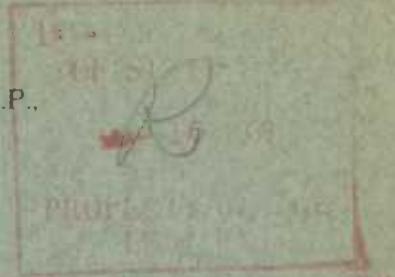


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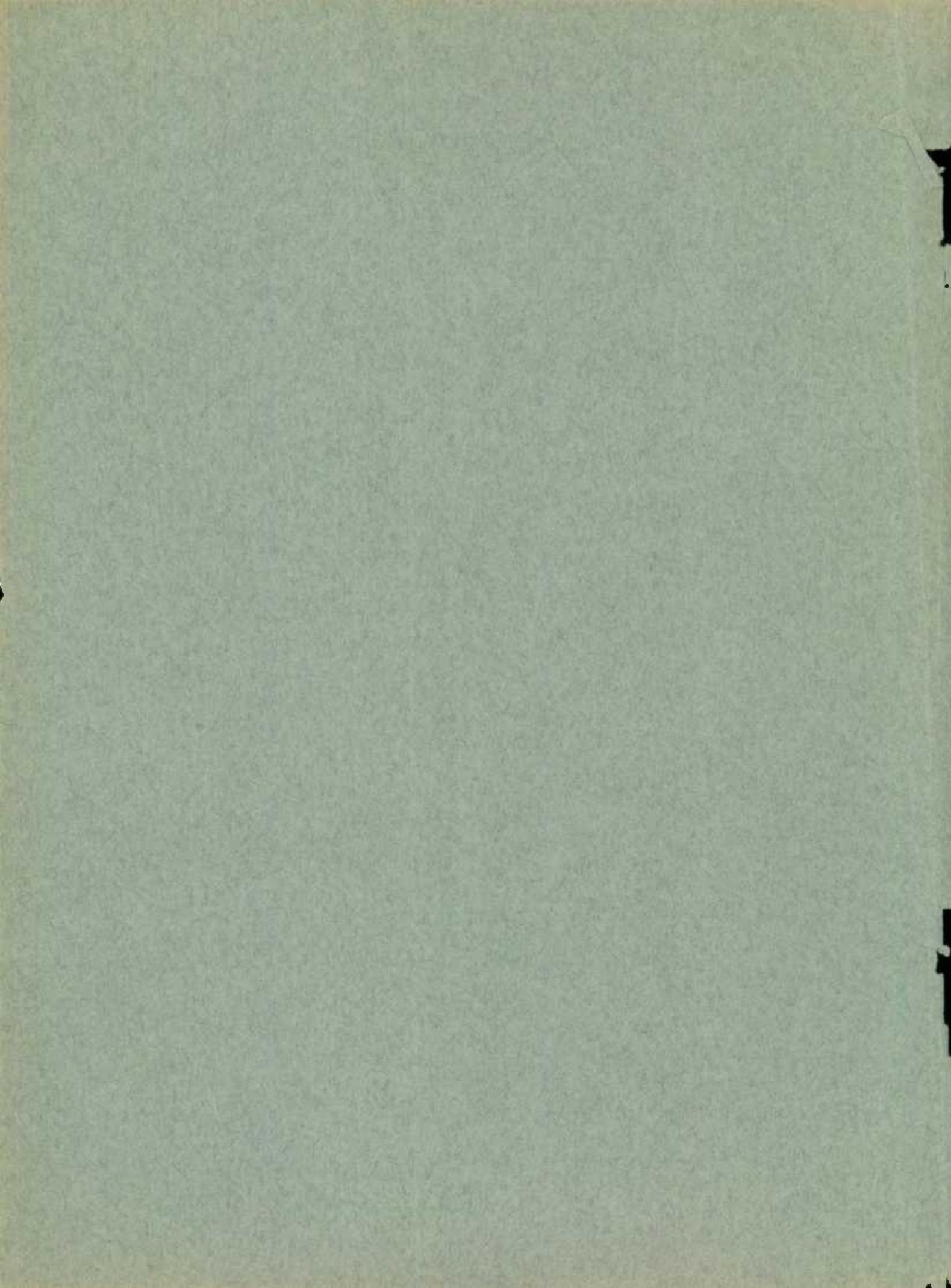
THE
ELECTRICAL APPARATUS & SUPPLIES
INDUSTRY
IN
CANADA

1937



OTTAWA
1939

Price 25 cents



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OTTAWA - CANADA

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ANNUAL INDUSTRY REPORT

MANUFACTURES OF THE NON-FERROUS METALS GROUP

THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1937.

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 \$19,759,883 in 1937. The items which go to make up this outside production are shown in Table 14 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 13 of this report cover only the concerns in the Electrical Apparatus and Supplies Industry. Table 14 shows the output of certain electrical apparatus by firms in other industries. Tables 15 to 30 give the total Canadian output (regardless of the industries in which they were produced) of motors, generators, transformers, batteries, washing machines, vacuum cleaners, lighting fixtures, wire and cable, electric refrigerators, stoves, water heaters, radio tubes, conduit, radios, ironers, oil burners, and incandescent lamps.

Production by firms in the Electrical Apparatus and Supplies Industry was valued at £98,841,992 in 1937, an output value which has only been exceeded on two previous occasions - in the record years of 1929 and 1930 when the totals were £113,796,002 and £104,577,790, respectively. During the year under review there were 191 firms in this group, including 136 in Ontario, 30 in Quebec, 11 in British Columbia, 9 in Manitoba, 4 in Alberta, and 1 in Nova Scotia. These plants represented a fixed and working capital of £97,187,905 and afforded employment to a monthly average of 21,706 people who were paid £26,291,436 in salaries and wages. A total of £41,695,446 was expended for materials used in manufacturing and an additional £1,331,249 was spent for fuel and electricity.

Imports into Canada under the heading of electrical apparatus were valued at £15,506,144 in 1937 against £10,907,782 in the previous year. Exports of Canadian goods of this class were appraised at £4,309,975, and re-exports of imported goods at £218,034 in 1937. Details of imports and exports are shown in Tables 31 and 32.

Table 1 - PRINCIPAL STATISTICS, 1925 - 1937.

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
	\$	\$	\$	\$	\$	\$	\$
1925	122	75,375,623	14,112	16,472,357	953,478	25,434,836	60,158,877
1926	132	80,523,534	15,246	18,626,500	1,065,421	30,195,935	69,767,308
1927	130	80,475,999	16,813	20,613,592	897,154	32,734,875	78,557,730
1928	137	87,952,674	18,193	22,756,209	959,237	38,784,421	93,672,452
1929	139	101,767,108	20,871	26,725,215	1,098,506	43,623,322	113,796,002
1930	149	102,979,896	20,568	26,260,004	1,082,700	45,111,629	104,577,790
1931	163	100,057,945	18,207	22,474,319	950,975	32,385,342	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	57,012,509
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	97,187,905	21,706	26,291,436	1,331,249	41,695,446	98,841,992
% change 1937 from 1936	+2.7	+21.8	+27.4	+34.8	+12.1	+36.8	+36.7

Table 2 - PRINCIPAL STATISTICS, BY SUB-GROUPS, 1936 and 1937.

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	5,846	6,610,410	7,216,954	19,513,644
1937	19	43,583,399	9,012	11,389,851	13,274,983	35,202,530
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	7,325,917
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
Appliances, chiefly (vacuum cleaners, refrigerators, stoves, etc.) -						
1936	31	6,319,018	1,582	1,524,161	3,575,645	7,685,160
1937	35	5,917,333	1,285	1,436,880	3,217,467	7,757,469
Cables and conduits, chiefly -						
1936	12	20,187,638	3,394	4,564,697	6,354,867	14,559,182
1937	13	22,923,257	4,760	6,039,529	10,801,120	24,370,967
Lighting fixtures, chiefly -						
1936	20	1,088,339	448	436,536	644,583	1,476,924
1937	21	1,800,787	714	754,994	1,079,025	2,516,128
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
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
TOTAL						
TOTAL	186	79,794,524	17,037	19,501,882	30,484,468	72,288,548
	191	97,187,905	21,706	26,291,436	41,695,446	98,841,992

Table 3 - PRINCIPAL STATISTICS, BY PROVINCES, 1936 and 1937.

