,486	...	8,183
	Sockets, outlets and receptacles and complete parts ....	...	24,690	...	46,847
	Spark plugs, magnetos, n.o.p., and other ignition apparatus and complete parts ....	...	11,624	...	13,374
	Magnetas and complete parts thereof, when imported by the manufacturers of internal combustion engines, for use exclusively in the manufacture of such engines in their own factories ....	...	6,875	...	8,990
	Switchgear, flame proof, electric, for use underground in coal mines, and complete parts ....	...	48,331	...	3,419
	Electric dry shaving machines of a class or kind not made in Canada, for use in removing human hair, and complete parts thereof ....	...	496,300	...	205,720
	Steam turbo-generator sets, electric, 700 h.p. and greater, of a class or kind not made in Canada, and complete parts thereof No.	3	325,447	4	380,488
	Switches, switchboards, circuit breakers and complete parts, n.o.p. ....	...	751,178	...	550,284
	Telegraph apparatus, electric, and complete parts ....	...	121,800	...	173,250
	Telephone apparatus, electric, and complete parts ....	...	799,832	...	1,113,753
	Transformers and complete parts ....	...	409,265	...	224,752
	Radio tubes No.	440,294	213,433	1,124,361	586,084
	Radio receiving sets No.	8,290	184,109	10,437	208,109
	Radio and wireless apparatus, electric, n.o.p. ....	...	2,114,846	...	1,878,998
	Electric welding apparatus, not including motors ....	...	116,474	...	327,113
	Electric apparatus, n.o.p., and complete parts ....	...	2,096,499	...	2,541,357
	TOTAL ....	...	13,053,526	...	13,751,833

Table 33 - EXPORTS FROM CANADA OF ELECTRICAL APPARATUS, 1938 and 1939

Items	1 9 3 8	1 9 3 9
	\$	\$
(a) EXPORTS		
Batteries, storage	214,161	214,416
Batteries, n.o.p.	89,612	53,668
Telegraph, telephone and radio apparatus, n.o.p.	322,865	176,356
Radio and wireless apparatus (except batteries)	193,414	110,454
Generators, generators and motors No.	506,072	295,817
Electric stoves and parts	15,254	14,618
Electrical cooking and heating devices, domestic, n.o.p. ..	1,044,707	923,181
Spark plugs, magnetos and other ignition apparatus	30,755	18,353
Electric lamp shades (From January 1, 1939)	625,926	657,071
Electric apparatus, n.o.p. ....	...	5,236
TOTAL	1,086,648	774,917
	4,114,160	3,229,469

Table 33 - EXPORTS FROM CANADA OF ELECTRICAL APPARATUS, 1938 and 1939 (Concluded)

Items	1938	1939
	\$	\$
(b) RE-EXPORTS		
Telegraph, telephone and radio apparatus (except batteries) ...	85,365	83,233
DYNAMOS, generators and motors	37,229	30,847
Spark plugs, magnetos, and other ignition apparatus	3,078	2,547
Electric apparatus, n.o.p.	184,805	120,159
TOTAL	310,477	236,786

NOTE - The letters "n.o.p." mean "not otherwise provided for" in the statistical classification.

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939

NOTE - This Directory is not intended to be a complete list of the manufacturers of electrical equipment. It is merely a list of the concerns which the Bureau has classified to the Electrical Apparatus and Supplies Industry, which includes all works engaged CHIEFLY in making electrical equipment using non-ferrous metals as their main materials. Some concerns make electrical equipment from iron, steel, clay, etc., but such producers have been classified to other industries, according to the constituent materials used. Other manufacturers make electrical supplies as minor products and have also been allotted to other groups. (See Appendix to Director.)

