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Old Series, No. 227.
New Series, No. 145.

TORONTO, CANADA, MARCH, 1910.

For Subscription Rates,
See page 207.

C. P. R. Consolidation Locomotive with Superheater

In the system of standardization of locomotive equipment adopted by the Canadian Pacific Ry., the class M4 has been the standard consolidation locomotive, and with a single exception, the most powerful class of locomotive on the road, being what is termed a 180% engine, the basis (100%) being 20,000 lbs. tractive effort at 80% of the boiler pressure. The locomotives of that class are 21 x 28 in. simple engines having 57 in. drivers and weighing 186,200 lbs., of which 163,700 lbs., or 87½%, is on drivers. The boiler is of the extended wagon top type, 69 in. in diameter at the front end and carries a steam pressure of 200 lbs. All of these locomotives have superheaters, and in some of the later ones the steam pressure is reduced to 180 lbs. and the cylinders enlarged to 22½ x 28 in.

The traffic now demands a more powerful type of locomotive and an entirely new design of consolidation engine, which is known as class N3, has been developed. While, of course, a large number of the former standard parts are used in this design it is, in the main, an entirely new arrangement. It is a 210% engine and has a tractive effort of 42,500 lbs. The total weight is 220,000 lbs. and 195,000 lbs., or 88.6% is on drivers. The cylinders are very large, 24 x 32 in., and a boiler pressure of 180 lbs. with a Vaughan-Horsey superheater, having 450 sq. ft. of heating surface, is employed. The drivers have been enlarged to 63 in. and the boiler has an evaporative heating surface of 2,811 sq. ft. as compared with 2,381 in the class M4. An examination of the ratios shows that while the evaporative heating surface has kept pace with the increase in the weight of the locomotive, as compared with the class M4, the increase in size of the drivers has affected the B D factor very materially, giving a figure of 1,003, as compared with 880. When the B D factor is determined by the use of an equivalent heating surface, the derivation of which will be explained later, it is found that it has a value of 815 as compared with 714 for the class M4. In general, the locomotive will be seen to be a normally conservative design, arranged in many particulars to suit the special conditions under which it is to be operated. An electric headlight on a heavy freight locomotive is somewhat unusual, as is also the location of the air reservoir. The different parts of the locomotive will be considered separately, beginning with the boiler.

BOILER.—A radial stay, extended wagon top type of boiler having a firebox of large volume, with an inclined grate of

49 sq. ft. area, has been applied. Its largest diameter is 79 in. and the smallest 72 in. The throat is but 19¼ in. in depth and the level of the back mudring is slightly above the bottom of the barrel of the boiler, the grate inclining 20 in. in a length of 9 ft. 2¾ in. One of the most noticeable features is found in the use of curves of very large radii at the corners of the mudring, which are gradually decreased toward the top portion of the firebox. The side sheets are both slightly inclined inward from the mudring, which is 4½ in. wide on the side; the distance between the side sheets is

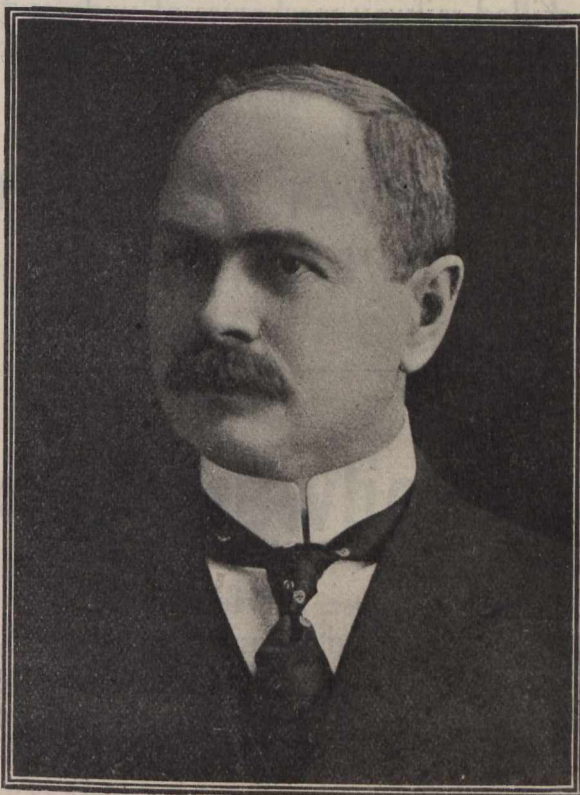
heating surface by 1.5, which should be added to the total heating surface of the engine as obtained in the ordinary manner. In this case this would show that a boiler of the same capacity as the one applied, if it was not fitted with a superheater, would require 3,486 sq. ft. of heating surface, or a ratio of one square foot to 55.9 lbs. on drivers, which is certainly a guarantee of ample steam capacity.

FRONT END ARRANGEMENT.—A section through the front end and superheater is given in one of the illustrations. This type of superheater has proven to be most satisfactory in every way, after a number of years of trial. It is now the standard type on the C.P.R., where a larger number of superheaters are in operation than on any other railway on this continent. The introduction of the superheater requires the front tube sheet to be set back 2 ft. 9 in. from the centre line of the stack and also the introduction of a special arrangement of diaphragm plates and a damper for cutting off the circulation to the large fire tubes when the engine is not using steam. The arrangement includes a comparatively low exhaust nozzle and long petticoat pipe in two sections. The stack has no internal extension. The presence of two adjustable deflectors admits of an accurate equalization of the draft. The petticoat pipe is arranged to be easily removed to permit access to the superheater elements behind it.

THE CHECK VALVE is located on the top centre line of the boiler, underneath the base of the bell stand. It consists of a double check arrangement, there being one check valve for either feed pipe, the passages from which are combined and enter the boiler through one opening. Each check valve passage is provided with a stop valve, which can be closed to permit the check to be reground when the boiler is under steam. A valve in the centre of the casting closes the passage to a chamber in which there is a connection for a pipe or hose for either blowing down or filling up the boiler.

All of these valves are provided with renewable seats. This arrangement of checks on top of the boiler gives a non-freezing discharge pipe from the injector to the checks, and any leakage at the checks will drain back to the injector.

ASH PANS.—An exceptionally novel and interesting design of ash pan is used. It is of the self-clearing type, having two hoppers, and really consists of two separate parts, the hoppers and their operating mechanism being secured to the locomotive frames, and deflector plates, forming the upper part of the pan, being secured to the mudring and extending down inside of the hopper sec-



A. W. CAMPBELL, C.E.,
Deputy Minister of Railways and Canals, and Chairman
Government Railways Managing Board.

increased by 1 in. at the turn of the crown. Both the side and crown sheets and the roof are in one piece.

The location of the tubes, which includes 24 5-in. and 272 2-in., the former being arranged in three rows of eight each for the superheater elements, is shown in one of the accompanying illustrations. The heating surface of the fire tubes is 2,631 sq. ft., which, in connection with 180 sq. ft. in the firebox, gives 2,811 sq. ft. of evaporative heating surface. It has been found, however, that, in comparing a superheater engine with one using saturated steam, to get an equivalent heating surface in the latter it is necessary to multiply the super-

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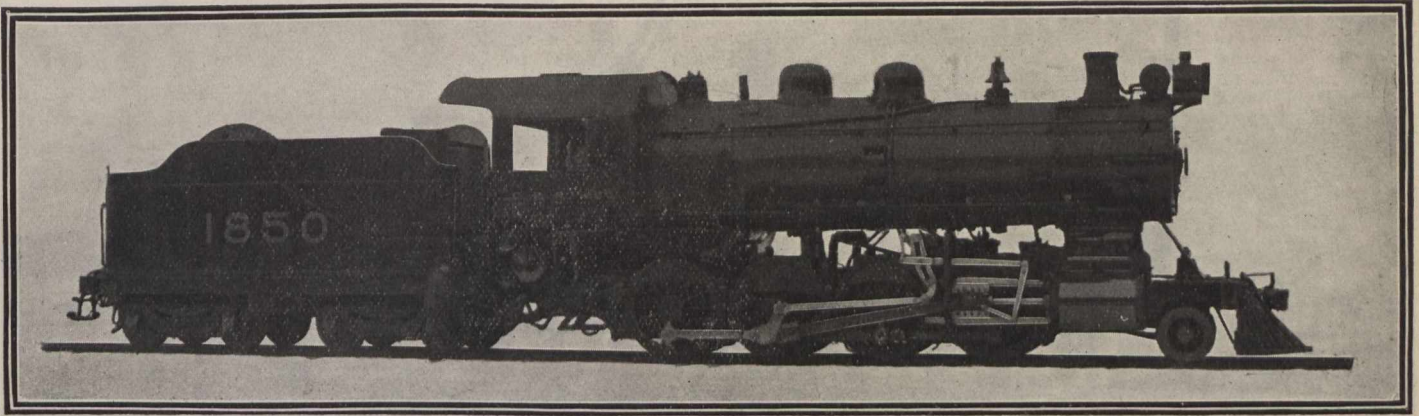
PRESIDENT

tion. There is an air inlet space 7 in. wide, in a horizontal direction, between the two sections. The arrangement and shape of this air space is well shown in the cross section of the pan. While the weight of the two parts is principally held by the frames and boiler respectively they are secured together and stiffened by the plates forming the end of the pan and by two intermediate 1/4-in. stiffening plates secured to each through the medium of angles.

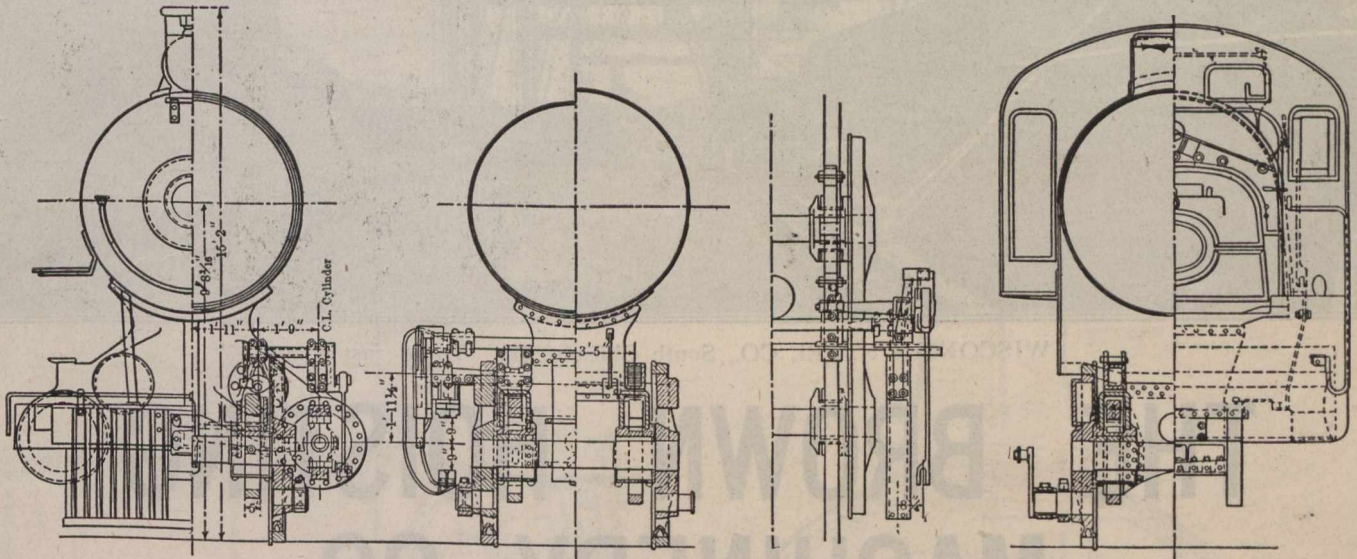
The doors closing the hopper openings are of swinging link type, being arranged to fit over and seat upon an extension of the hopper frame. The swinging link is so designed that the first movement of the doors is directly outward to clear this flange and then swing upward, as is shown by the dotted lines in the illustration. The operating mechanism is arranged so that the doors may be securely locked or held open at any desired point. This design of pan gives unusually large

openings for air, which is well diffused before reaching the grates, and at the same time it acts as a perfect protection against fire being blown out of the pan or otherwise escaping.

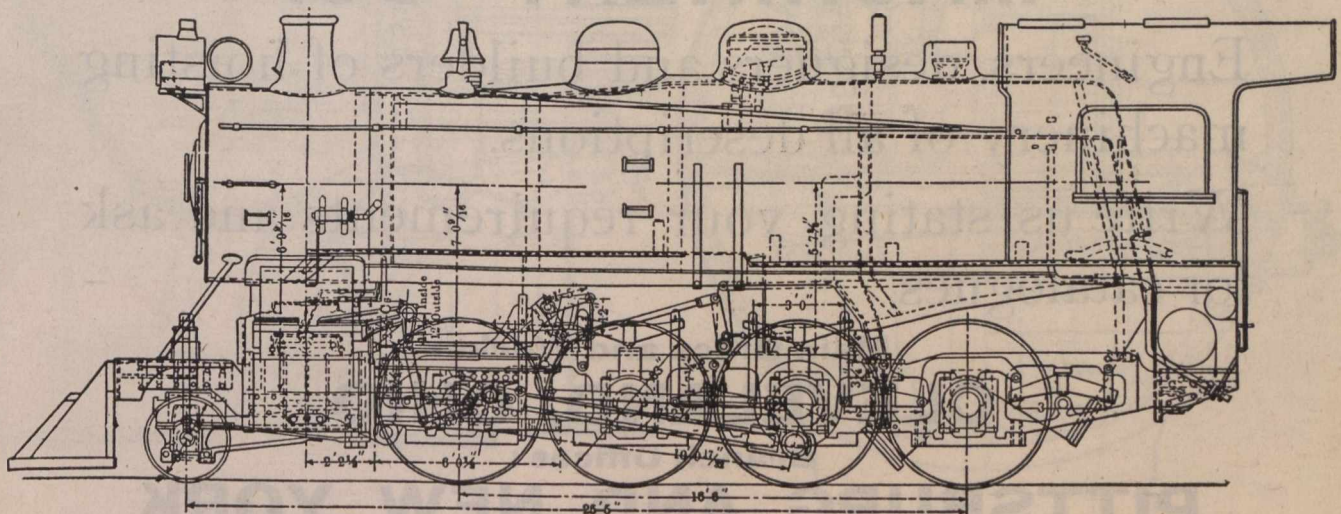
CYLINDERS.—In the design of the cylinders every opportunity has been taken for the reduction of weight where it could be done without sacrificing strength or steam economy. The 12 in. valve chambers have been set inside of the cylinders almost directly over the frames



CONSOLIDATION LOCOMOTIVE, CANADIAN PACIFIC RAILWAY.



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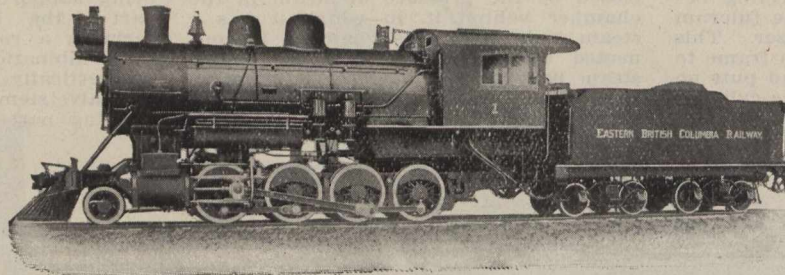
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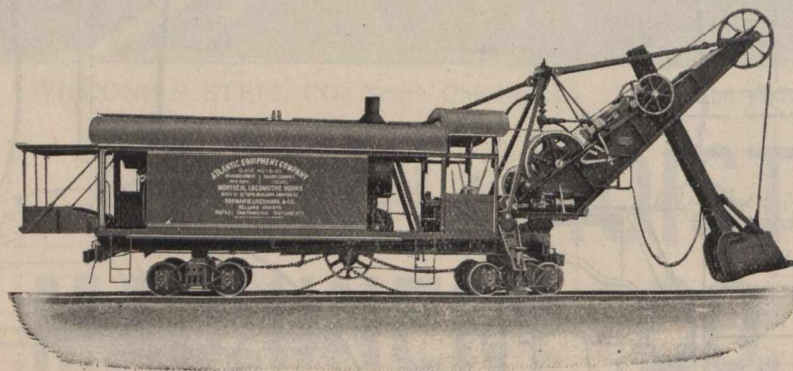
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Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39,200 pounds.

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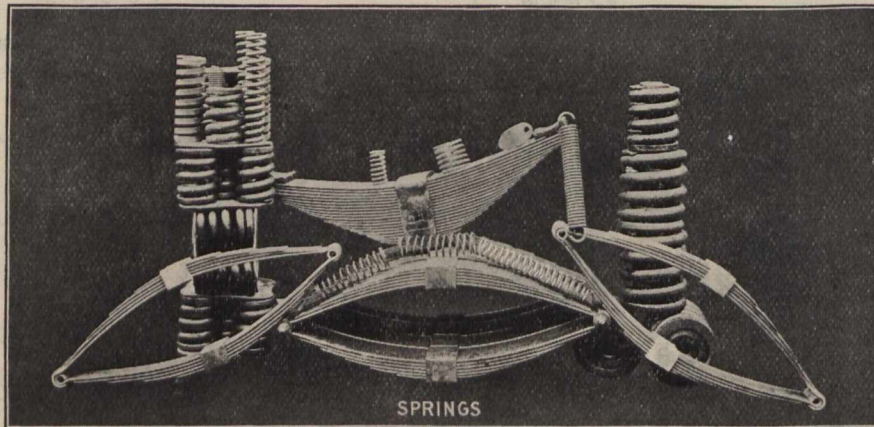
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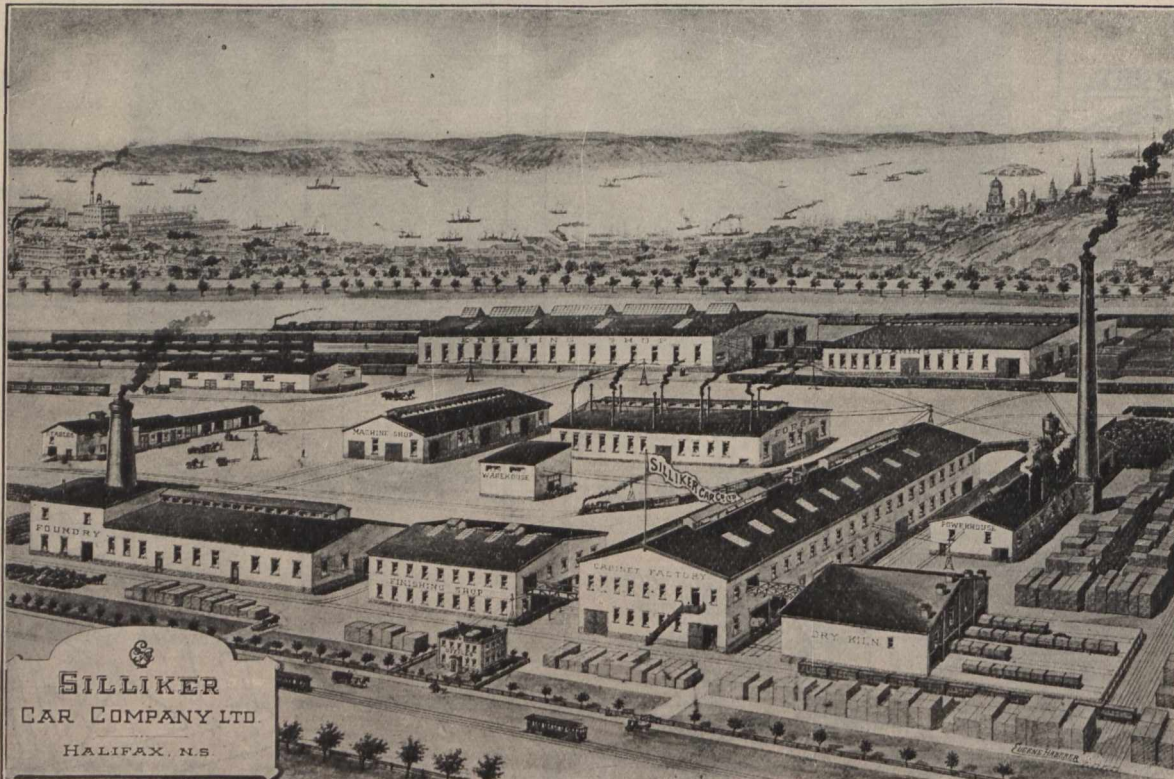
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centre of the frames, towards the inside, the spring rigging being arranged to be central over the box. This gives a longer bearing area than would otherwise be possible and introduces no particular complications.

The spring rigging is of the customary type, having the front pair of wheels equalized with the front truck and the remaining three on either side being equalized together.

AIR PUMP BRACKET.—A new design of air pump bracket is found on this locomotive, which is considerably lighter and fully equal in strength to the designs commonly in use. It consists of two 1 x 3 in. wrought iron straps, each secured by three 1 in. studs to the boiler shell at the top, and held in position at the bottom by a cast iron bracket extending out from the boiler and secured to each of the straps by two 5/8 in. bolts. The air pump is bolted directly to the vertical hangers, which are lipped over on the bottom. The illustration clearly shows the details of this bracket.

The general dimensions, weights and ratios of this locomotive, which was designed in the Mechanical Engineer's office under the supervision of H. H. Vaughan, Assitant to the Vice President, are as follows:—

GENERAL DATA.

Gauge	4 ft. 8 1/2 in.
Service	Freight and Passenger
Fuel	Bituminous Coal
Tractive effort	44,750 lbs.
Weight in working order	220,000 lbs.
Weight on drivers	195,000 lbs.
Weight on leading truck	25,000 lbs.
Weight of engine and tender in working order	354,000 lbs.
Wheel base, driving	16 ft. 6 in.
Wheel base, total	25 ft. 5 in.
Wheel base, engine and tender	55 ft. 7 7/8 in.

RATIOS.

Weight on drivers ÷ tractive effort	4.36
Total weight ÷ tractive effort	4.92
Tractive effort × diam. drivers ÷ heating surface	1003.00
Total heating surface ÷ grate area	57.35
Firebox heating surface ÷ total heating surface	6.40
Weight on drivers ÷ total heating surface	69.4
Total weight ÷ total heating surface	78.3
Volume both cylinders, cu. ft.	16.75
Total heating surface ÷ vol. cylinders	168,000
Grate area ÷ vol. cylinders	2.92

CYLINDERS.

Kind	Simple
Diameter and stroke	24 x 32

VALVES.

Kind	Piston
Diameter	12 in.
Greatest travel	6 in.
Outside lap	1 in.
Inside clearance	Line and line
Lead in full gear	1/4 in.

WHEELS.

Driving, diameter over tires	63 in.
Driving, thickness of tires	3 1/2 in.
Driving journals, main, diameter and length	10 x 14 in.
Driving journals, others, diameter and length	9 1/2 x 14 in.
Engine truck wheels, diameter	31 in.
Engine truck, journals	6 x 10 in.

BOILER.

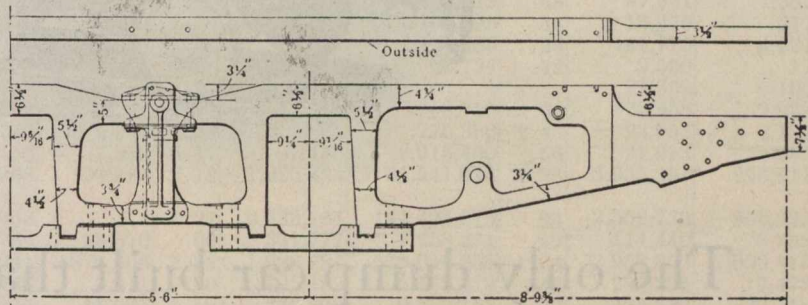
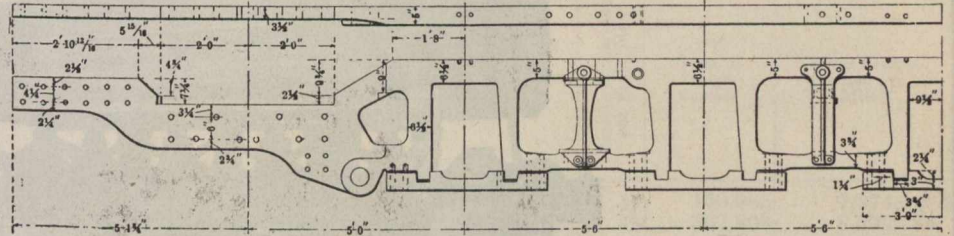
Style	E. W. T.
Working pressure	180 lbs.
Outside diameter of first ring	72 in.
Firebox, length and width	101 3/4 x 69 3/4 in.
Firebox plates, thickness, crown and sides	3/8, Tube 1/2, and Back 3/8 in.
Firebox, water space	F. 5, S. 4 1/2, B. 3 3/4 in.
Tubes, number and outside diameter	24—5 in.
Tubes, number and outside diameter	272—2 in.
Tubes, length	15 ft. 2 3/4 in.
Heating surface, tubes	2,631 sq. ft.
Heating surface, firebox	180 sq. ft.

Heating surface, total	2,811 sq. ft.
Superheater heating surface	450 sq. ft.
Grate area	49 sq. ft.
Smokestack, diameter	17 in.
Smokestack, height above rail	15 ft. 2 in.
Centre of boiler above rail	9 ft. 8 1-16 in.

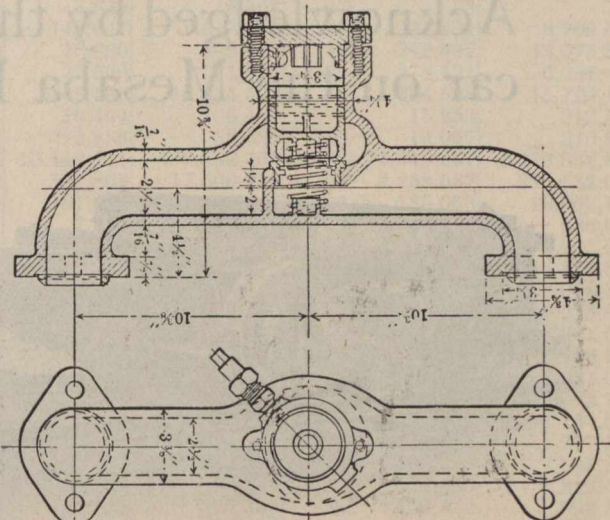
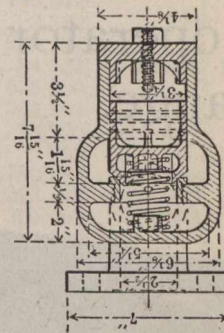
TENDER.

Weight	134,000 lbs.
Wheels, diameter	34 in.
Journals, diameter and length	5 1/2 x 10 in.
Water capacity	5,000 gals.
Coal capacity	10 tons.

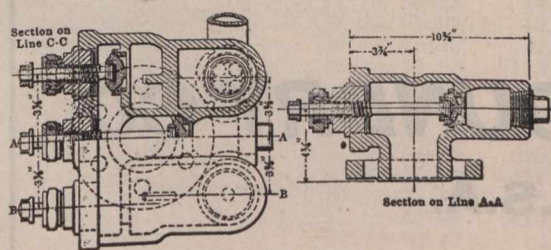
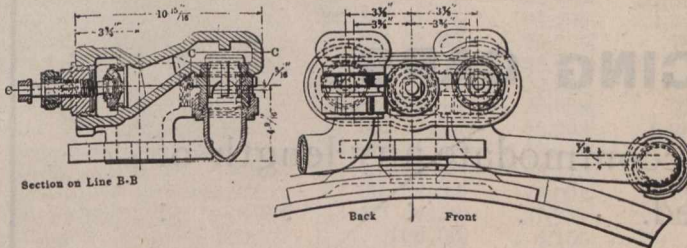
—American Engineer and Railroad Journal.



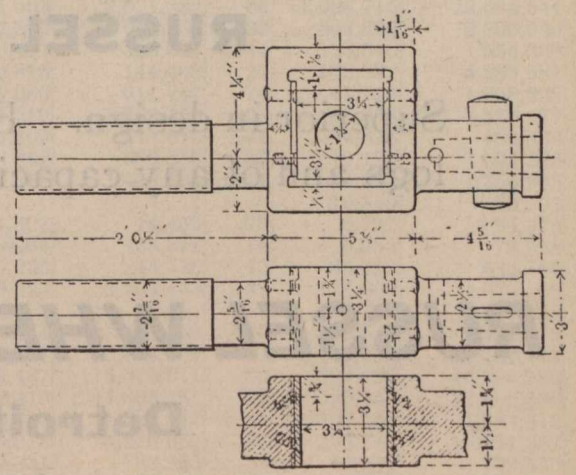
FRAME OF CONSOLIDATION LOCOMOTIVE, CANADIAN PACIFIC RAILWAY.



BY-PASS VALVE ARRANGEMENT.

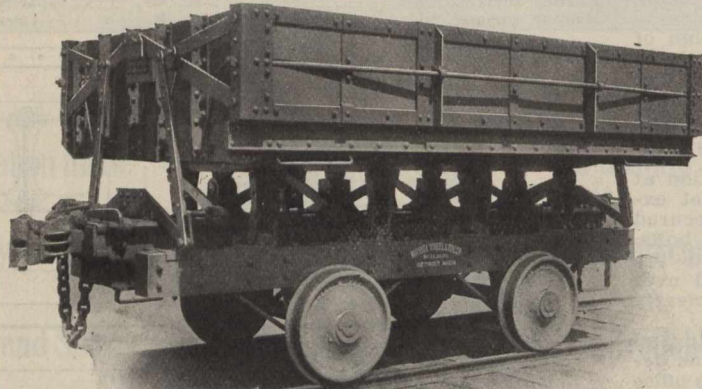


ARRANGEMENT OF CHECK VALVES AND SYPHEN COCK.

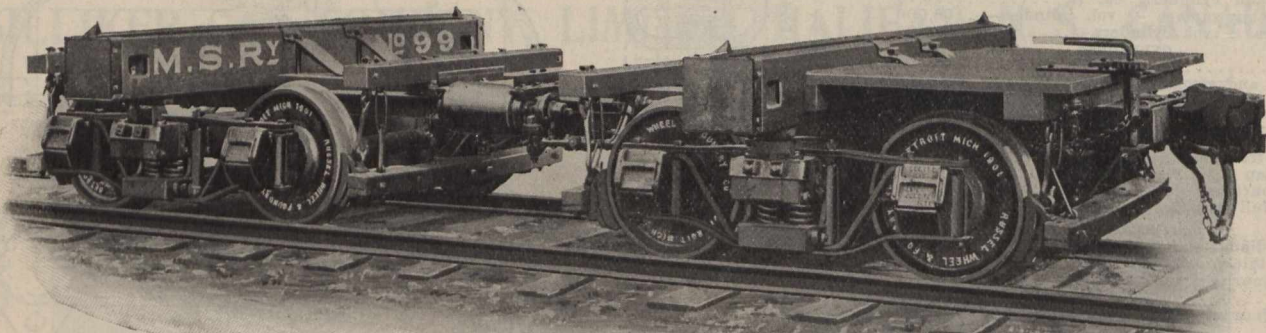


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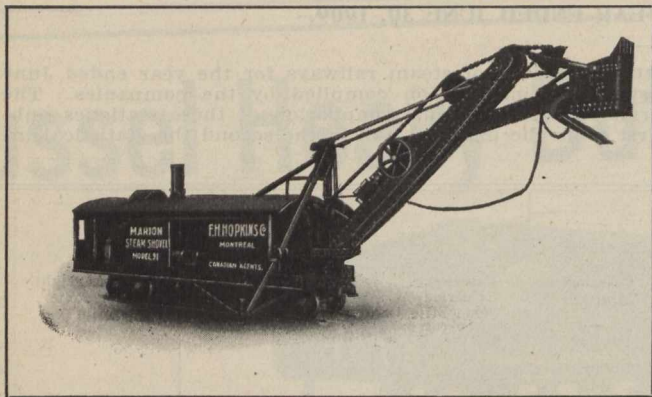
Detroit, Mich., U.S.A.

STEAM RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1909.

The table given in our last issue showed the financial results of the operations of steam railways for the year ended June 30, 1909. The following table gives the percentages and the principal statistical information compiled by the companies. The table published last issue and the one given below contain all the information given in our compilation of these statistics published, but the columns have been rearranged so as to combine in the first table the financial and in the second the statistical information.

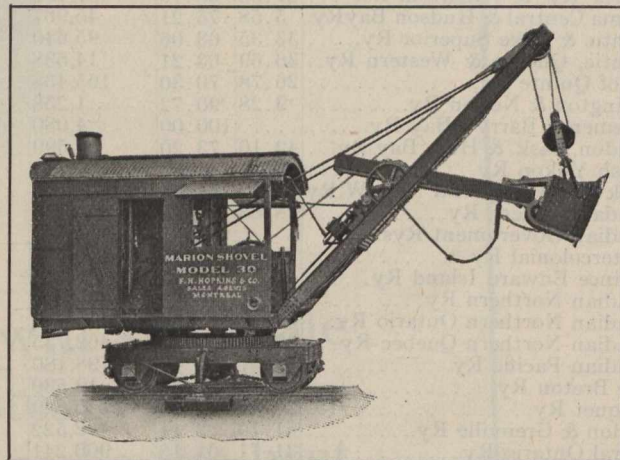
Name of Railway.	Proportion of total passenger service train revenue of total earnings.	Proportion of freight revenue plus switching revenue &c. to total earnings.	Revenue Train Mileage	Mileage of Non-Revenue Trains	Earnings per Train Mile	Passengers Carried	Passengers Carried One Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried one Mile	Freight Earnings per Train Mile
Alberta Ry. & Irrigation Co.	27.53	68.16	87,192	3,731	\$3.37	46,379	1,984,906	\$1.17	150,985	7,374,129	\$2.28
Algoma Central & Hudson Bay Ry.	5.58	75.21	45,967	5,429	6.74	14,959	497,199	.48	362,808	8,299,286	3.19
Atlantic & Lake Superior Ry.	33.35	63.06	95,640		.97	22,755	750,915	.48	37,931	1,362,797	.68
Atlantic, Quebec & Western Ry.	36.69	63.21	14,538		1.15	13,519	198,896	.44	13,270	217,685	.77
Bay of Quinte Ry.	26.78	70.30	165,438		.92	81,946	1,423,089	.24	141,775	4,321,255	.65
Bedlington & Nelson Ry.	9.28	90.72	1,258		1.38	410	2,734	.12	2,500	17,335	1.25
Bessemer & Barry's Bay Ry.		100.00	4,080		1.00				21,369	106,845	1.61
Brandon, Sask. & Hud. Bay Ry.	42.16	73.20	68,599		5.70	31,311	959,719	.66	72,658	2,929,920	4.21
British Yukon Ry.	28.81	44.82	57,246	2,543		8,802	776,336	1.43	23,953	2,135,410	.84
Brockville, Westport & Nor.-W. Ry.	55.72	44.28	57,150	1,810	6.17	67,180	2,015,400	.56	21,913	657,390	
Canada Southern Ry.	28.85	70.16	3,555,968	94,925	2.18	1,029,481	81,541,013	1.35	5,955,251	996,611,016	2.70
Canadian Government Rys.—											
Intercolonial Ry.	34.82	64.44	6,762,053		1.27	2,933,754	141,495,515	.94	3,552,739	954,639,260	1.36
Prince Edward Island Ry.	51.47	48.13	333,764	23,510	.96	331,777	7,758,271	.49	114,440	3,888,055	.45
Canadian Northern Ry.	19.91	70.69	4,570,041	379,506	2.32	1,028,787	78,044,255	1.04	2,958,802	1,000,875,386	.24
Canadian Northern Ontario Ry.	39.28	58.56	413,165	4,911	.80	105,182	5,733,319	.42	201,296	17,478,374	1.42
Canadian Northern Quebec Ry.	30.40	67.32	462,735	16,991	1.59	332,893	10,169,158	.77	485,819	39,158,817	2.17
Canadian Pacific Ry.	31.37	66.40	34,198,180	1,831,105	2.06	9,507,645	1,043,124,841	1.41	15,701,276	6,069,787,049	2.30
Cape Breton Ry.	66.12	32.39	19,530			7,572	170,816		3,496	64,913	
Caraquet Ry.	28.34	71.66	140,649			12,523	465,283		24,793	1,115,685	
Carillon & Grenville Ry.	61.10	3.11	2,522	524	.63	3,833	46,567	.67	55	715	.03
Central Ontario Ry.	31.71	61.12	900,241		.29	148,047	3,613,411	.94	231,431	6,709,578	.26
Crows' Nest Southern Ry.	10.71	88.28	84,624	42,533	2.10	16,860	448,412	.47	242,492	13,575,849	3.53
Cumberland Ry. & Coal Co.	17.34	82.66	676,020			32,529	515,035	.29	378,431	6,257,427	1.40
Dominion Atlantic Ry.	48.80	50.92	555,884	11,089	1.43	347,435	15,634,575	.78	334,588	16,729,400	1.63
Elgin & Havelock Ry.	25.81	74.15	18,720			10,494	136,422		15,253	213,542	
Eastern British Columbia Ry.	28.07	71.86	2,952		2.35	2,888	33,582	.66	19,097	210,824	1.60
Grand Trunk Ry.	35.74	63.02	16,780,281	588,908	1.67	10,142,211	456,882,404	1.23	14,518,691	2,619,838,880	1.91
G.T.R. (Canada Atlantic)	24.27	72.80	1,273,143	76,267	1.42	501,868	17,596,319	.67	2,258,587	225,532,097	1.71
Halifax & South-Western Ry.	50.55	48.60	309,992	13,088	1.20	181,873	7,405,487	.66	185,063	10,003,175	.71
Hampton & St. Martins Ry.	36.94	63.02	6,500			7,781	141,976		16,106	236,658	
Hereford Ry.	28.97	70.64	74,714	1,155	.86	28,396	693,797	.34	128,982	3,205,225	1.10
Inverness Ry. & Coal Co.	12.37	87.02	97,405	3,482	1.92	36,383	833,173	.54	275,100	14,888,307	1.67
Irondale, Bancroft & Ottawa Ry.	24.90	75.10	31,300		.86	10,751	190,140	.21	32,032	908,335	.64
Kaslo and Slovan Ry.	18.45	81.48	7,787		2.36	2,227	39,160	.43	11,645	215,596	1.92
Kent Northern Ry.	44.18	55.82	6,858			8,200	221,400		8,949	241,628	
Kettle River Valley Ry.	5.08	94.92	839		1.94	144	2,081	.39	2,355	29,198	1.84
Kingston & Pembroke Ry.	31.28	77.31	145,856	150	1.22	74,091	1,407,729	.38	99,482	4,984,048	1.10
Klondike Mines Ry.	30.34	69.62	9,920		4.47	4,065	91,580	1.35	6,093	82,764	3.11
Liverpool & Milton Ry.	3.75	96.25	5,100		2.32	5,200	21,000	.87	44,371	154,855	2.23
Lotbiniere & Megantic Ry.	17.42	71.95	19,980		1.67	12,270	173,881	.30	52,056	777,535	1.27
London & Port Stanley.	32.98	61.83	125,615	337	1.96	153,701	2,683,345	.45	693,206	7,693,852	1.11
Manitoulin & North Shore Ry.	3.76	96.24	13,653	13	3.02	5,768	33,447	.23	224,990	1,819,412	3.00
Maritime Coal, Ry. & Power Co.	16.15	83.65	24,977		1.75	22,194	195,333	.38	129,432	992,572	1.46
Massawippi Valley Ry.	39.04	60.61	162,162	1,027	1.10	161,215	2,958,116	.83	404,970	11,018,189	1.30
Midland Ry. Co. of Man.	15.07	84.75	56,974	343	1.75	12,633	365,383	.29	95,202	5,395,832	1.49
Montreal & Atlantic Ry.			552,908	22,562	1.52	298,298	7,473,903	.66	999,834	53,613,438	1.50
Montreal & Province Line.	56.52	41.24	94,209	4,327	.96	158,786	2,353,356	.74	63,908	1,703,431	.90
Montreal & Vermont Jct. Ry.	41.26	58.65	95,726	784	1.40	121,905	2,571,382	.66	1,008,715	23,664,544	2.52
Morrissey, Fernie & Michel Ry.	10.29	89.71	25,977		2.97	112,500	686,250	.30	392,890	2,396,690	2.66
Moncton & Buctouche Ry.	33.59	66.41	22,208		1.23	20,451	428,011	.44	28,540	554,038	.78
Napierville Jct. Ry.	10.00	92.40	20,658	326	2.12	10,315	144,408	.25	162,882	4,283,681	2.00
Nelson & Fort Sheppard Ry.	37.64	57.61	55,293	6,282	1.32	19,060	611,247	.74	41,712	1,398,508	2.30
New Brunswick Coal & Ry. Co.	26.83	54.92	63,914		1.08	24,219	588,450	.29	65,888	2,580,477	.59
New Brunswick & P.E.I. Ry.	34.29	65.42	48,210		.66	23,709	411,615	.37	34,813	483,588	.47
New Brunswick Southern Ry.	47.03	52.22	77,094	11,713	.53	16,882	686,558	.37	12,130	694,326	.28
New Westminster Southern Ry.	55.17	44.53	57,711	692	1.60	75,868	1,420,304	1.11	65,862	1,356,905	2.46
Nosbonsing & Nipissing Ry.		100.00	8,155		2.85				16,310	89,705	2.85
North Shore Ry. Co.	11.75	88.25	14,400		.21	1,807	14,456	.03	6,797	54,376	.28
Nova Scotia Steel & Coal Co.	33.93	61.07	15,650		.36	8,234	68,872	.14	6,953	79,958	.22
Orford Mountain Ry.	23.71	75.90	52,971	3,847	.57	15,236	243,776	.13	35,993	683,867	.79
Ottawa & New York Ry.	48.20	49.68	115,827		1.20	109,223	2,704,413	.87	125,600	4,079,198	1.77
Phillipsburg Ry. & Quarry Co.		100.00	3,144		1.38				25,742	154,452	1.38
Princeton Branch, W.C.Ry.	30.98	69.02	10,183	169	2.44	78,494	400,319	.76	150,545	767,779	2.68
Pere Marquette Ry.	6.41	93.18	1,291,853	9,802	1.83	307,261	6,064,109	.54	2,418,971	421,734,447	2.16
Quebec Central Ry.	34.94	64.48	620,246	157,270	1.64	343,487	15,076,611	.80	594,627	46,796,780	2.14
Quebec & Lake St. John Ry.	40.88	57.49	433,429		1.45	352,419	11,805,355	.97	320,469	22,102,833	1.71
Quebec Ry., Light & Power Co.	20.41	71.40	26,919	2,017	2.12	113,582	583,811	1.53	107,150	1,824,313	2.08
Quebec, Montreal & Southern Ry.	47.17	52.90	210,130	41,274	1.11	266,918	4,220,689	.54	235,746	10,651,287	.82
Red Mountain Ry.	17.73	80.47	15,004	427	1.47	9,331	83,565	.58	82,942	739,550	1.19

(Continued on page 179)



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Steam Railway Statistics for the Year Ended June 30, 1909—(Continued from page 177)

Name of Railway.	Proportion of total passenger service train revenue of total earnings.	Proportion of freight revenue plus switching revenue &c. to total earnings	Revenue Train Mileage	Mileage of Non-Revenue Trains	Earnings per Train Mile	Passengers Carried	Passengers Carried One Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried One Mile	Freight Earnings per Train Mile
Rutland & Noyan Ry.....	71.61	28.39	6,863	9	1.82	114,934	389,626	1.89	139,398	472,559	1.61
Salisbury & Harvey Ry.....	38.64	60.86	37,206		.83	14,627	323,504	.32	43,661	441,329	.50
Schomberg & Aurora Ry.....											
Stanstead, Shefford & Chambly Ry.....	47.67	51.94	83,726	3,683	.87	168,822	1,201,167	.56	1,082,479	2,945,031	1.00
St. Clair Tunnel.....		100.00									
St. Lawrence & Adirondack Ry..	41.27	58.66	255,750	3,672	1.65	386,095	9,435,146	1.12	580,589	20,972,392	2.44
Sydney & Louisburg Ry.....	5.52	93.66	210,699		1.65	50,542	675,639	.57	3,456,463	52,625,111	1.84
Spokane & British Columbia Ry..	7.20	92.80	414		1.97	633	2,341	.14	4,274	15,841	1.86
Temiscouata Ry.....	36.28	62.20	160,551	10,422	1.43	84,578	2,848,690	.57	136,375	6,639,697	1.65
Temiskaming & Northern Ont. Ry.	39.75	53.62	533,861	10,425	2.48	574,963	19,785,303	1.83	535,242	45,708,866	2.79
Thousand Islands Ry.....	32.81	60.52	33,664		.97	31,161	186,966	.32	30,512	185,072	.59
Toronto, Hamilton & Buffalo Ry..	31.95	67.11	429,837	9,117	1.85	421,980	11,840,342	.99	1,234,303	48,020,980	3.18
Vancouver, Victoria & Eastern Ry.	21.39	77.87	176,586	99,681	2.27	122,153	2,421,464	.77	927,936	25,286,084	3.08
Victoria Terminal Ry. & Ferry Co.	38.08	56.90	1,597		1.91	68,428	78,008	.90	29,942	34,130	1.46
Victoria & Sidney Ry.....	47.16	52.49	22,409		3.43	68,428	841,231	1.32	30,003	424,231	2.83
Wabash Rd. in Canada.....	28.04	71.80	1,501,944	21,018	1.41	567,304	34,743,601	.85	1,225,487	287,921,368	1.86
Wellington Colliery Co.....	7.06	92.94	31,200		1.52	5,390	57,942	.10	328,921	3,535,900	1.41
York & Carleton Ry.....	34.32	65.68	8,490		.63	5,350	56,157	.21	8,921	93,670	.41
Totals.....			79,853,028	3,521,894		32,683,309	2,033,001,225		66,842,258	13,160,567,550	

A Railway to Hudson Bay.

In the House of Commons recently, the Minister of Railways said he wished to make it clear that the Government has been committed to the work of the construction of a Hudson Bay railway, and intended to proceed with it with all possible speed. After full study of the situation, so far as it was possible at present, the Government had decided that it was advisable to make the Hudson Bay route another great outlet for the rapidly increasing products of the western part of Canada. The Government intended to proceed as rapidly as possible with the construction of this railway. Chief Engineer Armstrong, in his report, expressed the opinion that Nelson possessed a superior harbor to Churchill, while the route was 67 miles shorter than to Churchill. However, before either place was selected as a terminal it would be wise to make sure of the fact, and the Minister of Marine would ask the House for a vote for the purpose of sending a ship up through the channels which would go into both these harbors from the outside, make an examination of the channels and of the passage through the straits. This expedition would make a thorough investigation of the outer harbors of both places, and when that was done the Government would be in a position to take up in a more practical way that part of the project at the harbor end. But that need not mean any delay in the beginning of the construction of the railway, as for about 260 miles the route would be the same, whichever harbor was selected as a terminal. This mileage would carry the line from Pas Mission to Split Lake; the total distance from Pas Mission to Nelson being 410 miles, and to Churchill 477 miles. The estimates given in the Departmental report were based on the preliminary surveys. A survey party was then engaged in making the location from Pas Mission to Split Lake. There might be an increase in the estimate as a result. The surveys provided for the construction of a line having a gradient of 0.4% going to the Bay; the engineer thinking it impracticable to make that gradient both ways. There might be some difference of opinion as to the necessity of constructing a roadbed necessitating the use of 80 lb. steel rails. There also might be differences of opinion as to the construc-

tion of the line as a government work. He was not prepared to say how it would be done, but no matter how it was done, that did not of necessity mean that construction could not be begun at once, because if an arrangement was made with a company that was satisfactory, any work the government had done could be handed over to it on reasonable terms in a contract.

\$180,000 was voted by the House of Commons, Feb. 4, for the survey and location of the line. The Minister of Railways explained that this was for the completion of location from Pas Mission to Split Lake. He expected to bring down an item for construction in the supplemented estimates when he hoped to be able to state whether the line would be constructed by the Department, or let by contract. A bridge had to be constructed across the Saskatchewan River at the commencement of the line.

Replying to questions the Minister said there was no agreement with any person as to the construction; how it would be constructed, or who would construct it is an open question. D. D. Mann, had been, within the previous few days, in Ottawa, consulting the Department upon other matters, but nothing was said about the construction of the railway to Hudson Bay. (Feb., pg. 97).