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>1936</u>							
Nova Scotia	1)	20,764,054	4,201	5,131,880	295,030	6,639,889	15,702,574
Quebec	29)						
Ontario	134	58,400,322	12,629	14,132,231	873,637	23,501,825	55,800,685
Manitoba	8	343,489	111	119,971	11,891	209,190	462,642
Alberta	4	97,018	21	21,917	2,274	21,795	58,796
British Columbia	10	189,641	75	95,883	5,110	111,769	263,851
CANADA .....	.186	79,794,524	17,037	19,501,882	1,187,942	30,484,468	72,288,548
<u>1937</u>							
Nova Scotia	1)	23,538,041	5,591	6,610,587	342,717	10,221,152	23,457,042
Quebec	30)						
Ontario	136	72,979,088	15,884	19,416,686	967,261	31,080,611	74,510,006
Manitoba	9	382,564	126	137,416	13,950	220,739	500,802
Alberta	4	88,406	22	21,129	2,216	26,882	47,431
British Columbia	11	199,806	83	105,618	5,105	146,062	326,711
CANADA	191	97,187,905	21,706	26,291,436	1,331,249	41,695,446	98,841,992

Table 4 - CAPITAL EMPLOYED, BY PROVINCES, 1936 and 1937.

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>1936</u>				
Nova Scotia and Quebec ...	11,882,828	4,506,522	4,374,904	20,764,054
Ontario	24,525,076	15,663,620	18,211,626	58,400,322
Manitoba	165,652	104,448	73,389	343,489
Alberta	58,922	26,637	11,459	97,018
British Columbia	88,511	54,712	46,418	189,641
CANADA	36,720,989	20,355,739	22,717,796	79,794,524
<u>1937</u>				
Nova Scotia and Quebec ...	11,980,664	6,443,727	5,113,650	23,538,041
Ontario	21,466,487	23,085,345	28,427,256	72,979,088
Manitoba	161,096	146,344	75,124	382,564
Alberta	52,188	26,055	10,163	88,406
British Columbia	72,649	69,368	57,789	199,806
CANADA	33,733,084	29,770,839	33,683,982	97,187,905

Table 5 - SIZE OF ESTABLISHMENTS ACCORDING TO PRODUCTION, NUMBER OF EMPLOYEES and CAPITAL EMPLOYED, 1937.

	Number of plants	Capital employed	Average number of employees	Gross selling value of products at works
		\$		\$
(a) PRODUCTION				
Under \$5,000	21	135,619	44	63,128
\$5,000 to \$25,000	55	586,193	224	447,427
\$25,001 to \$50,000	18	776,287	245	598,218
\$50,001 to \$100,000	23	1,106,096	457	1,673,686
\$100,001 to \$250,000	32	3,486,970	1,005	4,718,270
\$250,001 to \$500,000	18	5,701,487	1,279	6,867,380
\$500,001 to \$1,000,000	24	11,852,785	2,953	16,243,737
Over \$1,000,000	20	73,542,868	15,499	68,250,146
TOTAL	191	97,187,905	21,706	98,841,992
(b) EMPLOYEES				
1 or 2	21	144,424	35	92,310
3 to 10	44	921,029	253	1,470,094
11 to 20	31	1,603,197	482	2,350,381
21 to 50	35	4,152,371	1,127	5,337,259
51 to 100	22	8,571,951	1,580	11,336,085
101 to 500	28	20,699,361	5,228	24,740,891
Over 500	10	61,095,572	13,001	53,514,972
TOTAL	191	97,187,905	21,706	98,841,992
(c) CAPITAL				
Under \$25,000	60	580,545	264	898,812
\$25,000 to \$100,000	60	2,863,230	1,207	4,907,509
\$100,001 to \$500,000	43	11,661,279	3,427	16,350,121
\$500,001 to \$1,000,000	17	12,019,439	2,742	14,382,214
Over \$1,000,000	11	70,063,412	14,466	62,303,336
TOTAL	191	97,187,905	21,706	98,841,992

Table 6 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1936 and 1937.

Province	Average number of employees						Salaries	Wages	TOTAL SALARIES and WAGES			
	On Salaries		On Wages		Male	Female						
	Male	Female	Male	Female								
1936												
Nova Scotia and Quebec ...	967	345	2,110	779	4,201	2,398,051	2,733,829	5,131,880				
Ontario	2,186	814	7,130	2,499	12,629	5,283,867	8,848,364	14,132,251				
Manitoba	28	7	74	2	111	70,267	49,704	119,971				
Alberta	7	1	13	...	21	9,397	12,520	21,917				
British Columbia	17	4	54	...	75	42,772	53,511	95,883				
CANADA	3,225	1,171	9,381	3,280	17,037	7,825,954	11,697,928	19,521,882				
1937												
Nova Scotia and Quebec ...	1,087	392	2,923	1,189	5,591	2,688,570	3,922,017	6,610,587				
Ontario	2,892	1,044	9,182	2,766	15,884	7,313,550	12,103,136	19,416,686				
Manitoba	31	8	85	2	126	77,766	59,650	137,416				
Alberta	5	2	14	1	22	8,264	12,865	21,129				
British Columbia	23	3	56	1	83	50,951	54,667	105,618				
CANADA	4,038	1,449	12,260	3,959	21,706	10,139,101	16,152,335	26,291,436				

Table 7 - WAGE-EARNERS, BY MONTHS, 1936 and 1937. (On 15th of each month)

Month	1 9 3 6			1 9 3 7		
	Male	Female	TOTAL	Male	Female	TOTAL
January	8,642	2,813	11,455	10,249	3,321	13,570
February	8,611	2,794	11,405	10,625	3,335	13,960
March	8,730	2,757	11,487	11,294	3,465	14,759
April	8,755	2,738	11,493	11,872	3,670	15,542
May	9,126	3,036	12,162	12,210	3,929	16,139
June	9,489	3,370	12,859	12,692	4,221	16,913
July	9,661	3,554	13,215	12,799	4,202	17,001
August	9,763	3,604	13,367	13,051	4,378	17,429
September	10,109	3,734	13,843	13,429	4,438	17,867
October	10,152	3,851	14,003	13,311	4,463	17,774
November	10,049	3,692	13,731	13,189	4,268	17,457
December	9,878	3,411	13,289	12,502	3,788	16,290
AVERAGE	9,381	3,280	12,661	12,260	3,959	16,219

Table 8 - REGULAR HOURS WORKED PER WEEK BY WAGE-EARNERS, 1936 and 1937. (Overtime not included).

Regular hours worked per week	Percentage of wage-earners		Regular hours worked per week	Percentage of wage-earners	
	1936	1937		1936	1937
40 hours or less	13.8	5.0	51 - 53 hours	0.8	1.3
41 - 43 hours	0.6	0.5	54 hours	0.5	0.9
44 hours	18.6	42.0	55 hours	4.4	4.5
45 - 47 hours	24.9	29.3	56 - 59 hours	1.2	0.7
48 hours	27.1	5.6	60 hours or over	0.7	1.5
49 - 50 hours	7.4	8.7			

Table 9 - FUEL AND ELECTRICITY USED, 1936 and 1937.

Kind	Unit of measure	1 9 3 6			1 9 3 7		
		Quantity	Cost at works	\$	Quantity	Cost at works	\$
Bituminous coal - Canadian	short ton	23,692	153,260		26,853	154,940	
Imported	short ton	43,804	250,729		40,437	234,510	
Anthracite coal	short ton	3,974	28,002		3,342	25,559	
Coke	short ton	1,316	13,801		1,939	21,729	
Gasoline	Imp. gal.	11,516	2,265		10,467	2,479	
Kerosene	Imp. gal.	5,909	988		5,371	850	
Fuel oil	Imp. gal.	1,319,548	90,676		1,478,425	103,293	
Wood	cord	135	681		246	936	
Gas - Manufactured	M cu.ft.	123,263	84,972		137,375	103,645	
Natural	M cu.ft.	23,546	14,486		29,676	13,480	
Other fuel .....	\$	...	468		...	253	
Electricity purchased	K. W. H.	56,566,091	567,614		72,826,211	669,575	
TOTAL .....	\$	...	1,187,942		...	1,331,249	
Electricity generated for own use ... K. W. H.		9,772,453		...	11,275,180		...

