CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY

REPORT
on the
RUBBER INDUSTRY
in
CANADA
1925

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THE RUBBER INDUSTRY IN CANADA, 1925

Ottawa, October 28th, 1926.- A report on the Rubber Industry in Canada is herewith presented for the calendar year 1925 classified under two heads: (1) Rubber tires and other rubber goods, (2) Rubber footwear. A resumé of the principal statistics is given below:-

ESTABLISHMENTS

The number of establishments reporting in 1925 was 40, of which 28 were located in the province of Ontario, 10 in Quebec and 2 in British Columbia. Listed according to products the number of factories manufacturing tires only was 5, tires and footwear 2, and tires and other rubber products 6. The number making footwear only was 8, footwear and other rubber products 2, whilst those making rubber products other than tires and footwear were 17 in number.

CAPITAL

The amount of capital invested in the rubber industry in 1925 was $65,562,734 to which the rubber tire section contributed $50,043,668 and the footwear section $15,519,066. Fixed capital in the industry as a whole amounted to $36,709,289 and working capital to $28,853,445.

EMPLOYEES

The number of persons employed in the industry in 1925 was 12,963 of whom 1,657 were salaried employees and 11,306 were wage-earners. Of those employed 9,627 were males and 3,336 were females. In the rubber tire section the total employees numbered 7,020 of whom 5,837 were males and 1,183 were females whilst in the footwear section the total number employed was 5,943 of whom 3,790 were males and 2,153 were females.

SALARIES AND WAGES

The total amount of salaries and wages paid in 1925 was $14,143,165 of which $2,724,749 was for salaries and $11,418,416 for wages. Total payments in the rubber tire section amounted to $8,948,368 of which $1,770,716 represented the cost of salaries and $7,177,652 the cost of wages. In the rubber footwear section the total payments were $5,194,797 of which $954,033 represented the cost of salaries and $4,240,764 the cost of wages.

FUEL CONSUMPTION

The total cost of fuel consumed by the industry in 1925 was $598,834 of which the rubber tire section accounted for $430,146 and the rubber footwear section for $168,688. Bituminous coal was the principal fuel of which 85,285 tons worth $514,534 were reported and its value represented almost 86 per cent of the total cost of all fuel.

MATERIALS USED

The total cost of all materials used in the industry was $38,389,352 of which the rubber tire section contributed $29,659,353 and the rubber footwear section $8,729,999. Raw rubber was the chief material with a total value of $19,056,580 being almost 50 per cent of the total cost of materials. The second largest item of materials was tire duck with a total cost of $6,812,926 or over 17 per cent.

VALUE OF PRODUCTION

The gross value of production for the entire industry amounted to $78,229,574 in 1925 being an increase of $20,818,128 or 36.25 per cent over 1924. Of the three main classes of products rubber tires accounted for $42,105,239 of the total or 53.8 per cent, rubber footwear for $24,857,505 or 31.8 per cent and other rubber goods for $11,266,830 or 14.4 per cent.

Tire production increased over the preceding year by $13,543,588 or 47.4 per cent, footwear production by $4,907,297 or 24.6 per cent and other rubber goods by $2,367,243 or 26.6 per cent.

The net value of production, found by deducting the cost of materials from the gross value of products, rose from $32,892,210 in 1924 to $39,840,222 in 1925.

COMPARATIVE STATISTICS

A comparison of the principal statistics of the rubber industry in Canada is afforded by table 1(a) for the calendar years 1922, 1923, 1924 and 1925. The number of plants reporting in 1925 increased by over 5 per cent over 1924, capital investment by 16.74 per cent, employees by 20.28 per cent, salary and wage payments by 23.91 per cent, the cost of materials by 56.57 per cent and the gross value of products by 36.25 per cent. The cost of fuel on the other hand showed a decrease of over 5 per cent.

Table 1(a).- Principal Statistics, Compared, 1922-1925.

Principal Statistics		1922	1923	1924	1925
Establishments reporting	No.	34	40	38	40
Capital investment	$	50,154,503	56,061,625	56,160,930	65,562,734
Employees on salaries	No.	1,701	1,749	1,775	1,657
Salaries paid	$	2,758,584	2,938,743	2,831,943	2,724,749
Employees on wages	No.	8,441	9,897	9,003	11,307
Wages paid	$	7,568,334	9,390,374	8,581,689	11,418,416
Cost of fuel	$	767,680	770,212	632,358	598,834
Cost of materials	$	19,196,945	26,335,306	24,519,236	38,389,352
Gross value of products	$	45,933,068	56,512,947	57,411,446	78,229,574
Net value of products	$	26,736,123	30,177,641	32,892,210	39,840,222

Automobile Tire and Tube Production, Compared, 1917-1925

A comparative summary of automobile tire production (casings and inner tubes) from 1917 to 1925 is presented in the following table. Pneumatic tires and solid tires are each shown by number and value.

Table 1(b).- Automobile Tire and Tube Production, Compared, 1917-1925

Year	Pneumatic Tires				Solid Tires	
	Casings No.	Value $	Inner Tubes No.	Value $	Number	Value $
1917	1	1	1	1	111,211	225,460 (2)
1918	1	1	1	1	60,783	126,859 (2)
1919	1,293,010	23,298,673	1,117,913	2,872,487	14,170	451,196
1920	1,561,974	35,175,801	1,427,546	4,271,461	21,444	729,857
1921	857,816	15,520,810	989,689	2,037,180	9,472	343,171
1922	1,482,796	19,519,208	1,504,837	2,618,584	15,572	476,735
1923	2,150,768	23,504,489	2,256,604	3,655,109	22,546	658,090
1924	2,139,234	22,855,905	2,454,292	4,319,022	20,995	531,189
1925	2,969,632	33,586,958	3,462,380	6,922,413	20,918	721,039

1 Separate figures for casings and inner tubes are not available for 1917 and 1918 being combined in a single total. In 1917 the number of tires was stated at 2,394,737 and the value at $15,186,995 and in 1918 at 2,242,046 tires valued at $14,449,957.

(2) Solid tires included carriage tires in 1917 and 1918.