Farm Crossings Regulations

The Board of Railway Commissioners passed the following order 9325, Jan. 17, as standard regulations regarding farm crossings:—

1. Farm crossing gates shall be of such a width as to give a clear space between the post of not less than 16 ft. in Manitoba, Saskatchewan, Alberta and British Columbia, 15 ft. in Ontario, 14 ft. in Quebec and the Maritime Provinces.

2. The planking or other approved filling between the steel rails, and for a width of at least 8 ins. on the outer sides thereof, and the roadways between the gates and the track or tracks, shall each furnish a road surface of not less than 14 ft. wide in Manitoba, Saskatchewan, Alberta and British Columbia, and 12 ft. wide in the other Provinces.

3. For any cut or fill up to 5 ft. the grade shall not be steeper than 10%, and for each foot, or fraction exceeding one-half foot, of cut or fill in excess of 5 ft. the percentage of grade shall (except

where, and to the extent that, the slope of the ground makes it impossible) be decreased by ½ of 1% until a depth or height of 11 ft. is reached.

4. When a cut or fill at any farm crossing exceeds 11 ft. the matter shall be referred to the Board to decide as to the advisability of requiring the railway company to construct a bridge or undercrossing, unless the company, in consultation with the owner of the farm affected, voluntarily constructs a suitable bridge or undercrossing. The width of bridges and undercrossings to be the same as the width of the gates in the different Provinces, and the height of undercrossings to be determined by the requirements in each case.

5. In special cases, it may, upon application, be ordered that any existing farm crossing be reconstructed to conform to the foregoing standards.

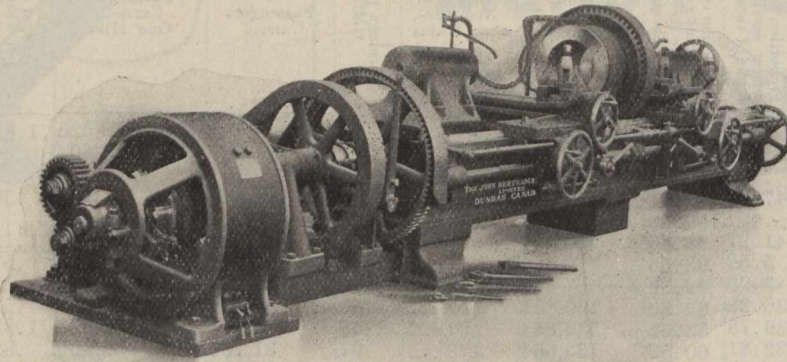
The Canadian Ticket Agents' Association's Executive Committee met in Toronto recently and decided to hold the annual meeting in Quebec on Oct. 5, 6 and 7. The headquarters will be at the Chateau Frontenac. The Manager in Chief of the C.P.R. hotel system, Hayter Reed, has quoted very liberal terms for the members' accommodation. W. E. Rispin, G.T.R. ticket agent, Chatham, Ont., will represent the Association at the American Association of General Passenger and Ticket Agents' meeting at Havana, Cuba, Mar. 28. The following agents have joined the Association recently:—A. Bawden, C.P.R., Ridgetown, Ont.; W. J. Anderson, C.P.R., Beeton, Ont.; E. A. Hay, C.P.R., Durham, Ont.

I.C.R. Sleeping Cars.—F. P. Brady, General Superintendent, has issued the following circular to passenger conductors:—"I have to call your attention to rule 133 in the book of instructions issued by the Passenger Department, which reads as follows:—"Train conductors should visit the sleeping cars on their trains at frequent intervals during the night to see that the sleeping car conductor is on the alert and that the temperature of the car is right, viz: 60 or 65 degrees." I am informed that this rule is usually disregarded. In future it must be obeyed."

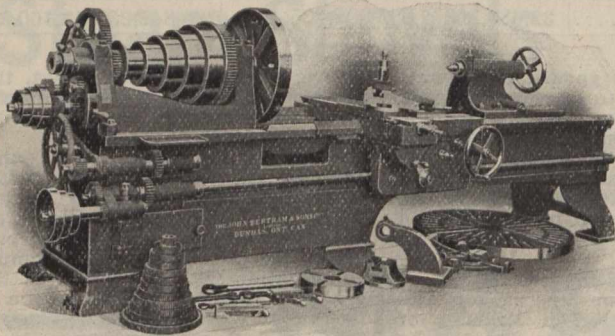
The name of the Grand Trunk Pacific Town and Development Co. has been changed to the Grand Trunk Pacific Development Co.



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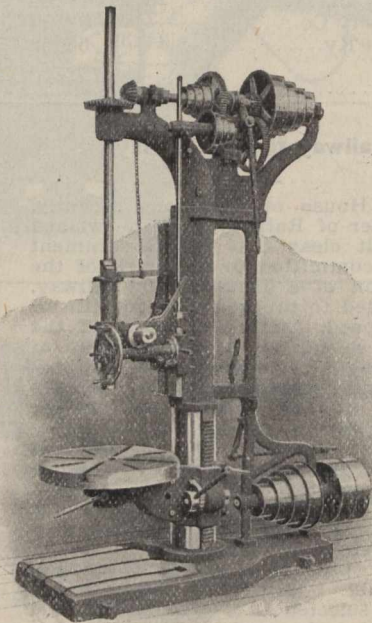
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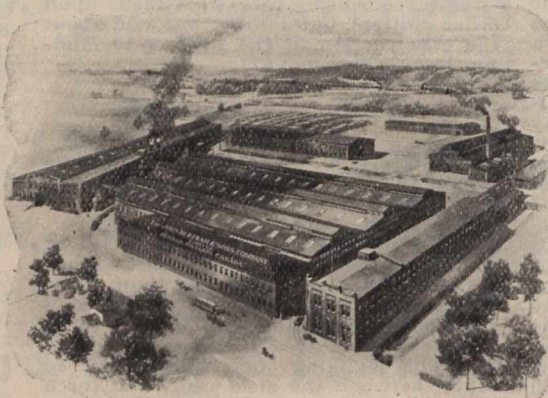
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National Transcontinental Railway.

Speaking in the House of Commons, recently, the Minister of Railways reported on the progress of construction on the N.T.R., Eastern Division. On Nov. 30, 1909, there had been graded on the six districts between Moncton, N.B., and Winnipeg, Man., 1045.1 miles, of which 319.60 miles had been graded since Mar. 31. The mileage graded in the several districts at Nov. 30, was: District A., 241 miles; district B., 349.6; district C., 8.0; district D., 106.0; district E., 33.0; and district F., 307.5. On Mar. 31 there had been laid 275.49 miles of main track, and 59.88 miles of sidings. On Nov. 30, the mileage of track laid was: District A., 124.98 miles of main track, and 20.84 miles of siding; district B., 169.33 main track, 13.94 sidings; district D., 47.44 main track, 10.96 sidings; district F., 255.87 main track, 56.81 sidings. The number of miles of track fully ballasted on Nov. 30, was 425, of which 101.5 was in district A., 74.8 in district B., and 212.4 in district F. There had been steel bridges completed in three of the districts, A., B. and F., representing 23,600,223 lbs. of steel, and 1,732,304 ft. 6 in. of timber, and costing \$1,122,449.05. There were steel bridges under construction in four districts, A., B., D. and F., requiring in their construction an estimated weight of steel of 44,459,617 lbs.; and 2,649,979 ft. 6 in. of timber; the estimated cost of these bridges was \$2,145,065.66, and there had been paid on account of construction to Dec. 31, 1909, \$949,561. There were other bridges required in all districts for which contracts had not been let; for these the estimated quantities of steel required was 37,810,686 lbs; of timber 3,220,241 ft. 6 in.; and the estimated cost \$1,949,987.66. The total estimated cost of the bridges on the Eastern Division was therefore \$5,217,502.37.

Replying to questions in the House of Commons recently, the Minister of Railways stated that surveys extending from Winnipeg for about 700 miles easterly were taken over by the Commission from the G.T. Pacific Ry. Co. and paid for by the Government. This mileage was all re-surveyed and re-located by the Commission's engineers. Parts of the re-located line on the McArthur contract were changed after the contract was let, particularly in two places, the line being improved thereby. On mileage 49 to 93 the cost of the change over the original estimate was \$127,377, while the capitalized value of the improvement was \$49,692 on a saving of 4969.2 ft. in length, and \$59,854.40 on a saving of 748 degrees 18 ft. in curvature; on mileage 103-122 the cost over the original estimate was \$565,465, while the net saving in capitalized cost was \$1,760. The long tunnel east of the Winnipeg River is 613 ft. long. Reports dated Dec. 31, 1909, showed that the line between Winnipeg and Lake Superior Jct., was 94.66% completed, and of the ballasting 59% completed. The estimated quantities, actual excavations and cost were:—

	Estimate.	Actual.	Cost.
Solid rock	3,696,336	6,415,869	\$10,906,977.30
Loose rock	733,454	2,056,297	1,233,773.20
Com. exc., c.y.	11,233,247	2,215,876	664,762.80
	15,663,037	10,688,042	\$12,805,518.30

This amount had been paid less 10% hold-back. All the excavations, except the actual entrance into Winnipeg had been completed. The original estimated cost of excavation was \$13,010,398.92, and the revised estimates, including rails, ties, steel bridges, etc., was \$17,534,000.

The Minister of Railways replying to questions in the House of Commons recently, as to the sections in Districts E. and F. let to O'Brien, Fowler and McDougall, said as to the section in District F., mileage 1,534.04 to 1,538.17 from

Moncton, the estimated quantities, actual excavation to Nov. 30, 1909, and the cost were:—

	Estimate.	Actual.	Cost.
Solid rock, c.y.	493,400	344,334	\$499,283.86
Loose rock, c.y.	71,900	330,805	181,942.75
Com. exc., c.y.	374,000	128,611	32,152.75

The cost of the excavation at the contract prices on the estimated quantities was \$848,475. The estimated quantities were approximate. In a number of

A Railway Expert's View.

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"I wish to say that I have found The Railway and Marine World the most useful periodical published in the interests of the railway business. The reading matter is live and very interesting and is so arranged as to make the paper a very valuable advertising medium. Railway officials who cannot find time to read your monthly are missing something. I wish you continued success."

Mr. Hutcheson's letter points out clearly that our reading matter is what railway men want, that even the most busy ones read it thoroughly and that its value to advertisers is undoubted. Our paper is edited with great care and thoroughness, but all the hard work and expense involved is well repaid by the knowledge that we enjoy the confidence of our subscribers in every Province of the Dominion and in Newfoundland and that the paper is recognized as the authority on transportation matters by people engaged in all branches of that service.

gressed, that the bottom of many of these was of such a nature as to require much larger quantities of filling than was estimated in order to get a solid bottom. These fills had to be made of material nearest to the work, which was almost entirely loose and solid rock. This accounts to a great extent for the large returns of loose rock. The total estimated expenditure on the section was \$1,158,000, where no soundings had been taken it was found as the work pro-

ceeded. The second contract let to the firm covered mileage 1,407.65 to 1,534.04 from Moncton. The estimated quantities, actual excavation to Dec. 31, 1909, and the cost were:—

	Estimate.	Actual.	Cost.
Solid rock, c.y.	2,602,000	658,182	\$974,109.35
Loose rock, c.y.	89,000	242,178	205,851.30
Com. exc., c.y.	1,489,000	228,703	66,323.87

The reference to muskeg filling made in the first instance applies to this contract also. The cost of the section on the basis of the estimated quantities at the contract prices is \$5,967,208.75.

The question of the entrance of the line from the east into Winnipeg came up for discussion with the Minister of Railways, Feb. 3. The original plan approved by H. D. Lumsden, ex-Chief Engineer, provided for an entrance by a certain route, and the line had been constructed in consequence to a junction with the Canadian Northern Ry. Dundee branch. The C.P.R. objected to the route on account of the crossing of its line involved, and another route, called the northern route, was surveyed and approved by G. Grant, the Commissioners' new Chief Engineer. This route was objected to by the C.P.R. as well as by the Canadian Northern Ry. on the grounds that its use would cut up their yards. An alternative plan was suggested by which the C.N.R. right of way would be used from the junction with the Dundee branch, the right of way being sufficient to permit of both lines being carried along it. After a lengthened discussion between the Minister, the Commissioners and the Chief Commissioner of the Board of Railway Commissioners, the matter was adjourned to permit consideration being given to the suggestion.

GRAND TRUNK PACIFIC RAILWAY

The report of C. Schreiber, General Consulting Engineer to the Government, and Chief Engineer of the Western Division, N.T.R., upon the conditions of the construction being done by the G.T.P.R., to Dec. 31, 1909, as presented to the House of Commons, Feb. 1, by the Minister of Railways, was as follows:—

The Prairie Section extends from Winnipeg to Wolf Creek, 915 miles. The grading and bridging are completed throughout the whole distance, and 1,431 miles of single fencing have been built. The track is laid from Winnipeg to about 24 miles west of Entwistle, a distance of 885 miles, and a telegraph line has also been built. There is a lift of ballast on the line from Winnipeg to Entwistle, 861 miles. The road is in operation from Winnipeg to Edmonton, 795 miles, and the traffic for the past 12 months has been as follows:—

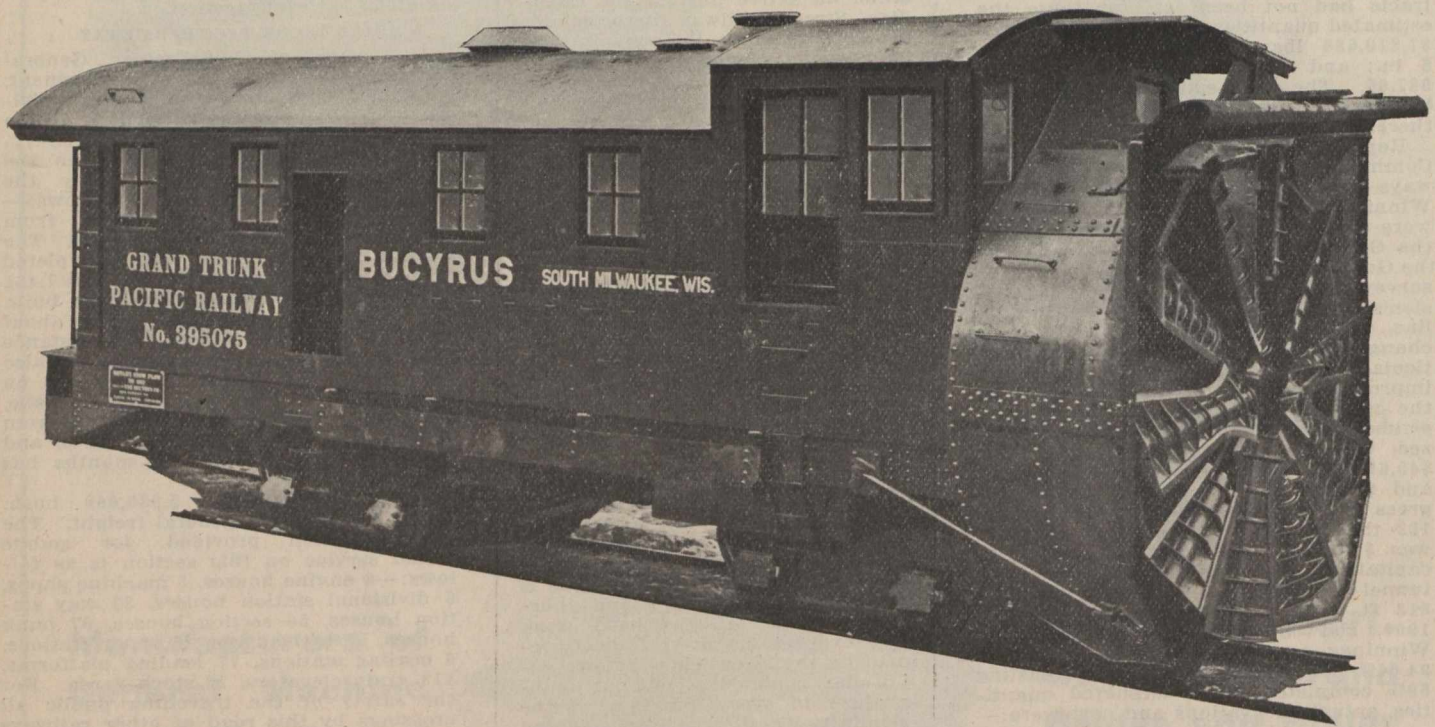
74,715 passengers; 5,880,069 bush. grain; 117,810 tons general freight. The accommodation provided for public traffic service on this section is as follows:—6 engine houses, 3 machine shops, 6 divisional station houses, 33 way station houses, 56 section houses, 67 bunk houses, 55 tool houses, 35 water stations, 6 coaling stations, 77 loading platforms, 113 grain elevators, 13 stock yards. For the safety of the travelling public all crossings by this road of other railways have been guarded by interlocking plant. The following is the public traffic rolling stock:—92 locomotives, 6 sleeping cars, 3 parlor cars, 4 first-class cars, 9 second-class cars, 4 mail and express cars, 9 baggage cars, 11 colonist cars, 83 conductors vans, 33 refrigerator cars, 2 official cars, 3,213 box freight cars, 895 platform cars, 31 stock cars, 3 snow ploughs. Work on the "prairie section" is practically closed down for the winter season; the only work going on, being the laying of the track and the finishing of some of the buildings.

The Mountain Section is about 837 miles long. The following works are under contract, viz.:—From Wolf Creek to 179 miles west thereof. Foley, Welch and Stewart are the contractors for the

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grading and wooden bridges. They have done considerable clearing of right of way and about 200,000 cu. yds. of excavation. They have a great number of teams on the tote road hauling in plant, tools and supplies, so as to be in readiness for a vigorous prosecution of the works upon the opening of spring. Only a small force is at work in the cuttings. C. May is the contractor for the substructures of the Wolf Creek and McLeod river bridges. There is a large quantity of sand and gravel delivered at both points, and a large force is engaged excavating the foundations for the piers, pedestals and abutments; as soon as the track reaches Wolf Creek, say in three weeks, cement will be carried up to that point by train. It is of urgent importance that the work on these two structures be rushed to completion with the greatest possible speed, in order that track-laying may be advanced, thus facilitating the transportation of plant, tools and supplies to the unlet portions of the mountain section, enabling intending contractors to bid very much lower for the work than they otherwise could. From 179 miles west of Wolf creek to 597 miles west thereof, the work has not been placed under contract. From 597 miles west of the Wolf Creek to Prince Rupert, 240 miles, the work of grading and the construction of wooden bridges is under contract with Foley, Welch and Stewart. No work has been executed on the first 40 miles, and merely a good start has been made on the next 100 miles; the reasons being, that navigation closed on the Skeena River about a month earlier than usual, thus putting a stop to running in supplies, tools, plant, etc. However, the contractors are exerting their efforts to push a tote road through so as to enable them to haul in supplies, etc., by team and keep the work moving throughout the winter. They are now at work on one of the tunnels and some rock cutting. The work of grading and the construction of wooden bridges on the last 100 miles, to Prince Rupert, was practically completed when a very heavy storm with a high tide caused damage, washing away some of the rock embankments where exposed to the sweep of the open ocean, and bringing down considerable slides from the mountain sides, filling up some cuttings and blocking up waterways. The damage, however, was not very extensive. Mr. Ferguson, the contractor for the substructure of the several steel bridges, having failed in carrying out his contract, the G.T.P.R. has relieved him of the work, and are carrying it on itself by day labor. This work is progressing very slowly, but better conditions are promised for the future. If these promises are not realized, track-laying in the spring will be delayed. Steel rails for this 100 miles; 1 locomotive; 1 conductor's van and 24 cars, for the work of track-laying and ballasting, have been delivered at Prince Rupert, and a large quantity of ties has been delivered along the line. About one mile of track has been laid, but nothing further will be done in that direction until next spring." (Feb., pg. 137).

GRAND TRUNK PACIFIC BRANCH LINES Co.—The House of Commons has passed an act amending chap. 86, of the statutes of 1909, by adding to sec. 1, five paragraphs, authorizing the construction of additional lines, as specified in the notice of application quoted on pg. 31 of our Jan. issue, and granting an extension of time for the construction of the branch lines previously authorized. The act also authorizes the company to issue bonds or other securities to the extent of \$30,000 a mile in respect of the new branches to be constructed under this act, with the exception of the branch from between Moose Lake and Tete Jaune Cache, to Vancouver, in respect of which \$50,000 a mile may be issued.

Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The seven miles of line described as the Montmorency branch, for the operation of which the Board of Railway Commissioners recently passed an order, is practically an industrial spur, connecting the Quebec and Lake St. John Ry. with the Montmorency Pulp Co.'s mills near the Montmorency Falls. Heretofore the company's logs were sent over the falls and floated out, and the spur was hurriedly constructed in the fall of 1909 in order to handle the traffic.

The work on the branch line to Rawdon, Que., has been closed down. Grading is practically completed, and some track has been laid. On the resumption of work a bridge will be constructed across the Quareau River and the branch completely.

W. D. Barclay, General Manager, is quoted as having stated in Montreal, Feb. 6, that plans had been prepared for the company's Montreal terminals, and that they are being considered by the executive at Toronto. According to what Mr. Barclay is reported to have said, the site will be a central one; the cost will be about \$5,000,000, and the work will be completed within two years.

Canadian Northern Ontario Ry.—A bill has been passed by the House of Commons authorizing the company to enter into agreements as specified by sec. 361 of the Railway Act with the following companies:—Central Ontario Ry., Ontario and Ottawa Ry., Irondale, Bancroft and Ottawa Ry., Marmora Ry. and Mining Co., Bay of Quinte Ry., Brockville, Westport and North Western Ry., Toronto, Niagara and Western Ry. and Bessemer and Barry's Bay Ry.

Work on the Hawkesbury-Ottawa line has been completed, and trains are being operated over it. There are questions connected with the entrance of the line into Ottawa from Toronto yet to be settled, but for the present construction in Ottawa is completed.

The construction of the first 100 miles of the Toronto-Ottawa line, from the Don valley to Trenton, is being pushed forward. The work is being carried out by the general contractor—Angus Sinclair Co.—in four sections, on all of which sub-contracts have been let, and gangs of men are at work, 700 men being at present engaged. There is a considerable amount of heavy clay work in the Don valley, and there is also some heavy work to be done in the vicinity of Scarborough Jct., where the line is to be carried under the G.T.R. tracks. The only points at which construction is not actively in progress are Cobourg and Port Hope, where some matters of route are in course of settlement with the local authorities.

The company has completed and opened for traffic the extension of its line from Sellwood Jct. to Gow Ganda Jct., Ont., 30.7 miles. The construction was carried out by Angus Sinclair Co.

Ontario and Ottawa Ry.—A bill has been passed by the House of Commons and is now before the Senate incorporating a company with this title to construct a railway from the Canadian Northern Ry. near Lake Couchiching, easterly to Snowdon tp., Haliburton county, Ont.; and from Herschell tp., Hastings county, easterly to Renfrew, thence crossing the Ottawa River and continuing in a generally south-easterly direction to Hull, Que., or recrossing the Ottawa River to Ottawa. The company is authorized to enter into agreements with the various Mackenzie, Mann & Co. lines, and also with the Central Ontario Ry., the Marmora Ry. and Mining Co., the Thousand Islands Ry., the Bay of Quinte Ry., the Brockville, Westport and North Western Ry., and the Bessemer and Barry's Bay Ry. The pro-

visional directors are: G. G. Ruel, G. F. Macdonnell, R. H. M. Temple, A. J. Reid, R. P. Ormsby.

James Bay and Eastern Ry.—A bill has been passed by the House of Commons and is now before the Senate incorporating a company with this title to construct a railway from the Canadian Northern Ry. near Lake Abitibi, generally easterly and southeasterly, passing south of Lake St. John to the mouth of the Saguenay River, with a branch to Ha Ha Bay on the Saguenay River. The provisional directors are:—G. G. Ruel, G. F. Macdonnell, R. H. M. Temple, A. J. Reid, R. P. Ormsby.

Wahnapitac Ry.—The Ontario Legislature is being asked to incorporate a company with this title to construct a railway to be operated by steam or electricity from some point on the Canadian Northern Ontario Ry. in the township of Hutton or Creelman northerly, passing Burwash and Welcome Lakes, to the Wanapitac River, above the outlet from Welcome Lake. The provisional directors are:—D. D. Mann, D. B. Hanna, F. H. Phippen, G. Ruel, G. F. Macdonnell, Toronto.

Canadian Northern Ry.—A bill has been passed by the House of Commons, authorizing the company to construct the railways mentioned on page 43 of our Jan. issue, and extending the time within which certain of the lines authorized by sec. 2, chap. 92, of the Statutes of 1908, may be built.

A train service was started over the Maryfield branch line, Feb. 7. Track has been laid for 80 miles, and grading has been completed for a further 80 miles.

The bill for the ratification of the agreement between the company and the B.C. Government for the construction of a line from the Alberta—B.C. boundary to Vancouver, is under discussion by the B.C. Legislature. It is said that R. G. Tatlow, who has resigned the office of Provisional Treasurer, will be appointed a Commissioner to take charge of the funds realized by the sale of the securities and pay them out to the C.N.R. for the construction of this line, and to the Kettle River Valley Ry., in respect of the construction of the line from Grand Forks to Vancouver. (Feb., pg. 169.)

W. Mackenzie, President, is credited with stating in Montreal recently that the company will build 500 or 600 miles of line west of Port Arthur this year, and will make a good start on the B.C. section.

Wellington Collieries Ry., Etc.—Press reports state that the Wellington Collieries, the railway, steam and other vessels, and the other Dunsmuir properties on Vancouver Island, have been sold, one report stating that the C.P.R. is the purchaser, and another the Canadian Northern Ry. A Victoria, B.C., telegram of Feb. 11, says that Mackenzie & Mann are the real owners of the great coal mines and coal bed areas on the Dunsmuir interests on Vancouver Island. The price paid is said to have been \$11,000,000, and the firm is reported to have been backed in the deal by J. P. Morgan, of New York, and his associates. A part of the project is to erect immense steel and iron works on the Island, and one of the provisions laid down is that \$5,500,000 is to be spent at once on developing mines and the associated enterprises. The price, \$11,000,000, must be paid in cash by May 1.

The Interstate Commerce Commission in the case of T. M. Partridge Lumber Co. vs. Great Northern Ry. Co. et al, including the Canadian Northern Ry. Co., has declared that the rates on fence posts and poles from Beaudette and Warroad, Minn., are unreasonable and has prescribed new rates. Through routes have been established from Beaudette to such destination points.

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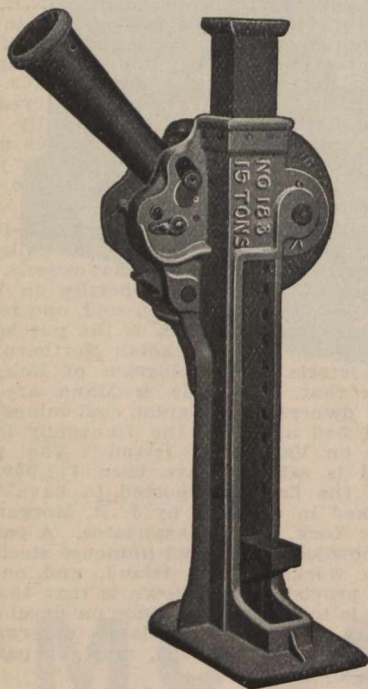
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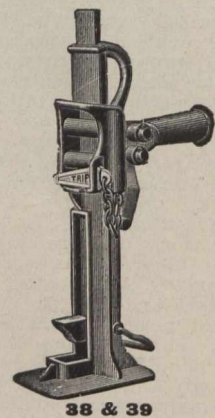
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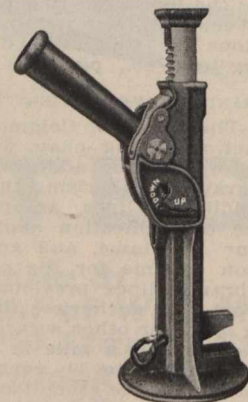
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RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta Ry. and Irrigation Co.—In the notes on the table of steam railway statistics on page 105 of our Feb. issue, it was stated, on the authority of the statistics issued by the Department of Railways, that this company had a third rail on 20 miles of its railway, making a 3 ft. gauge in addition to a standard gauge for that distance. We are advised by the company that it has no third rail on any part of its system.

The company's lines were originally constructed on a 3 ft. gauge both in Canada and the U.S. When the U.S. section of the line was sold to the Great Northern Ry. in 1902 the company converted the Alberta Ry. and Coal Co.'s line to standard gauge and by laying a third rail on the St. Marys River Valley Ry., which was then a separate company under the same ownership, made it a standard as well as a narrow gauge railway. This was done, as we were informed at the time, for the purpose of utilizing the old rolling stock. When this rolling stock became worn out or was sold the necessity for retaining the narrow gauge ceased, and the third rail appears to have been taken up. The Alberta Ry. and Coal Co. and the St. Marys River Valley Ry. with the land companies controlled by the same interests were subsequently amalgamated as the A. Ry. and Irrigation Co.

The Algoma Central and Hudson Bay Ry. Co. is applying to the Dominion Parliament for an extension of time within which it may construct the lines authorized by chap. 50 of the statutes of 1899, as amended by chap. 49 of the statutes of 1900. The new time limit for construction is five years from the passing of the act. The portion of the line yet to be constructed is the extension from the present end of track to the junction with the Michipicoten branch, thence to a junction with the C.P.R. In a recent interview at Montreal, General Manager Franz, of the Lake Superior Corporation, owning the charter, said that tenders would be called for by the end of Feb.

In the bill now under consideration by the Dominion Parliament provision is made for the issue of securities to the amount of \$40,000 a mile of line constructed or to be constructed. This amount is to include the amount of securities heretofore authorized; and the securities are to be issued only in proportion to the length of railway constructed or under contract to be constructed. (Feb., pg. 109).

Anglo-Newfoundland Development Co.—We are advised that the lines operated by this company in Newfoundland are:—A railway from Millertown Jct., on the Reid Newfoundland Ry., to Millertown, 20 miles. This line was taken over by this company when it acquired the timber limits belonging to the Newfoundland Timber Estates Co. A railway from the mills at Grand Falls to tide water at Botwood, 22 miles; this railway has been constructed during the past year and is now in operation. At a mid-way point between the pulp and paper mills and Botwood is the pulp mill now being constructed by the company. The gauge of both these railways is 3½ ft.; the track is laid with 50 lb. rails; the maximum gradient on the Millertown line is 1.05%, and the maximum curvature 10 degrees, while the maximum gradient on the line to Botwood going to the coast is 0.9% compensated for curvature, and the maximum gradient coming inland is 1.25%, with a maximum curvature of 10 degrees; there is however only one curve of this degree. We are advised that it is not the intention of the com-

pany to construct any further mileage during the current year. (Feb., pg. 109.)

Bay of Quinte Ry.—The Dominion Parliament is being asked to extend the time for the construction of lines authorized to be constructed by the company's act of 1896, as amended by the statutes of 1902 and 1905. An extension of time is also being asked to construct the proposed branch line from Bridgewater for about 15 miles, to Actinolite, Ont. (Jan., pg. 19).

British Columbia and Alaska Ry.—Application is being made to the B.C. Legislature to incorporate a company with this title to construct a line to the International boundary between British Columbia and Alaska. J. Wolkenstein is one of the provisional directors. (See Salmon River, B.C., Jan., pg. 23.)

British Columbia Central Ry.—The B.C. Legislature is being asked to incorporate a company with this title. J. C. Keith is one of the provisional directors.

B.C. Mainland and Coast Industrial Co.—A bill is before the B.C. Legislature to authorize the company to construct railways and tramways for the purposes of its undertaking. The route of the proposed lines is from Prince Rupert, Port Simpson and Port Essington or either of them, wherever the company's works may be located, to the seacoast, where wharves and piers may be constructed; and such railways or tramways as may be necessary, from the company's works to sites for warehousing and shipping its products, such sites to be selected within a radius of 75 miles of the works. The railways or tramways may be laid across or along highways, streets or bridges; and electricity may be used as a motive power. Mason and Mann, Victoria, B.C., are the solicitors.

Bruce Mines Ry.—The Ontario Legislature is being asked to extend the time within which the company may construct the lines and branches authorized, and to declare that notwithstanding default in certain directions the company's act is still in force. The company constructed a line from Bruce Mines on the C.P.R. Algoma branch northerly to its copper mines, and southerly to the lake front. The northerly line has not been operated for several years. (Feb., pg. 109.)

Burrard Inlet Tunnel and Bridge Co.—The Dominion Parliament is being asked to incorporate a company with this title to construct a tunnel under the first narrows of Burrard Inlet and a bridge over the second narrows, with the necessary approaches, from the south shore at Vancouver to the opposite shore to connect with present and future line of street railways and railroads, and to construct one or more lines of railway not exceeding 10 miles long. The bridge and tunnel to be constructed to provide steam and street railway tracks as well as for all kinds of ordinary traffic. Power is also asked to construct a railway from the northern ends of the bridge and tunnel easterly along the shore line of the municipality of North Vancouver to Deep Cove, on the north arm of Burrard Inlet, and westerly along the shore line of the city of North Vancouver to Horse Shoe Bay on Howe Sound. The undertaking of the company to be one for the general advantage of Canada. The provisional directors are:—E. Mahon, E. W. MacLean, J. P. Fell, L. Bond, Vancouver and J. Y. McNaught, North Vancouver. (Feb., pg. 109.)

Cariboo, Barkerville and Willow River Ry.—The British Columbia Legislature is being asked to incorporate a company with this title to construct a railway from near Eagle Lake to Barkerville and along the valley of the Willow River to a junction with the Grand Trunk Pacific Ry. W. F. Dunphy is one of the provisional directors. (See Eagle Lake to Barkerville, B.C., Feb., pg. 109.)

Columbia and Alaska Ry.—The British Columbia Legislature is being asked to incorporate a company with this title to construct a railway to the International boundary between British Columbia and Alaska. E. P. Davis is one of the provisional directors.

Comox Logging and Ry. Co.—Application is being made to the British Columbia Legislature to authorize the construction of a railway, to be used for logging purposes, in the Comox district of Vancouver Island. A. D. and R. J. McRae are the principal of the provisional directors. (See Comox Harbor to Campbell Lake, B.C., Feb., pg. 109.)

Dominion Atlantic Ry.—Application is being made to the Dominion Parliament to extend the time within which the company may commence and complete the construction of the North Mountain Division, the construction of which was authorized by chap. 101 of the statutes of 1908. The line in question is projected to start from the old Cornwallis Valley Ry. between Kentville and Canning westerly to the company's railway between Berwick and Middleton, or some point between the main line and North Mountain. (Jan., pg. 19).

Edmonton, Dunvegan and British Columbia Ry.—The Dominion Parliament is being asked to grant an extension of time for the construction of the line which this company was authorized to construct by chap. 85 of the statutes of 1907. The bill has been passed by the House of Commons and is now before the Senate. (Nov., 1909, pg. 829).

Eric, London and Tillsonburg Ry.—The Senate has passed a bill granting an extension of time within which the company may construct the line which it is authorized to do by chap. 90 of the statutes of 1906, as amended by chap. 106 of the statutes of 1908. (Feb., pg. 109.)

Graham Island Ry.—The British Columbia Legislature is being asked to extend the time within which the company may construct its previously authorized line of railway on Graham Island, one of the Queen Charlotte group.

Application was recently made to the British Columbia Legislature to incorporate the Graham Island Ry. Co. to construct a railway on Graham Island, H. R. Bellamy being one of the provisional directors. When the bill came before the Private Bills Committee attention was called to the fact that there was already in existence a company with the same title, and it was recommended that one of the two should change its name. (Jan., pg. 19.)

Intercolonial Ry.—The Dominion Parliament has granted appropriations on capital account for the following works:

Locomotive car shops at Moncton, with equipment and freight yard	\$343,825
To strengthen bridges	61,000
General protection of highways	10,000
Original construction	800
Towards double-tracking part of line	10,000
Increasing facilities and accommodation	38,700
Increasing water supply	45,100
Halifax, increased accommodation	52,650
Sydney Mines, diversion	100,000
Truro, increased accommodation	42,000
St. John, increased accommodation	46,150
Moncton cut-off	100,000
Loggieville, improvements	12,000
Indiantown and Blackville, to put line in a condition for operation	2,000
Chatham, diversion of line and branch to wharf	150,000
Levis, improvements	3,500
Lac au Saumon, overhead crossing	1,400
Riviere du Loup, engine house	63,720
Robinson's Crossing, subway	6,000
St. Rosalie, improvements	8,500
Chaudiere Jct., engine house	6,000
Beresford, subway	6,000

Island Valley Ry.—The British Columbia Legislature is being asked to incorporate a company with this title to construct a railway. S. J. Castleman is one of the provisional directors.

Kettle Valley Lines.—The Dominion Parliament is being asked to authorize

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CONCRETE REINFORCEMENT

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from _____ the Master Mechanic here, that an engineer running between _____ and _____ discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

PYLE-NATIONAL ELECTRIC HEADLIGHT CO.

MONADNOCK, CHICAGO

the construction of a line from the present authorized line near Coldwater River to the navigable waters of the Fraser River near Ruby Creek, B.C.; to grant an extension of time for the construction of previously authorized lines, and to limit the amount of bonds to be issued in respect of the new line to \$40,000 a mile. The proposed new piece of line is the one for which a bonus agreement has been made with the British Columbia Government. At opening of the B.C. Legislature, Jan. 20, the Lieutenant-Governor in his speech said that a bill would be submitted to ratify the agreement. (Jan., pg. 19.)

Manitoulin and North Shore Ry.—The Dominion Parliament is being asked to grant an extension of time within which the company may construct the lines authorized. When the bill came before the Railway Committee of the House of Commons, Feb. 7, the company's representative stated that the line from Sudbury to Little Current, Manitoulin Island, Ont., would be completed within two years, instead of three, as at first contemplated. (Feb., pg. 111.)

Menzies Bay Ry.—Application is being made to the British Columbia Legislature to incorporate a company with this title to construct a railway in the Menzies Bay district. J. H. McDonald is one of the provisional directors. (See Menzies Bay to Quinsan River, Jan., pg. 21.)

Michigan Central Rd.—Press reports from Windsor, Ont., Feb. 4, stated that announcement had been made that the company was about to construct an additional track from there to Buffalo, N.Y., paralleling the present double track line, and that construction would be started in June. General Superintendent Brown on the following day stated that the report was absolutely without foundation. The company proposed building a roundhouse at St. Thomas, Ont., to accommodate 30 or 40 locomotives, the existing roundhouse not being adequate for present requirements. (Feb., pg. 111.)

Montreal, Kapitachuan and Rupert's Bay Ry.—The Dominion Parliament is being asked to incorporate a company with this title to construct a line of railway from the St. Lawrence River in Hochelaga County, northerly to L'Original Rapids, thence to Kapitachuan Lake to cross and connect with the National Transcontinental Ry., and thence to Ruperts Bay. The provisional directors are:—H. A. Fortier, Hull, Que.; J. A. Grenier, Mon-Laurier, Que.; J. T. Marchant, C. Robilliard, L. J. Tarte, A. Berthiaume, L. Payette, L. A. Lapointe, G. Langlois, Montreal. (Jan., pg. 21.)

Nickel Range Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title for the purpose of constructing this projected railway. The provisional directors are:—J. R. Booth, J. F. Booth, Ottawa; M. J. O'Brien, Montreal; J. N. Glidden, Sudbury; F. B. Chapin, J. J. McFadden, Toronto; W. Anderson, Ottawa; and C. A. Masten, Toronto. In addition to these persons, The Dominion Nickel Copper Co. is named as one of the petitioners for the act. (Dec., 1909, pg. 883.)

Northern Vancouver Island Ry.—Application is being made to the British Columbia Legislature to incorporate a company with this title to construct a railway in the northern part of Vancouver Island. W. B. Garrard is one of the provisional directors.

Ottawa, Montreal and Eastern Ry.—The House of Commons has passed an act incorporating a company with this title to construct a railway from the shores of Lake Megantic, Compton Co., Que., to Montreal, crossing the St. Lawrence River at Longueuil, with power to construct a bridge over, or a subway under, the river; and to continue the line

westerly from Montreal to Ottawa through Prescott, Russell and Carleton counties in Ontario; with power to construct branch lines to Arthabaska, Victoriaville, and Yamaska, Que. The act provides that the bridge or tunnel at the St. Lawrence River shall be calculated to accommodate general traffic and electric cars as well as steam railway traffic. The provisional directors are: W. I. Bishop, A. Jarvis, C. E. Cutler, V. Cusson, M. Tetreau, Montreal. (Jan., pg. 21.)

Port Moody, Indian River and Northern Ry.—The British Columbia Legislature is being asked to incorporate a company with this title to construct a railway from Port Moody to the Indian River and thence northerly. C. T. Dunbar is one of the provisional directors. (See Port Moody to Indian River, Jan., pg. 23.)

Prince Albert and Hudson Bay Ry.—The application for a change of route and an extension of time for construction was considered by the Railway Committee of the House of Commons Feb. 8. The company asked for power to develop water powers along the route. This led to a lengthened discussion, the bill as a result being "talked out." (Jan., pg. 23.)

Reid-Newfoundland Ry.—It is reported that the agreement which has been made between the R.N. Co. and the Newfoundland Government, for which legislative confirmation is being asked, provides for the construction of the following branch lines:—From Shoal Harbor to Bonavista Bay, 75 miles; Broad Cove to Heart's Content and Grete's Cove, 62 miles; Ransford Bridge to Trepassy, 70 miles; Country Channel to Fortune Bay, 48 miles; Bay of Islands to Bonne Bay, 42 miles. (Feb., pg. 111.)

Saskatchewan Central Ry.—An act has been passed by the House of Commons, and is now before the Senate, incorporating a company with this title for the purpose of constructing a line of railway as outlined in the application given in our January issue. The provisional directors are: F. S. Cahill, Saskatoon, Sask.; D. McAnulty, J. B. Prendergast, J. J. Leddy, W. Johnston, Ottawa. (Jan., pg. 23.)

St. Maurice Valley Ry.—The House of Commons has passed a bill extending the time within which the company may complete the construction of its authorized railway. (Oct., 1909, pg. 745.)

Toronto Eastern Ry.—A bill has been passed by the House of Commons, and is now before the Senate, incorporating a company with this title to construct a line from Toronto, easterly through Whitby, Oshawa and Bowmanville to Cobourg, Ont., with branches from Cobourg to Peterboro, Scarboro tp. to Markham, Stouffville or Uxbridge; from Oshawa northerly, via the eastern side of Lake Scugog, to Lindsay; from Oshawa southerly to Lake Ontario. The company desires that the lines be declared to be for the general advantage of Canada, and that it be authorized to amalgamate or enter into agreements with the C.P.R., the G.T.R. or the Canadian Northern Ontario Ry. The provisional directors are: W. F. Cowan, R. McLaughlin, T. E. Kaiser, F. W. Robson, Oshawa; J. H. Downey, Whitby; R. R. Mowbray, Kinsale, Ont. (Nov., 1909, pg. 831.)

Trans-Canada Ry.—We are advised, with reference to a press report that 60 miles of this line is under construction westerly from Roberval, Que., that there is no construction work going on near Roberval at present. (July, 1909, pg. 481.)

Vancouver and Coast Kootenay Ry.—A bill has been passed by the Dominion Parliament granting the company an extension of time within which it may commence the construction of its projected railway. (Dec., 1909, pg. 885.)

Vancouver and Nicola Valley Ry.—Application is being made to the British

Columbia Legislature to revive and confirm the act under which this company was incorporated in 1908. W. H. Armstrong is one of the provisional directors. (Dec., 1909, pg. 885.)

Vancouver Island and Eastern Ry.—A bill has been passed by the Dominion Parliament granting the company an extension of time within which it may construct its previously authorized railway, and authorizing it to construct a branch from near Seymour Narrows on Vancouver Island, northerly to Quatsino Sound. (Dec., 1909, pg. 885.)

Vancouver-Westminster Terminal Ry. and Dock Co.—The British Columbia Legislature is being asked to incorporate a company with this title to construct a terminal railway system in Vancouver and New Westminster, together with docks, wharves, etc. A. von Alvensleben is one of the provisional directors. (See Vancouver to New Westminster, Jan., pg. 23.)

The Western Canada Power Co. is incorporated under the Dominion Companies Act, for the purpose of generating and distributing electrical and other power. A bill has been passed by the House of Commons authorizing it to construct "for reward if necessary" such lines of iron or steel railways or tramways, and telegraph and telephone lines in connection therewith, as may be from time to time authorized by competent authority. The sphere of the company's operations is in British Columbia.

Great Northern Ry. Lines in Canada.

Vancouver, Victoria and Eastern Ry.—In connection with the company's application to the Dominion Parliament for an extension of time for the construction of its line, the Associated Boards of Trade of Eastern British Columbia have passed a resolution requesting Parliament to grant no concessions until the company has complied with its charter terms, which require it to construct its line from Grand Forks to Midway via Greenwood and Denoro.

It is reported that contracts have been let to P. Welch, of Spokane, Wash., for the two sections of the line between Princeton and Hope, B.C., for which tenders were recently asked. The first section extends from Princeton to Tulameen, and the second from Abbotsford to Hope, the two having a total mileage of 78 miles. The section between Tulameen and Hope covers the distance through the Hope Mountains for which the route is as yet undecided. Two surveys have been made, one for a tunnel of about eight miles and the other involving about 28 miles of open work. The contractor's outfit has reached Princeton, and an early start is anticipated. (Feb., pg. 107.)

A firm in Ridgetown, Ont., shipped a carload of beans from that station to Montreal some time ago, and the car was 30 days on its way. The shippers sought to recover \$313.13 for the loss, on account of the consignee having refused to receive the beans. Owing to the shippers not having given notice to the G.T.R. of the delay within 36 hours of the consignment reaching Montreal, the action was dismissed.

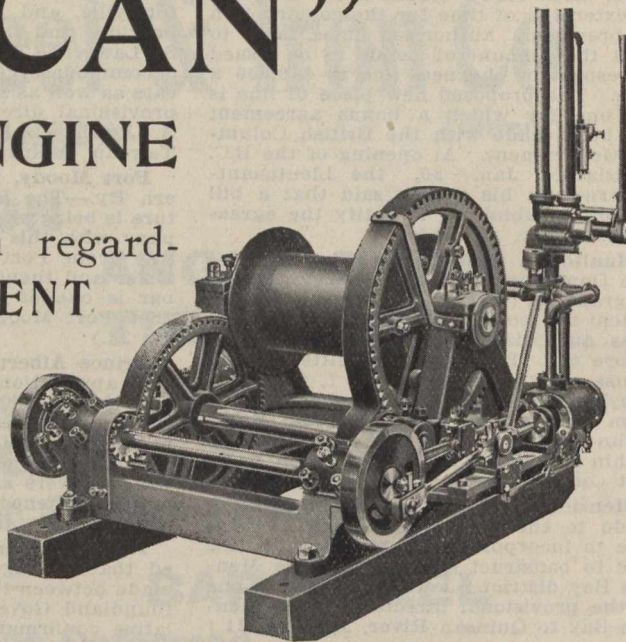
Judgment was delivered in the Exchequer Court recently in the case of E. A. Wallberg against the Government on a claim of \$105,940 for extras in connection with the contract for the construction of the I.C.R. Moncton shops, etc. The case had previously been before the Registrar, who allowed approximately \$53,000, from which an appeal was made and the judgment just delivered, allows about \$90,000, with costs of the appeal.

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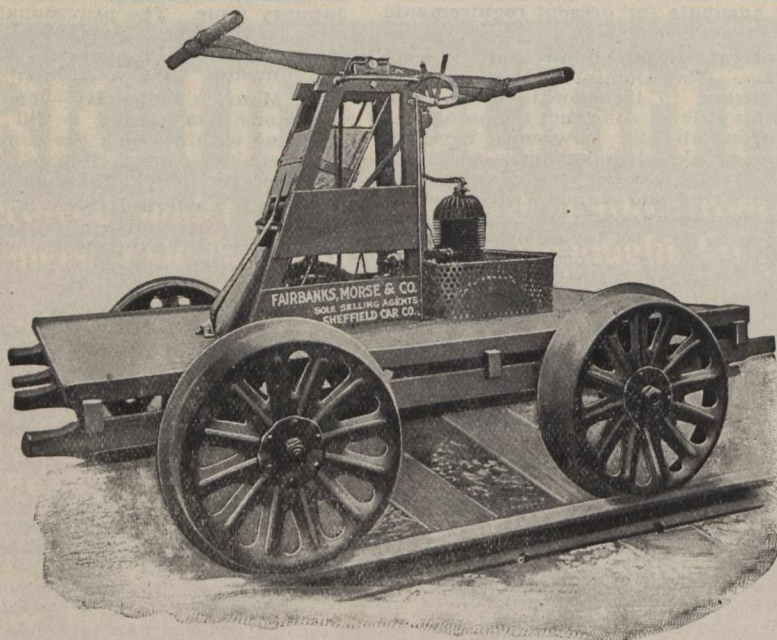
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They work harder and longer for They
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MONTREAL ST. JOHN, N.B. TORONTO WINNIPEG CALGARY VANCOUVER

The Quebec Bridge.

