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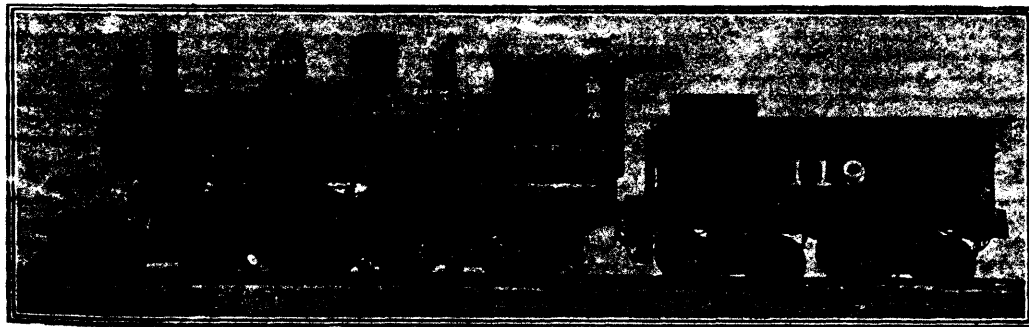
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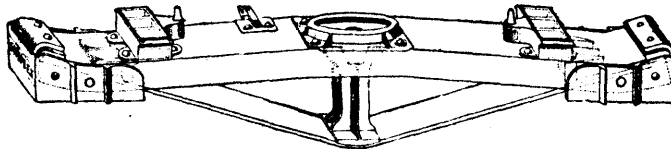
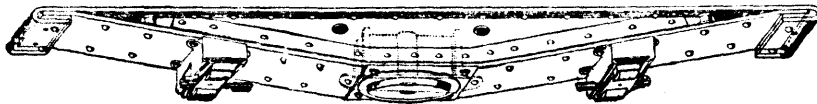
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# THE Railway and Shipping World

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TORONTO, CANADA, FEBRUARY, 1904.

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## Grain Pressures and Grain Bin Design.

J. A. Jamieson, M. Can. Soc. C.E., recently read a paper before that Society, on "Grain pressures in deep bins and the problem of grain bin design." He gave the results of a large number of tests which he had made in full-sized and model bins, and descriptions and drawings of the testing gauge and appliances which he designed and used in making the tests, and also illustrated the pressures by means of a large number of diagrams. He first showed that no data could be found in any of the engineering text-books on this important subject, and that there were no records of any tests for the pressure produced by grain having been made on this Continent, and only one or two of any value in Europe, and that while the necessary strength of the regular-sized elevator bin built of wood had been well established by practice, that many of the large-sized grain tanks being built throughout the country were designed by pure guess-work.

In describing and illustrating the tests he showed that in the regular-sized elevator bin, 12 to 14 ft. square and 60 to 70 ft. deep, when filled with grain, the horizontal pressure would be only from 9 to 12%, and the vertical pressure 15 to 18% of the pressure produced by a fluid of the same weight as grain, and that, therefore, the bin bottom only requires to have sufficient strength to carry a comparatively small part of the grain load, and while the walls do not require to have much horizontal strength, the friction between the grain and the walls is such that 83 to 85% of the grain weight will be carried by the walls, which must therefore have great vertical strength to carry the load.

Illustrating the difference between designing for the storage of grain and for the storage of fluids, he demonstrated that a bin or tank designed on accurate data, having a large factor of safety for the storage of grain, would not necessarily be safe, if filled with a fluid of the same weight as grain. On the other hand it was quite practicable to design and build a tank or stand pipe which would have an ample factor of safety for the storage of water, and which would undoubtedly fail when used for the storage of grain; thus entirely differing from the theory of the experts appointed by the ex-Minister of Public Works to report on the plans of the Montreal elevator.

The financial importance of having an accurate knowledge of grain pressures was shown by the statement that while the original plans selected for the Montreal harbor elevator were for a structure of undoubted strength for the safe storage of grain, to have made it safe for fluid pressure would have unnecessarily added over \$200,000 to the

cost, and Mr. Jamieson contended that the direct loss to the Harbor Commissioners will largely exceed this amount by reason of the plans which they originally accepted being condemned by the ex-Minister of Public Works and his experts on the alleged ground that it would not stand fluid pressure; while the design selected and forced on the Commissioners by the ex-Minister will, Mr. Jamieson contends, neither safely stand grain pressure nor 10% of fluid pressure. He claims that the same structure, instead of being a regular working elevator of 1,000,000 bush.

of friction between grain and the walls of the bins; thus proving the accuracy of both the tests and the theoretical calculations. He described in detail the manner in which the coefficients could be readily obtained for any variety of grain or other granular material, and also the mode of making the calculations, and said, the paper being as follows:—

"We now find that the proportion of the total weight of grain in a bin that would be carried by the walls, and on the bottom of the bin, and therefore the intensity of both the vertical and lateral pressures produced by grain, is chiefly dependent upon three factors: The coefficient of friction between grain and the bin walls, and between grain and grain, the ratio of the breadth or diameter of the bin to the depth, and the ratio of the horizontal area of the grain column to the area of the bin walls. Having established the factors and their values which govern the pressures produced by grain, it becomes a comparatively easy problem in simple arithmetic to determine the vertical and lateral pressures, and the proportion of the weight of the contents of a bin of any given breadth and depth, or construction of walls, that will be carried by the walls and on the bin bottom."

The process of calculation was illustrated, and the formula by which to make the calculation was given. The paper covered very fully both the theoretical and practical features of the question, and was of considerable length, occupying over 2½ hours in reading and illustrating by lantern slide diagrams, and while it was necessarily largely of a technical character, it was presented in such a manner as to be readily understood.

The Canada Atlantic Ry. carried on its steamers to Depot Harbor, Ont., thence by its railway and barge line to Montreal, 15,000,000 bush. of grain during the season of 1903, being about 2,500,000 bush. in excess of that carried during the season of navigation of 1903.

The Imperial Construction Co. (Ltd.) has been incorporated under the Dominion Companies' Act with a capacity of \$199,000 to carry on business as general contractors. The provisional directors are C. A. Masten, J. R. L. Starr, J. H. Spence, T. G. Wilson, E. P. Roden, and the head office is to be at Toronto.

The C.P.R.'s Bristol, Eng., agency, recently moved into its new offices on St. Augustine's Parade. The offices have been especially arranged for the Company's business, and include entrance hall, inquiry office, general office and private office. On one of the side walls of the general office is painted a map 70 by 25 ft. showing the Company's steam and rail routes.



HON. H. R. EMMERSON, M. P.  
The Minister of Railways and Canals.

capacity, proves to be a simple but expensive storage house of considerably reduced capacity, and with only about one-third of the machinery, power and handling equipment called for, and necessary to meet the requirements of the port.

After fully describing the tests and showing the movement of the grain in the bins, and the pressures obtained, he dealt with the questions theoretically, and showed that the results obtained by the tests were entirely in accord with the formulas deduced from the angle of repose of grain, and the coefficient

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NEXT ANNUAL MEETING of the Grand Council, Jan. 1905.

## Niagara Frontier Summer Rate Committee.

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SECRETARY, G. C. Wells, Montreal.

## The Shipping Federation of Canada.

PRESIDENT, H. A. Allan; CHAIRMAN OF EXECUTIVE COMMITTEE, W. I. Gear; MANAGER, T. Robb; SECRETARY, T. B. Odell. Office, 526 Board of Trade, Montreal.

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## VICTORIA STATE RAILWAYS, AUSTRALIA.

The report of the Railway Commission was recently presented to the Victoria State Parliament, and as it is the first for which Thos. Tait, formerly Manager of Transportation C.P.R., now Chairman of the Commission, is responsible, it is of interest to Canadians. The Melbourne Age says that the report "possesses features of which Mr. Tait and his colleagues are justly proud, and from a comparative standpoint the results may be regarded as highly satisfactory. The effects of the new management are already showing themselves in the tangible form of a considerable reduction of working expenditure." The gross revenue for the year ended June 30, 1903, was £3,046,858, or £320,985 less than in 1901-02, largely due to the failure of the crops owing to drought. The working expenditure was £1,938,580, a decrease of £133,794 when compared with the expenses for 1901-02. The working expenses do not include £93,507 for pensions and gratuities. The train mileage has been reduced by 998,672 by closing up useless branch lines. During the year 92

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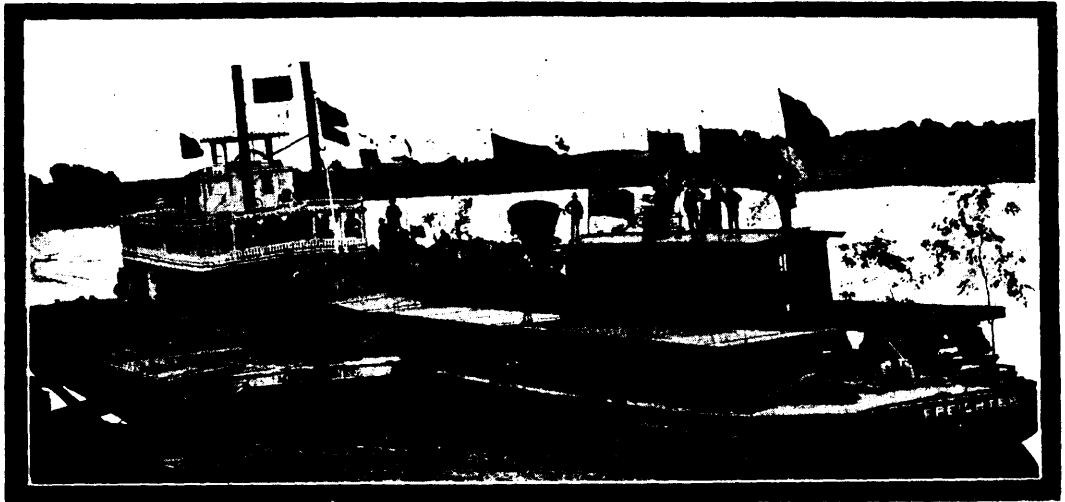
cars were equipped with the Pintsch system of gas lighting by the Safety Car Heating and Lighting Co.; and 157 trucks were fitted with the Westinghouse brake, and seven with brake pipes only. After analysing the figures the Melbourne Age adds: "Now it is demonstrated that the men who have planned the changes and economies are real experts, whose work is justified by the results."

THE TRANSPORTATION COMMISSION, consisting of J. Bertram, Toronto; E. C. Fry, Quebec, and R. Reford, Montreal, appointed by the Dominion Government to make an investigation into transportation matters in the Dominion, has commenced its sittings. The secretaries are J. X. Perrault, of Montreal, and C. N. Bell, of Winnipeg. J. Bertram, the chairman, stated that the chief work of the Commission will be to facilitate the traffic of Canada along the easiest routes in the Dominion; the first problem to be solved will likely be that of finding the shortest and cheapest route from Lake Superior to the markets of England; then will come the problem of a port on Hudson's Bay, that will be the natural port of a large part of the Northwest. The Commission commenced its sittings for the taking of evidence, and for the inspection of facilities at various ports in the maritime provinces, visiting Halifax, Sydney, St. John and St. Andrews for this purpose.

**Early Transportation in Manitoba.**

In a recent folder issued by the Canadian Northern Ry. some space is devoted to the early settlement of Manitoba and to the transportation facilities in pre-railroad days. The flat-bottom stern-wheel steamers of the Red river from U.S. points landed passengers and freight at various points along the river to Fort Garry, where Winnipeg now stands, and from thence the Red river carts transported it overland. Two of the illustrations given in the folder are reproduced on this page. One represents the arrival of the first locomotive and flat cars at Winnipeg on one of the Red river boats, and the other the departure of a string of Red river carts for distant points. In connection with the first-mentioned view it will be of interest to record that the equipment shown consisted of a wood-burning locomotive, 20 flat cars and one caboose, which were purchased from the Northern Pacific Rd. at Brainerd, Minn., and were shipped on the str. Dakota and tow barges, belonging to the Red River Transportation Co. The equipment was loaded at Fisher's Landing, Minn., in June, 1877, and was consigned to Joseph Whitehead, railway contractor, Winnipeg. Capt. A. Russell and W. Griggs, pilot, had charge of the steamer, and H. Swinford, now General Agent of the Northern Pacific Rd. at Winnipeg, was general agent of the R.R.T. Co. in Winnipeg at the time, and collected freight charges on this particular shipment. Someone who was in charge of the outfit got up steam on the locomotive and blew the whistle for hours on the way down. The flags on the steamer were flying and nearly everyone in town celebrated the event. The consignment was landed on the St. Boniface side of the Red river, opposite Winnipeg. The work for which the equipment was purchased consisted of the construction of the line from Cross Lake, Man., to Rat Portage, Ont., and the laying of track and ballasting from St. Boniface to Rat Portage. The locomotive bore a number when purchased, but was rechristened the Countess of Dufferin, in honor of the wife of the late Marquis, then Earl, of Dufferin, Governor-General, who made a visit to Winnipeg about that time.

The B. Greening Co. (Ltd.), Hamilton, Ont., manufacturer of wire, etc., has issued an attractive calendar, containing a view of the works, etc.



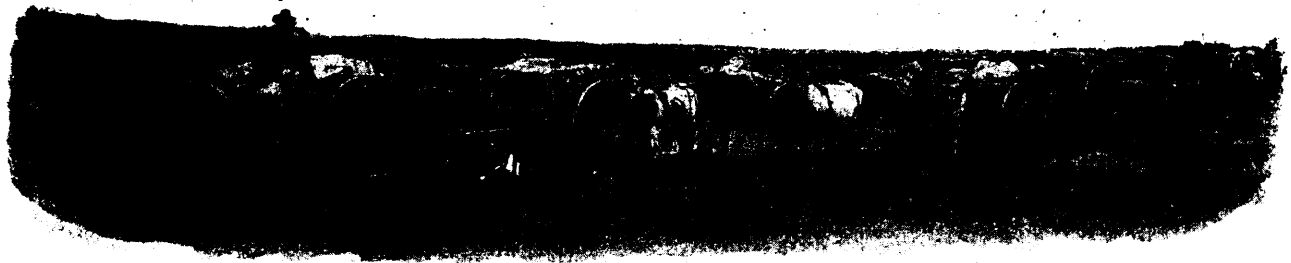
ARRIVAL OF FIRST LOCOMOTIVE AND CARS AT WINNIPEG.

**C.P.R. Acetylene Car Lighting.**

The C.P.R. has adopted acetylene as the standard light for its cars. The system which has been selected is similar to the Pintsch system, but instead of using oil gas, acetylene gas is used, which is stored at a pressure of 10 atmospheres in tanks under the cars. This system has been in vogue on the Great Northern Ry. in the U.S. which, since Sept., 1899, has equipped about 225 cars with the system. Acetylene gas under a pressure of over two atmospheres will dissociate when heated to 1,430 deg. Fhr., but a tank filled with this compressed gas to 10 atmospheres can be crushed without danger under a steam hammer. The fundamental principle of this system of car lighting simply consists of letting the gas escape before it is heated to such a degree that it will dissociate, or, in other words, if in the presence of such heat, dissociation can be regulated by providing for an outlet for the gas from any pipe or tank containing it, all danger is avoided. This is done by the use of tanks with fusible seams and fusible plugs and the high pressure pipes under the car being also of fusible material which, when heated to about 450 deg., will melt and allow the gas to escape.

About 12 years ago the Pintsch Co. made a series of experiments and tests in Germany with compressed acetylene gas, which established as a fact that acetylene gas when heated to 1,432 deg. will dissociate. It was also found that no shock or blow given to a tank in which compressed acetylene gas is charged, will create an explosion of the gas. These facts were corroborated by a series of tests which were made at St. Paul, Minn., under the supervision of Max Toltz, then of the Great

Northern Ry.'s mechanical department, and now C.P.R. consulting engineer at Montreal, from the results of which this system of car lighting was established, and it is positively asserted that no explosion of the gas under the cars carrying this system can take place. But the main foundation of acetylene gas lighting is in the generating of the gas. It is claimed that this is the only system which generates gas under proper conditions, that is, the gas is generated under the lowest possible temperature. It is well understood that gas generated at or about 500 deg. will polymerize, or in other words, will change from acetylene gas to naphtha or benzine gas, and no cooling will bring these gases back to acetylene gas. Everyone is aware of the fact that such gases are very dangerous, besides they have not the illuminating power of pure acetylene gas. The mode of generating under this system is such that the temperature cannot be raised to more than 110 deg. Besides, the gas is perfectly purified, that is, the phosphorous and magnesia, the most dangerous substances in this gas, are taken out chemically. The gas is also condensed and dried, as the moisture plays havoc in cold weather by freezing and stopping up the burners. After this, the gas so manufactured goes through a three-stage compressor, in which the temperature is raised but very little to compression. From here the gas goes into storage tanks. Great stress should be laid on this mode of generating acetylene gas and authorities such as Prof. Lewace, Pictet, Caro and Dr. Wolf, have written on this subject, pointing out the necessity of generating the gas under the same conditions. From the storage tanks the gas is charged into tanks under the cars. Each car has two tanks,



A STRING OF RED RIVER CARTS.

# Galena-Signal Oil Company,

Franklin, Pa., and Toronto, Ont.

Successor to Galena Oil Company and Signal Oil Company, sole Manufacturers of the celebrated Galena Coach, Engine and Car Oils, and Sibley's Perfection Valve and Signal Oils.

**CHARLES MILLER,**  
PRESIDENT.

which will be sufficient to light from four to seven lights. As stated before, these tanks to insure safety, have each fusible seams and plugs, and all high pressure pipes under the car are made of fusible material, so when heat is applied, in case of fire, the plugs as well as the pipes will melt and allow the gas to escape without any danger.

About 40 C.P.R. cars have been equipped with this system, and in the course of the year probably from 300 to 400 will be equipped. The gas lamps selected are modern and up-to-date, and give a soft, mellow light, which is pleasing, and by which a person can read quite easily in any part of the car. Two gas plants have been established, one at Montreal and one at Toronto, and two more at Winnipeg and Vancouver are under construction. As soon as these are finished cars with the new light can run from Montreal to Vancouver. Every known safety device has been adopted in the construction of the plants and in the car equipment. As before stated, the system has been tried since 1899 on the Great Northern Ry., and during that time it has given perfect satisfaction to the travelling public as well as the railway officials. In the meantime, the system has been improved, and it is believed that the C.P.R. will have the most perfect and best appointed car lighting system of any line on this continent.

**February Birthdays.**

Many happy returns of the day to—  
 B. H. Bennett, General Agent Chicago and North-Western Ry. at Toronto, born at Cobourg, Ont., Feb. 6, 1858.  
 H. J. Colvin, District Passenger Agent C.P.R. at Boston, Mass., born at Macedon, N.Y., Feb. 26, 1856.  
 Robert Crawford, City Freight Agent Canadian Northern Ry. at Winnipeg, Man., born at Kingston, Ont., Feb. 21, 1870.  
 F. P. Dwyer, Eastern Passenger Agent G.T.R. at New York, born at Chicago, Ill., Feb. 20, 1853.  
 E. A. Evans, General Manager and Chief Engineer Quebec Ry., Light and Power Co. at Quebec, born at Kensington, London, Eng., Feb. 26, 1855.  
 A. R. Evans, born at Montreal, Feb., 1870.  
 E. H. Fitzhugh, Vice-President and General Manager Central Vermont Ry. at St Albans, Vt., born in Montgomery County, Mo., Feb. 1, 1833.  
 C. W. Gardner, Auditor Minneapolis, St. Paul and Sault Ste. Marie Ry. at Minneapolis, Minn., born at Rushville, N.Y., Feb. 17, 1861.  
 W. C. Hall, ex-Superintendent Eastern Division C.P.R. at Quebec, born in Ireland Feb. 18, 1831.  
 J. A. Johnson, Mechanical Foreman I.C.R. at Campbellton, N.B., born at St. John, N.B., Feb., 1848.  
 R. S. Logan, Assistant to 2nd Vice-President and General Manager G.T.R., Montreal, born at St. Louis, Mo., Feb. 13, 1864.  
 C. S. Maharg, Trainmaster district C.P.R. Ontario Division, at Havelock, born in Dufferin County, Ont., Feb., 1867.  
 T. McNabb, Master Mechanic Alberta Ry. and Coal Co. and St. Mary's River Ry. at Lethbridge, Alta., born in Scotland Feb. 16, 1849.  
 J. K. McNeillie, Car Service Agent C.P.R. at Winnipeg, Man., born at Toronto Feb. 23, 1874.  
 D. MacPherson, Division Engineer C.P.R. at Montreal, born Feb. 2, 1858.  
 C. W. Milestone, ex-Superintendent C.P.R. at Moose Jaw, Assa., born at Medina, Ohio, Feb. 24, 1857.  
 C. Percy, Auditor G.T.R., Montreal, born in Kent, Eng., Feb. 12, 1845.  
 A. H. Robinson, Superintendent Elgin and Havelock Ry. at Petitcodiac, N.B., born at Elgin, N.B., Feb. 2, 1862.

A. E. Rosevear, Freight Claim Agent G.T.R. at Montreal, born Feb. 20, 1863.

J. G. Scott, General Manager Quebec and Lake St. John Ry. at Quebec, born there Feb. 13, 1847.

J. W. Troup, Superintendent C.P.R. Pacific Coast Steamships at Vancouver, born Feb. 5, 1855.

J. C. Urich, Superintendent Manitoulin and North Shore Ry. at Sudbury, Ont., born at Lebanon, Pa., Feb. 19, 1868.

Sir Wm. C. Van Horne, K.C.M.G., Chairman C.P.R. and President Cuba Co., Montreal, born in Will County, Ill., Feb., 1843.

H. W. Walker, General Auditor G.T.R. at Montreal, born at Brantford, Ont., Feb. 12, 1839.

**RAILWAY FINANCE, MEETINGS, ETC.**

**Algoma Central and Hudson Bay Ry.**—The press reports that negotiations were in progress between Speyer & Co., who have bought in the A.C. Ry. together with the other properties of the Consolidated Lake Superior Co. at the mortgage sale, and the C.P.R. for the purchase of the A.C. and H.B. Ry., are stated to be without foundation by Sir T. G. Shaughnessy, President C.P.R.

**British Columbia Electric Ry. Co.**—Earnings and expenses for Nov.:

	1902.	1903.	Increase or Decrease.
<b>GROSS EARNINGS.</b>			
Railway—Vancouver division	\$11,492	\$14,570	\$3,078+
Victoria	9,190	5,446	2,744+
Westminster	8,436	9,897	1,461+
Lighting—Vancouver division	19,721	26,956	7,235+
Victoria	10,110	11,494	1,384+
	58,949	72,343	13,394+
Less working expenses	32,338	40,167	7,829+
	26,611	32,176	5,565+
Renewal funds	4,222	4,988	766+
Net income	22,389	27,188	4,799+
Aggregate gross earnings, July 1, to Nov. 30	276,633	332,009	55,376+
Aggregate net earnings, July 1, to Nov. 30	\$93,995	\$121,013	\$27,018+

The Vancouver Power Co., which is controlled by the B.C. Electric Ry. Co., through Sperling and Co., of London, Eng., offered for subscription recently £45,000 of 4½% debentures, payable £5 on application, £20 on allotment and £75 in 30 days thereafter. These debentures will rank pari passu with £175,000 of similar debentures issued in Jan., 1903. The funds raised are for the purpose of paying for the enlarged equipment decided to be installed at the company's new power houses. The issue was offered to shareholders at par.