Names of Firms	Location of Plants
<u>NOVA SCOTIA</u> -	
Amherst Battery Manufacturing Plant	108 Victoria St., Amherst
<u>QUEBEC</u> -	
Cables, Conduits & Fittings Limited	63 Richelieu St., St. Johns
Canadian Laco Lamps Limited	745 Guy St., Montreal
Canadian Marconi Company Ltd.	2442 Trenton Ave., Montreal
Conduits National Co. Ltd.	3081-C Ontario St. E., Montreal
Devoe Electric Switch Co.	863 St. Maurice St., Montreal
Economy Fuse & Mfg. Co. of Canada, Limited	1030 St. Alexander St., Montreal
Electric Fixtures & Portable Lamp Mfg.	690 Notre Dame St. W., Montreal
Electrical Manufacturing Co. Ltd.	Montmagny
Electrolier Mfg. Co. Limited	5849 Boyer St., Montreal
Electrolux (Canada) Limited	1725 Basin St., Montreal
Elpeco of Canada, Limited	6259 Notre Dame St. E., Montreal
Flex-I-Con Manufacturing Co. Ltd.	6155 Lafontaine St., Montreal
Hale Brothers Limited	6230 Chambord St., Montreal
Haliburton & White Limited	686 Notre Dame St. W., Montreal
Hart Battery Co. Limited	170 St. George St., St. Johns
Hughes, Benjamin, Electric Co.	205 Vitre St. W., Montreal
Keith & Cronin	1061 Bleury St., Montreal
Lighting Appliance Co. of Canada, Ltd.	647 Vitre St. W., Montreal
Medical Equipment Mfg. Inc.	1396 St. Catherine St. W., Montreal
National Electric Refrigerator Ltd.	Montmagny
New Era Battery Co.	2240 Bellechasse St. E., Montreal
Northern Electric Co. Limited	1261 Shearer St., Montreal
Nu-Way Battery & Ignition Service	1200 Demontigny St., E., Montreal
Phillips Electrical Works Ltd.	5795 De Gaspé Ave., Montreal
Pyle-National Co. of Canada, Limited	4857 Accorn Ave., St. Henri, Montreal
RCA Victor Co. Ltd.	976 Lecasse St., Montreal
Schick Shaver Limited	St. Johns
Silex Company Ltd.	201 St. Louis St., St. Johns
Solex Company Limited	4060 St. Lawrence Blvd., Montreal
Temco Electric Mfg. Co.	480 Lagachetière St. W., Montreal
White, I. N., & Sons Ltd.	476 St. Henri St., Montreal

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939 (Continued)