Table 10 - POWER EQUIPMENT, 1936 and 1937.

Kind	1 9 3 6			1 9 3 7		
	Number of units	Total rated horse power	Number of units	Total rated horse power		
Steam engines and turbines	22	7,279	16	7,270		
Diesel engines .....	...	...	1	25		
Gasoline, gas and oil engines	2	272	3	262		
Hydraulic turbines or water wheels	7	4,400	8	4,407		
Total Primary Equipment	31	11,951	38	11,964		
Electric motors run by purchased power	9,116	60,160	10,436	69,153		
TOTAL	9,147	72,111	10,464	81,117		
Electric motors run by power generated by above primary units	986	5,134	1,021	5,329		
Total Electric Motors	10,102	65,294	11,457	74,482		
Boilers	106	13,442	105	12,920		

Table 11 - POWER EQUIPMENT, 1937, showing - ORDINARILY IN USE - separately from - IN RESERVE OR IDLE.

Kind	Ordinarily in use		In reserve or idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and turbines	14	3,270	2	4,000
Diesel engines	1	25	...	...
Gasoline, gas and oil engines	1	15	2	247
Hydraulic turbines or water wheels	8	4,407	...	...
Total Primary Equipment	24	7,717	4	4,247
Electric motors run by purchased power	10,113	66,812	323	2,341
TOTAL	10,137	74,529	327	6,588
Electric motors run by power generated by above primary units	1,021	5,329	...	...
Total Electric Motors	11,134	72,141	323	2,341
Boilers	95	11,077	10	1,850

Table 12 - MATERIALS USED IN MANUFACTURING, 1936 and 1937.

Materials	Unit of measure	1 9 3 6		1 9 3 7	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Aluminium -					
Castings	lb.	459,103	243,350	448,207	367,625
Ingot and scrap	lb.	45,624	10,063	89,175	19,343
Punchings and spinnings	lb.	42,306	27,218	54,974	34,521
Rods and bars	lb.	508,417	91,758	655,861	134,559
Sheets	lb.	359,061	97,037	210,751	70,188
Other	lb.	96,768	36,055	274,565	117,482
Ammonium chloride (sal ammoniac)	lb.	1,046,121	33,078	1,135,702	35,466
Antimony	lb.	156,397	19,021	186,275	25,996
Argon	cu.ft.	121,955	53,006	149,541	64,146
Asbestos -					
Board	lb.	147,311	21,651	232,034	34,226
Yarn	lb.	87,693	26,626	119,140	37,323
Tape	lb.	14,922	10,829	...	16,780
Bakelite in all forms .....	\$	...	193,340	...	255,794
Battery boxes	no.	685,206	349,404	750,088	374,942

Table 12 - MATERIALS USED IN MANUFACTURING, 1936 and 1937. (continued)

Materials	Unit of measure	1 9 3 6		1 9 3 7	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Brass and bronze -					
Castings	lb.	1,082,654	305,386	1,472,543	466,926
Rods and bars	lb.	1,288,116	196,103	1,576,381	274,532
Tubing and pipe	lb.	101,868	27,409	149,308	44,365
Lamp bases .....	\$	...	249,580	...	217,228
Sheets	lb.	745,194	161,201	1,133,191	267,509
Screws .....	\$	...	60,746	...	93,702
Other .....	\$	...	35,503	...	149,982
Carbon brushes, brush stock and plates .....	\$	...	86,331	...	113,292
Carbon electrodes .....	\$	...	71,688	...	81,391
Copper -					
Castings	lb.	99,137	24,203	165,963	41,339
Ingots, slabs, wire bars, etc.	lb.)	25,702,675	2,562,314	866,281	184,180
Rods, including wire rods	lb.)	34,367,135	4,564,040	51,964	170,463
Scrap	lb.	7,732	14,659	655,102	127,373
Tubing and pipe	lb.	138,864	427,010	304,753	125,187
Sheets and plates	lb.	62,417	570,893	3,956,581	535,119
Wire, bare	lb.	558,147	904,796	369,796	546,076
Wire, enamelled .....	\$	...	637,391	...	954,553
Wire, other insulated .....	\$	...	572,996	...	794,913
Cotton and linen yarns .....	\$	...	88,051	...	131,987
Cotton sheets, tapes and webbing .....	\$	...	17,846	...	20,122
Cork sheet, etc. ....	\$	...	107,654	...	167,001
Fibre rod, sheet, tubing, etc. ....	\$	...	462,022	38,384	638,278
Frit for enamelling	lb.	585,611	52,689	...	...
Glass bulbs, tubing and cane .....	\$	...	120,668	...	614,335
Insulating varnishes, japans, lacquers, etc. ....	\$	...	106,796	...	160,976
Insulating waxes .....	\$	...	317,804	...	126,344
Insulators, porcelain .....	\$	...	...	...	461,946
Iron and steel -					
Pig iron	long ton	1,496	32,074	2,507	61,640
Iron castings	short ton	4,736	563,306	...	936,004
Steel castings	short ton	217	46,551	804	99,755
Steel forgings	short ton	396	44,578	1,471	194,109
Steel bars	short ton	1,362	124,000	1,638	155,945
Steel rods	short ton	1,205	156,584	1,482	257,719
Iron and steel pipe	short ton	5,488	548,883	...	735,819
Steel sheets	short ton	14,351	1,311,520	...	1,980,710
Steel wire	short ton	1,382	153,054	...	257,834
Structural steel	short ton	2,353	128,814	3,359	200,153
Steel strip	short ton	2,104	227,540	2,529	357,759
Stampings .....	\$	...	182,879	...	297,893
Bolts, nuts and screws .....	\$	...	214,669	...	346,081
Other iron and steel .....	\$	...	136,349	...	225,745
Lead -					
Pig	lb.	18,753,513	780,773	21,054,881	1,093,836
Scrap	lb.	160,456	3,313	129,400	5,830
Other	lb.	821,732	43,146	808,603	50,431
Lead oxide (litharge and red lead)	lb.	3,937,252	229,168	4,620,202	334,607
Lumber	M bd.ft.	3,893	174,267	...	242,716
Manganese dioxide	lb.	3,875,978	69,884	4,207,634	75,970
Mica	lb.	109,003	77,336	...	87,829
Mineral wool	lb.	311,962	18,563	385,588	8,194
Nickel-silver tubing	ft.	26,372	3,977	94,019	6,436
Nitrogen	cu.ft.	679,760	8,934	498,074	5,932
Oil -					
Transformer	Imp.gal.	352,878	84,979	623,820	147,333
Switch	Imp.gal.	36,969	8,862	59,250	14,558
Paint .....	\$	...	146,249	...	199,647
Paper .....	\$	...	229,777	...	304,504
Pressboard .....	\$	...	73,815	...	105,288
Radio cabinets	no.	177,555	1,282,180	...	1,430,301
Radio parts for assembling .....	\$	...	2,872,970	...	2,911,622
Radio tubes purchased and used to equip radio receiving sets manufactured	No.	1,292,407	919,106	1,614,417	1,026,564

Table 12 - MATERIALS USED IN MANUFACTURING, 1936 and 1937. (concluded).

Materials	Unit of measure	Quantity	1 9 3 6	1 9 3 7	Cost at works
					\$
Resistance wire .....	\$	...	85,563	...	94,994
Rubber, reclaimed or compounded	lb.	826,771	64,952	1,382,803	102,382
Rubber, other	lb.	742,003	128,641	1,231,553	253,998
Silk, artificial	lb.	22,902	28,400	22,116	28,919
Steel tanks	no.	4,153	53,401	12,682	115,235
Sulphuric acid, 66° Be'	lb.	3,677,518	60,391	4,446,397	65,288
Talc	lb.	382,493	4,946	418,932	5,256
Thermometers	no.	20,763	55,964	35,627	88,945
Tungsten wire	lb.	...	47,856	...	52,768
Wood battery separators	lb.	...	157,828	...	181,335
Zinc -					
Ingot and bar	lb.	723,050	45,289	980,619	56,389
Sheets	lb.	2,452,853	177,833	2,712,989	242,631
Zinc chloride	lb.	356,105	20,429	423,498	24,385
Electric motors purchased	lb.	...	335,697	...	392,457
All other materials	lb.	...	8,825,361	...	11,646,176
Containers and packing material	lb.	...	770,371	...	897,980
TOTAL .....	\$	...	30,484,468	...	41,695,446

Table 13 - PRODUCTS MADE IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1936 and 1937.