**Canada Southern Ry.**—Notice is given that application will be made to the Minister of Railways Mar. 1 by the C.S. Ry. Co., the Michigan Central Rd. Co., and the Pere Marquette Rd. Co., their shareholders having consented, for the approval of an agreement providing for trackage and other rights to the Pere Marquette Rd. over certain portions of the C.S. Ry.

In the case of the C.S. Ry. there seems to be a mixing up in respect of the date when dividends are paid and the time out of the profits of which they are paid. The dividend of 1½% was out of the earnings for the year ended Dec. 31, 1903—that is, the earnings under the old arrangement with the Michigan Central, although payable along in the next year. The dividend of July last was for the half year ended June 30. Under the new lease of the M.C. Rd. that company pays 2½% starting on Jan. 1, 1904. There will be a half yearly instalment of 1¼% accrued on June 31 next, which will be payable the next day, i.e., July 1, instead of waiting, under the old plan,

for payment a month later, or toward the end of July or even Aug. 1; and, similarly, another 1¼% accrued on Dec. 31 following, which will be payable on Jan. 1, 1905, instead of, as in former cases, the extreme end of Jan. or Feb. 1. This mixing of dates in the manner spoken of is quite common where the fiscal year is coincident with the calendar year.—Wall Street Journal.

**Canadian Northern Ry.—Earnings:—**

	1903.	1902.	Increase or Decrease.
July, 1903.	\$254,800	\$132,000	\$122,800+
Aug. "	250,800	131,200	119,600+
Sept. "	270,800	182,300	88,500+
Oct. "	334,100	276,500	57,600+
Nov. "	338,300	240,500	97,800+
Dec. "	279,200	201,700	77,500+
	\$1,728,000	\$1,124,200	\$603,800+

Net earnings for Nov. \$123,600, against \$90,700 for Nov., 1902. Net earnings for five months ended Nov. 30 \$502,200, against \$345,500 for same period 1902.

There has been filed with the Secretary of State at Ottawa a duplicate of the mortgage dated Nov. 2, 1903, between the C.N. Ry. Co., the Government of Manitoba and the National Trust Co., securing an issue of bonds on certain branch lines in Manitoba.

The report of the Railway Commissioner presented to the Manitoba Legislature Jan. 12, stated that from returns made to the government he was able to state that the earnings of the C.N.R. throughout the year had been amply adequate to meet all fixed charges and for a proper operation of the company's lines.

**Carillon and Grenville Ry.**—At the annual meeting held at Montreal Jan. 12, the following were elected: President, H. Wallis; Vice-President, Capt. H. W. Shepherd; other directors: R. W. Shepherd, R. Bolton and A. F. Riddell.

**Dominion Atlantic Ry.**—Gross earnings for Nov., 1903, \$85,200, against \$67,159 for Nov., 1902, making for eleven months ended Nov. 30, 1903, \$960,678, against \$918,374 for same period 1902.

The town of Kentville recently offered for sale \$17,500 of 4% debentures, of which \$6,000, redeemable within 10 years, were required to pay the bonus to the D.A. Ry. Co. for the erection of a new station there.

**Halifax Electric Tramway Co.**—Gross receipts from railway:

	1903.	1902.	Increase or Decrease.
Jan., 1903.	\$10,867.33	\$10,764.58	\$102.75+
Feb. "	9,321.75	8,498.39	823.36+
Mar. "	10,195.12	9,761.57	433.55+
April, "	10,532.55	10,025.66	506.89+
May, "	10,768.11	11,126.66	358.55-
June, "	11,843.82	11,588.19	255.63+
July, "	15,942.37	14,834.69	1,107.68+
Aug. "	16,786.03	17,177.12	391.09-
Sept. "	18,494.60	17,494.21	1,000.39+
Oct. "	12,054.78	11,382.25	672.53+
Nov. "	11,219.95	9,045.68	2,174.27+
Dec. "	12,160.23	11,207.31	952.92+
	\$150,186.64	\$143,746.31	\$6,440.33+

**Hamilton, Grimsby and Beamsville Electric Ry.**—The annual meeting of the shareholders of this company was called to be held at Hamilton, Ont., Jan. 25.

**Hamilton Incline Ry.**—At the annual meeting on Jan. 20 the following officers and directors were elected: President, J. Dickenson, M.L.A.; Vice-President and Managing Director, G. T. Tuckett; Secretary-Treasurer and Assistant Manager, E. W. Pope; other directors: J. M. Eastwood, S. C. Mewburn. A dividend of 4% was declared and a considerable sum was placed in the reserve fund towards improving the roadbed, etc.

**Intercolonial Ry.**—An Ottawa despatch states that the earnings for the six months ended Dec. 31, 1903, were \$3,388,219, against \$3,282,925 for the same period of 1902. During the six months 1,307,291 passengers were carried, a gain of 48,498. The receipts from passengers were \$1,168,788, compared with



\$1,086,691; the freight carried shows a falling off of 31,895 tons, but earnings from freight show a gain of \$19,196.

**International Transit Co.**—Application will be made at the current session of the Ontario Legislature for an act confirming a by-law of Sault Ste. Marie, Ont., authorizing the execution of an agreement with a number of the subsidiary companies of the Consolidated Lake Superior Co., including the I. T. Co., and the Algoma Central and Hudson Bay Ry. Co.

**Lake Erie and Detroit River Ry.**—Application will be made next session of the Dominion Parliament for an act confirming an agreement between the L.E. and D.R. Ry. and the Pere Marquette Rd., with reference to the use of the lines of the former company by the latter company and extending the agreement until 99 years from the date of its coming into force, and for other purposes.

In connection with a recent issue of \$600,000 first lien 4½% gold Pere Marquette bonds (L.E. and D.R. division) it was reported to the New York stock exchange that "the net earnings of the L.E. and D.R. division for the four months ended Oct. 31, were in excess of the interest charges for the entire year on the issue of \$3,000,000 bonds (closed mortgage), and in addition thereto the bonds are a direct obligation of the Pere Marquette Rd. Co., which is paying dividends at the rate of 4% on its entire capital stock of \$24,657,700." The issue of \$600,000 is part of the total authorized issue of \$3,000,000.

**Levis County Ry.**—First mortgage bonds to the amount of \$100,000 have been taken by the Sun Life Insurance Co. of Canada. The bonds are secured on the 10½ miles of line completed. In connection with this issue it is reported that the line had been in operation for twelve months to Dec. 5, 1903, and that although only about 3 miles of track were open during the first six months the

gross earnings were over \$30,000, and that after paying working expenses and interest on cost of construction, a half-yearly dividend at the rate of 6% was earned on the preferred stock.

**London, Aylmer and North Shore Ry.**—Application will be made at the current session of the Ontario Legislature for an act reducing the capital stock to \$400,000, and authorizing the issue of bonds for \$25,000 a mile. W. E. Stevens, Aylmer, Ont., is solicitor to the company, which has not yet constructed any of its line.

**London, Ont., Street Ry.**—Gross earnings:

	1903.	1902.	Increase or Decrease.
Dec. ....	\$14,141.83	\$15,541.80	\$899.97—
	+ Increase.	— Decrease.	

The following report was presented at the annual meeting in London, Jan. 13: "The increase in earnings continues to be satisfactory. The gross earnings were \$172,084.53, compared with \$154,703.97 of the previous year, an increase of 11.2%. Operating expenses were \$109,493.15 as compared with \$93,248.40. The net earnings after paying all charges were 7.91% on the capital stock. The directors have paid out of net profits two half-yearly dividends of 3%, amounting to \$27,000, and after deducting directors' and auditor's fees, there remained a balance of \$6,124.10 passed to the credit of profit and loss account. The power plant, tracks and other property have received necessary attention and are in good repair. Upon request of the motormen and conductors for increased pay, the Directors, commencing on May 1, 1903, increased their wages to 16 2-3 cents an hour, which is equal to 1% on the capital stock, an extraordinary expenditure not anticipated when making up the estimates for 1903. The price of coal was increased by 25%, while track and pavement repairs were

greatly increased, due to general repairs. During the year the rolling stock has been increased by the addition of five large double-truck combination motor cars, equipped with four G. E. 800 motors taken from 10 of the regular combination cars. These latter were re-equipped with G. E. 1,000 motors which now gives the company 15 motor cars of this equipment. A permanent pavement was ordered by the city on York st. between Richmond and Talbot, and the company's track allowance was paved with vitrified brick laid on a heavy concrete foundation. A roof was built over the platform of the attraction pavilion at Springbank and proved a great benefit to the performance held there. The wet summer, however, seriously affected the earnings on the Springbank line, and the directors feel that had it been an average season the results would have been still better. During the year the three belted engines at the power house have been thoroughly overhauled and the asphalt pavements on Dundas and Richmond sts. thoroughly repaired. The amount written off for accident claims during the year has proved more than ample, and this account now shows a credit balance of \$1,077.95."

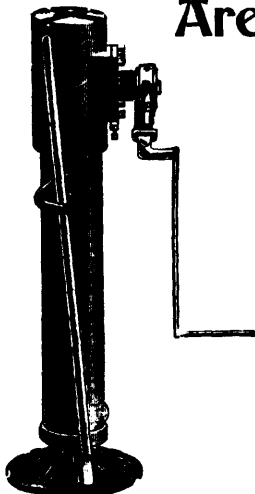
The report of the Secretary-Treasurer showed that the number of passengers carried was 4,305,975, being an increase of 418,277. The cars were operated for a distance of 1,286,263 car miles.

The following were elected: President, H. A. Everett; Vice-President, T. H. Smallman; Secretary-Treasurer, C. E. A. Carr; other directors: E. W. Moore, C. W. Wason, H. S. Holt, W. M. Spencer and P. W. D. Broderick.

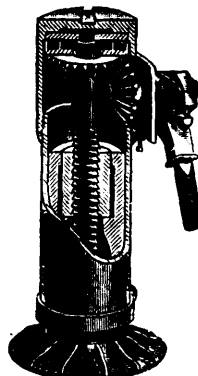
**Manitoba and Southwestern Colonization Ry. Co.**—The report of the Railway Commissioner, presented to the Manitoba Legislature Jan. 12, stated that the account with respect

# Norton Ball-Bearing Car Jacks

## Are Designed for the Heaviest Capacity Cars



Car Jack.



Sectional View.



15-Ton Journal Jack.

They are Ratchet Screw Jacks with working parts protected from grit and rust. They have all the advantages of Hydraulic Jacks, are lighter, lower in price and absolutely safe. Twenty-five, 35 and 50 tons capacity.

## Norton Style "K" 15-Ton Journal Jack

Will handle 100,000 lb. loaded cars with ease and safety. No Alcohol or Filling, will work in any position, is Light, Simple and Durable.

Standard on the Leading Railroads.

Illustrated Catalogue upon request.

MANUFACTURED BY **A. O. NORTON, Coaticook, Que.**

Carried in stock by Canadian Agents, W. H. O. MUSSEN & CO., Montreal, Que.

to debentures to the value of \$889,846.66 issued under the provisions of the Railway Act to this company Dec. 31, 1902, stood as follows: The company had fulfilled its agreement, paying the interest, and had released 369,301.15 acres of land, leaving still due \$181,244.36. The province holds in trust for the extinction of the bonds at maturity the sum of \$718,602.30.

**Montreal Street Ry.**—Earnings and expenses for Dec., 1903:

	1903.	1902.	Increase or Decrease.
Passenger earnings	\$187,779.60	\$173,041.83	\$14,737.77+
Miscellaneous earnings	1,486.70	4,325.47	2,838.77-
Total earnings	189,266.30	177,367.30	11,899.00+
Operating expenses	128,031.82	113,917.48	14,114.34+
Net earnings	61,234.48	63,449.82	2,215.34-
Fixed charges	17,273.30	17,405.50	132.20-
Surplus	43,961.18	46,044.26	2,083.08-
Expenses % of car earnings	68.18	65.83	

Oct. 1 to Dec. 31:

	1903.	1902.	Increase or Decrease.
Passenger earnings	\$580,161.63	\$523,308.32	\$16,853.31+
Miscellaneous earnings	5,266.53	8,336.95	3,070.42-
Total earnings	585,428.16	531,645.27	53,782.89+
Operating expenses	355,349.92	313,964.85	41,385.07+
Net earnings	230,078.24	217,680.42	12,397.82+
Fixed charges	52,366.83	49,473.77	2,893.06+
Surplus	177,711.41	168,206.65	9,504.76+
Expenses % of car earnings	61.25	60.00	

Interest on M. P. & I. Ry. Co.'s bonds owned by this Co. not included.

**New Brunswick Southern Ry.**—Press reports recently stated that the C.P.R. would acquire this railway, but H. H. McLean, of St. John, N.B., one of the receivers, says he knows nothing of it. The Washington County Rd., with which the N.B.S. connects with Calais, Me., has just been acquired by the Maine Central Rd.

**New York and Ottawa Ry.**—The sale of this line, under order of the court, has been again postponed, this time for six months. (Jan., pg. 13.)

**Niagara, St. Catharines and Toronto Ry.**—Gross earnings for 10 months ended Oct. 31, 1903, \$184,035; working expenses, \$116,762; net earnings, \$67,273, against \$138,308 gross, \$102,903 working expenses, and \$35,405 net earnings for same period 1902. The charges amounted to \$36,806, against \$11,479, leaving a surplus of \$30,467, against \$20,389 for same period 1902.

**Northern Consolidated Holding Co. (Ltd.)**—J. S. Lovell and others have been incorporated under the Ontario Companies' Act for the purpose of acquiring by purchase or otherwise, stocks, bonds or other securities, and to sell the same; and to raise money in aid of the capital stock of any of the companies in which it may be interested. The capital of the company is placed at \$8,000,000, and the head office is to be located in Toronto. The company has been formed in connection with the transfer to Mackenzie, Mann & Co., of the control of the Great Northern Ry. of Canada, Colonization Ry., and its leased line, the Chateaugay and Northern Ry., and the extension of these lines.

**Port Arthur Street Ry.**—In the report on Municipal trading made by a special committee of the Ontario Legislature the following information is given in respect to this undertaking: Cost of street railway and equipment, \$115,000; electric light plant, \$15,000. These are operated together, and the figures given in respect to operation are for both ended Dec. 31, 1902. Income, \$20,242.70; working expenses, \$15,113.65; net earnings, \$5,129.05. The charges for interest average \$6,500 a year, leaving an average deficit of \$1,370.95 to be provided out of the taxes.

**Qu'Appelle, Long Lake and Saskatchewan Ry.**—Net earnings for Nov., 1903, \$4,595.75, against \$5,260.45 for Nov., 1902; making for 12 months ended Nov. 30, net earnings \$3,937.49, against net earnings of \$69,359.56.

**Quebec Central Ry.**—Gross earnings for Nov., 1903, \$48,467.86; working expenses, \$36,190.23; net earnings, \$12,277.63; against \$55,506.44 gross and \$14,517.75 net for Nov., 1902. Gross earnings for 11 months ended Nov. 30, 1903, \$635,184.04; net earnings, \$184,894.09; against \$624,122.05 gross and \$198,373.84 net for same period 1902.

**St. John Bridge and Ry. Extension Co.**—At the annual meeting at St. John, N.B., Jan. 11, the following were elected directors: Judge Barker, W. H. Thorne, E. B. Ketchum, F. A. Jones, H. H. McLean, St. John; T. Williams, Moncton, and J. M. Kay, Boston, Mass.

**Sandwich, Windsor and Amherstburg Ry.**—Application will be made at the current session of the Ontario Legislature for an act validating and confirming a bond issue of \$600,000, secured by a mortgage to the National Trust Co., dated Dec. 1, 1902.

**Schomberg and Aurora Ry.**—Application will be made at the current session of the Ontario Legislature for an act extending the time for the issue of debentures, and empowering the township of King to pay the bonus of \$12,000 to the company notwithstanding the fact that the line was not completed within the time mentioned in the by-law, and approved by the local act of 1891.

**Toronto and Mimico Ry.**—At the annual meeting on Jan. 19 the following directors were elected: Wm. Mackenzie, J. C. Grace, J. Gunn, N. Kingsmill and F. Nicholls. The company does not issue an annual report.

**Toronto and Scarboro' Electric Light and Power Co.**—The following directors were elected at the annual meeting on Jan. 19: Wm. Mackenzie, J. Gunn, J. M. Smith, F. Nicholls, N. Kingsmill, W. P. Torrance, G. A. Cox, J. C. Grace and H. M. Pellatt. The company does not issue an annual report.

**Toronto, Hamilton and Buffalo Ry.**—Gross earnings for Dec. \$54,068.51, against \$42,425.83 for Dec., 1902. Gross earnings for seven months to Dec. 31, 1903, \$342,108.04, against \$266,421.42 for same period 1902.

**Victoria Terminal Ry. and Ferry Co.**—A. E. Henry, contractor, alleges that he bought a half interest in this company when it was being financed by the former agent of the Great Northern Ry. (U.S.), and is asking the courts at Vancouver to say that he is entitled to have that interest given him. A large share of the stock has been allotted to Mr. Henry, but the control is held by other interests.

**White Pass and Yukon Ry.**—Gross earnings for five months to Nov. 30, 1903, \$1,115,758; gross earnings for two weeks to Dec. 14, \$10,255.

A dividend of 2½% was declared for the half year, and paid on Jan. 9.

**Windsor, Essex and Lake Shore Rapid Ry.**—Application will be made at the current session of the Ontario Legislature for an act increasing the capital stock from \$500,000 to \$1,000,000, with power to make a further increase by vote of the shareholders under the terms of sub-sec. 6, sec. 6 of the Railway Act of Ontario.

In connection with the description of the new power house under construction at Fort William, Ont., published in our Jan. issue, we are advised that the boilers, which were supplied by Babcock and Wilcox (Ltd.), are good for a continuous working pressure of 160 lbs. to the square inch, and were tested to stand a pressure of 240 lbs. to the square inch.

**Railway Equipment Notes.**

The Hamilton Street Ry. has purchased two cars from a U.S. line.

The Cape Breton Electric Co. has received material for the completion of a number of additional cars for its lines.

The Michigan Central Rd. recently added to the equipment of its Canadian shops at St. Thomas, Ont., four hammers and one sensitive drill.

The Wabash Rd. has received one Atlantic type locomotive for its Canadian service, and two more are expected to be delivered shortly.

The G.T.R. will start in March to build 25 Richmond compound locomotives at its Point St. Charles shops, Montreal. They are to be completed by the end of June.

The Toronto Ry. Co. has, in accordance with the order of the courts, taken over 60 old trailers out of service, and will replace them with new cars as speedily as possible.

The cut of floor plan and view of smoking-room of a Canadian Northern Ry. car given in our Jan. issue were of a C.N.R. sleeping-car and not of a first-class car as stated.

The four locomotives completed for the Temiskaming and Northern Ontario Ry., by the Canadian Locomotive Co., Kingston, Ont., will remain at the works until spring.

The Canadian Locomotive Co., Kingston, Ont., has received an order for a 20-ton geared locomotive of the Heisler type, for May delivery, from the Johnson Co. of Thetford Mines, Que.

The G.T.R. between Dec. 18, 1903, and Jan. 25, added to its rolling stock 35 refrigerator cars built at its Point St. Charles shops, and two snow ploughs built at its Port Huron, Mich., shops.

A press report states that as soon as all arrangements are completed for going ahead with the construction of the G. T. Pacific Ry. the G.T.R. will begin the entire re-equipment of its line with rolling stock.

The Michigan Central Rd. added to the equipment on its Canadian division, during Dec., 20 merchandise cars, 35 ft. long, 80,000 lbs. capacity; 3 flat cars, 40 ft. long, 40,000 lbs. capacity, and 1 tank car.

A Winnipeg press report recently stated that several new sleeping cars had been ordered in the U.S. by the Canadian Northern Ry., but we were advised, Jan. 15, that no orders for rolling stock had been placed for some time.

The International Coal Co., Phoenix, B.C. has placed orders with the Westinghouse Co., Pittsburg, Pa., for electric locomotives and other electrical equipment for the mines to be opened up there. Delivery is to be made by March.

Rhodes, Curry and Co., Amherst, N.S., have recently completed a new building at their works. The ground floor will be utilized as general offices, and the upper floor as a draughting office in connection with the car works, etc.

The C.P.R. placed the following orders for equipment between Dec. 14, 1903, and Jan. 14: one first-class car and four baggage cars at its Hochelaga shops; 97 box cars, 60,000 lbs. capacity, 176 flat cars, at its Perth shops, and four vans at its Farnham shops.

The 216 box cars and 325 flat cars under construction at the C.P.R. Perth shops, are 30 tons capacity, and are equipped with Simplex body and track bolsters, Susemihl frictionless roller side bearings and Simplex brake beams. Delivery has been made of a number of these cars.

The number of locomotives turned out from the various shops in the U.S. during 1903 was 5,152, against 4,070 in 1902; and the output of railway cars during 1903 was 154,868 against 164,547 in 1902. These latter figures are exclusive of cars built at the shops of the various railway companies.

The Baldwin Locomotive Works has issued a descriptive catalogue dealing with light locomotives, both broad and narrow gauge, and giving a good deal of information about them, as well as a number of illustrations of various types which have been built at the works for logging, contracting, mining and other purposes.

The C.P.R. received the following equipment between Dec. 14, 1903, and Jan. 14: five freight locomotives from the Saxon Engine Works, Chemnitz, Germany; one freight locomotive from Great Britain; five first-class

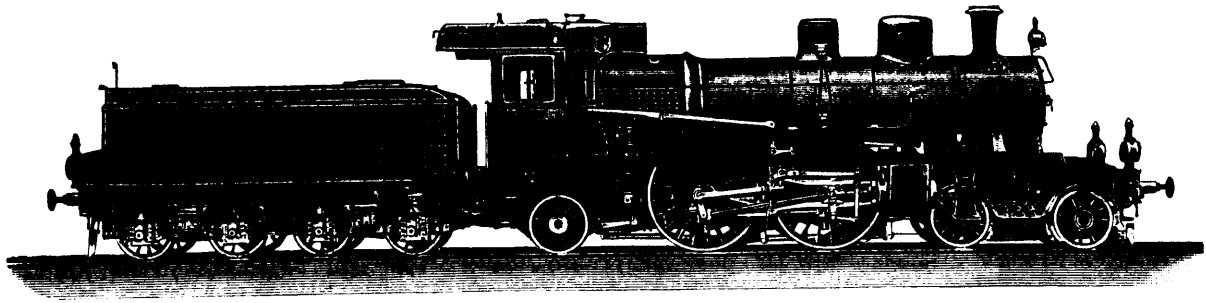
cars and two snow ploughs from its Hochelega shops; and 143 box cars, 60,000 lbs. capacity, from its Perth shops.

We have been advised from a source unconnected with the company that the Winnipeg, Selkirk and Lake Winnipeg Ry. received prior to Dec. 23, one small second-hand locomotive from the vicinity of New York, and some flat cars, but that no passenger coaches had been received. The President of the company says: "We do not propose making any statement in regard to rolling stock or locomotives, steam or electrical, until we know definitely our plans."

The Canada Brake and Supply Co. (Ltd.), has been incorporated under the Ontario Companies' Act, with a capital of \$60,000, and a head office in Toronto, to manufacture and deal in brakes and parts; to purchase the business of any manufacturer of brakes or

parts; and to hold stock in any company having similar objects. The provisional directors are: J. L. S. Miller, S. C. Smoke, of Toronto; J. L. Peacock, of Buffalo, N.Y.; W. H. Belson, C. R. Tryon, of Grenfell, Assa.

