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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL & CHEMICAL BRANCH

THE BOILERS, TANKS & ENGINES
INDUSTRY
IN
CANADA
1935

Published by Authority of the HON. W. D. EULER, M.P.,
Minister of Trade and Commerce

OTTAWA
1937

Price 10 cents

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ANNUAL INDUSTRY REPORT

IRON AND STEEL AND THEIR PRODUCTS GROUP

THE BOILERS, TANKS AND ENGINES INDUSTRY, 1935.

In accordance with the Statistics Act each manufacturing concern in Canada is required to submit to the Dominion Bureau of Statistics at Ottawa, a yearly report covering such items as production, employment, capital, etc. In most cases a manufacturer makes more than one product but is not asked to apportion these details between the different products which he manufactures. It is impossible, therefore, except in a few cases, to compile detailed figures of employment, etc., for any single commodity.

For the presentation of these detailed statistics, the Bureau has subdivided manufacturing into nine groups of industries, producing concerns being classified according to the principal component material of their major products. For example, the pulp and paper industry is classified under "Wood and Paper"; boiler manufacturers under "Iron and Steel and Their Products," etc. These main groups are further divided into industries to which the concerns are allotted according to the nature of their main products. The iron and steel group is subdivided into 14 industries, one being the Boilers, Tanks and Engines Industry which is reviewed in this bulletin. This industry covers the operations of establishments which made as their chief products such articles as boilers or heating radiators, engines, tanks, and miscellaneous products from steel plate such as bins, hoppers, smokestacks, etc. It is apparent, however, from the explanation given above, that the production figures as compiled for this industry do not necessarily represent the total Canadian output for the commodities listed as they may have been produced also as minor products of firms in other industries. Supplementary tables have been added to give total output figures for boilers, engines, tanks and steel plate products.

Fifty-six establishments were included in the Boilers, Tanks and Engines Industry in 1935, there being 27 in Ontario, 12 in Quebec, 9 in British Columbia, 6 in Nova Scotia, 1 in Manitoba, and 1 in Saskatchewan. These works reported fixed and working capital at \$15,417,364, employed an average of 2,410 workers, and paid out \$2,771,854 in salaries and wages. Materials for manufacturing cost \$2,774,327 and the value of products was \$7,365,523.

The total Canadian production of heating and power boilers of all kinds, including the output in other industrial groups, was valued at \$1,535,896 in 1935; engines (excluding automobile engines) were valued at \$938,676 and tanks of all kinds at \$1,611,258.

Table 1 - PRINCIPAL STATISTICS OF THE BOILERS, TANKS AND ENGINES INDUSTRY, 1921-1935.

Years	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works(x)	Cost of materials at works	Gross selling value of products at works
		\$		\$	\$	\$	\$
1921	39	9,783,160	3,105	2,455,769	157,500	2,479,032	6,960,170
1922	43	10,370,771	1,616	2,045,712	116,241	2,036,213	4,904,613
1923	34	8,907,457	1,422	1,856,119	162,920	2,144,355	4,929,920
1924	32	9,140,981	1,242	1,619,323	136,984	1,588,530	3,667,610
1925	32	8,638,759	1,367	1,832,540	122,942	2,322,798	4,540,706
1926	34	8,880,350	1,534	1,993,722	134,092	2,576,122	5,343,208
1927	33	9,329,528	1,654	2,260,284	141,066	2,853,951	5,945,694
1928	35	9,352,068	1,752	2,393,200	141,241	3,228,497	6,507,437
1929	37	10,665,197	2,157	3,043,768	163,137	5,091,406	10,006,278
1930	35	9,982,016	1,924	2,649,804	159,813	4,565,856	9,597,239
1931	40	10,833,223	1,803	2,376,416	135,668	2,640,600	6,367,008
1932	41	10,231,811	1,391	1,636,953	116,755	1,527,402	4,465,089
1933	50	13,331,336	1,572	1,742,257	168,784	1,553,690	4,445,256
1934	51	14,202,122	2,047	2,291,422	194,556	2,432,907	6,485,814
1935	56	15,417,364	2,410	2,771,854	231,328	2,774,327	7,365,523

(x) Electricity not included prior to 1923.

Table 2 - PRINCIPAL STATISTICS, BY SUB-GROUPS, 1934 and 1935.

Sub-groups	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
		\$		\$	\$	\$	\$
1 9 3 4							
Boilers, radiators, tanks and plate work, chiefly ...	38	12,728,403	1,792	1,953,606	182,635	2,009,015	5,461,667
Engines, chiefly ...	13	1,473,719	255	337,316	11,921	423,892	1,024,147
TOTAL	51	14,202,122	2,047	2,291,422	194,556	2,432,907	6,485,814
1 9 3 5							
Boilers, radiators, tanks and plate work, chiefly ..	43	14,124,191	2,129	2,374,302	219,957	2,240,867	6,129,634
Engines, chiefly ...	13	1,293,173	281	397,552	11,371	533,460	1,235,889
TOTAL	56	15,417,364	2,410	2,771,854	231,328	2,774,327	7,365,523

Table 3 - PRINCIPAL STATISTICS, BY PROVINCES, 1934 and 1935.

Provinces	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
		\$		\$	\$	\$	\$
1 9 3 4							
Nova Scotia ..	6	1,025,658	170	171,919	15,200	244,080	468,907
Quebec	9	2,465,547	400	431,821	41,821	475,313	1,380,513
Ontario	26	9,986,060	1,329	1,494,492	128,576	1,532,869	4,158,670
British Columbia	8	606,165	122	161,069	6,642	152,438	404,967
Manitoba	1)						
Saskatchewan ..	1)	118,692	26	32,121	2,317	28,207	72,757
CANADA	51	14,202,122	2,047	2,291,422	194,556	2,432,907	6,485,814

Table 3 - PRINCIPAL STATISTICS, BY PROVINCES, 1934 and 1935 (concluded).