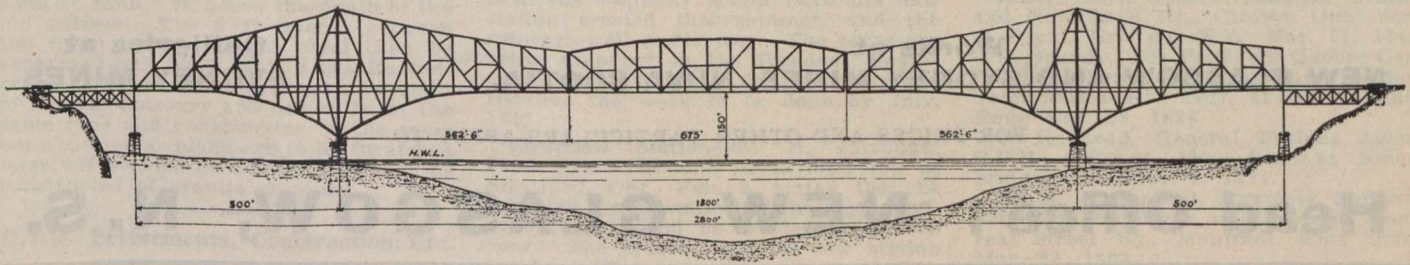
In the House of Commons recently in referring to the reconstruction of the Quebec Bridge, the Minister of Railways and Canals, read a memorandum as to the appointment of the Board of Engineers, H. Vautelet, R. Modjeski and M. Fitzmaurice—and their work. Following are extracts: "The task entrusted to them is a great one, and, as was anticipated at the time of their appointment, material differences of opinion have arisen between them. Under the provisions of the order in council creating the board, in the event of differences arising, consulting engineers were to be called in to assist. Accordingly, on the question of foundations and substructures, A. Noble, M. Am. Soc. C.E., chief engineer of the Pennsylvania Ry. tunnel, New York (one of the most experienced men in America in foundation work), and H. Holgate, M. Can. Soc. C.E., Montreal, were selected, and the matters in dispute were accordingly settled. The south pier is to be enlarged to an area of 180 ft. by 80 ft. at the base. A new caisson is to be sunk for the north pier and is to be carried to the rock, reducing the span from 1,800 to 1,758 ft. Specifications covering every phase of the substructure work have been completed.

ture have arisen from time to time between members of the board, and acting under the provision of the order in council, P. Wolfel, M. Am. Soc. C.E., consulting engineer, Philadelphia, and P. Johnson, chief engineer and manager Dominion Bridge Co. of Montreal, were called in as consulting engineers, and the difficulties were overcome."

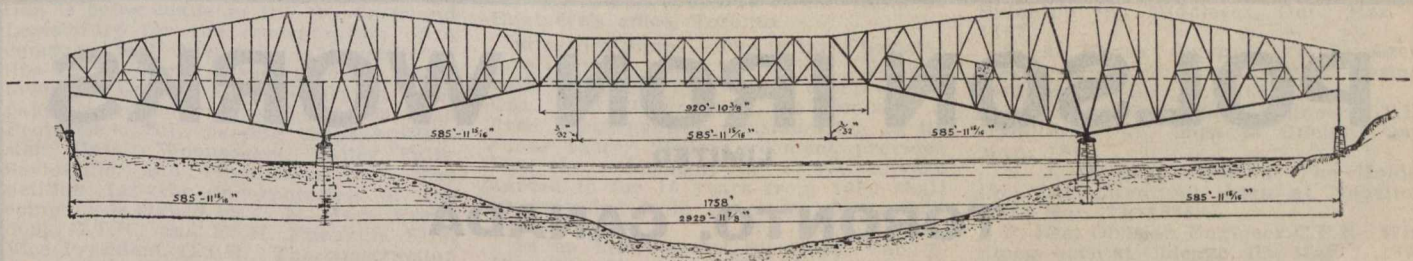
The work has advanced to such a stage that the bridge builders of the world have been invited to Montreal to study the plans and general specifications, these being open for inspection until May. Three or four months will then be allowed for the preparation of tenders. "All tenderers must bid on the plans prepared by the board, but may submit alternative designs—in this way the form of the trusses, about which there is a reasonable difference of opinion, will be tested; the question of a suspension or cantilever bridge will be settled. The Board has completed studies for a suspension bridge and also for a single intersection cantilever. The ultimate decision will be made when all the designs are before the board, having regard to: first, safety; second, speed of erection and completion; third, cost. As the responsibility for the proper carrying on of the work is placed upon the builder, and the fact that the best designs the

for an opinion from the engineers as to how soon the bridge could be erected, but he was of opinion that it would take four years from next fall.

Replying to questions in the House of Commons, as to the appropriation of \$1,000,000 for construction of the bridge, the Minister said the contract called for the completion of one pier next fall and the other the year following. There were two piers which would be required whether it was a cantilever or suspension bridge; a third would be required if it was a cantilever. This was included in the Davis contract, but the contract was so drawn that it could be struck out if not required. The north pier was to be removed in its entirety. The foundation of the south pier was to be used, but it would be enlarged. The old pier was 150 by 50 ft. and the new one was to be 180 by 80 ft. This pier had been taken down to low water mark and the foundations were being used and enlarged. The two anchor piers on the land had to be taken down, because they would not fit the new bridge, and new ones built. The steel work of the collapsed bridge, which did not fall would be taken down and might be utilized for another purpose. A contract had been let to C. Koenig for the removal of the scrap of the fallen section of the bridge.



THE QUEBEC BRIDGE WHICH COLLAPSED, AUG. 29, 1907.



DESIGN FOR THE NEW QUEBEC BRIDGE BY THE BOARD OF ENGINEERS.

General plans for guidance of the contractors have been prepared. The work of the substructure was advertised widely and the work was allotted to M. P. & J. T. Davis, they being the lowest tenderers. The other tenderers were Larkin & Sangster and M. Connolly.

"A great deal of valuable work has been done in connection with the superstructure. The span, centre to centre of main piers, has been fixed at 1,758 ft.; the width, centre to centre of trusses, at 88 ft.; with a maximum depth of truss of 290 ft. A clear head room of 150 ft. above the highest water has been provided for a width of 600 ft. under the centre of the bridge. A general specification has been prepared, fixing the loading so that it will be ample for all possible contingencies of the future. The unit stresses allowed have been settled, for carbon steel and nickel steel, and are conservative. The form of the main compression members has been determined. A series of tests of model columns has been started and a similar series of tests of chord bars will be carried to completion. The dead load has been thoroughly computed and the relative concentrations determined, thus eliminating all possibility of error in calculations for the new structure. Material differences of opinion relating to the superstruc-

board are able to prepare is in competition with the best efforts of the best bridge builders in the world, we hope to secure the best bridge that the present state of engineering skill can produce."

The magnitude of the work, added the Minister, is so great that men with the ability and reputation of the members of the Board, will only move carefully and cautiously. As he pointed out to them when discussing the question with them, the great point to be considered was stability, there must be no chance, so far as engineering skill could provide against it, of any failure of the bridge. That being their instructions, they studied every step with the greatest care, tests and studies being made both in Canada and in the United States and in more than one country in the old world, so that step by step they might be sure of what they were doing. He added that it was proposed that in the contract, so that there could be no question, the builder shall be required to accept the contract on the plans and specifications, and should be held responsible as a builder for the construction of the bridge on the plans and specifications which he accepted, and a guarantee would have to be given. It would not be fair to mention the estimated cost of the bridge while tenders were being invited. He had not asked

the contractor to receive \$45,000 and the salvaged scrap. The company having the contract for the construction of the collapsed bridge had a capital of \$50,000, and he had no great hopes that any large amount of damages could be secured even if there was a case. The matter was, however, under the consideration of the law officers. He roughly estimated the length of time it would take to complete the bridge at four years from next fall, and its cost at about \$11,000,000.

The specifications for the work to be done under the contract let to M. P. and J. T. Davis, provide for the taking down of the existing masonry of the two main piers and two existing anchor piers; the making and building of two main piers, two anchor piers, and abutments, and the enlarging of the two existing abutments. The masonry of the two existing anchor piers is to be taken down to at least 2 ft. below the level of the ground, and low enough to remove the existing anchor metal; and the masonry of the existing north main pier is to be taken down to at least 2 ft. below extreme low water level. The stone taken from the old piers may be used either for the facing, the backing or the concrete of the new works, and any balance of the stone, as well as the old concrete, shall be deposited as protection work or

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rip-rap for main piers or otherwise, as shall be instructed by the Chief Engineer. The new anchor piers are to be carried down to solid rock foundation, and are to be built of granite faced masonry with concrete backing, with three top courses of dressed stone coping same as the main piers. The steel work for the anchorage shall be built in and the walls constructed in accordance with plans to be furnished later on. The north main pier is to be built 5 ft. south of the existing caisson. It is to be built by the pneumatic process with caisson and cofferdam filled with concrete to elevation + 70.00, the upper part above elevation to be built of masonry with granite facing and filled with concrete, except for a height about 12 ft. below the coping courses, which shall have granite backing; the upper three courses are to be of dressed granite. The caisson of this pier is to be sunk down to solid rock, and no work is to be started on the site of the new pier until the masonry of the old north main pier shall have been taken down. The south main pier is to be taken down and the two lower pneumatic caissons sunk in exact position to such a depth as will allow the upper pneumatic caisson to be floated in position. The upper pneumatic caisson shall then be sunk on top and strongly attached to the lower caisson and the whole shall be sunk 2 ft. below the depth of the old caisson. The 5 ft. spaces between the three lower caissons shall then be excavated and filled in with granite concrete. The abutments are to be built of granite masonry and are to be of the same type and construction as the present abutments; plans are to be furnished later. If decided on a small pier is to be constructed of granite masonry.

G.T.R. Betterments, Construction, Etc.

Southern New England Rd.—Application is being made to the Rhode Island Legislature for the incorporation of a company with this title to construct a line from Palmer, Mass., through which town the Central Vermont Ry., a company controlled by the G.T.R., runs, to Providence, R.I., passing through Webster, Mass.; Woonsocket, Valley Falls, Saylesville, and Pawtucket, R.I. The petition for the incorporation of the company is signed by C. M. Hays, President, G.T.R., and E. H. Fitzhugh, First Vice President, G.T.R. The construction of this line will give the Central Vermont Ry. a second outlet to the sea, viz: New London, Conn., and Providence, R.I., which the G.T.R. as owning the C.V.R., can use in addition to its own terminals at Portland, Me.

Kingston, Smith's Falls and Ottawa Ry.—A bill has been passed by the Senate and is now before the House of Commons granting an extension of time for the construction of this projected railway.

Toronto Grade Crossing Elimination.—The plans for the elimination of the grade crossings on the G.T.R. from Bathurst St., Toronto, to the Humber River, are being prepared in the Chief Engineer's office at Montreal. The first portion of the work to be undertaken will be the section from Bathurst St. to Sunnyside, upon which the tracks are to be depressed, and the streets carried over the tracks by bridges. On the other section, from Sunnyside to the Humber River, there will be an embankment, raising the tracks, the roads being carried underneath. This will provide a practically level track from the Humber into the city. The Board of Railway Commissioners' order provided for the construction of a two-track line, and proportioned the cost of the bridges and other work between the company and the municipalities on that basis, but the

G.T.R. has decided to construct the works so as to provide for the laying of four tracks, meeting the extra cost itself. It is said that the work, which will be carried out by the G.T.R. Construction Department, will be started about May 1, and will be completed within two years.

Tay Township Assessment.—The Ontario Legislature is being asked to confirm a by-law of Tay township council granting the company a fixed assessment of \$1,700 a year upon the company's property in the township for 20 years for general taxes, and a gross value of \$300,000 a year for school taxes. The company agrees to keep in operation during the period its grain elevators situated in the township.

Guelph Station.—A conference was held with the city authorities of Guelph, Ont., Feb. 3, with reference to the carrying out of the Board of Railway Commissioners' order for the erection of a new station and some subways there. The point of difference between the parties is the price to be paid by the company for Jubilee Park, and the giving up of a piece of land near the C.P.R. right of way which is required for station purposes by that company. E. H. Fitzhugh, First Vice President, stated that if the city placed no obstacle in the path the company would have the new station erected this summer, and the subways well under way. The plans are being prepared in the Resident Engineer's office, Toronto. The Board's order requires the work to be done by July, 1911.

Stratford Station.—E. H. Fitzhugh, First Vice President, in an interview at Stratford, Ont., Feb. 3, stated that he expected a new station of the most modern design would be erected there this year. The erection of the new station involves the rearrangement of the freight yards, and plans for this work are now being prepared in the Resident Engineer's office, Toronto.

Stratford Shops.—The Ontario Legislature is being asked to confirm a by-law passed by the City Council of Stratford, Ont., in 1904, granting the company a fixed assessment in consideration of its shops there. This agreement provides that the assessment of \$8,000 a year agreed to for 10 years from 1900 shall be extended from its expiry for a further 10 years.

In an interview at Stratford, Feb. 3, First Vice President Fitzhugh stated that plans were under consideration for a further enlargement of the shops, and that he hoped to be able to make an announcement with regard to them at an early date. We are advised that the question of the erection of a new foundry and frog shop is under contemplation at Stratford, but the matter has not been finally settled.

Port Huron Shops.—First Vice President Fitzhugh had an interview with the Mayor, Feb. 4, with respect to the proposed enlargement of the shops. Subsequently the Mayor said Mr. Fitzhugh had told him that a big addition was to be built and that a much larger force of men would be employed. (Feb., pg. 137.)

The International Railway Fuel Association will hold its second annual meeting at Chicago, Ill., May 23 to 26.

E. de la Hooke, Secretary-Treasurer Canadian Ticket Agents Association, has issued a characteristic circular to members reminding them that their subscriptions for 1910 are due, and also one to ticket agents who are not members, inviting them to join. Both circulars are enlivened by flashes of humor with which Mr. de la Hooke always adorns his communications.

March Birthdays.

Many happy returns of the day to:—

W. G. Annable, General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal, born at Ottawa, Mar. 3, 1875.

P. S. Archibald, C.E., General Manager Elgin and Havelock Ry., Moncton, N.B., born at Truro, N.S., Mar. 21, 1848.

D. E. Brown, ex-General Superintendent C.P.R. Trans-Pacific Steamship Service, Vancouver, B.C., born at Owen Sound, Ont., Mar. 20, 1855.

G. J. Bury, General Manager C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 6, 1866.

Allan Cameron, General Traffic Agent, C.P.R., New York, born near Owen Sound, Ont., Mar. 14, 1864.

F. G. J. Comeau, General Freight Agent Dominion Atlantic Ry., Halifax, N.S., born at Meteghan River, N.S., Mar. 10, 1859.

A. E. Cox, Storekeeper Canadian Northern Ry., Winnipeg, born at Huddersfield, Eng., Mar. 12, 1863.

Hon. L. J. Forget, President Montreal Street Ry. Co., born at Terrebonne, Que., Mar. 11, 1853.

C. O. Foss, on survey National Transcontinental Ry. in New Brunswick, born at Wentworth, N.H., Mar. 20, 1852.

H. W. Gays, General Manager Ottawa and New York Ry., Ottawa, Ont., born at Brant, Erie co., N.Y., Mar. 21, 1848.

F. Grundy, Vice President Quebec Central Ry., Sherbrooke, Que., and President Temiscouata Ry., born at Bury, Lanc., Eng., Mar. 28, 1836.

J. Halstead, General Freight Agent, C.P.R., Calgary, Alta., born at Bracebridge, Ont., Mar. 2, 1877.

R. M. Hannaford, Engineer Permanent Way, Buildings and Bridges, Montreal Street Ry., Montreal, born there, Mar. 22, 1865.

W. Harty, M.P., President Canadian Locomotive Co., Kingston, Ont., born in Biddulph tp., Middlesex, Ont., Mar. 8, 1847.

C. A. Hayes, General Freight Agent G.T.R., Montreal, born at West Springfield, Mass., Mar. 10, 1865.

J. Hobson, Consulting Engineer G.T.R., Hamilton, Ont., born at Guelph, Ont., Mar., 1834.

N. J. Holden, President The Holden Co., Ltd., Montreal, born at Nobelton, Ont., Mar. 22, 1866.

F. Lee, Division Engineer C.P.R., Winnipeg, born at Chicago, Ill., Mar. 7, 1873.

R. W. Long, Division Freight Agent G.T.R., Hamilton, Ont., born at Appin, Ont., Mar. 20, 1873.

F. W. Lowe, General Boiler Inspector C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 30, 1858.

D. D. Mann, Vice President Mackenzie, Mann & Co., Ltd., and 1st Vice President Canadian Northern Ry. Co., Toronto, born at Acton, Ont., Mar. 23, 1853.

J. M. McKay, Trainmaster C.P.R., Winnipeg, born at Tiverton, Ont., Mar. 13, 1868.

Owen McKay, Chief Engineer, Essex Terminal Ry., Walkerville, Ont., born in Ross tp., Renfrew co., Ont., Mar. 13, 1848.

D. J. Murphy, Jr., Assistant Traffic Superintendent and Trainmaster, Dominion Atlantic Ry., Kentville, N.S., born at Caledonia, Ont., Mar. 3, 1874.

R. Patterson, Master Mechanic G.T.R., Stratford, Ont., born at Brantford, Ont., Mar. 13, 1860.

F. W. Peters, Assistant to 2nd Vice-President C.P.R., Winnipeg, born Mar. 25, 1860.

E. H. Sewell, City Passenger Agent C.P.R., Sherbrooke, Que., born at Quebec, Mar. 17, 1875.

C. J. Smith, General Manager Richelieu and Ontario Navigation Co., Montreal, born at Hamilton, Ont., Mar. 10, 1862.

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Manufacturers of

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Steamers, Toronto, born at Kingston, Ont., Mar. 21, 1855.

W. Y. Soper, director Ottawa Electric Ry. Co., Ottawa, Ont., born at Oldtown, Me., Mar. 9, 1854.

E. J. Travers, Manager British Columbia Car Service Bureau, Vancouver, B.C., born at Hamilton, Ont., Mar. 31, 1872.

W. F. Tye, ex-Chief Engineer C.P.R., Montreal, born at Haysville, Ont., Mar. 5, 1861.

G. W. Vaux, General Passenger and Ticket Agent G.T.R., Montreal, born at Montreal, Mar. 21, 1866.

D. O. Wood, General Freight Agent for Ontario, Allan Line Steamships, Toronto, born at Kleinburg, Ont., Mar. 16, 1864.

Quebec and Lake St. John Ry. Report.

The annual report has been issued over the signature of D. B. Hanna, President, as follows:—

The result of the operations for the year ended Dec. 31, 1908, are:—

Gross earnings—			
Passenger traffic	\$221,472.34		
Freight traffic	348,871.51		
Express, mail and miscellaneous	35,908.62		
	\$606,252.47		
Working expenses (including taxes, etc.)	\$527,380.40		
Net earnings	\$78,872.07		
To Main line and equipment	\$13,624,612.27		
Less Dominion Govt. bonus \$1,002,999.50			
“ Provincial Govt. bonus, 2,368,816.88			
“ Town of Chicoutimi bonus 12,000.00	3,383,816.38		
	\$10,240,795.89		
Betterments, terminals and new equipment	1,732,172.77		
La Tuque branch construction	1,421,261.52		
Less Dominion Govt. subsidy \$150,528.00			
Proceeds of sale of La Tuque land grant	470,686.26	621,214.26	800,047.26
Gosford branch construction Lake St. Joseph Hotel stock and bonus	44,772.26		
	8,000.00		
Chambord water works	1,125.22		
Quebec Transport Co. stock	3,622.55		
Roberval branch wharf	12,17.08		
Lands at La Tuque	13,608.78		
Str. Pikouagami	7,161.68		
	\$12,863,323.49		
Branch lines (Gosford and Roberval bonds)	127,800.00		
Bills receivable	328,100.00		
Coal on hand	\$3,818.72		
Mechanical and other stores	22,135.99		
	105,954.71		
Fire insurance unearned premiums	2,594.15		
Great Northern debenture stock	1,050.00		
Lower Laurentian Railway Lake St. Joseph Hotel Co.	9,253.33		
	19,121.68		
Outstanding accounts due company	36,013.18		
Profit and loss	148,653.80		
	\$13,641,864.39		
By capital stock	\$4,308,500.00		
City of Quebec stock	220,500.00		
Prior lien bonds	2,433,333.33		
First mortgage bonds	2,153,013.33		
Income bonds	3,116,613.34		
	\$12,226,960.00		
First mortgage bonds, branch lines	127,800.00		
Right of way	741.65		
Bills payable—			
La Tuque and Gosford branches, secured by land grant and subsidies	114,405.81		
Car trust and betterment notes	240,581.97		
Other notes	29,612.00		
	384,599.78		
Wages, December	22,051.41		
Advances on capital account re La Tuque and Gosford branches, and advances to meet interest charges and other pressing debts	567,807.69		

Mortgage balance on new terminals property	35,176.78
Mortgage La Tuque lands	5,000.00
	40,176.78
Outstanding accounts due by company	180,567.23
Profit and loss account prior to reorganization (expended in betterments)	91,159.
	\$13,641,864.39

Your directors much regret that both gross and net earnings for the year show decreases, the gross earnings being \$56,870.57, or 8.58%, and the net earnings \$84,454.92, or 51.78% less compared with the previous year's figures. The falling off is due to the trade depression everywhere, and specially to the decline in shipments connected with the manufacture of paper, pulp and lumber, the fluctuations in which are beyond the control of any transportation company, and which have been smaller in North Eastern Quebec than in any other pulp and lumber district. The situation was further aggravated during the early months of the year by the prevalence of unusually severe snowstorms, which increased operating expenses very largely in the effort to keep the line open for traffic, the operating expenses being 86.99% of the gross earnings, compared with 75.37% for the previous year. The increase in passenger receipts is \$20,183.00, or 8.91%. This is in face of a decline of 8,681 in the number of passengers carried, and is due to a readjustment of fares, which counterbalanced the disadvantage of a falling off, caused by diminished lumbering operations, in the number of passengers carried, and increased the earnings per passenger train mile by 9c. The freight business declined, both in tons carried and the earnings per traffic train mile; the tonnage to the extent of 46,088 tons, and the earnings per traffic mile from \$1.93 to \$1.57. But this showing, unsatisfactory as it is, would have been much worse if your directors had further postponed the readjustment of rates, which was found to be absolutely necessary if the methods of the railway were to be brought into good commercial order. The importance of this readjustment is shown by the fact that the earnings per ton mile increased from 1.22 to 1.57c., or 28.69%. If instead of this increase in the earnings per ton per mile the earnings had been on the former basis, the freight earnings would have been only \$269,654.56, or \$79,216.95 less than they actually were.

A considerable portion of the loss on working expenses was incurred in connection with the La Tuque branch, which was undertaken on the assumption that its cost would be somewhat more than half of what proved to be the case, and in the expectation that the near approach of the completion of the Quebec bridge would soon secure to the company a large freight business from the paper and pulp mills that were to be constructed at La Tuque. But the damages to the bridge, which postponed for several years the advantageous rates, in expectation of which the construction of the branch was undertaken; together with the depression in pulp and lumber industries inevitably retarded the development of this property; and there is no immediate prospect of extensive works at the La Tuque Falls being undertaken. Meanwhile the outlay on maintenance and unremunerative service must be continued.

During the year the wages of trainmen were further increased by the arbitration board appointed under act of Parliament; and further considerable expenditures have been incurred in bringing the equipment nearer to present-day requirements.

The shareholders will observe a change in the form in which the accounts are

presented. The only reason for the change was that the newer form is that which is prescribed by the Minister of Railways for Canada.

INCOME ACCOUNT.

December 31, 1908.	
Interest on prior lien bonds	\$97,333.31
Interest on first mortgage bonds	106,081.45
Directors' fees	2,500.00
Hanson Bros., fees as agents in Canada	486.87
Glyn, Mills, Currie & Co., commission	997.67
Railway Share Trust & Agency Co., fee as trustees	1,946.66
Interest on bills payable	4,339.82
Interest on terminal mortgages	1,283.44
Interest on equipment trust notes	7,686.77
Bad debts written off	1,617.40
J. G. Scott (account salary)	6,000.00
	\$230,273.19
January 1, 1908.	
By Balance	\$1,940.13
December 31, 1908.	
Net earnings	78,872.07
Interest account	807.19
Balance	148,653.80
	\$230,273.19

GROSS EARNINGS.

1907.	Class.	1908.	%
\$203,563.02	Passenger	\$221,472.34	36.53
406,742.28	Freight	348,871.51	57.55
14,455.92	Mails	15,118.19	92.49
8,405.80	Express	10,017.21	61.65
29,956.02	Miscellaneous	10,773.22	61.78
\$663,123.04	Total	\$606,252.47	100.00

OPERATING EXPENSES.

1907.	Class.	1908.	%
\$91,201.29	Maintenance of way and structures	\$111,253.60	21.09
67,015.73	Maintenance of equipment	78,263.97	14.84
9,795.42	Traffic expenses	10,287.10	91.95
293,142.70	Transportation expenses	296,090.19	56.15
38,640.91	General expenses	31,485.54	65.97
\$499,796.05	Total	\$527,380.40	100.00

SUMMARY OF EARNINGS AND EXPENSES.

1907.	Class.	1908.	%
\$663,123.04	Gross earnings	\$606,252.47	
499,796.05	Operating expenses	527,380.40	86.99
163,326.99	Net earnings	78,872.07	13.01
			100.00

FREIGHT TRAFFIC.

	Tons, 1908.	Tons, 1907.
Cordwood	45,129	28,700
Pulpwood	53,636	50,280
Sawn lumber, square timber, ties	67,610	106,140
Pulp and paper, brick and stone, cheese, grain, general merchandise	154,094	181,437
	320,469	366,557

PASSENGER TRAFFIC.

	1908.	1907.
Number of passengers carried	352,419	361,100
Number of passengers carried one mile	11,803,355	12,076,923
Earnings per passenger per mile	1.80c.	1.87c.
Earnings per traffic train mile	\$1.02	.93c.

FREIGHT TRAFFIC.

Total passenger train earnings	\$246,607.74	\$226,424.74
Number of tons carried	320,469	366,557
Number of tons carried one mile	22,102,833	33,358,96
Earnings per ton per mile	1.57c.	1.22c.
Earnings per traffic train mile	\$1.57	\$1.93
Total freight train earnings	\$348,871.51	\$406,742.28

PASSENGER AND FREIGHT, ETC.

Gross earnings per mile of road	\$2,245.38	\$2,751.55
Operating expenses per mile of road	1,953.26	2,073.84
Net earnings per mile of road	292.12	677.71
Amount required per mile of road to pay fixed charges	849.87	876.12

TRAIN MILEAGE.

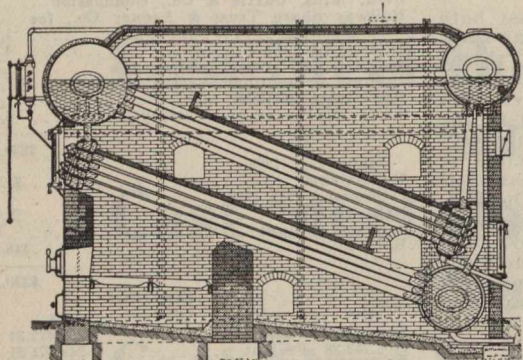
Mileage of passenger trains	222,108	241,370
Mileage of freight trains	211,321	210,937

EXPENSES PER TRAFFIC TRAIN MILE.

Maintenance of way and structures	25.67c.	24.59c.
Maintenance of equipment	18.06c.	16.72c.
Traffic expenses	2.37c.	2.27c.
Transportation expenses	68.31c.	65.46c.
General expenses	7.26c.	6.96c.
Total	\$1.21.67	\$1.16.00

There was recently offered for subscription \$2,350,000 Canadian Car & Foundry Co., Ltd., 6% first mortgage 30 year sinking fund bonds. The Royal and Dominion Securities Corporations, which made the issue, announced that it was three times oversubscribed, although the books were only open for half an hour. The bonds were issued to provide for the purchase price of the Dominion Car & Foundry Co. and the Canada Car Co.

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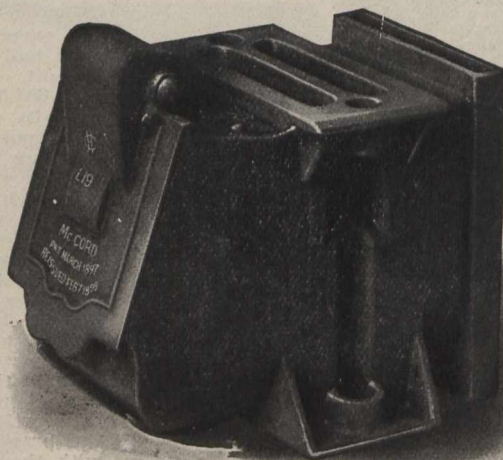
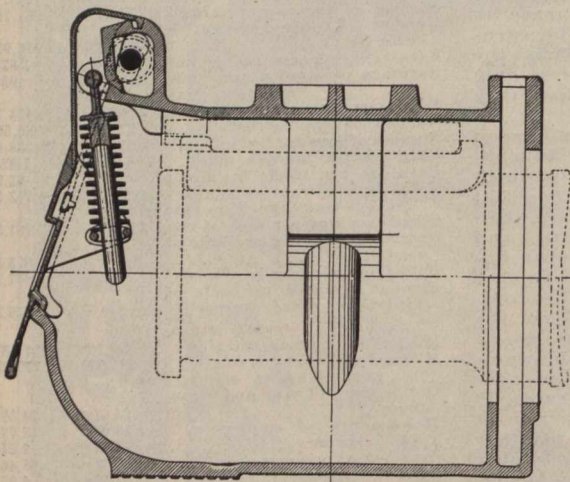
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 Union Bank Building, WINNIPEG, J. F. Porter, Manager.
 Calgary, 609 Grain Exchange Building, J. F. Porter, Manager.

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Government Railways Results,

Dealing with the Government railways in the course of his speech in the House of Commons recently, on the work of the Department of Railways and Canals for 1909, the Minister referred at length to the question of what should and what should not be charged to capital account. The Government desired to treat these railways in as approximately a fair way as it did the lines owned by companies. About 75% of the company lines on the continent have gone into liquidation, and the original capital and original stockholders have, for all purposes of profit, been wiped out. Every dollar invested on capital account on the Intercolonial Ry. stands there to-day against it, whereas in many of the company lines one-half of the original capital has been practically wiped out by liquidation. It was sometimes said that the Intercolonial charged small things to capital which should come out of revenue. He submitted that the Intercolonial stood on all fours with company lines, and would compare with them in that same respect as regards age. If the capital account of a railway must cease after a number of years, a number of company lines ought to have come to an end of their capital expenditure years ago. The Intercolonial is doing exactly what these companies are doing as regards expenditures on capital account. The general rule was that anything which will add to the value of the property, any betterment that will add to the power of earning, should go into capital account. There were exceptions as in the case of building new stations, the cost of most of these was charged to capital account. The following figures showed increases on the I.C.R. during the last 13 years:—

	1896.	1909.	Increase
			%
Length of line	1186.5	1479.13	25
Capital invested	\$55,277,034.63	\$90,994,664.06	65
No. of locomotives	204	414	100
Tractive power of locomotives, lbs.	2,686,725	10,318,716	284
Passenger car service, number .	276	450	60
Freight car service, number . . .	6,667	12,692	90
Ploughs, flangers, etc., number. .	77	103	30
Engine mileage	4,714,661	9,208,327	95
Car mileage	43,005,684	93,374,119	117
Train mileage	3,842,502	6,865,204	79
No. of passengers	1,471,866	2,933,754	100
Tons of freight	1,379,618	3,552,739	160
Sidings	157.25	365.74	132

In 1909, after a pretty thorough discussion, a Managing Board was appointed for the Government railways. This Board had managed the I.C.R. during the past nine months without any interference from the Department, except in so far as he had suggested that in filling vacancies on the staff, the men who had been discharged on account of the Board's action in reducing staffs, should have the preference. The Board's work really began in July last. It started in to bring about results on the railway, and the members had worked with that idea in the interests of the railway, treating it as a transportation project belonging to all the people of Canada. As is well-known our traffic on all railways had dwindled away very materially, and the receipts on all railways, including the I.C.R., were materially less than they were in the preceding year. There was a deficit of about \$800,000 for the year ended Mar. 31, 1909. The Board undertook the work, and wishing to bring about an equilibrium, and put the railway in proper shape, reduced the staff, 503 employees being dropped. In addition to reorganizing the shops, on the transfer to the new quarters, the Board had been enabled to expend \$131,507.07 on repairs and renewals, and \$100,000 on rail renewals out of revenue. There had also been ballasted 55.5 miles of track; 574,237 new ties had been laid, 11.5 miles were relaid with new 80 lb. steel rails, and 5.33 miles of track were relaid with

67 lb. steel rails, and the maintenance of the track has been generally kept up. On Mar. 31, 1909, there was a credit of \$207,262.20 in the fund for renewals of rolling stock. In accordance with the custom established in 1907-08 \$25,000 a month was added to this out of revenue, so that at Dec. 31, 1909, the fund amounted to \$439,000. Contracts for rolling stock to be delivered by April 1, of the current year, to the value of \$445,924 had been made. At the end of the financial year this rolling stock would have been paid for leaving \$60,000 at the credit of the fund for further purchases. The thirty 50-ton coal cars, forming part of this rolling stock, have a total carrying capacity of 1,500 tons, against the 1,498 tons of the 153 wooden cars, and 29 20-ton coal cars which they replace. This would mean so much less dead weight to move. Nine of the 11 locomotives purchased, replace old locomotives, the new ones having a tractive power of 338,697 lbs. against 304,681 lbs. of the old. In addition there had been expended out of revenue \$553,560 for locomotive repairs, \$194,800 for repairs to passenger cars and \$440,900 for repairs to freight cars.

As to traffic he claimed that Ontario as well as other provinces get some benefit from the I.C.R. as a Government line, and from the rates which it has always charged. Up to Jan. 4, of this year, the railway had transported 329,699 bush. of grain to Halifax, against 81,904 bush. in the previous year, and 1,165,967 bush. to St. John against 525,753. This grain was handed over by the G.T.R. The average number of employes on the line during the nine months ended Dec. 31, 1909, was 8,833 and the amount of wages paid per month was \$427,470.86. Briefly the result of the operations of the line for the nine months ended Dec. 31, 1909,

showed as follows: The expenditure on capital account for the year would be approximately \$1,280,000 against \$3,867,232.60 last year. The gross receipts for the nine months ended Dec. 31, 1909, were \$7,073,300.97, an increase of \$442,154.87 over last year; the gross working expenses were \$6,310,912.36, a reduction of \$757,087.98; charged to revenue for rail renewals, \$100,000.00, \$6,410,912.36; leaving a net revenue on Dec. 31, 1909, of \$662,388.61. What the net results of the year's operation would be could only be estimated, but he thought it would be found to be a surplus of about \$662,000.

In regard to the Prince Edward Island Ry., he wished to say that he did not expect, and it was not fair to expect that it would keep even. The traffic was not there to keep it even, and the country must be prepared to run the line fairly for the accommodation of the people, and to meet any deficiency out of the consolidated revenues. It was a matter for serious consideration if the passenger service should not be improved, providing for the additional service out of the consolidated revenue. The amount expended on capital account on the P.E.I.R. during the present year would be approximately \$170,000. Up to Nov. 30, 1909, the deficit on the line was \$44,554.45, and he expected that by the end of the financial year it would be about \$70,000, against \$89,010.78 for 1908-09.

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

The Board's Secretary has issued the following circular:—

"Differences of opinion appear to have arisen between some of the railway companies and the public as to the scope of order 4988, July 8, 1908, known as the General Interswitching Order, and judging from their interswitching tariffs, these differences do not seem to be non-existent as between the companies themselves. While of the opinion that the language of the order is clear beyond misinterpretation, the Board declares that, for the purposes of the order:

"(a) The maximum interswitching distance is unqualified, and means, as stated, 'any distance not exceeding four miles.....from the nearest point of interchange,' regardless of the location of the point of interchange, or of station yard limits, or any other limits or boundaries.

"(b) Clause 10 of the order refers, as stated to 'ordinary freight service from station to station'; that is, traffic originating at the common point, as distinguished from interswitched joint traffic."

WOOD PULP RATES FROM THOROLD.

9246. Jan. 12.—The order 9031, Dec. 2, 1909, directing the Niagara, St. Catharines & Toronto Ry. to restore the joint rate of 2c. per 100 lbs. on wood pulp, in carloads, from Thorold, Ont., to Suspension Bridge, N.Y., by Jan. 15, 1910. Leave having been granted the company to appeal to the Supreme Court of Canada from the said order, upon a question of the jurisdiction of the Board to make the order requiring the restoration of the rate to Suspension Bridge, N.Y. Order 9031, is amended by extending the time within which the N.S.C. & T.R. shall be required to restore the said joint rate, until March 15, 1910.

COAL RATES, NIAGARA FRONTIER TO SUDBURY.

9271. Jan. 12.—The complaint of Board of Trade of Sudbury, Ont., complaining that the joint rate charged by the C.P.R. on coal from the Niagara frontier to Sudbury is unreasonable and discriminative as compared with the rate charged by the G.T.R. from the Niagara frontier to North Bay, Ont. It is ordered that the Michigan Central, the C.P., and the Toronto, Hamilton & Buffalo Ry. companies publish and file, not later than Mar. 1, 1910, a joint rate not exceeding \$2.60 per ton, in carloads of the customary minimum weights, from Black Rock and Suspension Bridge, N.Y., to Sudbury, Ont. And it is further ordered that the special mileage rates on coal and coke, in carloads, published in the C.P.R. Special Tariff, C.R.C. no. E. 660, to be applied "between stations on the Ontario, Lake Superior (east of North Bay), Eastern and Atlantic Divisions, where specific rates are not published, or when lower than shown in (specific) tariff," be extended so as to include the Lake Superior Divisions, Sudbury and East, and so to conform, territorially, to the company's approved Standard Mileage Freight Tariff, C.R.C. no. E. 1244; the same to become effective not later than Feb. 7, 1910. And it is further ordered that all other of the company's special mileage freight tariffs (if there be any) in which the point of separation, between the rates of the Lake Superior Division and the lower eastern scale may be east of Sudbury, be amended so as to include the Lake Superior Division, Sudbury and east, in the said lower eastern scale, and so to conform, territorially, to the company's approved Standard Mileage Freight Tariff C.R.C. no. E. 1244; the same to become effective not later than Mar. 1, 1910.

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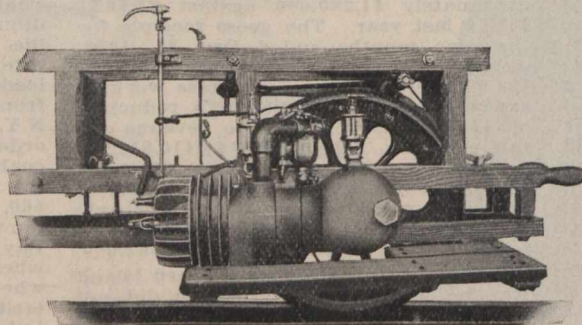
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RATES FOR ASBESTOS GOODS.

9362. Jan. 24.—Re application of Canadian Asbestos Co., of Montreal, for a carload rating of 5th class on asbestos goods with or without cotton waste and oakum, in mixed carloads, more particularly with reference to shipments to Canadian points west of the lakes, or for a commodity tariff to western points on the same 5th class basis:

It is order that in the Canadian Classification the ratings of asbestos goods, excepting moulded pipe covering, packing, and rope, be reduced, where now higher, to 5th class in carloads, and 3rd class in less than carloads; also that the asbestos items be added to the hardware list, the said changes to be included in the forthcoming amendment to the Canadian Classification when the Board has ruled thereon.

2. That asbestos boiler and pipe covering be added to pg. 38 of Westbound Transcontinental Tariff C.R.C. 242, in the item which now covers asbestos, n.o.s., asbestos roofing slate, and asbestos building paper and felting, at the same minimum carload weight.

3. That the asbestos ratings shown at pg. 38 of the Westbound Transcontinental Tariff C.R.C. 242 be not advanced by reason of the carload commodity rate of \$1.20 per 100 lbs. on certain articles of asbestos, cotton waste and oakum, to B.C. Pacific Coast terminals, shown at pg. 27 of Supplement 4 to said tariff, published and filed since the hearing, and that the subsequent application for reduction of said commodity rate of \$1.20 per 100 lbs. be refused.

4. That the companies having since the hearing published and filed a commodity rate of 5th class on mixed carloads of asbestos goods, and cotton waste and oakum, to Nelson, B.C., Rossland, B.C., and Nelson and Rossland common points, the subsequent application with respect to the Kootenay rates be refused.

C.N.R. Hotel at Port Arthur.

The Prince Arthur hotel, which is being built by the Canadian Northern Ry. at Port Arthur, is to be a six story and basement structure, 51 by 213 ft. and 75 ft. high. The base is to be of granite, the first two stories of Bedford limestone, treated with pilasters, the caps and cornice forming the finish between the stone and the brick work above. This brick work extends to the level of the sixth story window sills, and will be red face brick with Bedford limestone sills. The band course at the level of the sixth story window sills and the cornice and balustrade above these windows are to be of Bedford limestone. The frieze in which these sixth story windows are set is to be of red brick, laid up in panels. At each entrance will be an ornamental wrought iron and glass marquise, the two entrances being marked by a more elaborate treatment of the stone work projecting out from face of main building wall.

The basement will contain cold storage, boiler room (with space for future extension), elevator machinery, baggage room, servants' dining room, storage rooms for the hotel and for the stores of the first floor, a laundry large enough to do all the hotel work, porters' room and servants' lavatories and locker rooms. The greater portion of the first floor will be devoted to the hotel lobby, writing rooms, ladies' parlor and entrance, cafe grill and pantry, barber shop and toilet rooms. The remainder of the first floor will be taken up by six stores, each running entirely through the building. In general this floor will be wainscotted, with marble base and terrazzo flooring, except in the pantry and space occupied by offices and news stands, where the flooring will be of cork. The

walls throughout the first floor will be panelled and the ceilings beamed. Ceilings and plaster cornices will be tinted. On the south-east corner of the second floor will be the dining room, overlooking Thunder Bay. On the north-east corner will be the kitchen, pantry and store rooms. The remainder of this floor will be devoted to 10 bedrooms, the rooms at the western end of the building being arranged en suite, the remaining bedrooms each having a private bath. The natural grade of Cumberland St. has made it possible to place the dining room and kitchen floor lower than the general level of the second floor, leaving the first floor under these rooms at the sidewalk level. The stairway to the dining room from the first floor will have a short run, and the extra ceiling height necessary to rooms of this size will be gained without adding to the total height of the two stories. The problem of service has been most carefully worked out. The dining room will be directly back of the kitchen and over the cafe grill and bar, which in turn will be directly over the servants' dining room and wine room in the basement, thus making it possible to use the dumbwaiters to the greatest advantage. The kitchen and service rooms are to be fitted with every modern appliance for the facilitation of service and will be ample in equipment to allow for any future addition to the hotel. The third, fourth and fifth floors will each have 23 large rooms, averaging in size 17½ by 20 ft.. The rooms at the ends of the building on the south side will be arranged en suite; all other rooms on these floors will have private baths. The sixth floor will contain 24 guests' rooms, each provided with stationary basins and closets. As there will be no private baths on this floor, general bath rooms and lavatories will be provided. At the eastern end of this floor, isolated from the part of the floor devoted to the guests' use will be the servants' quarters, lavatories and housekeeper's apartment.

The stairs throughout the guests' portion of the hotel will be of cast iron with marble treads and wrought iron railings. The service stairs will be of similar construction, but of somewhat less expensive design. The bedrooms and corridors throughout will be trimmed in oak with plaster walls, ceilings and cornices. Bath rooms throughout will have tile floor with sanitary base and wainscoting. The bedroom floors will be so arranged that each room will be perfectly lighted and ventilated, and the use of inside bath rooms with mechanical ventilation will make all the space available. The elevators will be centrally located, and will be of the electric type, the cars being of ornamental iron and glass. There will be 103 rentable rooms in the hotel. The building has been so designed that extensions may be added in the form of wings at each end of the building. The completed structure will then present the form of three sides of a hollow square, with a court facing Thunder Bay. Warren & Wetmore, New York, are the architects and the Imperial Construction Co., Toronto, the contractors.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase
July	\$ 843,500	\$613,900	\$229,600	\$26,700+
Aug.	807,100	602,700	204,400	18,300+
Sept.	1,076,800	765,300	311,500	60,400+
Oct.	1,384,200	903,500	480,700	60,600+
Nov.	1,517,600	970,100	547,500	134,000+
Dec.	1,160,300	825,900	334,400	40,300+
	\$6,789,400	\$4,681,400	\$2,108,000	\$350,100+
Inc.	\$ 1,154,300	\$ 804,200	\$350,100

Approximate earnings for Jan. \$792,200, and for two weeks ended Feb. 14, \$958,000, against \$526,200 and and \$240,500 for same periods 1909.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1908-9, from July 1, 1909:

	Earnings.	Expenses.	Net Profits.	or Decrease	Net Increase
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+	
Aug.	7,426,984.62	4,462,926.75	2,964,057.87	355,159.10+	
Sept.	8,323,173.03	4,891,288.86	3,431,884.17	1,317,281.40+	
Oct.	9,744,596.87	5,358,299.68	4,386,297.19	1,731,080.48+	
Nov.	9,075,963.93	5,383,625.98	3,692,337.95	1,471,258.60+	
Dec.	8,214,758.04	5,099,334.94	3,115,423.10	918,671.53+	

\$49,925,511.42\$29,855,635.41\$20,069,876.01\$6,028,698.65+ Inc. \$9,213,853.71 \$3,185,155.06 \$6,028,698.65.....

Approximate earnings for Jan., \$6,007,000, and for two weeks ended Feb. 14, \$2,888,000, against \$4,711,000 and \$2,292,000 for same periods 1909.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for Dec., 1909, \$236,364.95; expenses, \$164,201.12; net revenue, \$72,163.83, against \$213,228.55 operating revenue; \$163,336.86 expenses; \$49,891.69 net revenue for Dec., 1908. Operating revenue for six months ended Dec. 31, 1909, \$1,719,742.71; expenses, \$1,149,182.67; net revenue, \$570,660.04, against \$1,383,858.12 operating revenue; \$987,261.74 expenses; \$396,596.38 net revenue, for same period 1908. Approximate earnings for Jan., \$219,885, and for two weeks ended Feb. 14, \$101,464, against \$196,058 and \$96,842 for same periods 1909.

MINERAL RANGE RD.—Operating revenue for Dec., 1909, \$69,790.85; expenses, \$58,463.88; net revenue, \$11,326.97, against \$65,343.79 operating revenue; \$54,928.14 expenses; \$10,415.65 net revenue for Dec., 1908. Operating revenue for six months ended Dec. 31, 1909, \$439,286.02; expenses, \$366,652.25; net revenue, \$72,633.77, against \$427,846.63 operating revenue; \$339,906.91 expenses; \$87,939.72 net revenue for same period 1908. Approximate earnings for Jan., \$65,600, and for two weeks ended Feb. 14, \$30,258, against \$61,660 and \$31,162 for same periods 1909.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Operating revenue for Nov., 1909, \$1,613,666.45; expenses and taxes, \$790,740.86; operating income, \$822,925.59, against \$1,180,183.63 operating revenue; \$674,511.85 expenses and taxes; \$505,671.78 operating income, for Nov., 1908. Operating revenue for five months ended Nov. 30, 1909, \$7,547,707.71; expenses and taxes, \$3,889,505.62; operating income, \$3,658,202.09, against \$6,108,328.06 operating revenue; \$3,505,733.96 expenses and taxes; \$2,602,594.10 operating income, for same period 1908. Approximate earnings for Dec., 1909, \$1,586,725; for Jan., \$1,568,719, and for two weeks ended Feb. 14, \$748,521, against \$1,481,910, \$1,330,378 and \$630,628 for same periods 1908-09.

Grand Trunk Ry. Earnings, Expenses, Etc.