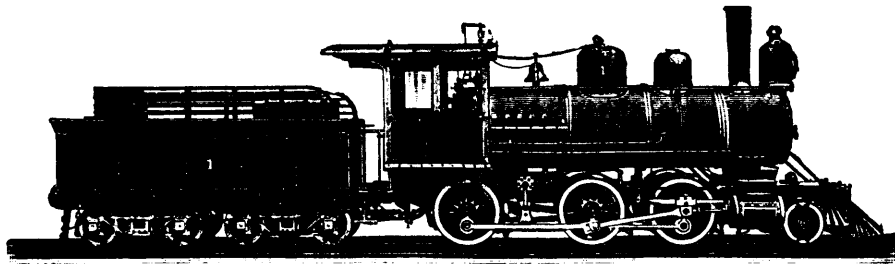
The C.P.R. has issued a circular stating that its locomotive and car shops, now in course of completion, located between Mile End and Hochelaga stations, Montreal, will be known as Angus shops. At present two of the passenger erecting shops and the cabinet shop, but it is not known when the other shops will be ready for occupation. From the three buildings now occupied, the car department expects to be able to turn out about 40 passenger equipment cars per month, these having received general repairs. The term general repairs includes all necessary work to both bodies and trucks, vestibules and platforms, and interior finish, the season's



## The Saxon Engine Works, late Rich. Hartmann, Limited CHEMNITZ (Germany),

Carry on the construction of **LOCOMOTIVES** of every description.

Number  
of  
Workmen,  
5,200.



Capital,  
\$3,000,000.

## Pintsch System Car and Buoy Lighting.

This Company controls in the United States and Canada the celebrated Pintsch System of Car and Buoy Lighting. It is economical, safe, efficient, and approved by the railway managers and Lighthouse Board of the United States, and has received the highest awards for excellence at the World's Expositions at Moscow, Vienna, St. Petersburg, London, Berlin, Paris, Chicago, Atlanta and Buffalo. 120,000 cars, 5,000 Locomotives and 1,700 Buoys are equipped with this light. 170 Railroads in the United States, Canada and Mexico have adopted this system of lighting, applied on over 20,000 cars.

## Car Heating.

This Company's Systems have been adopted by 130 of the principal Railroads of the United States and by the great Sleeping Car Company. They consist of The Steam Jacket System of hot water circulation, The Direct Steam Regulating System and Straight Steam (plain piping).

## Automatic Steam Couplers. Straight Port Type.

## THE SAFETY CAR HEATING and LIGHTING CO.,

General Offices: 160 Broadway, New York.

Branch Offices: Chicago, 1017 Monadnock Building - - - St. Louis, 1015 Missouri Trust Building  
Montreal, 67 Lusignan Street

work of painting and varnishing being done at the same time.

The new C.P.R. dining cars Chambord and Louvre recently placed in service are 72 ft. long over frame, and 79 ft. 8 in. long over wide vestibules, and were built in the U.S. The exterior finish is polished mahogany decorated in gold. The interior finish throughout being selected mahogany, panelled; the deck is Empire style, with deck sashes, and transoms glazed with cathedral glass. The five single and five double mahogany tables in the dining-room have a capacity for 30 passengers, the seating arrangement being leather upholstered chairs. The kitchen is entered by a door from the vestibule, and is separated from the remainder of car by a partition which forms part of the passengers' corridor. The kitchen refrigerator, wine and fruit lockers are also equipped with a system of refrigeration, and all the other equipment is equally up to date. For safety of passengers entering the car by the kitchen corridor, no platform trap door or steps are provided at that end of car, but passengers may either leave the train by the adjoining car or by the steps at the dining-room end.

Shay locomotive no. 1903 recently delivered to the C.P.R. is designed on practically the same lines as the former one, no. 111, an illustration of which appeared in our issue of Jan., 1901. This locomotive has a slightly increased co-efficient of adhesion and is designed, as was the other one, to pull heavy trains on steep grades and sharp curves. The engine is so built that the entire weight, including tender, is on the driving wheels. The trucks are centre-bearing-swivelling. The power from the vertical engines is transmitted to the driving wheels through a shaft with bevel gears; these engines, which are three in number, are fastened to the boiler on the right hand side of the locomotive, the cranks being set at an angle of 120 degrees, which renders it impossible for more than one pin to be on the centre. Following are the general dimensions:

Gauge	4 ft. 8½ in.
Fuel used	Bituminous coal
Aver. total weight in working order (about)	217,500 lbs.
Length of engine and tender over pilots	66 ft. 9-16 in.
Extreme height above rail	14 ft. 3 in.
Total wheel base of engine and tender	43 ft. 10 in.
Driving wheel, base	43 ft. 10 in.
Driving wheels (12)	40 in. in diam.
Journals	7 in. diam. x 8 in. long
Cylinders (3 in number)	15 in. x 17 in. stroke
Boiler, type of	Wagon top
Working pressure	190 lbs. per sq. in.
Material in barrel	Steel
Total heating surface	1,554 sq. ft.
Tube heating surface	1,407 sq. ft.
Fire-box heating surface	147 sq. ft.
Grate area	28.8 sq. ft.

Wheels, steel tyrod and steel gear rims attached having 41 teeth, 3¼ pitch; pinions on shafts are steel, and have 20 teeth. Tender capacity, coal, 7 tons; water, about 3,300 imperial gallons.

F. H. McGuigan, Manager, G.T.R., says that the press report that he stated that with the completion of the double-tracking along the line, a new fast service will be inaugurated between Montreal and Chicago, has no foundation, as he has not made any such statement.

The Montreal Street Ry. Co. operates its service along a number of the streets in Westmount, an adjoining municipality. Owing to the operations of a by-law restricting the speed of vehicles to eight miles an hour, and to four miles an hour at crossings, the company recently only ran the number of cars its franchise called for, and at a speed of about five miles an hour, stopping all other cars, which were marked "extras," at the boundary. A few days of this service led the council to call a special meeting to rescind the by-law, and to enact another one, fixing the maximum speed for vehicles in Westmount at 12½ miles an hour.

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

Gross earnings, working expenses, net profits, increases or decreases over 1902-03, from July 1, 1903:—

	Earnings.	Expenses.	Net Profits.	Increase or Decrease.
July	\$3,997,343.75	\$2,678,816.63	\$1,318,527.12	\$142,815.86+
Aug.	4,076,153.74	2,642,051.24	1,434,102.50	71,204.05+
Sept.	3,937,001.72	2,734,735.91	1,202,265.81	208,488.60-
Oct.	4,488,263.88	2,824,236.87	1,654,027.01	37,892.38+
Nov.	4,142,909.47	2,664,928.29	1,477,981.18	80,259.06-
	\$20,641,672.56	\$13,554,768.94	\$7,086,903.62	\$36,838.46-

Approximate earnings for Dec., \$4,221,000, against \$3,914,000 for Dec., 1902.

**DULUTH, SOUTH SHORE AND ATLANTIC RY.**—Gross earnings for Nov., \$189,343.44; net earnings, \$44,676.64, against \$197,174.15 gross and \$47,181.91 net for Nov., 1902. Net earnings for five months ended Nov. 30, \$409,001.89 against \$473,797.86 for same period, 1902. Approximate earnings for Dec., \$197,383, against \$202,265 for Dec., 1902.

**MINERAL RANGE RY.**—Approximate earnings for Dec., \$45,964, against \$44,790 for Dec., 1902.

**MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.**—Gross earnings for Nov., \$770,391.22; net earnings, \$445,723.48, against \$742,100.82 gross and \$425,376.42 net for Nov., 1902. Net earnings for five months \$1,900,738.36, against \$1,885,873.88, for same period, 1902. Approximate earnings for Dec., \$584,127, against \$478,471 for Dec., 1902.

**Canadian Pacific Railway Land Sales.**

	Acres.	1902	1903	Amount.	1902	1903
July	267,647.32	155,344.93	\$1,020,404.70	\$672,876.50		
Aug.	263,339.45	130,723.83	1,271,529.81	473,064.85		
Sept.	60,441.12	145,535.83	268,757.99	542,811.11		
Oct.	15,950.07	270,616.23	236,611.59	952,645.35		
Nov.	22,563.95	146,687.83	107,365.21	598,788.99		
Dec.	30,146.00	577,382.61	125,676.00	1,683,289.45		
	590,646.79	1,426,291.26	\$2,761,587.38	\$4,813,475.25		

**Grand Trunk Ry. Earnings, Expenses, &c**

The following statement of earnings, supplied from the Montreal office, includes the G. T. of Canada, the G. T. Western, and the Detroit, Grand Haven & Milwaukee Rys.

	1903.	1902.	Increase.	Decrease.
July	\$3,192,608	\$2,589,422	\$603,186	
Aug.	3,201,511	2,719,393	482,108	
Sept.	3,274,245	2,885,405	388,840	
Oct.	3,222,750	2,956,358	266,392	
Nov.	2,925,000	2,720,459	198,541	
Dec.	2,956,382	2,817,995	138,387	
	\$18,772,496	\$16,694,942	\$2,077,554	

The following figures have been issued from the London, Eng., office:

**GRAND TRUNK RY. CO.**

Revenue statement for Nov., 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£480,400	£457,600	£22,800	
Working expenses	326,200	299,000	27,200	
Net profit	£154,200	£158,600		£4,400

Aggregate from July 1 to Nov. 30, 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£2,628,800	£2,333,900	£294,900	
Working expenses	1,772,500	1,515,600	256,900	
Net profit	£856,300	£818,300	£38,000	

**GRAND TRUNK WESTERN RY. CO.**

Revenue statement for Nov., 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£100,400	£81,000	£19,400	
Working expenses	82,400	70,800	11,600	
Net profit	£18,000	£10,200	£7,800	

Aggregate from July 1 to Nov. 30, 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£500,800	£406,000	£94,800	
Working expenses	442,500	361,200	81,300	
Net profit	£58,300	£44,800	£13,500	

**DETROIT, GRAND HAVEN & MILWAUKEE RY. CO.**

Revenue statement for Nov., 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£20,200	£21,500		£1,300
Working expenses	17,000	17,000		
Net profit	£3,200	£4,500		£1,300

Aggregate from July 1 to Nov. 30, 1903:

	1903.	1902.	Increase.	Decrease.
Gross receipts	£119,600	£110,100	£9,500	
Working expenses	87,400	78,400	9,000	
Net profit	£32,200	£31,700	£500	

**TRAFFIC RECEIPTS OF THE SYSTEM.**

Aggregate from July 1 to Dec. 31, 1903:

	1903.	1902.	Increase.	Decrease.
Grand Trunk	£3,134,988	£2,805,937	£329,051	
G. T. Western	579,463	493,443	86,020	
D. G. H. & M.	142,911	131,087	11,824	
Total	£3,857,362	£3,430,467	£426,895	

The Intercolonial Ry. has issued its calendar for 1904. The design of the moose head, etc., is lithographed on a background of birch bark, an effective, though not as original a piece of work as the 1902 calendar.

The recent increase of wages granted to the maintenance of way men on the Intercolonial Ry. makes the minimum wage \$1.40 a day for trackmen and \$1.85 a day for foremen on ordinary sections; \$1.50 a day for men, and \$2 to \$2.25 a day for foremen in yard sections.

A contractor's train is being run three days a week from North Bay to the end of track on the Temiskaming and Northern Ontario Ry., Mondays, Wednesdays and Fridays, returning Tuesdays, Thursdays and Saturdays. The train carries passengers, mail, express and freight.

The British Columbia Legislature has passed an act providing for the taxation of the property of railway companies within the province. The C.P.R. protested against the passing of the act on the ground that the increased taxation proposed to be levied was mainly for the purpose of paying for the construction of the Fraser river bridge, built for the purpose of enabling certain U.S. lines to enter Vancouver.

The Canadian Inspection Co. (Ltd.) has been incorporated under the Dominion Companies' Act, for the purpose of inspecting railway, bridge and structural materials, and the inspection of bridges, buildings and other structures, etc. The capital is placed at \$10,000, and the offices are to be in Montreal. The incorporators are: T. S. Griffiths, inspecting engineer, Montreal; A. A. Wighton, mechanical engineer, Toronto; L. J. Street, P. C. Ryan and F. A. C. Bickerdike, Montreal.

The Court of Appeal at Montreal has affirmed the judgment giving the Chateaugay and Northern Ry. \$500 damages against the Montreal Park and Island Ry., and directing the restoration to its original condition of the road between Maisonneuve and Longue Pointe. The two companies came to an agreement some time ago respecting the areas within which they should construct lines, and the courts have decided that the M.P. and I. Ry. Co. broke this agreement by starting work on a line at the point in question.

In connection with the completion of the Chateaugay and Northern Ry. from Montreal to Joliette, R. Hampson obtained an injunction against its operation over the piece of land, near Longue Pointe, which he sold for a right of way. There was a clause in the transfer specifying that electric power was to be used, but the line had been constructed as a steam road. After argument and the Great Northern Ry., which is operating the line, depositing \$6,000 in respect of damages, etc., the injunction was dissolved, and a regular train service placed in operation Jan. 11.

**C.P.R. Western Lines Circulars.**

W. Whyte, Second Vice-President, has issued the following circulars to all employes:

"Passenger trains have been making very poor time, much to the annoyance and discomfort of the travelling community. I know nothing more annoying to passengers than having to wait at stations for late trains. The road has earned a very unenviable reputation for the running of its passenger trains. Trains must be got away from terminals on time, and every effort put forth to keep them on time. Conductors should make their stops at stations as short as possible, and engineers should be prompt in taking and acting on the 'starting signal.' A uniform speed should be kept up so that a train will arrive at every station on time and not simply arrive at terminals on time. Every detention should be reported by conductors and engineers on the forms provided for that purpose. Agents should give their first attention to passenger trains and see that everything is all right for passenger trains to enter their stations with absolute safety and promptness and all work in connection with passenger trains at their station promptly attended to. I ask all concerned for their hearty co-operation in bringing about a marked improvement in the running of passenger trains."

"It has come to my notice that a very great amount of money has been expended by this Company within the last couple of months caused through apparently rough switching in trains, but more particularly in our large yards. I wish all employes to immediately give their practical assistance in preventing breakages of couplers and draft gearing and other damages that occur to cars in being shunted. Please bear in mind that I wish all train and yard men to use the greatest promptness in switching or other work in yards, but I must ask them to use a great amount of care and judgment also."

"I have grave reasons for calling the individual attention of every employe to the liquor habit, and I must call your particular attention to rule G in book of general rules approved by the Governor-General in Council. Two employes have recently been arrested for being under the influence of liquor while in charge of a train—in one case a serious accident occurred—one of them received six months' imprisonment with hard labor, and the other four months. I must insist that every employe refrain from the use of liquor while on duty and it will be to their advantage, no matter what their occupation may be, to abstain from its use off duty. Its use, to say nothing of the risks of lives of the public, the Company's employes, and the destruction of property, has had a bad action on the character of the individual and too often to the distress of relatives and families. I desire one and all to immediately consider the above, and I appeal to all employes to further the carrying out of my desires in this respect."

Deposits of gold, silver and copper have been discovered at Cheticamp, N.S., on the route of the projected extension of the Inverness Coal and Ry. Co.'s line, now in operation from Point Tupper to Inverness, formerly known as Broad Cove.

W. H. Aldrich, of Trail, B.C., who has charge of the mining and metallurgical work of the C.P.R., recently stated in Montreal that the semi-anthracite mine which the company is opening up near Banff, will at the outset have an output of from 15,000 to 20,000 tons a month.

W. Jessop and Son (Ltd.), Sheffield, Eng., are contemplating the establishment of a steel plant in Canada. C. L. Bailey, of Toronto, the Canadian manager, recently visited England, and it is expected that an official of the company will come to Canada in the spring to decide on the location of the works.

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**BARB WIRE, PLAIN TWIST, PLAIN GALV'D WIRE**

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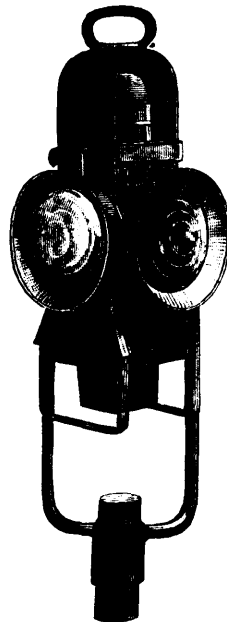
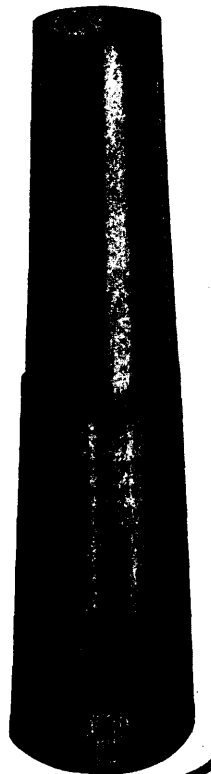
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Bright and Galvanized Fence Staples.**

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A post card will bring to you our No. 30 Catalogue of Railway Signals and Supplies.

**Railway Track Laid in 1903.**

On Dec. 31 we issued a circular to all steam and electric railways in Canada asking particulars of track laid during that year. Below is a compilation of the figures received in reply. Some of the lines on which track has been laid have not replied, and the figures given are approximate and subject to revision, particularly in the case of the Canadian Northern Ry., where tracklaying on the Prince Albert extension is to be gone on with whenever possible through the winter. In the case of the Bay of Quinte Ry. the six miles from Deseronto to Napanee was reported, but this mileage was laid, but not operated in 1902; while the New Brunswick Coal and Ry. Co. reported 15.00 miles as having been laid between Chipman and Minto, of which distance we had information that 5.20 were laid in 1902. The figures for several of the electric railways are also given approximately, and the table below does not include the Preston and Berlin Ry., reported this year, but which was included in the returns for 1902.

The total amount of track laid in 1903, actually reported and approximated, is steam railways, 742.31 miles; electric railways, 61.264 miles; total, 803.574 miles. The greatest length of track was laid by the Canadian Northern Ry. Co., 367.50 miles, the C.P.R. being second with 96.50 miles. If the mileage laid on all the lines in which Mackenzie, Mann & Co. are interested were added together it would give a total mileage of 407.34 laid in 1903; and the addition of the mileage laid on the Ottawa, Northern and Western Ry. to the C.P.R. total would bring the total of new track laid on its lines to 125.50 miles. New track was laid on 21 different lines of steam railway.

**STEAM RAILWAYS.**

	Miles.	Miles.
BAY QUINTE RY.—From Tweed to Ban-		
nockburn, Ont.	20.00	
BEERSVILLE COAL AND RY. CO.—From		
Adamsville to Beersville, N.B. (approx-	7.00	
imate)		
CANADIAN NORTHERN RY.—(Approx-		
imate) Oak Point branch, from Winnipeg	53.00	
to Oak Point, Man.		
Wakopa branch, from Greenway to	40.00	
Carberry, Man.		
Carberry extension, from Carberry to	18.00	
Hummerston, Man.		
Rosendall extension, from Portage la	35.00	
Prairie to Arizona, Man.		
McCreary branch, from track end, 1902,	20.20	
to McCreary, Man.		
Rosburn branch, from track end, 1902,	6.90	
to Clanwilliam, Man.		
Grand View extension, from Grand	93.00	
View, Man., to track end		
Prince Albert extension, from track end,	101.40	
near Erwood, Sask., to Melfort, Sask.		
		367.50
CANADIAN PACIFIC RY.—Montreal and		
Western Ry., from near Labelle to Nom-	23.50	
iningue, Que.		
Pheasant Hills branch, from Newdorf	20.00	
to Esterhazy, Assa.		
Arcola branch, from Regina to Creel-	41.00	
man, Assa.		
Manitoba and Northwestern Ry., from	12.00	
track end 1902, to Sheo, Assa.		
		96.50
CAPE BRETON RY.—From Sporting		
Mountain to St. Peters, N.S. (approx-	6.00	
imate)		
CHATHAUGUAY AND NORTHERN RY.—		
Montreal to Joliette, Que.	36.20	
DRUMMOND COLLIERY RY.—From Gran-		
ton Jct. to Abercrombie pier, N.S.	2.75	
GRAND TRUNK RY.—Lynden to Brant-		
ford, Ont.	4.12	
HALIFAX AND SOUTHWESTERN RY.—		
From Mahone Bay easterly towards Hal-	9.59	
ifax, N.S.		
From New Germany to Caledonia under		
charter of old N.S. Southern Ry.,	21.15	
branch of old Central Ry.		
		30.74
INTERCOLONIAL RY.—Riviere Ouelle to		
St. Denis Wharf, Que.	6.25	
KLONDIKE MINES RY.—From Klondike		
City to the mouth of Bonanza Creek,	0.50	
Yukon Terr.		
MABOU AND GULF RY.—(Approximate).		
From Coal Mines to Mabou Harbor pier,	4.50	
N.S.		
From shipping pier to Inverness Ry.		
and Coal Co.'s line, N.S.	3.50	
From junction of Intercolonial Ry. and		

Inverness Ry. and Coal Co.'s line, near	5.00	
Hawkesbury to Port Malcolm		13.00
NEW BRUNSWICK COAL AND RY. CO.—		
From track end, 1902, to Minto	7.30	
From Minto to end of track	2.50	
		9.80
NORTH SHORE RY., POWER AND NAVI-		
GATION CO.—From track end, 1902, to St.		
Marguerite river falls, Que.	3.00	
OTTAWA, NORTHERN AND WESTERN RY.		
—(Approximate) from Gracefield to Mani-		
waki, Que.	23.00	
POINT ANN RY.—From Belleville to		
Point Ann, Ont.	3.50	
PRINCE EDWARD ISLAND RY.—From		
Montague Cross to Southport, P.E.I.	22.00	
QUEBEC AND LAKE ST. JOHN RY.—St.		
Gabriel, 22 miles from Quebec, towards		
Gosford, Que.	0.25	
ST. MARY'S RIVER RY.—From Spring		
Coulee to St. Mary's river, Alta.	13.00	
TEMISKAMING AND NORTHERN ONTARIO		
RY.—From North Bay to Redwater Lake	57.00	
VICTORIA TERMINAL RY. AND FERRY CO.		
—From Port Guichon to Cloverdale, B.C.	17.20	

The C.P.R. has graded and ready for track-laying 190 miles, distributed as follows:

	Miles.
Pheasant Hills branch, from Esterhazy to Hay-	84
wood	
Pipestone branch, from Creelman to Arcola	72
Manitoba and Northwestern Ry. from Sheho	
to mileage 76	34
	190

The Canadian Northern Ry. has nearly 300 miles graded on various sections of its lines in Manitoba and the Northwest Territories; the Lindsay, Bobcaygeon and Pontypool Ry. has 38.78 miles graded and ready for tracklaying; whilst about 20 miles are also graded on the Temiskaming and Northern Ontario Ry., and a considerable mileage on the Halifax and Southwestern Ry. in Nova Scotia. There is therefore nearly 600 miles of track graded and ready for tracklaying in the spring. It is not likely that track will be laid on all of this this year, as particularly on the Canadian Northern Ry. Grand View extension the grading has been done at different points, and needs connecting up. The G.T.R. completed its double tracking between Toronto and Montreal, and has in progress other double track work between London and Sarnia tunnel, while the C.P.R. has done a large amount of grade reduction and taking out curvature on its lines west of Fort William.

The statement of track laid does not include second track or sidings.