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	<u>Names of Firms</u>	<u>Location of Plants</u>
	<u>ONTARIO -</u>	
	Aerovox Canada Ltd.	35 Catharine St. S., Hamilton
	Alcor Co.	220 King St. W., Toronto
	Alpha Amplifier Co.	101 Queen St. W., Toronto
	Amalgamated Electric Corp. Ltd.	384 Pape Ave., Toronto
	Arrow-Hart & Hegeman (Canada) Limited	310 Spadina Ave., Toronto
	Bucker, C. B., Co. Ltd.	25 Aberdeen St., Ottawa
	Baden Electric Fence Co.	Baden
	Baird, Wm., & Son	568 Dundas St., Woodstock
	Baldwin-International Limited	620 King St. W., Toronto
	Bersted Mfg. Co. (Canada) Ltd.	539 King St. W., Toronto
	Boston Insulated Wire & Cable Co. Ltd.	118 Shaw St., Hamilton
	Bronston, Chas. A., Limited	58 Stewart St., Toronto
	Braun & Bonnick Limited	22 Orillia St., Toronto 2
	Brock Snyder Mfg. Co.	21 John St., Grimsby
	Burger Lighting Equipment Co.	11 Duncan St., Toronto
	Burgess Battery Company	399 Buttrey St., Niagara Falls
	Campbell, W. J., Co. Ltd.	137 Clarence St., Brantford
	Canada Batteries Limited	927 Dufferin St., Toronto 4
	Canada Metal Spinnings	136 Simcoe St., Toronto
	Canada Wire and Cable Co. Ltd.	Leaside
	Canadian Astatic Ltd.	1736 Kingston Road, Toronto
	Canadian Curtis Refrigeration Co. Ltd.	20 George St., Hamilton
	Canadian Electric Box Co.	1402 Queen St. E., Toronto
	Canadian Fitzgerald Limited	463 Wellington St. W., Toronto
	Canadian Flexible Conduit	1874 Davenport Road, Toronto
	Canadian General Electric Co. Ltd.	224 Wallace Ave., Toronto
	Canadian General Electric Co. Ltd.	107 Park St., Peterborough
	Canadian General Electric Co. Ltd.	1025 Lansdowne Ave., Toronto
	Canadian General Electric Co. Ltd. (Vacuum Tube Division)	
	Canadian General Electric Co. Ltd. (Edison Lamp Works)	189 Dufferin St., Toronto
	Canadian Jefferson Electric Co. Ltd.	221 Dufferin St., Toronto
	Canadian Line Materials Limited	60 Osler St., Toronto
	Canadian National Carbon Co. Ltd.	Scarboro Junction, Toronto
	Canadian Transformer Co.	805 Davenport Road, Toronto
	Canadian Triangle Conduit Co. Ltd.	293 Queen St. S., Kitchener
	Canadian Westinghouse Co. Ltd.	2382 Dundas St. W., Toronto
	Cansfield Electrical Works Ltd.	Sanford Ave. and Myler St., Hamilton
	Commercial Fixture Co. Ltd.	260 Geary Ave., Toronto
	Commonwealth Electric Corp. Ltd.	75 Sherbourne St., Toronto
	Conduits National Co. Ltd.	130 Dennistoun St. S., Welland
	Continental Carbon of Canada, Ltd.	33 Labatt Ave., Toronto
	Continental Electric Co. Ltd.	54 Sumach St., Toronto
	Couroy Manufacturing Co. Ltd.	310 Spadina Ave., Toronto
	Crouse-Hinds Co. of Canada, Ltd.	55 Catherine St., St. Catharines
	Crown Electrical Manufacturing Co. Ltd.	7 Labatt Ave., Toronto
	Curtis Lighting of Canada, Ltd.	31 Sydenham St., Brantford
	Dominion Carbon Brush Co. Ltd.	260 Richmond St. W., Toronto
	Dominion Cutout Co. Ltd.	250 Richmond St. W., Toronto 2
	Dominion Electric Mfg. Co. Ltd.	60 Sumach St., Toronto
	Dominion Electrohome Industries Ltd.	39 Edward St., Kitchener
	Dominion Refrigeration Co. Ltd.	457 King St. W., Toronto
	Durable Electric Appliance Co.	81 Jarvis St., Toronto
	Eastern Power Devices, Ltd.	1244 Dufferin St., Toronto
	Electrical Apparatus Ltd.	77 York St., Toronto
	Electric Auto-Lite Limited	Christina St. N., Sarnia
	Electric Magnetic Blanket Co.	15 Walmsley Blvd., Toronto
	Electric Products Co. of Canada	349 Carlaw Ave., Toronto
	Elgin Electric Mfg. Co.	413 Coxwell Ave., Toronto
	English Electric Co. of Canada, Ltd.	George St., St. Catharines
	Exide Batteries of Canada, Ltd.	153 Dufferin St., Toronto

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939 (Continued)