Subject to audit, the accounts for the half-year ended Dec. 31, 1909, show the following results: Gross receipts£3,632,930 Working expenses (including £255,000 in reduction of engine and car renewal suspense account 2,753,100

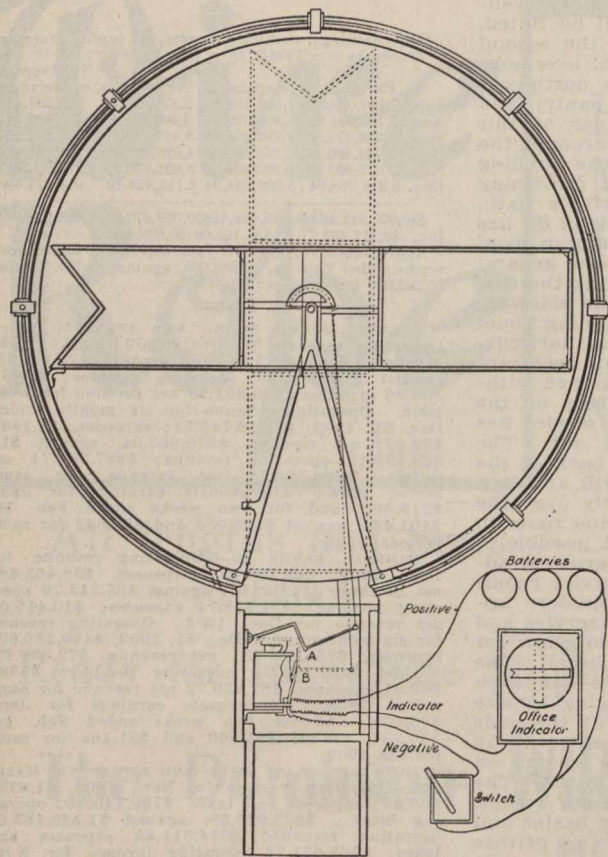
Net receipts	£ 879,800
Income from rentals, outside operations and car mileage balance	39,900
Total net revenue	£ 919,700
Net revenue charges, less credits	503,900
Balance	£ 415,800
Deduct, Canada Atlantic deficiency	£17,400
Less, D., G. H. & M. surplus. 12,100	
	5,300
Surplus	£ 410,500

This surplus added to the balance of £9,900 from June, 1909, makes a total of £420,400 available for dividend, which will admit of payment of the dividend for the half-year on the 4% guaranteed and first preference stocks, and the full dividend of 5% for the year on the second preference stock, leaving a balance of about £11,800 to be carried forward. The accounts of the G. T. Western Ry. for the half year show a surplus of £25,800, which amount is carried forward to the current half year.

TRAFFIC RECEIPTS FOR THE SYSTEM.

	Aggregate from Jan. 1 to Jan. 31:—		
	1909	1908	Inc.
Grand Trunk	\$490,217	\$408,948	\$81,269
Canada Atlantic	29,373	23,220	6,153
G. T. Western	95,664	85,556	10,108
D.G.H. & M.	32,621	24,827	7,794
Totals	\$647,875	\$542,551	\$105,324

The G.T.R. Freight Traffic Department, Montreal, held its third annual dinner at the Montreal Club, Feb. 4.



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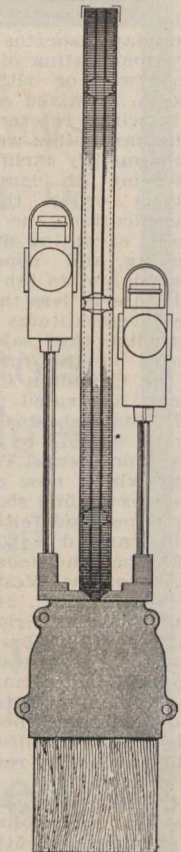
The banner in a horizontal position signifies "STOP." When current is applied the banner comes to position of "CLEAR," or perpendicular, as shown by dotted lines; this brings lever A down, making contact with point B, which contact must be made before Office Indicator will operate, and as the Semaphore only works to "CLEAR" electrically, therefore, in case there should be any derangement of the wires, the banner instantly assumes the position of "STOP" by gravity, where it will remain until the cause of the disturbance is discovered and removed.

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Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearing took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

9261. Jan. 13.—Approving proposed road diversion and highway crossing of G.T.P.R. in s.e. sec. 31, tp. 39, r. 21, w. 3 meridian, West Saskatoon district, Sask.

9262. Jan. 13.—Approving Montreal and Southern Counties Ry. proposed revised location near Riverside St., Montreal.

9263. Jan. 13.—Approving C.N.O.R. revised location near Osaca, Hope tp.

9264. Jan. 13.—Authorizing Montreal and Southern Counties Ry. to cross G.T.R. near Victoria Jubilee Bridge, near Windmill Point, and on Common St., Montreal.

9265. Jan. 12.—Authorizing C.P.R. to construct spur for A. & F. Fraser, Pembroke tp., Ont.

9266. Jan. 13.—Approving G.T.P.R. location, Prince Rupert easterly, mileage 299.15 to 359.00, r. 5, Fort Fraser district, B.C.

9267. Jan. 4.—Dismissing city of Montreal's application for order directing C.P.R. to pay cost of construction of sidewalks and pavement of subway at Iberville St.

9268. Jan. 10.—Ordering C.N.R. to erect fences on each side of its right of way through lots 124 to 127, Portage la Prairie parish, Man.

9269. Jan. 14.—Approving pipe line of Smith, Kerry & Chace over C.P.R., for construction purposes in connection with concrete dam on Illecillewaet River, near Revelstoke, B.C.

9270. Jan. 14.—Authorizing G.T.R. to construct several branch lines in con. 1, Tay tp., near Midland, Ont.

9271. Jan. 12.—Ordering M.C.R., C.P.R. and T.H. & B.R. to file, not later than Mar. 1, a joint rate not exceeding \$2.60 a ton on coal in carloads of customary minimum weights, from Black Rock and Suspension Bridge, N.Y., to Sudbury, Ont.

9272. Jan. 14.—Extending until Mar. 1 time within which additional protection may be provided at G.T.R. and Galt, Preston & Hespeler Ry. crossing, Hespeler, Ont.

9273. Jan. 14.—Authorizing city of Winnipeg to construct bridge over C.P.R. connecting Brown St. on the north and Brant St. on the south of the railway yards.

9274. Jan. 13.—Authorizing Nipissing Power Co. to place wires across Bell Telephone Co.'s wires near Callandar, Ont.

9275. Jan. 14.—Authorizing Gillies Hill Telephone Association to place wires across G.T.R. at m.p. 140, con. 7, Elderslie tp., Ont.

9276. Jan. 14.—Authorizing Pipestone municipality, Man., to place wires across C.N.R. near Belleview Siding.

9277. Jan. 14.—Authorizing Shawinigan Cotton Co. to lay water pipe under C.N.Q.R. at Shawinigan Falls, Que.

9278. Jan. 14.—Approving location of C.P.R. Kipp to Aldersyde branch, mileage 50 to 84.45, Alta.

9279. Jan. 15.—Authorizing G.T.R. to construct five bridges on its 20th district.

9280. Jan. 14.—Authorizing G.T.R. to construct spur on Walnut St., Collingwood, Ont.

9281. Jan. 15.—Authorizing C.P.R. to reconstruct bridge 52.7 on its Cranbrook section, B.C.

9282. Jan. 17.—Approving proposed transfer tracks layout between C.N.O.R. and C.P.R. near Cypress St., Toronto.

9283. Jan. 15.—Authorizing Manitoba Government Telephones to place wires across C.N.R. near Clanwilliam station.

9284. Jan. 15.—Authorizing C.P.R. to place wires across its Woodstock section, mileage 105.4, Atlantic Division.

9285. Jan. 6.—Authorizing C.N.Q.R. to build across Charlesbourg Rd., St. Roch parish, Que.

9286. Jan. 4.—Authorizing C.N.O.R. to build across G.T.R. near Powassan.

9287. Jan. 4.—Ordering that the rate of speed at which G.T.R., Kingston and Pembroke Ry. and Bay of Quinte Ry. may operate trains over the crossing in Kingston, Ont., be six miles an hour.

9288. Jan. 17.—Approving proposed location of C.P.R. Sedgewick to Eilerslie branch, mileage 93.85 to 3.65.

9289. Jan. 17.—Approving G.T.R. bridges across River St. Lawrence and Soulanges canal, Que.

9290. Jan. 15.—Authorizing C.P.R. to construct spur to Peterboro Hardware Co.'s premises, Peterboro, Ont.

9291. Jan. 17.—Authorizing C.P.R. to make changes in interlocking plant at crossing with G.T.R. at Komoka, Ont.

9292. Jan. 17.—Approving C.N.R. plan and profile of proposed layout for passenger station and local freight yards at Fort Garry, Winnipeg.

9293. Jan. 17.—Ordering C.N.R. to improve condition of ditches along its right of way opposite sec. 23, tp. 2, r. 8 e., and sec. 23, tp. 2, r. 7 w., Man.

9294 to 9296. Jan. 17.—Authorizing C.N.O.R. to build across public roads in Pickering tp.

9297. Jan. 18.—Authorizing Saraguay Electric and Water Co. to place cable under Montreal Terminal Ry. at St. Pierre St., Pointe aux Trembles parish, Que.

9298. Jan. 18.—Authorizing Dominion Light, Heat & Power Co. to place wires across Montreal Terminal Ry. at Air Ave., Maisonneuve, Que.

9299. Jan. 18.—Authorizing C.N.O.R. to cross public road between lots 8 and 9, con. 4, Darlington tp., at station 1492-00.

9300. Jan. 18.—Amending order 8900, Dec. 13, 1909, approving plan of proposed C.P.R. subway at Albert St., Regina, Sask.

9301. Jan. 18.—Authorizing C.N.O.R. to build across public road between lots 15 and 16, and lot 17, con. 4, station 2612-73, Pickering tp.

9302. Jan. 17.—Authorizing C.P.R. to construct siding to Standard Sanitary Manufacturing Co.'s premises across Royce St., Toronto.

9303 to 9305. Jan. 17.—Authorizing Seymour Power & Electric Co. to place wires across G.T.R. at three points in Hastings co., Ont.

9306. Jan. 18.—Extending until May 1, time within which Brandon, Saskatchewan & Hudson Bay Ry. may construct branch in Brandon, Man.

9307 to 9310. Jan. 19.—Authorizing Berlin, Ont., Light Commissioners to place wires over, and gas mains under G.T.R. at four points.

9311 to 9320. Jan. 19.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at 10 points.

9321. Jan. 19.—Authorizing C.N.O.R. to build across public road between lots 22 and 23, con. 1, Scarboro tp.

9322. Jan. 19.—Authorizing C.P.R. to use bridge 41.6 on its Montreal-Ottawa section.

9323. Jan. 19.—Authorizing C.P.R. to cross Water St., St. Andrews, N.B.

9324. Jan. 19.—Authorizing city of Toronto to lay water pipe under C.P.R. on Christie St.

9325.—Standard regulations regarding farm crossings. This order is given fully on another page.

9326. Jan. 18.—Authorizing Ontario & Minnesota Power Co. to divert, for use in U.S., 6,000 electrical horse power de-

veloped on the Canadian side of Rainy River near Fort Frances, Ont.

9327. Jan. 20.—Authorizing G.T.R. and C.P.R. to operate trains over crossing east of Weston Rd., West Toronto, Ont.

9328. Jan. 20.—Authorizing C.N.O.R. to build across and divert public road between lots 33 and 34, con. 1, Hamilton tp.

9329. Jan. 20.—Authorizing C.N.O.R. to build bridge over creek at station 1778-30, lot 29, con. 4, Darlington tp.

9330. Jan. 20.—Authorizing C.N.O.R. to build across public road between lots 9 and 10, con. A, Hamilton tp.

9331. Jan. 20.—Authorizing C.N.Q.R. to build across Route Royale, lot 192 Pointe aux Trembles, mileage 25.13 west from Quebec bridge.

9332, 9333. Jan. 20.—Authorizing C.N.Q.R. to divert highway and build across road in Dombourg village.

9334 to 9337. Jan. 20.—Authorizing C.N.Q.R. to build across public roads in Point aux Trembles, Cap Sante, at mileage 24.75 west from Quebec bridge, and at Dombourg.

9338. Jan. 20.—Authorizing C.N.O.R. to construct bridge over creek at station 1911, lot 4, con. 3, Whitby tp.

9339. Jan. 18.—Ordering G.N.R. to construct spur at Tamarack station, B.C., for Clarkson Bros.

9340. Jan. 18.—Dismissing application of Col. Hughes, M.P., for order directing alteration in C.P.R. and G.T.R. time tables so as to allow persons reaching Peterboro on G.T.R. morning train from Port Hope to catch C.P.R. morning train for Montreal and Ottawa.

9341. Jan. 20.—Authorizing Winnipeg Electric Ry. to operate cars over crossing on Logan Ave.

9342. Jan. 18.—Ordering G.N.R. to establish on its V.V. & E. and N.W. & S. Rys. re-arrangement of train service between Point Guichon and Vancouver; Huntingdon and Cloverdale Jct., Cloverdale Jct. and Vancouver; and tri-weekly service between Hazelmere and Cloverdale Jct., B.C.

9343. Jan. 22.—Authorizing C.P.R. and Canada Atlantic Ry. to operate trains over crossing at St. Polycarpe Jct., Que., without being brought to a stop.

9344. Jan. 21.—Authorizing G.T.R. to construct spur on Anglesea St., Goderich, Ont.

9345. Jan. 18.—Ordering G.N.R. to construct spur at Port Rico station, B.C.

9346. Jan. 21.—Authorizing town of Macleod, Alta., to place electric light wires across C.P.R. at Third Ave.

9347. Jan. 21.—Authorizing Mornington and Wellesley Telephone Association to place wires across C.P.R. at Tralee, Ont.

9348. Jan. 22.—Authorizing the Chinguacousy Municipal Telephone System to place wires across G.T.R. near Cheltenham, Ont.

9349. Jan. 22.—Authorizing New Brunswick Telephone Co. to place wires across C.P.R. in Woodstock yards, N.B.

9350. Jan. 22.—Authorizing Manitoba Government Telephones to place wires across C.P.R. near Poplar Point station.

9351. Jan. 22.—Authorizing G.T.R. to reconstruct bridge over Heads Creek, Copetown, Ont.

9352. Jan. 22.—Amending order 8386, Oct. 6, 1909, authorizing city of Winnipeg to place wires across C.P.R. in Kildonan by substituting other plans for those then approved.

9353 to 9359. Jan. 22.—Authorizing Ontario Hydro-Electric Power Commission to place transmission wires across G.T.R. at seven points.

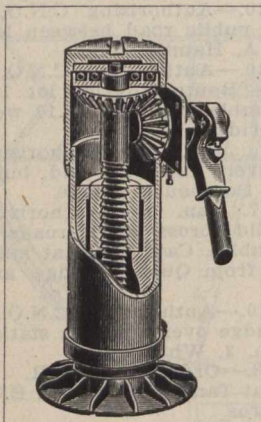
9360. Jan. 24.—Authorizing G.T.R. to construct spur to Tudhope Carriage Co.'s premises, Orillia, Ont.

9361. Jan. 24.—Authorizing G.T.R. to construct spur to Kirkfield Portland Cement Co.'s premises, Bexley tp., Ont.

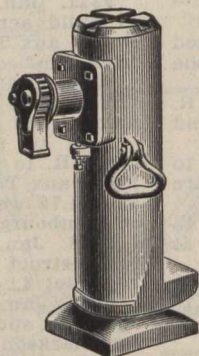
9362. Jan. 24.—Ordering change in asbestos items in Canadian Classification.

NORTON JACKS

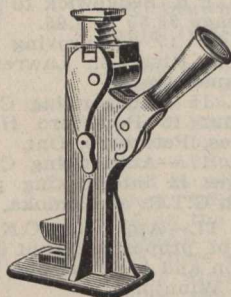
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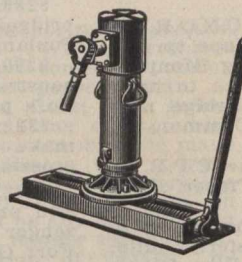
Sectional View



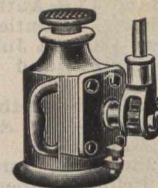
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This order is given fully on another page.

9363. Jan. 24.—Authorizing G.T.R. to extend its public track on Esplanade St. between Sherbourne and Princess Sts., Toronto.

9364. Jan. 24.—Ordering C.N.R. to erect fences on each side of its right of way in Oliver tp., Ont.

9365, 9366. Jan. 24.—Authorizing C.P.R. to use bridges 0.5, 0.9, 18.8, 19.1, 10.0 and 10.1 on its Ottawa section, and 44.8 Montreal terminals.

9367. Jan. 24.—Authorizing C.P.R. to place wires across its St. Stephen branch, N.B., at mileage 33.58.

9368 to 9371. Jan. 24.—Authorizing Ontario Hydro-Electric Power Commission to place wires across C.P.R. at four points.

9372. Jan. 21.—Dismissing Hazeldean Rural Telephone Co.'s application for order directing Bell Telephone Co. to furnish better connection with its system near Ottawa.

9373, 9374. Jan. 25.—Authorizing Manitoba Government Telephones to place wires across C.P.R. near Brandon and Rapid City.

9375. Jan. 24.—Authorizing Saraguay Electric & Water Co. to place cable under C.N.Q.R. at Rue St. Pierre, Tetraultville.

9376. Jan. 24.—Authorizing Bell Telephone Co. to place wires across T.H. & B.R. at Primrose Ave. and Back St., Hamilton, Ont.

9377. Jan. 24.—Authorizing C.N.O.R. to construct Y across public concession, in Neelon tp.

9378. Jan. 25.—Authorizing C.P.R. to use bridge 25.86, on its North Bay section, Ont.

9379. Jan. 25.—Rescinding order 9297, Jan. 18, authorizing Saraguay Electric & Water Co. to place cable under Montreal Terminal Ry. at Rue St. Pierre, Pointe aux Trembles, Que.

9380. Jan. 25.—Authorizing C.N.Q.R. to open for traffic its Montmorency Branch.

9381, 9382. Jan. 25.—Authorizing Hamilton Cataract Power, Light & Traction Co. to place wires across T.H. & B.R. at Cainsville, and lot 34, con. 4, Saltfleet tp., Ont.

9383. Jan. 25.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at con. 9, Burford tp., Ont.

9384. Jan. 24.—Authorizing Bell Telephone Co. to place wires across C.P.R. telegraph wires near Hammond, Ont.

9385. Jan. 25.—Authorizing G.T.R. to construct several spurs in or near Midland, Ont.

9386. Jan. 20.—Approving C.N.R. location from mileage 0 to 14, Cranberry Lake south to Albreda Summit, B.C.

9387. Jan. 26.—Authorizing G.T.R. to construct spurs to M. Chew's premises on lot 21, con. 3, Tay tp., Ont.

9388. Jan. 26.—Authorizing G.T.R. to construct spur to Dunlop Tire Co.'s premises, Toronto.

9389. Jan. 26.—Authorizing G.T.R. to construct spur to Muskoka Lake Lumber Co.'s premises, Muskoka tp., Ont.

9390. Jan. 25.—Amending order 8769, Sep. 2, 1909, authorizing Canada Atlantic Ry. to construct siding from south of Sapper's Bridge to Chateau Laurier site, Ottawa, by striking out clause re flagman, thus dispensing with services of one.

9391, 9392. Jan. 27.—Authorizing Ontario Hydro-Electric Power Commission to place telephone and relay wires over C.P.R. in Ancaster and Gainsboro tps.

9393. Jan. 28.—Authorizing C.P.R. to construct two additional tracks across road allowance between secs. 24 and 25, tp. 24, w. 2 m., Sask.

9394. Jan. 26.—Authorizing Ontario Hydro-Electric Power Commission to place wires across P.M.R., Yarmouth tp.

9395. Jan. 29.—Authorizing Bell Tele-

phone Co. to place wires across G.T.R. at p.c. near Walkerville station, Ont.

9396. Jan. 26.—Approving overhead crossing of C.P.R. at 6th Ave, Moose Jaw, Sask.

9397. Jan. 29.—Authorizing C.P.R. to use bridges 6.0 and 11.5 on Georgian Bay and Seaboard Ry.

9398. Jan. 29.—Authorizing G.T.R. to construct spur near Sherks station, Humberstone tp., Ont.

9399. Jan. 29.—Authorizing C.P.R. to construct spur across 24th St., Saskatoon, Sask.

9400. Jan. 29.—Approving C.N.O.R. plan of 50 ft. span on its Toronto-Ottawa line, over Greenwood Creek at station 2551.

9401. Jan. 27.—Approving C.N.R. location, mileage 15 to 24.7 up Fraser River from Yale, B.C.

9402. Jan. 31.—Authorizing C.N.Q.R. to divert public road on lots 415, 16 and 17, St. Augustine parish, mileage 19.60 west from Quebec bridge.

9403. Jan. 27.—Authorizing C.N.O.R. to divert side and concession roads at station 313, Scarboro tp.

9404. Jan. 27.—Dismissing application of Scarboro tp., Ont., for order directing C.N.O.R. to build across public road between lots 14 and 15, con. 3, station 625.

9405. Jan. 27.—Dismissing complaint of E. Clark & Son, Toronto, re refusal of Central Ontario Ry. to furnish cars for shipment of lumber on its branch line between Marmora Jet. and Cordova.

9406. Jan. 31.—Authorizing C.P.R. to use bridges 20.13, 26.73 and 87.62 on its Sault Ste. Marie branch, Lake Superior Division.

9407. Jan. 27.—Ordering C.P.R. to acquire necessary land on Dundas St., Cooksville, Ont., north and south of track to give a clear view of approaching trains in either direction.

9408. Jan. 27.—Ordering G.T.R. to install within six months bells at Lancaster and Strange St. crossings on its main line and Queen and Mill Sts. on its Galt branch in Berlin, Ont.

9409. Jan. 31.—Authorizing C.P.R. to use bridges 61.48, 83.23 and 98.76 on its North Bay section.

9410. Jan. 31.—Authorizing C.N.Q.R. to divert public road on lots 418 and 419, St. Augustine parish, mileage 19.23 west from Quebec bridge.

9411. Jan. 31.—Approving G.T.P.R. Branch Lines location from sec. 8, tp. 17, r. 19, to sec. 23, tp. 11, r. 15, w. 2 m., mileage 4 to 50, Assiniboia district, Sask.

9412 to 9414. Jan. 27.—Authorizing C.N.O.R. to build across public roads at three points in Scarboro tp.

9415 to 9421. Jan. 31.—Approving foundation plan, etc., of trestle for seven bridges, Atlantic, Quebec & Western Ry.

9422. Jan. 31.—Authorizing C.N.Q.R. to divert public road on lots 463 and 456, St. Augustine parish, mileage 17.22 west from Quebec bridge.

9423. Jan. 31.—Authorizing Vancouver, Victoria & Eastern Ry. to construct spur to Daly Reduction Co.'s premises, Hedley, B.C.

9424. Jan. 31.—Authorizing C.P.R. to construct hand rail along retaining wall between Sohmer Park Corner and Voltigeurs St., Montreal.

9425. Jan. 31.—Authorizing Atlantic, Quebec & Western Ry. to construct bridges at mileages 40.8, 46.7, 76.9 and 95.8.

9426. Jan. 27.—Authorizing the T.H. & B.R. to construct two spurs to F. W. Bird & Son's premises, Hamilton, Ont.

9427. Jan. 31.—Authorizing Alberta Government to carry telephone wires across G.T.P.R. near Stony Plain.

9428. Jan. 31.—Authorizing town of Macleod, Alta., to lay water main under C.P.R. at 3rd Ave.

9429 to 9433. Feb. 1.—Authorizing Manitoba Government Telephones to

place wires over G.T.P.R. and C.N.R. at five points.

9434, 9435. Feb. 1.—Authorizing Citizens Telephone Co. to place wires across C.P.R. at Adamsville and Knowlton, Que.

9436, 9437. Feb. 1.—Authorizing Horton & McNab Telephone Co. to carry wires across Canada Atlantic Ry. and across C.P.R. in Horton tp., Ont.

9438. Feb. 1.—Authorizing Bell Telephone Co. to place wires across Chatham, Wallaceburg & Lake Erie Ry. at St. Clair St., Chatham, Ont.

9439. Feb. 1.—Authorizing Parkhill Rural Telephone Co. to place wires across G.T.R. near Parkhill station, Ont.

9440. Jan. 31.—Approving location of C.P.R. station at Wattsburg, B.C.

9441. Feb. 1.—Authorizing C.P.R. as lessees of Vancouver & Lulu Island Ry. to do certain construction in New Westminster, B.C.

9442. Feb. 1.—Authorizing Temiscouata Ry. to construct bridge over Cabano River, Que.

9443. Jan. 27.—Ordering G.T.R. to cross highway at lot 5, concession road between cons. 3 and 4, Louth tp., at right angles, and to install electric bell, one-fifth of cost of bell to be paid out of the Railway Grade Crossing Fund.

9444. Jan. 27.—Authorizing C.N.O.R. to build across public road between lots 2 and 3, con. B, Hamilton tp.

9445, 9446. Feb. 1.—Approving Temiscouata Ry. plans of bridges 5, mileage 10 over Rocky River, and 29, mileage 75 over Silver Stream, Que.

9447. Jan. 31.—Dismissing application for apportionment of cost of constructing highway crossing over Red Mountain Ry., near Patterson's Creek, B.C., as provided for in order 7787.

9448. Feb. 1.—Approving revision of C.N.O.R. location on Livingstone farm, Hamilton tp., mileage 169 from Ottawa.

9449. Jan. 27.—Authorizing E. N. Richards to place light and power wire over G.T.R. at farm lot 102, Sandwich East tp., Ont.

9450. Feb. 1.—Rescinding order 9372, Jan. 21, dismissing application of Hazeldean Rural Telephone Co. for order directing Bell Telephone Co. to provide better connection with its system near Ottawa.

9451. Feb. 1.—Authorizing C.P.R. to construct spur to Bird's Hill Sand Co.'s pit, authorized by order 3796; and to construct four sidings therefrom.

9452. Feb. 1.—Authorizing G.T.R. to reconstruct bridge across Erie St., Stratford, Ont.

9453. Jan. 28.—Authorizing G.T.R. to construct spur to Knechtel & Son's premises, Hanover, Ont.

9454. Jan. 27.—Authorizing E. N. Richards to lay water main under G.T.R. in Sandwich East tp., Ont.

9455. Feb. 1.—Approving rules of Boston & Maine and Maine Central Rds. for operation of trains in Canada.

9456. Feb. 1.—Ordering C.P.R. to repair embankment known as Dewdney Dyke, B.C., and limiting speed of trains crossing dyke to 20 miles an hour.

9457. Jan. 26.—Authorizing G.T.R. to acquire necessary land for approaches to Mrs. Merrin's and J. Elliott's properties, and to carry out improvements.

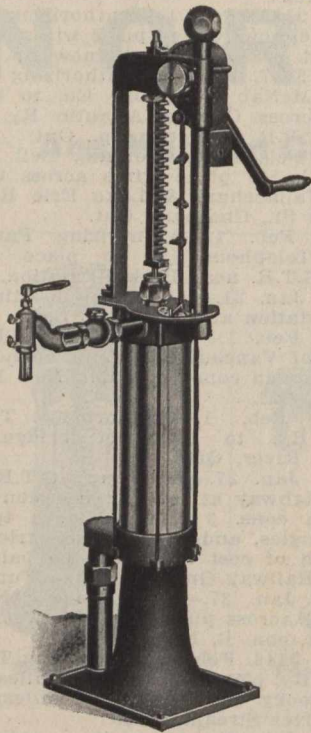
9458. Feb. 3.—Approving G.T.P. Branch Lines highway crossing and road diversion in the n.e. quar. sec. 34, tp. 45, r. 21, w. 4 m., North Alberta.

9459. Feb. 2.—Approving C.P.R. plan showing standard 10 in. stand-pipe.

9460. Jan. 29.—Authorizing Ontario Hydro-Electric Power Commission to erect transmission wires across Hamilton and Dundas Electric Ry. in Ancaster tp.

9461. Feb. 3.—Authorizing Bell Telephone Co. to place wires across C.N.R. telegraph wires near Cyrville station, Ont.

9462. Feb. 1.—Authorizing Ontario Hydro-Electric Power Commission to



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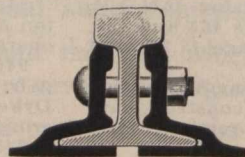
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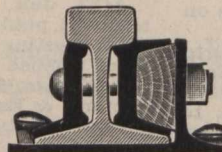
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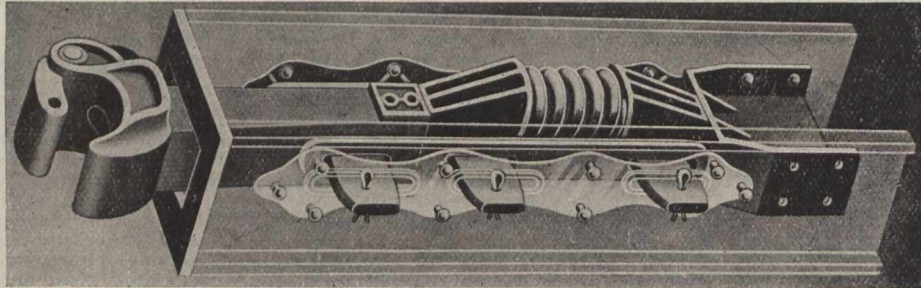
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- erect lines across Woodstock, Thames Valley & Ingersoll Electric Ry. in West Oxford tp.
9463. Feb. 2.—Approving rules of New York & Ottawa Ry. and Ottawa & New York Ry. for the operation of trains in Canada.
9464. Feb. 2.—Ordering T.H. & B.R. to remove trees from land on south side of right of way at Moote's Crossing, near Fenwick station; and authorizing operation of trains over the crossing without speed limitation.
9465. Feb. 4.—Approving G.T.P. Branch Lines road diversions in river lots 15 and 16, tp. 46, r. 21, w. 4 m., North Alberta.
9466. Feb. 4.—Authorizing C.N.O.R. to construct bridge over Goforth's Creek, and to lay tracks across public road, lot 26, con. 4, Whitby tp.
9467. Feb. 3.—Authorizing Ontario Hydro-Electric Commission to erect wires across T.H. & B.R. at lot 55, Ancaster tp.
9468. Feb. 1.—Authorizing G.T.R. to proceed with construction of works provided for in order 8338, Oct. 15, 1909.
9469. Feb. 4.—Ordering that pipe proposed to be laid under G.T.R. by Tilbury East tp. have an inside diameter of at least 24 inches.
9470. Dismissing complaint of residents of Chambly, Marieville, St. Cesaire, Granby and Waterloo, Que., of alleged unsatisfactory equipment and irregular service of Central Vermont Ry. and G.T.R.
9471. Feb. 5.—Rescinding order 9298, Jan. 18.
9472. Feb. 5.—Authorizing Grand Valley Ry. and G.T.R. to operate trains over Colborne St., Brantford, Ont., without being brought to a stop.
9473. Feb. 5.—Authorizing G.T.R. and C.P.R. to operate trains over crossing at Drumbo, Ont., without being first brought to a stop.
9474. Feb. 4.—Authorizing Carstairs village, Alta., to construct Minto St. across C.P.R.
9475. Feb. 5.—Amending order 8992, Dec. 17, 1909.
9476. Feb. 4.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Port Hope, Ont.
9477. Feb. 5.—Authorizing C.P.R. to use bridge 5.5 on its Brownville section.
9478. Feb. 4.—Ordering G.T.R. to construct subway in Palmerston, Ont., for pedestrians.
9479. Feb. 8.—Authorizing C.P.R. to construct its Lacombe branch across highways from mileage 50 to 85, Alta.
9480. Feb. 8.—Authorizing C.N.O.R. to place telegraph wires across Bell Telephone Co.'s wires at Russell Road, near Ottawa.
9481. Feb. 8.—Authorizing C.N.O.R. to build under Bell Telephone Co.'s wires at station 2.31, Parry Sound.
9482. Feb. 8.—Authorizing town of St. Louis, Que., to place light and power wires under Montreal and Southern Counties Ry. at Front St.
- 9483, 9484. Feb. 8.—Authorizing Hamilton Cataract Power, Light and Traction Co. to place transmission wires across G.T.R. in Saltfleet tp., Ont.
- 9485 to 9488. Feb. 8.—Authorizing Bell Telephone Co. to place wires across C.N.O.R., C.P.R. and G.T.R. at four points in Ontario.
- 9489 to 9493. Feb. 8.—Authorizing Seymour Power and Electric Co. to place wires across North American Telegraph Co.'s wires at six points in Ontario.
9494. Feb. 4.—Dismissing application of Canadian Freight Association for variation in Canadian Classification rating of automobiles "set up," L.C.L., and directing that Canadian Classification rating of automobiles taken apart (wheels detached), in box cars, L.C.L., actual weight, be double first class. This change to be incorporated in forthcoming amendments to Canadian Classification.
9495. Feb. 5.—Authorizing C.P.R. to construct spur to D. Rabbit's premises, Bawlf, Alta.
9496. Feb. 8.—Authorizing city of Toronto to lay sewer under C.P.R., Albany Ave.
9497. Feb. 8.—Authorizing C.P.R. to construct spur between Mary and Christina Sts., Westfort, Ont.
9498. Feb. 5.—Authorizing C.P.R. to construct spur for Carter-Halls-Aldinger Co., Winnipeg.
9499. Feb. 5.—Authorizing C.P.R. to extend existing spur from its Pheasant Hills branch, s.e. quar. sec. 27, tp. 29, r. 22, w. 2 m., Sask.
9500. Feb. 10.—Authorizing Saskatchewan Public Works Department to construct crossing over G.T.P.R., n.e. ¼ sec. 10, tp. 20, r. 33, w. p.m.
9501. Feb. 10.—Authorizing Bell Telephone Co. to place wires across C.N.O.R. telegraph wires and tracks at McGill St., Hawkesbury.
- 9502 to 9508. Feb. 10.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at seven points.
9509. Feb. 10.—Approving rules and regulations of Rutland Rd. for operation of trains in Canada.
- 9510 to 9517. Feb. 10.—Authorizing the C.N.O.R. Ry. to build across public roads at eight points in East Whitby tp.
9518. Feb. 10.—Authorizing C.N.O.R. to construct bridge over Orono Creek, Clarke tp.
9519. Feb. 7.—Authorizing G.T.R. for delivering freight to C.N.O.R. and its contractors to connect temporary switch at point referred to in order 9243 re Scarboro tp.
9520. Feb. 3.—Authorizing C.N.O.R. to build across public road between lots 22 and 23, con. 4, Whitby tp.
9521. Feb. 11.—Authorizing C.N.O.R. to build across and to divert road on lot 9, con. B, Murray tp.
9522. Feb. 12.—Authorizing G.T.P.R. to divert road in n.e. quar. sec. 12, tp. 44, r. 6, w. 4 m., North Alberta.
9523. Feb. 12.—Approving Chatham, Wallaceburg and Lake Erie Ry. bylaw authorizing J. E. Richards, G.F.A., to prepare and issue tariffs of tolls.
9524. Feb. 12.—Authorizing Ontario Hydro-Electric Power Commission to place wires across T.H. and B.R. at lot 55, con. 1, Ancaster tp.
9525. Feb. 15.—Authorizing Ontario Hydro-Electric Power Commission to place wires across Hamilton and Dundas Electric Ry. in Ancaster tp.
- 9526 to 9528. Feb. 12.—Authorizing C.N.O.R. to build across public roads at three points in Whitby tp.
9529. Feb. 14.—Approving C.N.O.R. location between lots 24 and 25, mileage 173.9, to line between Durham and Northumberland counties, mileage 177.
- 9530 to 9537. Feb. 14.—Authorizing C.N.O.R. to build across public roads at eight points in Darlington, Whitby, Scarborough, Pickering and Hope tps.
9538. Feb. 14.—Authorizing C.N.O.R. to use bridge over Seguin River on its Parry Sound spur.
9539. Feb. 14.—Approving plan, etc., of proposed drainage works in Tilbury East tp., Ont., across Canada Southern Ry. property.
- 9540 to 9544. Feb. 12.—Authorizing C.P.R. to use two bridges on Drummondville section; six on Sherbrooke section; one on its St. Guillaume branch, two on Newport section, and three on Farnham section, Que.
9545. Feb. 12.—Approving G.T.P. Branch Lines highway crossing and road diversion in sec. 22, 23 and 14, tp. 50, r. 19, w. 4 m., Alta.
9546. Feb. 14.—Amending order 9331, Jan. 20, re application of Pointe Aux Trembles municipality, Que., by changing reference to plan on file and approving another plan.
9547. Feb. 15.—Authorizing C.P.R. to use Higgins Avenue subway, Winnipeg.
9548. Feb. 15.—Authorizing C.P.R. to use bridge over Old Man River and the Lethbridge viaduct.
9549. Feb. 15.—Authorizing C.P.R. to use bridge 14.6 on its Columbia and Kootenay section, B.C.
9550. Feb. 14.—Authorizing Kent municipality, B.C., to construct highway crossing over C.P.R. at Harrison River.
9551. Feb. 10.—Amending order 6682, July 14, 1908, directing the Peterboro Radial Ry. to install derrails and semaphores on Charlotte St., Peterboro, Ont., and changing system of blocking said derrails and semaphores.
9552. Feb. 3.—Approving Niagara, St. Catharines and Toronto Ry. revised and new locations from mileage 13 to 18.55, Humberstone tp., Ont., and authorizing it to construct transfer track from Elm St., Port Colborne, to Dominion Government elevator siding; to build across Killally and Clarence Sts., Port Colborne; concession road between 4 and 5; Neff and Thompson Sts., Humberstone; concession road between cons. 2 and 3; and Main St. West, Humberstone, Ont.; and to cross at grade the G.T.R. air line and G.T.R. Buffalo-Goderich Division.
9553. Feb. 15.—Authorizing G.T.R. to construct branch line to National Manufacturing Co.'s premises, Ottawa.
9554. Feb. 12.—Authorizing St. Jean de Dieu Hospital, Longue Pointe, Que., to place light and telephone wires under Montreal Terminal Ry. and C.N.Q.R.
9555. Feb. 17.—Authorizing Hamiota municipality, Man., to place wires across G.T.P.R. near Oakner siding.
- 9556 to 9563. Feb. 16.—Authorizing C.N.O.R. to build across eight highways in Clarke tp.
9564. Feb. 16.—Authorizing Atlantic, Quebec and Western Ry. to construct branch line to proposed Government wharf at Adam's Bluff, Gaspé, Que.
9565. Feb. 15.—Authorizing G.T.R. to construct spur to E. Long Manufacturing Co.'s premises, Orillia, Ont.
9566. Feb. 3.—Approving Niagara, St. Catharines and Toronto Ry. revised location through lot 27, con. 6, and lots 26 and 27, con. 7, Crowland tp., mileage 11.53 to 13; authorizing it to cross highways north and south of canal feeder, at stations 307.83 and 314.22, public road at mileage 11.97, and town line between lot 27, Humberstone tp., and lot 27, Crowland tp., and to cross Canada Southern Ry. and T.H. & B. Ry.
9567. Feb. 11.—Authorizing Canada Atlantic Ry. to construct bridge over St. Lawrence River at Coteau, Que.
9568. Feb. 14.—Authorizing C.N.O.R. to divert and cross the Montreal and Ottawa road.
9569. Feb. 15.—Authorizing C.N.O.R. to build across road between lots 16 and 17, con. 3, Clark tp.
9570. Feb. 12.—Authorizing C.P.R. to use two bridges on its Drummondville branch, Que.
9571. Feb. 14.—Authorizing C.P.R. and C.N.O.R. to use for traffic the branch line in Parry Sound, Ont.
9572. Feb. 14.—Authorizing C.P.R. to construct spur line to E. F. Kendall's sawmill, Norman, Ont.
- 9573, 9574. Feb. 15.—Authorizing C.P.R. to construct spur to J. I. Case Threshing Machine Co.'s premises, Regina, Sask., and Sidney Brick and Tile Co.'s premises, Sidney, Man.
9575. Feb. 16.—Authorizing C.N.O.R. to place telegraph wires across C.P.R., Ottawa and Prescott branch, mileage 56.6, west from Hawkesbury.
- 9576 to 9579. Feb. 16.—Authorizing C.N.O.R. to carry its joint tracks with C.P.R. under Bell Telephone Co.'s wire from points near Parry Sound.
- 9580, 9581. Feb. 16.—Authorizing Chinguacousy Municipal Telephone System to place wires across C.P.R. at two points on its Orangeville branch, Ont.

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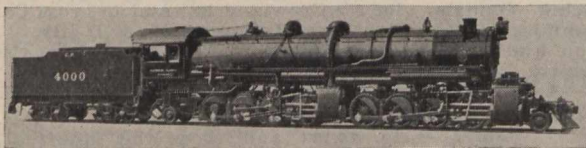
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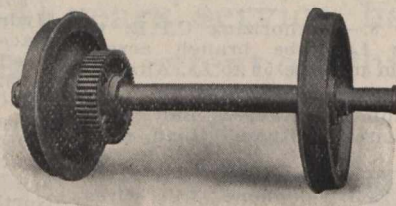
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9582. Feb. 16.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at Keewatin St., Winnipeg.

9583. Feb. 16.—Authorizing Bell Telephone Co. to place wires across C.N.O.R. at Main St., Hawkesbury.

9584. Feb. 16.—Authorizing Bell Telephone Co. to place its wires across Ottawa and New York Ry. at Embrun station, Ont.

9585. Feb. 16.—Authorizing Nipissing Power Co. to place wires across Bell Telephone Co.'s wires at Callander, Ont.

9586. Feb. 16.—Authorizing Hull Electric Co. to place wires across C.P.R. Waltham branch, at milepost 6.18, Que.

9587. Feb. 7.—Dismissing Montreal Terminal Ry.'s application for order authorizing an appeal to the Supreme Court of Canada from Order 9237, Jan. 4.

9588. Feb. 12.—Authorizing Ontario Hydro-Electric Power Commission to carry wires across C.P.R. telegraph wires in Ancaster tp.

9589 to 9592. Feb. 17.—Authorizing C.N.O.R. to build across public roads at three points in Hamilton tp., and one point between Garson and Capreol tps.

9583. Feb. 16.—Authorizing C.N.O.R. to construct bridge over Don River, on its Toronto-Ottawa division.

9594. Feb. 14.—Authorizing C. W. Carman, Carmangay, Alta., to place wires across C.P.R.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Fayette Brown, President of the Brown Hoisting Machinery Co., Cleveland, Ohio, died recently, aged 87.

The Wire & Cable Co., Montreal, has appointed The Northern Electric & Manufacturing Co., 918 Pender St., Vancouver, its sales agent for British Columbia.

Burton W. Mudge & Co., railroad supplies, Chicago, Ill., announce the appointment of Otto P. Hening, as Sales Manager, with charge of sales, advertising and purchasing.

The General Railway Signal Co., Rochester, N.Y., and Eastern Townships Bank Bldg., Montreal, has issued in pamphlet form a paper on the use of alternating currents in railway signaling by its chief engineer, W. K. Howe.

The Silliker Car Co., Ltd., Halifax, N.S., recently offered \$125,000 seven per cent. cumulative preference stock at par. The prospectus states that the company's authorized capital is \$750,000, of which \$244,000 is paid up.

The Railway Committee of the House of Commons threw out the bill introduced for the purpose of amending the Railway Act so as to compel railway companies to pay their workmen every two weeks instead of every month.

The House of Commons has passed the act authorizing the Government to acquire by lease lines of railway connecting with the Intercolonial Ry. The lines may be leased in whole or in part, but only if such lines are reported by the Chief Engineer of the Department of Railways to be in good and safe condition for operation. The terms of the lease have to be approved by the Government Railways Managing Board and by Parliament before any line is taken over for operation.

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits, from all sources, exclusive of land sales for Dec., 1909, \$43,820, against \$40,340 for Dec., 1908. Cumulative net profits for six months ended Dec. 31, 1909, \$257,309. Traffic receipts for Jan., \$21,442, against \$16,333 for Jan., 1909. Aggregate traffic receipts for seven months ended Jan. 31, \$225,428.

Canadian Northern Ontario Ry.—A bill has been passed by the House of Commons authorizing the company to acquire the shares, bonds or other securities issued by a number of other companies; to consolidate the securities heretofore made by itself, or by any other railway company whose stock or property it has acquired, and in lieu thereof to issue consolidated mortgage or other stock.

The Canadian Northern Ry. reported to the Minnesota State Auditor, Feb. 5, that the earnings of its line in that state for the year 1909 were \$461,598. The amount of taxes paid on this was \$18,563.

Dominion Atlantic Ry.—Gross earnings for Dec., 1909, \$97,300, against \$91,050 for Dec., 1908. Aggregate gross earnings for seven months ended Dec. 31, 1909, \$817,300, against \$792,285 for same period 1908.

Guelph Jct. Ry.—The annual meeting was held Feb. 1, when C. Kloefer, R. L. Torrance and J. Crowe were re-elected directors. The other directors are the Mayor and appointed representatives of the Guelph city council. The shareholders after discussion decided to make the city an offer of the ten \$100 shares held by them, so as to enable the city to retain the control of the company, if the bondholders are paid off, as it is understood that the C.P.R., which operates the line under lease, proposes to do. The actual amount of capital stock of the company is \$30,000, of which the city holds \$20,000, the remaining shares being held by the 10 shareholders who have paid up \$100 each on their shares, the city having guaranteed the liability on the balance. The city in addition to taking the company's bonds to the amount of \$155,000, advanced \$18,000 in 1900.

Quebec Central Ry.—Gross earnings for Dec., \$82,409.52; expenses, \$62,316.49; net earnings, \$20,093.03, against \$72,833.00 gross earnings; \$56,795.52 expenses; \$16,037.48 net earnings for Dec., 1908. Aggregate gross earnings for six months ended Dec. 31, \$580,770.09; expenses, \$386,439.48; net earnings, \$194,330.61; against \$552,691.24 aggregate gross earnings; \$377,579.80 expenses; \$175,111.44 net earnings for same period 1908.

Quebec and Lake St. John Ry.—Total earnings for Jan., \$37,654.84, against \$46,249.05 for Jan., 1909.

White Pass and Yukon Ry.—Gross earnings for six months ended Dec. 31, 1909, \$842,186.

Railway Lands Patented.—Letters patent were issued during Nov., covering railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Canadian Northern Ry.	20.50
Canadian Pacific Ry.	1.54
Grand Trunk Pacific Ry.	10.98
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	2,239.00
Total	2,272.02

The Canadian Transfer Co.'s officers and directors for the current year, are as follows:—President, C. Cassils; directors, H. Paton, G. H. Starke, Sir H. Montagu Allan, H. M. Molson; Manager and Secretary, F. M. McRobie, all of Montreal.

Paper Rates from Grand Mere.

Following is the judgment of the Interstate Commerce Commission in the case of H. R. Williar vs. Canadian Northern Quebec Ry. et al, decided recently:—

"On various dates in July, Aug., and Sept., 1907, complainant caused to be delivered to the C.N.Q.R. Co., at Grand Mere, Que., some 18 carloads of newspaper for transportation to San Francisco, Cal. With one exception the shipments were routed by the shipper via C.P.R., Wabash Rd., Chicago, Burlington & Quincy Rd. and lines beyond; the remaining carload was routed via C.P.R., Wabash Rd., Chicago and North Western Ry. and lines beyond. At the time of movement there was in effect a rate of 75c. per 100 lbs. on newspaper, in carloads, from Grand Mere to San Francisco, but this rate was effective only through Chicago. The Wabash Rd. carried these shipments from Detroit via its East Hanibal gateway, and, with the exception of a single carload, delivered same to the C., B. & Q.R. at Kansas City; the remaining carload was delivered to the Missouri Pacific Ry. at Kansas City. Thence shipments were carried to destination via the lines of the several other defendants. The rate lawfully applicable by the route of movement was 90c. per 100 lbs., and charges were collected in accordance therewith. This rate is alleged by the complainant to be unjust and unreasonable, to the extent that it exceeds the rate of 75c. per 100 lbs. applying through the Chicago gateway. Reparation is sought in the amount of \$1,891.93. Effective Jan. 28, 1908, the 75c. rate was made specifically applicable via all routes. The through rate appears to have been canceled on Jan. 1, 1909, but was re-established on June 5, 1909. Certain of the defendant carriers disclaim liability for the collection of the alleged excessive charges upon the plea that it was the duty of the initial carrier, or of the Wabash Rd. to which the shipments were intrusted at Detroit, to forward the same via the Chicago gateway, and that the connecting lines should bear no part of the responsibility for the shipments having been sent by the more expensive route. We may observe that carriers charged with exacting an unreasonable rate cannot escape liability solely upon the ground that the shipments could have been transported via a route carrying a lower rate. If the rate assessed was, in fact, unreasonable, defendants should be required to make reparation irrespective of the fact that the shipper would have enjoyed a lower rate if his shipments had moved through a different gateway. We find that the rate assessed and collected on the shipments giving rise to this complaint was unjust and unreasonable to the extent that it exceeded the rate of 75c. per 100 lbs. which was applicable via the Chicago gateway and has since been made effective via the route of movement. We find further that a reasonable rate to be observed for the future should not exceed 75c. per 100 lbs. Reparation will be awarded in the amount of \$1,891.93 as claimed, with interest from the date of payment of freight charges. An order will issue in conformity with these findings.