**ELECTRIC RAILWAYS.**

	Miles.	Miles.
CAPE BRETON ELECTRIC CO.—In Syd-		
ney, N.S. (approximate)	3.00	
GRAND VALLEY RY.—From Paris to St.		
George, Ont. (approximate)	10.00	
LEVIS COUNTY RY.—From Levis to St.		
Joseph	1.25	
From Levis to St. Romuald	5.75	
In Levis, Que.	0.25	
		7.25
MONTREAL STREET RY. CO.—Various		
extensions	1.76	
ST. JOHN RY.—From Suspension Bridge		
to city line, Carleton, N.B.	1.00	
SANDWICH, WINDSOR AND AMHERST-		
BURG STREET RY.—From Ojibwa to	12.00	
Amherstburg, Ont.		
SYDNEY AND GLACE BAY RY.—Addi-		
tions to line (approximate)	1.00	
TORONTO RY.—Various extensions	3.254	
WINNIPEG ELECTRIC STREET RY.—		
From Sherbrooke st. to St. James	1.50	
From Norwood bridge to St. Boniface	1.50	
		3.00
WINNIPEG, SELKIRK AND LAKE WINNI-		
PEG RY.—From Winnipeg city boundary		
to Selkirk, Man. (approximate)	19.00	

**SUMMARY BY PROVINCES.**

	Steam.	Electric.
Northwest Territories	240.40	
Manitoba	213.10	22.00
Quebec	92.20	7.25
Ontario	86.62	25.254
Nova Scotia	52.49	4.00
Prince Edward Island	23.00	
British Columbia	17.20	
New Brunswick	16.80	1.00
Yukon	0.50	
	742.31	61.264

Total new tracks laid, steam and electric. 803.574

**MAINLY ABOUT PEOPLE.**

A. G. Else, G.T.R. foreman, St. Thomas, Ont., died there recently, aged 61.

Robert Kay, formerly assistant cashier, C.P.R., at Winnipeg, died there Jan. 12.

W. H. Hume, who has been G.T.R. station agent at Paris, Ont., for 27 years, resigned recently.

E. T. Trites, Paymaster, Intercolonial Ry., died suddenly at Moncton, N.B., Jan. 12, aged 59.

Capt. C. S. Taylor, harbor master of St. John, N.B., for over 30 years, died there Jan. 12, aged 71.

G. H. Massey, Chief Engineer Reid Newfoundland Co., St. John's, Nfld., is spending the winter in Montreal.

F. Grundy, General Manager Quebec Central Ry., has been elected a director of the Eastern Townships Bank.

Mrs. Forbes, wife of J. J. Forbes, I.C.R. baggage master, St. John, N.B., died there Jan. 5, after a long illness.

J. Clancy, who died in Toronto recently, was father of W. H. Clancy, G.T.R. ticket agent, St. James st., Montreal.

J. Devine, assistant to the Superintendent, G.T.R., Northern Division, Allandale, Ont., is absent from duty on sick leave.

G. A. Cox, ship owner, Shelburne, N.S., has been elected a member of the local Legislature for the Shelburne division.

Capt. G. H. Matthews, for a number of years President of the Sincennes-McNaughton Line, died at Montreal Jan. 13.

J. E. R. Ryan, chief train dispatcher C.P.R. at Broadview, Man., was recently married at North Bay, Ont., to Miss I. M. Connelly.

Jos. Gantner, night yardmaster G.T.R. and Wabash Rd. at St. Thomas, Ont., was run over and killed in the yards there Jan. 10.

W. F. Egg, city passenger agent C.P.R., Montreal, resumed duty Jan. 2, after having been absent for some months owing to ill-health.

W. B. Bulling, Assistant Freight Traffic Manager C.P.R., Toronto, sailed from St. John, N.B., Jan. 23, for England, on a holiday trip.

Miss M. Hanley, sister of J. P. Hanley, G.T.R. ticket agent, Kingston, Ont., was married there Jan. 4 to A. Neish, Ph.D., of New York.

A. T. Le Blanc, Travelling Agent, I.C.R., slipped when getting off a train at Levis, Que., recently, and fell, breaking his leg in two places.

Mrs. Mackenzie, who died in Toronto Jan. 18, was the widow of the late C. M. R. Mackenzie, Superintendent of the Shelden Forwarding Co.

H. Munsie, who was in the accountants' department G.T.R., Hamilton, Ont., and who moved to New York about 20 years ago, died there recently.

Sir Thos. Shaughnessy is an excellent speaker, something that the men of large executive capacity not always or even often are.—Toronto Globe.

D. P. Marpole, son of R. Marpole, General Superintendent C.P.R., Pacific division, was married to Miss C. A. Newland, of Savonas, B.C., Jan. 11.

Thos. Patterson, who died suddenly in Hamilton recently, was father of John Patterson, of the Hamilton Cataract Power, Light and Traction Co.

E. G. Russell, formerly General Manager of the Intercolonial Ry., and who has since been residing in Buffalo, N.Y., went to Port Simpson, B.C., Jan. 12.



W. Mackenzie, President, and Z. A. Lash, K.C., chief solicitor Canadian Northern Ry., have gone to London, Eng., on business connected with the railway.

V. Pelletier, Intercolonial Passenger Agent, Quebec, had a narrow escape from being killed while engaged in stopping a runaway horse in the street Jan. 4.

J. Brignell, Superintendent of the Halifax and Southwestern Ry., Bridgewater, N.S., was absent from duty for some time early in Jan. on account of illness.

F. W. Egan, General Manager Fort Worth and Denver City Rd., Fort Worth, Tex., and formerly Assistant Superintendent G.T.R. London, Ont., has resigned.

Miss McMicken, daughter of H. G. McMicken, European Traffic Agent Great Northern Ry., U.S.A., at London, Eng., is visiting friends in Winnipeg.

H. Folger, President Thousand Islands Steamboat Co., was taken suddenly ill in a Kingston hotel recently, and was under medical care there for some days.

G. H. Hoover, for many years connected with the New York Central Rd., at East Buf-

falo, N.Y., and at one time with the G.T.R. in Buffalo, died there recently.

H. C. King, of the G.T.R. freight offices, Sherbrooke, Que., was presented with a silver tea and coffee service by the staff on the occasion of his recent marriage.

Thos. Nixon, of Winnipeg, who was right of way agent for the C.P.R. from 1878 to 1902, died at Fort Dodge, Iowa, Jan. 4, where he had gone on a visit to a son.

G. C. Creelman, who has been appointed President of the Ontario Agricultural College, Guelph, Ont., is a brother of A. R. Creelman, K.C., Chief Solicitor to the C.P.R.

G. W. Mitchell, who recently resigned his position as Purchasing Agent Great Northern Ry. of Canada at Quebec, will engage in commercial pursuits at Halifax, N.S.

H. M. Bolger, Secretary of the Richelieu and Ontario Navigation Co., recently returned to Montreal, after a lengthened trip to Tennessee and other southern States.

Miss A. Radcliffe, sister of J. H. Radcliffe, C.P.R. ticket agent Union Station, Toronto, was one of the victims at the burning of the Iroquois theatre, Chicago, Ill., Dec. 30.

Thos. Treleven, Master Car Builder, G.T.R., London, Ont., underwent a serious operation in the London General Hospital, Jan. 9, but is reported to be recovering.

Lady Shaughnessy and Miss Shaughnessy recently sailed from Boston, Mass., for a cruise to the Mediterranean. They will be absent from Montreal about three months.

H. Sutherland, Executive Agent Canadian Northern Ry. at Winnipeg, is one of the provisional directors of the Gunn Stone and Sand Co. (Ltd.), recently incorporated in Winnipeg.

B. H. Turner, C.P.R. ticket agent, Little Current, Manitoulin island, has been selected as the Liberal-Conservative candidate for East Algoma at the next Dominion elections.

E. H. McHenry, Chief Engineer C.P.R., has been appointed to represent that company in connection with the establishment of a railway department at McGill University, Montreal.

J. Charlton, M.P., President Tillsonburg, Lake Erie and Pacific Ry., has been ill for some time at his home, Lynedoch, Ont. He is suffering from aphasia, brought on by overwork.

THE

## INTERCOLONIAL RAILWAY

Calendar for February says:

**"True courtesy is greatly to be desired, therefore be courteous."—ANON.**

The courtesy experienced on Intercolonial trains meets with frequent and favorable comment. On the Maritime Express, running between Montreal, Quebec, St. John, Halifax and the Sydneys, with its commodious sleeping cars and excellent dining car service, the passenger is brought into contact with the most courteous of railway employes.

## INTERCOLONIAL RAILWAY

**FAST  
FREIGHT VIA  
TRAINS**



RUNNING DAILY BETWEEN

**MONTREAL, QUEBEC, ST. JOHN,  
HALIFAX and the SYDNEYS**

Give every satisfaction to shippers

# Drummond, McCall & Co.

IRON, STEEL AND METAL MERCHANTS

Branch Office: TORONTO

Montreal

## STEEL RAILS

**Prompt Shipment** from stock of 60 lb. and 80 lb. A. S. C. E. Standard Sections, the product of **The Algoma Steel Co.**, of Sault Ste Marie, Ont.

**For Import:**—English Rails, "Barrow" brand, all standard sections; also rails of best German manufacture.

IMPORTERS OF

**Beams, Channels, Angles, Steel Plates,  
Mild Steel Bars, Cold Rolled Steel  
Shafting, Wire Rope, Tool Steel, Etc.**

**COMPLETE STOCK  
KEPT IN MONTREAL.**

The Montreal Street Ry. Co.'s directors at a recent meeting passed a resolution expressing regret at the death of John McDonald, who had been auditor for the company for 30 years.

E. de la Hooke, city ticket agent, G.T.R., London, Ont., and Secretary-Treasurer of the Canadian Ticket Agents' Association, completed 40 years' service with the G.T.R. on Jan. 11.

Miss Mary Van Horne, sister of Sir Wm. Van Horne, Chairman of the C.P.R. Board, died at her brother's residence, Sherbrooke st., Montreal, Jan. 17, and was buried at Joliette, Ill.

J. P. Dutton, who retired from railway service in Sept., 1903, after 50 years' service, for the last 10 of which he was Purchasing Agent of the Michigan Central Rd., died at Detroit, Mich., Jan. 12.

The engagement is announced of Miss Evans, daughter of A. E. Evans, General Manager Quebec Ry., Light and Power Co., to E. Blair, Assistant Superintendent Montreal Street Ry.

J. Campbell, M.A., one of the professors of Victoria College, Toronto, who died there recently, was father of J. M. Campbell, General Advertising Manager of the Chicago and Rock Island Ry., Chicago.

A. E. Trites, railway contractor, Salisbury, N.B., and his son, were driving on the ice on the Petitcodiac river recently when the sleigh went through, and the occupants had a narrow escape from drowning.

J. A. Muir, formerly Superintendent Western division, Southern Pacific Ry., and latterly General Manager of the Los Angeles electric railway system, a native of Truro, N.S., died at Los Angeles, Cal., Jan. 4.

R. Bamforth, C.P.R. bridge and building foreman, Carleton Place, Ont., dropped dead on a handcar near Aylmer, while returning there after inspecting some bridges on the Waltham section of the line, Jan. 16.

Geo. Bazzard, heretofore Canadian agent Delaware, Lackawanna and Western Rd., was presented with a purse of gold by the railway men of Toronto, Dec. 31, on the occasion of his retiring from active service.

Jas. Manson, recently Superintendent district 1, Ontario Division C.P.R., Toronto, who had just returned from a visit to England, was taken to the Montreal general hospital, Jan. 22, suffering from an apoplectic seizure.

Jas. Currie, cashier, was presented with a purse of money by the employes of the London Street Ry., on leaving the company's service to take the position of Secretary-Treasurer of the Eastern Ohio Traction Co., Akron, Ohio.

J. W. Fontaine, accountant C.P.R. stores department, was presented with a silver tea set by the staff, and with a cheque by the members of the Montagnard Bicycle Club, of which he was president, on the occasion of his marriage.

W. W. Colpitts, who was engaged on the C.P.R. engineering staff up to 1901, has been appointed Assistant Chief Engineer of the Kansas City, Mexico & Orient Ry., Kansas City, Mo., having previously been Assistant to the Chief Engineer.

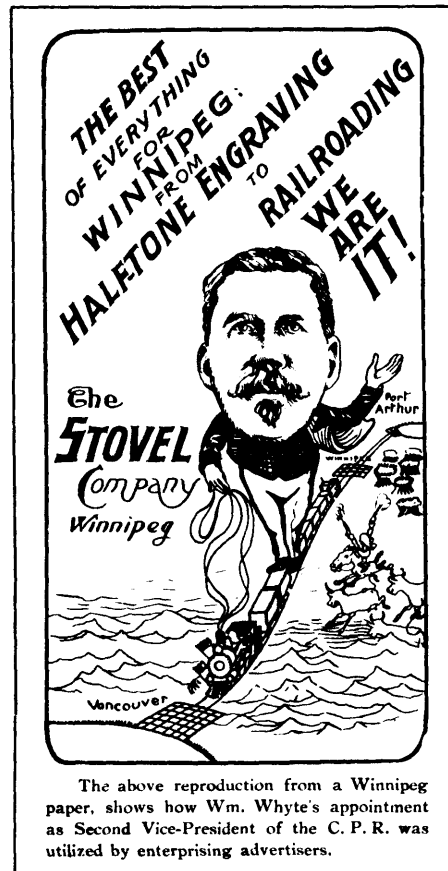
W. F. Buck, formerly an employe in the I.C.R. shops at Moncton, N.B., and recently Master Mechanic, Rocky Mountain division, Northern Pacific Rd., Missoula, was presented with a diamond ring by the employes, on the occasion of his leaving for California.

M. J. Haney, contractor, and President of the Locomotive and Machine Co. of Montreal, was taken ill in Ottawa early in Dec. with pneumonia, and was removed to his home in Toronto, where he has been in a very critical state. On Jan. 21 we were advised that he was considered out of danger.

J. W. Leonard, who recently resigned his position as Assistant General Manager C.P.R. lines west of Fort William, at Winnipeg, states that he intends taking a rest for a time, and denies the report that he has obtained an appointment either in Australia or with a line in the U.S.

Hon. A. G. Blair, who has been appointed Chairman of the Railway Commission, has resigned his seat in the Dominion Parliament as member for St. John, N.B. He has recently been visiting various points in the U.S., obtaining information as to the working of similar bodies to the commission there.

F. L. Wanklyn was entertained at dinner at the Mount Royal Club, Montreal, by a number of members, and was presented with a clock by the staff of the Montreal Street Ry., on resigning the office of Vice-President and General Manager, to become Vice-President of the Dominion Coal Co., Glace Bay, N.S.



The above reproduction from a Winnipeg paper, shows how Wm. Whyte's appointment as Second Vice-President of the C.P.R. was utilized by enterprising advertisers.

Capt. Roberts, of the str. Clallam, which sunk in Puget Sound while on a trip from Victoria, B.C., to Seattle, Wash., is being proceeded against for manslaughter; the evidence given at the inquest, the Government alleges, shows criminal negligence on the part of the captain and others of the officers and crew.

D. Williard, who has been elected 2nd Vice-President Chicago, Burlington and Quincy Rd., began his railway career as a track laborer on the Central Vermont Rd. in 1879, and from 1884 to 1889 was with the Minneapolis, St. Paul and Sault Ste. Marie Rd., starting as a brakeman and rising to be Superintendent.

The Executive Committee of the Canadian Railway Club entertained the President, E. A. Williams, ex-Superintendent of Rolling Stock, C.P.R., at dinner on Dec. 30, on the occasion of his leaving Montreal. On the same evening the employes of the locomotive and car departments, C.P.R., presented Mr. Williams with a silver service.

L. McLean, who has been appointed Superintendent Sydney and Louisburg Ry. at Glace Bay, N.S., was born there Dec. 10, 1867, and entered railway service 1882, his record being: Jan., 1882, to May, 1887, brakeman; May, 1887, to Oct., 1903, conductor; Oct., 1903, to Jan., 1904, Superintendent, entire service with the Sydney and Louisburg Ry.

R. A. Burford, who has been appointed City Passenger and Freight Agent C.P.R., at Buffalo, N.Y., succeeding A. J. Shulman, was born in Brooklyn, N.Y., Oct. 4, 1878, and entered railway service July, 1901, having previously been with an export house. His record has been: July, 1901, to Jan., 1902, clerk C.P.R. immigration department, at 1 Broadway, New York; Jan., 1902, to Dec. 1, 1903, ticket agent C.P.R. at 1 Broadway, New York.

Thos. Downie, who was recently appointed Trainmaster C.P.R. at Revelstoke, B.C., was born in Ireland April 30, 1859, and entered railway service in 1873, his record being: July, 1873, to April, 1885, apprentice operator and train dispatcher Northern Ry. of Canada at Toronto; Aug., 1885, to May, 1886, train dispatcher C.P.R. successively at Chapeau, Heron Bay and Schriber; May, 1886, to Nov. 30, 1903, chief train dispatcher successively at Donald and Revelstoke, B.C.

John Fleming, I.C.R. station agent at Newcastle, N.B., since the station was first opened about 20 years ago, died there suddenly recently, aged 52. He was born in St. John, N.B., and entered railway service with the old European and American Ry. about 30 years ago. P. R. Fleming, Freight and Passenger Agent Western Steam Navigation Co. Vancouver, B.C., is a son; H. B. Fleming, chief train dispatcher I.C.R. at Moncton, N.B., a brother, and Mrs. Price, wife of J. E. Price, General Superintendent I.C.R. at Moncton, N.B., a sister.

A. D. Huff, who has been appointed commercial agent, G.T.R., at Pittsburg, Pa., was born at Chatham, Ont., July 17, 1866, and entered railway service 1884, since which his record has been: 1884 to 1886, spare operator and clerk with G.N.W. Telegraph Co., and G.T.R.; 1886 to 1893, in various capacities G.T.R. freight department, London, Ont.; 1893 to 1897, contracting freight agent, G.T.R., London; 1897 to 1902, Travelling Freight Agent, Middle Division G.T.R., at Hamilton, Ont.; July, 1902, to Jan., 1903, chief clerk to Division Freight Agent, G.T.R. at Detroit, Mich.

W. Cross, who has been appointed Assistant to the Second Vice-President C.P.R., with general supervision of mechanical matters on western lines, was born at Birkenhead, Eng., 1842. He entered Canadian railway service in 1863, since which he has been consecutively to 1882 journeyman and foreman erecting shops at Montreal, G.T.R.; 1882 to 1887, Master Mechanic C.P.R. eastern division; 1887 to Mar., 1900, Master Mechanic western division, same road; April, 1900, to Oct., 1901, Consulting Mechanical Engineer western division, same road; Oct., 1901, to Jan., 1903, Engineer of tests, same road, Montreal.

E. A. James, who has been appointed Manager Canadian Northern Ry., was born in London, Eng., 1865, and entered railway service on the C.P.R. in 1881 as operator at Winnipeg Jct., since which his record has been: 1882 to 1884, operator at Winnipeg; 1884 to 1892, train dispatcher at Winnipeg; 1892 to 1897, Chief Train Dispatcher at Winnipeg; 1897 to 1901, Superintendent, Brandon section, Manitoba branch lines and Winnipeg terminals; 1901, to Oct., 1902, Superintendent of Transportation for the Western division, all this service with C.P.R.; Oct., 1902, to Jan., 1904, General Superintendent Canadian Northern Ry. at Winnipeg.



W. J. Hunter, who has been appointed Commercial Agent G.T.R., at Winnipeg, was born at Toronto, Jan. 10, 1864, and entered railway service 1877, his record being: 1877 to 1881 clerk in office of Assistant General Freight and Passenger Agent, G.T.R., at Detroit, Mich.; 1881 to 1886, clerk in office of General Manager Great Eastern Line, Boston, Mass.; 1886 to 1896, soliciting freight agent, Great Eastern Line, Boston; 1896 to 1898, Travelling Freight Agent, G.T.R., at Battle Creek, Mich.; 1898 to 1899, General Southern Travelling Agent, G.T.R., at Detroit; 1899 to 1901, New York State Agent, G.T.R., at Buffalo, N.Y.; 1901, to Jan. 1904, Commercial Agent, G.T.R., at Pittsburgh, Pa.

J. F. Chapman, who has been appointed General Freight and Passenger Agent, Bay of Quinte Ry., etc., was born at Frankford, Ont., Aug. 25, 1863, and entered railway service in 1879, when he went into the office of the Central Ontario Ry. at Trenton, being appointed station agent at Frankford when the line was opened there the same year, and opening the several stations as the line was continued northerly to Coe Hill, where he remained until 1886. His subsequent record follows: 1886 to 1889, chief clerk Bay of Quinte Ry. at Deseronto; 1889 to Aug., 1890, similar position Thousand Islands Ry.; Aug., 1890, to Jan., 1895, Superintendent Thousand Islands Ry.; Jan., 1895, to Jan., 1903, Assistant General Freight and Passenger Agent Bay of Quinte Ry., Thousand Islands Ry., and Deseronto Navigation Co.

Hon. H. R. Emmerson, who has been appointed Minister of Railways and Canals in succession to Hon. A. G. Blair, and whose portrait appears on the first page of this issue, was born at Maugerville, N.B., Sept. 25, 1853, and received his education in Nova Scotia and Boston, Mass. He studied law at Dorchester, N.B., and obtained the LL.B. degree at the Boston University law school. He commenced to practise at Dorchester in 1877, and was made Q.C. in 1899. In 1888 he was elected a member of the New Brunswick Legislative Assembly, and was appointed President of the Executive Council in 1891, and in the following year Chief Commissioner of Public Works, and after being out of politics for some time became Premier in 1897, retiring in Sept., 1901, when he was elected to the Dominion House of Commons.

J. W. McGeary, who for a number of years had charge of the New England and Canadian field for the Galena-Signal Oil Co., Franklin, Pa., died rather suddenly recently at Burlington, Vt., where he had resided since 1892. Born in 1854, he was engaged for some time as a mechanic on the old Cheshire Rd., at Keene, N.H., subsequently dealing in tan bark, and in 1881 entered the employ of the Vacuum Oil Co. as salesman, remaining with the Galena Oil Co. when that Co. took over the railway business of the Vacuum Oil Co. His funeral was attended by railway men from Canadian and New England points. Among the honorary pall-bearers were: E. J. Chamberlin, General Manager; J. W. Smith, General Purchasing Agent, Canada Atlantic Ry., Ottawa; W. H. Kelson, General Storekeeper, C.P.R., Montreal and S. A. Megeath, Vice-President Galena-Signal Oil Co., Franklin, Pa. In addition among those present at the funeral were: A. Lichtenhein, Galena-Signal Oil Co., New York; C. W. Spencer, Superintendent of Transportation, C.P.R. Eastern lines; W. H. Chaffee, clerk and Treasurer; W. E. Mullins, Superintendent of Transportation; J. E. Dalrymple, General Freight Agent; J. B. Laurie, General Purchasing Agent; Jas. Colman, Master Car Builder, Central Vermont Ry., St. Albans; T. A. Summerskill, ex-Superintendent of Motive Power, Central Vermont Ry., St. Albans.

# CANADIAN NORTHERN RAILWAY

THE NEW CANADIAN HIGHWAY FROM PORT ARTHUR, THE HEAD OF LAKE SUPERIOR, TO—

**FORT FRANCES  
WINNIPEG  
PORTAGE LA PRAIRIE  
BRANDON**

**MORRIS  
EMERSON  
CARMAN  
HARTNEY**

**GLADSTONE  
NEEPAWA  
DAUPHIN  
SWAN RIVER**

Line surveyed and now under construction to:—

**PRINCE ALBERT      BATTLEFORD      EDMONTON**

**FREIGHT:**—Shipments are handled from points in Eastern Canada, either Grand Trunk or Canadian Pacific Railways, via North Bay to Port Arthur, thence Canadian Northern Railway.