Bicycle and Motorcycle Tires and Tubes Compared for 1917-1925

The quantity and value of motorcycle tires and tubes and of bicycle tires and tubes are compared in the following summary table for the calendar years 1919-1925. Information for 1917 and 1918 is not available.

Table 1(c).- Bicycle and Motorcycle Tires and Tubes, Compared, 1917- 1925.

Year	Bicycle				Motorcycles			
	Tires No.	Value $	Tubes No.	Value $	Tires No.	Value $	Tubes No.	Value $
1917	1	1	1	1	1	1	1	1
1918	1	1	1	1	1	1	1	1
1919	185,613	244,521	234,679	277,656	8,586	74,131	8,717	12,396
1920	241,890	428,979	322,925	237,267	15,172	154,556	12,674	18,849
1921	91,496	161,151	95,851	83,953	4,540	41,919	5,757	7,795
1922	171,441	220,051	182,861	115,008	22,682	151,470	15,887	15,032
1923	211,493	249,869	217,082	128,885	39,888	187,074	35,334	30,946
1924	182,593	249,255	183,982	107,133	48,181	329,831	37,513	42,532
1925	197,699	243,963	208,210	95,918	53,477	335,268	48,231	65,620

1 Separate information for 1917 and 1918 not available.

PRODUCTION STATISTICS

(a) Rubber Tires

The production of rubber tires and tubes according to size is presented in table 2.for the calendar year 1925. The total selling value of all tires and tubes produced during the year was $42,105,239 comprising pneumatic tires and inner tubes to the value of $28,014,799, balloon tires and inner tubes to the value of $12,494,572, solid tires to the value of $721,039 and carriage, motorcycle and bicycle tires to the value of $874,829. The value of production which in 1924 amounted to $28,561,651 had increased by $13,543,588 or 47.4 per cent in the year under review.

Table 2.- Production of (a) Pneumatic (b) Balloon and (c) Solid Tires, by sizes, 1925.

Casings and Inner Tubes by sizes	(a) Pneumatic Tires			
	Casings Casings		Inner Tubes	
	Number	Value	Number	Value
Sizes - 30 x 3½	1,487,625	11,960,338	1,827,928	2,860,988
30 x 5	48,511	916,358	54,855	167,336
31 x 4	62,568	731,379	219,276	458,273
32 x 3½	6,507	80,514	7,113	14,745
32 x 4	90,310	1,329,183	95,325	225,769
32 x 4½	54,858	1,064,713	82,231	239,247
32 x 6	7,496	363,115	9,465	67,361
33 x 4	55,760	881,788	58,244	148,788
33 x 4½	27,315	514,495	46,969	132,417
33 x 5	12,857	291,426	22,512	63,705
34 x 4	18,688	311,209	19,238	55,240
34 x 4½	28,676	592,615	40,773	125,920
34 x 5	6,617	191,808	14,004	48,627
34 x 7	1,997	137,700	2,866	25,829
35 x 4½	1,374	33,650	3,338	9,445
35 x 5	14,833	425,418	21,303	88,470
36 x 3½	24	902	8	34
36 x 4½	930	20,284	762	2,376
36 x 6	9,814	504,340	9,553	63,726
36 x 7	451	33,993	372	2,946
37 x 5	1,690	46,823	1,786	8,345
38 x 7	2,120	126,740	2,252	17,591
40 x 8	1,301	103,638	1,389	13,417
Miscellaneous inch sizes	20,379	323,721	28,578	83,206
Miscellaneous Millimetre sizes	133,772	1,871,385	96,243	233,413
Total Pneumatic tires	2,096,473	22,857,585	2,666,383	5,157,214
	(b) Balloon Tires			
Sizes - 29 x 4.40	339,974	3,059,010	344,647	564,467
31 x 4.40	163,421	1,733,184	85,200	191,573
30 x 4.75	501	9,473	379	1,371
29 x 4.95	42,162	620,736	46,745	119,004
30 x 4.95	14,205	192,939	14,121	35,425
31 x 4.95	37,045	448,103	39,031	81,608
32 x 4.95	21,275	297,398	11,936	30,572
33 x 4.95	30,445	480,616	14,732	40,361
34 x 4.95	12,357	214,326	6,527	21,344
30 x 5.25	24,341	321,599	28,253	63,365
31 x 5.25	42,924	593,109	49,926	117,079
30 x 5.77	48,836	897,134	54,302	163,250
32 x 5.77	18,371	303,911	20,320	52,186
33 x 5.77	7,732	152,549	4,620	14,788
34 x 5.77	8,149	171,799	3,873	13,527
35 x 5.77	4,463	95.235	3,039	9,682
33 x 6.00	22,008	430,533	25,780	87,885
32 x 6.20	11,820	241,988	13,775	49,370
33 x 6.20	4,160	90,622	5,635	20,875
33 x 6.75	6,129	159,707	6,732	29,119
35 x 6.75	1,549	47,703	1,993	9,531
34 x 7.30	3,461	78,056	4,102	19,483
Miscellaneous sizes	7,831	89,643	10,329	29,334
Total Balloon Tires	873,159	10,729,373	795,997	1,765,199

THE RUBBER INDUSTRY IN CANADA, 1925.

PRODUCTION STATISTICS, 1925 (continued)

Table 2.- Production of (a) Pneumatic (b) Balloon and (c) Solid Tires, by sizes, 1925. (continued)

Casings and Inner Tubes by sizes	(c) Solid Tires	
	Number	Value
Sizes - 32 x 3½	4,736	78,614
34 x 3½	323	5,291
36 x 3½	161	2,782
32 x 4	1,910	37,061
34 x 4	985	20,272
36 x 4	2,288	50,083
38 x 4	39	858
32 x 5	206	5,338
34 x 5	795	21,969
36 x 5	1,895	55,611
40 x 5	140	4,314
34 x 6	638	21,347
36 x 6	1,290	47,945
40 x 6	113	4,590
34 x 7	220	9,834
36 x 7	764	34,516
34 x 8	277	14,605
36 x 8	993	55,373
36 x10	941	66,980
40 x10	176	13,505
36 x12	431	37,860
40 x12	528	49,303
36 x14	51	5,710
40 x14	552	62,600
Miscellaneous sizes	466	14,678
Total solid tires	20,918	721,039

Other tires and tubes not included in the foregoing table are shown by kind, quantity and value in table 3 and is followed by a summary of all tire production in 1925.