<u>Names of Firms</u>	<u>Location of Plants</u>
<u>ONTARIO</u> (Continued) -	
Falls Electric Resistors Limited	Courtwright St., Fort Erie North
Farley, T. S., Ltd.	41 West Ave. N., Hamilton
Federal Wire & Cable Co. Ltd.	265 Suffolk St., Guelph
Ferranti Electric Ltd.	Industrial St., Mount Dennis, Toronto 9
Fergusson, J. R.	Dundas
Flexible Shaft Co. Ltd.	321 Weston Rd. S., Toronto
Force Electric Products	Church and Guelph Sts., Acton
Frigidaire Corporation	Commercial St., Leaside
Garfinkel, Louis, & Co., Rosejoli Co. of Canada	48 Elm St., Toronto
General Dry Batteries of Canada, Ltd.	228 St. Helens Ave., Toronto
Groh's Cooler Ltd.	Laurel St., Preston
Hammond Mfg. Co.	38 Wellington St. W., Guelph
Hart Manufacturing (Canada) Ltd.	512 King St. E., Toronto
Hoover Company Limited	Gage Ave. and Barton St., Hamilton
Hygrade Electric Mfg. Co.	151 Beverley St., Toronto
Igloo Refrigeration Co. Ltd.	103 Bathurst St., Toronto
Industrial Electric Products Ltd.	201 Weston Road S., Toronto
International Resistance Co. Ltd.	187 Duchess St., Toronto
Ireland Mfg. Co.	93 Cannon St. W., Hamilton
Jones & Moore Electric Co. Ltd.	296 Adelaide St. W., Toronto
Justus Electric Co.	Winchester
Kearney, J. R., Corp. of Canada, Ltd.	660 King St. W., Toronto
Kelvinator of Canada, Ltd.	1152 Dundas St. E., London
Kondz Mfg. Co. Ltd.	South St., Preston
La Salle Lead Products Ltd.	680 Wyandotte St. E., Windsor
Leff Electric Mfg. Co.	261 Dundas St., London
Leland Electric Canada Ltd.	50 Crimea St., Guelph
Lincoln Electric Co. of Canada, Ltd.	65 Bellwoods Ave., Toronto 3
Line & Cable Accessories Limited	347 Sorauren Ave., Toronto 3
Markel Electric Products Ltd.	23 Lewis St., Fort Erie North
Marr Machine & Mfg. Co.	62 Wallace Ave., Toronto
Martin Electric Ltd.	624 King St. W., Toronto
Meredith, C. C., & Co. Ltd.	Queen St. N., Streetsville
Metal Industries Limited	112 York St., Hamilton
Minneapolis-Honeywell Regulator Co. Ltd.	117 Peter St., Toronto
Mohawk Radio Ltd.	54 Osler Ave., New Toronto
Moloney Electric Co. of Canada, Ltd.	213 Sterling Road, Toronto
Monarch Battery Mfg. Co. Ltd.	Montreal and Joseph Sts., Kingston
National Batteries Ltd.	12 Church St., Toronto
National Electric Mfg. Co.	510 King St. W., Toronto
Neon-Ray Clock Co.	428 Cannon St. E., Hamilton
Noma Electric Co. of Canada, Ltd.	179 John St., Toronto
Opal Mfg. Co.	48 Abell St., Toronto
Osborne Electric Co. Ltd.	1536 Dundas St. W., Toronto
Packard Electric Company, Ltd.	13 Race St., St. Catharines
P. & E. Division of Powerlite Devices Ltd.	171 John St., Toronto
Philco Products Ltd.	1244 Dufferin St., Toronto
Phillips Electrical Works Ltd.	Brockville
Pierce Fuse Corp. Ltd.	24 Klauck St., Fort Erie North
Plate Lock Battery Mfg. Co. Ltd.	15 Bond St. W., Oshawa
Pole-Line Equipment Ltd.	2299 Dundas St. W., Toronto 3
Powerlite Devices Ltd.	171 John St., Toronto
Premier Vacuum Cleaner Co. Ltd.	18 Breadalbane St., Toronto
Prest-O-Lite Storage Battery Co. Ltd.	1352 Dufferin St., Toronto
Radiant Aluminum Co.	575 Adelaide St. W., Toronto
Radio Condenser Co. Ltd.	1010 Dufferin St., Toronto
Radio Valve Company of Canada, Ltd.	189 Dufferin St., Toronto
Railway & Power Engineering Corp. Ltd.	171 Eastern Ave., Toronto
Redi-Heat Electrical Appliance Co.	Mill St., Toronto
Reed-Cameron	516 Richmond St. W., Toronto
Renco Therapeutic Co.	55 York St., Toronto
Renfrew Electric & Refrigerator Co. Ltd.	Elizabeth St., Renfrew

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939 (Continued)