**PASSENGER:**—Passengers destined to points on the Canadian Northern Railway north, south and west of Winnipeg, can purchase through tickets via Chicago and St. Paul, where connection is made with the Canadian Northern Flyer for Winnipeg via Great Northern Railway, also with Northern Pacific Railway.

Freight Rates, Folders and other Information furnished on application to:—

**R. H. BELL**, T. F. & P. A., Board of Trade,  
MONTREAL, QUE.

**WM. PHILLIPS**, G. E. A.,  
TORONTO, ONT.

**GEO. H. SHAW**, Traffic Manager,  
WINNIPEG, MAN.

## The N. L. Piper Railway Supply Co.

314 FRONT ST. WEST

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TORONTO CANADA

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LOCOMOTIVE HEADLIGHT

**TRANSPORTATION APPOINTMENTS.**

**Bay of Quinte Ry., Thousand Islands Ry., Oshawa Ry., and Deseronto Navigation Co.**—J. F. Chapman, heretofore Assistant General Freight and Passenger Agent, has been appointed General Freight and Passenger Agent. Office, Deseronto, Ont.

**Canadian Northern Ry.**—W. H. Moore, heretofore Assistant Solicitor, has been appointed Secretary for this company and a number of its allied companies.

E. A. James, heretofore General Superintendent, has been appointed Manager of the C. N. Ry., and of the various subsidiary companies west of Port Arthur, Ont. Office, Winnipeg, Man.

**Canadian Pacific Ry.**—W. R. Baker, heretofore Assistant to the 2nd Vice-President, has been appointed Assistant to the Vice-President.

The car department, formerly under the Superintendent of Rolling Stock, has been made a separate department and the Master Car Builder now reports direct to the Vice-President.

W. Ballantyne, heretofore in the Canadian Northern passenger department, Winnipeg, has been appointed rate clerk C. P. R. at Montreal, under Jas. Morrison, chief rate clerk.

The position of Second Assistant Superintendent of Motive Power, heretofore held by J. H. Manning at Winnipeg, has been abolished. Mr. Manning will be assigned to other duties.

G. J. Bury, heretofore General Superintendent Lake Superior Division at North Bay, Ont., has been appointed General Superintendent Central Division. Office at Winnipeg.

H. Irwin has been appointed Right of Way and Lease Agent, with office at Montreal, succeeding G. H. Webster, appointed Division Engineer Pacific Division, at Vancouver, B. C.

The office of Assistant General Manager, Western Lines, heretofore held by J. W. Leonard, has been abolished. All communications heretofore addressed to that official are to be sent to the 2nd Vice-President, W. Whyte.

W. Cross, heretofore Engineer of Tests, Montreal, has been appointed Assistant to the 2nd Vice-President, with general supervision of all mechanical matter on Western Lines. He will perform such other duties as may be assigned to him from time to time by the 2nd Vice-President. Office, Winnipeg.

C. W. Lang, heretofore acting as Assistant Divisional Engineer at Calgary, Alta., has resigned.

G. H. Webster, heretofore Right-of-Way Agent at Montreal, has been appointed Division Engineer of the Pacific division, with headquarters at Vancouver, B. C., vice F. F. Busted, transferred.

**Department of Railways and Canals.**—Hon. H. R. Emmerson has been sworn a member of the Dominion Cabinet, and has been appointed Minister of Railways and Canals, succeeding Hon. A. G. Blair, resigned.

**Grand Trunk Ry.**—L. G. Colman, G. T. R. Trainmaster 4th district at Montreal, has been transferred temporarily to Allandale, Ont., where he is relieving J. Devine. Assistant to the Superintendent, who is ill. S. B. Kramer, Master of Transportation, is discharging Mr. Colman's duties.

C. C. Hill has been appointed Resident Engineer, vice G. W. Bartlett, resigned. Office, Detroit, Mich.

R. G. Butler has been appointed General Agent at Milwaukee, Wis., in charge of all matters pertaining to the movement of freight and passenger traffic.

A. D. Huff, heretofore chief clerk Division Freight Agent's Office, Detroit, Mich., has been appointed Commercial Agent at Pittsburg, Pa., vice W. J. Hunter transferred.

W. J. Hunter, heretofore Commercial Agent at Pittsburg, Pa., has been appointed Commercial Agent at Winnipeg, Man.

The Railway Times of London, Eng., says: "Geo. Allen, 17 Carlisle street W., has re-

signed his seat on the board of the G. T. R. because he disapproves of the recent deposit of guaranteed stock with the Canadian Government."

**Great Northern Ry. of Canada.**—A. Malo is reported to have been appointed contract freight agent. Office, Montreal.

**London Street Ry.**—C. Tolmie, has been appointed Cashier, succeeding Jas. Currie, resigned.

**Minneapolis, St. Paul and Sault Ste. Marie Ry.**—W. L. Clement is reported to have been appointed Assistant Chief Engineer. Office, Minneapolis, Minn.

**Montreal Street Ry.**—L. Trudeau has been appointed superintendent, succeeding L. Robinson, resigned on account of ill-health.

**Northern Navigation Co. and North-West Transportation Co.**—C. T. Long, Manager, has resigned.

**The Railway Commission.**—The Governor-General-in-Council issued a proclamation, Jan. 19, declaring the provisions of the Railway Act of 1903 to be in force from and after Feb. 1. With the coming in force of this act the Railway Committee of the Privy Council, which heretofore has had jurisdiction over railways, will pass out of existence, and its place will be taken by a permanent Railway Commission to consist of three members, with offices in Ottawa, but with power to hear and determine applications at any convenient centres in Canada. Hon. A. G. Blair, formerly Minister of Railways and Canals, has been appointed Chairman, and the other members are Jas. Mills, heretofore Principal of the Ontario Agricultural College, Guelph, Ont., and Hon. M. E. Bernier, heretofore Minister of Inland Revenue.

**St. Thomas, Ont., Street Ry.**—The following have been elected Street Railway Commissioners by the taxpayers: W. E. Idsardi, for two years; R. McCully, for one year; C. F. Maxwell is a member of the board as Mayor. R. McCully has been elected Chairman.

**Spokane Falls and Northern Rd.**—T. J. Clark, heretofore Master Mechanic Great Northern Ry., U. S., at Everett, Wash., has been appointed Master Mechanic S. F. and N. Ry., succeeding C. H. Prescott, resigned.

**Sydney and Louisburg Ry.**—See Dominion Coal Co., pg. 63.

**Temiskaming and Northern Ry. Commission.**—A. E. Ames, heretofore Chairman, has resigned. Robt. Jaffray has been appointed a commissioner, and it is said he will be elected Chairman.

**Wabash Rd.**—T. Ensel, heretofore chief clerk in the Superintendent's office, Buffalo, N. Y., is reported to have been appointed acting Trainmaster, Canada division, succeeding R. Doyle, promoted. Office, St. Thomas, Ont.

S. E. Cotter, heretofore Superintendent at Peru, Ind., has been appointed Superintendent of the Middle division, succeeding H. G. Clarke, resigned. Office, Decatur, Ill.

**McGill University Railway Department**

An official statement has been issued in connection with the proposal to found a school of railway engineering and transportation in association with McGill University, Montreal. The proposal was first made by Sir Thos. Shaughnessy, President of the C. P. R., about four years ago. Sir C. Rivers Wilson, President, and C. M. Hays, 2nd Vice-President and General Manager, G. T. R. expressed their approval of the matter at that time, but nothing was done. It, however, was not lost sight of, and now, through the efforts of Dr. Bovey, Dean of the Faculty of Applied Sciences, is within measurable distance of realization. The statement sets forth that "the important point about this new scheme is that

it has originated in its present shape with the great railway corporations, and the substantial assistance they have promised to finance the school is the best guarantee of its practical character. From the very inception of the project, it has had the warm support and advocacy of Sir Thos. Shaughnessy and C. M. Hays, and the corporations which they represent have taken joint action in promising an annual subsidy of \$5,000 each, while the Canadian Northern Ry. has engaged, through Mackenzie & Mann, to contribute not less than \$2,000 annually, and negotiations are in progress with other roads, including the Intercolonial Ry. It is confidently believed, not only by the university authorities, but also by the practical men who have interested themselves in the institution of this department, that if such a school can be successfully established the railway companies will enjoy the advantage of drawing a regular supply of well-trained men to their service, while the country at large will benefit from the fact that wherever railway extension is undertaken in any portion of the Dominion, there will always be at hand a number of scientific engineers ready to take advantage of any opportunity that may lead to further development in any particular district. That Montreal is the natural centre for such a school—containing, as it does, the headquarters and termini of the great railways—cannot be doubted, and the advantages which it seeks to offer will, of course, be accessible, without any kind of restriction whatsoever, to capable persons from any part of the Dominion or elsewhere. Under such favorable conditions as those with which it is being started, the Montreal School of Railway Engineering may be expected to at once assume the proportions of a national undertaking. It is natural that the railway corporations which have fathered the project should desire to connect it with the Faculty of Applied Science of McGill University. That Faculty already provides for the training of civil engineers, mechanical engineers, electrical engineers and mining engineers, and it is a comparatively easy matter to graft on it also a special department of railway engineering. In order to emphasize the practical character of this department, and to recognize the interest which railway men themselves are taking in it, the new school will be administered by a special committee, on which the railway companies will have representation. It is to them that the university looks to watch over the development of the scheme, and to keep the curriculum in constant touch with actual practical needs. With the help of other corporations it may be possible to secure \$20,000 as an annual appropriation for the maintenance of the school, and this will leave the university to face the problem of accommodation. It is expected that the railways will furnish such reasonable facilities in their shops and other premises as will give students the opportunity of undertaking practical work under the direct control of the railways, concurrently with the more theoretical teaching undertaken at the university. The preliminary task of drawing up a scheme of studies has been entrusted to a committee which has the advantage of the services of F. W. Morse, 3rd Vice-President of the G. T. R., and of E. H. McHenry, Chief Engineer of the C. P. R., and this committee will submit a detailed report. It may suffice to say, meanwhile, that the work to be done in the proposed department will include: (1) Location, including all branches of surveying; (2) construction, including the laying out of work, the construction of bridges, buildings, etc., tracklaying and ballasting, organization, specifications, etc.; (3) operation, including (a) maintenance of way and structures; (b) the conducting of transportation; (c) equipment, organization, legislation, etc. It is expected that work in the new department will be commenced in September next."

**Canadian Ticket Agents' Association.**

The Executive Committee met in Toronto Jan. 19; present: W. Bunton, in the chair; M. MacNamara, President; W. H. C. Mackay, 1st Vice-President; C. E. Morgan, 2nd Vice-President; W. H. Harper, 3rd Vice-President; E. de la Hooke, Secretary-Treasurer; W. Jackson, W. McIlroy, J. W. Ryder and Dr. H. A. Turner.

Invitations were received through G. T. Bell, General Passenger Agent of the G.T.R., from President Francis, of the Louisiana Purchase Exposition, St. Louis, Mo., from the Mayor of St. Louis, and from the Business Men's League of St. Louis, asking the Association to hold its annual meeting there this year. President Francis offered to recognize the presence of the Association by setting aside a special day, or providing some distinctive feature on the programme. The members of the Executive Committee were addressed by J. W. Donald, Chicago and Alton Rd.; A. H. Notman, C.P.R.; J. A. Richardson, Wabash Rd., and G. B. Wyllie, Illinois Central Rd., offering the courtesies of their different lines, and a written offer was submitted from G. T. Bell, of the G.T.R. It

was decided to hold the annual meeting at St. Louis May 16. The party will rendezvous at London, Ont., May 13, travelling from there by a special train over the G.T.R. to Harvey, Ill., and thence via the Illinois Central Rd., to St. Louis, returning by the Wabash Rd., via Chicago to Detroit, Mich. W. Bunton and W. Jackson were appointed a committee to go to St. Louis and arrange for hotel accommodation, etc.

A communication was received from the American Association of General Passenger and Ticket Agents asking the Association to send a delegate to the annual meeting at Old Point Comfort, Va., Oct. 13. F. W. Churchill, who was the delegate to the annual meeting at New Orleans in 1903, made a verbal report in connection with the same, and was heartily thanked for having represented the Association.

G. B. Wyllie, Travelling Passenger Agent of the Illinois Central, has furnished us the following interesting information about the route over that line:—"The distance from Harvey, Ill., to St. Louis is 273 miles, and the running time of our Daylight Special and Diamond Special is 7¼ hours. At present the Daylight Special, which is our feature

between the two cities, runs via the Commercial bridge, not going through the tunnel to St. Louis, the Diamond Special going across the Eads bridge, both terminating in the Union Station, St. Louis, where all trains entering St. Louis make their terminal. We use the main line, from Harvey to Gilman, Ill., and then cross over in a southwesterly direction to Clinton, one of the oldest cities in Illinois, passing through what is known as the corn belt; which was at one time a continuation of the old Kankakee swamp. By action of the Legislature some years ago requiring state ditches to be built, that part of Illinois was thoroughly drained, and left the finest soil for growing corn, oats and barley, which at that time was shipped in immense quantities, especially the latter cereal, to Canada. At Gilman we join the old main line, which runs through the centre of Illinois and which has been running for a great many years. A wide right-of-way was granted through this old part of the state by the State as a land grant and free from taxes, but the Illinois Central was compelled to pay 7% of the revenue earned on the old line in lieu of taxes for the entire State. During the hard times, when money was hard to get, and great im-

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Improvements were made in the state, the Illinois Central advanced funds to that commonwealth to carry on its improvements, based on the five best years of earnings, and at the present the state is owing the railroad, which is rather a peculiar feature. From Clinton the route is through the soft coal country. The farmers in the vicinity have splendid ground on top and veins of coal beneath that make them all independently wealthy. At the end of this division at Springfield, the capital of the state, is the old home of Abraham Lincoln, where a very large monument has been erected and is visited by thousands, and it will be the privilege of the ticket agents to visit it if so desired en route. From Springfield to St. Louis you begin to strike the rough country of Illinois, very rolling and hilly, in which territory the coal mines still get thicker and can be seen from the track on account of the Illinois Central owning a very large number of them. The coal is taken right from the mine to the elevators and thence to the engines and cars. Between Clinton and Springfield, at Mount Pulaski, is the junction of the Peoria-Evansville-Louisville Line, which has through car service from Peoria to St. Louis. It is quite interesting to railway men when entering East St. Louis to see the different plans upon which the railways are built; some are on side hills, some on the level, and others again are on very high banks, all terminating at a level where the terminal railway of St. Louis handles all the trains into that interesting city, the home of the World's Fair. The World's Fair Grounds, which are located in the extreme western part of the city, will have first-class suburban service direct to the grounds, and every street car line in St. Louis will make a common centre there, the arrangements being similar to the one at Buffalo during the Pan-American, only on a very much larger scale. The distance from the Union station to the World's Fair is five miles, and it is about the same distance from the city hall. It perhaps will be interesting to the members of the Association to know that Mr. Statler, who ran the big hotel during the Pan-American, has a contract with the World's Fair people to run a very large hotel inside the grounds, conducted on somewhat the same plan and of the same nature as was the hotel in Buffalo, only perhaps five times greater."

**Montreal Transportation Co.**—The annual meeting was held in Montreal Jan. 21. The following were elected: President, B. McLennan; Managing Director, J. A. Cuttle; Secretary, G. M. Kinghorn; other directors: T. A. Crane, A. Kingman, F. Robertson, A. E. Ogilvie. The only change in the board was the retirement of J. C. Britton, who would be unable to attend meetings of the board on account of his recent appointment as judge. The vacancy was filled by the election of J. A. Cuttle, heretofore Manager, with the title of Managing Director. The company does not publish an annual report.

Barlow Cumberland has resigned the presidency of the Canadian Society in London, Eng., on account of his intention to return to Toronto. On Jan. 4 he went to Newton Abbott, Devonshire, where the Great Western Ry. has a locomotive repair shop, to address a political meeting. The platform was stormed by an antagonistic political element and several free fights ensued.

The N. L. Piper Ry. Supply Co., Toronto, has issued a calendar for 1904, on which several of its specialties are illustrated. The central illustration is a contrast showing a train on the line between Albany and Schenectady, N. Y., in 1832, and one of the present day.

The Montreal Street Ry. Co. gave \$3,000 as a Christmas donation to the Montreal Street Ry. Mutual Benefit Association.

**Toronto Railway Co.'s Report.**

The following report for the year 1903 was presented at the annual meeting, on Jan. 20: The business has shown a very large increase, the gross earnings being \$2,172,087.85, an increase of \$337,179.48 over 1902. The earnings were \$971,264.46, an increase of 18.5% over 1902. Out of the net profits there have been declared four quarterly dividends of 1¼% each, amounting to \$326,548.26. After deducting pavement charges paid to the City and having transferred \$50,000.00 to the Contingent Account, there remains a surplus of \$180,628.92. There has been expended for general purposes and charged to capital \$379,615.48. This expenditure includes that made for extensive alterations and additions at the power house, new motor equipments, additional track and overhead construction, new rolling stock, and buildings necessary for the increased business of the Company. The boilers of no. 1 power house are being replaced by boilers of much larger capacity and two additional direct connected engines of 1,600 H.P. capacity each and generators are being erected, which it is anticipated will be sufficient to take care of all increases in business until the Company is receiving power from Niagara. As an additional safeguard, a storage battery having a capacity of 3,000 amperes hours is now rapidly approaching completion. The City received from the Company under the terms of the franchise \$298,839.00 as compared with \$255,551.07 in 1902.

**COMPARATIVE STATEMENT.**

	1903	1902	Increase
Gross earnings	\$2,172,087.85	\$1,834,908.37	\$337,179.48
Operating expenses	1,200,823.39	1,015,361.32	185,462.07
Net earnings	971,264.46	819,547.05	151,717.41
Passeng's carr'd	53,055.322	44,437.678	8,617.644
Transfers	18,654.344	15,974.220	2,680.124
Percentage of operating expenses to earnings	55.3%	55.3%	

**INCOME ACCOUNT.**

Net income for year after deducting all expenses and fixed charges	\$628,349.49
Profit from sale of new shares not taken up by shareholders	814.02
	\$629,163.51
Appropriated as follows:	
Quarterly dividends	\$326,548.26
Pavement charges	71,986.33
Surplus	
Contingent acct.	\$50,000.00
Profit and loss account	180,628.92
	\$230,628.92
	\$629,163.51

**GENERAL STATEMENT.**

**ASSETS.**

Road and equipment, real estate and buildings, including pavements and suburban lines	\$11,184,499.49
Stores in hand	139,459.22
Accounts receivable	623,102.08
Cash in hand	\$11,388.26
Cash in bank	162,274.45
	173,662.71
	\$12,120,723.50

**LIABILITIES.**

Capital authorized	\$7,000,000.00
Capital allotted	6,600,000.00
Capital issued	\$6,600,000.00
Bonds—	
Tor. Ry. Co., 4½% sterling	\$2,030,373.33
" " currency	843,000.00
" " 6% debent's	600,000.00
Tor. & Mim. Elec. Ry. & Lt. Co.	100,000.00
Tor. & Scar. Ry., L. & P. Co.	40,000.00
	\$3,613,373.33
Less bonds not sold, and in hand for future requirements	140,000.00
	3,473,373.33
Mortgages	70,000.00
Loan on bonds	100,000.00
Accrued interest on bonds	64,099.99
Accounts and wages payable	166,140.15
Unredeemed tickets	18,936.17

Injuries and damage ins. fund	8,319.19
Dividend 30, payable Jan. 2, 1904	82,113.75
Contingent account	83,674.83
Profits and loss at Dec. 31, 1902	\$1,273,507.26
Balance Dec. 31, 1903	\$180,628.92
	1,454,136.18
	\$12,120,723.50

The following were elected directors: W. Mackenzie, Hon. G. A. Cox, J. Gunn, W. D. Matthews, F. Nicholls, H. M. Pellatt and J. G. Grace. The only change in the board is the election of J. G. Grace to fill the vacancy caused by the resignation of Jas. Ross, Montreal, who was Vice-President.

**Automatic Electric Signalling.**

The Michigan Central Rd. has in operation over 100 miles of double track on which has been installed an automatic electric block signalling system. The last section on which the system was installed extends from Windsor to Woodslee, Ont., 22 miles, and has been in operation since Nov. 10, 1903, when members of the Railway Signalling Club, which was holding its annual meeting at Detroit, inspected this section of the line, and the working of the system was explained by J. C. Mock, Signal Engineer of the line. The length of the blocks varies according to the conditions, but as a general principle, it is aimed to make them about two miles in length. The distant signal is placed about 3,500 ft. from its home. The operation of the signal is effected by a train shunting the battery connected to the rails, which is on a normally closed circuit. The signals stand in a clear position, that is to say, they always show clear unless there is a train or some other obstruction on the block. All the switches are protected and each switch is equipped with a miniature signal so that trains entering from a switch are advised of the condition of the block and whether a train is approaching that block. The signals are of the electric semaphore type. Each signal has a small motor attached to a train of spur gears and operating mechanism for lifting the signal to a clear position, which takes about five seconds. The work done is equivalent to lifting 90 lbs. to a height of 4¼ ins. This weight is effective in setting the signal to the stop or caution position, when the circuit is opened by means of a train on the track anywhere in the block, the opening of a switch, a broken rail or any other obstruction which breaks or shunts the track or signal currents. Where automatic block signals are used, trains are run without orders, and they follow as closely as the blocks permit. A train receiving a stop signal must wait five minutes and then proceed through the block cautiously, with the knowledge that it is obstructed.

Referring to the installation the Railway and Engineering Review said:—"Experiment is being made with an insulated splice. There is an auxiliary or carrier rail on the outside of the track, planned to fit against the head of the track rail, bearing against a block of wood fitted up to the web, with fibre against the rail head and base, and this carrier piece is riveted to a base plate. On the inside of the rail there is an ordinary angle bar, with suitable insulation by fibre sheets. Another new device is a contact bar, used on the turnout rails at crossovers. It consists of an angle bar with the vertex down, presenting a V-shaped section, attached to wooden blocks at the side of the rail, insulating it from the rail. This bar is tilted by spring pressure so as to present an up-turned edge at the side of the rail head, just a little higher than the level of the top of rail. It is connected with the farther rail of main track, and as traffic passes over the crossover turnouts the outer portions of the wheel treads bear upon this contact bar, completing the circuit, so that the track circuit is worked with a car in any position on the crossover."

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

**Farnham Yards.**—Plans for the enlargement of the yards at Farnham, Que., have been under consideration for the past two years, but nothing definite has been decided. It is expected, however, that the plans will be approved and the work put in hand during the year.

**Place Viger Yards.**—The agreement with the Montreal city council in respect to the closing of certain streets to enable the yards there to be extended, provides for the closing of 10 acres, and deeds over 4 acres to the Company, on which the public had rights. The agreement provides for the erection of a subway, and other constructions. (Nov., 1903, pg. 355.)

**St. Catherine St. Bridge, Montreal.**—The new bridge over the C.P.R. tracks at St. Catherine st., Hochelaga, replacing one destroyed by fire May 29, 1903, has been opened for traffic.