Provinces	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
		\$		\$	\$	\$	\$
1935							
Nova Scotia ...	6	979,485	155	203,829	15,003	285,199	657,456
Quebec	12	2,530,587	497	527,097	51,871	604,254	1,658,470
Ontario	27	11,238,400	1,606	1,829,026	156,721	1,698,300	4,526,800
British Columbia	9	567,172	128	179,342	5,321	160,220	451,787
Manitoba	1)						
Saskatchewan ..	1)	101,720	24	32,560	2,412	26,354	71,010
CANADA	56	15,417,364	2,410	2,771,854	231,328	2,774,327	7,365,523

Table 4 - SIZE OF ESTABLISHMENTS ACCORDING TO PRODUCTION, NUMBER OF EMPLOYEES AND CAPITAL EMPLOYED, 1935.

	Number of plants	Capital employed	Average number of employees	Selling value of products at works
		\$		\$
(a) PRODUCTION				
Under \$10,000	5	76,558	15	25,651
\$10,000 to \$25,000	13	405,174	103	223,191
\$25,001 to \$50,000	11	679,127	159	422,044
\$50,001 to \$100,000	6	543,745	112	395,492
\$100,001 to \$250,000	9	3,199,764	452	1,607,585
Over \$250,000	12	10,512,996	1,569	4,691,560
TOTAL	56	15,417,364	2,410	7,365,523
(b) EMPLOYEES				
1 or 2	3	51,900	5	14,194
3 to 10	16	491,707	100	296,345
11 to 20	14	942,969	223	748,508
21 to 50	6	870,423	184	678,676
51 to 100	9	4,314,170	661	2,461,448
Over 100	8	8,746,195	1,237	3,166,352
TOTAL	56	15,417,364	2,410	7,365,523
(c) CAPITAL				
Under \$25,000	11	152,420	60	115,508
\$25,000 to \$100,000	21	1,199,228	265	749,144
\$100,001 to \$500,000	12	2,148,708	538	2,003,699
\$500,001 to \$1,000,000 ..	7	5,012,022	865	2,606,495
Over \$1,000,000	5	6,904,986	682	1,890,677
TOTAL	56	15,417,364	2,410	7,365,523

Table 5 - CAPITAL EMPLOYED, BY PROVINCES, 1934 and 1935.

Provinces	Present value of lands, buildings, machinery and equipment	Inventory value of materials on hand, stocks in process, finished products, fuel and miscellaneous sup- plies on hand	Operating capital (cash, bills and accounts re- ceivable, etc.)	TOTAL CAPITAL EMPLOYED
	\$	\$	\$	\$
1 9 3 4				
Nova Scotia ...	634,342	272,455	118,861	1,025,658
Quebec	1,548,767	320,741	596,039	2,465,547
Ontario	6,727,436	1,570,606	1,688,018	9,986,060
British Columbia	356,583	126,644	122,938	606,165
Other provinces	48,157	36,996	33,539	118,692
CANADA	9,315,285	2,327,442	2,559,395	14,202,122
1 9 3 5				
Nova Scotia ...	629,219	173,389	176,877	979,485
Quebec	1,748,779	393,792	388,016	2,530,587
Ontario	7,906,126	1,634,546	1,697,728	11,238,400
British Columbia	305,041	113,605	143,526	567,172
Other provinces	59,936	16,560	25,224	101,720
CANADA	10,649,101	2,336,892	2,431,371	15,417,364

Table 6 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1934 and 1935.

TABLE 5 - EMPLOYED, SALARIES AND WAGES, BY PROVINCES, 1934 AND 1935.								
Provinces	Average number of employees					Salaries	Wages	TOTAL SALARIES AND WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
						\$	\$	\$
1 9 3 4								
Nova Scotia ...	29	5	136	...	170	50,730	121,189	171,919
Quebec	91	12	297	...	400	169,869	261,952	431,921
Ontario	233	52	1,041	3	1,329	514,010	980,482	1,494,492
British Columbia	19	...	103	...	122	37,550	123,519	161,069
Other provinces	7	2	17	...	26	11,467	20,654	32,121
CANADA	379	71	1,594	3	2,047	783,626	1,507,796	2,291,422
1 9 3 5								
Nova Scotia ...	21	6	127	1	155	45,495	158,334	203,829
Quebec	106	13	378	...	497	181,067	346,030	527,097
Ontario	287	70	1,243	6	1,606	615,079	1,213,947	1,829,026
British Columbia	22	...	106	...	128	43,481	135,861	179,342
Other provinces	7	...	17	...	24	12,027	20,533	32,560
CANADA	443	89	1,871	7	2,410	897,149	1,874,705	2,771,854

Table 7 - WAGE-EARNERS, BY MONTHS, 1934 and 1935. (On the 15th of each month or nearest representative date).

Months	1 9 3 4			1 9 3 5		
	Male	Female	TOTAL	Male	Female	TOTAL
January	1,300	3	1,303	1,708	6	1,714
February	1,382	3	1,385	1,736	6	1,742
March	1,534	3	1,537	1,802	6	1,808
April	1,687	3	1,690	1,902	6	1,908
May	1,712	3	1,715	1,934	7	1,941
June	1,643	3	1,646	1,990	7	1,997
July	1,668	3	1,671	2,040	7	2,047
August	1,621	3	1,624	1,916	7	1,923
September	1,690	3	1,693	1,891	7	1,898
October	1,784	3	1,787	1,954	7	1,961
November	1,586	3	1,589	1,816	7	1,823
December	1,486	3	1,489	1,784	7	1,791
AVERAGE	1,594	3	1,597	1,871	7	1,878

Table 8 - FUEL AND ELECTRICITY USED, 1934 and 1935.