<u>Names of Firms</u>	<u>Location of Plants</u>
<u>ONTARIO</u> (Concluded) -	
Robbins & Myers Co. of Canada, Ltd.	40 Morrell St., Brantford
Rogers-Majestic Corporation, Ltd.	622 Fleet St. W., Toronto 2
Rogers Radio Tubes, Ltd.	100 Sterling Road, Toronto
Samson-United of Canada, Ltd.	69 Sherbourne St., Toronto
Sangamo Co. Ltd.	183 George St., Toronto
Service Lamp Co. Ltd.	197 King St., London
Service Station Equipment Co. Ltd.	101 Hanson St., Toronto
Shonbeck Clock Co.	29 Mary St., Hamilton
Smith & Stone Limited	Georgetown
Snarton of Canada, Ltd.	Elm and Pine Sts., London
Square D Co. of Canada, Ltd.	672 Dupont St., Toronto
Standard Bronze Co. Ltd.	4 Trafalgar Ave., Toronto 3
Standard Radio Products	25 Gaukel St., Kitchener
Star Electric Fixtures Ltd.	107 Church St., Toronto
Sterne Equipment Co.	94 Wellington St. W., Toronto
Stewart-Warner Alemite Corp. of Canada Ltd.	Macdonald Ave., Belleville
Stromberg-Carlson Telephone Mfg. Co. of Canada, Ltd.	211 Geary Ave., Toronto
Superior Electrics Ltd.	Pembroke
Taylor Electric Mfg. Co. Ltd.	625 Princess Ave., London
Universal Cooler Co. of Canada, Ltd.	135 Brant St., Brantford
Virden, J. C., Ltd.	35 Front St. E., Toronto
Volta Manufacturing Co. Ltd.	Alexander St., Welland
Vulcan Electric Products	3160 Dundas St. W., Toronto
Walker Metal Products Ltd.	1500 Kildare Rd., Walkerville
Wheeler Reflector Co. of Canada, Ltd.	44 York St., Toronto
White Radio Ltd.	41 West Ave. N., Hamilton
Willard Storage Battery Co. of Canada, Ltd.	269 Campbell Ave., Toronto 9
Wilson Battery Products	21 Church St., Oshawa
Wilson, J. A., Co. Ltd.	9 Morrison St., Toronto
Wynston, A. L., Jr., Ltd.	590 King St. W., Toronto
<u>MANITOBA</u> -	
Canadian Electric & Brass Ltd.	120 Lombard St., Winnipeg
Dixon Batteries	120 Charlotte St., Winnipeg
Electric Heating & Mfg. Co. Ltd.	902 Home St., Winnipeg
Ex-Cel Battery Mfg. Co.	700 Portage Ave., Winnipeg
Fris Ignition Co.	324 Good St., Winnipeg
Globelite Batteries Ltd.	147 Pacific Ave., Winnipeg
Ideal Electric Mfg.	372 Selkirk Ave., Winnipeg
Langley Electric Mfg. Co. Ltd.	677 Notre Dame Ave., Winnipeg
Leeders' Limited	1375 Portage Ave., Winnipeg
L. & S. Electric Mfg. Ltd.	157 Portage Ave., Winnipeg
Wahl Mfg. Co. of Canada	62 Albert St., Winnipeg
<u>ALBERTA</u> -	
Alberta Battery Co. Ltd.	420 Ninth Ave. E., Calgary
Blais Brothers Battery Co. Ltd.	10519 .. 105th Avenue, Edmonton
Calgary Battery Co.	117A .. 11th Avenue W., Calgary
Langley Electric Co. Ltd.	1301 .. 11th Ave. E., Calgary
Smith Batteries Ltd.	1012 .. 9th Ave. W., Calgary
<u>BRITISH COLUMBIA</u> -	
Canadian Petersine Electric Incubator Ltd.	2701 Douglas Rd., New Westminster
Cemco Electrical Mfg. Co. Ltd.	165 W. Fourth Ave., Vancouver
Continental Batteries Ltd.	1130 Richards St., Vancouver
Cone & Son Ltd.	550 Cambie St., Vancouver
Coyle Batteries Ltd.	1481 Venables St., Vancouver
Cruickshank Brothers Ltd.	540 East Hastings St., Vancouver
Electric Panel Mfg. Ltd.	1250 Richards St., Vancouver
Field, N. M., Mfg. Co.	582 Richards St., Vancouver
Uncis Battery & Tire Service Ltd.	1412 Quadra St., Victoria

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1939 (Continued)

Name of Firms	Location of Plants
BRITISH COLUMBIA (Concluded)	
Giant Battery Co.	1143 Granville St., Vancouver
Jones Brothers Batteries	866 Yates St., Victoria
Langley Manufacturing Co. Ltd.	Granville Island, Vancouver
Treleaven, J. M.	346 River Road, Eburne