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 15 to 30.

Products	Unit of measure	Quantity	1 9 3 6	1 9 3 7	Gross selling value at works
					\$
Appliances, motor driven, and parts, including vacuum cleaners(x), fans, washing machines(x), electric clocks(x), ironing machines(x), blowers(x), oil burners (x), floor polishers(x), shavers, clippers, etc. (See Tables 18, 19, 21 and 29) .....	\$	...	2,530,124	...	3,142,271
Batteries and parts (See Table 22) .....	\$	...	5,928,956	...	6,608,914
Conduit and fittings(x) (See Table 16) .....	\$	...	1,044,708	...	1,576,022
Converter equipment -					
Motor generator sets, A.C. to D.C.	no.	104	112,844	99	375,320
Motor generator sets, A.C. to A.C.	no.	1	410,606	1	1,024
Other converter equipment and parts .....	\$	...	70,299	...	177,988
Cooking and heating apparatus, electric -					
Stoves, grills, etc.(x) (See Table 25) .....	\$	...	934,103	...	1,151,797
Heating elements (sold separately) .....	\$	...	33,049	...	49,519
Heaters, air and space (x)	no.	11,494	35,514	12,047	47,628
Heaters, water, domestic(x) (See Table 27)	no.	18,495	102,048	21,279	126,835
Heating pads, electric	no.	...	...	16,645	40,800
Toasters -					
Commercial	no.	49,707	49,895	53,952	53,614
Sandwich	no.	25,605	51,470	26,479	57,998
All other	no.	65,494	129,449	84,598	147,119
Percolators	no.	8,703	65,953	8,399	34,722
Glass coffee makers	no.	3,369	14,493	14,812	53,981
Irons, flat	no.	168,114	270,586	183,147	321,302
Waffle irons	no.	2,149	7,470	6,365	21,416
All other cooking and heating apparatus .....	\$	...	103,352	...	56,373

Table 13 - PRODUCTS MADE IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1936 and 1937 (concluded)

Products	Unit of measure	1936		1937	
		Quantity	Gross selling value at works	Quantity	Gross selling value at works
			\$		\$
Cutouts and fuses -					
Primary cutouts, all types .....	\$	...	182,858	...	226,523
Cutouts for cartridge and plug fuses .....	\$	...	39,981	...	46,109
Cartridge and other fuses and renewals .....	\$	...	330,621	...	352,785
Generators, A.C. and D.C. and parts (See Table 17) .....	\$	...	907,529	...	1,314,403
Industrial electrical heating equipment -					
Furnaces, resistance, induction and arc types and industrial ovens	no.	57	94,799	72	155,789
Other industrial heating equipment .....	\$	...	127,851	...	127,801
Instruments and meters (except ammeters for autos) -					
Demand meters	no.	3,999	92,784	6,897	108,952
Watthour meters	no.	106,681	877,133	136,726	1,237,010
Electrical indicating and graphic instruments	no.	956	46,048	1,541	71,527
Other electrical instruments and meters	no.	1,124	42,397	1,709	76,844
Meter and instrument parts .....	\$	...	123,222	...	166,337
Lamps, incandescent -					
Standard size	no.	24,364,181	4,117,871	25,689,598	4,477,267
Miniatue size	no.	11,246,707	662,628	12,362,115	744,011
Lighting fixtures(x) (See Table 23) .....	\$	...	1,754,825	...	1,973,584
Line material (excluding wire and insulators) .....	\$	...	289,019	...	503,333
Motors, A.C. and D.C. and parts(x) (See Table 17) .....	\$	...	4,383,438	...	7,672,278
Panel boards and cabinets .....	\$	...	284,007	...	395,633
Radios and parts(x) (except tubes and transformers) (See Table 24) .....	\$	...	11,909,260	...	13,224,740
Rectifiers, for storage battery charging, and parts \$	\$	...	34,288	...	27,672
Refrigerators, electric(x) (See Table 26) .....	\$	...	5,463,471	...	6,661,764
Switch gear and protective equipment (except telephone switchboards) -					
Switchboard panels and equipment .....	\$	...	1,001,344	...	1,434,807
Lightning arresters, other than radio, 15,000 volts and below .....	\$	...	177,390	...	164,983
Lightning arresters, above 15,000 volts .....	\$	...	404,740	...	698,578
Oil circuit breakers .....	\$	...	127,365	...	306,352
Air circuit breakers .....	\$	...	134,763	...	244,967
Disconnecting switches .....	\$	...	147,388	...	254,418
Other equipment, including parts and supplies .....	\$	...	2,979,534	...	6,199,096
Telephone material (telephones, switchboards, etc.)	\$	...	2,893,156	...	5,624,512
Transformers and parts (See Table 15) .....	\$	...	30,187	...	34,232
Therapeutic lamps and other electro-therapeutic apparatus .....	\$	...	1,545,823	3,320,687	1,760,109
Vacuum tubes -					
Radio receiving tubes (See Table 29)	no.	2,952,415	84,457	...	67,255
Other vacuum tubes, including X-ray	no.	20,066	308,245	...	276,000
Welding apparatus					
Wiring devices (except auto starting switches and time switches) -					
Sockets, brass shell .....	\$	...	164,057	...	170,801
Sockets, porcelain .....	\$	...	110,263	...	121,829
Switches, surface and flush types .....	\$	...	191,038	...	232,547
Switches, enclosed safety type .....	\$	...	350,901	...	445,778
Switches, canopy .....	\$	...	34,580	...	44,539
Switches, all other .....	\$	...	171,839	...	283,668
Receptacles, single and duplex (flush) .....	\$	...	105,670	...	189,755
Cord sets .....	\$	...	168,111	...	418,009
Other wiring devices .....	\$	...	1,005,329	...	1,563,619
Wires(x) and cables, except aluminium (See Table 20) \$	\$	...	10,127,986	...	15,091,629
Receipts from custom and repair work .....	\$	...	685,331	...	821,054
Any electrical apparatus not elsewhere reported, including articles reported by only 1 or 2 firms .....	\$	...	2,479,250	...	5,532,130
All other products .....	\$	...	5,199,852	...	5,043,539
TOTAL .....	\$	...	72,288,548	...	98,841,992

Table 14 - PRODUCTION OF CERTAIN ELECTRICAL APPARATUS BY FIRMS CLASSIFIED TO OTHER INDUSTRIES THAN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1935 - 1937.

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 11 to arrive at the total Canadian output for these items. (See Tables 15 to 30).

Products	Gross selling value at works		
	1935	1936	1937
	\$	\$	\$
Radio sets and parts (excluding cabinets) .....	...	65,798	11,388
Washing machines, electric	3,464,879	4,164,992	5,091,846
Stoves, rangettes, hot plates, etc., electric	1,241,088	1,488,591	1,756,364
Electrodes, furnace	1,739,435	2,313,488	3,217,621
Ignition coils, automobile .....	...	249,437	322,618
Generators and starters, automobile	1,829,617	1,568,192	2,032,018
Oil burners	266,553	288,192	237,685
Signs, electric, including Neon	906,858	1,134,411	1,323,748
Lighting fixtures	119,864	95,370	116,915
Blowers for domestic furnaces	58,297	58,321	69,779
Water tank heaters, electric	16,081	17,434	18,020
Air and space heaters	7,057	4,000	4,500
Spark plugs, electric irons, electric motors, vacuum cleaners, copper wire, electric refrigerators, auto coils, porcelain insulators, etc.	3,622,734	4,559,541	5,557,391
TOTAL	13,317,544	16,012,567	19,759,883

Table 15 - PRODUCTION OF TRANSFORMERS, BY TYPES, 1936 and 1937.