Kinds	Unit of measure	1 9 3 4		1 9 3 5	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Bituminous coal - Canadian..short ton		3,771	23,477	5,369	32,783
Imported..short ton		7,703	52,525	7,275	48,782
Anthracite coal .....short ton		166	1,766	185	1,996
Lignite coal .....short ton		31	216	33	279
Coke .....short ton		1,166	10,502	1,104	9,321
Gasoline .....Imp. gal.		23,964	4,643	21,467	4,779
Kerosene .....Imp. gal.		2,897	491	2,592	429
Fuel oil .....Imp. gal.		48,306	4,511	119,935	11,502
Wood .....cord		124	677	328	1,658
Gas - Manufactured .....M cu. ft.		1,560	1,517	1,527	1,766
Natural .....M cu. ft.		2,241	1,444	3,246	1,983
Other fuel .....xxx		...	537	...	769
Electricity .....K. W. H.		5,805,123	92,250	6,838,438	115,281
TOTAL .....xxx		...	194,556	...	231,328

Table 9 - POWER EQUIPMENT, 1934 and 1935.

	1 9 3 4		1 9 3 5	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and turbines	25	2,145	30	2,500
Diesel engines	6	215	2	75
Gasoline, gas and oil engines (except diesel)	15	430	17	462
Hydraulic turbines or water wheels ..	3	62	1	30
Total Primary	49	2,852	50	3,067
Electric motors run by purchased power	714	18,678	783	15,874
TOTAL	763	21,530	833	18,941
Electric motors run by above primary units	162	3,092	...	...
Total Electric Motors	876	21,770	783	15,874
Boilers	29	3,250	26	3,763

Table 10 - POWER EQUIPMENT SUB-DIVIDED BETWEEN IN USE AND IN RESERVE OR IDLE, 1935.

	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	30	2,500	...	...
Diesel engines	2	75	...	...
Gasoline, gas and oil engines (except diesel)	16	442	1	20
Hydraulic turbines or water wheels ...	1	30	...	...
Total Primary	49	3,047	1	20
Electric motors run by purchased power	780	15,784	3	90
TOTAL	829	18,831	4	110
Boilers	24	3,583	2	180

Table 11 - MATERIALS USED IN MANUFACTURING, 1934 and 1935.

TABLE 11 - MATERIALS USED IN MANUFACTURING, 1961 AND 1962									
Materials	Unit of measure	1	9	3	4	1	9	3	5
		Quantity		Cost at works		Quantity		Cost at works	
Iron and Steel -									
Pig iron	long ton	6,579		137,242		8,947		185,825	
Wrought iron bars, skelp, etc.	short ton	155		8,923		169		9,420	
Malleable iron bars, etc.	short ton	442		19,202		3		416	
Iron castings of all kinds, purchased	short ton	964		47,321		810		74,317	
Steel (other than special alloy steel) -									
Castings purchased	short ton	254		25,381		171		29,118	
Ingots, blooms and billets.	short ton	43		3,684		...		...
Bars and rods	short ton	544		31,262		810		45,953	
Forgings	short ton	(a)		(a)		156		12,599	
Shafting	short ton	93		4,426		109		9,391	
Sheets - Plain	short ton	1,694		104,627		2,306		132,390	
Galvanized	short ton	633		47,969		233		15,784	
Plates - Boiler	short ton	2,092		111,311		4,949		233,518	
Other	short ton	11,608		327,980		10,761		245,727	
Structural shapes (angles, channels, etc.)	short ton	3,715		175,481		3,626		172,256	
Strip	short ton	(a)		(a)		300		16,100	
Stampings	short ton	(a)		(a)		4		838	
Boiler tubes	ft.	725,532		123,272		705,988		116,860	
Wire	short ton	13		2,090		25		3,598	
Alloy steel	short ton	5		1,704		...		1,884	
Scrap iron and steel of all kinds									
Other iron and steel	short ton	9,621		96,840		11,158		107,209	
Other iron and steel	short ton	19		2,680		...		13,330	
Other metals -									
Aluminium	lb.	7,652		3,351		15,724		4,929	
Brass and bronze castings purchased	lb.	115,506		38,383		113,068		32,242	
Brass and bronze sheets, etc.	lb.	35,299		8,626		56,503		13,921	
Copper bars, sheets, etc.	lb.	20,561		4,054		31,271		4,930	
Lead	lb.	4,530		634		4,330		365	
Nickel	lb.	(a)		(a)		925		59	
Tin	lb.	50,640		26,352		41,333		20,512	
Zinc	lb.	201,060		8,103		243,610		9,830	
Babbitt metals and solder purchased	lb.	26,338		10,501		44,885		13,325	
Other metals not included elsewhere	xx	...		9,880		...		865	
Articles used for further manufacture -									
Parts for engines, boilers, etc.	xx	...		270,813		...		414,246	
Iron and steel pipe and fittings	xx	...		115,074		...		105,456	
Bolts, nuts, rivets and screws ..	xx	...		44,928		...		68,422	
Electrical goods	xx	...		5,302		...		11,247	
Paints, oils and varnishes ...	xx	...		18,976		...		31,390	
Other articles of this class.	xx	...		50,864		...		36,092	

Table 11 - MATERIALS USED IN MANUFACTURING, 1934 and 1935 (concluded)

Materials	Unit of measure	1	9	3	4	1	9	3	5
		Quantity		Cost at works		Quantity		Cost at works	
					\$				\$
Other materials -									
Asbestos and other linings and coverings	xx	...			2,534	...			3,077
Foundry coke (not for heat or power)	short ton	4,357			48,440	6,437			71,574
Moulding sands	short ton	5,731			14,115	3,975			16,237
Core sands	short ton	(a)			(a)	6,475			14,371
Plumbago	lb.	16,388			910	19,980			1,006
Starch	lb.	(a)			(a)	4,178			343
Other foundry facings	lb.	465,034			6,453	210,945			5,505
Patterns and models	xx	...			3,099	...			6,790
Lumber	M ft.b.m.	322			14,622	586			24,432
Firebrick	No.	32,852			2,214	57,882			4,793
Fireclay	short ton	408			2,771	1,051			5,588
Cupola blocks	No.	5,650			908	4,306			754
Core oil	Imp. gal.	17,140			10,222	22,278			13,573
Core compounds	lb.	2,820			138	...			93
Shipping containers	xx	...			831	...			832
All other materials	xx	...			437,964	...			410,943
TOTAL	xx	...			2,432,907	...			2,774,327

(a) Not asked for separately in 1934.