Toronto Viaduct Question.—The Supreme Court gave judgment at Ottawa, Feb. 15, on the appeal of the G.T.R. and the C.P.R. against the Board of Railway Commissioners' order requiring the companies to construct a viaduct along the Esplanade at Toronto. The Court, with two judges dissenting, dismissed the appeal. It has not been announced whether the companies will make application for leave to appeal against this decision to the Imperial Privy Council.

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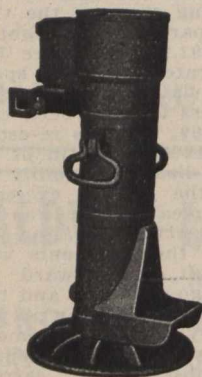
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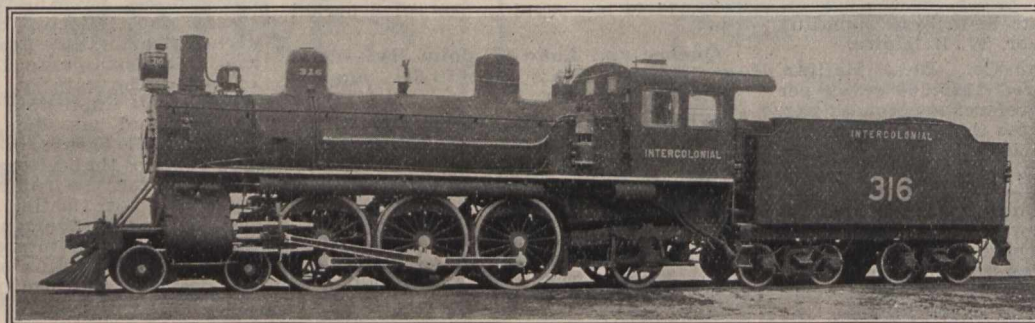


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TORONTO, CANADA, MARCH, 1910.

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Polson Iron Works, Ltd., is suing the city of Toronto for the specific performance of an agreement on the part of the city to sell part of a lot at the foot of Frederick St., which the company declares it bought in 1906 for \$17,000. The city denies that the deal was consummated and will fight the case.

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Construction Freight Tariffs.

In the complaint of Baker, Reynolds & Co., of Moose Jaw, Sask., against C.P.R. construction rates the Board of Railway Commissioners' Chief Traffic Officer, J. Hardwell, made the following report Nov. 27:—"I have been in communication with E. W. Beatty, Assistant Solicitor C.P.R. Under the circumstances detailed in complainants' letter, Sept. 17, 1909, complaint is made to the Board against the rates charged by the C.P.R. on some 28 carloads of lumber and shingles shipped from Vancouver, New Westminster and Barnet, B.C., to Brownlee, Tugaski and Outlook, Sask., stations on what is now operated as the C.P.R. Tuxford Branch, which connects with the main line at Moose Jaw. The published rates to Moose Jaw were 49c. on cedar lumber and shingles, and 40c. on fir and spruce lumber. The first "Company" tariff was published to Tuxford, April 11, 1908, at the same rates as to Moose Jaw; to Brownlee and Tugaski, Sept. 30, 1908, and to Outlook, Dec. 2, 1908, the rates to these last three stations being the same on fir and spruce as to Moose Jaw and Tuxford, namely 40c. and 1c. over Tuxford and Moose Jaw, or 50c. on cedar lumber and shingles. All the lumber in question appears to have been way-billed to Tuxford, as the end of the operated line, with the addition of 2c. to Brownlee and 3c. to Tugaski and Outlook. It is the excess over the through rates afterward published and filed as for operation that is complained of. The additional rates appear to have been issued in the form of construction tariffs, but they were not published and filed with the Board. On interrogating Mr. Beatty as to this omission, he writes me that as the operation of the branch lines had not been authorized by the Board at the time the construction tariffs were issued, it would have been useless to file them, as the Board would have no authority to approve them. His traffic officials 'think though they are not positive, that the matter was discussed with me unofficially at the time, and that my opinion was that the company could publish construction tariffs without filing them with the commission.' I cannot recall any such discussion; indeed, the reports I had made to the Board, and the action taken by the Board previously, would not warrant any such conjecture. The construction tariffs are still unfiled.

The Canadian Pacific Co. were authorized to carry freight traffic over the different sections of the new branch line, as construction proceeded, by orders 5364, Sept. 18, 1908; 5919, Dec. 10, 1908; 6083, Jan. 20, 1909, and 6586, Feb. 18, 1909.

In connection with the Grand Trunk Pacific Construction Dept.'s special freight tariffs, the late Chief Commissioner ruled, Oct. 25, 1907, that 'in approving the railway company's Standard tariff unconditionally, the Board did not intend to decide upon the propriety of the company's proposed limitation of the traffic to construction trains; but that the Board is of opinion that such a limitation is not proper in dealing with tariffs; that the Board is of opinion that the nature of the facilities to be furnished for the carriage of traffic depends upon circumstances; and that the same facilities are not to be expected upon a road just opened for traffic, and upon which numerous construction trains are run, as upon a completed railway.'

"Again, with regard to the printing of the words 'On construction trains only' on the G.T.P. tariffs, it was decided that the Board has nothing to do with the question as to whether the traffic is carried on construction trains or otherwise. The Board recognizes that under the circumstances the Company cannot

give full freight service; but that the question whether the goods shall be carried on freight trains, or otherwise, is not a question to be considered in deciding on the standard tariff. The Board leaves it to the company to provide such service as the circumstances would reasonably require.

"Order 5153, Aug. 11, 1908, on the application of the G.T.P.R. for leave to carry settlers, etc., on construction trains over the line between Winnipeg and Battle River, provides 'that, in exercising the powers conferred by this order, the applicant company be not thereby subjected to a penalty for contravening any of the provisions of The Railway Act in that behalf.'

"The Great Northern Ry. (U.S.) for its Midland and B.S. & H.B. lines to Portage la Prairie and Brandon, respectively, filed certain commodity tariffs to apply on tariff carried on construction trains. No standard tariff had been filed, and the authority of the Board for the carriage of any traffic whatever had not been obtained. The late Chief Commissioner ruled as follows:—"By sec. 207 (Act of 1903), no railway or any portion thereof, shall be opened for the carriage of traffic, other than for the purposes of the construction of the railway by the company, until leave therefor has been obtained from the Board, as hereinafter provided. The carriage of traffic by the company or its contractors, before leave has been given under this provision, is wholly unauthorized, whether a standard tariff has or has not been approved, and such a practice should not be recognized or sanctioned by the Board. As, however, the public are frequently accommodated in this way, there does not appear to be any reason for the Board to take action unless complaint is formally made to it.'

"In the present case, the C.P.R. appears to have carried traffic on construction trains, under construction tariffs which were not filed with the Board, before the different sections had been inspected by the Board's Engineer, and before the orders cited had been issued. The company has not even supplemented its Standard Tariff C.R.C. no. W. 3, so as to make it cover this new Tuxford branch.

"In Oct., 1907, the Canadian Northern Ry. filed its construction department's special tariff on grain from stations on its new line between Brandon and Regina, which had not been opened for traffic, to Port Arthur. The late Chief Commissioner ruled as follows:—"The Board cannot approve any tariff for a line as to which a standard tariff has not been approved, and the Board cannot approve the carriage of traffic upon a railway until the leave of the Board has been given under either sub-sec. 1, or sub-sec. 7 of sec. 261.'

"The C.P.R. seems to have been in default in three ways; it carried traffic before it had been authorized to do so under sec. 261, it has filed no standard freight tariff, and it filed no special tariffs for traffic carried on construction trains pending formal opening for general traffic.

"The Tuxford branch seems to have been built by the Company's own construction department; but even if it were built by a private contractor, should he not be considered the agent of the company, so that any traffic he might carry on his own trains before handing the line over to the Company might, for the purposes of The Railway Act, be considered as traffic carried by the Company itself?"

On considering the Chief Traffic officer's report the Chief Commissioner gave the following decision, Dec. 17:—

"Sec. 26, provides that no railway, or portion thereof, shall be opened for the carriage of traffic, other than for the

purposes of the construction of the railway by the company until leave therefor has been obtained from the Board. This makes it clear that a railway company cannot use the road in course of construction for other purposes than carrying construction material. Subsec. 7 of sec. 261 provides that the Board, upon being satisfied that public convenience will be served thereby, may, after obtaining a report of an inspecting engineer, allow the company to carry freight traffic over any portion of the railway not opened for the carriage of traffic generally. This might apply where the company was anxious to convenience settlers before the road was ready for opening generally. Sec. 327 provides for filing standard freight tariffs, and sub-section 4 prohibits the company from charging any toll until the provisions of the section have been complied with. Sub-sec. 5 of sec. 314 prohibits a company charging, levying, or collecting any money for any service as a common carrier, except under the provisions of the Railway Act.

"In the face of all this, it is said a company may carry traffic during construction without the road having been inspected and without tariffs being filed. This contention is entirely untenable. The tolls charged in the case in question were all illegally collected and in violation of the express provisions of the Statute. It is said that the company do not desire to be hampered and delayed by carrying any sort of traffic during construction, and that it is done only to convenience settlers in those new districts. With this position, of course, one is in entire sympathy; but there is no law that I know of that permits it, except upon compliance with the terms of the Act. Tariffs are made out entitled "Canadian Pacific Ry. Construction Department," "Canadian Northern Ry. Construction Department in connection with the Canadian Northern Ry." These are supposed to apply to lines during construction and are not filed with the Board. I know of no authority in the Act for this practice, and none has been pointed out to us. It is all illegal; moneys paid to the Companies for service under these alleged tariffs have been illegally levied. The persons responsible for the issue and use of these tariffs have subjected themselves to the penalties provided for by the Act. Where is there any authority to issue tariffs in the name of a construction department? Is this a department of the railway company or is it a firm of contractors? And, if the latter, where is there authority to operate a railway, issue tariffs, and collect tolls? If it exists, it must be somewhere else than in the Railway Act.

"I have before me a tariff issued by what is called the construction department of the C.P.R. Co. It has printed upon it the following:—"During construction of Sheho extension—pending the completion and taking over by this company of the extension east of Lanigan (now under construction), for the convenience of settlers, etc., etc.' I have another Canadian Northern tariff attempted to be made applicable to its Maryfield extension during construction, with the words, 'pending the completion and taking over by this company, etc., etc.', printed upon it. This tariff has also printed upon it at the foot 'Mackenzie, Mann & Co., Ltd., Contractors,' along with the names of the traffic officers of the Canadian Northern Ry. Co. I do not know why this practice has been adopted, or why it is continued in the face of the Act. Let copies of Mr. Hardwell's report and of this memo., as well as Mr. McLean's, be sent to the complainants and the C.P., C.N., and G.T.P. Ry. Companies." Commissioner McLean gave the following decision:—"Mr. Hardwell's re-

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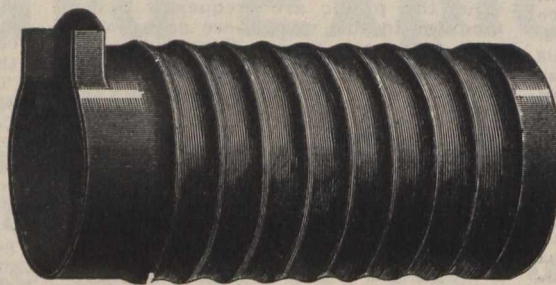
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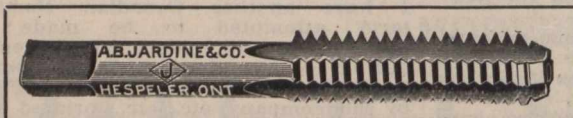
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port raises the question of the alleged right of railway companies to carry freight on construction traiffs, on sections of railway not yet inspected, without such tariffs having been filed with the Board. Mr. Beatty, for the C.P.R., takes the position that where 'the operation of branch lines has not been authorized by the Board at the time the construction tariffs were issued, it would be useless to file them, as the Board would have no authority to approve them.' And he is of the opinion that such tariffs do not need to be filed with the Board. The provisions of sec. 261 of the Railway Act and the policy of the Board as indicated in the citations contained in Mr. Hardwell's report show clearly that Mr. Beatty's position is untenable. The opinion of the late Chief Commissioner as expressed in re Brandon, Saskatchewan and H. B. Railway Company Standard Tariffs, is especially pertinent. It appears to me that the construction tariffs in the case before us have no legal status, and consequently the charges made thereunder have no legal status as well."

C. N. R. Winnipeg Terminal Bonds.

The Canadian Northern Ry. Co. has issued \$3,000,000 thirty year mortgage 4% guaranteed gold bonds on its Winnipeg terminal property. Following are extracts from a letter from W. Mackenzie, President, to the purchasers of the bonds:—W. A. Read & Co., of New York. "The proceeds of the bond are to be used entirely for expenditures for the construction of the new station and for improvements on and extension of the Winnipeg terminals. The value of the mortgaged properties will be practically twice the amount of the bonds outstanding. The bonds are a direct obligation of the C.N.R. Co., guaranteed principal and interest by the Province of Manitoba and specially secured by a mortgage on approximately 169 acres of the C.N.R. freight and passenger terminals at Winnipeg. The passenger and local freight terminals are situated in the heart of Winnipeg's business district, and comprises approximately 69.93 acres. It is estimated that the improvements now being made on this property, including passenger station, offices, tracks, freight sheds, etc., will, when completed, amount to over \$2,000,000. The mortgage also secures the bonds upon approximately 99.13 acres of freight terminals also within the city limits. The freight terminals comprise extensive shops, yards, freight tracks and other terminal facilities representing an improvement expenditure of over \$1,000,000. The terminal bonds are also secured by a charge on all the right, title and interest of the C.N.R. under the agreement for their joint use by the G.T. Pacific Ry. and the National Transcontinental Ry., the rentals for which payable to the C.N.R. Co. amount to, approximately, \$97,500, besides any other rental payments which may accrue to the C.N.R. for the use of the terminals by any other railway. The payment of principal and interest of the bonds is unconditionally guaranteed by the Province of Manitoba. The value of the lands comprising the passenger terminals, apart from improvements, based on a valuation which was made on behalf of the G.T. Pacific Ry., the National Transcontinental Ry., and the C.N.R., made for the purpose of determining the rental value of the property together with the cost of two subsequently acquired properties is over \$2,500,000. The G.T. Pacific and the National Transcontinental Rys. (which, when completed are, under their agreements, to be operated as one), have agreed to use the city terminals for their passenger and local freight business, paying therefor as rental an

amount equivalent to interest at 4% on one-half of \$2,625,000 and a further amount equal to one-half of the interest at 4½% on the expenditures for improvements. This agreement, confirmed by act of Parliament, covers 999 years from Jan. 1, 1907. The terminal rental payable by the National Transcontinental Ry. and the G.T. Pacific Ry. amounts to, approximately, \$97,500 from these tenant railways as against the total interest of \$120,000 accruing on the \$3,000,000 terminal bonds now authorized. Should it be arranged to allow additional railways to use the terminals, the amount of rentals would be increased. The passenger terminals are most advantageously located in Winnipeg on the main street and at the door of the business district. Subject to the terms of the terminal agreement with the Government and the G.T. Pacific Ry. Co., about 45 acres of the passenger terminals are owned by the C.N.R. Co. in fee simple, and the remainder, about 24 acres, is held under a 999 years lease from the Northern Pacific Ry. Co. The freight terminals, approximately, 99.13 acres, are equipped with modern facilities for the handling of an extensive freight business. They are in part subject to a mortgage for \$300,000 given by the Winnipeg Land Co., which formerly owned part of the lands, as a security for certain first mortgage bonds issued by that company. These bonds were acquired by the C.N.R. Co., and are now being held by the trustees of the mortgage securing the company's 4% consolidated debenture stock."

Too Late for Classification.

Brandon, Saskatchewan and Hudson's Bay Ry.—Application is being made to the Dominion Parliament for the passing of an act extending the time within which the company may complete the construction of its authorized lines of railway.

Grand Trunk Pacific Ry. Branch Lines.—Referring to information published on another page, the contract for the construction of a further 50 miles of the line from Melville to Regina, Sask., has been let to the J. D. McArthur Co., Winnipeg. The line has already been completed from Melville to Balcarres. The same company has also received the contract for the construction of the balance of the line from Tofield to Calgary, Alta. The first 50 miles of this line were placed under contract in 1909, and track was laid to Camrose, 26 miles.

Canadian Northern Ry.—A contract is reported to have been let to T. Kelly & Sons, Winnipeg, for the construction of the piers for a bridge across the Assiniboine River, east of the Main St. bridge, to carry the C.N.R. and G.T. Pacific Ry. tracks. The bridge will be 454 ft. long, and will be of the deck plate girder type. There will be one section of 44 ft. at the north end which will be a through span, then two of the deck plate sections, each 80 ft. in length. The central span will be 90 ft. long, of the trunnion lift pattern, instead of a swing span as in other river bridges across the Red and Assiniboine. At the south end there will be two more deck plate spans of 80 ft. each. The cost of the concrete piers is estimated at \$50,000.

Intercolonial Ry.—Tenders will be received to Mar. 15 for the construction of a railway between Nelson and Chipman, N.B., 8.28 miles, and for a line between George's River and Sydney Mines, N.S., 9.09 miles.

Little Nation Ry.—Application is being made to the Quebec Legislature to change the location of the northern end of the main line and grant an extension of time for the construction of the line. (Sept., 1908, pg. 617.)

Northern Quebec Colonization Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title to construct a railway from Tadoussac, at the mouth of the Saguenay River, Que., westerly along the north shore of the river to Lake St. John, thence north-westerly to between Lake Chibougamau and Lake Mistassini, thence north-westerly to Hannah Bay, Ont., at the southern end of James Bay. The provisional directors are:—N. Drouin, J. Picard, W. Ray, Quebec; P. Tourigny, Victoriaville, Que.; Jas. B. Phillips, Haileybury, Ont. (Jan., pg. 21.)

The Ottawa Valley Ry. Co.'s application for an act reviving its powers and granting an extension of time for construction was withdrawn from consideration by the Dominion Parliament. (Jan., pg. 21.)

Prince Edward Island Ry.—Tenders have been asked for the construction of a 3-stall engine house at Georgetown, and for the following buildings on the Elmira branch:—a station, freight shed, two way stations, two shelters, two tool houses, a 2-stall engine house and a coal shed.

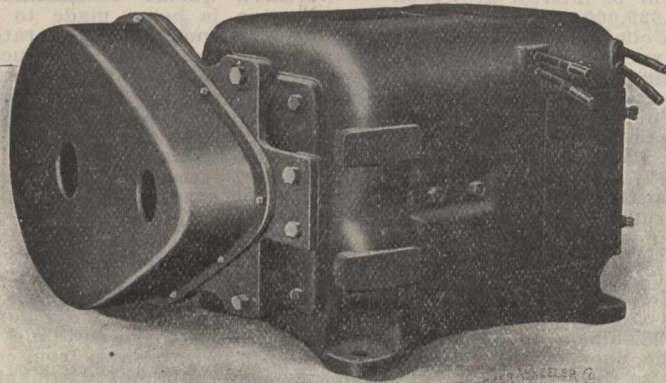
St. John Valley Ry.—A representative of the company was in Ottawa, Feb. 12, for the purpose of ascertaining the requirements of the Dominion Government as to construction. Application is being made to the New Brunswick Government to recommend the Legislature to guarantee the company's bonds to the amount of \$25,000 a mile. The Dominion Government was asked to operate the line, taking 60% of the gross receipts, and it is said that this will be done, provided the line is constructed to the same standard as the National Transcontinental Ry., with which it will connect at Grand Falls, N.B. The company, it is stated, was organized "for the public welfare," and it is desired to secure the operation of the railway by one of the lines giving through connections. The company does not want to construct the line itself, unless arrangements cannot be made otherwise. (Dec., 1909, pg. 885.)

Temiskaming & Northern Ontario Ry.—A deputation from North Bay, Parry Sound and the surrounding districts waited on the Ontario Government, Feb. 10, to urge the extension of the T. and N.O.R. from the present southerly terminus at North Bay to Parry Sound, about 75 miles. Consideration of the suggestion was promised.

Toronto Terminal Ry.—When the application of the company for incorporation came before the Railway Committee of the House of Commons it was almost unanimously decided to reject it. (Dec., 1909, pg. 915.)

Toronto, Haliburton and Pembroke Ry.—The Ontario Legislature is being asked to incorporate a company with this title to construct a railway from Barry Bay southerly to Haliburton, or as an alternative from the crossing of the boundary between Lyell and Jones townships by the Canada Atlantic Ry. southerly to Haliburton. Thomson, Tilly and Johnston, Toronto, are solicitors for applicants. The provisional directors are:—W. B. Russell, W. Bilbrough, S. Johnston, R. H. Parmenter, Toronto; E. A. Dunlop, J. G. Fergie, J. F. Munro, Pembroke, Ont. (Feb., pg. 111.)

The Buffalo and Lake Huron Ry. Co.'s report for the half year ended Dec. 31 shows that after providing for interest on the first and second mortgage bonds the available balance, including the amount brought forward from the previous half year, is £14,787 2s. 5d., from which has been declared a dividend of 5s. 3d. a share, leaving a balance of £1,002 9s. 2d. to be carried forward, against £973 0s. 9d. carried forward from the previous half year. This railway is operated under lease by the G.T.R.



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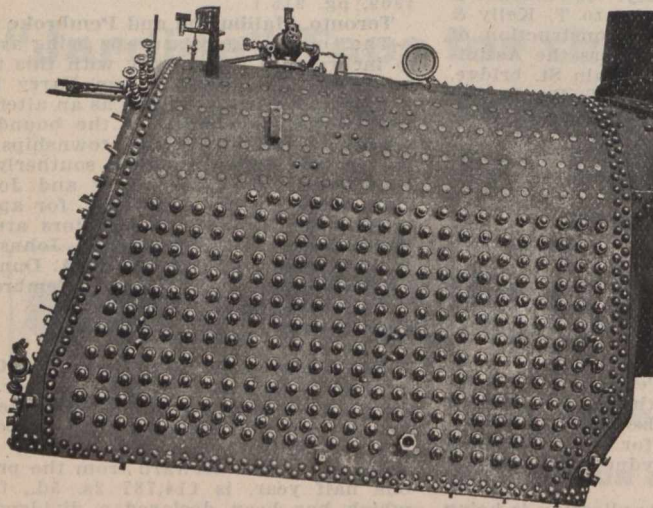
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Railway Rolling Stock Notes.

The Canadian Northern Ry., between Jan. 15 and Feb. 15, received two cafe-parlor cars from the Crossen Car Mfg. Co., Cobourg, Ont.

The G.T.P.R. has ordered two superintendent's private cars, nos. 4,102 and 4,103, from the Canadian Car and Foundry Co., Montreal.

The C.P.R., between Jan. 15 and Feb. 13, received the following additions to rolling stock, from its Angus shops, Montreal:—three Pacific type locomotives, one consolidation locomotive, 24 flat cars, seven vans and one sleeper.

The Canadian Locomotive Co., Kingston, Ont., between Dec. 14, and Feb. 14, delivered four mogul locomotives to the Grand Trunk Ry., and four consolidation locomotives to the Canadian Northern Ry.

The Dominion Parliament has voted the following amounts on account of rolling stock for the Intercolonial Ry.:—\$10,000 for air brakes, and \$10,000 to exchange drawbars on freight cars; \$1,000 for side ladders for box cars, and \$66,000 for Pintsch gas apparatus.

The Montreal Locomotive Works, between Jan. 15 and Feb. 15, delivered 15 ten wheel locomotives to the G.T.R.; one locomotive to the Toronto, Hamilton and Buffalo Ry; and one steam shovel to the Canadian Copper Co. It is also building one steam shovel, class 45, for the Canadian Western Improvement Co., and two for stock.

The G.T.P.R., between Jan. 15 and Feb. 15, received the following additions to rolling stock:—200 stock cars, nos. 350,100 to 350,299; 315 box cars, nos. 310,300 to 310,614; five first class cars, nos. 2,026 to 2,030; from the Canadian Car and Foundry Co., Montreal, and 227 box cars, nos. 310,825 to 311,051, from Rhodes, Curry Co., Amherst, N.S.

The Mount McKay and Kakabeka Ry. (electric), has ordered four Otis all steel cars from the Hart Otis Car Co., Montreal. Following are the chief dimensions:—
 Length over end sills 21' 1 1/2"
 Length inside 19' 1"
 Width inside 9' 6"
 Height inside 4' 6"
 Height top of rail to top of side 8' 10 13-16"
 Height from rail to floor 4' 4 1/2"

The C.P.R., between Jan. 15 and Feb. 13, ordered the following rolling stock at its Angus shops, Montreal:—35 vans, 65 box cars, 25 flat cars, six stock cars, one refrigerator car, one steel coal car, 14 first class cars, one second class car, 17 baggage cars, 29 Hart steel ballast cars, seven suburban cars, six combination first and smoking cars, and two G2 locomotives.

Replying to a question in the House of Commons, Jan. 24, the Minister of Railways stated that the special car used by E. Tiffin, a member of the Government Railways Managing Board and General Traffic Manager, had been undergoing repairs at the Silliker Car Works, Halifax, N.S. The I.C.R. shops had been overwhelmed with ordinary repairs, largely due to the fact of the accumulation of work during the transfer from the old to the new shops. This work had since been overtaken, and as the organization improved, new work would be started.

The Hart Otis Car Co., Montreal, has recently received orders for its 1910 design Hart convertible cars, as follows:—20 from O'Brien, Fowler and McDougall, National Transcontinental Ry. contractors; 15 from E. F. and G. E. Fauquier, National Transcontinental Ry. contractors; 35 from the Quebec Central Ry., and 250 from the Canadian Northern Ry. Following are the chief dimensions:—
 Length over end sills 35' 8"
 Length inside as gondola 34' 8"
 Length inside as hopper 20' 10"

Width inside 8' 8"
 Height inside 3' 9 1/4"
 Height from top of rail 8' 1 3/8"
 Height from rail to floor 4' 4 1/8"

The G.T.R. has ordered 20 ten wheel locomotives from the Montreal Locomotive Works. Following are the chief particulars:—

Weight in working order 167,300 lbs.
 Weight on drivers 126,420 lbs.
 Weight on engine truck 40,880 lbs.
 Wheel base, driving 14' 0"
 Wheel base, engine 24' 4"
 Wheel base, engine and tender 54' 9"
 Cylinders 19" by 26"
 Driving wheels diar. 63"
 Boiler type Extended wagon top
 Boiler, diar. at first ring 60 1/4"
 Boiler pressure 200 lbs.
 Tubes, no. and diar. 263—2"
 Tubes, length 13' 6"
 Brakes Westinghouse American
 Capacity, water 7,000 gals.
 Capacity, coal 10 tons

The Montreal Locomotive Works has received orders for two mogul locomotives from each of the following National Transcontinental Ry. contractors: Cavicchi and Pegano, M. P. and J. T. Davis, O'Brien, Fowler and McDougall, and the Willard Kitchen Co. Following are the chief particulars:—

Weight in working order 131,000 lbs.
 Weight on drivers 113,500 lbs.
 Weight on engine truck 17,500 lbs.
 Wheel base, driving 12' 6"
 Wheel base, engine 20' 6 1/2"
 Wheel base, engine and tender 50' 0"
 Cylinders 19" by 26"
 Driving wheels, diar. 50"
 Boiler, type Extended wagon top
 Boiler, diar. at first ring 62"
 Boiler pressure 180 lbs.
 Tubes, no. and diar. 240—2"
 Tubes, length 10' 5 1/4"
 Brakes Westinghouse American
 Capacity, water 5,000 gals.
 Capacity, coal 9 tons

Following are the chief particulars of the 100 logging cars which the Canadian Northern Ry. has ordered from the Russel Wheel and Foundry Co., Detroit, Mich., as mentioned in our last issue:—
 Capacity 60,000 lbs.
 Sills 8" by 10" by 24 ft.
 Bunks 12" by 12" by 10 ft.
 Sway bar between bunks Solid, 8" by 8"
 Bunk centres 10 ft.
 Material White oak
 Air brakes Westinghouse
 Bolsters and brake beams Simplex
 Couplers Simplex
 Side bearings Susemihl
 Channel spring planks 12"
 Journal boxes McCord M.I.
 Wheels M.C.B., 600 lbs., 33" diar.
 Axles Hammered steel
 Journals 4 1/4" by 8"

The Temiskaming and Northern Ontario Ry. has ordered three parlor-cafe cars from the Canadian Car and Foundry Co., Montreal, of which the following are the chief particulars:—

Length over vestibule buffer plates 80' 3 3/4"
 Length over side sill angles 70' 3 1/2"
 Width over side sill angles 9' 8 1/2"
 Width over wood side sills 9' 10 3/8"
 Width over all at eaves 10' 3 1/4"
 Width at deck opening between deck sills 5' 6"

Height from rail to under side of side sill angle 3' 7 1/2"
 Height from rail to top of roof boards 14' 1 1/2"
 Height from rail to centre of coupler 2' 11 1/2"
 Distance centre to centre of trucks 51' 10"
 Truck wheel base 11' 0"
 Underframes Steel
 Trucks All steel, 6-wheel
 Steel platforms Standard
 Curtains Pantasote
 Heating system Gold combination
 Lighting Pintsch system
 Air brakes Westinghouse L.N. 1612
 Wheels Solid steel, 36"
 Journal bearings Canadian Bronze Co.
 Brake shoes Steel back

The Grand Trunk Pacific Ry. has ordered 10 ten-wheel locomotives from the Canadian Locomotive Co., Kingston, Ont., of which the following are the chief particulars:—

Weight in working order 126,420 lbs.
 Weight total 167,300 lbs.
 Wheel base of engine, rigid 14' 0"
 Wheel base of engine, total 24' 4"
 Wheel base engine and tender 54' 9"
 Length overall 64' 6"
 Width overall 9' 11"
 Height overall 14' 8"
 Heating surface, firebox 160 sq. ft.

Heating surface, tubes 1,917 sq. ft.
 Heating surface, total 2,077 sq. ft.
 Driving wheels 63"
 Driving wheel centres Cast steel and cast iron
 Journals 9" by 10"
 Cylinders 19" by 26"
 Boiler, type Radial stay
 Boiler, pressure 200 lbs.
 No. and diar. of tubes 266—2"
 Tubes, length 13' 6"
 Brakes Westinghouse ET
 Weight of tender loaded 143,300 lbs.
 Capacity, water 7,000 U.S. gals.
 Capacity, coal 10 tons
 Truck Four wheel arch bar frame
 Truck wheels 34"
 Wheels Cast iron centres, steel tired
 Journals 5 1/2" by 10"
 Brake beams G.T.R. standard

Following are the chief particulars of the 300 box cars, three first class cars, five second class cars and four combination passenger and baggage cars which the Canadian Northern Ry. recently ordered from the Silliker Car Co., Halifax, N.S., as mentioned in our last issue:—

BOX CARS.
 Length over end sills 36' 9 3/4"
 Width over side sills 9' 0 3/4"
 Height from sill to plate 7' 10 3/4"
 Door opening 6' 0"
 Bolsters and brake beams Simplex
 Brake shoes Steel back
 Couplers Janney
 Springs Montreal Steel Works
 Journal bearings Canadian Bronze Co.
 Wheels, diar. 33"
 Air brakes Westinghouse
 Axles Nova Scotia Steel & Coal Co.

FIRST CLASS CARS.
 Length over end sills 72' 6"
 Width over side sills 9' 10 1/4"
 Platforms Standard Coupler Co.
 Heating Gold
 Lighting Commercial Acetylene Co.
 Air brakes Westinghouse
 Bolsters Double wrought iron
 Brake beams Simplex
 Springs Montreal Steel Works
 Oil boxes McCord & Co.
 Journal bearings Canadian Bronze Co.
 Wheels 36", steel tired

COMBINATION CARS.
 Length over end sills 70' 0"
 Width over side sills 9' 10 1/4"
 Platforms Standard Coupler Co.
 Heating Gold
 Lighting Commercial Acetylene Co.
 Air brakes Westinghouse
 Bolsters Double wrought iron
 Brake beams Simplex
 Springs Montreal Steel Works
 Oil boxes McCord & Co.
 Journal bearings Canadian Bronze Co.
 Wheels 36", steel tired

SECOND CLASS CARS
 Length over end sills 62' 0"
 Width over side sills 9' 10 1/4"
 Platforms Standard Coupler Co.
 Heating Gold
 Lighting Commercial Acetylene Co.
 Air brakes Westinghouse
 Bolsters Double wrought iron
 Brake beams Simplex
 Springs Montreal Steel Works
 Oil boxes McCord & Co.
 Journal bearings Canadian Bronze Co.
 Wheels 36", steel tired

Q. and L. St. J. Railway Receivership.

In our last issue we gave particulars of the offer made on behalf of Mackenzie, Mann & Co. to the Quebec & Lake St. John Ry. bondholders and of the rejection of the same by the bondholders. As a result of the Q. & L. St. J. Co. failing to pay the coupons for interest on the first mortgage bonds, which fell due on Jan. 1, the Railway Share Trust & Agency Co., of London, Eng., trustees for the bondholders, has appointed as Receiver and Manager A. J. Gorrie, Managing Director of the Geo. Hall Coal Co. of Canada, Montreal, and formerly General Superintendent of the Great Northern Railway of Canada, which is now part of the Canadian Northern Quebec Ry. system.

The Alberta Attorney General is reported to have announced that a test case will shortly be made on the question of prairie fires, with a view to compelling railway companies to recompense settlers who suffered from such fires last year.

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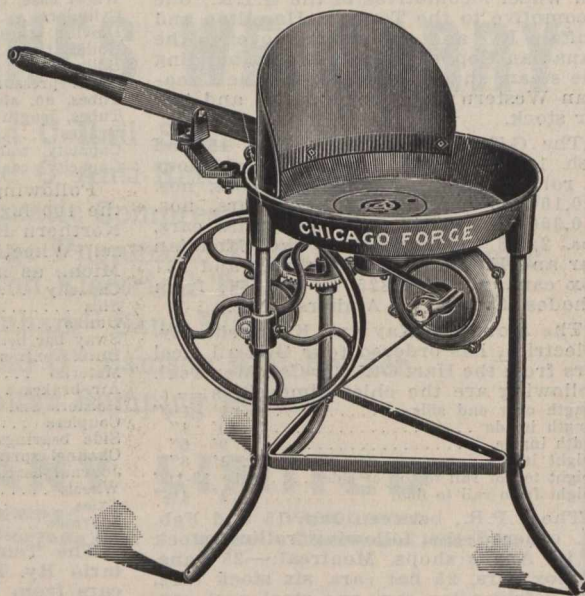
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C.P.R. Betterments, Construction, Etc.

Tobique and Campbellton Ry.—We are advised that parties connected with this company have been negotiating with the C.P.R. to take up the construction of this line, but that nothing definite has been decided. The C.P.R. Tobique Valley branch terminates at Plaster Rock, and the proposed line would be an extension further into the interior, the ultimate idea being to extend it to Campbellton.

Improvements in Toronto.—Very extensive purchases of land have been made in Toronto, along King St., and down to the railway tracks, in the interests of the railways, and particularly of the C.P.R. The latest property acquired is stated to be the Lieutenant-Governor's residence on the corner of Simcoe and King Streets. The object of all these purchases is said to be to enable the company to transfer its freight sheds and yards from south of the tracks to the north, in view of the construction of the viaduct along the water front. It is stated that the company has secured nearly all the property extending from King St. to Front Street, and between Simcoe St. and Spadina Ave. (or Brock St.). To secure some of the lands not at present acquired expropriation proceedings will be necessary.

Western Lines Construction.—W. Whyte, Second Vice President, spent the early portion of Feb. in Montreal, during

Caster, the present terminus of the Calgary and Edmonton Ry. Lacombe branch. It is not intended to build east from Caster.

An extension westerly from the 93 miles from Outlook to Macklin, a station on the Saskatoon-Wetaskiwin line, 54 miles.

An extension of 20 miles from Irricana, on the Red Deer branch, easterly into the irrigation lands of the branch under construction from Langdon, Alta., to Red Deer. The Langdon-Red Deer line is already built for about 25 miles.

An extension of 30 miles from Carmangay of the present line of 28 miles from Kipp northerly to Carmangay.

From or near Elko, on the Crow's Nest Pass line, to Fort Steele, about 25 miles. This will be the first section of the Kootenay Central Ry.

Tenders for these various lines will be invited in the near future.

West of Brandon a large number of long sidings will be put in at various points to provide additional passing tracks and avoid delays in traffic.

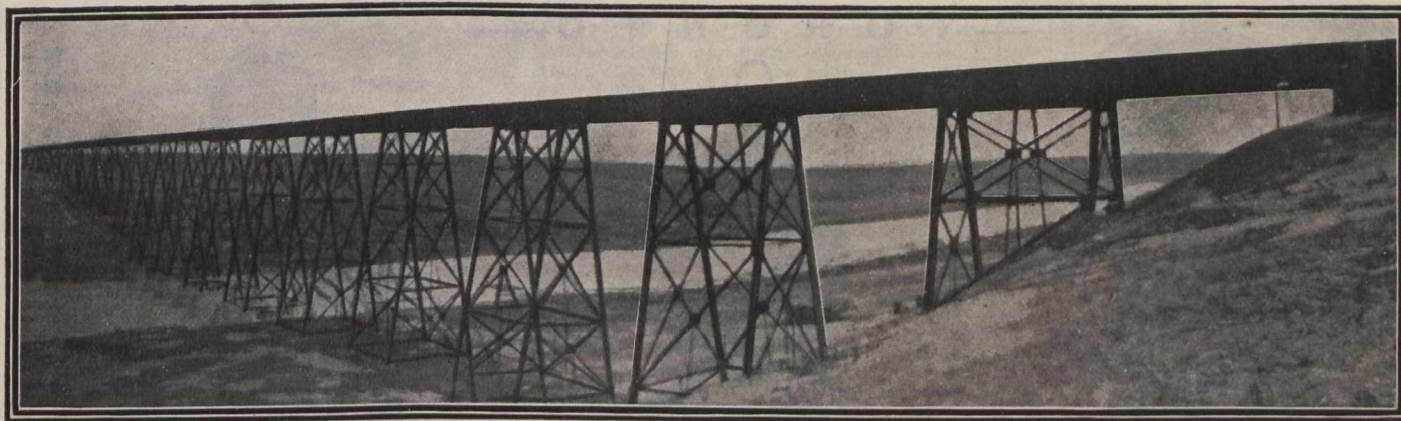
Winnipeg to Brandon.—It has been decided to build a double track from Winnipeg to Portage la Prairie, 55.6 miles, this year, and contracts will be awarded at an early date. It is the present intention to extend the second track next year from Portage la Prairie to Brandon, 131.1 miles.

Branch Lines Authorized.—The House of Commons has passed a bill authoriz-

the Canadian Northern Ry. and the G.T. Pacific Ry. The general waiting room will be 100 ft. square, and on the main floor of the building there will also be provided accommodation for ticket offices, waiting rooms, baggage rooms, express rooms, etc. We are advised that nothing has yet been settled as to the erection of a union station.

Calgary and Edmonton Ry.—The House of Commons has before it a bill passed by the Senate granting an extension of time for the construction of the branch line authorized by sec. 6, chap. 89 of the statutes of 1903, and authorizing the construction of an extension of the Lacombe branch from its present terminus at Stetler to Outlook, Alta., where a junction will be effected with the branch from Moose Jaw.

Steel Viaduct at Outlook.—The company has under consideration tenders for the construction of a steel viaduct over the South Saskatchewan River, at Outlook, Alta., which will form the connection between the Moose Jaw-Outlook branch of the C.P.R., and the extension of the Lacombe branch of the Calgary and Edmonton Ry., for the construction of which the Dominion Parliament has just given the necessary authority. The viaduct will be 3,000 ft. 6 in. long from face to face of ballast wall, and will be entirely of steel, resting on concrete and piers and pedestals. There will be 18 sets of four piers each to support the towers, with 20 sets of two pedestals



CANADIAN PACIFIC RAILWAY BRIDGE OVER THE OLD MAN RIVER, ALBERTA.

which time he was in conference with the President, and as a result it was decided to build about 500 miles of additional railway lines in the Prairie Provinces and British Columbia, in addition to second track work, which will be referred to separately below. Following are the lines decided on:—

The line from Lauder, Man., which is built to Tillston, on the Manitoba-Saskatchewan boundary, will be extended 24 miles into Saskatchewan.

Regina southerly to Griffin, Sask., a station midway between Stoughton and Weyburn, about 79 miles.

Regina to Bulyea, Sask., a station on the Pheasant Hills branch, about 50 miles. This line is already built for about 10, so the new construction will be about 38 miles. This line will afford a short cut off from the district north, east and west of the Qu'Appelle valley to Regina, and will be a most important line to that city.

Regina to Colonsay, Sask., a station between Lanigan and Saskatoon, about 110 miles.

From Weyburn, Sask., a line has been built about 26 miles to Forward. This will be extended for about 25 miles, to a point about 51 miles westerly from Weyburn.

From Outlook, Sask., on the branch from Moose Jaw, an extension of 93 miles will be built in the direction of

ing the company to construct a line from tp. 22, range 2, northerly or northwesterly to tp. 34, ranges 5, 6 or 7, west of 1st meridian; and from near Asquith to tp. 38 or 39, ranges 10, 11 or 12; and granting an extension of time for the construction of a number of previously authorized branch lines.

Manitoba and North-Western Ry.—A bill has been passed by the Senate and is now before the House of Commons granting the company an extension of time for the construction of the branch line authorized to be constructed by sec. 1, chap. 126 of the statutes of 1908, and authorizing the construction of a branch from Birtle to Hamiota, Man., and another from near Russell to Lake Winnipegosis, at the mouth of Shoal River.

Souris, Man., Shops.—We are advised that the press report as to the purchase of 400 acres of land at Souris, Man., for shops and sidings is without foundation. The company's traffic at Souris is growing and will doubtless require additional facilities before long.

Station at Regina, Sask.—Plans are reported to have been filed for the construction of a union station at Regina, Sask., the estimated cost of which is about \$600,000. The new building will it is said, be 480 ft. long, and a portion of it will be four stories high, affording accommodation for offices of the C.P.R.,

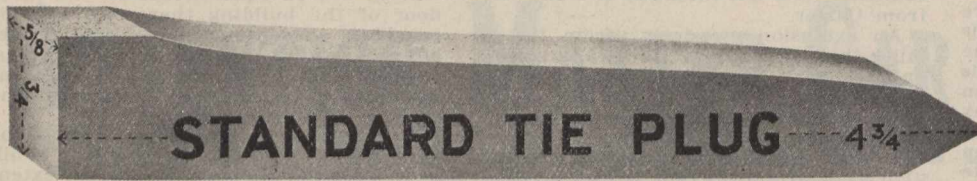
each to carry the intervening uprights. These are to be of concrete, and are to be carried down to solid ground, piles to be used if necessary. The bridge will have a gradient of 0.4% from each end to the centre, the rail level at this point being 123.3 in. above high water mark. Provision is made for the use of the bridge for general traffic by the including of a floor for a highway having a clear width of 20 ft. This highway will start from pier three, and will run off at pier 45. The J. D. McArthur Co., Winnipeg, has the contract for the piers and abutments. The superstructure contract has not been let. It is expected the erection of the bridge will take about a year.

Old Man River Bridge.—The bridge on the Lethbridge-Macleod cut-off, across the Old Man River, an illustration of which is given on this page, although not so long nor so high as that over the Belly River, is one of considerable magnitude. It is 1904 ft. long, and at its highest point is 146 ft. above high water level. The structure is entirely of steel.

Columbia and Western Ry.—A bill has been passed by the Senate and is now before the House of Commons granting an extension of time for the completion of this railway in British Columbia.

Lytton to Hope, B.C., Realignment.—We are advised that the question of the improvement of the alignment and the

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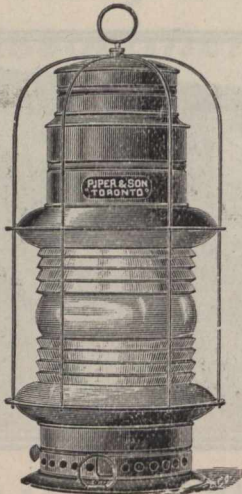
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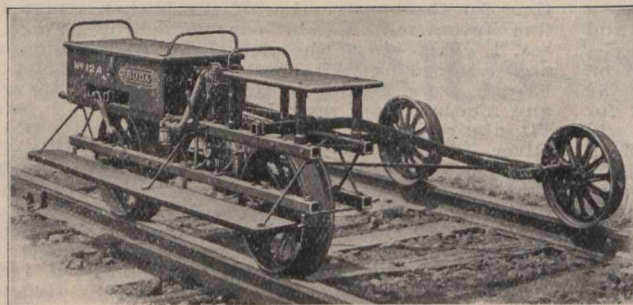


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reduction of the gradient on the main line, between Lytton and Hope, B.C., is under the consideration of the company's engineers, but that all the data necessary for a decision have not yet been worked out.

Vancouver Hotel.—An additional wing is to be built to the company's hotel at Vancouver, B.C., which will provide 70 more rooms. The cost of the addition is estimated at \$150,000.

Esquimalt and Nanaimo Ry.—A bill has been passed by the Senate and is now before the House of Commons granting an extension of time for the construction of the extension of the main line to Comox and branches, and providing that the company shall not construct any portion of the branch lines to settlements on the east coast of Vancouver Island unless first authorized to do so by the Governor in council.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The question of the further extension of the company's line from Thief River Falls to Duluth, Minn., is under discussion. The construction of this extension would enable the operation of C.P.R. trains between Montreal and Winnipeg, via Duluth. (Feb.,

A press report states that the company is preparing to let contracts for the construction of the following lines:—Cut-off from New Richmond, Wis., to Withrow, Minn., 17 miles, the maximum gradient to be 0.5% with light curvature; cut-off from Spencer, Wis., westerly to Owen, 19 miles, the maximum gradient to be 0.3%, with light curvature.

Atlantic, Quebec & Western Railway.

This company issued from its London, Eng., office recently a prospectus of 1750 five per cent, 1st mortgage debenture bonds of £100 each at £98 a bond, being balance of an issue restricted to £525,700. The bonds are repayable after July 1, 1935, but can be redeemed by the company at six months' notice on Jan. 1, 1915, or on any subsequent July 1 or Jan. 1 at £110.

Under agreements with the Dominion Government, the company is entitled to the following subsidies in respect of its Gaspé or coast section (102 miles), which is expected to be opened for traffic in 1910, viz.:

\$6,400 per mile on 102 miles	=\$652,800
For bridges	250,000
Total subsidies	\$902,800
Deduct amount already received	..	156,672
Balance	\$746,128

The bondholders have in the first place a first charge on the net receipts; in addition, the balance above mentioned, as received from the Government, will be paid over to the trustees for the bondholders, and be applicable towards payment of interest on the bonds to Dec. 31, 1915.