Type	1936			1937		
	Total Number	Selling value rating K.V.A.	at works	Total Number	Selling value rating K.V.A.	at works
Distribution transformers, 200 k.v.a. and under, and 15,000 volts and below	8,357	114,493	1,115,234	16,016	186,374	2,157,947
Power transformers, 200 k.v.a. to 7,500 k.v.a. inclusive, over 15,000 volts to and including 132,000 volts	242	207,052	924,825	414	445,812	1,974,035
Power transformers, over 7,500 k.v.a. and over 132,000 volts	8	198,000	269,724	33	291,863	609,702
Current and potential transformers	4,316	...	114,411	...	...	211,712
Constant current transformers	73	550	21,776	14	167	4,725
Series lamp transformers	539	...	14,526	347	...	7,611
Luminous tube and ignition transformers	12,109	...	89,080	18,117	...	132,707
Radio transformers .....	...	...	187,355	...	...	248,178
All other transformers .....	...	...	60,255	...	...	111,079
Parts and supplies .....	...	...	95,970	...	...	166,816
TOTAL .....	...	...	2,895,156	...	...	5,624,512

Table 16 - PRODUCTION OF ELECTRICAL CONDUIT IN CANADA, 1936 and 1937.

Items	1936		1937	
	Quantity	Selling value at works	Quantity	Selling value at works
		\$		\$
Rigid iron conduit	lb.	10,251,308	778,540	13,749,409
Flexible conduit (steel and non-metallic)	ft.	4,951,922	79,978	5,268,069
Conduit fittings .....	...	186,190	...	285,757
TOTAL .....	...	1,044,708	...	1,576,022

Table 17 - PRODUCTION OF ELECTRIC GENERATORS AND ELECTRIC MOTORS IN CANADA, 1936 and 1937.
(from all industries)

	1	9	3	6	1	9	3	7
	Total Number	Total rating	Selling value at works		Total Number	Total rating	Selling value at works	
<u>Generators (excluding double current generators)-</u>								
Alternating current	37	70,041 K.V.A.	569,147		64	85,497 K.V.A.	900,123	
Direct current and including								
exciters	49	2,028 K.W.	58,667		44	3,289 K.W.	55,071	
Steam turbo-generator sets	206	103 K.V.A.	279,715		155	77 K.V.A.	20,097	
Accessories and parts for generators .....	...	...	259,924		...	...	339,112	
Total Generators .....	...	...	1,167,453		...	...	1,314,403	
<u>Motors (excluding starting motors) -</u>								
1/3 h.p. and under	178,549	43,217 H.P.	1,477,065		256,215	57,720 H.P.	2,270,058	
Over 1/3 to 5 h.p. - single phase -								
A.C.	8,140	9,821 H.P.	377,647		10,351	11,913 H.P.	479,496	
Over 1/3 to 5 h.p. - induction	6,147	13,166 H.P.	441,742		8,778	18,481 H.P.	654,018	
Over 1/3 to 5 h.p. - D.C.	185	164 H.P.	6,866		195	194 H.P.	12,664	
Over 5 to 200 h.p. - induction	2,602	65,584 H.P.	815,683		4,276	117,612 H.P.	1,479,036	
Over 5 to 200 h.p. - D.C.	21	536 H.P.	27,600		67	2,324 H.P.	86,093	
201 h.p. and over - induction	32	12,825 H.P.	112,796		47	20,275 H.P.	223,060	
201 h.p. and over - D.C.	1	1,350 H.P.	28,101		5	5,700 H.P.	100,804	
Railway and vehicle motors, A.C. and D.C.	96	28,165 H.P.	242,533		205	105 H.P.	15,791	
Synchronous condensers and motors .....	...	...	...		156	85,010 K.V.A.	891,631	
Starting and control equipment .....	...	...	842,119		...	...	1,486,422	
Accessories and parts for motors .....	...	...	244,185		...	...	237,011	
Total Motors and Parts .....	...	...	4,616,337		...	...	7,946,054	

Table 18 - TOTAL PRODUCTION OF DOMESTIC WASHING MACHINES IN CANADA, 1927 - 1937. (From all industries)

Year	HAND		ELECTRIC		OTHER POWER		TOTAL	
	Number	Selling value at works	Number	Selling value at works	Number	Selling value at works	Number	Selling value at works
1927	21,841	356,409	58,409	4,606,651	1,986	135,452	62,136	5,096,492
1928	22,118	374,491	60,871	7,724,740	3,408	212,028	86,397	8,311,259
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	8,807,068	2,443	244,726	86,058	9,391,711
1931	16,189	331,732	59,445	6,490,578	1,061	96,348	76,693	6,918,458
1932	10,416	122,695	47,440	3,158,122	630	36,520	58,486	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	3,600,904	2,110	169,256	84,676	3,849,193
1936	11,557	142,474	89,334	4,331,912	1,747	126,244	102,638	4,600,630
1937	12,248	139,899	115,385	5,414,315	5,342	401,390	133,475	5,955,604

Table 19 - PRODUCTION OF DOMESTIC ELECTRIC IRONERS(x) IN CANADA, 1935 - 1937. (From all industries)

Year	Number	Selling value at works
1935	9,028	364,626
1936 - Operated by own motor	5,435	509,309
Attached to washing machines	3,391	62,769
TOTAL - 1936	8,826	572,078
1937 - Operated by own motor	3,622	224,369
Attached to washing machine	1,101	30,608
TOTAL - 1937	4,723	254,977

Table 20 - TOTAL PRODUCTION IN CANADA OF COPPER WIRE AND CABLE, 1935 - 1937. (From all industries).

Kinds	Selling Value at Works		
	1935	1936	1937
	\$	\$	\$
Copper wire, bare	1,856,944	2,559,224	3,431,638
Weatherproof	744,901	1,042,714	1,582,800
Rubber insulated, braided	1,866,450	2,475,155	2,815,097
Cambric insulated, braided	69,957	70,547	145,696
Rubber insulated, leaded	212,579	188,189	348,877
Cambric insulated, leaded	160,231	243,150	465,064
Paper insulated, leaded	104,737	157,536	555,461
Telephone cable of all kinds	569,645	765,379	1,027,827
Armoured cable	515,142	647,011	793,217
Cord, heater, lamp, fixture, all rubber, etc.	548,621	646,692	1,073,069
All other copper wire and cable	1,433,652	1,359,729	2,957,667
Total Copper Wire and Cable	8,082,839	10,155,326	15,174,413

Table 21 - PRODUCTION OF ELECTRIC VACUUM CLEANERS AND PARTS IN CANADA, 1934 - 1937. (From all industries).

	1934	1935	1936	1937
Electric floor models	No. 32,163 \$ 1,174,044	38,728 1,510,401	40,621 1,473,656	44,721 1,701,307
Electric hand models	No. 15,663 \$ 163,858	11,723 180,683	7,058 109,214	4,017 41,743
Attachments and parts for above	\$ 212,006	657,339	347,276	293,270
TOTAL	\$ 1,549,908	2,348,423	1,930,146	2,036,320

Table 22 - PRODUCTION OF ELECTRIC BATTERIES IN CANADA, BY TYPES, 1936 and 1937.

Kinds	1936		1937	
	Number	Selling value at works	Number	Selling value at works
<u>STORAGE -</u>				
For internal combustion engine starting and ignition	608,025	2,542,313	662,100	2,821,072
For farm lighting plants (cells)	17,743	93,528	...	119,229
For railway service (cells)	6,260	145,573	5,718	120,924
For telephone switchboards	1,160	35,567	2,341	58,640
For motorcycle starting	2,151	8,062	2,548	7,738
For all other purposes .....	...	450,526	...	448,036
Total Storage .....	...	3,275,369	...	3,575,639
<u>DRY CELL -</u>				
6 inch cells	(cells) 1,537,289	418,877	1,382,526	376,223
B and C for radio	(cells) 22,517,403	1,323,406	24,274,227	1,388,023
Flashlight	(cells) 9,386,366	560,893	11,242,463	664,007
Other dry cells	(cells) 78,252	5,432	108,114	7,627
Total Dry Cells .....	...	2,308,608	...	2,435,880
Parts and supplies, including all other dry cells and primary wet cells .....	...	344,979	...	597,395
TOTAL .....	...	5,928,956	...	6,608,914

Table 23 - TOTAL PRODUCTION IN CANADA OF ELECTRIC LIGHTING FIXTURES, 1936 and 1937. (From all industries)

	Selling Value at Works	
	1936	1937
\$	\$	
Interior lighting fixtures, residential	909,237	1,120,958
Interior lighting fixtures, metal reflectors	120,673	190,774
All other interior lighting fixtures	182,625	285,520
Exterior lighting standards	27,085	12,548
Exterior lighting fixtures	227,114	106,452
Exterior lighting control devices	15,929	2,034
Searchlights and floodlights	17,606	30,399
All other lighting equipment	349,926	355,914
TOTAL LIGHTING FIXTURES	1,850,195	2,084,399

Table 24 - PRODUCTION OF COMPLETE RADIO RECEIVING SETS IN CANADA, 1925 - 1937.