Table 12 - PRODUCTS MADE IN THE BOILERS, TANKS AND ENGINES INDUSTRY, 1934 and 1935.

NOTE - Data in this table are for the Boilers, Tanks and Engines Industry which includes only the manufacturers that made boilers, tanks and engines as their main products. Figures for the individual commodities do not represent the total output in Canada as these articles were made also in other industries. (See Tables 14, 16 and 18).

Products	1	9	3	4	1	9	3	5
	Number		Selling value at works		Number		Selling value at works	
				\$				\$
Heating boilers -								
Cast iron sectional - hot water and steam	6,953			701,187	6,998			679,834
Steel firebox, locomotive type	23			7,009	24			12,854
Horizontal return, tubular	7			8,575	19			36,423
Electric welded steel	302			115,612	291			112,397
Steel water tube	4			3,003	6			28,198
Other, kind not specified	4			16,840	...			...
Power boilers -								
Water tube, horizontal type	19			124,580	5			23,809
Water tube, bent tube type	10			72,788	23			124,497
Horizontal return, tubular	47			61,755	41			49,716
Steel firebox, locomotive type	11			17,686	13			19,988
Fire tube, vertical type	131			46,628	131			54,612
Marine type	4			39,138	3			13,249
Other, kind not specified .....	...			...	15			19,601
Engines - Steam	36			31,295	41			27,959
Gasoline, marine type	2,489			459,042	3,791			592,364
Stationary type	78			12,365	72			13,120
Other, including diesel, aeroplane and railway hand car	124			169,278	163			184,174

Table 12 - PRODUCTS MADE IN THE BOILERS, TANKS AND ENGINES INDUSTRY, 1934 and 1935.
(concluded)

Products	1	9	3	4	1	9	3	5
	Number	Selling value at works			Number	Selling value at works		
		\$				\$		
Tanks, steel plate .....	...	898,356			...	991,174		
Tanks, sheet steel -								
Pressure .....	...	121,358			...	33,194		
Storage .....	...	107,505			...	127,934		
Miscellaneous steel plate work -								
Bins and hoppers	59	8,947			...	9,746		
Smokestacks .....	...	27,573			171	30,969		
Smoke breeching .....	...	6,668			...	6,148		
Other plate work .....	...	259,577			...	250,032		
Radiators for heating .....ft.	...	882,145			4,294,716	1,159,406		
Fabricated structural steel								
shapes .....tons	1,692	186,858			2,041	298,162		
Parts for boilers .....	...	56,305			...	96,960		
Parts for engines .....	...	123,941			...	62,740		
Received for custom work and								
repairs .....	...	896,217			...	849,230		
All other products .....	...	1,023,583			...	1,456,973		
TOTAL .....	...	6,485,814			...	7,365,523		

DIRECTORY OF FIRMS INCLUDED IN THE BOILERS, TANKS AND ENGINES INDUSTRY, 1935.

NOTE - This is not intended to be a complete list of concerns which made boilers, tanks or engines. It is merely a directory of the firms which made these articles as their main products and which, therefore, were classified to this industry for statistical purposes.

<u>Names of Firms</u>	<u>Location of Plants</u>
(a) <u>ENGINES, CHIEFLY</u>	
<u>NOVA SCOTIA</u> -	
Acadia Gas Engines Limited	Bridgewater
Atkinson, C. G.	Shelburne
Hawbolt Gas Engines	Chester
<u>QUEBEC</u> -	
Canadian Pratt & Whitney Aircraft Co. Ltd.	Longueuil
Canadian Wright Limited and / or	
Aero Engines of Canada, Limited	6259 Notre Dame St. E., Montreal
<u>ONTARIO</u> -	
Buchanan, F. L., Limited	129-131 Front St., Orillia
Canadian Johnson Motor Company Limited	Peterborough
Kermath Mfg. Co. of Canada, Limited	619 King St. W., Toronto
St. Lawrence Engine Co. Ltd., The	St. Andrew St., Brockville
Sylvester Manufacturing Company Limited	Lindsay

DIRECTORY OF FIRMS INCLUDED IN THE BOILERS, TANKS AND ENGINES INDUSTRY, 1935.
(continued)

Names of Firms

Location of Plants

(a) ENGINES, CHIEFLY (concluded)

BRITISH COLUMBIA -

Easthope Brothers Limited
Empire Mfg. Co. Ltd.
Vivian Engine Works Limited

1747 West Georgia St., Vancouver
1201 West 6th St., Vancouver
1090 West 6th Avenue, Vancouver

(b) BOILERS, RADIATORS, TANKS AND PLATE WORK, CHIEFLY

NOVA SCOTIA -

Hogan, T., & Co.
Musgrave, R., & Sons, Ltd.
Robb Engineering Works Ltd.

121 Lower Water St., Halifax
Commercial St., North Sydney
Amherst

QUEBEC -

Canadian John Woods Mfg. Co. Ltd.
Farand & Delorme Ltd.
Latulippe, Michel
La Compagnie de Radiateurs Victoire Ltee.
E. S. Manny Co., The
McKay, Alex, Boiler and Tank Works Reg'd
Morton Engineering and Dry Dock Co., Ltd.
Radiateur Aero Ltee.
Warden King Limited

2143 St. Patrick St., Montreal
St. Martin St., Montreal
303 Dorchester St., Quebec
927 Perrault Lane, Montreal
1820 Tilford St., Montreal
2162 De Montigny St. E., Montreal
West End, Louise Embankment, Quebec
Plessisville
2104 Bennett Ave., Maisonneuve,
Montreal
33 Nazareth St., Montreal

Weir, J. & R., Ltd.

ONTARIO -

Babcock-Wilcox and Goldie McCulloch Ltd.
Bell, Robt., Engine and Thresher Co. Ltd.
Campbell Steel and Iron Works Ltd.
Canadian John Wood Mfg. Co. Ltd.
Dominion Radiator and Boiler Co. Ltd.