Table 3.- Other Tires and Tubes, Solid or Pneumatic

Kind	Unit of Measure	Quantity	Selling value at the works
			$
Carriage, rubber tires, solid	Lb.	488,791	115,606
All other rubber tires, solid	"	109,024	18,454
Motorcycle tires, casings	No.	53,477	335,268
Motorcycle tires, inner tubes	"	48,231	65,620
Bicycle tires, casings	"	197,699	243,963
Bicycle tires, inner tubes	"	208,210	95,918
Total Value		-	874,829

Summary of Tire Production 1925.

	Unit of MEASURE	Quantity	Selling value at the works
			$
Pneumatic tires - casings	No.	2,096,473	22,857,585
" " inner tubes	"	2,666,383	5,157,214
Balloon tires - casings	"	873,159	10,729,373
" " inner tubes	"	795,997	1,765,199
Solid tires	"	20,918	721,039
Carriage, rubber tires, solid	Lb.	488,791	115,606
Other rubber tires, solid	"	109,024	18,454
Motorcycle tires -casings	No.	53,477	335,268
" " inner tubes	"	48,231	65,620
Bicycle tires - casings	"	197,699	243,963
" " inner tubes	"	208,210	95,918
Total Selling Value		-	42,105,239

PRODUCTION STATISTICS (continued)

B. Footwear

The production of rubber footwear is shown by classes, sizes, number and value in table 4 for the calendar year 1925. Compared with 1924 there was an increase of 3,716,012 in the number of pairs of all classes manufactured and of $4,907,297 in value of production.

Table 4.- Rubber Footwear Production by Classes and Sizes, 1925.

Rubber Footwear, kind and size	Rubber Boots, Knee and Hip		Lumbermen's Rubber Boots		Overshoes not including Jersey Storms	
	Quantity Pairs	Value $	Quantity Pairs	Value $	Quantity Pairs	Value $
Men's 6-12	466,892	2,007,052	1,082,082	2,931,294	738,355	1,812,702
Boys' 1- 5	44,905	128,801	381,021	688,409	78,276	143,126
Youths' 11-13	10,726	23,134	187,871	273,326	22,894	34,316
Women's 2½-8	367,077	784,806	27,032	47,416	986,825	2,853,898
Misses' 11-2	287,947	516,415	12,334	17,594	207,034	390,939
Children's 4-10½	210,690	327,122	72,437	88,354	136,410	227,138
Totals	1,388,237	3,787,330	1,762,777	4,046,393	2,169,794	5,462,119

Rubber Footwear, kind and size	Rubbers, light, including Jersey storms		Canvas, rubber soled footwear, Balmorals		Canvas, rubber soled footwear, Oxfords	
	Quantity Pairs	Value $	Quantity Pairs	Value $	Quantity Pairs	Value $
Men's 6-12	2,238,720	2,409,789	539,887	788,179	791,714	969,093
Boys' 1-5	629,530	516,075	619,824	714,764	625,568	630,920
Youths' 11-13	250,474	179,423	195,229	206,054	276,300	263,304
Women's 2½-8	1,820,474	1,407,486	39,218	47,239	1,578,859	1,589,627
Misses' 11-2	535,614	353,121	46,340	56,275	680,608	578,974
Children's 4-10½	465,669	266,503	81,687	74,914	667,075	509,923
Totals	5,940,481	5,132,397	1,522,185	1,887,425	4,620,124	4,541,841

A comparison of rubber footwear production by classes, number of pairs and selling value is given in the summary table following, for the calendar years 1924 and 1925. It will be noted that increases appear in every one of the classes of footwear, the greatest being in canvas rubber soled footwear of the Oxford variety where the increase was 1,279,123 pairs. There were increases in value in all of the classes except light rubbers including Jersey storms in which the decrease amounted to $244,286.

Comparative Summary of Rubber Footwear by Classes, 1924 and 1925

Classes of footwear	1925		1924	
	Quantity Pairs	Value $	Quantity Pairs	Value $
Rubber boots, knee and hip	1,388,237	3,787,330	779,005	2,430,995
Lumbermen's rubber boots	1,762,777	4,046,393	1,439,221	3,525,698
Overshoes, not including Jersey Storms	2,169,794	5,462,119	1,204,449	3,593,448
Light rubbers including Jersey Storms	5,940,481	5,132,397	5,666,085	5,376,683
Canvas rubber-soled footwear, Balmorals	1,522,185	1,887,425	1,257,825	1,778,428
Canvas rubber-soled footwear, Oxfords	4,620,124	4,541,841	3,341,001	3,244,956
Totals	17,403,598	24,857,505	13,687,586	19,950,208

OTHER MANUFACTURES OF RUBBER

The production of rubber goods other than tires and footwear is given in table 5 for the calendar years 1924 and 1925. An increase in the total value of production over 1924 amounting to $2,367,243 is the outstanding feature. In quantity of production there appears an increase in every item of the table with a single exception - rubber and composition half soles. The list of articles manufactured was extended in 1925 to include such items as friction tape, rubber tiling and sheet flooring, battery jars, wringer rolls, roll covering, other than wringer, fruit jar rings and hospital sheeting.

Table 5.- Other Manufactures of Rubber Goods, 1924 and 1925.