Year	Number of sets	Selling value at works (x)	Year	Number of sets	Selling value at works (x)
1925	48,531	2,278,292	1932	121,468	6,808,877
1926	42,430	2,253,098	1933	112,273	4,401,313
1927	47,500	3,748,622	1934	188,710	8,196,248
1928	81,032	7,486,127	1935	191,293	9,493,399
1929	150,050	15,604,145	1936	253,896	11,388,173
1930	170,082	19,196,936	1937	289,247	11,696,717
1931	291,711	18,555,710			

(x) Not list prices.

Table 25 - NUMBER and FACTORY SELLING VALUE OF STOVES MADE IN CANADA, 1934 - 1937.

Kind		1934	1935	1936	1937
Coal and wood cooking stoves and ranges, all styles . No.	74,291	83,201	96,250	98,625	
	\$ 2,904,462	3,232,965	4,045,067	4,612,694	
Coal and wood heating stoves (including all heaters, circulators, Quebec, box, oak, Franklyn, globe or laundry	No. 52,056 \$ 716,318	58,489 815,115	109,119 1,076,990	124,316 1,326,769	
Combination for gas and coal	No. 5,796 \$ 404,118	7,049 466,249	9,246 566,717	11,015 661,570	
Combination for gas and electric	No. 7 \$ 560	6 300	550 34,600	...	
Combination for coal and electric	No. 1,055 \$ 104,992	1,541 133,327	3,038 277,220	2,886 251,342	
Gas cooking stoves and ranges not combinations, including all styles with ovens	No. 20,596 \$ 783,634	23,939 858,210	26,727 1,017,146	27,900 1,154,215	
Electric cooking stoves and ranges over 35 amperes, all styles with ovens	No. 18,575 \$ 1,358,050	24,094 1,782,527	29,442 2,097,256	35,205 2,531,456	
Electric rangettes, including cord attachment and oven as one unit	No. 5,561 \$ 88,357	6,312 85,038	11,195 194,701	11,741 193,879	
Electric cooking plates and grills	No. 61,064 \$ 130,901	94,528 181,217	56,913 130,537	65,328 149,472	
Gas cooking plates	No. 3,987 \$ 30,521	3,768 10,867	4,894 13,642	4,088 14,425	
Gas heating stoves	No. No record \$ 2,194		2,194 27,910	2,485 38,020	
Oil and gasoline stoves	No. No record \$ 14,550		14,550 112,476	20,927 184,466	
TOTAL	\$ 6,521,913	7,565,815	9,594,262	11,118,306	

Table 26 - PRODUCTION OF ELECTRIC REFRIGERATORS IN CANADA, 1929 - 1937.

		Selling value at works
	Number	\$
1929	4,687	1,608,304
1930	6,302	1,607,784
1931 - Individual domestic type	9,879	1,708,327
All other types	4,314	1,088,590
Total for 1931 .....	...	2,796,917
1932 - Individual domestic type	19,454	2,218,798
All other types .....	...	914,455
Total for 1932 .....	...	3,133,253
1933 - Individual domestic type	15,059	1,896,033
Individual commercial type for use in stores, etc.	574	107,855
All other types (compressors only, ice cream cabinets, etc.)	1,016	197,833
Total for 1933 .....	...	2,201,721
1934 - Individual domestic type	27,897	3,502,089
Individual commercial type	1,119	284,654
All other types (compressors only, ice cream cabinets, etc.)	1,241	146,279
Total for 1934 .....	...	3,933,022
1935 - Individual domestic type, complete, all sizes	22,452	2,835,079
Commercial (ice cream cabinets, room coolers, etc.) complete and remote.	2,271	359,752
Condensing units only	2,344	249,720
Total for 1935 .....	...	3,444,551
1936 - Individual domestic type, complete, all sizes	40,688	5,054,553
Individual commercial type (ice cream cabinets, room coolers, etc.)		
complete and remote	3,975	687,028
Condensing units only	1,662	193,381
Total for 1936 .....	...	5,934,962
1937 - Individual domestic type, complete, all sizes	52,068	5,793,926
Individual commercial type (ice cream cabinets, room coolers, etc.)		
complete and remote	4,042	665,987
Condensing units only	8,908	671,123
Total for 1937 .....	...	7,131,036

Table 27 - PRODUCTION OF DOMESTIC WATER HEATERS IN CANADA, 1936 and 1937. (From all industries)

Item		1 9 3 6	1 9 3 7	
	Number	Selling value at works	Number	Selling value at works
	\$	\$		
Electric - Circulating type	3,236	40,601	3,761	52,663
Immersion type	15,521	51,695	17,816	56,530
Storage tank type	2,465	27,186	2,586	35,862
Total Electric	21,222	119,482	24,163	144,855
Gas - Automatic	2,271	90,426	2,744	118,728
Not automatic	12,293	68,332	11,187	73,866
Total Gas	14,564	158,758	13,931	192,594
Coal, wood or oil, cast iron	3,978	40,120	4,169	38,876
Other, including indirect and converters	155	6,012	169	44,188
GRAND TOTAL	39,919	324,372	42,432	420,513

Table 28 - PRODUCTION IN CANADA and IMPORTS OF RADIO RECEIVING TUBES, 1929 - 1937.

Year	PRODUCTION		IMPORTS	
	Number	Selling value at works \$	Number	Selling value at works \$
1929	2,924,270	3,100,148	...	524,872
1930	3,116,096	3,181,276	...	527,728
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

Table 29 - PRODUCTION OF OIL BURNERS IN CANADA, 1935 - 1937. (From all industries)

Type	1935	1936	1937
Oil burners - Atmospheric gravity-feed	No. 4,436 \$ 100,773	5,218 79,303	2,133 58,971
Power, for domestic and commercial uses ..	No. 1,165 \$ 165,480	1,136 208,389	1,483 174,514

Table 30 - PRODUCTION OF INCANDESCENT ELECTRIC LAMPS IN CANADA, 1931 - 1937.

Year	STANDARD Number	SIZE Selling value at works \$	MINIATURE SIZE Selling value at works \$	
			Number	SIZE 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

Table 31 - IMPORTS INTO CANADA OF ELECTRICAL APPARATUS, 1936 and 1937.

	1936		1937	
	Quantity	Value	Quantity	Value
Batteries, primary, electric and galvanic, n.o.p., and complete parts	138,748	...	213,865
Batteries, electric, storage, and complete parts, n.o.p., including separator walls of wood, cut to size or not.	144,122	...	180,367
Heating apparatus, n.o.p.	93,479	...	71,211
Electric dynamos and generators, n.o.p., and complete parts	447,275	...	774,228
Fuses, fuse plugs and cutouts, electric, and complete parts, n.o.p.	96,794	...	115,490
Lamps, electric, arc	5,546	...	6,424
Lamps, electric, incandescent, carbon filament No. 486,030	18,830	805,563	21,103	
Lamps, electric, incandescent, metal filament No. 3,780,325	215,088	9,690,269	251,095	
Lights - Electric head, side and tail lights, n.o.p.; electric torches or flashlights and parts	492,811	...	454,078
Electric light fixtures and appliances, n.o.p., and complete parts	574,577	...	815,966
Lightning arresters, choke coils, reactors and other protective devices, and complete parts, n.o.p.	40,391	...	50,956
Electrical instruments or apparatus of precision, of a class or kind not made in Canada (From Feb. 26, 1937)	59,553
Meters, electric, and complete parts	164,128	...	239,919
Motors, electric, n.o.p., and complete parts	1,496,966	...	2,308,669
Motors for electric fans, n.o.p. No. 10,086	46,012	19,826	60,196	

Table 31 - IMPORTS INTO CANADA OF ELECTRICAL APPARATUS, 1936 and 1937. (concluded)