68 Grand Ave., Galt
Seaforth
855 Carling Ave., Ottawa
101 Hanson St., Toronto
1322 Dufferin St., Toronto, 17 S.
Market St., Brantford, and Royce
and Lansdowne Ave., Toronto
4 Junction Road, Toronto
Jennett St., Fort Erie.
Berryman Ave., St. Catharines
14 Strachan Ave., Toronto
381 York St., London
346 Dufferin St., Toronto
468 Rideau St., Kingston
Ann St., Napanee
158 Queen St. W., Ottawa
165 William St. S., Chatham
50 Bartlett Ave., Toronto
Frazer St., Port Colborne
Dundas
Lindsay
Queen St., Guelph
629 Eastern Ave., Toronto
271 Hamilton Road, London

Gurney Foundry Co. Ltd.
Horton Steel Works Ltd.
Imperial Iron Corp. Ltd.
Inglis, John, Co. Ltd.
Leonard, E., and Sons, Ltd.
Levy and Westwood Machinery Co.
Macpherson, C. E.
Napanee Iron Works Ltd.
Ottawa Boiler and Steel Works
Park, Archibald
Pendell Boiler Ltd.
Port Colborne Iron Works Ltd.
Steel Fabricating & Welding Ltd.
Sylvester Manufacturing Co. Ltd.
Taylor-Forbes Ltd.
Toronto Iron Works Ltd.
Winnett, R., & Son

DIRECTORY OF FIRMS INCLUDED IN THE BOILERS, TANKS AND ENGINES INDUSTRY, 1935.
(concluded)

Names of Firms

Location of Plants

(b) BOILERS, RADIATORS, TANKS AND PLATE WORK, CHIEFLY (concluded)

MANITOBA -

Canadian Brown Steel Tank Co. Ltd.

20th St. and Pacific Ave., Brandon

SASKATCHEWAN -

North Western Iron Works Ltd.

1419 Scarth St., Regina

BRITISH COLUMBIA -

Atlas Boiler & Ship Repair Works

First Ave., Prince Rupert

Blain Boiler Works Ltd.

494 Railway St., Vancouver

Mainland Boiler Works

496 Alexander St., Vancouver

Patterson Boiler Works

790 Alexander St., Vancouver

Vancouver Iron Works Ltd.

1155 - 6th Ave. W., Vancouver

Westminster Boiler and Tank Co.

111 - 11th St., New Westminster

SUPPLEMENTARY DATA

(a) BOILERS

As pointed out in the opening paragraphs of this report the Boilers, Tanks and Engines Industry includes only the firms which made boilers, engines, etc., as their major products so the figures given in Table 12 do not represent the total output in Canada of the commodities which are listed. To provide complete figures for boilers a special compilation has been made covering the reports of all concerns which reported boilers as one of their products.

In all, 48 establishments reported a production of heating or power boilers in 1935. These factories made goods having a total selling value of \$7,326,885 but boilers alone accounted for only \$1,535,896. The principal statistics covering the entire business of these works are given below.

Table 13 - PRINCIPAL STATISTICS FOR ALL ESTABLISHMENTS WHICH REPORTED A PRODUCTION OF BOILERS IN 1934 and 1935.

	1934	1935
Number of manufacturers	48	48
Total capital employed \$	23,246,692	19,143,543
Total number of employees	3,231	2,811
Total salaries and wages \$	3,448,221	3,055,932
Total cost of fuel and electricity \$	349,474	277,815
Total cost of all materials used \$	2,969,000	2,408,329
Selling value of boilers manufactured \$	1,598,541	1,535,896
Selling value of other products manufactured ... \$	6,440,041	5,790,989
TOTAL SELLING VALUE OF ALL PRODUCTS. \$	8,038,582	7,326,885

Table 14 - TOTAL PRODUCTION IN CANADA OF HEATING AND POWER BOILERS, 1934 and 1935.

Types	1	9	3	4	1	9	3	5
	Number	Total selling value at plant of			Number	Total selling value at plant of		
		\$				\$		
Heating boilers -								
Cast iron sectional hot water. and steam	8,279	859,062			7,186	704,198		
Steel firebox, locomotive type	89	28,549			127	64,926		
Horizontal return, tubular ...	10	9,665			48	62,423		
Steel water tube	9	4,753			10	30,854		
Steel welded	302	115,612			291	112,397		
Power boilers -								
Water tube, horizontal type ..	19	124,580			5	23,809		
Water tube, vertical type ....	...	91,164			9	12,900		
Water tube, bent tube type ...	2	16,000			25	142,997		
Horizontal return, tubular ...	72	81,001			48	55,768		
Marine type - internally fired	3	14,052			3	13,249		
Marine type, water tube	2	27,086			2	38,000		
Steel firebox, locomotive type	11	17,686			24	21,728		
Firetube, vertical type	142	49,823			140	56,535		
Boilers, type not specified ...	90	159,906			...	196,112		
TOTAL	9,030	1,598,939			...	1,535,896		

LIST OF ALL CONCERNS WHICH REPORTED A PRODUCTION OF HEATING OR POWER BOILERS IN 1935.

<u>Names of Firms</u>	<u>Location of Plants</u>
Atlas Boiler & Ship Repair Works	Prince Rupert, B. C.
Babcock-Wilcox and Goldie McCulloch Limited	Galt, Ont.
Bastian-Morley Limited	Toronto, Ont.
Beaver Foundry & Furnace Works	Tillsonburg, Ont.
Belanger, O., Enrg.	Montreal, P. Q.
Bell, Robt., Engine and Thresher Co., The	Seaforth, Ont.
Blain Boiler Works, Ltd.	Vancouver, B. C.
Campbell Steel and Iron Works Limited	Ottawa, Ont.
Canadian Brown Steel Tank Company Limited	Brandon, Man.
Canadian Vickers Ltd.	Montreal, P. Q.
Chalifoux & Fils, Limitee	St. Hyacinthe, P. Q.
Dominion Radiator and Boiler Co. Ltd.	Toronto, Ont.
Farand & Delorme Limited	Montreal, P. Q.
Foster Wheeler Limited	St. Catharines, Ont.
Gurney Foundry Co. Ltd., The	Toronto, Ont.
Hogan, T., & Company	Halifax, N. S.
Imperial Iron Corporation, Ltd.	St. Catharines, Ont.
Inglis, John, Company Limited, The	Toronto, Ont.
La Cie. de Machineries Mercier	Levis, P. Q.
Latulippe, Michel	Quebec, P. Q.
Leonard, E., and Sons Limited	London, Ont.
Manny, E. S., Co.	Montreal, P. Q.
Matheson, I., & Co., Ltd.	New Glasgow, N. S.
Marine Iron Works Limited	Victoria, B. C.
McKay, Alex, Boiler & Tank Works Reg'd	Montreal, P. Q.
Morton Engineering & Dry Dock Co., Ltd.	Quebec, P. Q.
Napanee Iron Works Limited	Napanee, Ont.