Articles Manufactured		1925 Quantity	1925 Selling Value $	1924 Quantity	1924 Selling Value $
Rubber clothing, coats	No.	55,496	201,381	47,843	172,335
" " headwear	"	18,317	13,777	11,267	7,712
" " all other (value only)		-	133,246	-	91,388
Rubber and composition soles	Prs.	396,280	147,868	69,882	45,222
" " " half soles	"	97,559	17,253	165,497	33,275
" " " heels	"	15,476,705	1,411,129	10,658,504	939,638
Tire repair gums and fabrics (value only)		-	563,171	-	307,244
Friction tape and splicing compound (value only)		-	190,483	-	-
Rubber cement	Gal.	89,262	138,840	75,694	69,415
Rubber mats and matting	Lb.	1,456,489	247,024	1,383,188	267,480
Rubber tiling and sheet flooring	"	612,121	175,022	-	-
Sheet packing	"	362,091	116,254	343,173	102,264
Battery jars	No.	371,089	122,070	-	-
Rubber belting	Ft.	4,263,244	2,260,474	4,174,996	2,301,774
Rubber hose	"	7,508,755	1,806,435	6,548,368	1,407,218
Hospital sheeting	Yd.	114,737	94,010	-	-
Wringer rolls	Lb.	18,993	9,700	-	-
Roll covering, all other than wringer	Lb.	199,994	154,695	-	-
Fruit jar ring rubbers	"	323,500	100,790	-	-
Drug sundries (value only)		-	567,659	-	514,022
All other rubber goods specified (value only)		-	1,741,036	-	-
All other rubber goods not specified (value only)		-	1,054,513	-	2,640,550
Totals		-	11,266,830	-	8,899,587

CAPITAL INVESTMENT

The amount of capital invested in each section of the rubber industry is classified under two heads - fixed capital which includes land, buildings, machinery and tools and working capital including materials and supplies on hand, stocks in process of manufacture, finished products on hand and cash, trading and operating accounts, etc. Table 6 presents these statistics for each section of the industry by provinces. The total capital investment increased over 1924 by $9,401,804 of which $711,353 was fixed capital and $8,690,451 working capital. The rubber goods section which includes tires accounted for $50,043,668 or 76.3 per cent of the investment and the rubber footwear section for $15,519,066 or 23.7 per cent. Apportioned by provinces, Ontario furnished 82.9 per cent of the total investment, Quebec 16.2 per cent and British Columbia .9 per cent. Fixed capital represented 56 per cent and working capital 44 per cent of the total capital invested in the industry.

THE RUBBER GOODS INDUSTRY IN CANADA, 1925

CAPITAL INVESTMENT (continued)

Table 6.- Capital Invested in the Rubber Industry, 1925

Provinces	Fixed Capital: Land, buildings, machinery and tools $	Working Capital: Materials and supplies on hand, stocks in process, etc. $	Working Capital: Cash, trading, and operating accounts, etc. $	Total Capital $
(a) The Rubber Goods Section -				
Ontario and Br.Columbia	26,747,906	14,635,382	7,572,944	48,956,232
Quebec	608,904	300,829	177,703	1,087,436
Totals	27,356,810	14,936,211	7,750,647	50,043,668
(b) The Rubber Footwear Section -				
Ontario	3,006,432	1,921,900	1,047,649	5,975,981
Quebec	6,346,047	1,988,623	1,208,415	9,543,085
Totals	9,352,479	3,910,523	2,256,064	15,519,066
Total capital invested in the Rubber Industry	36,709,289	18,846,734	10,006,711	65,562,734
Percentage of total capital	56.00	28.74	15.26	100.00

EMPLOYMENT STATISTICS

Employment in the Rubber Industry in Canada during the calendar year 1925 is shown in the following series of tables:

Table 7. Employees by classes, sex and remuneration, 1925
Table 8. Employees by months, 1925.
Table 9. Working time of plants and employees, 1925.

The number of persons employed in each section of the industry is shown by classes, sex, remuneration and provinces in table 7. The number of employees increased during the year by 2,165 of whom 1,601 were males and 584 were females. The province of Ontario accounted for 8,991 of the total employed or 69.4 per cent and Quebec for 3,897 employees or 30 per cent. The total payments for salaries and wages rose from $11,413,902 in 1924 to $14,143,165 in 1925, an increase of $2,729,263 or nearly 24 per cent. The average salary, irrespective of sex, rose from $1,595.60 in 1924 to $1,644.40 in 1925, or 3.06 per cent, and the average wage from $953.20 in 1924 to $1,009.94 in 1925 or 5.95 per cent.

Table 7.- Employees by classes, sex and remuneration, 1925.

Classes of employees	Employees: Male No.	Employees: Female No.	Total Salaries and Wages $
In the rubber goods section -			
Salaried employees	768	225	1,770,716
Wage-earners	5,069	958	7,177,652
Totals	5,837	1,183	8,948,368
In the rubber footwear section -			
Salaried employees	496	168	954,033
Wage-earners	3,294	1,985	4,240,764
Totals	3,790	2,153	5,194,797
In both sections of the industry -			
Salaried employees	1,264	393	2,724,749
Wage-earners	8,363	2,943	11,418,416
Totals	9,627	3,336	14,143,165

Employees by Provinces, 1925.

Classes of employees		Ontario	Quebec	British Columbia	Canada
Salaried employees, male	No.	835	401	28	1,264
" " female	No.	277	112	4	393
Wage-earners male	No.	6,292	2,028	43	8,363
" " female	No.	1,587	1,356	-	2,943
Total Employees	No.	8,991	3,897	75	12,963

EMPLOYMENT STATISTICS (continued)

Tables 8(a) and 8(b) present statistics of wage-earning employees by number and sex for each month of the year and for each section of the industry. Employment in the rubber goods section was at its highest in the months of April to September and at the lowest from October to March whilst in the footwear section it was highest in October to December and lowest in January to April. According to sex, employment in the rubber goods section was in the approximate ratios of 5 males to 1 female and in the footwear section 3 males to 2 females. The average of employment in each section was high and well maintained throughout the year.

Table 8(a).-Wage-earners by months and sex in Rubber Goods Section, 1925.

Months	Wage-earners Males No.	Wage-earners Females No.	Months	Wage-earners Males No.	Wage-earners Females No.
January	4,425	825	July	5,674	1,004
February	4,653	909	August	5,581	997
March	4,847	947	September	5,571	1,018
April	5,063	942	October	4,497	943
May	5,529	982	November	4,602	949
June	5,662	1,009	December	4,727	976
Total number at employment during the year				60,831	11,501
Average monthly employment				5,069	958

Table 8(b).- Wage-earners by months and sex in the Rubber Footwear Section, 1925

Months	Wage-earners Males No.	Wage-earners Females No.	Months	Wage-earners Males No.	Wage-earners Females No.
January	3,103	1,867	July	3,081	1,746
February	2,981	1,715	August	3,552	2,052
March	3,043	1,778	September	3,327	2,141
April	3,091	1,805	October	3,635	2,324
May	3,155	1,840	November	3,833	2,367
June	3,148	1,884	December	3,781	2,295
Total number at employment during the year				39,530	23,814
Average monthly employment				3,294	1,985

Statistics of the working time of plants and employees are presented in table 9 for each section of the industry. Operating time of plants is shown by (a) full time operation, (b) part time operation and (c) days plants were idle. Working time of wage-earners is shown by (a) the number of hours worked by wage-earners per day and (b) the number of hours worked per week.