	1 9 3 6	1 9 3 7		
	Quantity	Value	Quantity	Value
		£		£
Rheostats, controllers and other starting and controlling devices, and complete parts	468,781	...	769,228
Sad irons, electric, and complete parts	38,745	...	64,972
Self-contained lighting outfits and complete parts, n.o.p.	3,477	...	5,880
Sockets, outlets and receptacles and complete parts	64,535	...	39,199
Spark plugs, magnetos, n.o.p., and other ignition apparatus and complete parts	97,422	...	21,139
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	10,204	...	10,316
Switchgear, flame proof, electric, for use underground in coal mines, and complete parts	18,096	...	10,863
Electric dry shaving machines of a class or kind not made in Canada, for use in removing human hair, and complete parts thereof	204,169	...	353,339
Steam turbo-generator sets, electric, 700 h.p. and greater, of a class or kind not made in Canada, and complete parts thereof	No. 8	300,731	20	694,521
Switches, switchboards, circuit breakers and complete parts, n.o.p.	593,457	...	855,154
Telegraph apparatus, electric, and complete parts	77,756	...	213,443
Telephone apparatus, electric, and complete parts	634,615	...	971,730
Transformers and complete parts	113,032	...	256,540
Radio tubes	No. 565,873	289,659	484,227	290,698
Radio and wireless apparatus, electric, n.o.p.	2,256,540	...	592,717
Radio receiving sets (From April 1, 1937) ....No.	5,151	136,783
Radio and wireless apparatus, electric, n.o.p. (From April 1, 1937)	2,128,635
Electric welding apparatus, not including motors (From February 26, 1937)	134,075
Electric apparatus, n.o.p., and complete parts	1,761,790	...	2,333,832
TOTAL	10,907,782	...	15,506,144

Table 32 - EXPORTS FROM CANADA OF ELECTRICAL APPARATUS, 1936 and 1937.

Items	1 9 3 6	1 9 3 7
(a) EXPORTS		
Batteries, storage	139,504	212,844
Batteries, n.o.p.	105,725	96,616
Telegraph, telephone and radio apparatus, n.o.p.	266,532	191,181
Radio and wireless apparatus (except batteries)	287,580	199,211
DYNAMOS, generators and motors	316,424	490,943
Electric stoves and parts	No. 17,961	22,256
Electrical cooking and heating devices, domestic, n.o.p.	\$ 1,112,108	1,503,146
Spark plugs, magnetos and other ignition apparatus	25,420	23,302
Electric apparatus, n.o.p.	725,959	747,240
TOTAL	3,455,812	4,309,975
(b) RE-EXPORTS		
Telegraph, telephone and radio apparatus (except batteries)	55,713	66,287
DYNAMOS, generators and motors	31,346	45,583
Spark plugs, magnetos, and other ignition apparatus	3,578	3,756
Electric apparatus, n.o.p.	89,655	102,408
TOTAL	180,292	218,034

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, 1937.

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 directory).

<u>Names of Firms</u>	<u>Location of Plants</u>
<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	2442 Trenton Ave., Montreal
Conduits National Co. Ltd.	3081-C Ontario St. E., Montreal
Devoe Electric Switch Co.	865 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. Georges St., St. Johns
Hughes, Benjamin, Electric Co.	205 Vitre St. W., 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 Reg'd.	1200 Demontigny St. E., Montreal
Phillips Electrical Works Ltd.	5795 De Gaspe Ave., Montreal
Pyle-National Co. of Canada, Limited	4857 Acorn Ave., St. Henri, Montreal
RCA Victor Co. Ltd.	976 Lacasse St., Montreal
Schick Shaver Limited	St. Johns
Silex Company Ltd.	Ste. Thérèse
Solex Company Limited	4060 St. Lawrence Blvd., Montreal
Tempco Electric Mfg. Co.	480 Lagauchetière St., Montreal
White, I. N., & Sons Ltd.	476 St. Henri St., Montreal
<u>ONTARIO</u> -	
Aerovox Canada Ltd.	35 Catherine St. S., Hamilton
Amalgamated Electric Corporation, Limited	372 Pape Ave., Toronto
Arrow-Hart & Hegeman (Canada) Limited	310 Spadina Ave., Toronto
Backer, C. B., Co. Ltd.	25 Aberdeen St., Ottawa
Baird, Wm., & Son	568 Dundas St., Woodstock
Baldwin International Limited	620 King St. W., Toronto
Boston Insulated Wire & Cable Co. Ltd.	118 Shaw St., Hamilton
Branston, 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 Wire and Cable Co. Ltd.	Leaside
Canadian Curtis Refrigeration Co. Ltd.	20 George St., Hamilton
Canadian Electric Box Co.	1402 Queen St. E., Toronto

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1937 (continued)

<u>Names of Firms</u>	<u>Location of Plants</u>
ONTARIO (continued) -	
Canadian Fitzgerald Limited	468 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	535 College St., Toronto
Canadian National Carbon Co. Ltd.	St. Clair Ave. E., Scarborough 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
Conroy 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.	250 Richmond St. W., Toronto 2
Dominion Electrohome Industries Ltd.	60 Sumach St., Toronto
Dominion Refrigeration Co. Ltd.	480 Victoria St., Kitchener
Durable Electric Appliance Co.	457 King St. W., Toronto
Eastern Power Devices, Ltd.	81 Jarvis St., Toronto
Electrical Apparatus Ltd.	1244 Dufferin St., Toronto
Electric Auto-Lite Limited	77 York St., Toronto
Electric Magnetic Blanket Co.	Christina St. N., Sarnia
Electric Products Co. of Canada	310 Spadina Avenue, Toronto
Elgin Electric Co.	349 Carlaw Ave., Toronto
English Electric Co. of Canada, Ltd.	170 Portland St., Toronto
Exide Batteries of Canada, Ltd.	George St., St. Catharines
Falls Electric Resistors Limited	153 Dufferin St., Toronto
Federal Wire & Cable Co. Ltd.	Courtwright St., Fort Erie North
Ferranti Electric Ltd.	265 Suffolk St., Guelph
Fergusson, J. R.	Industrial St., Mount Dennis, Toronto (9)
Flexible Shaft Co. Ltd.	56 Ainslie St. N., Galt
Force Electric Products	321 Weston Rd. S., Toronto
Frigidaire Corporation	Montrose St., Preston
Garfinkel, Louis, & Co., Rosejoli Co. of Canada	Commercial St., Leaside
General Dry Batteries of Canada, Ltd.	48 Elm St., Toronto
Hammond Mfg. Co.	228 St. Helens Ave., Toronto
Hart Manufacturing (Canada) Ltd.	38 Wellington St. W., Guelph
Hoover Company Limited	512 King St. E., Toronto
Hygrade Company Limited	Gage Ave. and Barton St., Hamilton
Igloo Refrigeration Co. Ltd.	151 Beverley St., Toronto
International Resistance Co. Ltd.	103 Bathurst St., Toronto
Ireland Mfg. Co.	187 Duchess St., Toronto
Jones & Moore Electric Co. Ltd.	93 Cannon St. W., Hamilton
Justus Electric Co.	296 Adelaide St. W., Toronto
Kearney, J.R., Corp. of Canada, Ltd.	Winchester
Kelvinator of Canada, Ltd.	660 King St. W., Toronto
La Salle Lead Products Ltd.	1152 Dundas St. E., London
Leff Electric Co.	680 Wyandotte St. E., Windsor
Leland Electric Canada Ltd.	261 Dundas St., London
Lincoln Electric Co. of Canada, Ltd.	9 Duke St., Toronto
	65 Bellwoods Ave., Toronto (3)

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1937. (continued)