LIST OF ALL CONCERNS WHICH REPORTED A PRODUCTION OF HEATING OR POWER BOILERS, 1935.
(concluded)

<u>Names of Firms</u>	<u>Location of Plants</u>
Ottawa Boiler and Steel Works	Ottawa, Ont.
Patterson Boiler Works	Vancouver, B. C.
Pendell Boiler Limited	Toronto, Ont.
Port Colborne Iron Works Limited	Port Colborne, Ont.
Robb Engineering Works Limited	Amherst, N. S.
Saint John Iron Works Limited	Saint John, N. B.
Spencer Foundry Co., Ltd.	Penetanguishene, Ont.
Standard Iron Works Limited, The	Edmonton, Alta.
Stephens-Adamson Mfg. Co. of Canada, Ltd.	Belleville, Ont.
Stewart, Bruce, & Co., Limited	Charlottetown, P. E. I.
Taylor-Forbes Limited	Guelph, Ont.
Thompson & Sutherland Limited	North Sydney, N.S.
Vancouver Iron Works Ltd.	Vancouver, B. C.
Victoria Machinery Depot Co. Ltd.	Victoria, B. C.
Vulcan Iron Works Limited	Winnipeg, Man.
Warden-King Limited	Montreal, P. Q.
Waterous Limited	Brantford, Ont.
Wayne Forge & Machine Co., Ltd.	Toronto, Ont.
Weir, J. & R., Ltd.	Montreal, P. Q.
White, George, & Sons Co. Ltd.	London, Ont.

(b) HEATING RADIATORS

Table 15 - TOTAL PRODUCTION OF HEATING RADIATORS, 1934 and 1935.

	1	9	3	4	1	9	3	5
	Selling value				Selling value			
	Quantity		at works		Quantity		at works	
			\$				\$	
Direct or standing type	sq.ft.	...	1,027,726		4,137,759		1,101,332	
Concealed type	sq.ft.	...	53,774		446,957		101,137	

LIST OF CONCERNS WHICH REPORTED A PRODUCTION OF HEATING RADIATORS IN 1935.

<u>Names of Firms</u>	<u>Location of Plants</u>
Dominion Radiator and Boiler Co. Ltd.	Royce and Lansdowne Aves., Toronto, Ont.
Gurney Foundry Co. Limited	4 Junction Road, Toronto, Ont.
Imperial Iron Corporation Limited	Berryman Ave., St. Catharines, Ont.
La Compagnie de Radiateurs Victorie Ltee.	927 Perrault Lane, Montreal, Que.
Radiateur Aero Limitee	Plessisville, Que.
Taylor Forbes Ltd.	Queen St., Guelph, Ont.
Trane Company of Canada, Limited	King & Mowat Sts., Toronto, Ont.
Vapor Car Heating Co. of Canada, Limited	61-65 Dalhousie St., Montreal, Que.
Warden King Limited	2104 Bennett Ave., Montreal, Que.

- 13 -
(c) ENGINES

A special compilation covering all industries shows that 27 establishments in Canada reported a production of engines (except automobile engines) in 1935. The principal statistics for these works are given below. The value of all products of these firms was \$6,127,153 of which engines accounted for only \$938,676.

Table 16 - PRINCIPAL STATISTICS FOR ALL ESTABLISHMENTS WHICH REPORTED A PRODUCTION OF OF ENGINES OF ALL KINDS IN 1934 and 1935.

	1 9 3 4	1 9 3 5
Number of manufacturers	30	27
Total capital employed	\$ 27,486,693	28,674,381
Total number of employees	2,064	2,415
Total salaries and wages	\$ 2,295,085	2,867,293
Total cost of fuel and electricity	\$ 212,352	220,461
Total cost of materials	\$ 1,940,821	2,625,374
Selling value of engines made	\$ 877,862	938,676
Selling value of all other products	\$ 3,800,892	5,183,477
TOTAL SELLING VALUE OF PRODUCTS	\$ 4,678,754	6,127,153

Table 17 - TOTAL PRODUCTION OF ENGINES, 1935.

NOTE - Figures in this table have been assembled from all industries and represent the TOTAL OUTPUT IN CANADA

Types	Number of engines	Total horse power	Selling value at works
			\$
Steam .....	...	...	73,519
Gasoline - Marine type	3,791	24,977	592,364
Stationary type	72	291	13,120
Aeroplane, hand car and railway motor car	140	6,855	98,459
Diesel .....	...	...	87,234
Type not specified ....	...	...	73,980
TOTAL ENGINES (except automobile)	...	...	938,676
Automobile engines	61,137	not available	

LIST OF ALL CONCERNS IN CANADA WHICH REPORTED A PRODUCTION OF ENGINES IN 1935.

<u>Names of Firms</u>	<u>Location of Plants</u>
Acadia Gas Engines Limited	Bridgewater, N. S.
Atkinson's Limited	Shelburne, N. S.
Babcock-Wilcox and Goldie-McCullough Ltd.	Galt, Ont.
Buchanan, F. L., Limited	Orillia, Ont.
Canadian Johnson Motor Co. Ltd.	Peterborough, Ont.
Canadian Pratt & Whitney Aircraft Co. Ltd.	Longueuil, P. Q.
Canadian Wright Ltd., and Aero Engines of Canada, Ltd.	Montreal, P. Q.
Desjardins Limitee	St. Andre de Kamouraska, P. Q.
Dominion Engineering Works Ltd.	Lachine, Que.
Easthope Brothers Limited	Vancouver, B. C.
Hawbolt Gas Engines	Chester, N. S.
Ker and Goodwin Machinery Co. Ltd., The	Brantford, Ont.
Kermath Mfg. Co. of Canada, Ltd.	Toronto, Ont.
Lunenburg Foundry Co. Ltd.	Lunenburg, N. S.
Massey-Harris Company Limited	Toronto, Ont.