Table 9.- Working Time of Plants and Employees by Sections, 1925.

	Rubber Goods Section		Rubber Footwear Section	
Number of plants in operation	30		10	
	Totals	Average	Totals	Average
Days in operation on full time	7,665	255.50	2,428	242.80
Days in operation on part time	661	22.03	74	7.40
Days idle	794	26.47	538	53.80
Hours worked by wage-earners per day	62,973	8.88	59,141	8.91
Hours worked by wage-earners per week	1,500	50.00	541	54.10

FUEL CONSUMPTION

The quantity and cost value delivered at the factory or works of the various classes of fuel consumed by the industry in 1925, is shown separately for each section in table 10. The total cost of fuel in the entire industry amounted to $598,834, to which the rubber goods section contributed $430,146 and the footwear section $168,688. Bituminous coal was the principal fuel forming nearly 86 per cent of the total cost of all fuel. The cost of electricity purchased in 1925 was $477,785 as compared with an expenditure of $451,302 in 1924, an increase of over 5.8 per cent. There was a considerable decrease as compared with 1924 in the cost of bituminous coal, amounting to $208,520 whilst the cost of electricity purchased showed an increase of $26,483.

Table 10.- Fuel Consumption by Classes, Quantity and Value, 1925.

Classes of Fuel	Unit of Measure	In Rubber Goods Section Quantity	In Rubber Goods Section Value $	In Rubber Footwear Section Quantity	In Rubber Footwear Section Value $
Bituminous coal	ton	60,850	353,917	24,435	160,617
Anthracite coal	"	1,474	6,495	-	-
Gasoline	gal.	53,763	13,618	27,061	8,071
Fuel oils	"	65,470	4,817	-	-
Wood	cord	18	144	-	-
Gas, artificial or natural	m.c.ft.	1,231	1,205	-	-
All other fuel		-	49,950	-	-
Total cost		-	430,146	-	168,688

POWER INSTALLED

The power installed in each section of the industry is shown in table 11 for each section of the industry by classes, number of units in each class and the horsepower according to manufacturers' rating. The total horsepower installed in both sections in 1925 was 47,723 as against 45,551 in 1924. Steam power decreased by 338 h.p. and water power by 1,085 h.p. Electric power on the other hand increased by 3,595 h.p. thus indicating a net increase in horsepower installation of 2,172.

The number of boilers installed for any purpose in 1925 was 76 with a boiler horsepower capacity of 13,449.

Table 11.- Power Installation by Sections, 1925.

Classes of power	Rubber Goods Section		Rubber Footwear Section	
	Units No.	Horsepower according to manufacturers' rating	Units No.	Horsepower according to manufacturers' rating
Steam engines and turbines	21	2,130	6	1,435
Hydraulic turbines or water wheels	-	-	7	2,660
Total primary power	21	2,130	13	4,095
Electric motors -				
Operated by purchased power	1,217	32,263	337	9,235
Operated by power generated by the establishment	6	261	135	2,749
Total electric motors	1,223	32,524	472	11,984
Total power used in manufacturing	1,238	34,393	350	13,330

MATERIALS USED

The quantity and the cost value at the factory of the materials used in each section of the industry is presented in table 12. Compared with 1924 there was a large increase in the cost of materials used in the whole industry, the total for that year being $24,519,236 whereas in 1925 such cost had risen to the large total of $38,389,352 representing an increase of 56.5 per cent. Raw rubber was the principal item, being nearly 50 per cent of the total cost of materials in 1925 as compared with almost 35 per cent in 1924, the increased percentage being due to a marked advance in the price of the commodity from 27.7 cents per lb. in 1924 to 44.7 cents in 1925. The quantity of reclaimed rubber used in the industry in 1925 was 12,129,556 pounds valued at $1,121,148 or an average cost of 9.2 cents per lb. as compared with a total of 8,121,781 pounds worth $655,250 or an average price of 8 cents per lb. in 1924. The second largest item of materials was tire duck of which 10,842,883 lbs. valued at $6,812,926 were consumed in 1925 as against 7,132,218 pounds worth $5,090,339 in 1924. The average price of all ducks and stockinette were lower in 1925 than in 1924 as the following table indicates.

		Average price 1924	Average price 1925.
Tire duck	Lb.	.805 cents	.628 cents
Hose and belting duck	"	.575 "	.514 "
Shoe duck	"	.618 "	.590 "
Stockinette sheeting	"	.933 "	.722 "

The remaining items of materials all show considerable increases in cost value over 1924, amounting in all to $1,090,616.

Table 12.- Materials used by quantity and cost value, 1925.

Classes of Materials		In Rubber Goods Section		In Rubber Footwear Section	
		Quantity	Cost Value $	Quantity	Cost Value $
Rubber, raw	Lb.	36,167,117	15,781,041	6,460,342	3,275,549
Rubber, reclaimed	"	8,220,210	808,495	3,909,346	312,653
Tire duck	"	10,842,653	6,812,752	230	174
Hose and belting duck	"	1,932,046	984,942	469,903	250,152
Shoe duck	"	246,713	123,308	898,992	552,148
Stockinette sheeting	"	145,731	122,793	776,773	543,101
Miscellaneous cotton (value only)		-	856,436	-	1,432,730
Cocks, valves, etc.(value only)		-	503,710	-	18,425
Chemicals and mineral compounds (value only)		-	1,647,235	-	733,569
All other materials(value only)		-	2,018,641	-	1,611,498
Total cost		-	29,659,353	-	8,729,999

Imports of Rubber and Rubber Goods

Table 13 shows the quantity and value, when available of all rubber and manufactures of rubber entering Canada for consumption during the calendar year 1925. Raw and partly manufactured materials aggregated in value $27,446,699, whilst the wholly manufactured totalled $3,247,812. Of the total value of imports, goods to the value of $24,543,237 entered Canada from the United States, $2,663,977 from the United Kingdom and $3,487,297 from other countries.