**St. Henri Yard.**—The new yard at Lacroix st., St. Henri, Que., has been opened for business.

**Headingley Bridge.**—A press report recently stated that the steel superstructure of the bridge over the Assiniboine river at Headingley, Man., had been completed.

**Glenboro.**—A press report states that Glenboro, Man., is to be made a divisional point, and that a round house is to be erected there. We are, however, advised that there is no intention of making Glenboro a divisional point.

**Medicine Hat Yards.**—The new round-house has been completed, and it was expected the work of laying new tracks in the yards, etc., would be completed in Dec. A press report states that plans have been prepared for laying out a stock yard at Medicine Hat, Assa.

**Dunmore and Suffield Stock Yards.**—A press report states that plans have been prepared for stock yards at Dunmore and Suffield, Assa. We are advised that nothing has been decided in connection with the proposal to arrange for stock yards at Dunmore, Suffield and Medicine Hat, Assa.

**Trail Loop.**—We are advised that this loop is merely a spur line to a mill, and not out of the ordinary spur class of line. (Dec., 1903, pg. 422.)

**Wharf at Victoria.**—The plans for the proposed wharf at Victoria, B.C., have not been completed by the engineers, and until this is done contracts will not be let.

**Minneapolis, St. Paul and Sault Ste. Marie Ry.**—Upon the extension from Glenwood, Minn., northerly, surveys were made for 120 miles from Glenwood through Alexandria, Henning, Detroit and the White Earth Indian Reserve. Grading has been practically completed as far as Detroit, and track has been laid to Ottetail, a distance of 60 miles. (Jan., pg. 25.)

**The Muskoka Lakes Navigation and Hotel Co.** has made the following appointments for the year: President, J. S. Playfair, Toronto; Manager and Secretary, A. P. Cockburn, Toronto and Gravenhurst; Assistant Manager and Treasurer, W. F. Wasley, Gravenhurst; Manager of Royal Muskoka Hotel, A. F. Campbell, who was Manager last year. The appointment of A. P. Cockburn displaces C. H. Nicholson, who was Manager during last year.

The standing committee on tests of M. C. B. couplers of the Master Car Builders' Association has issued a preliminary circular respecting the new M. C. B. coupler contour lines which were to come into effect Jan. 1. The circular contains illustrations showing the changes made,



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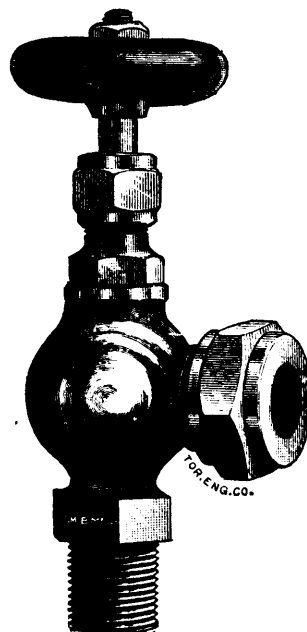
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TORONTO, ONTARIO

**Northern Navigation Co. of Ontario.**

The article on the affairs of this Company, published in our last issue, produced a decided sensation in transportation and financial circles and was widely copied and referred to in the daily and weekly press, with the result that the annual meeting, which was held at Collingwood on Jan. 26, was awaited with much more than usual interest, and was not by any means the formal routine affair of previous years. A few days after the publication of our article Osler & Hammond, of Toronto, issued a circular to the stockholders, stating that in consequence of complaints as to the management of the Company, Clarkson & Cross, accountants, Toronto, had been appointed to investigate its affairs, and that their report showed that a change was desirable in the policy and management of the Company. The circular invited proxies in favor of H. C. Hammond, W. Hendrie, W. D. Matthews and W. J. Sheppard. At about the same time a notice calling the annual meeting was issued from the Company's office by T. Long, Secretary, and enclosed with it was a form of proxy in favor of J. J. Long, President, and C. Cameron, Vice-President. Out of 8,400 shares, proxies for about 6,400 were secured by Osler & Hammond, leaving J. J. Long and C. Cameron in a hopeless minority. The impression created among the shareholders generally by Osler & Hammond's circular undoubtedly was that the Long Bros. and the others who had been mainly responsible for the mismanagement of the Company, and who had unloaded their stock, would not be re-elected. It has been clearly established that the Company has been grossly mismanaged, and there is no doubt whatever that the responsibility for this rests with J. J. Long, who as President had full power, who has administered the affairs for years, and who selected his nephew as Manager. T. Long and C. Cameron were dropped from the board, but J. J. Long, C. E. Stephens and H. B. Smith, all of whom had disposed of the principal portions of their holdings, were retained. Three Collingwood men were elected directors, but no one was put on at Sarnia, which is an important divisional headquarters for the line, and we think it would have been judicious to have a director there if it is conceded that it is necessary for Collingwood to have representation, but in view of the past difficulties in regard to special freight rates enjoyed by certain directors, we believe it would have been better not to have put on any directors engaged in business at either port. Since the meeting much disappointment has been expressed by many shareholders who believed that it was the intention to drop the Long interest from the board altogether. However, that interest has been very emphatically condemned by the shareholders, as proxies for about 6,400 shares out of 8,400 were sent to Osler & Hammond in spite of the request of J. J. Long and C. Cameron for proxies in their names. J. J. Long is on the board in spite of the fact that a large majority of the shareholders refused to give him their proxies and sent them in, as they doubtless thought, to be used against him.

The most striking feature of the annual meeting was the arbitrary and unprecedented action of the Chairman, J. J. Long, who, after reading a general denial and explanation of the charges we made last month, attempted to prevent the publisher of this paper, who attended the meeting as a shareholder, and as the duly authorized representative of several other shareholders, from replying, the evident intention being to shut out facts which would support the charges and to prevent discussion. But the attempt was unsuccessful and the facts were fully brought out. It is not an easy matter to upset the firmly-entrenched management of a company, but

the shareholders, roused by our exposure of the sacrifice of their interests, have the satisfaction of knowing that an investigation was secured; that T. Long and C. Cameron are no longer on the board, and that the Manager has "resigned." But before the Company can be put on a satisfactory footing there is more work to be done. Several matters, such as the purchase of supplies from and the granting of special freight rates to directors, require to be further probed, and the old detrimental element, which has heretofore controlled the Company with such disastrous results, should be absolutely eliminated from the board.

Some twenty shareholders were present at the meeting. Of the old directors T. Long, C. Cameron, W. Hendrie and W. D. Matthews were not present, although Mr. Cameron attended a meeting of directors in the morning. J. J. Long, having been voted to the chair, read the annual report as follows:

"The directors exceedingly regret having to report a large decrease in the Company's net earnings for the past year, due mainly to the following causes, viz.: increased cost of fuel, increased cost of labor and wages, the great increase in transferring, or handling charges of freight between our steamers and the railways at Port Arthur and Fort William; the greatly reduced volume of east-bound traffic, the very low rates obtainable for it—our railway connection refused to accept export traffic most of the season, rates being too low; the loss of grain traffic due to want of elevator accommodation prior to Sept. 15 last; the increased cost of insurance caused by the larger amount of insurance carried; several accidents to the Company's fleet, especially on the Georgian Bay division, not covered by marine insurance; the reduction in the volume of Georgian Bay traffic caused by the closing of important works at Sault Ste. Marie, and by lumbering operations being conducted at points to which supplies were taken by rail, instead of as formerly by rail and lake; there was also competition by inferior boats taking both freight and passenger traffic for whatever rates they might be able to obtain, thus diverting a certain amount of traffic from the Company's fleet; an unusual length of time taken by several of the Company's steamers to perform their trips, especially during Nov. and a part of Dec., on account of extreme weather, resulting in considerable loss, instead of, as usual, a fair profit for that particular part of the season. Through the grounding of the steamer Monarch near Sailor's Encampment on Dec. 12, on her last trip east bound, and the sudden formation of heavy ice owing to the unusually cold weather at that time, it was for a time feared the steamer would have to remain there until next spring. Fortunately, however, this steamer is now safely laid up at Sarnia, having been assisted out of the ice and having arrived there on Dec. 31. The decrease in net earnings resulting from the above mentioned causes would be more than sufficient to enable the payment of the usual dividend. These are causes (nearly all exceptional in the history of the Company), beyond the control of management, and will fully account for the decrease in earnings and for the inability of the Company to pay the usual rate of dividend for the past year. It is to be hoped that the conditions governing most of these causes will not continue to exist much longer.

"The Directors regret to have to report the loss by fire of the steamer Atlantic on Nov. 10 last, but as the Company's steamers are all properly insured against loss by fire, the loss is mainly in the disarrangement of business, and the impossibility of replacing the steamer with an equally efficient one at the price this steamer was included at in the assets.

"The balance at credit of profit and loss account brought forward from 1902 is \$15,-

725.69, to which has been added the net profit of the Company's business for 1903, \$26,399.60, making a total of \$42,123.49, out of which a dividend of 5% on the paid-up capital of \$840,000 has been paid, amounting to \$42,000, leaving a balance of \$123.29 brought forward at credit of profit and loss account. \$34,702.52 was expended in permanent improvements, repairs and outfit during the past year, all of which was charged to the current expenses of the year.

"Through the efforts of, and a large investment by two of your directors, aided by some friends, not shareholders in the Northern Navigation Co., a grain elevator having a capacity of 500,000 bush. has been erected at Point Edward, and was ready for business about Sept. 15 last. This will afford the required facilities and enable the steamers of the Company to carry grain when obtainable, and desirable henceforth, and should therefore greatly increase the Company's earnings. In the last annual report it was stated that most favorable arrangements had been made for ample elevator facilities for the Company's business for the future, commencing with the opening of navigation in 1903. That statement was made in the belief that cars could be obtained to take grain as delivered at Sarnia by each of our steamers, but on account of the scarcity of cars they could not be obtained promptly, and as the elevator at Sarnia could not store any grain ex our steamers, the only other possible way by which grain could be carried by the Company's steamers was by passing it through the elevator at Port Huron on the U.S. side, but the conditions at that elevator were such as to make it not only profitless, but sometimes to cause loss. The grain business, therefore, until the new elevator was completed at Point Edward, had to be practically abandoned. Happily now with the new elevator at Point Edward this important traffic can undoubtedly be carried in future by the Company's steamers, and the earnings largely increased in consequence.

"Your directors believe that the property of the Company is worth the full value placed upon it in the balance sheet, and they see no reason why the Company cannot in the future, as in the past, make satisfactory earnings under ordinary circumstances.

"During the latter part of the season statements severely criticising the management of the Company were freely made by the shareholders and through the press. Your directors called a special meeting, at which it was unanimously resolved that Clarkson & Cross, the well-known accountants, be requested to make the fullest examination into the affairs of the Company, to investigate every charge that had been made as to irregularities, and to make a report with their suggestions as to the management of the Company so far as system and check upon the company's business were concerned, and we are pleased to be able to present their report at this meeting.

"The Company's steamers are all well and carefully laid up for the winter as follows, viz.: Majestic, Britannic, Germanic, City of Midland, City of Collingwood, City of Toronto and United Empire, at Collingwood; and the Monarch and Huronic at Sarnia. The relationship between the various connecting companies and this Company are most cordial. As usual such repairs and improvements as may be required to maintain the high reputation of the Company's fleet will be made during the winter."

LIABILITIES.

To Shareholders—	
Capital stock .....	\$840,000 00
Reserve .....	90,000 00
Profit and loss .....	123 29
	\$930,123 29

To the Public—	
Bank of Toronto .....	\$ 66,280 23
Accounts payable .....	1,064 21
	67,344 44

\$997,467 73



## ASSETS.

Nine steamers.....	\$912,478 28
Buildings and plant.....	11,106 57
Merchandise and fuel.....	10,558 20
Insurance unexpired.....	7,691 65
Accounts receivable.....	30,307 03
Underwriters re SS. Atlantic.....	24,326 00
	\$907,467 73

## PROFIT AND LOSS ACCOUNT.

Balance on hand 1902.....	\$15,725 69
Dividend Merchants Dock stock.....	30 00
Balance Owen Sound agency.....	25 03
Net earnings Lake Superior division.....	29,456 87
Net earnings Georgian Bay division.....	359 08
	\$45,597 57
Accounts written off—	
T. Wilcox.....	\$ 177 10
S. T. Bowker.....	56 12
Algoma Central and H.B. Ry.....	1,102 12
Stocks as per inventory.....	663 40
Merchandise as per inventory.....	1,475 54
	3,474 28
	\$42,123 29
Half-yearly dividend July 2, 1903, on 8,400 shares at 5%.....	42,000 00
	\$ 123 29

## CLARKSON &amp; CROSS' REPORT.

E. B. Osler read Clarkson & Cross' report, from which the following is extracted, it being impossible to find room for the tables of figures accompanying it. "For the year the gross earnings of both divisions was \$508,222; expenditure, \$478,350; bad debts, Georgian Bay division, written off, \$3,474; net earnings, \$26,397. Profit and loss—Balance from 1902, \$15,725; net earnings 1903, \$26,397; total, \$42,123. Deduct 5% dividend, \$42,000. Carried forward \$123. We are afraid that adjustments involving several thousand dollars in the Sarnia division have not been made with their western connections, and when made the balance will probably be on the other side. The gross revenue of the Company exceeded that of 1902 to the extent of over \$30,000. The operating expenses in both divisions have greatly exceeded those of the previous or any other year. During the past five years the worst losses in the Georgian Bay division were due to a series of marine accidents. As the Company has been free from all such losses during the preceding four years we cannot accept the explanation that these were uncontrollable. In the Sarnia division a very large volume of freight was carried eastward in order to obtain the same money in comparison with the volume of business, and the cost of handling was, of course, very much greater. A large part was certainly uncontrollable, but the line expenses rose from \$21,955 in 1902 to \$35,035 in 1903. A considerable part of this was, in our judgment, due to bad management. The appointment of a General Manager entirely untrained has proved a very costly experiment. In the Georgian Bay division the method of purchasing and paying for supplies is open to grave objection, and part of the loss during the past season may be attributed to this cause. The need of the moment is capable business management. We believe the earning powers of the Company to be as great as they have ever been. Many economies should be effected which would add to the efficiency of the service. We draw attention to the fact that no working capital has been provided at any time for the Company, and an addition to the present capital sufficient to discharge the present overdraft and provide funds for the equipment of the fleet would be a distinct advantage at the present moment. Through freight in both divisions is at a fixed rate, which is unalterable. This is mainly west-bound. As to the bulk of east-bound freight, there can be no fixed tariff rate. It varies from time to time with competition and other conditions. In the Georgian Bay division local freights form a large proportion of the whole, the ports of call are many, and competitors by rail and by water cannot be disregarded in dealing with freight rates. A

printed tariff of rates is issued each year for local freight, and is adhered to unless some competitor at a given point is prepared to offer better terms. Whenever such competition has to be met, every one is treated exactly alike, no director obtaining, either directly or indirectly, any advantage. In connection with the Collingwood drydock, a large quantity of cement was needed. About one-half, some 6,000 barrels, was obtained from Owen Sound. It was carried at ten cents a barrel. It was carried by east-bound boats returning light; it was profitable, and this Company would be wise in making a similar rate to any one under like circumstances. Moreover, the remainder, all-rail cement, we are informed, cost no more laid down. We find that two concerns in Collingwood with which directors of this Company are concerned, are very large shippers. The great bulk of this freight is carried at strictly tariff rates. Omitting the Majestic, the shrinkage in Georgian Bay tonnage is serious, and were freight the mainstay of this division it would be alarming. It is quite plain that the freight situation requires skilful management in the Company's interest. We have carefully examined various specific statements and rumors as to special favors to officers of the Company during the year 1902-1903. In our opinion, it would be unfair to detail items, facts and circumstances, but we have not found any arrangement made which does not seem to us to be in the best interest of the Company. The charge having been made that passes have been issued improperly, we have asked B. W. Folger to thoroughly examine this feature for the past two years. We find that the charges have no foundation; in fact, the passes issued have been upon the most conservative basis on both divisions. No traveller or other agent of any director or of any firm or company with which he is connected has been granted free transportation."

After reading the report, Mr. Osler stated that there were one or two points in it requiring some explanation, and perhaps correction before it was printed and circulated, particularly the statement that the gross revenue exceeded that of 1902. Having pointed out some of these, Mr. Osler said that the report showed that the position of the Company was due to unfortunate management. There was friction between the Manager and the Assistant Managers, and with the superior sailing staff, and where that is the case everything else will go to pieces. The appointment of Manager was made by the President, to whom the power was given by the directors, and C. T. Long was appointed in the belief that he would be able to discharge the duties of the position.

## QUESTIONS BY SHAREHOLDERS.

Replying to Jas. Henderson, the President said that at a meeting of the directors held that morning, those present decided, in view of the unfortunate condition of affairs, to forego any claim for fees or other compensation.

Acton Burrows asked what repairs, etc., had been authorized by the board to be made to the steamers during this winter, and what was the amount estimated to be expended on each of such steamers, also whether any report had been received by the board or any member of it as to any other repairs, etc., which might be necessary to these or any other steamers of the fleet, and what was the estimated amount of outlay required for each of such steamers? W. J. Sheppard replied that there was certain work on the Majestic which would cost about \$3,000; there was work on the United Empire which might cost \$7,000, \$8,000 or \$10,000, as it was impossible to say what might develop as the work was in progress; there was an estimate for work on the Huronic for \$450, and about \$2,000 for boilers for the Germanic, besides small amounts for other steamers.

Acton Burrows asked what amounts were in dispute between the C.P.R. Co., the Canadian Northern Ry. Co. and this Company on account of claims made by the two railways mentioned for unloading charges, etc., at Port Arthur and Fort William? What amount had been retained by the two railways respectively in this connection; what was the present position of these claims, and were these amounts included in the figures given for accounts receivable in the assets, or had they been deducted? The President said he could not state the amount claimed by the C.P.R., and preferred to say nothing about it. Being pressed he admitted that the claim might be over \$5,000, but he did not think it was \$10,000. The Canadian Northern Ry. had retained out of joint freights sufficient to cover its claim, the amount of which, he said, he was unable to tell, asserting that the figures were at Sarnia. Jas. Henderson emphasized Mr. Burrows' point, and said it was important to know whether the amounts represented in these claims should be deducted from the accounts receivable, but no further information was given.

Acton Burrows asked at what valuation was the steamer Atlantic included in the statement of assets presented at the last annual meeting; for what sum was she insured; had the insurance been paid; if so, what amount, and if not what was the position of the claim? The President declined to answer the first portion of this question, and said the amount of the insurance which had not been paid was included in the annual report. E. B. Osler contended that the steamers were not overvalued in the assets.

## PRESIDENT LONG'S DEFENCE.

J. J. Long then proceeded to read the following statement:—"In moving the adoption of the directors' report, statement, etc., for the past year, I feel it to be my duty to make reference to statements and allegations of a damaging nature made in the Toronto Daily Star of Jan. 5, copied from THE RAILWAY AND SHIPPING WORLD, and to place the facts before the shareholders. In the publication mentioned is an article headed 'Reason of the N.N. Stock Panic.—Long Bros. accused of reducing their holding from almost \$200,000 to less than \$10,000 now.'"

Acton Burrows.—"Those headings did not appear in THE RAILWAY AND SHIPPING WORLD."

J. J. Long.—"I am willing to admit that. It is not true that the joint holdings of stock by T. and J. J. Long at any time amounted to almost \$200,000, nor has it been at any time less than \$10,000, and while it is admitted that the Messrs. Long and certain other directors have reduced their holdings of stock in the Company, which they had a perfect right to do, it is only fair to the Messrs. Long to say that they have invested largely in a new elevator which they, together with some friends having no interest in the N.N. Co., have succeeded in erecting at Point Edward, solely, so far as the Messrs. Long are concerned, for the use and advantage of the N.N. Co., without any aid either from the company or their co-directors. If their investment in the elevator were added to their present holding of stock in the N.N. Co., and in fairness to them it should be when criticizing this matter, it would be found that their individual holding would be more than 50% greater than, and that their joint holding would be more than three times that of any other shareholder. On more than one occasion the necessity for the elevator was made known to the board, and the financial assistance of the members of the board individually requested to provide the necessary funds, but on each occasion they declined to do so. This statement is not made in a complaining spirit, but only that the fact

may be known. Until about the close of the season of navigation of 1901 there was elevator accommodation at Point Edward, but unfortunately at that time the elevator at that point was burned, as was also one at Port Huron. The earnings of the steamers of the N.N. Co. in consequence were much less in 1902 than they would have been had we had proper elevator accommodation. A knowledge of this impressed my brother and myself with the absolute necessity in the interest of the Company of having an elevator erected at Point Edward at the earliest possible date, and having succeeded in doing so we feel that we have conferred a great benefit on the Company, as future earnings must be greatly increased by this indispensably necessary important facility. This elevator should increase the annual earnings of the Company with only the present steamers employed on the Sarnia-Lake Superior division at least \$30,000, and as the number and capacity of steamers of that division increase, as they must in view of the development of the Western country, the earnings on account of the elevator will also increase proportionately. Consider what this means to the Company, and what an important factor it is in determining the rate of dividend. It was not want of confidence in the earnings and business prospects of the N.N. Co. that caused my brother and myself to reduce our holding of stock in the Company. We, therefore, do not consider that we have left anyone in the lurch by doing so. Had it been possible for us to have had the elevator erected without investing money in it ourselves, we would have much preferred holding our stock in the N.N. Co. to disposing of it and investing in the elevator. The part we have taken and the investment we have made in procuring the elevator at Point Edward should, I think, be sufficient to satisfy everyone concerned as to the deep interest we have taken in the welfare of the Company.

"The statement that T. Long had in the transfers he had made up to Nov. 25, 1902, left no stock at his credit on the Company's books, and that he remained in this position without vacating his seat on the board until Dec. 10, 1902, when 50 shares were transferred to him by J. J. Long, is misleading, as it does not give all the facts, for at that time he owned considerable stock in the Company, which stood in the name of J. J. Long instead of his own name, and there was no meeting of the board from Nov. 25 to Dec. 10, 1902.

"The allegations that there has been incompetency; that the staff has been unnecessarily increased; that too much money has been spent in advertising, etc., and that supplies have been carelessly purchased, are, as far as I know, incorrect, but the report of Clarkson & Cross will doubtless deal fully with these very important matters, so I will only refer to the question of supplies. It is true that certain supplies have been bought from companies or firms in which certain of the directors are interested, but it is not true that there has not been a proper check on prices charged, the fact being that the prices charged for everything purchased for the Company are closely scrutinized, and that the companies or firms in which certain of the directors are interested, have always furnished their supplies at the lowest prices obtainable for their respective classes.

"It is alleged that the steamer Huronic was built by a company in which certain of the directors are largely interested, and that other steamers have been repaired by the same company without there being any proper check on the prices charged. The steamer Huronic was built by the Collingwood Shipbuilding Co., in which certain of the directors are largely interested, but a tender for the building of the Huronic was made by that company and accepted by the directors of the Navigation Co. after having consulted F. E. Kirby, one of the most able and best known

# TWENTY-THIRD ANNUAL STATEMENT OF THE NORTH AMERICAN LIFE ASSURANCE Co.



HOME OFFICE:

112-118 King Street West, - TORONTO

For the year ended 31st Dec., 1903.