APPENDIX TO DIRECTORY

List of firms making electrical goods or supplies during 1939,
but which have been classified to other industries

Name of Firm	Location of Plant
Aluminum Company of Canada Ltd.	Arvida, Que.
Armstrong, S. A., Ltd.	720 Bathurst St., Toronto, Ont.
Atlantic Service Co. Ltd.	135 Logan Ave., Toronto, Ont.
Atlas Boiler and Ship Repairs	Prince Rupert, B.C.
Automatic Electric Sales & Service	104 Jarvis St., Toronto, Ont.
Beach Foundry Co. Ltd.	Hinton Ave., Ottawa, Ont.
Bearing & Auto Parts Reg'd.	667 Lagacnetiere St., Montreal, Que.
Beatty Bros. Ltd.	Fergus, Ont.
Belanger, A., Ltée	Montmagny, Que.
Bendix Eclipse Co. of Canada Ltd.	1473 Argyle Road, Walkerville, Ont.
Berkel Products Co. Ltd.	533 College St., Toronto, Ont.
Brantford Washing Machine Co. of Canada Ltd.	Brantford, Ont.
Burnside, Harry	442 King St. W., Toronto, Ont.
Canada Motor Products Ltd.	272 Van Horne St., Toronto, Ont.
Canada Vulcanizer & Equipment Co. Ltd.	1109 York St., London, Ont.
Canadian Bridge Co. Ltd.	1218 Walker Road, Walkerville, Ont.
Canadian Ironing Machine Co. Ltd.	1151 Queen St. W., Toronto, Ont.
Canadian General Electric Co. Ltd.	262 Townsend Ave., Peterboro, Ont.
Canadian Motor Lamp Co. Ltd.	Seminole St., Windsor, Ont.
Canadian Ohio Brass Co. Ltd.	Niagara Falls, Ont.
Canadian Porcelain Co. Ltd.	Paradise Road, Hamilton, Ont.
Canadian Radiator Mfg. Co.	439 Wellington St. W., Toronto, Ont.
Canadian Sirocco Co. Ltd.	510 E. Ellis Ave., Windsor, Ont.
Canadian Sumner Iron Works Ltd.	1214 E. Pender St., Vancouver, B.C.
Chadwick-Carroll Brass & Fixtures Ltd.	365 Wilson Ave., Hamilton, Ont.
Champion Spark Plug Co. of Canada Ltd.	1624 Howard Ave., Windsor, Ont.
Clare Bros. & Co.	Preston, Ont.
Cober Elevator Mfg. Co. Ltd.	35 Front St. E., Toronto, Ont.
Coffield Washer Co. Ltd.	77 Niagara St., Hamilton, Ont.
Connor, J. H. & Son Ltd.	10 Lloyd St., Ottawa, Ont.
Cote Bros. & Burritt	1280 Condé St., Montreal, Que.
Dominion Carbon Brush Co. Ltd.	250 Richmond St. W., Toronto, Ont.
Dominion Chain Co. Ltd.	800 Bender Ave., Niagara Falls, Ont.
Dominion Machine & Tool Co. Ltd.	460 Richmond St., Toronto, Ont.
Dowswell, Lee & Co. Ltd.	193 Elgin St., Hamilton, Ont.
Easy Washing Machine Co. Ltd.	Miranda & Schell Ave., Toronto, Ont.
Eaton-Wilcox-Rich Ltd.	379 Pitt St. W., Windsor, Ont.
Electric Auto Lite Ltd.	Sarnia, Ont.
Electro Metallurgical Co. of Canada Ltd.	Welland, Ont.
Enamel & Heating Products Ltd.	Sackville, N.B.
Engineering Products of Canada Ltd.	6259 Notre Dame St. E., Montreal, Que.
Essex Wire Corp. Ltd.	1635 McDougall Ave., Windsor, Ont.
Fairbanks, E. & T., and Co. Ltd.	Sherbrooke, Que.
Fairgrieve & Son Ltd.	50 Dovercourt Rd., Toronto, Ont.