Table 13.- Rubber and Manufactures of Rubber Imported for Consumption, 1925 (calendar year)

Articles Imported by Principal Countries	Quantity	Value $
Raw and Partly Manufactured -		
Balata, crude Lb.		
United Kingdom	25	43
United States	61,509	25,334
Total	61,534	25,377
Rubber and Gutta Percha, Crude Lb.		
United Kingdom	4,657,616	2,000,261
United States	33,637,941	20,397,778
Straits Settlements	4,971,447	2,664,239
Dutch East Indies	944,365	636,888
France	74,669	20,966
Other countries	161,383	90,817
Total	44,407,421	25,810,949
Rubber, hard, in sheets Lb.		
United Kingdom	684	457
United States	254,199	168,703
Other countries	1,691	1,036
Total	256,574	170,196
Rubber, hard, in tubes		
United States	-	2,308
Total	-	2,308
Rubber, powdered Lb.		
United Kingdom	4,096	948
United States	5,420,490	293,884
Other countries	40	1
Total	5,424,626	294,833
Rubber, recovered Lb.		
United Kingdom	22,400	16,330
United States	6,958,298	836,193
Total	6,980,698	852,523
Rubber substitute Lb.		
United Kingdom	140,500	14,417
United States	615,653	112,798
Total	756,153	127,215
Rubber thread, not covered Lb.		
United Kingdom	68,655	70,597
United States	84,392	92,701
Total	153,047	163,298

Articles Imported (contd)	Value Only $
Rubber, manufactured	
Belting, rubber	
United Kingdom	2,754
United States	208,750
Other countries	1,034
Total	212,538
Cement, rubber	
United Kingdom	2,112
United States	50,845
Total	52,957
Clothing of rubber	
United Kingdom	74,860
United States	105,312
Other countries	6,799
Total	186,971
Elastic, round or flat	
United Kingdom	46,918
United States	169,636
Other countries	1,099
Total	217,653
Gloves, rubber	
United Kingdom	667
United States	16,296
Other countries	66
Total	17,029
Hose, rubber	
United Kingdom	2,855
United States	163,765
Other countries	96
Total	166,716
Hot water bottles	
United Kingdom	1,070
United States	18,334
Other countries	28
Total	19,432
Mats and matting, rubber	
United Kingdom	622
United States	22,809
Other countries	19
Total	23,450

Imports of Rubber and Rubber Goods - Concluded

Table 13. Rubber and Manufactures of Rubber Imported for Consumption, 1925. (calendar year)

Articles Imported by Principal Countries	Quantity	Value $
Rubber, Manufactured, cont'd.		
Boots and shoes, rubber pair		
United Kingdom	9,042	5,041
United States	65,161	103,931
Other Countries	1,070	297
Total	75,273	109,269
Tires, for vehicles, pneumatic casings No.		
United Kingdom	3,363	5,831
United States	24,738	434,648
France	2,303	2,185
Other Countries	261	455
Total	30,665	443,119
Tires for vehicles, inner tubes No.		
United Kingdom	606	372
United States	14,785	51,012
Other Countries	4,099	1,014
Total	19,490	52,398
Tires for vehicles, solid rubber		
United Kingdom	-	2,413
United States	-	40,305
Total	-	42,718
Golf Balls, Doz.		
United Kingdom	25,771	108,597
United States	411	831
Other countries	23	36
Total	26,205	109,464
Heels, rubber pairs		
United Kingdom	219	28
United States	118,844	8,729
Total	119,063	8,757

Articles Imported	Value Only $
Rubber, Manufactured, cont'd.	
Packing, rubber	
United Kingdom	2,852
United States	43,928
Other countries	218
Total	46,998
All other manufactures of rubber	
United Kingdom	303,932
United States	1,174,407
France	9,918
Germany	38,024
Japan	1,360
Other countries	10,702
Total	1,538,343
Total Imports whether Raw or partly manufactured	27,446,699
Wholly Manufactured	3,247,812
Grand Total	30,694,511
Total Imports by countries and value	
United Kingdom	2,663,977
United States	24,543,237
Japan	1,360
France	33,069
Germany	38,024
Straits Settlements	2,664,239
Dutch East Indies	636,888
Other countries	113,717
Total	30,694,511

THE RUBBER INDUSTRY IN CANADA, 1925.

Exports of Rubber and Rubber Goods

The quantity and value of goods, the produce of Canada, exported to Other Countries is shown in Table 14, by classes and countries. The total value of goods exported during the calendar year 1925 amounted to $17,477,287. The principal articles exported were (a) pneumatic tires, casings $9,731,121, canvas shoes with rubber soles $2,286,836, boots and shoes of rubber $1,848,474 and pneumatic tires, inner tubes $1,695,795. The destination of Canadian exports by countries shows that of this total, goods to the value of $3,865,059 went to the United Kingdom, $3,133,570 to New Zealand, $1,587,448 to the Argentine Republic, $1,133,718 to British South Africa and $719,722 to Australia. Approximately sixty-seven per cent of all exports went to British dominions and dependencies.

Table 14.- Exports of Canadian Produce by Classes and Countries, for the calendar year 1925.