<u>Names of Firms</u>	<u>Location of Plants</u>
<u>ONTARIO (concluded) -</u>	
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
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.	263 Seventh St., 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.	45 Richmond St. E., Toronto
National Electric Mfg. Co.	510 King St. W., Toronto
Noma Electric Co. of Canada, Ltd.	179 John St., Toronto
Opsal Mfg. Co.	48 Abell St., Toronto
Osborne Electric Co. Ltd.	2368 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.	53 Prince St., Oshawa
Pole-Line Equipment Ltd.	106 Jarvis 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., Deseronto
Feed-Cameron	579 Richmond St. W., Toronto
Renfrew Electric & Refrigerator Co. Ltd.	Elizabeth St., Renfrew
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
Sampson-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
Sparton of Canada, Ltd.	Corner Elm and Pine Sts., London
Square D Co. of Canada, Ltd.	672 Dupont St., Toronto
Standard Bronze Co. Ltd.	4 Trafalgar Ave., Toronto (3)
Star Electric Fixtures Ltd.	107 Church St., 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.	526 Adelaide St., London
Universal Cooler Co. of Canada, Ltd.	Brant St., Brantford
Virden, J.C., Ltd.	35 Front St. E., Toronto
Volta Manufacturing Co. Ltd.	Alexander St., Welland
Vulcan Electric Products	3180 Dundas St. W., Toronto
Walker Metal Products Ltd.	1511 Kildare Rd., Walkerville
Walsh Electrical Co.	465 Church St., Toronto
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 (3)
Wilson Battery Products	21 Church St., Oshawa
Wynston, A. L., Jr., Ltd.	270 King St. W., Toronto

DIRECTORY OF FIRMS INCLUDED IN THE ELECTRICAL APPARATUS AND SUPPLIES INDUSTRY, 1937. (concluded)

<u>Names of Firms</u>	<u>Location of Plants</u>
MANITOBA -	
Canadian Electric & Brass Ltd.	120 Lombard St., Winnipeg
Electric Heating & Mfg. Co. Ltd.	902 Home St., Winnipeg
Frip 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
ALBERTA -	
Alberta Battery Co. Ltd.	420 Ninth Ave. E., Calgary
Elais Brothers Battery Co. Ltd.	10519 - 105th Avenue, Edmonton
Langley Electric Co. Ltd.	1301 - 11th Ave. E., Calgary
Smith Batteries Ltd.	1012 - 9th Ave. W., Calgary
BRITISH COLUMBIA -	
Canadian Petersine Electric Incubators Ltd.	2701 Douglas Rd., New Westminster
Cemco Electrical Mfg. Co. Ltd.	165 W. Fourth Ave., Vancouver
Continental Batteries Ltd.	1130 Richards St., Vancouver
Cope & 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
Francis Battery & Tire Service Ltd.	1412 Quadra St., Victoria
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 CERTAIN ELECTRICAL APPARATUS OR SUPPLIES IN 1937 BUT WHICH HAVE BEEN CLASSIFIED TO OTHER INDUSTRIES (See Table 14)

<u>Names of Firms</u>	<u>Location of Plants</u>
Alcor Company	220 King St. W., Toronto, Ont.
Aluminum Company of Canada, Limited	Arvida, P.Q.
Beach Foundry Co. Ltd.	Hinton Ave., Ottawa, Ont.
Beatty Brothers Ltd.	Fergus, Ont.
Belanger, A., Ltée.	Montmagny, P.Q.
Bendix Eclipse Co. of Canada, Ltd.	1473 Argyle Road, Walkerville, Ont.
Brantford Washing Machine Co. of Canada Ltd.	Brantford, Ont.
Brown, Frank S.	310 Spadina Ave., Toronto, Ont.
Bruleur Desro Star Enrg.	309 rue St. Georges, Three Rivers, P.Q.
Burnside, Harry	442 King St. W., Toronto, Ont.
Canada Vulcanizer & Equipment Co. Ltd.	1109 York St., London, Ont.
Canadian General Electric Co. Ltd.	Peterboro, Ont.
Canadian Ironing Machine Co. Ltd.	1151 Queen St. W., Toronto, Ont.
Canadian Ohio Brass Co. Ltd.	Niagara Falls, Ont.
Canadian Porcelain Co. Ltd.	Paradise Road, Hamilton, Ont.
Century Electric Devices Ltd.	360 Dufferin St., Toronto, Ont.
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.
Cockram Machinery Corp. Ltd.	12 Brock St., Woodstock, Ont.
Coffield Washer Co. Ltd.	77 Niagara St., Hamilton, Ont.
Connor, J. H., & Son Ltd.	10 Lloyd St., Ottawa, Ont.
Delamere & Williams Ltd.	18 Hook Ave., Toronto, Ont.

APPENDIX TO DIRECTORY (concluded)

<u>Names of Firms</u>	<u>Location of Plants</u>
Bowswell Ises & Co. Ltd.	193 Elgin St., Hamilton, Ont.
Draft King Blowers	1960 Yonge St., Toronto, Ont.
Easy Washing Machine Co. Ltd.	Miranda and Schell Ave., Toronto, Ont.
Electro Metallurgical Company of Canada, Limited	Welland, Ont.
Elingham, S. F.	Walkerton, Ont.
Enamel & Heating Products Ltd.	Sackville, N.B.
Engineering Products of Canada, Ltd.	6259 Notre Dame St. E., Montreal, P.Q.
Enterprise Foundry Co. Ltd.	Sackville, N.B.
Essex Wire Corp. Ltd.	1635 McDougall Ave., Windsor, Ont.
Etched Name Plate Co.	2202 Gerrard St. E., Toronto, Ont.
Fairbanks, E. T., & Co. Ltd.	Sherbrooke, P.Q.
Fairgrieve & Son Ltd.	50 Dovercourt Rd., Toronto, Ont.
Findlays Ltd.	Carleton Place, Ont.
Fonderie Rigaud	Rigaud, P.Q.
General Steel Wares Ltd.	London, Ont.
Gilbert & Barker Mfg. Co. Ltd.	207 Geary Ave., Toronto, Ont.
Gilson Mfg. Co. Ltd.	York Road, Guelph, Ont.
Globe Iron Works	1815 Pandora St., Vancouver, B.C.
Goode, Howard	1344 Dundas St. W., Toronto, Ont.
Greay, 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, P.Q.
Hi Power Furnace & Stoker Co. Ltd.	5750 Granville St., Vancouver, B.C.
Imbleau, H., & Son	63 Raglan St., Renfrew, Ont.
Kitchener Brass & Aluminium	983 King St., Kitchener, Ont.
Kondi Mfg. Co. Ltd.	South St., Preston, Ont.
Kribs, W. A., Co. Ltd.	Guelph Ave., Hespeler, Ont.
La Fonderie de Joliette	Joliette, P.Q.
La Fonderie de L'Islet Ltée.	L'Islet Station, P.Q.
Linea Canadian Refrigeration Co.	Lachine, P.Q.
MacDonald Metal Products Co. Ltd.	Waterloo, P.Q.
Maxwells Ltd.	73 Park Ave., St. Marys, Ont.
McOuat & Son	9 Princess St., Lachute Mills, P.Q.
Mitchell, Robert, Co. Ltd.	750 Belair Ave., Montreal, P.Q.
Moffats Ltd.	Weston, Ont.
Monarch Oil Burners Co.	701 St. Clair Ave. W., Toronto, Ont.
Morris, Hubert, Crane & Hoist Co. Ltd.	Stanley St., Niagara Falls, Ont.
McKinnon Industries Ltd.	Ontario St., St. Catharines, Ont.
Niagara Foundry Co.	Buttrey St., Niagara Falls, Ont.
Northern Crane & Hoist Works Ltd.	Argyle Road and Essex Terminus, Walkerville, Ont.
Orme's Ltd.	175 Sparks St., Ottawa, Ont.
Renfrew Machinery Co. Ltd.	Renfrew, Ont.
Service Station Equipment Co. Ltd.	101 Hanson St., Toronto, Ont.
Shaver Heating Specialties Ltd.	331 Laurier Ave. W., Toronto, Ont.
Shelton, W. G., Co. of Canada, Ltd.	428 Cannon St. E., Hamilton, Ont.
Singer Mfg. Co.	165 St. Paul St., St. Johns, P.Q.
Smith & Stone Ltd.	Georgetown, Ont.
Thor Canadian Co. Ltd.	Fleet and Bathurst Sts., Toronto, Ont.
Timken Silent Automatic of Canada, Ltd.	Walker Road, Walkerville, Ont.
Toronto Foundry Co.	1884 Davenport Road, Toronto, Ont.
Tudhope Metal Specialties Ltd.	Orillia, Ont.
Tweed Foundries Ltd.	Tweed, Ont.
Underwood, G. W., & Co.	1791 William St., Montreal, P.Q.
Wilson, Jas. A.	9 Morrison St., Toronto, Ont.
Woods, W. C., Co. Ltd.	2480 Dundas St. W., Toronto, Ont.

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