LIST OF ALL CONCERNS IN CANADA WHICH REPORTED A PRODUCTION OF ENGINES IN 1935.
(concluded)

<u>Names of Firms</u>	<u>Location of Plants</u>
Matheson, I., & Co., Ltd.	New Glasgow, N. S.
Montreal Locomotive Works Limited	Montreal, P. Q.
Oxford Foundry & Machine Co. Ltd.	Oxford, N. S.
Plessisville Foundry, The	Plessisville, P. Q.
Robertsonville Foundry Co. Ltd.	Robertsonville, P. Q.
Stewart, Bruce, & Co., Ltd.	Charlottetown, P. E. I.
St. Lawrence Engine Co. Ltd., The	Brockville, Ont.
Sylvester Manufacturing Co. Ltd., The	Lindsay, Ont.
Thompson Brothers Machinery Co., Ltd.	Liverpool, N. S.
Tyee Machinery Corp. Ltd.	Vancouver, B. C.
United Steel Corporation Ltd.	Vancouver, B. C.
Vivian Gas Engine Works	Vancouver, B. C.
Wilson Machine Co. Ltd.	Montreal, P. Q.
(x) Ford Motor Company of Canada, Limited	East Windsor, Ont.
(x) General Motors of Canada, Limited	Walkerville, Ont.

(x) Made automobile engines for own use.

(d) STEEL TANKS

Table 18 - PRODUCTION OF TANKS IN CANADA, 1931 - 1935.

	<u>Sheet Steel</u>		<u>Steel plate (water tanks, transformer tanks, etc.)</u>	<u>Tank and plate work done by bridge and structural steel companies</u>
	<u>Pressure</u>	<u>Storage</u>		
	\$	\$	\$	\$
1931	209,470	662,723	268,046	900,059
1932	95,544	333,633	496,012	589,940
1933	80,416	206,273	915,482	470,399
1934	130,496	454,380	944,798	312,753
1935	59,149	461,204	1,090,905	398,449

LIST OF CONCERNS WHICH REPORTED A PRODUCTION OF STEEL TANKS, 1935.

Bruce Stewart & Co., Limited	Foot of George St., Charlottetown, P.E.I.
Lunenburg Foundry Co. Ltd.	Lunenburg, N. S.
John Abrams' Sons Limited	62 Foundry St., Moncton, N. B.
Saint John Iron Works Limited	Saint John, N. B.
La Fonderie Ouellet Enrg.	St. Leonard, P. Q.
Toronto Hardware Mfg. Co. Ltd.	390-476 Dufferin St., Toronto, Ont.
Belleville Foundries Limited	11 Station St., Belleville, Ont.
John East Iron Works Limited	121 Ave. C. N., Saskatoon, Sask.
Riverside Iron Works, Limited	803 - 24th Ave. S. E., Calgary, Alta.
The Standard Iron Works Limited	121st St. and 106th Ave., Edmonton, Alta.
Victoria Machinery Depot Co. Ltd.	343 Bay St., Victoria, B. C.
Western Steel Products Ltd.	4107 Richelieu St., Montreal, P. Q.
Bernard Charland & Cie.	Cor. 1st Ave. and 4th St., Quebec, P. Q.
The Grimm Mfg. Co. Ltd.	736 Wellington St., Montreal, P. Q.
The Whittall Can Co. Ltd.	2600 Mullins St., Montreal, P. Q.
Eastern Steel Products Limited	1335 Delorimier Ave., Montreal, P. Q.
Thomas Irwin & Son, Limited	22 McNab St. S., Hamilton, Ont.
Plate & Structural Steel Products Co.	48 Abell St., Toronto, Ont.

LIST OF CONCERNS WHICH REPORTED A PRODUCTION OF STEEL TANKS, 1935 (concluded).

W. Gordon Steel Works Ltd.
W. D. Beath & Son, Limited
Eastern Steel Products Ltd.
Vulcan Iron Works Limited
Alex. McKay Boiler & Tank Works Reg'd
Morton Engineering & Dry Dock Co. Ltd.
J. and R. Weir, Ltd.
Canadian John Wood Mfg. Co. Ltd.
T. Hogan & Company

Robb Engineering Works Ltd.
National Trust Co. Ltd.
Buffalo Sheet Metal Works
Canadian Corrugating & Stamping Co.
Western Steel Products Ltd.

Waterman Waterbury Mfg. Co. Ltd.
Western Steel Products Ltd.
Norwood Sheet Metal Works
Western Steel Products Ltd.
Western Steel Products Ltd.
Farand & Delorme Ltd.
Blain Boiler Works Ltd.
Patterson Boiler Works
Vancouver Iron Works Ltd.
Westminster Boiler & Tank Co.
E. Leonard & Sons, Ltd.
R. Winnett & Son
Horton Steel Works Ltd.
Campbell Steel & Iron Works Limited
Ottawa Boiler and Steel Works
The Toronto Iron Works Limited
Port Colborne Iron Works Limited
C. E. Macpherson
Steel Fabricating & Welding Limited
Archibald Park
Pendell Boiler Limited
Napanee Iron Works Limited
The John Inglis Co. Ltd.
Canadian John Wood Mfg. Co. Ltd.
Warp Tension Governors Ltd.
West's Co.
The A. B. Ormsby Co. Ltd.
W. G. Humphrey Sheet Metal
Canadian John Wood (Vancouver) Ltd.
Pacific Pipe & Flume Limited
Western Steel Products Limited
Foster Wheeler Limited
Manitoba Bridge & Iron Works Ltd.
Canadian Vickers Limited
Marine Iron Works Ltd.