Countries to which Exported	Waste Rubber		Belting of Rubber		Canvas shoes with rubber soles		Boots and shoes of rubber, n.o.p.		Clothing, rubber incl. waterproofed
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Value only
	Cwt.	$	Lb.	$	Pairs	$	Pairs	$	$
United Kingdom	505	3,150	185,176	84,455	666,054	463,029	788,244	1,256,284	7,302
United States	124,825	336,551	976	690	8,731	5,346	1,226	1,333	1,451
Argentine Republic	-	-	207,484	94,115	817,036	552,798	-	-	-
Australia	-	-	22,627	15,631	131,987	120,748	20,804	37,752	11,619
Belgium	-	-	-	-	-	-	180	558	-
Brazil	-	-	113,540	47,508	-	-	-	-	-
British South Africa	-	-	277,473	139,704	277,872	157,686	8,393	14,253	-
British Guiana	-	-	3,224	2,366	50,160	48,168	1,045	728	-
France	-	-	-	-	23,504	17,623	1,131	3,620	-
British India	-	-	25,454	10,849	68,850	53,605	-	-	-
Japan	-	-	28,465	10,645	-	-	6,012	6,162	-
Jamaica	-	-	4,769	2,196	104,947	97,040	178	156	-
Ceylon	-	-	-	-	-	-	-	-	-
Trinidad and Tobago	-	-	719	508	74,806	73,840	381	237	-
Mexico	-	-	-	-	188,309	108,041	-	-	-
Dutch East Indies	-	-	-	-	14,757	14,667	-	-	-
Newfoundland	-	-	9,662	4,308	1,140	734	248,418	287,235	14,647
New Zealand	-	-	144,800	100,135	388,975	263,158	72,497	154,723	-
Uruguay	-	-	-	-	106,094	73,867	-	-	-
Straits Settlements	-	-	8,718	5,268	--	-	-	-	-
Other Countries	253	1,686	180,197	97,140	312,041	236,486	47,318	85,433	12,167
Total by classes	125,583	341,395	1,213,284	615,518	3,235,263	2,286,836	1,195,827	1,848,474	47,186

THE RUBBER INDUSTRY IN CANADA, 1925

Exports of Rubber and Rubber Goods - Concluded

Countries to Which Exported	Pneumatic Tires, Casings		Pneumatic Tires, inner tubes		Tires for Vehicles, solid rubber		Hose of Rubber	All other Mfrs. of Rubber	Total value of Exports by Countries
	Quantity	Value	Quantity	Value	Quantity	Value	Value Only	Value Only	
	No.	$	No.	$	No.	$	$	$	$
United Kingdom	181,339	1,706,100	158,605	235,951	322	7,874	8,830	92,076	3,065,059
United States	801	8,086	770	851	894	10,465	89,893	32,711	487,377
Argentine Republic	71,797	698,045	121,320	188,455	318	8,331	2,527	43,177	1,587,440
Australia	42,981	449,671	46,392	75,415	98	3,695	226	4,965	719,722
Belgium	15,662	227,966	19,128	40,779	-	-	-	-	269,303
Brazil	47,233	334,583	87,790	117,941	400	8,664	-	11,948	520,644
British South Africa	62,831	633,767	70,272	114,227	186	6,517	44,860	22,704	1,133,718
British Guiana	3,193	15,862	1,154	2,168	-	-	1,473	4,837	75,602
France	25,026	379,009	16,797	40,739	-	-	-	-	440,991
British India	45,182	495,675	48,540	83,862	1,019	20,205	-	9,432	673,626
Japan	14,742	134,574	12,255	20,481	460	6,984	-	-	178,046
Jamaica	8,683	79,985	9,357	11,403	1,157	19,791	2,593	15,511	228,675
Ceylon	5,769	77,131	5,581	11,812	468	11,117	-	-	100,060
Trinidad and Tobago	4,079	51,060	7,180	11,309	62	1,091	2,420	6,754	147,219
Mexico	360	10,432	-	-	-	-	-	-	118,473
Dutch East Indies	36,404	350,951	39,339	64,421	1,038	28,166	333	5,725	464,263
Newfoundland	582	4,775	-	-	-	-	3,260	6,367	321,326
New Zealand	170,423	2,140,405	151,728	299,552	1,550	69,028	36,760	69,809	3,133,570
Uruguay	13,960	134,414	25,309	38,310	-	-	-	3,101	249,692
Straits Settlements	39,732	354,733	24,652	36,871	1,213	24,349	2,897	4,523	428,641
Other Countries	121,486	1,443,897	165,696	301,248	1,025	22,652	20,603	111,718	2,333,030
Total by classes	912,265	9,731,121	1, 011,865	1,695,795	10,210	248,929	216,675	445,358	17,477,287

Appendix A.- History of the Crude Rubber Industry.

Previous to the beginning of the twentieth century all of the crude rubber used commercially came from South American forests, chiefly from the valley of the Amazon and at a later date Central African States contributed their quota to the output of wild rubber.

To Sir Henry Wickham is due the establishment of the rubber plantation industry in the British Empire. In 1876, from seeds collected in Brazil and taken for germination to Kew Gardens, London, were produced the first rubber plants whose destination was Ceylon. This first consignment of plants died on the voyage and it was not till 1877 that seven healthy specimens of the genus Hevea brasiliensis reached Kuala Kangsar in the Malay State of Perak where experimental work was immediately started. There are now planted approximately 2,280,000 acres of this genus with probably 325,000,000 trees in the Malay Peninsula, while there still remains a wide area available for rubber planting in Malaya.

The tapping of trees starts after the fourth year when they have attained a girth of from 15 to 20 inches, at a height of three feet from the ground. During the whole period of growth the ground between the trees is kept constantly free of weeds whilst pruning and manuring operations also engage the attention of the planter. Various methods of tapping are in vogue on different estates, and the form or shape of the incision is a subject for discussion among planters. The V shaped cut has to some extent been superseded by the herring bone and half herring bone methods while other estates prefer the spiral or half spiral incisions.

The latex or juice is led by a small gutter lightly fixed in the bark to a cup made of kaolin or some similar substance. The practice on many of the native plantations of using discarded cigarette or other tins, is not recommended since tin or iron is liable to corrode and thereby injure the latex. The latex in the cups is collected in pails made of enamelled iron, aluminium or vulcanite and carried to the factory for further treatment. The first operation is to free the latex from all impurities by straining and pouring it into shallow dishes, a small quantity of acetic acid being added as an aid to coagulation which usually takes place in a day. A metal roller then presses the rubber into sheets which are subsequently drained on shelves and afterwards smoked in the smoke house over a wood fire. This crude commodity then passes through different processes according to the grade desired. Before being packed for shipment all rubber is graded carefully to insure that it is all of equal quality since the inclusion of one inferior piece may possibly mean lower prices for the whole consignment, rubber being sold from sample. The rubber is packed in cases on which the weight, origin, marks, etc., are stencilled before being dispatched by railroad to the port of shipment.

The following table shows the world production (net exports) of both plantation and wild rubber from 1905 to 1924 by quantity and per cent.

WORLD PRODUCTION, PLANTATION AND WILD RUBBER, 1905-1924.