Under the company's act of 1903 the company was authorized to construct two railways, viz., a line through the interior from Gaspé to Edmunston, and the Gaspé section shortly approaching completion, and the act empowered the issue of first mortgage debenture bonds to be secured by mortgage of these railways to an aggregate amount of £1,866,000. Accordingly these railways with their appurtenances have been mortgaged by trust deeds to secure an aggregate issue of such bonds to the authorized amount, and under the same deeds all rolling stock and plant purchased in respect of these railways is to be included in the security. But first mortgage debenture bonds to the amount of £350,700 only have been issued, and the company has recently precluded itself from issuing more than the £175,000 now offered by entering into an agreement with the contractors for the railways to restrict

the total issue of first mortgage debenture bonds to £525,000, and to provide for future payments in excess of that amount under the contract by an issue of consolidated bonds instead of by the remaining authorized issue of first mortgage debenture bonds. The consolidated bonds are postponed to the first mortgage debenture bonds, and when issued instead of first mortgage debenture bonds they reduce the number of first mortgage debenture bonds which can be issued. By agreements with the Quebec Government the company is entitled to a subsidy of 400,000 acres of land in respect of its Gaspé or coast section, of which the company is entitled to an immediate grant of 80,000 acres. The right to all land subsidies to which the company is so entitled has been conveyed to the trustees for the bondholders. The proceeds of the sale of the bonds offered will be paid out from time to time on certificates of the company's Engineers-in-Chief, Sir Douglas Fox & Partners, for work to be done towards the completion of the Gaspé section. Every effort is being made to complete this section as rapidly as possible. When finished it will provide the long-desired railway communication between Gaspé and the rest of Canada, serve the considerable population already settled along the route followed by the line, and open up Gaspé Harbor.

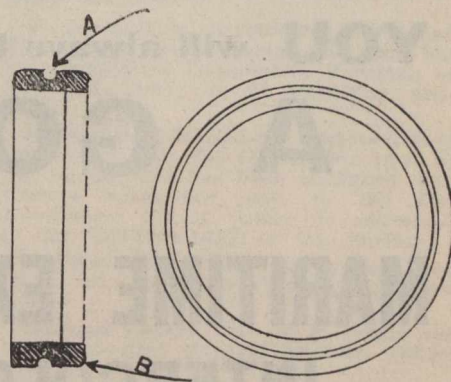
The Engineers in Chief, Sir Douglas Fox & Partners, report as follows:—"The length of the Gaspé or coast section is 102½ miles, and is divided into 10 sub-sections, commencing near New Carlisle; the first nine are each 10 miles long, and the last 12½ miles. The number of stations at present proposed is 16. The whole of the land has been acquired and cleared, and a large proportion of the fencing has been erected. Sub-sections 1 and 2 (ending at Port Daniel) are complete and open for public traffic. Sub-sections 3 and 4 (mileage 20 to 40) are sufficiently complete to carry construction traffic and should be open for public traffic in Dec., 1909. Work is rapidly proceeding on sub-sections 5 to 10 and excellent progress has been made in all departments. The rock excavations and about 75% of the earthworks have been executed. The sub-structures of the bridges are being built, and the steel work for superstructures is in course of manufacture. The permanent way has been laid over 75% of sub-section 10. The permanent works on the railway are of a substantial character and will compare favorably with similar works on the best Canadian railways. Special attention has been given to the designs of the steel superstructures of the bridges, and they may be regarded as a combination of the best English and American practice. All bridge designs are approved by the Railway Commissioners. The railway and bridges are designed to carry loads equal to the loads provided for on many main lines in this country, and may be relied upon to carry with safety fast passenger and heavy goods trains without incurring more than the usual expenses of maintenance. Under normally favorable working conditions, the whole of the coast section of the railway should be finished by next autumn."

During Dec., 14 employes were killed and 29 injured in the course of their work on Canadian railways. Of the fatalities, eight were due to being run over, three to being caught between cars, and one each to machinery, to a fall and to falling material, while of the other accidents, 11 were due to falls, six to being caught between cars, three to being run over, two each to tools and to being struck by a locomotive, and one each to a collision, to falling material, to machinery, to flying material and to being struck by an object in passing.

Hints on Piston Valves

By H. J. Varlow, General Shop Foreman C.P.R., Fort William.

It is practically understood that friction is the resistance which two contracting surfaces have when one is moving over the other. There is an enormous strain on the valve motion or gear and one which causes it to wear rapidly. The piston valve has many good qualities. It permits much greater port area, and takes less space than the slide valve. It is supposed to be a perfect balance valve. I am not sure that this is correct. Its perfection depends to a great extent upon the width of the rings. As long as the steam exerts a pressure under the rings, holding them to the walls, they create an unbalanced friction equal to their area. It would be impossible to fit the rings steam tight in the grooves, without sticking, but the better they are fitted the less friction there will be. The more the sides of the rings are worn the greater will be the pressure under the ring to force against the walls. I do not think the principle of reducing clearance is so great as claimed, although the valve ports are near the ends of the cylinder, which is less than with the slide valve. This must not be lost sight of that



the clearance space that extends clear round the valve must be filled with steam, which reduces the expansive force and increases the exhaust. I have noticed piston valve rings, when removed for examination, to have sharp cutting edges through wear. These rings have a tendency to cut the walls of the valve bush and keep the wall from the necessary lubrication. I am satisfied a good lubrication is of the uttermost importance, especially with superheated steam. When the valve becomes dry the friction is greatly increased and requires more power to move. The accompanying sketch shows a style of valve ring which will give good results and reduce friction to some extent, and is much more durable than the flat, square edge ring. The centre of this ring will be noticed to have an oil groove ¼ in. deep, as marked at A. The edges of the ring have a radius of ¼ in., as marked at B. By this style of ring the oil groove in the centre provides for lubrication; the width of bearing surface on walls is reduced, which reduces friction; the outer edges having a radius prevents the valve from cutting the bushes; the wear on the valve motion is greatly reduced, and the engineer is able to reverse the engine much more easily.

A club, on very similar lines to the Engineers' Club of Montreal, is being promoted in Toronto. Nearly 350 members have been secured at an entrance fee of \$25 and an annual subscription of \$25. At a preliminary meeting Feb. 11, presided over by A. W. Campbell, Deputy Minister of Railway and Canals, a committee was appointed to prepare a constitution and by-laws and to secure a charter and quarters.

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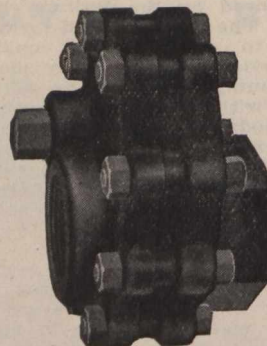


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TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Anglo-Newfoundland Development Co.—The railway lines of this company in Newfoundland are under the charge of the following officers:—General Superintendent, W. Scott; Mechanical Superintendent, P. D. Park; Roadmaster, D. Steel.

Canadian Northern Quebec Ry., Quebec and Lake St. John Ry., Halifax and South Western Ry.—M. M. Beekman has been appointed South Eastern Passenger Agent. Office, 1416 New York Ave., Washington, D.C.

H. R. Stevens has been appointed Travelling Passenger Agent. Office, 1,416 New York Ave., Washington, D.C.

Canadian Northern Ry.—J. E. Nelson, heretofore Trainmaster at North Battleford, Sask., has been appointed Trainmaster at Rainy River, Ont., vice B. T. Chappell, transferred.

S. J. Hungerford, heretofore Superintendent Winnipeg shops, C.P.R., has been appointed Superintendent of Rolling Stock, C.N.R. Office, Winnipeg.

M. Helston has been appointed Chief Dispatcher at Port Arthur, Ont., vice W. I. Munroe, whose appointment as Chief Dispatcher at Dauphin, Man., was announced in our Feb. issue.

E. H. Williams, heretofore Locomotive Foreman at Kipling, Sask., has been appointed general foreman at Brandon, Man.

B. T. Chappell, heretofore Trainmaster at Rainy River, Ont., has been appointed Trainmaster District 4, North Battleford, Sask., vice J. E. Nelson, transferred.

Canadian Pacific Ry.—We are advised, unofficially, but on excellent authority, that J. W. Leonard, General Manager Eastern Lines, has resigned on account of ill health, and that he and Mrs. Leonard, who is also not in good health, will go away for a change in the near future. The daily press has printed a lot of rumors lately, one being to the effect that in future there would be three general managers, instead of two, for Eastern and Western Lines, as at present. We do not think there is any foundation for this report. The great growth of the territory embraced in the Western Lines will, however, probably necessitate an increase of staff there, and it would not surprise us to see the present three grand divisions, Central, Western and Pacific, increased to four, which would necessitate the appointment of another general superintendent.

F. B. Haney, who has been connected with the Legal Department, is reported to have been appointed Assistant Tax and Insurance Commissioner and Claims Adjuster, Eastern Lines, at Montreal.

C. E. Benjamin, heretofore General Agent Passenger Department Atlantic Steamship Service, Chicago, Ill., has been appointed General Tourist Agent. Office, Montreal.

W. Webber, heretofore purser on the s.s. Empress of Britain, has been appointed General Agent Passenger Department Atlantic Steamship Service, Montreal, vice I. E. Suckling, transferred to Toronto.

F. L. Hay, heretofore Superintendent Sleeping, Dining and Parlor Cars and News Service, Vancouver, B.C., has been appointed Assistant General Superintendent same service, Eastern Lines. Office, Montreal.

W. H. Pearson, heretofore general car foreman, Farnham shops, has been appointed General Car Inspector Eastern Lines, Montreal.

R. A. McAdam, heretofore Air Brake Instructor, has been appointed Air Brake Inspector, vice C. W. Carey, deceased. Office, Montreal.

G. A. G. Bartlett, heretofore Assistant Air Brake Instructor, has been appointed Air Brake Instructor, vice R. A. McAdam, promoted. Headquarters, Montreal.

H. C. Harragin has been appointed Assistant Air Brake Instructor, vice G. A. G. Bartlett, promoted. Headquarters, Montreal.

R. H. Marengo, heretofore foreman painter, Farnham shops, Que., has been transferred to Angus shops, Montreal, as assistant foreman painter.

I. E. Suckling, heretofore General Agent Passenger Department Atlantic Steamship Service, Montreal, has been appointed General Agent Passenger Department Atlantic Steamship Service, Toronto, vice S. J. Sharp, transferred to Winnipeg.

C. Mead, heretofore Inspector Sleeping, Dining and Parlor Cars and News Service, has been appointed Sleeping and Dining Car Agent at Fort William, Ont., vice J. S. Youngson, who has been appointed a dining car conductor.

S. J. Sharp, heretofore General Agent Passenger Department Atlantic Steamship Lines, Toronto, has been appointed General Agent Passenger Department Atlantic Steamship Lines, Winnipeg, vice H. M. MacCallum, transferred to Chicago, Ill.

H. M. MacCallum, heretofore General Agent Passenger Department Atlantic Steamship Lines, Winnipeg, has been appointed General Agent Passenger Department Atlantic Steamship Lines, Chicago, Ill., vice C. E. Benjamin, transferred to Montreal.

G. Moth, heretofore Road Foreman of Locomotives, District 4, Pacific Division, Cranbrook, B.C., has been appointed Trainmaster, District 1, Western Division, Moose Jaw, Sask., vice W. H. McConnell, transferred.

L. E. W. Bailey, heretofore District Master Mechanic at Moose Jaw, Sask., has been appointed Road Foreman of Locomotives, District 4, Western Division, Cranbrook, B.C., vice G. Moth, transferred.

A. C. Harshaw, heretofore Trainmaster District 4, Western Division, Macleod, Alta., has been appointed acting Superintendent, District 4, at Cranbrook, B.C., during the absence of J. Brownlee on leave.

A. N. McIntyre, heretofore Yardmaster at Revelstoke, B.C., has been appointed acting Trainmaster at Field, B.C., vice L. A. Warner, assigned to other duties.

W. M. Ansley, heretofore Trainmaster, has been appointed acting Superintendent District 1, Pacific Division, Revelstoke, B.C., vice T. Kilpatrick, appointed acting General Superintendent at Vancouver, B.C.

C. A. Cotterell, heretofore Chief Train Dispatcher, has been appointed acting Trainmaster, District 1, Pacific Division, Revelstoke, B.C., vice W. M. Ansley, appointed acting Superintendent there.

J. H. Armstrong, heretofore Train Dispatcher, has been appointed acting Chief Train Dispatcher, District 1, Pacific Division, Revelstoke, B.C., vice C. A. Cotterell, appointed acting Trainmaster.

J. Beck, heretofore conductor, has been appointed acting yardmaster at Revelstoke, B.C., vice A. N. McIntyre, promoted.

T. Kilpatrick, Superintendent District 1, Pacific Division, Revelstoke, B.C., has been appointed acting General Superintendent Pacific Division, Vancouver, B.C., during the absence of F. F. Busted on leave.

E. W. Bateman has been appointed Local Right of Way and Lease Agent, Pacific Division, Vancouver, B.C., vice W. F. Brougham, resigned.

A. W. Porter has been appointed Superintendent Sleeping, Dining and Parlor Cars and News Service, District 5, Vancouver, B.C., vice F. L. Hay, promoted to Montreal.

Government Railways Managing Board.—D. Pottinger, a member of the Board, has been appointed Deputy Chairman, by order in council.

Grand Trunk Pacific Ry.—P. H. McFadden, heretofore General Roadmaster, has been appointed Superintendent Prairie Division, vice W. C. C. Mehan, promoted. Office, Melville, Sask. The position of General Roadmaster has been abolished.

W. C. C. Mehan, heretofore Superintendent Prairie Division, has been appointed General Superintendent Mountain Division. Office, Prince Rupert, B.C.

Grand Trunk Ry.—J. D. Scott, heretofore Locomotive Foreman at Brockville, Ont., has been appointed Locomotive Foreman at Turcot, Que., vice R. Ivers, resigned.

G. Woodsum has been appointed acting Locomotive Foreman at Island Pond, Vt., vice M. B. Dube resigned.

F. W. Warren has been appointed Locomotive Foreman at Brockville, Ont., vice J. D. Scott transferred.

W. Hamilton, heretofore Locomotive Foreman at Stratford, Ont., has been appointed Master Mechanic (Road) Western Division, vice E. D. Jameson, assigned to other duties. Office, Battle Creek, Mich.

A. J. Roberts, heretofore chageman T. & N.O.R. shops, North Bay, Ont., has been appointed Locomotive Foreman at Stratford, Ont., vice W. Hamilton, promoted.

Intercolonial Ry.—John Campbell having retired from the service, the office of Car Accountant has been abolished, and reports heretofore sent to the Car Accountant will in future be addressed to the Superintendent of Car Service.

Rutland Rd.—R. A. White has been appointed General Auditor. Office, New York.

Rutland Transit Co.—R. A. White has been appointed General Auditor. Office, New York.

New York Central and Hudson River Rd.—The organization of the Accounting Department has been changed, as follows:—General Auditor, R. A. White; Auditor, C. H. Chambers; Assistant Auditor and Auditor of Subsidiary Lines, A. L. Linn, Jr.; Auditor of Disbursements, J. H. Foulds, Jr.; Assistant Auditor of Disbursements, M. R. Connell; Freight Claim Agent, R. L. Calkins; Assistant Freight Claim Agent, J. K. Lovell; Auditor of Revenue, W. T. McCulloch; Auditor of Freight Accounts, F. E. Briggs; Auditor of Passenger Accounts, J. L. Snow; Auditor of Miscellaneous Accounts, J. F. Fairlamb; Assistant Auditor of Miscellaneous Accounts, W. A. Cormier; Chief Travelling Auditor, C. L. Cormier.

E. F. Haubold has been appointed Assistant Auditor of Freight Accounts, New York.

W. J. Fripp has been appointed General Superintendent Eastern District, with which has been incorporated the Mohawk division, transferred from the Western District, vice C. F. Smith. Office, Albany, N.Y.

New York Central & Hudson River Rd. and Boston & Albany Rd.—C. F. Smith, heretofore General Superintendent Eastern Division, Albany, N.Y., has been appointed General Superintendent of Passenger Transportation, in charge of all matters pertaining to passenger traffic, reporting to the Assistant General Managers of Transportation. Office, New York.

New York Central and Hudson River Rd., West Shore Rd., and Boston and Albany Rd.—Gerrit Fort, heretofore Assistant to the Vice President in charge of traffic, N.Y.C. & H.R.R., B. & A. Rd., and West Shore Rd., has been appointed



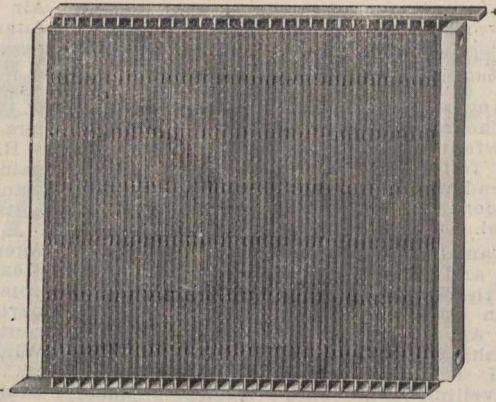
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HEAD OFFICES
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General Passenger Agent, vice J. F. Fairlamb. Office, New York.

L. F. Vosburgh, heretofore General Eastern Passenger Agent, has been appointed Assistant General Passenger Agent. Office, New York.

New York Central Lines.—F. C. Clarke has been appointed Purchasing Agent Dining Car Service Department N.Y.C. & H.R. Rd., L.S. & M.S. Ry., M.C. Rd., C.C.C. & St. L. Ry. and L.E. & W. Rd.

MAINLY ABOUT PEOPLE.

Mrs. Shandy, wife of the late Frank Shandy, C.E., died in Toronto, Feb. 20, aged 76.

The late Archer Baker's estate is reported to have been valued for probate, at \$12,352.

C. Cockshutt, director Niagara Navigation Co., died at Toronto, Jan. 9, aged 55, of pernicious anemia.

D'Arcy Tate, G.T.P.R. Solicitor, Winnipeg, has been appointed a Commissioner for the taking of affidavits in Manitoba.

Sir Thos. G. Shaughnessy, President C.P.R., returned to Montreal, Feb. 2, from Europe, where he spent a short holiday.

D. B. Hanna, Third Vice President Canadian Northern Ry., is expected to return to Toronto from England towards the end of March.

F. C. Salter, European Traffic Manager G.T.R., has returned to England after having gone over the G.T.R. and G.T.P.R. systems.

Miss M. E. Brent, third daughter of J. Brent, G.T.R. agent, Malton, Ont., was married at Weston, Ont., Feb. 2, to H. A. C. Carr of Malton.

A. W. Campbell, Deputy Minister of Railways and Canals, addressed the University of Toronto Engineering Alumni Association, Feb. 10.

A. W. Smithers, Chairman of the Board, G.T.R., was the chief speaker at the Canada Club dinner in London, Eng., in the early part of Feb.

J. W. N. Johnstone, General Passenger Agent Reid Newfoundland Co., St. John's, Nfld., was married there recently to Miss Beatrice Gordon.

The engagement is announced of Miss Aileen Sinclair, daughter of Angus Sinclair, railway contractor, Toronto, to Kenneth MacKenzie, barrister, Toronto.

D. McDonald, Manager Montreal St. Ry., is one of the promoters of a company which has been organized to operate taxi-cabs in Montreal.

H. G. Reid, Vice President Reid Newfoundland Co., returned to Canada from Great Britain, Feb. 3, and left for Newfoundland, Feb. 5.

G. Fauquier, one of the National Transcontinental Ry. contractors, and Mrs. Fauquier are spending the winter at Fauquier, north of Lake Nipigon, Ont.

The C.P.R. directors at their meeting, Feb. 14, passed a resolution expressing their regret at the death of Sir Geo. A. Drummond and sympathy with the members of the family.

F. F. Busted, General Superintendent C.P.R. Pacific Division, Vancouver, B.C., was recently granted leave of absence for six weeks, on account of Mrs. Busted's ill health.

Miss M. C. Bassett, daughter of Captain W. J. Bassett, of the Western Steamship Co., Collingwood, Ont., was married there recently to M. Lemon, of Owen Sound.

F. W. Morse, formerly Vice President and General Manager G.T.P.R., is being mentioned in the press as likely to be appointed President of the Buffalo and Susquehanna Rd.

Mrs. J. P. Mabee, wife of the Chief Railway Commissioner, died at their home in Toronto, Feb. 25, aged 50, after a long illness. She was buried at Port Rowan, Ont.

D. B. Hanna, Third Vice President Canadian Northern Ry., sailed from New York on the s.s. Mauretania, Feb. 9 for England, on C.N.R. business. He will probably return to Toronto in March.

Thos. Reynolds, the C.P.R. conductor, who displayed great bravery in connection with the accident at Spanish River, Ont., Jan. 21, has been awarded the Albert medal of the first class by the King.

Lord Strathcona has subscribed \$5,000 to the Mansion House Fund, being raised by the Lord Mayor of London, Eng., for the benefit of the sufferers by the recent floods in Paris, France.

E. D. Jameson, Road Master Mechanic G.T.R., Battle Creek, Mich., has been granted leave of absence on account of ill health. What position he will occupy on his return, has not been decided on.

The estate of the late Jno. Proctor, of Hamilton, Ont., who was at one time in the G.T.R. service, has paid \$4,868 as succession duties to the Ontario Government. The estate is valued at \$168,000.

W. A. Dube, District Superintendent Intercolonial Ry., Levis, Que., has been named as a likely appointment as a member of the Government Railways Managing Board, should it be decided to increase the number.

J. C. Schreiber, of the Egyptian State Railways, who died at Cairo, Egypt, Feb. 7, was a brother of O. P. Schreiber, of the National Transcontinental Ry. engineering staff, and a cousin of Collingwood Schreiber, C.M.G.

Arthur Hawkes, Superintendent of Publicity, Canadian Northern Ry., lectured at Chicago University, Feb. 8, on the gain in international goodwill from the multiplying of communications between Canada and the United States.

D. J. Rochon, C.P.R. City Ticket Agent, Winnipeg, who was appointed to that position in Dec., on the resignation of A. C. Smith to enter private business, died there Feb. 19, of pneumonia, after a very short illness.

A. W. Campbell, whose portrait appears on the first page of this issue, was recently appointed Deputy Minister of Railways and Canals. Biographical information respecting him was published in our Feb. number.

Hugh A. Allan, who is at present in England in connection with the reorganization of the Allan Line, purposes remaining there some time, probably until all arrangements have been completed for the transfer of the head office to Montreal.

C. M. Hays, President G.T.R. and G.T.P.R., left Montreal, Feb. 25, for England, with his wife and daughters. Miss Louise Hays will christen the s.s. Prince George, the second vessel for the G.T.P.R. service, which will be launched at Wallsend-on-Tyne about the middle of March.

J. Markey, Master Mechanic G.T.R., Toronto, was fined \$20 and costs, with the option of 30 days imprisonment, at Toronto, Feb. 4, for permitting dense smoke to be emitted from the G.T.R. roundhouse chimney, in excess of the time allowed by the law.

Winnipeg press reports state that M. H. McLeod, General Manager Canadian Northern Ry., Winnipeg, will shortly be transferred to British Columbia to take charge of the railway construction in that province. Nothing is known at the head office of the company regarding this.

E. B. Osler, M.P., director C.P.R., who has contributed \$25,000 to the Toronto Playgrounds Association, has been elected Honorary President, and has, also, with W. Mackenzie, President Canadian Northern Ry.; Hon. G. A. Cox, director

G.T.P.R., and M. J. Haney, become a life member.

The Misses Mackenzie, daughters of Wm. Mackenzie, President Canadian Northern Ry. and Mrs. Hugh Sutherland, wife of the Executive Agent C.N.R., sailed from New York, Feb. 3, on the s.s. Celtic for the Mediterranean. Mr. Sutherland will probably go to Europe in March, returning to Winnipeg with Mrs. Sutherland in the spring.

Sir Geo. A. Drummond, director C.P.R., and President Bank of Montreal, died at Montreal, Feb. 2, aged 81. Among other offices he held at various times, were those of First Vice President, and from 1886 to 1888, President Montreal Board of Trade, during which latter period he did good work in the interests of the harbor and the St. Lawrence River navigation generally.

With reference to the recent report that F. P. Brady, member of the Government Railways Managing Board and General Superintendent Government Railways, was about to enter the Dominion Iron and Steel Co.'s service, J. H. Plummer, President, has stated that there is nothing whatever in it, nor could he understand how such a report could have started.

M. Helston, who has been appointed Chief Dispatcher Canadian Northern Ry., at Port Arthur, Ont., was, from 1890 to 1898, train dispatcher M.C. Rd., at Michigan, Ind.; 1898 to 1909, Night Chief and Chief Dispatcher Northern Pacific Ry., at Staples, Minn.; and from May to Oct., 1909, train dispatcher, Minneapolis, St. Paul and Sault Ste. Marie Ry., at Minneapolis and Enderlin, since when he has been train dispatcher on the Canadian Northern Ry.

Among the Express Companies.

J. E. Maley pleaded guilty at Strassburg, Sask., recently, to the theft of a money package from the Dominion Ex. Co.'s office there. He had been engaged as a telegraph operator at Strassburg, and was arrested at Tuffner Lake, N.Y.

W. Dobson, an employe of the Canadian Ex. Co., and P. Whistler, were recently sentenced to four and three years, respectively, in the penitentiary, for conspiracy and stealing \$14,169 from the Canadian Ex. Co., at Niagara Falls, Ont., by means of a bogus hold-up on Nov. 4, 1909.

The Canadian Northern Ex. Co. has opened offices at Howell, Sask., and Kittscoy, Alta.

F. G. McKay, agent Dominion Ex. Co., at London, Ont., died there Jan. 29, aged 47. He had been in London for about 15 years, having previously been route agent between Toronto and Detroit.

At the recent half-yearly meeting of the Dominion Ex. Co., held at Montreal, the report showed that the company had enjoyed a fairly prosperous year. The usual dividend of 8% for the year was declared. With regard to the proposed new building in Montreal, on the site of the St. Lawrence Hall, it was stated that the present building would be pulled down, and a 10-story structure erected in the spring, but as the plans were still in the hands of the architects it could not yet be said whether an hotel would be included in the building or not.

Temiskaming and Northern Ontario Ry.—Traffic earnings for Nov., \$157,227.78; operating expenses, \$114,660.22; net earnings, \$42,567.56; ore royalties, \$4,784.48; total income, \$47,352.04; less hire of equipment, \$6,804.51; net result, \$40,547.53; percentage of expenses to earnings, 72.08. Traffic earnings for Dec., \$168,303.28; operating expenses, \$120,012.52; net earnings, \$48,290.76; less hire of equipment, \$5,258.28; net result, \$43,032.48.

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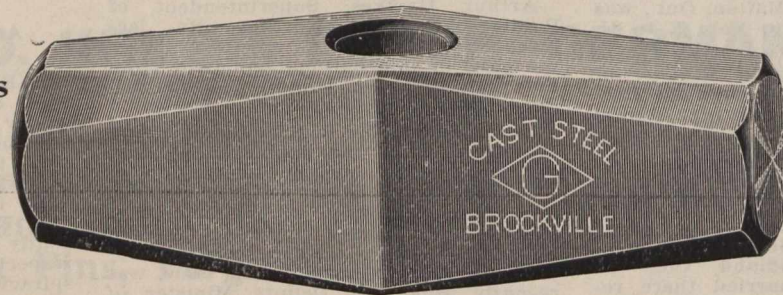
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Telegraph and Cable Matters.

The C.P.R. telegraph system consists of 11,500 miles of poles and cables and 65,000 miles of wire.

The M.C.R. telegraph operators on the Canadian division, have been granted an increase in wages, to date from Dec. 1, 1909.

The Dominion Government telegraph system comprises 973.75 miles of land lines, 259 miles of cable and 401 offices.

The C.P.R. telegraph department has completed its through wire between Winnipeg and Edmonton, through Saskatoon and Wetaskiwin.

H. McDougall, who died recently at Toronto, aged 63, was formerly local manager G.N.W. Telegraph Co. at Winnipeg.

The Dominion Public Works Department received tenders Feb. 15, for the freighting of supplies for the Yukon telegraph line for 1910, 1911 and 1912.

F. H. Knight has been appointed agent Canadian Northern Telegraphs at Fort William, Ont., vice H. E. Fraser, who has been transferred to Saskatoon, Sask.

The telegraph line along the National Transcontinental Ry., between St. Boniface and Superior Jct., 249½ miles, has been completed and put into operation.

H. E. Fraser, heretofore agent Canadian Northern Telegraphs, Fort William, has been appointed agent at Saskatoon, Sask., vice E. S. VanAlstyne, who has left the service.

The Premier stated, in the House of Commons, Feb. 7, that the Government proposes to protect all trade routes by the erection of wireless telegraph stations at suitable points.

H. A. Shambrock, heretofore chief delivery clerk C.P.R. Telegraphs, Toronto, has been appointed Local Manager at Toronto, vice D. G. Sturrock, who has resigned on account of ill health.

The bill for the compulsory equipment of all vessels on the Canadian register of 1,200 tons and over, with a wireless telegraph system, which was introduced in the House of Commons, has been reported against in committee.

F. C. Robertson, heretofore Chief Operator C.P.R. Telegraphs, Toronto, has been appointed Inspector of the Ontario Division, with office at Toronto, and is succeeded by H. J. Lillie, heretofore wire chief.

An Ottawa press dispatch states that the Marconi Wireless Telegraph Co. is planning to erect a number of wireless telegraph stations at various points throughout Canada, and that such a system will be in operation in the spring.

The dispute between the Grain Exchange at Winnipeg and the telegraph companies operating on the floor, has terminated by the companies refusing to pay rent for the space occupied and removing their instruments from the building.

The Marconi Wireless Telegraph Co., of Canada, has a scheme on hand for the widening of its scope in Canada, and, it is stated that J. N. Greenshields, K.C., is visiting England for the purpose of discussing the matter with the directors of the English company.

The Great North Western Telegraph Co. operates over 13,410 miles of poles, 49,686 miles of wire, and 406 miles of cable. It has 1,360 offices, 1,183 of which are in Canada, and of the total number, 894 are engaged exclusively in the company's business.

The Governor of Newfoundland, in his speech at the opening of the Legislative Assembly, intimated that the wireless telegraph system on the Labrador and northeast coasts would be extended dur-

ing the year, and also the telegraph system in the St. Barbe district.

W. C. Furness, local manager G.N.W. Telegraph Co., London, Ont., died there Feb. 13, aged 70. He was manager of the London office for 40 years under the Montreal Telegraph Co., and the G.N.W. Telegraph Co., and prior to going to London was stationed at Hamilton, Ont.

The Anglo-American Telegraph Co., since 1904 has received a subsidy of \$5,000 a year from the Dominion Government, and \$1,800 a year from the P.E.I. Government and exclusive rights for a telegraph service in Prince Edward Island. The agreement, which was for five years, expired at the end of 1909.

It is reported that a contract has been placed for the erection of 1,000 miles of telegraph line by the Northern Commercial Telegraph Co., Ltd., a company which was incorporated about six years ago, with a capital of £750,000, to construct telegraph and telephone lines throughout Canada. Similar reports have been current frequently, but little or nothing has been done.

W. Marconi has arrived in Nova Scotia to superintend the installation of the apparatus at the new Glace Bay station of the Marconi Wireless Telegraph Co., in place of the one destroyed by fire a few months ago. The station at Clifden, Ireland, has been re-equipped, and it is anticipated that communication will be again established across the Atlantic in March.

Press reports state that at a recent conference on the subject of establishing a wireless telegraph system on the Pacific, it was recommended that high power stations be erected at Sydney, Australia; Doubtless Bay, New Zealand; Suva, Fiji Island and Ocean Island, and medium power stations in the New Hebrides and Solomon Islands. All the stations to be controlled by the British Government.

The Montreal Telegraph Co.'s balance sheet for 1909, shows assets of \$2,292,851.97, of which \$1,625,890 represents telegraph lines in Canada and the U.S., and \$33,487.39 telegraph cables. The usual dividend of 8% for the past year has been paid quarterly as was customary. The officers and directors were re-elected for the current year, as follows: President, H. A. Allan; Vice President, W. McMaster; other directors, W. R. Miller and W. Wainwright.

A bill has been introduced into the House of Commons by the Postmaster General, to control the rates and facilities of ocean cable companies, and to amend the Railway Act with respect to telegraphs and telephones and the jurisdiction of the Board of Railway Commissioners. The bill provides for placing under the jurisdiction of the Board all matters pertaining to cable traffic with Canada, which shall include messages transmitted from Canada to any other country, or to Canada from any other country, or through, or into, or from any part of Canada, acting in conjunction with land lines, or by land lines acting in conjunction with cables, by means of a through route or otherwise.

The Board of Railway Commissioners has passed the following order:—9164. Dec. 22.—The complaint of the Canadian Manufacturers' Association Transportation Department against the G.N.W., C.P.R., and Western Union Telegraph Companies in connection with the transmission of code messages between points in Canada. It is ordered that the amendments to rule 4, in so far as they apply to code messages between points in Canada, and when embodied in proper tariffs filed by the telegraph companies with the Board, be approved, the amended

rule to be put in force not earlier than July 1. The amendments mentioned in the order provide for charging code words on the basis of five letters constituting one word.

Grain Elevator Notes.

Forwarders, Ltd., Kingston, Ont., will, it is stated, build an elevator at Fort William, in the spring.

Alberta is credited with having 245 elevators at the end of 1909, with a total capacity of 8,050,400 bush.

The International Elevator Co.'s elevator at Clearwater, Man., was destroyed by fire, Feb. 6, with about 700 bush. of grain.

An elevator at Inglewood, Ont., together with 3,000 bush. of grain, was destroyed by fire recently. The loss is stated as \$5,500, partly covered by insurance.

Goderich, Ont., ratepayers, defeated a by-law, Jan. 1, providing for an exemption of taxation for 10 years of a proposed extension of the Goderich Elevator and Transit Co.'s elevator there.

The Ellison Milling and Elevator Co., Ltd., with a capital of \$150,000 and head office at Lethbridge, Alta., has been licensed to carry on business in British Columbia, with S. Herchmer, Fernie, as its attorney.

The Lieutenant-Governor's speech at the opening of the Manitoba Legislature, Feb. 10, mentioned the inclusion of a scheme for the Government ownership of elevators in the legislative programme for the current session.

The Western Farmers' Elevator and Milling Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Lethbridge, Alta. Press reports state that the company intends to build several elevators, each of 30,000 bush. capacity, between Taber and Medicine Hat, Alta., and Lethbridge, Alta., and Weyburn, Sask.

E. H. Heaps, who is interested in the recently incorporated A.B.C. Elevator and Wharf Co., is reported to have said, recently, that the company had received a promise of assistance from Alberta Government, in aid of its project to erect elevators in Vancouver, Prince Rupert and New Westminster. A meeting of the company would shortly be held, when it would be decided as to when construction would commence.

Goderich, Ont., ratepayers, defeated a by-law, Jan. 1, providing for an exemption of taxation for 10 years of a proposed extension of the Goderich Elevator and Transit Co.'s elevator there, and on Feb. 14, passed by-laws granting fixed assessments to the Goderich Elevator and Transit Co., and the Western Canada Flour Mills Co., in connection with the addition to the capacity of 500,000 bush., in the former case, and the erection of a 500,000 bush. elevator in the latter case.

The Mechanics' Handbook, issued by the International Correspondence Schools, Scranton, Pa., is a convenient reference book for the pocket for all interested in engineering, both civil and mechanical. The volume extends to 330 pages, and contains rules, formulas, tables, etc., in most common use, together with explanations concerning them and practical examples illustrating their use. The daily wants of engineers are anticipated, and the information sought is given in the manner best suited to the needs of the user. Being of pocket size, the volume can always be carried about, and is therefore readily accessible when most wanted. The present is the seventh edition, and brings the total number issued to 317,000.

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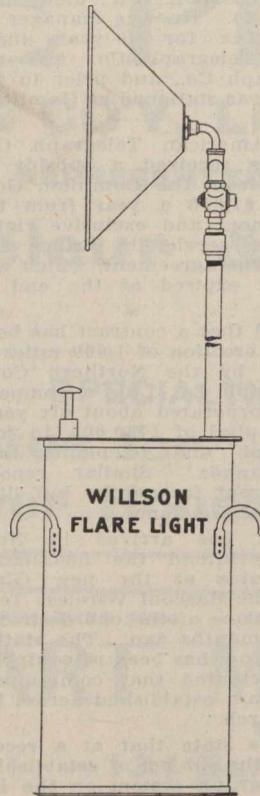
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British Columbia Electric Ry., Co.

Following are extracts from the reports of the year ended June 30, 1909:—

The gross receipts show an increase of \$339,699, or 17%, and the net earnings, including income from investments in subsidiaries, and after charging renewals, an increase of \$48,792, or 5.6% over the preceding year. From the close of the financial year up to October 31 there has been a still further increase in gross earnings of \$231,961, or 32%, and in net earnings of \$98,086, or 28%. From January 1, 1909, in pursuance of its long-established policy of allowing the public to share in its prosperity by treating them in the most liberal manner possible, spontaneously reduced its charges for electric light by about 17%. The rates now charged compare favorably with those of the largest cities of Canada. Various reductions in railway fares and charges have also been made during the year. It was anticipated when these reductions were put into force that they would involve considerable diminution of profits, but the increase in the volume of business has more than compensated for the reduced charges, and the above-mentioned satisfactory results are shown for the whole year. The following charges have been made against the revenue account of the year:—

Provision for renewals maintenance (from which £16,674 11s. 10d. has been deducted for adjustments and expenditures on renewals during the year)	£36,447	14	5
Bonus to employes	9,683	14	5
Amount added to capital amortization fund	2,018	1	10
The net profit for the year, after making the above deductions, amounts to	163,306	6	9
Add balance brought forward from last year	4,973	18	11
	£168,280	5	8

Deduct—			
Interest on debentures and debenture stock to June 30, 1909	£39,889	7	4
Dividends already paid—			
On 5% cumulative perpetual preference stock for year ended June 30, 1909	20,000	0	0
On preferred ordinary stock for year ended June 30, 1909	24,000	0	0
ary stock for 6 months to Dec. 31, 1908	20,000	0	0
	103,889	7	4

Leaving available for further distribution and reserves	£64,390	18	4
From this the Directors have decided—			
To recommend the payment of a dividend on the deferred ordinary stock at the rate of 8% per cent. per annum for the six months to June 30, 1909, making 8% for the year	£20,000	0	0
To transfer to reserve fund	37,329	15	5
	57,329	15	5
To carry forward to next account	£7,061	2	11

The number of passengers carried during the year was 25,183,739, an increase for the year of 3,855,559. Although your

directors have every confidence that the business will continue to increase steadily in the future, they point out that the extraordinary increase in earnings of the last few months is attributable wholly to exceptional causes. The exhibition at Seattle has attracted thousands of tourists, who have visited Vancouver and Victoria, besides which the great salmon run (which occurs every fourth year) has this year largely increased the earnings of the Lulu Island branch.

The great influx of settlers into British Columbia is indicated by the fact that the permanent population of Vancouver City alone is now reliably estimated at over 100,000. As a natural and necessary result of this growth, which your directors, after most careful examination of conditions, are satisfied will continue, the company is extending its railway system and general undertaking as the interests of the country and the requirements of the public demand. The new railway lines may not prove immediately remunerative, and must be expected to increase the ratio of expenses during the next two or three years, but they will undoubtedly in time develop a very valuable business. During the year £286,181 11s. 9d. has been spent in extensions and improvements. Very satisfactory progress has been made with the construction of the Fraser Valley branch to Chilliwack (65 miles), and it is estimated that the first section, 21 miles, to Cloverdale will be open for traffic towards the end of Nov., 1909, and a further section, 22 miles, to Abbotsford will be in operation towards the end of January, 1910, the whole line being completed and in operation some time during the spring of 1910. The opening of this line is eagerly looked for by the settlers in the districts through which it runs, and the prospects of traffic are good. Various extensions of the company's system in the districts adjacent to Vancouver and New Westminster have been undertaken, aggregating altogether about 31 miles of railway. The company has also built a short new branch line from Victoria City. When these extensions are completed, the company will be operating 164 miles of line.

In view of the demand for electrical energy, an increased supply of water power in the future has had to be considered. The directors have authorized the construction of a new dam of greater height at Lake Coquitlam, and also the enlargement of the tunnel between Lake Coquitlam and Lake Buntzen. It is estimated that this will enable the plant at Lake Buntzen to be gradually increased to about 62,000 h.p., which should satisfy the requirements of Vancouver and the neighborhood for years to come. At present the plant at Lake Buntzen is capable of generating 22,500 h.p., and an additional unit of 10,500 h.p. which is in course of erection will be available within a few weeks. It has also become necessary to increase the supply of power for the City of Victoria, but before undertaking the large capital expenditure for this purpose the directors entered into negotiations with the city, which have resulted in a satisfactory agreement, protecting the company from municipal competition. The development of a large water power on Jordan River is now in progress, and your directors are advised that it will when completed adequately meet the requirements of the city for many years to come, while it will also enable the company largely to extend its business.

The construction of the new freight sheds, referred to in the last report, has been completed. Plans are also being considered for new terminal buildings which will be in every way worthy of the City of Vancouver and of the company. They will, moreover, enable considerable economies to be effected in the general administration of the company's busi-

ness. It has also become necessary to largely increase the company's equipment for the construction of rolling stock. The output from the company's existing workshops is satisfactory, both as to quality and cost, but with the present accommodation it is quite impossible to produce the new rolling stock required, or to deal efficiently with the requisite overhauling and repairs. The directors are therefore considering the advisability of moving the car shops to a more convenient and commodious site and of erecting workshops of large capacity, built and equipped in the most modern manner.

The following capital expenditures were made during the year:—

Rolling Stock	\$235,308	57
Track work	221,615	96
Double tracking	153,866	97
Lighting extensions	136,917	47
Power extensions	37,326	47
Railway feeders	9,259	48
Land and buildings	205,800	70
Extending the railway, light and power system under municipal charters—		
Light and power extensions	\$13,412	13
Light and power extensions	\$13,412	13
Railway extensions	28,022	54
Lands and buildings	5,320	11
Electrical machinery	4,560	93
	51,315	71
New Westminster and Eburne—		
Electrification of line	11,226	98
One 2,000 k.w. rotary	56,333	04
Three 500 k.w. stepdown transformers	6,951	30
Storage battery, Victoria	34,308	69
Steam shovel	6,120	00
Sundries	26,779	66
Real estate, buildings and plant purchased—		
Sub-station site, Vancouver	11,820	85
Westminster	372	15
Burnaby	52	10
Sub-station building, Vancouver	34,209	27
Westminster	5,260	21
Burnaby	5,970	50
Sub-station machinery, Vancouver	104,095	18
Westminster	9,337	73
Burnaby	11,327	74
Transmission lines in Vancouver city	12,503	98
	\$1,387,980	71

Toronto Ry Co's Report.

Following are extracts from the report for 1909, presented at the annual meeting, Feb. 2:—

The passenger earnings continue to show gratifying increases, amounting to \$3,878,145.82, as compared with \$3,566,493.72 for 1908. While the passenger earnings show an increase in gross of 8.73% over 1908, the net revenue from operation shows an increase of 12.19%, the percentage of operating and maintenance charges to passenger earnings for the year being 51.4%.

A summary of the report and statements dealing with the year show the following:—Gross earnings, \$3,926,828.43; operating and maintenance charges, \$1,995,914.64; net earnings, \$1,930,913.79. From the net earnings there was paid to the city of Toronto: percentage of earnings, \$507,827.49; pavement charges, \$82,127.62; general taxes, \$50,326.34; total, \$640,281.45. The corresponding payments during 1908 were \$578,994.56, thus showing that the payment to the city during the year increased \$61,286.89. The total payments to the city since the commencement of the franchise, Sept. 1, 1891, amount to \$5,250,066.50. The other deductions are:—Four quarterly dividends of 1% %, \$560,000.00; bond interest, etc., \$198,250.23. There has been transferred this year to the contingent account provision for renewals, \$150,000. There has been transferred from profits to the credit of this account \$900,000, and there has been expended to date \$597,620.58, leaving a balance of \$302,379.42 for the purpose of future renewals. The principal charges to this account were in connection with the renewal of track and overhead work.

The capital expenditure during the year was only \$138,081.49, compared

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2 men @ \$2.50.....	5.00
1 man @ \$2.25.....	2.25

Total..... \$8.40

BY HAND

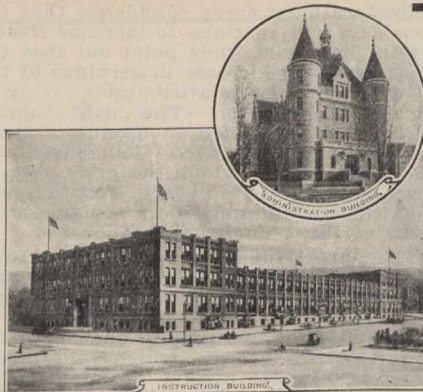
2 men @ \$2.50.....	\$5.00
2 men @ \$2.25.....	4.50

\$9.50

Cost per rivet by hand....	.0380
Cost per rivet with riveter.	.0168

Saving per rivet..... .0212
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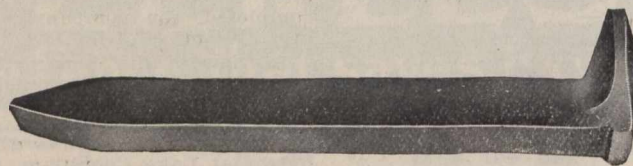
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Marine Engineer	Building Contractor
Mechanical Engineer	Mechanical Draftsman
Bridge Engineer	Machine Designer
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with \$431,870.94 during 1908. It is to be regretted that owing to the position taken by the city council in refusing to allow the company to construct new lines which it considered necessary to meet the public requirements, the company was compelled to discontinue the construction of new cars, which it has been constructing continuously for the past 16 years. The same might be said of track and overhead work, as the only new track built during the year was on Roncesvalles Ave. from Queen St. to Dundas St., 979 ft. Having in view that authority will ultimately be granted for the construction of additional tracks, which will necessitate the adding to our rolling stock a number of new cars, a contract has been entered into for the construction of a large up-to-date car house on Lansdowne Ave. Not only will this car house take care of a number of the new cars when constructed, but it will provide for a more even distribution of houses throughout the city for car storing and repairing purposes.

The business of the Toronto and York Radial Ry. system continues to show gratifying increases in all of its branches. After meeting all maintenance and operating charges, bond interest, etc., there was carried to the credit of profit and loss, \$42,133.30. An interesting feature of the company's business is the steady growth of express traffic, etc., on the Metropolitan division. The company has co-operated with several York county municipalities in building up and establishing weekly markets, all of which are in a flourishing condition and with every prospect of creating increased business.

Tabulated statements show the Toronto Ry. Co.'s gross income, \$3,926,828.43; operating and maintenance expenses, \$1,995,914.64; net earnings, \$1,930,913.79; passengers carried, 98,117,991; transfers, 38,137,688; percentage of operating expenses to passenger earnings, 51.4 for 1909, against \$3,610,272.98 gross income; \$1,889,046.62 operating and maintenance expenses; \$1,721,226.36 net earnings; 89,139,571 passengers carried; 32,700,576 transfers; 52.9 percentage of operating expenses to passenger earnings, for 1908.

ASSETS.

Road and equipment, real estate and buildings, including pavements, etc.	\$14,110,972 49
Advances to subsidiary companies	768,741 69
Stores in hand	\$311,997 60
Accounts receivable ..	121,400 16
	433,397 76
Cash in bank	637,324 44
	<u>\$15,950,436 38</u>

LIABILITIES.

Capital stock	\$8,000,000 00
Bonds	3,998,326 66
Mortgages	70,375 00
Accounts and wages payable ..	163,382 74
Accrued interest on bonds ..	69,743 02
Dividend payable Jan. 2	140,000 00
Toronto Power Co. sinking fund guarantee	109,456 20
Unredeemed tickets	75,482 91
Provision for renewals. \$900,000 00	
Less expenditure to date	597,620 58
	302,379 42
Insurance fund for injuries and damages	52,789 73
Profit and loss at Dec. 31, 1908 ..	2,586,118 59
Balance surplus	382,382 11
	<u>\$15,950,436 38</u>

TORONTO AND YORK RADIAL RY.

Gross Income:—	
Passenger	\$293,959 77
Freight	47,317 08
Sundry	10,183 57
Total income	\$351,460 42
Maintenance and operating expenses	200,885 50
Surplus	150,574 92
Interest on bonds and loans	108,441 62
Net surplus	<u>\$42,133 30</u>

THE TORONTO POWER CO., LTD.

INCOME ACCOUNT.

Gross revenue from leased properties.	\$651,830 77
---------------------------------------	--------------

Maintenance and operating expenses.	142,608 32
	\$509,222 45
Rentals paid and accrued	498,680 26
Surplus from operation	\$10,542 19
MISCELLANEOUS INCOME.	
Income from bond investment, etc.	\$119,121 16
Less interest on debenture stock	\$104,005 29
Less miscellaneous charges ..	5,632 95
	109,638 24
Balance of miscellaneous income	9,482 92
Net surplus	<u>\$20,025 11</u>

The officers and directors were re-elected for the current year as follows:—President, W. Mackenzie; Vice President, F. Nichols; other directors, Hon. G. A. Cox, Sir Henry M. Pellatt, W. D. Matthews, R. Forget, M.P., J. Gunn.