APPENDIX TO DIRECTORY - (Concluded)

<u>Name of Firm</u>	<u>Location of Plant</u>
Findlays Limited	Carleton Place, Ont.
Flaherty Mfg. Co.	76 Wellington St., Hamilton, Ont.
General Steel Wares Ltd.	London, Ont.
Gilbert & Barker Mfg. Co. Ltd.	64 Jefferson Ave., Toronto, Ont.
Gilson Mfg. Co. Ltd.	York Road, Guelph, Ont.
Greey, Wm. & J. G., Ltd.	56 Esplanade St., Toronto, Ont.
Guelph Stove Co. Ltd.	Guelph, Ont.
Gurney Foundry Co. Ltd.	96 Principal St., St. Laurent de Montreal, Que.
Hamilton Bridge Western Ltd.	205 .. 1st Ave. W., Vancouver, B.C.
Hamilton Machine Co.	11 Ferguson Ave. N., Hamilton, Ont.
Hamilton Potteries Ltd.	100 Locke St., Hamilton, Ont.
International Business Machines Co. Ltd.	300 Campbell Ave., Toronto, Ont.
Johnson Copper & Bronze Ltd.	142 Davenport Road, Toronto, Ont.
Johnson, A. J., Co.	2002 Victoria St., Montreal, Que.
Kribs, W. A., Co. Ltd.	Guelph Ave., Hespeler, Ont.
La Fonderie Ouellet, Enrg.	St. Leonard d'Acton, Que.
Leyland Auto Parts Co.	188 Parliament St., Toronto, Ont.
MacDonald Metal Products Co. Ltd.	Taylor St. E., Waterloo, Que.
Maxwells Ltd.	73 Park Ave., St. Marys, Ont.
McIntyre & Taylor, Ltd.	505 Queen St. W., Toronto, Ont.
McKinnon Industries Ltd.	Ontario St., St. Catharines, Ont.
McOuat, T., & Son	9 Princess St., Lachute Mills, Que.
Mitchell, Robert, Co. Ltd.	750 Belair Ave., Montreal, Que.
Metal & Wood Products Ltd.	43 E. Third Ave., Vancouver, B.C.
Moffats Ltd.	Weston, Ont.
Monarch Oil Burners Co.	701 St. Clair Ave. W., Toronto, Ont.
Morris, Herbert, Crane & Hoist Co. Ltd.	Stanley St., Niagara Falls, Ont.
New Idea Furnaces Ltd.	100 Charles St. E., Ingersoll, Ont.
Northern Crane & Hoist Works Ltd.	1428 Argyle Rd., Walkerville, Ont.
Ornamental Bronze Co. Ltd.	1125 Vernon Drive, Vancouver, B.C.
Otis Fensom Elevator Co. Ltd.	Victoria Ave. N., Hamilton, Ont.
Outboard Marine & Mfg. Co. of Canada Ltd.	Monaghan Road, Peterboro, Ont.
Peerless Motor Products	216 .. 12th Ave. W., Calgary, Alta.
Poelofson Elevator Co. Ltd.	289 Sumach St., Toronto, Ont.
Sheldon Ltd.	Grand Ave., Galt, Ont.
Shelton, W. G., Co. of Canada Ltd.	428 Cannon St. E., Hamilton, Ont.
Service Station Equipment Co. Ltd.	101 Hanson St., Toronto, Ont.
Singer Mfg. Co.	165 St. Paul St., St. Johns, Que.
Sister, N., & Co. Ltd.	20 Sydney St., Hamilton, Ont.
Standard Brass Foundry	561 Catharine St. N., Hamilton, Ont.
The Canadian Co. Ltd.	1244 Dufferin St., Toronto, Ont.
Timken Silent Automatic of Canada Ltd.	Walker Road, Walkerville, Ont.
Toronto Metal Spinning Co.	32 Eastern Ave., Toronto, Ont.
Trico Products Corp.	40 Courtwright St., Fort Erie N., Ont.
Whinope Metal Specialties Ltd.	Orillia, Ont.
Turnbull Elevator Co. Ltd.	126 John St., Toronto, Ont.
Whitehead Metal Products Co. of Canada Ltd.	Port Colborne, Ont.
Woods, W. C., Co. Ltd.	2480 Dundas St. W., Toronto, Ont.

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