Years	Total Plantation tons	Total Wild, Tropical America and Africa tons	World Production		
			Total tons	Plantation per cent	Wild per cent
1905	174	59,320	59,494	0.3	99.7
1906	577	62,004	62,581	0.9	99.1
1907	1,157	66,013	67,170	1.7	98.3
1908	1,796	64,770	66,566	2.7	97.3
1909	3,386	70,370	73,756	4.6	95.4
1910	7,269	73,477	80,746	9.0	91.0
1911	14,383	68,446	82,829	17.4	82.6
1912	30,113	73,834	103,949	29.0	71.0
1913	51,721	63,280	115,001	45.0	55.0
1914	73,153	48,052	121,205	60.4	39.6
1915	114,277	54,740	169,017	67.6	32.4
1916	158,993	51,086	210,079	75.7	24.3
1917	221,187	56,751	277,938	79.6	20.4
1918	180,800	36,711	217,511	83.1	16.9
1919	348,574	50,424	398,998	87.4	12.6
1920	304,671	36,464	341,135	89.3	10.7
1921	276,746	23,903	300,649	92.0	8.0
1922	378.232	27,878	406,110	93.1	6.9
1923	379,738	26,685	406,423	93.4	6.6
1924	386,703	28,000	414,703	93.2	6.8

From the above table, the growing importance of plantation rubber over wild rubber will be noted. The peak of wild rubber production was reached in 1912 when approximately 74,000 tons were exported or 71 per cent of the total world production for that year. In 1914 plantation rubber for the first time exceeded that of wild constituting 60 per cent of the total net exports which in that year aggregated 121,205 tons. From between 1909 and 1910 up till 1924 the figures of percentage of wild and plantation rubber have been practically reversed.

The potential output of plantation rubber from present areas is estimated to reach 584,000 tons in 1926, 602,000 tons in 1927, 613,000 tons in 1928, 617,000 tons in 1929 and 621,000 tons in 1930 with restrictions removed and an ample supply of labour available. Wild rubber production is estimated at 20,000 tons per year.

In view of the rapid increase in the world consumption of rubber, an estimate of future requirements was undertaken by the Rubber Association of America which issued the following table:

FUTURE AND POTENTIAL WORLD PRODUCTION AND CONSUMPTION AS ESTIMATED BY THE RUBBER ASSOCIATION OF AMERICA.

Years	Crude Rubber Plantation and Wild	
	Estimated World Production Tons	Estimated World Consumption Tons
1926.....	606,000	575,000
1927.....	623,000	608,000
1928.....	633,000	641,000
1929.....	637,000	672,000
1930.....	641,000	703,000

THE RUBBER INDUSTRY IN CANADA, 1925

Appendix B.- Manufacturers of Rubber Goods operating in Canada, 1925.

Name	Location	Products made
Dominion Rubber Co. Ltd.	Granby, Que.	Rubber footwear
Granby Elastic Web Ltd.	Granby	Rubber goods
Miner Rubber Co. Ltd.	Granby	Rubber footwear and other rubber goods
Coutlee Muir Rubber Co. Ltd.	Montreal	Rubber goods
Dominion Rubber Co. Ltd.	Montreal	Rubber footwear and other rubber goods
Dominion Rubber Co. Ltd. (Rubber Regenerating Co.of Canada,Ltd)	Montreal	Rubber goods
Columbus Rubber Co.of Montreal	Montreal	Rubber footwear
Quebec Rubber Co. Ltd.	Quebec	Rubber tires
Dominion Rubber Co. Ltd.	St. Jerome	Rubber footwear
Panther Rubber Co. Ltd.	Sherbrooke	Rubber goods
Goodyear Tire & Rubber Co. of Canada, Ltd.	Bowmanville, Ont.	Rubber tires and other rubber goods
Dominion Rubber Co. Ltd.	Elmira	Rubber footwear
Northern Rubber Co. Ltd.	Guelph	Rubber footwear
F. E. Partridge Rubber Co. Ltd.	Guelph	Rubber tires
Sterling Rubber Co. Ltd.	Guelph	Rubber goods
Firestone Tire & Rubber Co. of Canada, Ltd.	Hamilton	Rubber tires and other rubber goods
Canadian Goodrich Co. Ltd.	Kitchener	Rubber footwear and tires
Dominion Rubber Co. Ltd.	Kitchener	Rubber footwear
Dominion Rubber Co. Ltd.	Kitchener	Rubber tires and other rubber goods
Kaufman Rubber Co. Ltd.	Kitchener	Rubber footwear
W. J. Anderson Mfg. & Rubber Co.Ltd.	London	Rubber goods
Goodyear Tire & Rubber Co.	New Toronto	Rubber tires and other rubber goods
Oak Tire & Rubber Co. Ltd.	Oakville	Rubber tires
Dominion Rubber Co. Ltd.	Port Dalhousie	Rubber footwear
Canadian I.T.S. Rubber Co. Ltd.	(West)Toronto	Rubber goods
Dunlop Tire & Rubber Goods Co.Ltd.	Toronto	Rubber tires and other rubber goods
Federal Machine & Rubber Co.Ltd.	Toronto	Rubber goods
Gutta Percha & Rubber Limited	Toronto	Rubber tires, footwear and other rubber goods
K. & S. Tire & Rubber Goods Ltd.	Toronto	Rubber tires and other rubber goods
Kelton Rubber Co.	Toronto	Rubber goods
I. B. Kleinert Rubber Co.	Toronto	Rubber goods
Transparent Rubber Goods Co.	Toronto	Rubber goods
S. C. Williams	Toronto	Rubber goods
Locktite Patch Co.	Walkerville	Rubber goods
Joseph Stokes Rubber Co. Ltd.	Welland	Rubber goods
Canadian Battery Container Corp. Ltd.	Windsor	Rubber goods
De Vilbiss Manufacturing Co.Ltd.	Windsor	Rubber goods
Aero Cushion Inner Tire & Rubber Co. of Ontario, Ltd.	Wingham	Rubber tires
Gregory Tire & Rubber Co. Ltd.	Port Coquitlam, B.C.	Rubber tires
Atlas Rubber Co. Ltd.	Vancouver	Rubber goods.