Ottawa Electric Ry. Co.'s Report.

Following are extracts from the report for the year 1909, presented at the annual meeting, Feb. 7:—

The gross earnings were \$677,357.11, compared with \$616,229.37 in 1908; 14,983,799 passengers were carried, compared with 13,711,382 in 1908. Dividends amounting to 12% were paid. The net profit of \$247,285.25 was disposed of as follows:—Interest paid on bonds and loans, \$30,081.26; four quarterly dividends of 2½% and bonus of 2%, \$149,724.00; mileage payments, \$12,467.25; taxes, \$6,881.81; placed to credit of contingent account to be applied to reduction of track renewal, car equipment and other accounts, \$36,119.81; transferred to credit of profit and loss account, \$12,011.12. The balance at credit of profit and loss account is now \$47,000, and of rest account \$200,000.

Each month throughout the year showed a gratifying increase in earnings over the previous year, the largest increases being in the last three months. The Dominion Government has let contracts for damming Lakes Temiscaming and Kippewa, and it is the intention to give out other contracts for additional dams in the near future, which will form part of the series of storage dams proposed to be constructed to conserve the waters of the Upper Ottawa. Our business is increasing at such a rate that it will be necessary to add to the rolling stock without delay. During the past season 80 lb. rails were laid on the Rockliffe line from the car sheds to the old terminus; on Somerset St. from Bronson Ave. to Preston St., and from Bayswater Ave. to Irving Ave. on Somerset and Wellington Sts. The balance of Wellington St. to Holland Ave. will be renewed next summer. It is proposed to lay new 100 lb. rails on Sparks St. next spring. The rails and other material for this work are on hand. It is expected at the same time that the Ottawa corporation will improve the pavement on this street, which is now in a dilapidated condition. With the increase of traffic more power is required, and the question of duplicating our present water-power power house is being considered.

ASSETS.

Roadbed and equipment, water power property and plant, real estate and buildings	\$2,285,625 88
Cash	14,016 08
Accounts receivable	4,328 33
Stores	6,092 93
Insurance paid in advance	5,200 00
	<u>\$2,315,263 22</u>

LIABILITIES.

Capital stock	\$1,247,700 00
First mortgage, 4% bonds	500,000 00
Dividend payable Jan. 1	56,146 50
Interest on bonds, payable Jan. 5.	10,000 00
Unpaid dividends	390 67
Pay list to Dec. 31, 1909	10,711 00
Bills payable	192,500 00
Accounts payable	14,695 24

Contingent account	36,119 81
Rest account	200,000 00
Profit and loss account	47,000 00
	<u>\$2,315,263 22</u>

PROFIT AND LOSS ACCOUNT.

Balance at credit of profit and loss, Dec. 31, 1908	\$ 34,988 88
Net profit for 1909	247,285 25
	<u>\$282,274 13</u>
Dividends and bonus	149,724 00
Taxes	6,881 81
Mileage payments	12,467 25
Interest on bonds and loans	30,081 26
Contingent account	36,119 81
Balance at credit, Dec. 31, 1909 ..	47,000 00
	<u>\$282,274 13</u>

Gross receipts, \$677,357.11; expenses, \$479,502.18; net income, \$197,854.93; passengers carried, 14,983,799; percentage of operating expenses to receipts, 63.5, for 1909, against gross receipts, \$616,229.37; expenses, \$455,827.80; net income, \$160,401.57; passengers carried, 13,711,382; percentage of operating expenses to receipts, for 1908, 66.4.

The officers and directors were re-elected for the current year as follows:—President, T. Ahearn; Vice President, P. Whelen; other directors, W. Y. Soper, G. P. Brophy, Hon. G. A. Cox, T. Workman.

London Street Railway Co.'s Report.

Following are extracts from the report for the year 1909:—

EARNINGS.

	1908.	1909.
Passengers	\$230,866.09	\$238,267.23
Miscellaneous	4,166.31	5,092.16
Gross earnings	<u>\$235,032.40</u>	<u>\$243,359.39</u>

EXPENSES.

MAINTENANCE:		
Way and structures ..	\$13,573.55	\$21,735.66
Equipment	28,128.03	24,743.43
TRANSPORTATION:		
Power plant	30,125.32	27,796.46
Car service	68,845.27	67,866.35
GENERAL	26,894.55	27,688.54
Total operating expense ..	<u>\$167,566.72</u>	<u>\$169,830.44</u>
NET EARNINGS	<u>\$67,465.68</u>	<u>\$73,528.95</u>

DEDUCTIONS.

Interest on bonds	\$25,005.82	\$28,345.86
Interest on overdraft	3,448.92	541.70
Total deductions	<u>\$28,454.74</u>	<u>\$28,887.56</u>
NET INCOME	<u>\$39,010.94</u>	<u>\$44,641.39</u>

The following changes have effected your property during the year:—Increases—track and roadway, Ottawa Ave. derail, \$292.93; miscellaneous bond issue, \$25.00. Paving—Adelaide St., Dundas to Dufferin, \$1,695.17; Dundas St., opposite fair grounds, \$885.25; Rectory St., Dundas to G.T.R., \$2,459.41; Ridout St., Dundas to King St., \$742.53; total, \$6,100.29. Decreases—Sale of lots, corner Horton and Ridout Sts., \$2,000.00; Artesian well rights, back of power plant, \$100.00; interest and discount, \$62.50; total, \$2,162.50; net increase, \$3,937.79.

The expenditure for track purposes and general maintenance of the entire system was noticeably increased, and considerable reconstruction was accomplished at a minimum cost, owing to favorable conditions effecting both material and labor. The general adoption of the pay-enter system throughout the country has caused us to make some changes along the lines, but owing to local conditions, a pay-leave system was considered more desirable; consequently a number of cars were adapted to this plan and are being tried at present. As considerable dissension arose relative to the proposed locations of the north end extension, the city council dropped negotiations. We have been solicited by the city to negotiate for Niagara power,

NORTH AMERICAN LIFE

SPLENDID RECORD FOR 1909

The Twenty-ninth Annual Meeting of the North American Life Assurance Company was held at its Home Office in Toronto on Thursday, Jan. 27, 1910, when the Report of the business for the year ended Dec. 31, 1909, was presented.

INCREASE IN CASH INCOME

The cash income for the year from premiums, interest, etc., was \$2,028,595.40, showing the satisfactory increase of \$133,117.95.

ECONOMICAL MANAGEMENT

The business continues to be conducted on an economical basis; the ratio of expenses to premium income remains practically the same, notwithstanding the large increase in new assurances.

LARGE PAYMENTS TO POLICY-HOLDERS

The amount paid on policyholders' account was \$789,520.41. Of this sum \$138,320.47 was for surplus or dividends, while \$327,111.96 represents payments for Matured Endowment and Investment Policies.

ADDIT ON TO ASSETS

The assets increased in 1909 by \$899,826.81, and now amount to \$10,490,464.90. As heretofore, they continue to be invested in the best class of securities available, the addition to mortgage loans being \$710,285.39.

INCREASE IN NET SURPLUS

After making ample provision for all liabilities and distributing during the year the relatively large amount for dividends mentioned, the net surplus on policyholders' account was increased to \$1,018,121.25.

INSURANCE INCREASED

The policies issued during the year, together with those revived, amounted to the sum of \$5,091,029, being an increase over the previous year of \$625,805; the total business in force amounted to \$41,964,641.

CAREFUL AND SYSTEMATIC AUDIT

A monthly examination of the books of the Company was made by the Auditors, and at the close of the year they made a thorough scrutiny of all the securities.

A Committee of the Board, consisting of two Directors, made an independent audit of the securities each quarter.

J. L. BLAIKIE, L. GOLDMAN,
President. Managin Director.



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Style No. 20

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The six railways of the Canadian Northern Railway system offer the widest choice of new territories for the fisherman, canoeist, camper and hunter.

IN NOVA SCOTIA the Halifax and Southwestern Railway, from Halifax to Yarmouth, serves seven hundred miles of ocean shore; two score generous trout streams and the famous Rossignol lake system.

IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouananiche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

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and as it will be necessary to increase our plant shortly, several other plans are also under consideration. As a result of the favorable vote, the question of Sunday cars was referred to the Legislature, which passed an Act requiring a population of 50,000, but as the committee could not give a satisfactory return, the matter was laid over until this year. The new stock authorized at the last meeting is entirely subscribed and 50 shares have been paid in full, although no calls have yet been made. Your directors have disposed of \$25,000 of bonds at a fraction over par, the proceeds being used to pay overdraft and to provide for other requirements, so that our present condition is excellent. It is with pleasure that we draw your attention to the increases in the gross earnings and surplus, which under existing conditions were very good, and we confidently expect the coming year will also prove satisfactory. Our relation with the public is good, and it is the constant aim of the management to improve the service so as to obtain the best results. No suits of consequence are pending against the company. There were 64 shareholders of record at Dec. 31.

Following are the officers and directors for the current year:—President, H. A. Everett, Cleveland, O.; Vice President, T. H. Smallman, London, Ont.; other directors, P. W. D. Broderick, W. M. Spencer, London, Ont.; H. S. Holt, Montreal; E. W. Moore and C. W. Wason, Cleveland, O.

Halifax Electric Tramway Co.

Following are extracts from the report for the year 1909:—

The gross and net earnings are viewed with much satisfaction, and we are assured will be appreciated by the shareholders. The proportion of operating expenses to income of 53.54% is a gratifying feature of the year's operations, and is largely due to the efficient condition of our railway and lighting services. The company is now carrying a "use and occupancy" insurance policy in addition to the regular fire and boiler explosion risks, and is arranging for the installation of an up-to-date sprinkler system, whereby the premium on fire policies will be greatly reduced. During the past year four "pay-as-you-enter" cars have been placed in operation, two having been built by the Silliker Car Co., and all of which appear to be giving general satisfaction.

ASSETS.	
Property	\$2,412,000.00
Accounts receivable	37,421.65
Supplies	11,169.66
Suspense account	12,857.49
Real estate	7,326.27
Cash on hand	44,764.53
	\$2,525,539.60
LIABILITIES.	
Capital stock	\$1,400,000.00
5% Bonds	600,000.00
Accounts payable	38,871.50
Mortgages	7,000.00
Tickets outstanding	2,365.75
Bond interest	15,000.00
Dividend due Jan. 1	24,500.00
Surplus account	437,802.35
	\$2,525,539.60
INCOME ACCOUNT.	
Passenger receipts	\$ 197,330.15
Light and power earnings	191,322.89
Gas earnings	57,797.44
Sundry earnings	1,129.36
	\$ 447,579.84
Operating expenses	\$ 239,606.05
Coupons	30,000.00
Net earnings	177,973.79
	\$ 447,579.84
SURPLUS ACCOUNT.	
Balance, 1908	\$ 360,464.44
Net earnings, 1909	177,973.79
	\$ 538,438.23
Three dividends paid	\$ 63,000.00
Dividend due Jan. 1	24,500.00
Interest	1,129.94

Renewals	12,005.94
Balance	437,802.35
	\$ 538,438.23

The officers and directors for the current year are:—President, Hon. D. MacKeen; Vice Presidents, J. Y. Payzant and W. B. Ross; other directors, A. Kingman, J. Hutchison, J. C. Mackintosh, C. C. Blackadar, F. B. McCurdy and M. C. Grant.

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Dec., 1909, \$269,179; working expenses, \$151,522; net operating earnings, \$117,657; renewal funds, \$17,833; net earnings, \$99,824; approximate income from investments, \$16,500; net income, \$116,324; against \$206,050 gross earnings; \$105,991 working expenses; \$100,059 net operating earnings; \$11,544 renewal funds; \$88,515 net earnings; \$13,550 approximate income from investments; \$102,065 net income, for Dec., 1908. Aggregate gross earnings for six months ended Dec. 31, 1909, \$1,480,871; net earnings, \$657,366, against \$1,143,639 gross earnings, and \$535,139 net earnings for same period 1908.

British Columbia Electric Ry.—The new lease of the Vancouver and Lulu Island Ry. to the B.C. E. Ry. Co., which has just been signed, is an extension of the old lease for 21 years from July 1, 1909, with an option of renewal for a like period, up its expiry. The original agreement provided for the electrification and operation by the B.C.E. Ry. of the Eburne-New Westminster extension, which has just been completed.

Calgary St. Ry.—The municipally owned street railway started operation on July 5, 1909, and up to Jan. 31 the total receipts were \$54,000. After meeting operating expenses and paying interest on the cost, \$10,000 has been paid into the city treasury as profit. It is expected that the cost of operation will be reduced considerably as soon as the city's hydro-electric plant is placed in operation. The cost of the street railway to Jan. 31 was \$476,000.

Detroit United Ry.—At the annual meeting, Feb. 1, it was decided to continue the practice of not paying dividends until the betterment of the tracks and rolling stock had been completed. The net earnings from operation aggregated \$3,004,000, and there is on hand a surplus of \$2,744,529, after paying off \$500,000 of betterment notes Feb. 15. The company owns the Sandwich, Windsor and Amherstburg Ry. in Canada.

Halifax Electric Tramway.—The annual meeting was held Feb. 14. The report for the year 1909 shows passenger receipts, \$197,330.15; earnings from light and power, \$191,322.89; gas, \$57,797.44; sundry, \$1,129.36; total, \$447,579.84; operating expenses, \$239,606.05; coupons, \$30,000, leaving \$177,973.79 as net earnings. Dividends paid were \$85,129.94, and \$92,843.85 was taken to surplus account, which stands at \$437,802.35. The percentage of operating expenses to income for the year was 53.54.

Approximate earnings for Jan., \$15,510.09, and for two weeks ended Feb. 14, \$6,913.26, against \$13,785.59 and \$6,198.52 for same periods 1909.

London St. Ry.—Gross earnings for Jan., \$18,363.71; expenses, \$13,578.22; net earnings, \$4,785.40; deductions, \$2,441.75; net income, \$2,343.74, against \$17,737.83 gross earnings; \$12,985.11 expenses; \$4,752.72 net earnings for Jan., 1909.

Montreal St. Ry.—Passenger earnings for Jan., \$223,045.07; miscellaneous earnings, \$2,575.89; total earnings, \$325,620.96; operating expenses, \$205,059.74; net earnings, \$120,561.22; city percentage on earnings, \$16,883.87; interest on bonds

and loans, \$14,273.67; rent leased lines, \$552.90; taxes, \$4,000; total charges, \$35,690.44; surplus, \$84,870.78; expenses per cent. of earnings, 62.98; against \$291,698.83 passenger earnings; \$3,754.54 miscellaneous earnings; \$295,453.37 total earnings; \$199,644.45 operating expenses; \$95,808.92 net earnings; \$15,230.09 city percentage on earnings; \$15,107.19 interest on bonds and loans; \$498.67 rent leased lines; \$2,700 taxes; \$33,533.95 total charges; \$62,272.97 surplus; 67.57 percentage of expenses to earnings for Jan., 1909. Passenger earnings for four months ended Jan. 31, \$1,316,411.91; miscellaneous earnings, \$35,650.45; total earnings, \$1,352,062.36; operating expenses, \$791,938.71; net earnings, \$560,123.65; total charges, \$132,035.28; surplus, \$428,088.37; percentage of expenses to earnings, 58.57; against \$1,198,309.67 passenger earnings; \$32,214.80 miscellaneous earnings; \$1,230,524.47 total earnings; \$748,839.47 operating expenses; \$481,685.00 net earnings; \$124,104.88 total charges; \$357,580.12 surplus; 60.86 percentage of expenses to earnings, for same period 1908-09.

St. Thomas St. Ry.—The St. Thomas city council is applying to the Ontario Legislature for the passing of an act repealing sections 2, 3 and 4, chap. 3, of the statutes of 1904, by which the management of the municipal street railway was placed in the hands of a commission to be appointed by the council, and providing that hereafter the street railway shall be under the sole and direct authority of the city council. Authority is given to the council to place in the annual estimates of the current expenditure of the corporation such sum as may be necessary to provide for the maintenance and operation of the railway, and to raise the same annually by a general rate at the same time and in the same manner as other municipal rates are levied and collected.

Toronto Ry.—Earnings for Jan., \$326,307.62, against \$287,981.16 for Jan., 1909.

Winnipeg Electric Ry.—Gross earnings for Dec., 1909, \$283,500; expenses, \$151,900; net earnings, \$131,600, against \$241,400 gross earnings; \$118,200 expenses; \$123,200 net earnings for Dec., 1908. Aggregate gross earnings for 12 months ended Dec. 31, 1909, \$2,623,700; net earnings, \$1,303,000, against \$2,206,000 gross and \$1,117,200 net for same period 1908.

Winnipeg Electric Ry.—Application is being made to the Manitoba Legislature for the passing of an act ratifying the agreement for amalgamation between the company and the Western Power Co., Manitoba Gas and Electric Light Co., Northwest Electric Light Co., and some other companies.


The report that the G.T. Pacific Ry. proposed erecting a 15-story hotel at Quebec at the foot of Mountain Hill was denied by officers of the company at Montreal, Feb. 4.

The Commission operating the Port Arthur and Fort William St. Ry. has refused the demands of the operating employes for increases in wages, and there has been some talk of a strike, but it is not thought that such a step will be taken.


In connection with the contract which has been let for the removal of the fallen portion of the Quebec bridge which now lies in a tangled mass upon the south shore of the river, press reports state that the steel is to be severed for removal by means of a mechanical cutter. Not much credence should be placed in the statement, for the reason that the obviously ideal method would be to use the oxy-hydrogen or oxy-acetylene flame, whose apparatus is so portable as to render it ideal for setting up in the many difficult positions which would be necessary.

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Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—Some delay has been experienced with the project for the erection of the new terminal station in New Westminster, owing to certain portions of the site not having been vacated. The work will not be started before April 1. These terminals will accommodate both passenger and freight traffic, not only for the interurban line to Vancouver, but also for the Vancouver and Lulu Island Ry. via Burnaby to Vancouver, and for the Chilliwack line now under construction. Except for the completion of the ballasting, the first 12 miles of this line is in operation, and track-laying was expected to be completed to Abbotsford by Mar. 1. Surveys have been completed for a line from Vancouver through Burnaby and along Burnaby Lake, which would also reach New Westminster from the east. An extension is also planned from the east end of the city to the Fraser River Mills. Both these lines will probably be built next summer. Work is in progress for a cut-off of the present line between New Westminster and Vancouver whereby the line will be shortened and the hill on 12th street, a 10% grade, will be eliminated. The line will also be double tracked. Plans are being prepared for the construction of a line down Lulu Island from New Westminster.

By an agreement with the Vancouver and Lulu Island Ry. the company has undertaken to construct 10 miles of extensions within five years from Oct. 26, 1910, in district lot 526, on routes to be arranged with the C.P.R.

The company has acquired a block of land on the east side of Douglas St., Victoria, for terminal purposes. (Feb., pg. 147.)

Calgary, Alta.—A press report states that it expected to construct some 12 miles of extensions to the municipally owned street railway during the current year. (Jan., pg. 57.)

Coteau Power Co.—A resolution has been passed by the town council of Vernon, B.C., endorsing the proposal made by E. G. Warren, representing the company, for the construction of an electric railway, and a plant for the supply of power and light. The company's proposal is to develop power at Shuswap Falls, and deliver it to Vernon and other points in the Okanagan Valley, and to construct an electric railway from Shuswap Falls to Vernon. A. E. Ashton is Chief Engineer in charge of the surveys at Vernon. According to press reports, it was stated that the company had decided to construct its line on the mono rail principle, and to use the gyroscopic car, invented by L. Brennan, but we are informed that there is no truth in the report. (Nov., 1909, pg. 848.)

The Dominion Ry. and Plaster Co. has applied to the Sydney, N.S., City Council for right of way over certain streets for its projected electric railway from Sydney to the gypsum deposits at East Bay. The company expresses its willingness to accept conditions similar to those in the city's contract with the Cape Breton Electric Co., which, it is said, has a right to construct a line on King's Road, but has declined to construct it although the city has asked it to do so. The new company is willing to arrange to enter the city over that line, but would construct its own line if given the franchise. The matter was referred to the Board of Works. (See Sydney and East Bay Ry., Nov., 1909, pg. 849.)

Dunnville, Wellandport and Beamsville Electric Ry.—The Ontario Legislature is being asked to authorize the company to construct an extension of the present authorized line from Jordan Harbour to St. Catharines, Ont., and giving power to issue bonds in respect of a

certain portion of this line to the amount of \$30,000 a mile. (Feb., pg. 147.)

Frederickton Street Ry.—Application is being made to the New Brunswick Legislature to incorporate a company with this title to construct an electric railway in the city. R. B. Hanson, solicitor for applicants, in the course of an interview said the promoters' plans hinged on the obtaining of cheap power. Some arrangement would have to be arrived at for cars crossing the river, and several propositions were under consideration. The idea is to have the lines run to St. Marys, Gibson and Marysville, and possibly Nashwaaksis, and also to Springhill and Victoria Mills. A company was granted a charter for the construction of electric lines over a considerable part of this territory some years ago, but did nothing and the charter lapsed.

Grand Valley Ry.—A good deal of work is in progress on the G.V.R. lines in Brantford, Ont., and it is said work will be continued during the year. The company is preparing to let contracts for the erection of a new power house at Brantford, to be equipped with three 500 k.w. motor generator sets. W. P. Kellett is chief engineer. (Feb., pg. 147.)

The Hamilton, Waterloo and Guelph Ry. Co.'s application to the Dominion Parliament for an amendment to its act of incorporation has been given consideration by the Railway Committee of the House of Commons. It was opposed by the Toronto City Council, and as a result several alterations were made, some of which, however, are still debatable. The bill as amended in committee provides for the increasing of the capital stock from \$2,000,000 to \$6,000,000; authorizes the construction of a line from Hamilton to Toronto, which may be constructed south of High Park, north of the G.T.R., and at the same elevation, or such other route as may be agreed upon between the company and the Toronto City Council; the company, unless with the consent of the Toronto City Council, shall not have any rights east of Roncesvalles Ave. It is authorized to enter into an agreement with the Hamilton Radial Electric Ry. for a lease or for running rights over that company's line from Burlington to Toronto, provided always that there shall only be one right of way through High Park, to be decided according to section two; such right of way to be used in common on terms to be approved by the Board of Railway Commissioners. The bill as amended was put down for the committee stage in the House of Commons, Feb. 24. (Feb., pg. 147.)

International Ry.—We are advised that there is nothing in the press reports that the electric line now terminating at Queenston is to be extended to Niagara-on-the-Lake, and that the International Ry. representatives recently had a conference with the municipal authorities in reference to it. The electric railway now terminating at Queenston is operated by the International Ry., but its charter title is the Niagara Falls Park and River Ry. A dispatch from Niagara Falls, Ont., Feb. 18, stated that as the International Ry. would not build the desired extension a local company was being formed to undertake the work.

Lethbridge, Alta.—At a meeting of the City Council, Feb. 10, a committee was appointed to collect information from other cities with respect to the cost of the construction and operation of electric street railways. The committee consists of Aldermen King, Hatch and Frayne. (Jan., pg. 57.)

London and Lake Erie Ry. and Transportation Co.—The bill for the incorporation of a company with this title has been given a considerable amount of attention by the Railway Committee of the House of Commons. The purpose of the

company is to take over the South Western Traction Co.'s lines, recently purchased at a sale by order of the courts, and extend them so as to furnish a complete system of radial lines in that section of Ontario and to connect them with other lines. The committee put in amendments protecting the rights of municipalities under existing agreements, but declined to put in a section prohibiting the operation of cars on Sundays, which was asked for by the Lord's Day Alliance. The opposition which had developed in London was settled after a conference between the provisional directors and the city council, Jan. 31. (Feb., pg. 147.)

Monarch Radial Ry.—The application to the Ontario Legislature for incorporation is being opposed by Toronto City Council. The promoters propose to construct an electric railway from a terminus at Dupont and Bathurst Streets, Toronto, to Orillia. The route proposed would parallel the Toronto and York Radial Ry's Metropolitan Division as far as Aurora, whence it would diverge so as to serve Holland Landing, Bradford, Deerhurst, Churchill, Stroud, Allandale and Barrie, with branches to Lake Simcoe and Markham. The provisional directors are:—W. H. Price, C. M. Garbey, J. F. Caughlin, N. R. Lindsay, S. F. Adalia; the engineers are Wragge and Fox, Toronto.

Moncton Electric St. Ry., Heat and Power Co.—Application is being made to the New Brunswick Legislature to change the name of the company to the Moncton Tramways, Electricity and Gas Co.; to increase the capital stock to \$1,500,000; authorizing the issue of bonds up to \$500,000, and particularly authorizing the company to exercise all the rights, franchises, etc., conferred upon or granted to the company by the Legislature and various municipalities. W. F. Wheeler is Secretary. (May, 1909, pg. 367.)

Montreal St. Ry.—Application is being made by the company to the Montreal city council for its sanction to a number of new routes in various parts of the city. (Jan., pg. 57.)

Mount McKay and Kakabeka Falls Electric Ry.—Application was made, Feb. 3, to the Port Arthur city council, by A. E. Babcock, Slate River, Ont., with regard to the running rights of the M. McK. and K. F. E. Ry. through the rural municipalities and into Port Arthur. No action was taken. (Nov., 1909, pg. 849.)

Nelson St. Ry.—The city of Nelson, B.C., has granted a franchise for 20 years for the operation of a street railway in the city. Some additional plant has been installed in the substation at a cost of \$6,055, and a new transmission line has been erected from the substation to Bonnington Falls, at a cost of \$9,508. A contract has been let for the supply of poles, ties, etc., to be delivered by Mar. 15, and for the supply of 123 tons of 56 lb. relaying rails, turnouts, spikes, etc. (Feb., pg. 57.)

Niagara, St. Catharines and Toronto Ry.—The Bridgeburg, Ont., town council passed a resolution, Feb. 13, granting permission to the company to use the right of way from Fort Erie into Bridgeburg, where it will be enabled to connect with the G.T.R., Wabash Rd., and Michigan Central Rd. The company is now operating cars into Welland, and has completed the grading for an extension from Welland to Port Colborne, on which track will be laid in the spring. The route has been surveyed for a further extension from Port Colborne to Fort Erie, and it is in connection with this extension that the negotiations with Bridgeburg have been carried on.

Press reports recently stated that the long-talked-of project for the erection of a high-level bridge over the old Well-

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Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian.....	\$ 8.00 to \$15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians.....	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally).....	8.00 to " per acre.
Map No. 5—South-Western Alberta.....	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian.....	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians.....	10.00 to 25.00 per acre

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at \$ 8.00 per acre, cash payment \$191.70 first year's interest \$ 65.28 and nine instalments of \$160.00	
" " 9.00 " " " 213.70 " " " 73.46 " " " 180.00	
" " 10.00 " " " 239.70 " " " 81.62 " " " 200.00	
" " 11.00 " " " 263.60 " " " 89.78 " " " 220.00	
" " 12.00 " " " 287.60 " " " 97.96 " " " 240.00	
" " 13.00 " " " 311.55 " " " 106.10 " " " 260.00	
" " 14.00 " " " 335.60 " " " 114.32 " " " 280.00	
" " 15.00 " " " 359.50 " " " 122.44 " " " 300.00	

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

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NOTICE is hereby given that the Annual Meeting of the Shareholders of the Victoria Rolling Stock and Realty Company of Ontario, Limited, will be held at the offices of Messrs. Osler & Hammond, 21 Jordan Street, Toronto, on Wednesday, March 2, 1910, at twelve o'clock noon, for the reception of the Annual Report and election of Directors for the ensuing year.

By order,

G. T. CHISHOLM,
Secretary.

Toronto, February 12, 1910.

land Canal at St. Catharines would be started at an early date, and that the project was in connection with the N. St. C. and T. Ry. Later advices state that the bridge had nothing to do with the railway, its promoters including W. D. Woodruff, W. H. Merritt and R. H. Leonard, C.E. We have been officially advised that nothing definite has been decided as to the construction of the bridge, but that the idea is, if such a bridge is constructed, to make it of sufficient strength to permit the running of electric cars over it. (Feb., pg. 147.)

North Midland Ry.—The Ontario Legislature has under consideration a bill granting an extension of time for the construction of the lines authorized to be constructed by chap. 84 of the statutes of 1904. (Feb., pg. 147.)

Ottawa Electric Ry.—Application is being made to the company to extend its lines to and through Ottawa South, the recently annexed part of the city. The proposal has been referred to the city council's railway extension committee.

People's Ry.—At a meeting in Guelph, Ont., Feb. 4, a resolution was passed favoring the aiding of this line by the city, and the city council is preparing a bylaw for submission to the ratepayers.

A bill has been given a first reading in the Ontario Legislature authorizing the company to construct a number of additional lines, particulars of which were given on pg. 931 of our Dec., 1909, issue. (Feb., pg. 147.)

Port Arthur, Ont.—Application is being made to the Ontario Legislature by the city council of Port Arthur to abolish the Electric Railway and Light Commission and to provide for the government of the city and all its public utilities by a board of paid commissioners. It is also sought to have legislative approval to a number of bylaws, among which are the following:—Authorizing the city to pay the costs of the street railway litigation; to provide for the additional expense of double tracking the electric railway from Current River to the southerly boundary of the city; to enlarge the storage battery; to authorize the purchase of machinery and fittings for the new car barn and for the storage battery already installed; to authorize the purchase of a motor generator; and to authorize the Council to enter into an agreement with J. J. Carrick to provide for the extension of the electric railway to certain points. (See Port Arthur and Fort William Electric Ry., Jan., pg. 59.)

Queen Victoria Niagara Falls Park.—A bill is under consideration by the Ontario Legislature with reference to the property vested in the Park Commissioners and the powers which they have in reference thereto. The park is provincial property and is administered by a commission appointed by the Ontario Government. The act provides among other things that all the rights of the old St. Catharines, Thorold and Niagara Falls Road Co. are vested in the Commissioners, and that the Commissioners have power to construct and operate a street railway over the road and may construct the same to any point on lands vested in the Commissioners and may charge tolls on the same. The Commissioners may empower the Clifton Suspension Bridge Co. to operate its cars by any power except steam to and from its bridge across the Chain Reservation, subject to any order of the Board of Railway Commissioners, and subject to any rights of the Niagara Falls Park and River Ry., and to the terms of any agreement made with that company.

Queenston to Niagara Falls.—See International Ry.

Rainy River Radial Ry.—Application was made to the Dominion Parliament to incorporate a company with this title

to construct the following lines of railway:—from the northern boundary of Minnesota near Fort Frances to the Lake of the Woods near the mouth of Big Grassy River; from an intermediate point on the line to the mouth of Little Grassy River; from the last mentioned line to the northern boundary of Minnesota near the Long Saulte rapids on the Rainy River and to the town of Rainy River. The provisional directors named were:—P. A. Smith, Fort Frances, Ont.; J. J. Warren, J. H. Spence, Toronto; W. A. Dowler, F. G. Depew, Fort William, Ont. Objection was made to the passing of the act on the ground that the lines proposed to be constructed were wholly within the province of Ontario, and that they were purely local in their character, although it was desired to secure connection with the Canadian Northern Ry. The bill was "talked out" by the committee. (Sept., 1909, pg. 685.)

Sherbrooke Street Ry.—At a meeting of the Sherbrooke, Que., city council, Feb. 3, the new agreement with the company came up for signature. There are a few minor matters to be adjusted before the agreement takes effect.

The company is making application to the Quebec Legislature to amend its charter in regard to its name, the location of its head office and its powers respecting the following matters:—The territory within which such powers may be exercised; borrowing; the extent of lands which may be acquired by the company; the privilege of the company in the use of its tracks; the approval of shareholders required in certain cases. C. B. Hibbard, formerly of the Quebec, Montreal and Southern Ry., is acting for the promoters of the new company. (Jan., pg. 59.)

Toronto Ry.—The Toronto city council is applying to the Ontario Legislature for an act authorizing it among other things to compel the Toronto Ry. to extend its service to districts recently annexed to the city, but so that such legislation shall not in any way extend the period of the present franchise. (Nov., 1909, pg. 849.)

Western Central Ry.—The Ontario Legislature has under consideration a bill to grant an extension of time within which the company may construct the lines authorized by its act of incorporation. The company also asks for authority to guarantee the bonds of other companies engaged in any business incidental to the working of a railway.

Winnipeg Electric Ry.—The residents of St. Francois Xavier have laid the following proposition before the company in reference to an extension of the line from Headingly west to that point:—"That the municipality will raise \$500 a mile, and that each person will grade the road across his place, and will facilitate any reasonable arrangement for the construction and operation of an extension to St. Francois Xavier, and would ask the company to give this matter early consideration, with a view to having such extension in operation on or before Oct. 1, 1910." The proposal is under the consideration of the Suburban Rapid Transit Co., under which title the W.E. Ry. operates the Headingly line. (Feb., pg. 149.)

Victoria Rolling Stock Co.—Supplementary letters patent have been granted to this company under the Ontario Companies' Act, changing its name to the Ontario Rolling Stock and Realty Co. of Ontario, and authorizing it to deal in all kinds of real estate and to undertake the business provided for in chaps. 203, 204 and 205 of the Revised Statutes of Ontario, 1897.

C. H. Mackay, President Commercial Cable Co., gave a dinner to the New York officers and staff recently in celebration of the 25th anniversary of the inauguration of the company.

Electric Railway Notes.

The Hull Electric Ry., has received one wing plow from the Ottawa Car Co.

The British Columbia Electric Ry. is reported to have ordered 100 freight cars to be built at its New Westminster shops.

The Mount McKay and Kakabeka Ry., has ordered four Otis all steel cars from the Hart Otis Car Co., Montreal.

The Ottawa Electric Ry., has ordered eight pay-as-you-enter cars, with double trucks, 35 ft. long, from the Ottawa Car Co.

The Nelson St. Ry., has ordered two semi-convertible double truck cars, 43 ft. overall, from the Ottawa Car Co., Ottawa.

The Quebec Ry. Light and Power Co., has ordered 16 pay-as-you-enter single truck cars, with 18 ft. bodies, from the Ottawa Car Co.

N. P. Baker, heretofore Assistant to General Manager International Ry., Buffalo, N.Y., has been appointed Treasurer of the Company.

Application has been made for a Quebec provincial charter for the Montreal Elevated & Underground Ry. Co., with a capital of \$20,000,000.

The Port Arthur and Fort William Electric Ry. has ordered four pay-as-you-enter cars, similar to those already in operation, from the Preston Car and Coach Co., Preston, Ont.

The St. Thomas, Ont., Street Ry. Commissioners are making arrangements for the overhauling of two cars, so as to make them into convertible cars for summer or winter use, at the Michigan Central Rd. shops at St. Thomas.

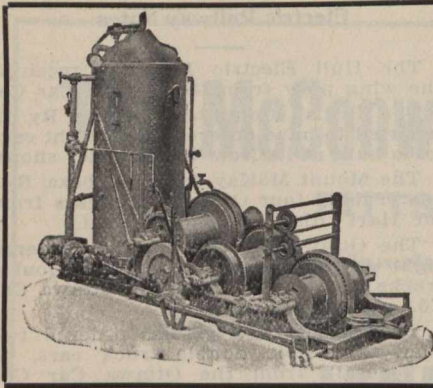
The Toronto City Engineer's Department is preparing a plan which would give a single fare service to Mount Pleasant Cemetery, by running the Toronto Ry. cars there, a new rail with two grooves to be laid on the Toronto and York Radial Ry.'s Metropolitan Division on account of the difference in gauge.

The Nipissing Central Ry. has received two cars, fully equipped, 43' 6" long over all, 32' 6" over bodies, with 4' 6" wheel base, G.E. 80 motors, quadruple equipment, Westinghouse AMM air brakes, and snowplows and pilots at each end, from the Preston Car and Coach Co., Preston, Ont. A further two cars similarly equipped are being delivered.

J. S. Clarke, formerly President of the Grand Valley Ry., laid an information which came before the Police Magistrate at Brantford, Feb. 15, against A. J. Pattison, A. Easson, J. H. Couch and J. Costin, alleging conspiracy against the company. The magistrate refused to grant a warrant for the arrest of Couch, who did not appear, and Clarke refused to go on in his absence.

The Quebec Ry., Light and Power Co. is seeking an injunction from the Quebec courts to restrain the Quebec and Lake St. John Ry. and the Canadian Northern Ry. from using a bridge over the St. Charles River, and claiming \$10,000 damages. The bridge is owned jointly by the plaintiff company and by the Q. and L. St. J. Ry., and the question at issue appears to be the amount to be charged for the use of the bridge.

In a case against the Toronto Ry., Feb. 7, the widow of a passenger, who died from injuries received through falling from a car while intoxicated, sued for damages, on the ground that the conductor had neglected his duty in not attending to the passenger. Chief Justice Falconbridge in non-suited the plaintiff, stated that the conductor fulfilled his duty, and from questions submitted to the jury it was held that the company is not responsible for the safety of intoxicated persons travelling on its cars.



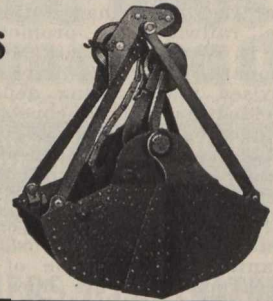
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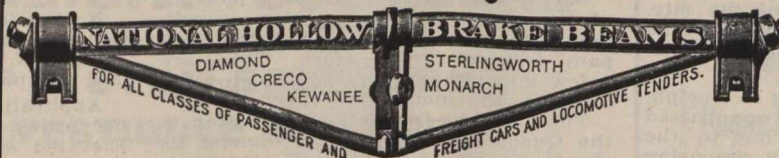
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SECRETARY, Jas. Morrison, Montreal.

**International Water Lines Passenger
Association.**

PRESIDENT, W. M. Lowrie, New York.
SECRETARY, M. R. Nelson, New York.

The Shipping Federation of Canada.

PRESIDENT, A. A. Allan, Montreal; MANAGER,
AND SECRETARY, T. Robb, 526 Board of Trade,
Montreal.

Ship Masters' Association of Canada.

GRAND MASTER, Capt. J. H. McMaugh, Toronto,
Ont.; GRAND SECRETARY-TREASURER, Capt. H.
O. Jackson, 376 Huron St., Toronto.

Shipping Federation of Canada.

At the annual meeting in Montreal recently the report of the executive committee was presented by J. Thom, chairman. Following are extracts:—Navigation opened on May 1 with the arrival of the s.s. Corinthian, and closed with the sailing of the s.s. Montcalm, on Nov. 26. The number of seagoing vessels that arrived during the season was 659, with a tonnage of 1,893,595 tons, a decrease of 74 vessels and 83,854 tons as compared with previous season, this decrease in vessels and tonnage being the result of the trouble in the coal trade in Cape Breton. The passenger business showed a marked increase over that of 1908, and was most decided in the west-bound traffic, a fact showing the returning and increasing prosperity of the Dominion since the slump in the latter part of 1907. The shipments of apples increased by 219,030 barrels, cheese increased by 82,648 boxes, lard decreased by 10,346 packages, eggs by 10,282 cases, butter by 53,612 packages, box meats by 57,658 packages, flour and meal increased by 339,208 barrels, cattle decreased by 5,056 head, and sheep by 8,494 head, lumber increased by 7,851,842 ft. b. m., pulp and paper decreased by 9,582 tons, hay increased by 17,265 tons, and grain and seeds show a decrease of 3,871,117 bushels. This decrease in exports following on the bad year of 1908 with increased maintenance and working charges, shows what a small margin of profit accrues to the shipowner. As a matter of fact the greater number of vessels have been unremunerative for some time. Whether the slight improvement that is showing in other shipping trades will extend to the Canadian trade remains to be seen, meanwhile we can only hope that the worst is now past.

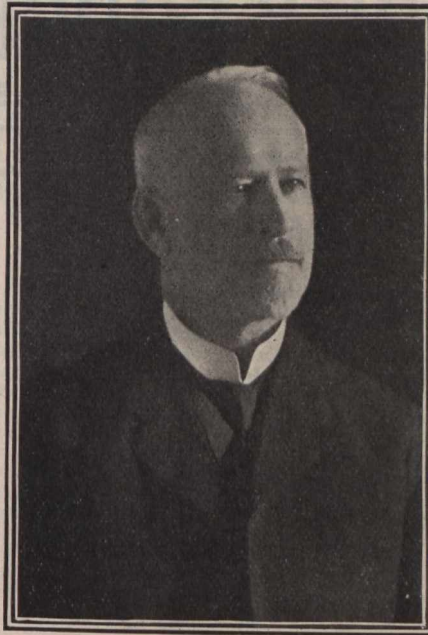
No trouble of any kind occurred on the wharves during the season, and sufficient men were available at all times to carry on the work. Employment was slightly less than in 1908, the daily average number of men employed being 659, compared with 669 in 1908.

The Signal Service stations were in full use during the season, and proved of great benefit. They have been supplemented by the erection of a Marconi wireless station on Tarte pier, thereby enabling steamers to communicate with the shore between Montreal and Quebec in thick weather.

Continuous work with dredges proceeded in the different sections of the ship channel, and the deepening at Beaujeu bank is now practically completed. The Government is obtaining a rock breaker for use at Cap a la Roche, with the aid of which it is expected that the deepening there will be finished in much less

time than by the system at present in use. The buoys and lights gave every satisfaction during the season, and any defects reported to the department were at once attended to. The number of defects reported by masters and pilots was 53.

The structure and fittings of the last of the 14 new steel sheds in Montreal harbor was completed during the season, and the installation of the extension of the grain conveyors to nos. 11, 12, 13 and 14 was nearly completed at the close of navigation. This finishes the first part of the scheme of harbor extension. The wharves and roadways are in a very much superior condition now to what they were six or seven years ago, at the same time shipowners feel that they are not receiving value for the rents paid by them for shed accommodation, nor will they until some system for the cheap and expeditious handling of cargo to and from the upper storeys is in operation. The Harbor Commissioners at the beginning of the year proposed an increase in wharfage dues on certain classes of goods, and the importers took up the matter and petitioned the Premier strongly against the increase with the re-



C. A. JAUQUES,

General Manager, Merchants Mutual Steamship
Line, Montreal and Lake Erie Steamship Co.,
and Montreal and Great Lakes Steamship Co.

sult that the proposal was held over. The floating crane built for the Commissioners arrived and was put into commission during the season, and should prove a valuable addition to the harbor facilities.

In conjunction with the Québec Harbor Board, a deputation from the Federation waited upon the Government to urge the construction of a dry dock of sufficient capacity, to take the large ships now engaged in the St. Lawrence trade. As an alternative scheme we put forward the construction of a floating dock, but so far nothing has come out of the representation. Every season it becomes more imperative that this want should be remedied. To urge the importance of at once formulating a scheme for a dry dock, we further petitioned the Government in May last.

The following resolution was carried unanimously. Resolved that the members of the Shipping Federation of Canada, record a cordial vote of thanks to Hugh A. Allan, who has been President since the inauguration in 1903, and who, owing to his absence from Canada, is now retiring, for his valuable services

during the period in which he has held office. The interest manifested by Mr. Allan in all its affairs, together with his business experience and tact, have placed the members of the Federation under great obligation to him, and they regret that the increased demands of his business elsewhere deprives them of a continuation of those valued services.

The following officers were elected for the current year: President, A. A. Allan; Executive Council, J. Thom, Chairman; D. W. Campbell, R. W. Reford, W. R. Eakin, F. A. Wanklyn (or) A. Mackenzie; Treasurer, J. R. Binning.

The total tonnage entered with the Federation was 498,874 in 1908 and 512,198 in 1909.

Lake George Steamboat Co.

This company is building another steamboat for service between Lake George and Baldwin, N.Y. She will be 230½ ft. long over all, 59 ft. breadth outside; the engine will have a 52-in. diameter cylinder, 10 ft. stroke; there will be patent feathering wheels, and her speed will be 20 miles an hour. The hull will be steel. The boat, which will be ready for service next year, will be named the Horicon. A great variety of names was suggested, all of which had more or less to recommend them, and in selecting this one the management is carrying out a precedent already established, as is evidenced in the cases of the Vermont, the Ticonderoga, and the Mohican. The name Horicon signifies silvery waters, and has its origin from a tribe of Indians once inhabiting the shores of the lake; it is suggested by J. Fenimore Cooper's Last of the Mohicans. The present steamboat, Horicon, has been in service on Lake George since 1877 and has carried thousands of people through the Lake each season without interruption or accident; she has been a very popular steamer, and no serious accident or loss of life has occurred in her long career. The advent of the new steamboat will mean the discontinuance of the old one, and trips operated by the new boat will be from Lake George to Baldwin and return, and will be the service which has been performed by the Sagamore since 1902. The Sagamore will perform the service from Baldwin to Lake George and return, which is now operated by the Horicon, and will also take care of the large number of excursionists who go to Lake George over the Delaware & Hudson Rd. for a day's outing.

R. & O. N. Co.'s Steamboat Rochester.

The Richelieu & Ontario Navigation Co., as stated in our last issue, has secured incorporation in Michigan under a similar title, the immediate object being to operate the s.s. Rochester between Youngstown and Ogdensburg, N.Y., on the schedule given in our last issue. The Rochester, which was launched at Wyandotte, near Detroit, Mich., last year, is expected to be completed in time to go into service on June 18, and will be thoroughly up to date.

The entrance hall, reached from the passenger gangway, will be finished in polished mahogany, with rubber tiled floor. Back of the entrance hall will be the dining room, capable of seating 150. This room will be panelled in oak, with rubber tiled floor and will have observation windows. In the entrance hall will be purser's office and parcel check room. The fore part of the main deck will be utilized for express matter, automobiles, etc. Ascending by the main staircase the main saloon is reached, both sides of which will be filled up with state-rooms, many fitted with brass beds with bath and toilet rooms. At the bow and stern will be large open decks. The

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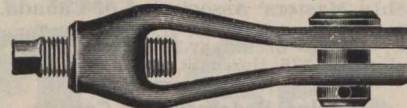
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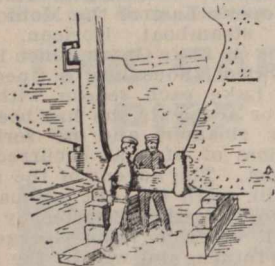
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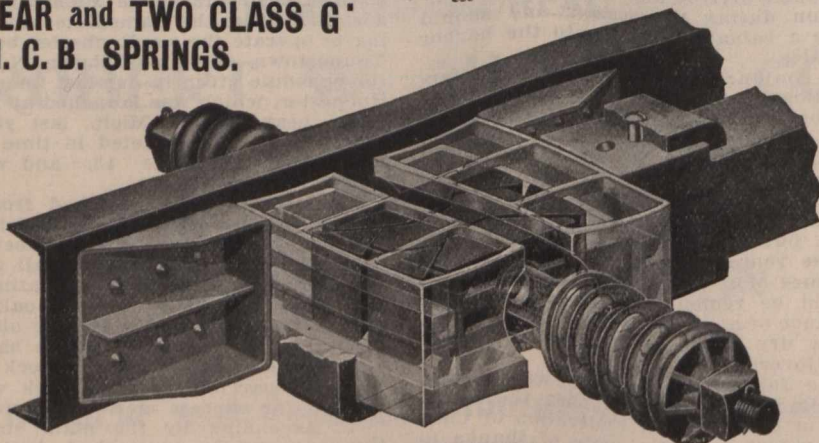
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gallery tier of staterooms will be arranged in the same way as the main saloon, and above this will be found the ladies' parlor, buffet and smoking rooms. The ladies' room will be decorated in cream and pink, in art nouveau style. The smoking room will be panelled in oak. Both rooms will have large windows affording an unobstructed view.

The Canadian Canals.

In his annual review of the work of the Department of Railways and Canals, the Minister speaking in the House of Commons recently in regard to the national waterways said Canada had shown more courage in making her canals free than had foreign countries. The port of Manchester, though 60 miles from the sea by canal and river, was an open port. He desired to draw attention to the fact that Montreal was now an open port, though many miles further from the ocean than Manchester. Canada had spent many millions in making Montreal an ocean port. Taking the expenditures on railways, canals and waterways generally, it was not at all out of the way to say that Canada had shown greater courage than any other country in the world in the amount of money expended per head of the population for carrying out these great works. The opinion of the Government with regard to the Georgian Bay Canal and the Welland Canal was well known. He had been for some time impressed with the necessity, owing to the great increase in canal traffic, of constructing another lock at Sault Ste. Marie. He would hazard a guess that such a lock would cost from \$8,000,000 to \$10,000,000. That lock, if constructed, ought to provide for a depth of 25 to 27 ft. of water, because it would be folly to half do the work, when in a few years the lock would have to be deepened or reconstructed.