Dec. 31, 1902.—To Net Ledger Assets..... \$4,773,785 35

**RECEIPTS.**

Dec. 31, 1903.—To Cash for Premiums..... \$1,132,616 91  
 —To Cash on Investments..... 248,746 78  
**\$1,381,363 69**

**DISBURSEMENTS.**

Dec. 31, 1903.—By Payment for Death Claims, Profits, etc..... \$ 423,217 86  
 —By all other Payments..... 355,720 43  
**\$ 778,938 29**

**ASSETS.**

Dec. 31, 1903.—By Mortgages, etc..... \$1,008,004 06  
 —By Stocks, Bonds and Debentures (market value \$3,170,047 47)..... 3,148,345 88  
 —By Real Estate, including Company's Building..... 374,806 62  
 —By Loans on Policies, etc..... 363,989 63  
 —By Loans on Stocks (nearly all on call)..... 443,310 34  
 —By Cash in Banks and on hand..... 42,584 22  
**\$5,376,210 75**

—By Premiums outstanding, etc. (less cost of collection)..... 208,937 14  
 —By Interest and Rents due and accrued..... 40,652 89  
**\$5,625,800 78**

**LIABILITIES.**

Dec. 31, 1903.—To Guarantee Fund..... \$ 60,000 00  
 —To Assurance and Annuity Reserve Fund..... 4,974,197 00  
 —To Death Losses Awaiting Proofs, Contingent Expenses, etc.. 41,367 02  
**\$5,075,564 02**

**NET SURPLUS.....**

**\$550,236 78**  
 Audited and found correct—John N. Lake, Auditor.  
 Wm. T. Standen, Consulting Actuary.

New insurance issued during 1903..... \$ 5,884,890  
 Being the best year in the history of the Company.  
 Insurance in force at end of 1903 (net)..... \$32,452 977  
 No monthly or Provident Policies were issued—this branch having been discontinued.

**PRESIDENT: JOHN L. BLAIKIE.**

**VICE-PRESIDENTS:**

JAMES THORBURN, M.D., Medical Director. HON. SIR W. R. MEREDITH, K.C.

**DIRECTORS:**

HON. SENATOR GOWAN, K.C., LL.D., C.M.G. L. W. SMITH, ESQ., K.C., D.C.L.  
 E. GURNEY, ESQ. D. McCRAE, ESQ., GUELPH J. K. OSBORNE, ESQ.

**MANAGING DIRECTOR: L. GOLDMAN, A.L.A., F.C.A.**

**SECRETARY:**

W. B. TAYLOR, B.A., LL.B.

**SUPERINTENDENT OF AGENCIES:**

T. G. McCONKEY.

The report, containing the proceedings of the Annual Meeting, held on January 28th last, showing marked proofs of the continued progress and solid position of the Company, will be sent to policy-holders. Pamphlets explanatory of the attractive investment plans of the Company and a copy of the Annual Report, showing its unexcelled financial position, will be furnished on application to the Home Office or any of the Company's Agencies.



marine architects of the U.S., as to the completeness of the plans and specifications, and the suitability of the proposed steamer, and this eminent marine architect was employed by the directors to see that the steamer would be built according to the plans and specifications, and it was only on his certificate that any money was paid to the Shipbuilding Co. It cannot, therefore, be possible that the N.N. Co. has, to the slightest degree, suffered in this connection. On the contrary, the Huronic is admittedly worth a considerably larger amount than the Company paid for it, fully complies with the terms of the contract, and is generally acknowledged to be the best passenger and freight steamer on the upper lakes. It is not true that other steamers of the N.N. Co. have been repaired by the Shipbuilding Co. without there being any proper check on the prices charged. No repairs have ever been made except under the closest check and scrutiny, and nearly all repairs have been made by men employed by the N.N. Co. itself, and directed by a competent person also in the employment of the N.N. Co.

"It is alleged that certain directors have for several years enjoyed a special tariff for the carriage of their goods. No director, person, firm or company has enjoyed a special tariff for the carriage of goods, but the same tariff and conditions have applied to all, nor is it true that the use of free transportation has been abused.

"The members of the board have always acted as a unit in the interest of the Company. It was, therefore, not divided into sections, each section having its adherents. No director has ever indicated by work or action any desire to have the Company's business run for personal interests. On the contrary the various members of the board have not merely sat at board meetings and drawn fees as alleged, but have all endeavored, as was their duty, to promote the best interest of the Company."

E. B. Osler, in seconding the motion for the adoption of the report, said so far as could be ascertained the troubles of the Company for the past year had been due to bad management. He thought that was really what it all meant, and so far as he could see there was no reason why, with proper management, the Company could not be as prosperous as formerly. The directors had been looking about ever since Nov. to see if they could find a good Manager, and they were in hopes of being able to get one to take charge of the affairs of the Company in the near future.

#### ACTON BURROWS' CHARGES.

Acton Burrows rose and said: "I wish to say that as the writer of the article in THE RAILWAY AND SHIPPING WORLD, I take the full responsibility for it, and am prepared to substantiate the charges made in it. Thinking that the matter would come forward in some way, I prepared a few notes which I will read."

J. J. Long: "I take it that the investigation made by Clarkson & Cross should be taken by you and by all shareholders of this Company as being of more value than anything that you or any other shareholder can obtain from any source whatsoever. As long as I am chairman of this meeting I do not propose to remain here to listen to you reading matter which I think, in view of the report we have before us, must be more or less a waste of time."

Mr. Burrows: "I have a right to be heard as a shareholder."

The President: "No. I will not allow it."

Mr. Burrows: "I claim my right to be heard."

The President: "I shall ask the sense of the meeting as to whether you shall or shall not be heard."

Mr. Burrows: "You wish to stop discussion. Mr. Osler stated that the report of Clarkson & Cross required explanation in

some points, and you yourself criticised it. I also have a right to say something about it."

The President: "I have not made any criticism of the report; I have stated some facts in explanation."

Mr. Burrows: "I have the same right to offer explanations of the report as you have. I have a right to speak, and I shall insist on going on."

The President: "I will not allow it."

Mr. Osler: "I think you had better let Mr. Burrows go on."

The President: "I am here to answer fully any and all questions that may be asked by shareholders, but not to listen to a statement criticizing the report of the auditors."

Mr. Burrows: "And I have a perfect right as a shareholder to reply to the statements made by you, and to place before the shareholders some of the evidence which I have to support the charges made. You have made some explanations of the report of Clarkson & Cross, and now propose to ask the meeting to declare that I be not heard."

Some further interchange of words took place, Mr. Burrows stating that the position taken by the President was a cowardly one, when Mr. Osler intervened and said Mr. Burrows had a perfect right to be heard, and that he should be allowed to proceed.

Mr. Burrows then proceeded with his statement, but was frequently interrupted by the President, and by another shareholder who objected to certain portions of it being read. The full statement is as follows:

"As I have taken a somewhat active part of late in discussing the affairs of the Company, I wish to explain my position in regard to the matter. As the publisher of a transportation paper, I am continually in touch with transportation people throughout the Dominion, and hear a great deal about the affairs of the various railway and steamship companies. Early last autumn, certain information came into my possession which convinced me that this Company was not being run in the interest of the shareholders generally, and being interested in the stock to a small extent, and having a considerable number of friends who were shareholders, I decided to look into matters as thoroughly as I could. The result was that I became convinced that a change in the control and management of the Company was absolutely necessary, and I accordingly submitted to a member of the firm of Osler & Hammond particulars of the information I had obtained, and they assured me that prompt steps would be taken to investigate my charges. I submitted to him the following resolutions which I thought it would be well to adopt:

"Be it resolved that Clarkson & Cross, chartered accountants, of Toronto, be appointed to make an investigation into the affairs of the Company since its incorporation in 1899 and into its present condition. That such investigation include the earnings and expenses for each year, the management, the purchase of supplies and other goods, the building of the steamer Huronic, the maintenance and repairs of other steamers, the granting of special rates for the carriage of freight, the granting of rebates on charges of freight, the issue of free transportation, and all other matters in connection with the operations of the Company. That they are hereby authorized to have full access to all premises, steamers, books, records, correspondence and other property and effects of the Company and to examine any of the Company's officers or other persons, and that all officers of the Company are hereby instructed to afford them full information and to assist them in every way possible. That they be authorized to employ any expert or other assistance they may deem necessary. That they report the result of their investigation on the lines above indicated and also state: 1. What special rates for the carriage of freight or rebates on

freight charges have been granted since the incorporation of the Company, who such rates have been granted in favor of, who authorized them, the reasons therefor, and the difference between the special rate at which goods were carried or between the rebates which were allowed and what would have been paid for them had they been carried at tariff rates or without rebates. 2. Full particulars of all annual, periodical or trip passes issued during 1903 with the names and addresses of persons issued in favor of and the reasons for issue. 3. The respective amounts paid to directors of the Company or to any Company in which such directors are known to be interested, particularly to T. Long & Bro., T. Long & Bro. Ltd., the Collingwood Shipbuilding Co. Ltd., and C. Stephens Co. Ltd., for goods, work or services of any description. 4. The salaries of the various officers and their qualifications for their respective positions. 5. Suggestions as to changes, if any, they may deem advisable in the management of the Company or in its operation so as to secure greater efficiency and to improve its net earnings. That the investigation be commenced at the earliest date possible, and that should Messrs. Clarkson & Cross, while it is proceeding, discover any facts which they think should be brought to the immediate attention of the directors or which would render advisable the suspension of any officer or employe they shall submit an interim report thereon.

"Be it resolved that hereafter no contract involving expenditure be entered into and that no expenditure be incurred without the sanction of the Board of Directors being first obtained.

"Be it resolved that no passes be issued for 1904, and that no requests for exchange transportation be made without the sanction of the Board of Directors being first obtained.

"Be it resolved that the management be instructed to prepare a detailed statement showing all goods and supplies of every description, including all printed and advertising matter which has been ordered and not delivered, with cost of same, and also a statement of any printed or advertising matter which may be in course of preparation but which has not been delivered."

"I was subsequently informed that these resolutions were considered too drastic to be adopted by the Board as then constituted, but that an investigation had been decided on, and that Clarkson & Cross had been selected to conduct it. At Osler and Hammond's request, I met Mr. Clarkson at their office, and furnished him with the information I had obtained, and which has formed the basis of the investigation. I suggested that Clarkson & Cross should secure the assistance of an accountant or auditor continually engaged in the handling of steamship accounts, as, while having every confidence in their ability as general accountants, I felt that this was a case where a specialist should be employed if matters were to be thoroughly probed to the bottom. The services of B. W. Folger, Manager of the Niagara Navigation Company, who has had a life-long experience in navigation matters, having been availed of to advise in the investigation respecting matters of management, etc., I think that if another expert, thoroughly conversant with steamship accounts, particularly the freight department, was secured, a good move would be made.

"I may add that to-day I represent more stock than the combined holdings of the Messrs. Long, and that outside of my own holding, I am representing several people who bought the stock as an investment, and not for speculation or on margin.

"I will now refer to the charges made against the management, the first being that of incompetency. Clarkson & Cross' report fully bears out this charge. Without going into details, they say in their interim re-

port of Dec. 22 last: 'It seems unnecessary to review the many instances of mismanagement, reports of which in some cases are quite true, in others much exaggerated. There is evident disorganization. We believe that radical changes in management are needed.'

"It is evident that there has been general incompetency in the management, and primarily the responsibility for this must rest on the President, who has practically controlled the Company's operations since its organization. The appointment of his nephew as Manager is indefensible on any ground whatever. I have scarcely any acquaintance with C. T. Long, having only met him briefly on a few occasions, and I have no personal feelings against him in any way, but the inquiries I have made from people competent to judge, show that he is utterly unfit for the position. He had no previous experience whatever in transportation matters, and his training as a newspaper reporter and commercial traveller for T. Long & Bro. was certainly not such as should have been required in the manager of a company with a capital of \$840,000 at stake. He may be a very competent man for other work, but he should never have been given the managership of this Company, and I have no hesitation in saying that the appointment was an outrage on the shareholders, and I think all the directors are to blame for not suspending or removing him when Clarkson & Cross presented their interim report on Dec. 22, instead of which he was allowed to remain in the position, and to make arrangements and contract liabilities for the current year which will considerably hamper a new manager. I have considerable information in regard to C. T. Long's course in connection with this Company, which I do not think it necessary to go into to-day, but which I shall make public should it be required in the interest of the Company.

"It is charged that the staff has been unnecessarily increased, and that too much money has been spent for printing, advertising, etc. Clarkson & Cross' report is conclusive on the first of these charges. Notwithstanding the fact that the Company's earnings were decreasing, the general staff has been unwarrantably increased. The statement shows that the salaries of the Sarnia division in 1902 were \$10,680; in 1903 they were \$16,472; an increase of over 50%. The salaries of the Collingwood division in 1902 were \$5,044; in 1903 they were \$7,040, an increase of over 42%. To this must be added the directors' fees, etc., which are part of the cost of management. In 1900 they were satisfied with \$880, in 1901 this was increased to \$2,940, and in 1902 to \$3,910. In justice to the directors generally it should be stated that of the latter amount the President drew \$2,500, the Treasurer \$750, the Secretary, who merely had to sign his name, \$150; and \$510 were paid in board meeting fees. In the figures I have given respecting salaries, the pay of the officers and men of the steamers is not included. Part of the increase is due to the appointment of C. T. Long as Manager, and to the extraordinary and unnecessary employment of Capt. P. Campbell at Collingwood in a sort of advisory capacity. Expense accounts are not included in the statement, and I may add that I am informed that the Manager's expenses for 1903 were some \$750, and that in addition he overdraw his account some \$200.

"In regard to printing, etc., there is every reason to believe that a large amount of money has been wasted, or at least extravagantly used, for framed lithographs of the steamer *Huron* and in other ways. This should be thoroughly investigated, and it should be ascertained who authorized the expense. Had prompt action been taken when I first brought the matter before some of the directors last autumn some of this expense might have been

avoided. I understand an expensive advertising book is being got out for the Company in the United States, and it would be interesting to know what liability has been incurred in connection with it.

"In the draft resolutions already referred to, I proposed that Clarkson & Cross should ascertain the respective amounts paid to directors of the Company or to any company in which such directors are known to be interested, for supplies, etc. I have reason to believe that if this had been done it would have shown that certain directors have sold large quantities of supplies to this Company. This information should yet be obtained, and it should be ascertained whether such supplies were bought in open competition, and if not, how the prices charged compare with the then current market rates. I notice that among the items included in the cost of the steamer *Huron* is one for \$9,294.75 paid to T. Long & Bro. for carpets and other fittings. Naturally for a large order like this the great carpet houses like John Kay, Son & Co. and the T. Eaton Co. should have been asked for prices. Was this done, and did T. Long & Bro. get the order because they were the lowest tenderers? The shareholders should be informed who has done the buying for the Company, who has checked the accounts, who has approved them for payment, and who has signed the checks. Of course the officials, having been under the control of J. J. Long, were practically at his mercy so far as the retention of their positions was concerned. They were dependent upon his good-will for advances in salary, and it could not be expected that they would drive hard bargains at his store, or that they would make any startling deductions from accounts rendered by his firm, no matter what prices might be charged. I presume the accounts were subject to the final approval of the President, and he would not be likely to deal in any way but leniently with the invoices of T. Long & Bro. Perhaps in these cases he has of late delegated the power of approval to the Vice-President, but the final result would be the same. I believe a great saving could be effected if the supplies were purchased on business principles in the open market, and not necessarily from directors.

"The steamer *Huron* was built by the Collingwood Shipbuilding Co., of which certain directors of this Company were the promoters, and in which they were largely interested. Were tenders invited from other shipbuilding companies, or was the contract awarded without competition? I am told the Collingwood Shipbuilding Co. has also done considerable repairing work for this company. How were its charges regulated, and by whom were the accounts checked and finally approved?

"The next is what I consider probably the most serious of the charges, viz., that certain directors have for several years enjoyed a special tariff for the carriage of their goods, and that another company in which the same directors are interested has also enjoyed special rates of freight. These are no haphazard charges. I stated deliberately to Osler and Hammond and to Mr. Clarkson that ever since the organization of the Company, up to at least October last, T. Long & Bro. enjoyed a special rate of 20 cents per 100 lbs. on groceries, etc., and of 15 cents per 100 lbs. on heavy coarse freight, such as oats, hay and potatoes, from Collingwood to destination on Lake Superior. I have been in communication with officials of the C.P.R., which company operates steamboats on the great lakes, and with other authorities, and find that the granting of average or all-round rates is entirely opposed to the cardinal principles which govern freight traffic. Freight is carried by the various transportation companies under what is known as 'The Canadian Freight Classification,' number 12 of which is

now in force, and a copy of which I have here. Under this classification no shipment can be made under the general head of 'Groceries,' but the various kinds of groceries have different rates. For example, tea in less than carload lots is first-class, and in carload lots third-class. Pickles in less than carload lots range from first to third-class, according to packages, and in carload lots are fifth-class. Articles under different headings cannot be carried in mixed carloads at carload rates. Under the heading of groceries in less than carload lots, 200 articles are specified, the average classification of which is between second and third-class, or actually 2-1-5. In carload lots 180 articles are specified, the average classification of which is between the fourth and fifth classes, or actually 4-3-4. For the whole 380 headings under both less than carloads and carloads, the average classification is between third and fourth classes.

"I have obtained copies of the local freight tariffs issued by the Collingwood and Sarnia offices of the Company. The Collingwood one is confined to Georgian Bay and Lake Huron ports, as far as Sault Ste. Marie. The Sarnia one covers from Lake Huron ports to Sault Ste. Marie, Port Arthur, Fort William and Duluth. On both it is stated that they are governed by the Canadian Freight Classification, conclusively showing that freight should not be billed on a flat or all-round rate, but that it should be charged according to the rating in the classification. The tariff from Lake Huron to Lake Superior ports ranges from 40 cents per 100 lbs. for 1st class freight to 20 cents per 100 lbs. for 5th class freight, an average of 30 cents per 100 lbs., as against T. Long & Bro.'s special rate of 20 cents. In other words, the special all-round rate they have enjoyed is one-third less than the average of the regular tariff. As previously explained, their special rate for all groceries is 20 cents per 100 lbs. from Georgian Bay and Lake Huron to Lake Superior. This is divided on the basis of 50% to each steamer, that is to say, the steamer carrying it from Collingwood to Sault Ste. Marie gets 10 cents and the Sarnia steamer taking it further up Lake Superior gets 10 cents, but from this has to be deducted wharfage charges on the transfer at Sault Ste. Marie, amounting, I believe, to from 2 cents to 3 cents per 100 lbs. The Collingwood office's local tariff shows that the rates from that port to Sault Ste. Marie range from 25 cents per 100 lbs. 1st class to 15 cents per 100 lbs. 5th class, an average of 20 cents, but instead of that on T. Long & Bro.'s freight to Lake Superior only 10 cents less the wharfage has been realized for the Collingwood division. Is it any wonder that this division was run at practically a loss last year?

"There is another important phase of this question. There was a large amount of west-bound package freight offering last season at full tariff rates, certainly as much as the boats running from Sarnia could carry, and I have reason to believe that they had to leave some of this behind in order to accommodate some of the lower rate shipments of T. Long & Bro.

"The fact of these special rates having been granted has been for several years the subject of much comment among the wholesale trade of Toronto and Hamilton, and has diverted business from this line, as on account of the discrimination some firms would not ship by it.

"I regret that Clarkson & Cross have apparently not been able to get thoroughly to the bottom of this special rate business. Early last week in conversation with Mr. Cross, I learned that up to that time it had not been dealt with, as he seemed to think it better to present a general report, stating that mismanagement existed, rather than to go into details. I impressed upon him that it was of the utmost importance that it should be looked into, and he promised to do so, but as he was

not able to come to Collingwood again until Thursday last there was probably no time to go into it thoroughly, hence the meagre nature of the report on this point. That the special rate has existed I am prepared to establish by indisputable evidence.

"I have reason to believe that the granting of these special rates is not the only way in which T. Long & Bro. have been favored. It is stated, but I have no personal knowledge

of the matter, that in Dec., 1902, the purser of the steamer Germanic made a rebate in favor of T. Long & Bro. of \$462.60 on the season's business, and it should be borne in mind that this was merely one vessel out of the fleet of ten. It is also alleged that in Oct., 1903, the steamer Majestic was sent on a special trip to Ignace Island, near Nepigon, almost entirely loaded with supplies sold by T. Long & Bro. to the Lake Superior Timber

or Lumber Co., and that owing to the low rates of freight charged the boat actually lost money on the trip. It is further alleged that in 1902 the Collingwood Shipbuilding Co., to which I have previously referred, had a special rate on cement from Owen Sound to Collingwood of \$10 a carload, while the Cramp Steel Co. and others were being charged \$15 a car. I do not guarantee the accuracy of these three last charges, but I have reason to

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— WRITE FOR QUOTATIONS —

believe there is something in them. In regard to the special rates granted T. Long & Bro., I think a freight expert should be engaged to go through the records of all their shipments, and to ascertain the difference between the amount of freight paid under the special tariff and what should have been paid under the regular public tariff. The new directors should then take legal advice as to whether proceedings could be successfully instituted to recover for the Company what it has lost on account of the freight having been shipped at special rates. I am, of course, assuming that the directors generally did not know that special rates were in existence, and that they were not authorized by the board as a whole. It may be urged that T. Long & Bro. had special rates on the Great Northern Transit Co. before it was merged into this Company, but that was a close corporation. There was no large list of shareholders, and the company was not publicly floated. No special rates should have been enjoyed by any director or other person from this Company without the knowledge and authority of the full board.

"Another subject for inquiry is whether T. Long & Bro. have paid their freight charges promptly, as other persons are required to do, or whether they have been charged up against them, and settled at the end of the season after the granting of rebates or other favors. I presume the supplies they sold the Company were paid for monthly.

"In connection with the charges I have made against certain directors I will quote the following from a well-known legal work:

"A director stands in a fiduciary relation towards the company. He is not allowed to make any profit out of the position he thus holds other than that allowed by the regulations of the Company or by the consent of its members.

"The rule that a director cannot take the benefit of a contract entered into between himself and the Company, because he is not to make a profit in a case where he is both buyer and seller, applies even although his colleagues at the board had full knowledge of and approved of the transaction.

"Directors are bound to exercise the powers given them for the benefit of the Company generally, and not with a view to their own private interests only.

"Any profits of any description which he may have made out of the Company, beyond the remuneration granted him by the Company, a director is liable to repay."

"The manner in which certain directors disposed of large quantities of their stock, leaving themselves with very small holdings, was fully dealt with in the January issue of THE RAILWAY AND SHIPPING WORLD, and I do not wish to take up time now by repeating the details. The facts there stated were obtained from the Company's transfer and other books in the hands of the Toronto General Trusts Corporation, and cannot be disputed. It has been shown that certain directors sold the principal portions of their stock when prices were high, and it may fairly be assumed that net earnings of the Company, they availed themselves of it in order to unload and to leave the other directors and shareholders in the lurch. It has been shown that since February last Mr. John Long has only held 50 shares out of a former holding of 409, that T. Long has only held the same number since Dec. 10, 1902, and that from Nov. 25 to Dec. 10, 1902, he remained a member of the board, and as Secretary, without having a single share standing in his name on the Company's stock register. I contend that these gentlemen, if they had had any sense of propriety, should have resigned their seats on the board and not have continued to practically control the Company and its operations after having disposed of seven-eighths of their stock. But they had too good a thing to let go of. The President

with a salary of \$2,500 a year, his nephew with the position of Manager, his firm with special rates for all its freight, and the supplying of large quantities of goods for the use of the steamers. Some people may look on these stock transactions as a piece of smartness. It undoubtedly was, but it was not justifiable. No reputable business man would attempt to defend it, and I think it would be interesting to hear what some of the other directors, particularly Messrs. Osler & Hendrie, think of it.