1 James St., Tweed, Ont.
394 Symington Ave., Toronto 9, Ont.
308 Guelph St., Preston, Ont.
Point Douglas Ave., Winnipeg, Man.
2162 Demontigny St. E., Montreal, P. Q.
West End Louise Embankment, Quebec, P.Q.
33 Nazareth St., Montreal, P. Q.
2143 St. Patrick St., Montreal, P. Q.
121-125 Lower Water St., and
298 Upper Water St., Halifax, N. S.
Amherst, N. S.
St. Boniface, Man.
251 Princess St., Winnipeg, Man.
515 Archibald St., St. Boniface, Man.
Cor. Ave. G. and 22nd St., Saskatoon,
Sask.
Seventh and Rose St., Regina, Sask.
Regina, Sask.
9568 - 111th Ave., Edmonton, Alta.
902 - Eleventh St., Calgary, Alta.
7900 - 115th St., Edmonton, Alta.
St. Martin St., Montreal, P. Q.
494 Railway St., Vancouver, B. C.
750 Alexander St., Vancouver, B. C.
1155 West Sixth Ave., Vancouver, B. C.
111 Eleventh St., New Westminster, B.C.
381 York St., London, Ont.
271 Hamilton Rd., London, Ont.
Jennett St., Fort Erie, Ont.
855 Carling Ave., Ottawa, Ont.
158 Queen St. W., Ottawa, Ont.
620 Eastern Ave., Toronto, Ont.
Fraser St., Port Colborne, Ont.
468 Rideau St., Kingston, Ont.
Brock and Hatt Sts., Dundas, Ont.
165 William St. S., Chatham, Ont.
50 Bartlett Ave., Toronto, Ont.
Ann St., Napanee, Ont.
14 Strachan Ave., Toronto, Ont.
101 Hanson St., Toronto, Ont.
303 Water St. W., Cornwall, Ont.
Cor. Norfolk and Union Sts., Simcoe, Ont.
172 Van Horne St., Toronto, Ont.
539 Maine St., Vancouver, B. C.
Granville Island, Vancouver, B. C.
Winnipeg St., Penticton, B. C.
Granville Island, Vancouver, B. C.
St. Catharines, Ont.
875 Logan Ave., Winnipeg, Man.
5136 Notre Dame E., Montreal, P. Q.
515 Pembroke St., Victoria, B. C.

LIST OF FIRMS IN THE BRIDGE AND STRUCTURAL STEEL INDUSTRY WHICH REPORTED A PRODUCTION OF MISCELLANEOUS TANK AND PLATE WORK, 1935.

Dominion Bridge Company, Ltd.	Winnipeg, Man., Calgary, Alta., and Lachine, P. Q.
Mackinnon Steel Corp. Ltd.	Sherbrooke, P. Q.
Canadian Bridge Company Limited	Walkerville, Ont.
Hamilton Bridge Co. Ltd.	Hamilton, Ont.
Dominion Bridge Company, Limited	Toronto, Ont.
T. J. Eansor & Sons, Limited	Windsor, Ont.
London Structural Steel Co.	London, Ont.
Western Bridge Co. Ltd.	Vancouver, B. C.
Dominion Bridge Co. Ltd.	Ottawa, Ont.
Dominion Bridge Company, Ltd.	Vancouver, B. C.

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Table 19 - IMPORTS INTO CANADA AND EXPORTS OF BOILERS AND ENGINES, 1934 and 1935.

Items	1	9	3	4	1	9	3	5
	Number			\$	Number			\$
IMPORTS								
Boilers and complete parts .....	...			70,369	...			70,571
Engines, automobile, and complete parts thereof, n. o. p.	24,304			4,815,125	26,742			5,538,698
Engines, diesel and semi-diesel and complete parts, n. o. p.	305			762,673	542			1,054,447
Engines, internal combustion, and parts, marine, n. o. p.	256			145,217	456			175,463
Engines, internal combustion and steam, of a class not made in Canada, for use only in the manufacture of motor trucks for carrying goods only	5,452			458,892	4,148			391,686
Engines, steam, n. o. p., and parts	16			44,865	23			38,314
Engines and complete parts thereof, to be used exclusively in the propulsion of boats or in hoisting nets and lines used in such boats, bona fide owned by individual fishermen for their own use in the fisheries	70			16,746	78			19,807
Engines and complete parts thereof, when imported for use only in the equipment of aircraft	19			62,356	79			218,966
Engines for motor trucks or motor buses, when of 100 h. p. or more	4			8,805	3			6,123
Outboard motors and parts	730			81,572	970			75,074
Air-cooled internal combustion engines of not greater than $1\frac{1}{2}$ h.p. rating, and complete parts thereof (From April 1, 1935) .....	...			...	354			8,100
Engines, internal combustion, n.o.p., and parts	2,848			406,913	5,826			528,331
Fire engines and other fire extinguishing machines and chassis for same; complete parts of the foregoing, n. o. p. ....	...			...	41			5,053

Table 19 - IMPORTS INTO CANADA AND EXPORTS OF BOILERS AND ENGINES, 1934 and 1935.
(concluded)

Items	1	9	3	4	1	9	3	5
	Number			\$	Number			\$
<u>IMPORTS - concluded</u>								
Locomotives for railways		2		2,039		8		39,825
Locomotive chassis, tops, wheels and bodies		12,270		...		25,689
Locomotives and motor cars for rail- ways, of a class or kind not made in Canada, for use exclusively in mining or metallurgical operations.		19		54,225		25		68,738
Complete parts for the repair of air- craft engines		68,074		...		92,546
TOTAL IMPORTS ENGINES & BOILERS		...		7,010,641		...		8,357,431
<u>EXPORTS</u>								
Internal combustion engines and parts		236		45,461		1,119		124,151
Steam engines and parts		1		349		3		859
Locomotives and parts		6,561		...		15,602
TOTAL EXPORTS ENGINES & BOILERS		...		52,371		...		140,612

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