During the season of navigation of 1909, the canals of Canada carried perhaps the largest volume of traffic in their history. The freight which passed through was 33,720,748 tons, compared with 17,502,820 in 1908. This was an increase of 93% in one year. To give an idea of the measure of increase in the freight traffic through the canals, he stated that three years ago the total traffic was only 10,523,185 tons, and 10 years ago it was only 5,013,693 tons; so that last year it was nearly seven times as much as it was 10 years ago. Of the traffic of 1909, 27,976,399 tons was east-bound and 5,744,349 westbound. He had not the figures at hand, but he could state generally that while the Canadian canals carried a large volume of U.S. traffic, the proportion of increase of Canadian traffic was perhaps a little more than that of U.S. traffic.

Referring to the Port Colborne harbor and elevator, the Minister pointed out that a large amount had been spent by his department and by the Department of Public Works in order to protect the entrance to the harbor, to make it deep enough to accommodate the vessels using it after the construction of the elevator. More work, however, would have to be done in the way of building breakwaters in order that the harbor might be fully protected, and that vessels might be perfectly safe there in taking on or discharging their cargoes, no matter what storms might be raging outside. The elevator had a capacity of 850,000 bush., and there were foundations and other provisions for increasing that to 2,000,000 bush. In 1909, there was put through the elevator about 1,500,000 bush., a very small quantity, but he was not at all sanguine that this elevator, if carried on by the Government, would handle any great quantity of grain. He was told by a very large shipper that the fact that there was such an elevator at Port Colborne, ready to

tranship grain from the larger vessels into smaller ones, had a very modifying effect on the freight rates by other routes. It had been said it resulted in the saving of a cent a bushel, but even if it was only a half or a quarter of a cent a bushel it would mean a great deal to the people shipping their grain from the west. He had not made up his mind on the question of leasing the elevator to some one of the lines of transportation, but if that were done, unless some restrictions were imposed, it might deprive the Government of the benefit the elevator now conferred of keeping down the freight rates on other routes.

He did not think there was any chance of an amount being provided this year for the commencement of the Georgian Bay canal. He had not been discussing the subject. However, it was a great work which was before the people, and would be constructed in due time by the Government, which had always undertaken the great projects that the country required.

The act granting an extension of time to the Montreal, Ottawa and Georgian Bay Canal Co., within which to construct its deep-waterway from Montreal by the Ottawa and French Rivers to the Georgian Bay, was passed by the House of Commons, Jan. 21. Replying to a question the Minister of Railways and Canals said sec. 5, which allowed the Government on behalf of the country to take over the work at any time upon payment of the money which had been expended by the company, amply protected it, and when exercised would transfer to the Government whatever powers the company had.

An Ontario Steamship Merger.

Jas. Playfair, of Midland, Ont., President of the Midland Navigation Co., Ltd., and of the Empress Transportation Co., Ltd., has, with associates whose names have not been made public, bought a large block of stock in the Inland Navigation Co., Ltd., which has its headquarters at Hamilton, Ont. The purchase includes R. O. and A. B. Mackay's holding in the Inland Company, 2,700 shares; also G. Lynch Staunton's holding, some 300 to 400 shares. R. O. Mackay withdrew from active steamship work when the Inland Company was formed, and now A. B. Mackay retires, and it is said he has undertaken not to engage in the business again for at least five years. It is said that the price paid for the stock is 133, which would yield R. O. and A. B. Mackay \$360,000 and make the total purchase by the Playfair interests from \$390,000 to \$400,000.

The Inland Navigation Co., Ltd., which was incorporated in 1908, took over the following companies and properties:—Hamilton and Fort William Navigation Co., New Ontario S. S. Co., Union S. S. Co., Dundee S. S. Co., Dunelm Ltd., Rosedale Ltd., Hamilton and Montreal Navigation Co., Winona S. S. Co., New Ontario Dock and Coal Co.'s wharf and coal business at Sault Ste. Marie, Ont., R. O. and A. B. Mackay's wharf, cartage and coal business at Hamilton and their wharf, shed and wharf privileges at Montreal. The Inland Co. has a capitalization of \$2,000,000.

Following are the vessels in the three companies' fleets:—

Inland Navigation Co.—Neepawah, Wahcondah, Rosedale, Glenellah, Dundee, Dunelm, Winona, Strathcona, Donnacona, Dundurn, Stadacona.

Midland Navigation Co.—Midland Prince, Midland King, Midland Queen.

Empress Transportation Co.—Empress of Midland, Mount Stephen.

We are advised that the Inland Navigation Co., the Midland Navigation Co. and the Empress Transportation Co. will be merged, but at the time of our in-

formation it had not been decided what the name of the new company will be, though it is likely that the word Inland will be retained in some way. A number of the directors of the Inland Co. have retained their shares and will be interested in the new company.

Richelieu & Ontario Navigation Company.

Following are extracts from the report for the year 1909:—Gross earnings were \$1,238,044.31, and net profit, after providing for fixed charges, interest, etc., \$257,562.29. Operating expenses show a saving of 1% against the previous year. Four dividends, at the rate of 1¼% quarterly, were paid during the year.

The steamer Rapids Queen, mentioned in the last annual report, was placed in service July 1. In order to provide for the natural expansion of the company's business and to protect its interests, it was recommended at the last annual meeting that a modern twin-screw steamer be constructed for the Lake Ontario-Thousand Islands trade, and the steamer Rochester has been built and will go into commission in June. An additional Rapids and excursion steamer has also been ordered for the 1910 season. Having regard to future necessities and the benefits to be obtained, the company has purchased a general office building on Victoria Square, Montreal. The Insurance Fund has been credited with \$36,000 out of the year's earnings, and \$157,046.23 now stands to the credit of this account, of which \$156,918.93 has been invested in bonds. This is in addition to insurance placed with insurance companies on shore properties, steamers, etc. During the year there were issued \$50,000 of debentures, due 1937, to repay the company 75% of the expenditure made since the last issue for new steamers and property. There were also redeemed and cancelled, in accordance with the deed of trust, £3,400 of outstanding debentures.

ASSETS.

Steamers, real estate and buildings, wharves, etc.	\$4,346,505.00
Bonds in treasury ...	\$170,820.00
Accounts receivable ..	24,177.71
Coal, Stores, Provisions, etc.	85,351.16
Suspense account	85,533.33
Loans on collateral Securities	50,000.00
Cash	23,357.15
Insurance Fund Investment.....	439,239.35
	156,918.93
	\$4,942,663.74

LIABILITIES.

Capital stock	\$3,132,000.00
Bonds 5% sterling...\$1,216,666.66	
Less cancelled	33,093.33
	1,183,573.33
	4,315,573.33
Accounts payable	\$75,513.26
Unclaimed dividends ..	159.00
Accrued fixed charges..	15,670.66
	91,342.92
Insurance fund	157,046.23
Surplus	378,700.86
	\$4,942,663.34

INCOME ACCOUNT.

Surplus Dec. 31, 1908	\$350,305.35
Net profit for 1909	257,562.29
	\$607,867.64
Dividend paid in 1909	\$156,600.00
Carried to insurance fund	36,000.00
Written off steamers, etc.	36,566.78
Net surplus	378,700.86
	\$607,867.64

The directors for the current year are as follows:—President, R. Forget, M.P.; Vice President, W. Wainwright; G. Caverhill, W. Hanson, C. O. Paradis, A. H. Sims, Sir Henry M. Pellatt, Hon. J. P. B. Casgrain, Hon. E. B. Garneau, H. M. Molson.

The North Vancouver City Ferries, Ltd., is considering tenders for the construction of a double end steel ferry steamer, 165 ft. long by 29 ft. beam.

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OF CANADA**

Capital Authorized - - \$10,000,000.00
Capital Paid Up - - - 5,000,000.00
Reserve Fund - - - - 5,000,000.00

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Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

A general Banking business transacted. Branches throughout the Dominion of Canada.

SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

THE CANADIAN PACIFIC RAILWAY COMPANY.

Dividends for the half-year ended 31st December, 1909, have been declared as follows:—

On the Preference Stock, two per cent.
On the Common Stock, three per cent.
A further sum equal to one-half of one per cent. on the Common Stock will be paid thereon at the same time out of interest on the proceeds of land sales.

Warrants for the Common Stock Dividend will be mailed on 31st March next to Shareholders of record at the closing of the books in Montreal, New York and London respectively.

The Preference Stock Dividend will be paid on Friday, April 1 next, to Shareholders of record at the closing of the books at the Company's London Office, No. 62, Charing Cross, London, S.W.

The Common Stock Transfer Books will close in Montreal, New York and London at 3 p.m. on Tuesday, March 1st. The Preference Stock Books will also close at 3 p.m. on Tuesday, March 1st. All books will be re-opened on Saturday, April 2nd next.

By order of the Board.

W. R. BAKER, Secretary.
Montreal, 14th February, 1910.

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**ELLIPTIC
SEMI-ELLIPTIC
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 Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety.
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at light station. 330.—Nova Scotia, south coast, Torbay, Berry head, hand fog horn at light station.

1. Jan. 7, 1.—Nova Scotia, Bay of Fundy, Chignecto channel, Eatonville, position of lighthouse, correction. 2.—Nova Scotia, south coast, Rugged island harbor, off Lockport, Laurier rock, bell buoy established.

4. Jan. 19, 6.—Nova Scotia, Bay of Fundy, Minas Basin, Kingsport, hand fog horn at light station. 7.—Canadian list of lights, abolition of duplicate names of light stations.

5. Jan. 21, 8.—Ontario, Lake Ontario, Weller Bay, light discontinued. 9.—Ontario, Georgian Bay, Owen Sound, Presqu'ile, light discontinued. 10.—Ontario, Canadian list of lights, abolition of duplicate names of light stations.

12. Feb. 11, 25.—Ontario, Georgian Bay, Midland Bay, Tiffin, dredging not completed, caution. 26.—Ontario, River St. Mary, Sault Ste. Marie Canadian canal, back range lighthouse at lower entrance rebuilt. 27.—Ontario, River St. Mary, Sault Ste. Marie Canadian canal, new back range lighthouse at upper entrance.

13. Feb. 12, 28.—British Columbia, Burrard Inlet, Vancouver harbor, Brockton point, light improved. 29.—Pacific Ocean, Juan de Fuca Strait approach, Swiftsure bank, submarine fog bell established at lightship.

14. Feb. 18, 30.—Nova Scotia, south-east coast, Cranberry island, lighthouse, lower light to be discontinued. 31.—United States of America, St. Croix River, Whitlock Mill light station, intensity of light increased, light established in new structure.

Government Quarantine Steamship.

A contract has been awarded to a firm in Dartmouth, Eng., for the construction of a quarantine steamship for service at Halifax, N.S., at a cost of \$22,600. The vessel will be of steel throughout, with five water tight bulkheads, and with provision for about five tons of water in the forepeak tank and 10 tons in the after-peak. A steel deckhouse, 58 by 12 by 7 ft., will be built on the main deck, with lamp room, refrigerator and stairway to crew's quarters on the forward end, followed by galey and mess room, boiler and engine rooms, saloon, toilet and stairway to doctor's quarters, which are below the main deck aft. The captain's quarters will be placed on a texas abaft the wheel house on the upper deck. The hull will have a plate keel and be built of plates and bars in excess of Lloyd's requirements for vessels of this size, and will be built under Lloyd's special survey, class 100A. The dimensions will be:—length, extreme, 89 ft. 3 in.; length from forecastle of stem to afterside of stern post, 83 ft. 6 in.; beam, molded, 19 ft.; depth, 10 ft.; draft, with 15 tons of water and 30 tons of coal, to be 8 ft. at stern and 6 ft. at bow. The engine will be of the direct acting, inverted, compound surface condensing type, with cylinders 13 and 26 ins. diam. by 18 ins. stroke, making 150 revs. per minute, supplied with steam at 140 lbs. working pressure, by one marine boiler built to Lloyd's survey, and to pass the requirements of the Canadian Steamboat Inspection Act, 10 ft. internal diam. by 9 ft. 6 in. long, fitted with two Morrison's corrugated furnaces, 38 ins. diam. inside corrugations. Delivery is to be made at Halifax, N.S., within six months.

Tenders are being invited for another similar vessel of larger dimensions.

F. L. Corey, Dominion Atlantic Ry., Kentville, N.S., writes:—"During the year that has just past I gathered a great deal of valuable information from the Railway & Marine World, and think it invaluable to railway men."

Atlantic and Pacific Ocean Marine.

The Allan Line s.s. Numidian arrived at Halifax, N.S., with her bulkhead damaged and deck gear washed away. The damage, which was sustained during a storm off the Irish coast, was not serious.

The Allan Line is reported to have decided to equip all its passenger vessels with wireless telegraph apparatus, and to have placed a contract with the Marconi company. Several of the more important vessels have already been equipped.

H. A. Allan, of the Allan Line, is reported to have stated recently that the company would shortly call for tenders for the construction of new vessels for its fleet. It is said that the boats will be of about 12,000 tons.

Major Moody, of the Mounted Police, on his recent return from Fort Churchill, is reported to have said that, with buoys and lights, Hudson Bay is good for navigation, but the trouble at present is with the many shoals and rocks, especially along the coast.

The steamships forming the Battle Line, managed by W. Thomson and Sons, St. John, N.B., each of which is owned by a separate company, are to be combined under one ownership, a company being in course of organization for that purpose.

The C.P.R. s.s. Empress of Ireland sailed from Liverpool, Eng., Feb. 11, for St. John, N.B., after having been overhauled after her accident in the St. Lawrence last fall. During the time she was under repair, the company operated one of the Allan Line steamships under charter.

The Allan Line s.s. Corinthian arrived at St. John, N.B., Feb. 3, inaugurating the St. John-London-Havre service under the new schedule, whereby Halifax has been eliminated as a port of call. Merchants at Halifax are taking the matter up with a view to the reinstatement of the port for this service.

Holt & Co., owners of the Blue Funnel Line, it is reported, will place the recently built s.s. Protesilaus in service between Liverpool, Eng., and Canadian Pacific ports, via the Suez Canal and Asiatic stations shortly. The vessel is 51 ft. long, with a deadweight capacity of 13,000 tons.

G. M. Bosworth, Fourth Vice President C.P.R., while in Austria recently in company with G. McL. Brown, European Manager, is reported to have said that if he were satisfied with the facilities at Trieste harbor, the scheme for a direct line between Canada and Austria would be immediately realized.

The Royal Commission appointed to enquire into the trade relations between Canada and the West Indies completed its work at Kingston, Jamaica, Feb. 2, and it is understood that the members were unanimously of the opinion that a subsidized fast weekly line of steamers between Canada and Jamaica would be of great benefit.

English rumor has again been busy with the statement that the C.P.R. was about to absorb the Allan Line, and that H. A. Allan would be placed in charge of the steamships, with the title of Fifth Vice President. Sir Thos. G. Shaughnessy, President C.P.R., who returned to Canada from Europe, Feb. 2, promptly denied the reports, and is credited with the statement that Mr. Allan had no connection with the C.P.R., and so far as he knew there was no prospect that he would have.

The Board of Railway Commissioners early in Feb. heard the application of the Elder Dempster Steamship Co. for an order directing the C.P.R. and G.T.R. to apply the established export rate on general merchandise shipped from Eastern Canada to Montreal, St. John and

Halifax for shipment to British Columbia ports, by way of the Tehuantepec Isthmus. The Board's decision had not been announced at the time of going to press.

Press reports from various points state that the Canadian Northern Ry. has made arrangements for making Southampton its English port of call, and others state that application has been made to the authorities at Liverpool for berthing accommodation there. D. B. Hanna, Third Vice President, is at present in Europe for the purpose of making all necessary arrangements in connection with the inauguration of the C.N.R. Atlantic service, and until such arrangements have been completed, any such statements are, at least, premature.

An enquiry was held, Feb. 11, into the causes of the stranding of the Allan Line s.s. Corinthian at Halifax, N.S., in Dec. last. The commissioners found that the disaster was caused by an error of judgment on the part of the master in estimating his distance from a schooner showing no lights, and also from the shoal on the northwest point of George's Island, the error probably being due to the strong glare of the electric lights on the wharves. The master was held to have been fully justified in maneuvering the vessel as he did, and was exonerated from all blame for the stranding.

Maritime Provinces and Newfoundland.

The Newfoundland sealing fleet, which is due to leave St. John's about Mar. 10, will consist of 18 steamers. Last year, two of the steamers engaged were lost.

The Dartmouth ferry steamboat Halifax, which was recently considerably damaged by fire at Halifax, has been sold by tender for \$850 to C. Brister and Sons, and will probably be broken up.

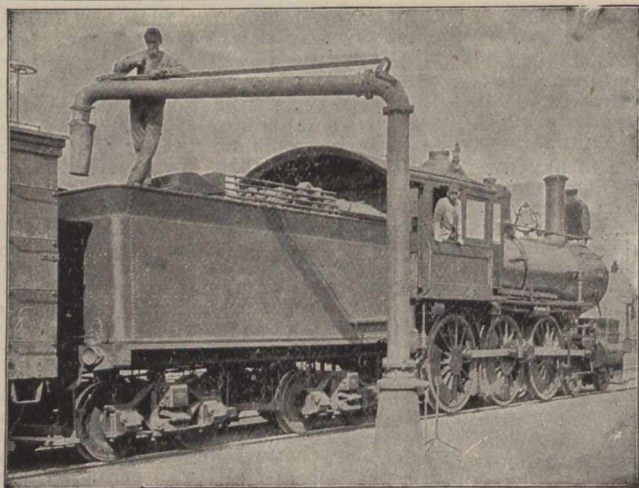
The Dominion Atlantic Ry. will, it is said, inaugurate a direct steamship service between Digby, N.S., and Boston, Mass., commencing July 1, leaving Digby every Wednesday and Saturday, and Boston every Tuesday and Friday.

The Nova Scotia bark Calcium while bound from French Guiana to Carteret, N.J., was destroyed by fire, Feb. 6, the crew being saved by the British s.s. Servian, and landed at Halifax, N.S., Feb. 8. The Calcium was built at Parrsboro, N.S., in 1896, her dimensions being:—length, 166.3 ft.; breadth, 35.9 ft.; depth, 18.7 ft.; tonnage, 687, register.

With a view to the abolition of duplicate names, the following changes have been made in the names of light stations, and the Marine Department has issued a notice that, in future, the new names only will be used:—Debert to Masstown, N.S.; Green Cove to Port Maitland, N.S.; Seal Island to Dog Island, N.S.; Marjories Isle and Gooseberry Island to Marjorie Island, N.S.; Grand Rustico to North Rustico, P.E.I.; Montee du Lac to Cap Brule, Que.

The Government has decided to introduce a bill into the House of Commons, providing for an increase in the aid which it may grant for the construction of dry docks in Canada, from a bonus of 3% for 20 years, on a maximum expenditure of \$1,500,000, to 3½% for 25 years. A recent proposal made to the Government in which several of the large transportation companies were said to be interested, included a bonus of 4% for 50 years on the cost of constructing dry docks at St. John, N.B., and Levis, Que.

The Summerville Tow Boat and Ferry Co. will probably build a steamboat for the forthcoming season to replace the Avon in the Avon River. The Avon, which has been on this route for nearly 20 years, has been condemned. At a meeting held at Windsor, N.S., recently, a committee was formed to sell sufficient



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Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Mardi Gras, New Orleans, February 1st to 8th, 1910.

Look the Illinois Central map over and consult

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new stock to cover the estimated cost of \$10,000.

A resolution adopted in the House of Commons, Feb. 7, called for the production of reports and surveys made of the Cape John harbor and Tatamagouche Bay, N.S., and recommended a change in the winter route between the mainland and Prince Edward Island, and also improved facilities between the two points, both summer and winter, and suggested that the P.E.I. winter port should be changed from Georgetown to Charlottetown, with a service to Tatamagouche Bay instead of Pictou.

Province of Quebec Marine.

The name of the car ferry, Henry R. James, no. 126,388, registered at Quebec, has been changed by order in council to John S. Thom.

The Department of Railways and Canals received tenders Feb. 22, for improving the approach to St. Gabriel locks on the Lachine canal.

Harbor improvements are being carried on at St. John's, concurrently with the widening of the channel of the Richelieu River. The channel will have a width of 300 ft., with a depth of 14 ft., but the work will not be completed for several years.

The longshoremen of Montreal have notified the steamship companies there that they desire the abolition of the bonus system, which has prevailed for many years. The rates at present in force are 27½c. an hour for day work and 32½c. for night work, with a bonus of 2½c. an hour, payable at the end of the season, to those who complete the season. They are asking for flat rates of 30 and 35c. an hour.

Ontario and the Great Lakes.

Capt. H. Boulton, of the steamboat Turret Chief, died at Collingwood, Feb. 6, aged 39.

The name of the steamboat Camilla, no. 100,024, registered at Toronto, has been changed by order in council to Russell Roque.

The Michigan Central Rd., is reported to be planning the erection of a bridge across the Welland canal, to be operated by electricity for the passage of vessels.

The Reid Wrecking Co.'s steam tug, City of Sarnia, which it has recently constructed to replace the tug Ottawa, destroyed by fire last fall, was given a trial run, Feb. 4.

The London city council will place in the estimates for the current year, \$1,000 for dredging the River Thames, and will also ask for tenders for building a dredge for the purpose.

The Argyle Steamship Co. has purchased a steamboat for service on Lake Ontario, in conjunction with its present vessel, the Argyle. Capt. Moller recently went to England for this purpose.

The Toronto Ferry Co. has ordered from

the Polson Iron Works, Toronto, a ferry steamboat, 185 ft. long, 44 ft. beam, capable of carrying 2,200 passengers. The contract price is stated to be \$80,000.

The Richelieu and Ontario Navigation Co., will probably utilize the steamboat Rapids King as a freighter between Montreal, Toronto and Hamilton during the forthcoming season.

Capt. E. A. Booth of the Richelieu and Ontario Navigation Co.'s steamboat Toronto, will, at the opening of navigation, be transferred to the steamboat Kingston, and Capt. Redfern of the Belleville, will take his place on the Toronto.

The Richelieu and Ontario Navigation Co. intends, during next year, to improve its Saguenay division, and will either build new boats, or lengthen and rebuild the steamboats Murray Bay and Tadoussac.

The Richelieu and Ontario Navigation Co. has leased the premises at 48 Yonge St., Toronto, previously occupied by the Royal Bank, for offices, which it will share with the Chicago and North Western Ry.

The steamboat Wissachickon which was driven ashore on the Outer Duck Island on the north shore of Georgian Bay in December last, was released Feb. 7, and taken to a safe anchorage between the islands. It is reported that she has not suffered much damage.

The Porcupine Transportation and Trading Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Cobalt, to own and operate steam and other vessels, and to carry on a general business of carriers of passengers and freight.

The Huntsville, Lake of Bays and Lake Simcoe Navigation Co.'s annual meeting was held at Toronto, Feb. 9, when the report for 1909 was adopted. The amount in hand at the end of the year was transferred to profit and loss, no dividend being declared. The officers and directors were re-elected for the current year.

The Richelieu and Ontario Navigation Co. is rebuilding its steamboat Three Rivers at Sorel. The company's new Rapids steamboat, which is under construction at Toronto, is expected to be ready for service by July 1, and its steamboat, Rochester, under construction at Detroit, Mich., early in June.

The Niagara Navigation Co. has appointed the following officers to its vessels for the coming season:—Cayuga, captain, J. McGiffin; engineer, G. Arnold; Chippewa, captain, G. J. Smith; engineer, H. Parker. Corona, captain, W. Malcolm; engineer, A. J. Woodward. Chicora, captain, H. King; engineer, J. Finlay.

The Welland Board of Trade passed a resolution Feb. 2, a copy of which was forwarded to the Minister of Railways and Canals, asking the Department to record freight rates on all produce pass-

ing through the canals, by having the bills of lading state distinctly the rate the vessel was obtaining before the canal pass should issue.

The U.S. Lake Survey reports the levels of the Great Lakes, for Jan., in feet above tidewater, as follows:—Superior, 601.96; Michigan and Huron, 579.96; Erie, 571.26; Ontario, 244.94. As compared with the average stages for the past ten years, Superior was 0.41 ft. below; Michigan and Huron, 0.18 ft. below; Erie, 0.45 ft. below, and Ontario 0.41 ft. below.

The Canadian Association of Masters and Mates held its eighth annual meeting in Toronto, Feb. 8, and decided to dissolve the organization. Those in attendance then organized as the Shipmasters' Association of Canada, and elected the following officers for the current year:—Capt. J. H. McMaugh, Grand Master; Capt. J. McGiffin, Grand First Officer; Capt. H. O. Jackson, Grand Secretary-Treasurer.

The Montreal River Transportation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Toronto, to own and operate steam and other vessels and other means of transportation, and to carry on the business of common carrier. The provisional directors are, W. M. Kervin, Callander, Ont.; W. H. Garvey, J. A. Rowland, A. Dwyer, J. N. Mulholland, Toronto.

The Mutual Steamship Co.'s annual meeting was held at Welland, Feb. 4. A dividend of 6% for the year 1909 has been declared. Following are the officers and directors for the current year:—President, D. McGillivray, Port Colborne; Vice President, W. E. Phin, Welland; Managing Director, J. W. Norcross, Toronto; other directors, W. M. German, Welland, and R. M. Wolvin, Duluth, Minn.

The Farrar Transportation Co.'s annual meeting was held at Collingwood, Jan. 25. Following are the officers and directors for the current year:—President, D. D. Lewis, Philadelphia, Pa.; Vice President, T. I. Thompson, Owen Sound; Managing Director and Secretary-Treasurer, G. E. Fair, Collingwood; other directors, E. Stubbs, G. P. Pear-sall, M. Snetsinger, E. R. Wayland, W. E. Allen, A. W. Howe, and J. G. Ferris.

With a view to the abolition of duplicate names, the following changes have been made, and the Marine Department has issued a notice that, in future, the new names only will be used:—Stonehouse point to Glengarry point; Brown's point to Knapp point; Gage point to Ninemile point; Indian point to Point Pleasant; Egg Island to Scotch Bonnet; Gull island to Peter Rock; North Foreland to Long point; Big Otter creek to Port Burwell.

The Kingston civic finance committee has recommended to the city council, that a by-law be submitted to the taxpayers as soon as possible, granting exemption from taxation to the Kingston

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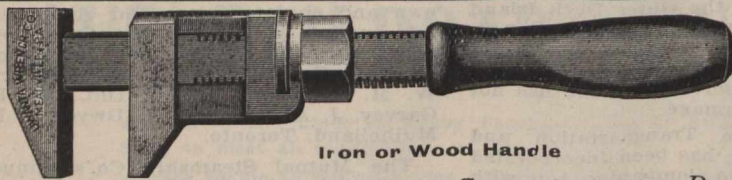
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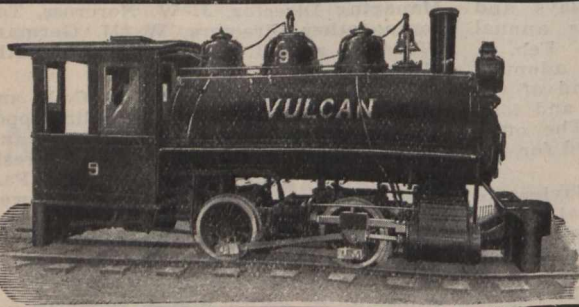
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J. W. Norcross, of the Mutual Steamship Co., Toronto, and R. M. Wolvin, of Duluth, Minn., are having a vessel built at Port Glasgow, Scotland, of which the following are the chief details:—length between perpendiculars, 250 ft.; breadth, 42 ft. 8 ins.; depth to awning deck, 20 ft. 6 ins.; draft, 14 ft.; deadweight capacity, 2,451 tons; hold capacity, 136,539 cubic ft.; 'tween deck capacity, 8,043 cubic ft. The engines have cylinders 17, 28 and 46 ins. diam., by 33 ins. stroke, supplied with steam at 185 lbs. pressure by two boilers, each 12 ft. by 11 ft. The vessel is built for a speed of 9½ knots an hour when loaded.

The Steamers Agency, Ltd., Montreal, is having a vessel built at Port Glasgow, Scotland, for the lake trade, of which the following are the chief particulars:—length, between perpendiculars, 249 ft.; breadth, 43 ft.; depth to awning deck, 26 ft. 6 ins.; draft, 14 ft.; deadweight capacity, 2,338 tons; capacity of hold, 102,059 cubic ft.; capacity 'tween decks, 73,101 cubic ft. The engines have cylinders 18, 30 and 50 ins. diam., by 36 ins. stroke, supplied with steam by two boilers, each 13 ft. by 10 ft. 6 ins., at 180 lbs. pressure. The vessel is built for a speed of 9½ knots an hour when loaded. The Steamers Agency is controlled by Munderloh & Co., Montreal. It is said the vessel will be largely used in the Wallaceburg sugar trade.

At a recent meeting of the Lake Carriers Association and the Great Lakes Protective Association, at Detroit, Mich., A. A. Wright, President Dominion Marine Association, said insurance rates could only be brought down by the united action of vessel owners. The present rate to Lake Ontario is 6%, and to Montreal 7%, and he added that two-thirds of the premiums paid on the insurance of these ships has remained in the pockets of the underwriters. He also mentioned that the valves of the Canadian lock at the Sault canal are too large, thus causing the too sudden flooding of the locks, masters having frequent difficulty in con-

trolling their vessels. President Livingstone spoke on the necessity of additional lockage facilities at the Sault, and urged the Canadian members to begin at once an agitation for the construction of a second lock on the Canadian side of the St. Marys River.

Manitoba, Saskatchewan and Alberta.

The Arctic Ice Co., Winnipeg, has awarded a contract for the construction of a twin screw steam tug for operation on the Red River. She will be 70 ft. long over all, 16 ft. 6 ins. beam, and 4 ft. 6 ins. draft, and will be of steel throughout.

H. Sutherland, Executive Agent Canadian Northern Ry., Winnipeg, is having built a twin screw steamboat for operation on Lake Winnipeg, in the stone trade. She will be built of steel, and will be 175 ft. long, by 40 ft. beam.

J. H. Hyland, of the Hyland Navigation and Trading Co., has called the attention of the Winnipeg board of control to the fact that the navigable channel of the Red River has been made very crooked, and in some places dangerous, owing to the number and style of bridges which have been erected across it from time to time. He opposed the proposed erection of a bridge at the foot of Lombard St., Winnipeg, and stated that, probably, there would be 25 boats running on the river this year.

The question of the development of western waterways was brought up in the Senate Feb. 11, when Senator Davis asked for surveys and reports on proposals to improve the navigation of the Saskatchewan River, in order to facilitate passenger and freight traffic from the Rockies to Winnipeg. He said that with a little improvement a waterway could be opened from Edmonton to Winnipeg, by way of the North Saskatchewan and Saskatchewan Rivers and Lake Winnipeg, and by the South Saskatchewan River between Medicine Hat and Winnipeg. By the North Saskatchewan, Edmonton was about 500 miles to the Forks, and from Medicine Hat to the Forks, by the South Saskatchewan, it was 370 miles. Very little dredging would have to be done, but there would have to be some cutting to bring Lakes Manitoba, Winnipeg and Winnipegosis into the system.

B.C. and Pacific Coast Marine.

The vessel which the Boscowitz Steamship Co. is having built on the Clyde, Scotland, will be 180 ft. long, 32 ft. wide, and 19 ft. deep, with 500 tons deadweight capacity, and accommodation for 56 first class passengers, in addition to a large third class capacity.

The C.P.R. is adding a vessel to its B.C. Lake and River Service, which is to be ready for next year's trade. The hull is to be of steel throughout, and engines of the tandem compound type. The contract price is stated to be about \$120,000. She will operate on the Arrow Lake and adjacent waters, and it is reported that another vessel will probably be ordered in the near future for operation on Kootenay Lake.

Press reports from the Pacific coast state that the Union Steamship Co., Vancouver, B.C., has ordered a steamboat for the coast trade between Vancouver and Prince Rupert. The hull, it is stated, is under construction at Dublin, Ireland, which after launching, will be taken to Belfast for the installation of machinery.

Capt. T. H. Worsnop, of the Canadian-Mexican Line, left Victoria recently for England, where he will arrange for the acquirement of two, and possibly three vessels for this service. The company is at present operating the steamships Georgia and Lonsdale under charter, between Victoria and Vancouver and Salina Cruz, and this charter expires in June, when they are to be returned to England. The new vessels, it is reported, will arrive on the coast in May and June.

The Dominion Government Hydrographic steamer Cartier, which was launched recently at Newcastle, Eng., was designed for the Pacific Coast hydrographic service. There are a large number of watertight compartments ensuring her safety when she is in uncharted waters. Her equipment includes two gasoline launches, fitted with drawing boards, for use on shore soundings, and in the chart room, which is especially large, a special drawing table has been fixed. The vessel is steam heated throughout, and fitted with improved ventilation to provide for extremes of temperature. Full particulars of this vessel were given in our Oct., 1909, issue.

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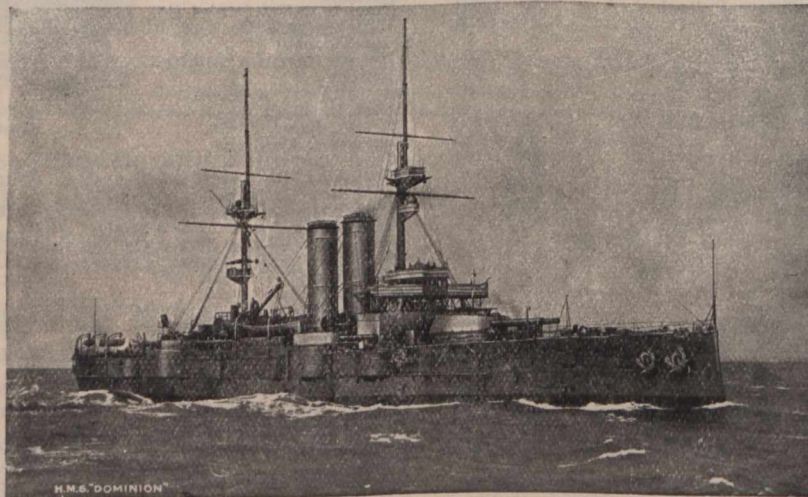


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 Polson Iron Works, Ltd. Toronto.
- Drills, Air**
 Canadian Rand Co. Montreal.
- Dry Goods**
 The Hudson's Bay Co. Montreal.
- Dump Cars (Contractors')**
 Dominion Equip't & Supply Co., Winnipeg.
 F. H. Hopkins & Co. Montreal.
- Dynamos**
 Vandeleur & Nichols. Toronto.
- Dynamo and Electric Castings**
 American Brake Shoe & Fdry Co. Mahwah.
- Economizers**
 Babcock & Wilcox (Ltd.) Montreal.
- Electric Apparatus**
 Allis-Chalmers-Bullock Ltd. Montreal.
 Chapman & Walker, Ltd. Toronto.
 Vandeleur & Nichols. Toronto.
- Electric Car Route Signs**
 Acton Burrows Limited. Toronto.
 Preston Car & Coach Co. Preston, Ont.
- Electric Light Plant**
 Allis-Chalmers-Bullock Ltd. Montreal.
- Elevators, Grain**
 John S. Metcalf Co. Chicago, Ill.
- Enameled Iron Signs**
 Acton Burrows Limited. Toronto.
- Engines, Automatic**
 Robb Engineering Co., Ltd. Amherst, N.S.
 Polson Iron Works, Ltd. Toronto.
 Russel Wheel & Fdry. Co. Detroit, Mich.
- Engines, Corliss**
 Allis-Chalmers-Bullock Ltd. Montreal.
 Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Gas**
 Allis-Chalmers-Bullock Ltd. Montreal.
 Vandeleur & Nichols. Toronto.
- Engines, Gasoline**
 Canadian Fairbanks Co., Ltd. Montreal.
 Ontario Wind Engine & Pump Co. Toronto.
 Vandeleur & Nichols. Toronto.
- Engines, Hoisting**
 Allis-Chalmers-Bullock Ltd. Montreal.
 American Hoist and Derrick Co. St. Paul.
 M. Beatty & Sons. Welland, Ont.
 Dominion Equip't & Supply Co., Winnipeg.
 I. Matheson & Co. New Glasgow, N.S.
 Polson Iron Works, Ltd. Toronto.
 Russel Wheel & Fdry. Co. Detroit, Mich.
- Engines, Stationary and Marine**
 I. Matheson & Co. New Glasgow, N.S.
 Polson Iron Works, Ltd. Toronto.
 Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Steam**
 Allis-Chalmers-Bullock Ltd. Montreal.
 Vandeleur & Nichols. Toronto.
- Explosives**
 Standard Explosives Limited. Montreal.
- Express Office Signs**
 Acton Burrows Limited. Toronto.
- Fencing**
 New Brunswick Wire Fence Co., Moncton.
 Owen Sound Wire Fence Co., Owen Sound.
- Ferro-vanadium**
 American Vanadium Co. Pittsburg, Pa.
- Fire Appliances**
 Miller Chemical Engine Co., Chicago, Ill.
- Fire Brick**
 Mussels Limited. Montreal.
- Flags**
 The Hudson's Bay Co. Montreal.
- Flour**
 The Hudson's Bay Co. Montreal.
- Forgings**
 American Vanadium Co. Pittsburg, Pa.
 Canada Car Co., Limited. Montreal.
 Cleveland City Forge & Iron Co., Cleveland.
 Crossen Car Mfg. Co. Cobourg, Ont.
 Hamilton Steel & Iron Co., Ltd., Hamilton.
 Nova Scotia S. & C. Co., New Glasgow, N.S.
 Standard Steel Works Co., Philadelphia, Pa.
- Foundry Appliances**
 Goldschmidt Thermit Co. Toronto.
 Ont. Wind Eng. & Pump Co., Ltd., Toronto.
- Frogs**
 Canadian Ramapo Iron Wks., Niagara Falls.
- Furnaces, Corrugated**
 Continental Iron Works. Brooklyn, N.Y.
- Fuse Batteries**
 Standard Explosives Limited. Montreal.
- Fuse Detonators**
 Standard Explosives Limited. Montreal.
- Fuses, Electric**
 Standard Explosives Limited. Montreal.
- Gaskets**
 The Holden Co., Ltd. Montreal.
 McCord & Co. Chicago, Ill.
- Gates**
 New Brunswick Wire Fence Co., Moncton.
 Owen Sound Wire Fence Co., Owen Sound.
- Gates, Crossing**
 General Railway Signal Co. Rochester, N.Y.
 The N. L. Piper Ry. Supply Co. Toronto.
- Gauges, Locomotive**
 Taylor & Arnold. Montreal.
- Gears**
 American Vanadium Co. Pittsburg, Pa.
- Grates, Shaking**
 Babcock & Wilcox, Ltd. Montreal.
 Polson Iron Works, Ltd. Toronto.
 Vandeleur & Nichols. Toronto.
- Groceries**
 The Hudson's Bay Company. Montreal.
- Guides and Outfitters**
 Otto Bros. Field, B.C.
- Hammers, Cast Steel**
 American Brake Shoe & Fdry Co. Mahwah.
 James Smart Mfg. Co. Brockville, Ont.
- Handcars**
 Canadian Fairbanks Co., Ltd. Montreal.
 Crossen Car Mfg. Co. Cobourg, Ont.
 Dominion Equip't & Supply Co., Winnipeg.
 F. H. Hopkins & Co. Montreal.
 Mussels Limited. Montreal.
 Rice Lewis & Son. Toronto.
- Hardware**
 The Hudson's Bay Co. Montreal.
 Rice Lewis & Son. Toronto.
- Hats**
 W. H. Coddington Hamilton, Ont.
- Headlights**
 Commercial Acetylene Co. Toronto.
 The N. L. Piper Ry. Supply Co. Toronto.
 Pyle National Elec. Headlight Co. Chicago.
- Headlinings**
 Crossen Car Mfg. Co. Cobourg, Ont.
- Heaters, Feedwater**
 Robb Engineering Co., Ltd. Amherst, N.S.
- Heating, Car**
 Canadian Gold Car H'g & L'g Co. Montreal.
 Safety Car Heating & L'ing Co. New York.
- Hoists, Electric**
 American Hoist & Derrick Co. St. Paul.
 Northern Engineering Works, Detroit, Mich.
- Hoists (Pneumatic)**
 Taylor & Arnold. Montreal.
- Hollow Staybolt Iron and Steel Bars**
 Falls Hollow Staybolt Co. Cuyahoga Falls.
- Hoppers, Car (Wet or Dry)**
 Duner Co. Chicago, Ill.
- Hydrants**
 Canadian Fairbanks Co., Ltd. Montreal.
 Kerr Engine Co. Walkerville, Ont.
- Illustrations**
 Acton Burrows Limited. Toronto.
- Injectors**
 T. McAvity & Sons. St. John, N.B.
- Inspections**
 R. W. Hunt & Co. Montreal.
- Insurance, Accident**
 Can. Casualty & Boiler Ins. Co., Toronto.
 Canadian Ry. Accident Ins. Co. Ottawa.
- Insurance, Boiler**
 Canadian Casualty & Boll. Ins. Co. Toronto.
- Interlocking Plant and Signals**
 General Railway Signal Co. Rochester, N.Y.
 Montreal Steel Works. Montreal.
 Saxby and Farmer, Ltd. Montreal.
- Iron and Steel Bars**
 Hamilton Steel & Iron Co., Ltd. Hamilton.
- Iron, Pig**
 Hamilton Steel & Iron Co., Ltd. Hamilton.
 Nova Scotia S. & C. Co., New Glasgow, N.S.
- Iron Signs**
 Acton Burrows Limited. Toronto.
- Iron Staybolt Bars**
 Falls Hollow Staybolt Co. Cuyahoga Falls.
- Jacks**
 Canadian Fairbanks Co., Ltd. Montreal.
 Dominion Equip't & Supply Co., Winnipeg.
 H and E Lifting Jack Co. Waterville, Que.
 F. H. Hopkins & Co., Ltd. Montreal.
 Montreal Steel Works, Ltd. Montreal.
 Mussels Limited. Montreal.
 A. O. Norton. Cookcook, Que.
 James Smart Mfg. Co. Brockville, Ont.
 A. R. Williams Mchy. Co., Ltd. Toronto.

- Japans**
The Dougal Varnish Co. Ltd....Montreal.
- Journal Bearings**
Canadian Bronze Co.....Montreal.
Crosen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.
- Journal Boxes**
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
- Journal Jacks**
A. R. Williams Mch'y. Co., Ltd....Toronto.
- Lager Beer, &c.**
E. L. Drewry.....Winnipeg.
- Lagging and Covering, Locomotive**
Taylor & Arnold.....Montreal.
- Lamps, Incandescent**
Canadian Westinghouse Co..Hamilton, Ont.
- Lamps and Lanterns**
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
- Lamps, Switch**
The N. L. Piper Ry. Supply Co..Toronto.
- Lathes**
John Bertram & Sons Co....Dundas, Ont.
- Laths**
J. Harrison & Sons Co..Owen Sound, Ont.
- Lighting, Car**
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car H't'g & L't'g Co..New York.
- Lights, Contractors' and Wrecking**
F. H. Hopkins & Co.....Montreal.
International Marine Signal Co. .Ottawa.
Mussens Limited.....Montreal.
- Locomotives (Compressed Air)**
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.
- Locomotives (Electric)**
Baldwin Locomotive Works..Philadelphia.
Montreal Locomotive W'ks (Ltd.)..Montreal.
- Locomotives (Logging)**
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.
- Locomotives (Rack)**
Baldwin Locomotive Works..Philadelphia.
Canadian Locomotive Co....Kingston, Ont.
Montreal Locomotive Works.....Montreal.
- Locomotives (Steam)**
American Car & Equip. Co...Chicago, Ill.
Baldwin Locomotive Works..Philadelphia.
E. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd....Montreal.
Canadian Locomotive Co....Kingston, Ont.
Dominion Equip't & Supply Co., Winnipeg.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks.Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.
- Lorries, Tracklaying**
Crosen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
- Lubricators**
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.
- Lumber**
Parry Sound Lumber Co.....Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.
- Machinery, Cement**
Jas. W. Pyke & Co.....Montreal.
- Machinery and Plant, Contractors'**
American Hoist & Derrick Co....St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
Canadian Fairbanks Co., Ltd....Montreal.
J. T. Gardner.....Chicago, Ill.
General Railway Signal Co., Rochester, N.Y.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.
- Machinery, Hoisting**
American Hoist & Derrick Co....St. Paul.
Brown Hoisting Machinery Co..Cleveland.
- Machinery, Tracklaying**
F. H. Hopkins & Co.....Montreal.
- Machinery, Logging**
Russel Wheel & Fdry. Co....Detroit, Mich.
- Machinery, Wood and Iron Working**
Canadian Fairbanks Co., Ltd....Montreal.
- Machines, Boring and Turning**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Drilling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Milling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Planing and Shaping**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Radial Drilling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Shaping**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Slotting**
John Bertram & Sons Co....Dundas, Ont.
- Machine Tools**
John Bertram & Sons Co....Dundas, Ont.
Pratt & Whitney Co.....Dundas, Ont.
- Manhole Frames and Covers**
American Brake Shoe & F'dry Co.Mahwah.
Canada Iron Corporation, Ltd....Montreal.
- Marine Repairs**
Goldschmidt Thermit Co.....Toronto.
- Marine Supplies**
Rice Lewis & Son.....Toronto.
- Metal, Anti-friction**
W. Abbott.....Montreal.
- Metal, Babbit**
Tallman Brass & Metal Mfg. Co. Hamilton.
- Metals**
Goldschmidt Thermit Co.....Toronto.
- Metal Work, Structural**
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.)..Montreal.
Jas. W. Pyke & Co.....Montreal.
- Milepost Numbers**
Acton Burrows Limited.....Toronto.
- Motors**
Canadian Fairbanks Co., Ltd....Montreal.
McCord & Co.....Chicago, Ill.
- Motors, Electric**
Allis-Chalmers-Bullock Ltd.....Montreal.
Canadian Crocker Wheeler Co., Montreal.
Chapman & Walker, Ltd.....Toronto.
Vandeleur and Nichols.....Toronto.
- Motor Generator Sets**
Allis-Chalmers-Bullock Ltd.....Montreal.
Chapman & Walker, Ltd.....Toronto.
Vandeleur and Nichols.....Toronto.
- Motors, Turntable**
Taylor & Arnold.....Montreal.
- Nickel**
The Orford Copper Co.....New York.
Nickel for Nickel Steel
The Orford Copper Co.....New York.
- Numbers**
Acton Burrows Limited.....Toronto
- Nut Locks**
Positive Lock Washer Co....Newark, N.J.
- Nuts, Clevis**
Cleveland City Forge & Iron Co., Cleveland.
Nuts, Square and Hexagon
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto
- Oakum**
The Hudson's Bay Company.....
- Office Fittings**
Can. Office & Sch'l Furniture Co..Preston.
- Office Signs**
Acton Burrows Limited.....Toronto
- Oils**
Galena Signal Oil Co..Franklin & Toronto
- Packing**
The N. L. Piper Ry. Supply Co..Toronto.
- Paints**
Standard Paint & Var. Co., Windsor, Ont.
- Patterns**
Hamilton Pattern Works....Hamilton, Ont.
- Pile Drivers, Railway**
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
- Pinch Bars**
The N. L. Piper Ry. Supply Co..Toronto.
- Pipe, Culvert (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe, Gas (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe, Sewer (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe Stocks**
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
- Pipe, Water (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Planers**
John Bertram & Sons Co....Dundas, Ont.
- Platforms, Steel**
Standard Coupler Co.....New York City.
- Ploughs, Contractors'**
Mussens Limited.....Montreal.
- Poles**
J. Harrison & Sons Co., Owen Sound, Ont.
- Porter**
E. L. Drewry...Winnipeg.
- Posts**
J. Harrison & Sons Co., Owen Sound, Ont.
- Powder, Blasting**
Standard Explosives Limited....Montreal
- Printing**
Southam Press.....Toronto
- Pumps**
Canadian Fairbanks Co., Ltd....Montreal.
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.
Vandeleur and Nichols.....Toronto.
- Pumps (Centrifugal)**
M. Beatty & SonsWelland, Ont.
- Rail Benders, Roller**
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.
- Rail Drilling Machines**
A. B. Jardine & Co.....Hespeler, Ont.
- Rails (new)**
Dominion Iron & Steel Co...Sydney, N.S.
Drummond, McCall & Co.Montreal.
J. T. Gardner.....Chicago, Ill.
J. J. Gartshore.....Toronto.
F. H. Hopkins & Co.....Montreal.



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