"So far I have spoken only of those directors who have used the Company for their personal advantage, and of the other directors who also unloaded their stock at high prices. As to the remaining directors, I do not believe that they have acted in anything but a straightforward way, but it is evident that they have been careless, that apparently they relied on the good faith of the unloaders, and that they did not sufficiently acquaint themselves with the affairs of the Company. Had they done this, I do not believe that an unqualified manager would have been appointed, that salary expenses would have been increased some 50%, that general extravagance would have been permitted, or that other directors would have been allowed special freight rates. There is no doubt that for this carelessness they are blameable. The work from which I have already quoted says:

"Every director is bound to have a reasonable knowledge of the affairs of the company. He is not necessarily affected with notice of all the transactions entered in the books of the company, but he is affected with notice of all proceedings of the board, the minutes of which are read and confirmed in his presence. Generally a director will be presumed to have known everything which in his capacity as a director he should have been acquainted with."

"In view of this, as a matter of fact, none of the directors have any claim on the shareholders to re-elect them, but I do not wish to offer any objection to the re-election of those who have not unloaded their stock, and I think it very desirable that some of them should be re-elected. I do, however, emphatically protest against the re-election of those who did unload, as I believe it is essential in the interest of the shareholders that they should not be re-elected. I am satisfied that in taking this position I am voicing the opinion of a large majority of the investment holders of this stock, and that they will be bitterly disappointed if any different course is adopted by this meeting. A circular which was issued, inviting proxies, stated that a change in the policy and management of the Company was necessary. That change cannot be satisfactorily made if any of those directly responsible for the mismanagement are re-elected.

"I know it has been urged in certain quarters that J. J. Long should be retained on the board, on the ground that the presence of some one acquainted with the business is necessary, and that he is very powerful with the G.T.R. management. Mr. Long's knowledge of the business of this Company is not what is required to put it in a proper position, but directors are wanted who will see that past transactions are probed to the bottom, that the accounts from the commencement of the Company be audited by reliable chartered accountants, who, among other things, shall particularly see whether all payments have been made under the authority of the board, that people who have profited at the expense of the Company may be made to disgorge, and that for the future this Company may be run in the sole interest of the shareholders, and not as an auxiliary to a general store or to further the interest of any directors. The Grand Trunk Railway's business is not conducted on sentimental lines, and any manager or board who will act on business principles will receive every consideration from the management of that railway.

"It is alleged that the issue of free transportation has been abused. In the draft resolutions which I gave Messrs. Osler & Hammond I suggested that full particulars should be obtained of all annual, periodical or trip passes issued during 1903, with the names and addresses of the persons issued in favor of and the reasons for such issue. Such a statement is the only way in which it can be ascertained whether the charge is true or not, and whether free transportation has been issued as alleged, not in the interest of the Company, but to friends, customers and employes of certain directors. An effort should also be made to ascertain whether the pursers have been in the habit of passing certain people free, as it is said that many have been so carried, and, of course, there would be no record of them in the pass books.

"Towards the end of each year transportation companies send out to other companies requests for exchange passes, the general rule with companies of any standing being only to ask passes from railway and steamship lines over whose routes the Company's officials might require to travel in the ordinary way of business. As an instance of the reckless and silly way in which the Manager of this Company has acted it may be stated that towards the close of last year he issued circulars to between four and five hundred lines asking annual passes for the President, himself and, I believe, some other officials of this Company. Among other lines he applied to the Alamogordo & Sacramento Mountain Ry., the Alaska Steamship Co., the American Railroad Co. of Porto Rico, the Arizona & New Mexico Ry., the Arkansas Southeastern Ry., the Atlantic & Mexican Gulf Ry., the British Yukon Ry., the Florida & Georgia Ry., the Florida East Coast Ry., and many others equally unnecessary. These are names selected from the list at random and are typical of the whole. The President and Manager must have contemplated doing a lot of pleasure travelling, as certainly there is no necessity to use any of the lines mentioned on the business of this Company. This piece of nonsense on the part of the Manager took up a good deal of the time of the office staff, cost a considerable amount of postage and the lithographing of a large number of unnecessary passes, and, worst of all, has scattered this Company's passes practically all over this continent, to say nothing of Porto Rico and other places. It is very easy for such passes to get into wrong hands, to be disposed of to scalpers and to be improperly used on the steamers."

As Mr. Burrows proceeded, the President and another shareholder frequently interrupted him, the President trying to explain matters as he went along. When Mr. Burrows dealt with freight rates and charged that T. Long & Bro. had enjoyed special rates, the President flatly contradicted him. Mr. Burrows challenged him to produce the letter-book of the Assistant Manager at Collingwood for July, 1903, and the correspondence received in the office during that month, and said it would show that early in that month the question was raised as to why 53,750 lbs. of freight had been carried to Port Arthur in June, 1903, at a certain rate. In reply, the Assistant Manager at Collingwood wrote to the Sarnia office as follows: "I do not know whether the matter has been brought before your notice as to rates, but you will remember since 1898 the wholesale firm of T. Long & Bro. here have enjoyed a rate of 20 cents per 100 lbs. on groceries, etc., and 15 cents per 100 lbs. on heavy coarse freight, such as oats, hay, potatoes, from Collingwood to destination, divided on basis of 50% to each steamer."

The reading of this letter created a decided sensation in the meeting, and the President asked the reporters present not to take down the discussion which followed. He con-

tended that it was not a special rate but was common to all shippers, and appealed to C. E. Stephens, another director, who supported his contention. Then H. Y. Telfer, wholesale grocer, etc., Collingwood, rose and said that he had been shipping by the line for years, and had always had to pay full tariff rates. He had often been told by his customers that certain firms could get better freight rates, but he had not been aware that T. Long & Bro., and the C. E. Stephens Co. had such a special rate. Jas. Henderson took the ground that no directors or any firm in which they were interested should receive any concessions, and he did not think, in face of the letter Mr. Burrows had read, that the directors interested could clear themselves of the charge, unless it could be proved that notice of the 20 cent rate had been generally given.

By-laws amending the by-laws previously in force were adopted, the principal change being one providing for the removal of the head office to Toronto.

When the election of directors was taken up the President suggested that Mr. Osler should cast one ballot for certain persons who had been selected. Mr. Burrows objected to this, as he was not prepared to vote on his own stock, and on those he represented by proxy, for J. J. Long. A ballot was then taken, and the following were declared elected:—W. Hendrie, Hamilton; W. D. Matthews, E. B. Osler, C. D. Warren, Toronto; F. A. Lett, Barrie; H. P. Smith, Owen Sound; W. J. Sheppard, Waubauskene; C. E. Stephens, H. Y. Telfer, J. J. Long, Collingwood. The new members of the board are Messrs. Warren and Telfer. C. Cameron and T. Long, who were Vice-President and Secretary respectively in 1903, were not re-elected.

After the adjournment of the annual meeting the directors met and accepted the resignation of the Manager, C. T. Long. At a meeting of the directors held in Toronto Feb. 2, E. B. Osler resigned from the board, and H. C. Hammond, who was elected to succeed him, was also elected President. W. J. Sheppard was elected Vice-President, and R. A. Smith, of Osler & Hammond, was elected Secretary-Treasurer.

#### Additional G.T.R. Appointments.

F. W. Egan, heretofore General Manager Fort Worth and Denver City Ry., has been appointed Assistant Superintendent in charge of transportation and station service, 1st, 2nd and 3rd districts, vice J. W. Higgins transferred. Office, Island Pond, Vt.

A joint circular has been issued by the G.T.R. and Wabash Rd., appointing C. S. Cunningham, heretofore Assistant Superintendent G.T.R., London, Ont., to be joint Superintendent Southern division, vice L. J. Ferritor, resigned to accept service with another company. Office, St. Thomas.

J. W. Higgins, heretofore Assistant Superintendent Eastern Division, at Island Pond, Vt., has been appointed Assistant Superintendent at London, succeeding C. S. Cunningham, promoted.

W. S. Stout, President and General Manager Dominion Ex. Co., was born at Havana, Ill., Aug. 5, 1858, and entered railway service in 1871, since which his record has been: 1871 to 1875, messenger boy and clerk, Peoria, Pekin and Jacksonville Ry., Havana, Ill., which for a portion of the time was also a telegraph and express office; 1876, messenger and acting agent, United States Ex. Co., Havana, Ill.; 1876 to 1877, Superintendent's office, United States Ex. Co., Springfield, Ill.; 1877 to 1879, clerk and acting agent joint city office, American Ex. Co. and United States Ex. Co., Bloomington, Ill.; 1879 to 1882,

Cashier Pacific, Ohio, and Mississippi and Iron Mountain Ex. Co. at St. Louis, Mo.; July, 1882, to July, 1884, Superintendent Dominion Ex. Co., Winnipeg, Man.; July, 1884, to Mar., 1889, Superintendent Dominion Ex. Co., Toronto; Mar., 1889, to Dec., 1899, General

Manager Dominion Ex. Co., Toronto; Dec., 1899, to Dec., 31, 1903, Vice-President and General Manager Dominion Ex. Co., Toronto. Mr. Stout has been a director and General Manager of the Western Ex. Co. since Jan., 1895.

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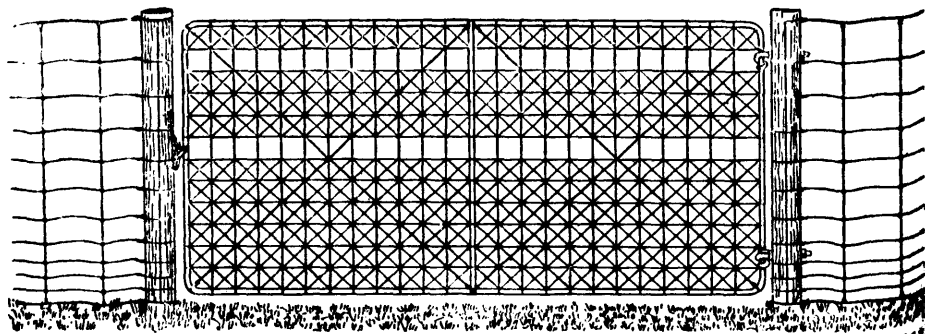
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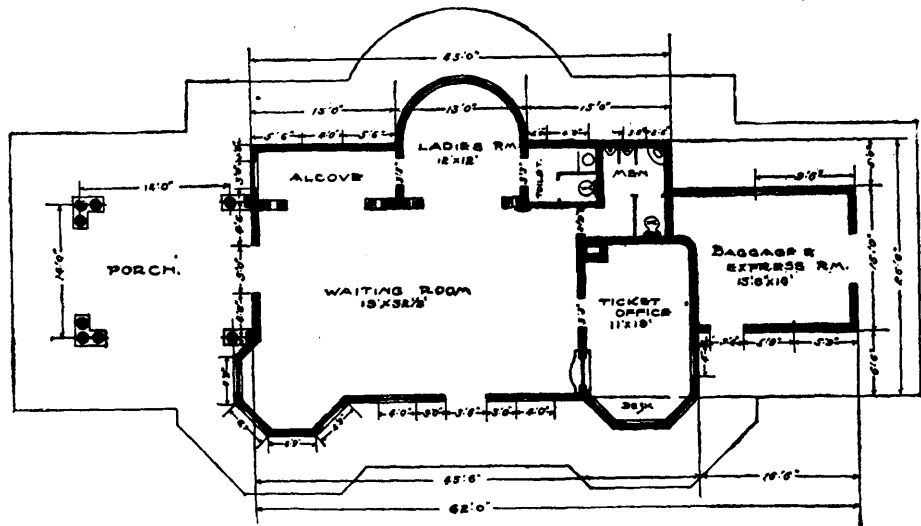
Montreal, Que.

St. John. N.B.

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

**Track Elevation in Montreal.**—The question of elevating the tracks between Bonaventure station and St. Henri was mentioned at a recent meeting of the Montreal city council, when a letter was received from W. Wainwright, Comptroller, stating that the company was prepared to discuss the whole matter with the council. Some years ago the company had plans prepared for the work, but the negotiations were broken off as the proportion of the cost to be borne by each party could not be agreed upon.

**Whitby Jct. Station.**—In connection with the double tracking of the line between Montreal and Toronto, a new station has been erected at Whitby Jct., a general view and ground plan of which are given on this page. The building is 45½ by 22½ ft., and contains waiting room 19 by 32½ ft.; ticket office 11 by 19 ft.; with ladies' room 12 by 12 ft. in addition to an alcove and lavatory accommodation. At the east end is a baggage and express room 16 by 15 ft., and at the west end a porch 14 ft. square. The elevation and general layout of the station building is according to the standard plan for stations at such points as Whitby Jct.



GRAND TRUNK RY. STATION, WHITBY JCT., ONT.

ing the handling of traffic on the Toronto-Hamilton section.

**Burlington Bridge.**—One of the abutments of the bridge crossing the canal at Burlington beach showed signs of sinking at the end of Nov., and a gang of men was set at work strengthening it.

**Hamilton Improvements.**—Some opposition developed to the carrying out of the plan for the improvement of the Hamilton yards, and the erection of a bridge at Wellington st. on the part of the Toronto, Hamilton and Buffalo Ry., but the agreement has been confirmed. (Oct., 1903, pg. 348.)

**Fort Erie Offices.**—In connection with the completion of the new round house at Fort Erie, Ont., an office building is being provided for the mechanical staff. The building will be of concrete 59 by 21 ft., and will have accommodation for the mechanical staff and for the roundhouse stores. (Nov., 1903, pg. 387.)

**Brantford - Paris Improvements.**—The lengthened negotiations with the Paris town

council resulted in an agreement being reached Dec. 16, by which the G.T.R. will construct a subway at Grand River st. crossing 60 ft. long and 13 ft. high, with a roadway 24 ft. wide and a pathway on either side 6 ft. wide for passengers. To allow this the tracks will be raised 11 ft. across Grand River st., and 10 ft. at Broadway. The crossing at Broadway will be closed to all but pedestrians.

In connection with these improvements the line between Paris and Brantford is being thoroughly overhauled, and in some places a new line is being constructed, thus doing away with some heavy gradients, and double tracks are being laid. It is proposed to construct a new bridge over the Grand River at Paris at a cost of \$120,000, and to build twin bridges over other streams crossed by the line in order to carry the second track. The new station at Brantford will probably be erected in the spring. (Nov., 1903, pg. 387.)

**Sarnia-Kingscourt Second Track.**—The second track between Kingscourt and Sarnia, Ont., has been completed, and has been placed in operation.

**Detroit to Durand, Double Tracking.**—Press reports recently stated that it was the intention of the company to double track its line from Duluth to Durand, Mich. We were recently advised that while it will doubtless be to the interests of the G.T.R. to double track its entire main lines eventually, nothing definite is contemplated in the way of double tracking the line between Detroit and Durand in the immediate future, but in the sense above referred to doubtless a double track between these two points will be a necessity before many years.

**Canadian Orders for Steel Rails.**—The big orders for steel rails for the Canadian railways have all been placed. The Temiskaming and Northern Ontario Railway Commissioners placed an order through the estate of the late James Cooper, Montreal, for 6,000 tons of 80-lb. rails, with an English firm; Mackenzie, Mann & Co. have ordered 25,000 tons in the United States for the Canadian Northern Ry.; and the C.P.R., through B. J. Coughlin, of Montreal, has ordered 40,000 tons from the U.S. The prices are reported to be \$21 a ton in the case of the C.P.R. order; \$22 a ton delivered at Montreal for the Temiskaming and Northern Ontario Ry. order; and \$25 a ton delivered at Port Arthur for the Mackenzie, Mann & Co. order.

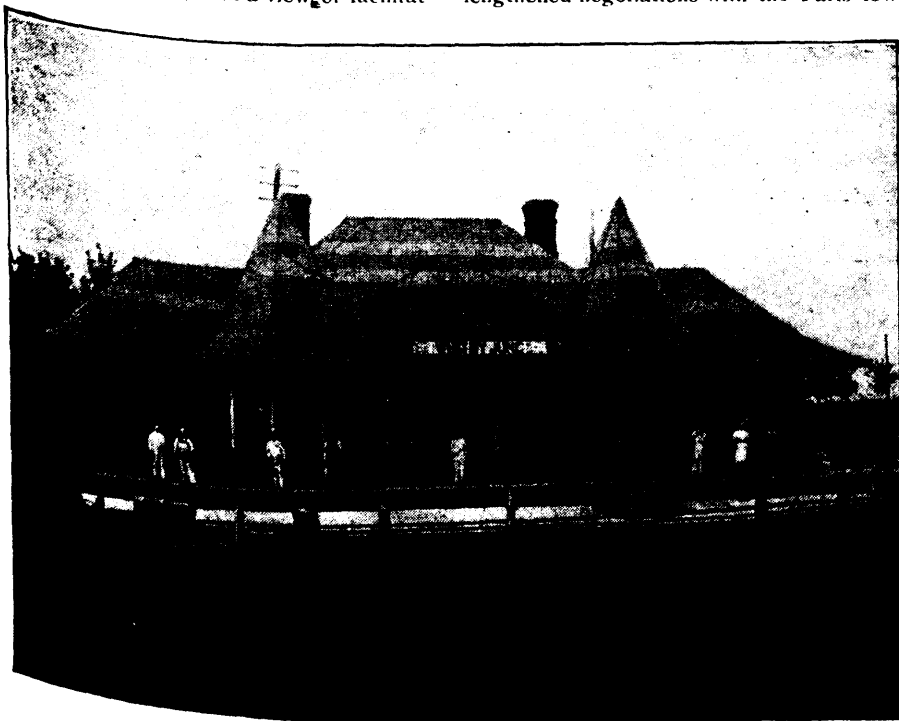
H. A. Norton, son of A. O. Norton, manufacturer of jacks, Boston, Mass., and Coaticook, Que., sailed Feb. 1 for Cairo and a trip up the Nile.

**Beaverton to Manilla Junction Cut-off.**—Surveys have been made over this section of the line with a view to improvements, but we are advised that while the company has a good many engineering parties in the field at different points on the line figuring on possible improvements, it does not necessarily mean that the changes will be made.

**Toronto Yards.**—The new freight shed on Front st. between John and Simcoe streets, and the yard which extends from Front to Wellington st., has been opened. The freight offices on Simcoe st. are not completed, but are expected to be ready for the staff early in Feb. (Dec., 1903, pg. 421.)

**Union Stock Yard, Toronto Jct.**—The arrangements for the construction of a switch to the Union stock yards have not been completed, and it is not expected that anything will be done until the spring.

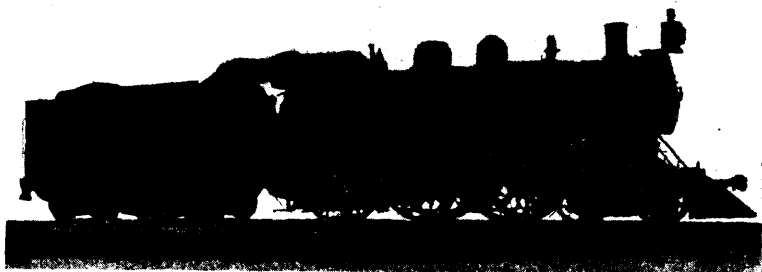
**Oakville Switches.**—Two new switches, each nearly a mile long, are being constructed at Oakville, Ont., with a view of facilitat-



GRAND TRUNK RY. STATION, WHITBY JCT., ONT.



# Baldwin Locomotive Works



**BROAD  
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GAUGE**

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Mine, Furnace and Industrial Locomotives. Electric Locomotives with Westinghouse Motors and Electric Trucks

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Burlington Elevator, St. Louis, Mo.	1,300,000	Bushels
Grand Trunk Elevators, No. 2 and No. 3, Portland, Me.	2,500,000	"
Export Elevator, Buffalo, N.Y.	1,000,000	"
J. R. Booth Elevator, Depot Harbor, Ontario	1,000,000	"
Southern Pacific Terminal Co.'s Elevator, Galveston, Texas	1,000,000	"
Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hrs.	"
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	1,500,000	"
Burlington Elevator Co., Peoria, Ill.	500,000	"
Canada Atlantic Railway Elevator, Coteau Landing, Que.	500,000	"
Northern Grain Co., Manitowoc, Wis.	1,350,000	"
Union Elevator, East St. Louis, Ill.	1,100,000	"
Montreal Warehousing Co.'s Belt Conveyor System		"

We make a specialty of furnishing **PLANS AND SPECIFICATIONS.**

## The POLSON IRON WORKS

TORONTO, CANADA.

**Engineers, Boilermakers and  
Steel Shipbuilders.**

**OFFICE AND WORKS—Esplanade St. East, TORONTO.**

**THE FIRSTBROOK BOX CO.,  
LIMITED.**

CROSS ARMS, TOP PINS,  
AND SIDE BLOCKS,  
TORONTO.

**"JUST A HINT ON  
YOUR PRINTING."**

THE HUNTER, ROSE CO. Limited  
TEMPLE BUILDING—TORONTO

### C.P.R. LANDS.

**THE CANADIAN PACIFIC RAILWAY COMPANY** have 14,000,000 acres of choice farming lands for sale in Manitoba, Assiniboia, Saskatchewan and Alberta. Manitoba lands and Assiniboia lands east of third meridian, \$4.00 to \$10.00 per acre. Lands west of third meridian, \$3.00 to \$6.00 per acre. Maps showing the lands in detail will be sent free on application.

#### TERMS OF PAYMENT.

An actual settler may purchase 640 acres, or less, on the 10 payment plan, by which the aggregate amount of principal and interest is divided into a cash instalment to be paid at the time of purchase and nine equal deferred instalments annually thereafter, as follows:

- 160 acres at \$4.00 per acre, 1st instalment \$95.85, and 9 equal instalments of \$80.
- 160 acres at \$4.50 per acre, 1st instalment \$107.85, and 9 equal instalments of \$90.
- 160 acres at \$5.00 per acre, 1st instalment \$119.85, and 9 equal instalments of \$100.
- 160 acres at \$5.50 per acre, 1st instalment \$131.80, and 9 equal instalments of \$110.
- 160 acres at \$6.00 per acre, 1st instalment \$143.80, and 9 equal instalments of \$120.00.

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 6 per cent. per annum.

#### DISCOUNT FOR CASH.

If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. on five-sixths of the purchase money.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN,

Land Commissioner C.P.R. Co.,  
Winnipeg.

#### CANADA NORTH-WEST LAND CO.

This Company have 1,000,000 acres of selected lands in Manitoba and Assiniboia which offer excellent opportunities to settlers and investors who desire to secure good lands in well settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

## Edward L. Drewry

**REDWOOD  
BREWERY,**

Winnipeg, Manitoba.

Fine **ALES, EXTRA PORTER**

... AND ...

**PREMIUM LAGER.**

*Most Extensive and Complete Brewery  
and Malshouses in Western Canada.*

**CHOICE MALT FOR SALE**

Manufacturer of the Celebrated

Golden Key Brand **AERATED WATERS**

**TORONTO ENGRAVING CO.**  
DESIGNERS, ENGRAVERS,  
ELECTROTYPERS.  
**92 BAY ST.**

### Canadian Railway Club.

The annual meeting was held in Montreal Jan. 5, T. McHattie, 1st Vice-President, in the chair. The report showed the Club to be in a flourishing financial position, and it was decided to take steps to secure a room, either in the Windsor Hotel or elsewhere, for permanent headquarters.

L. Gleason, of the Galena-Signal Oil Co., Chairman of the nominating committee, presented a report nominating the following for the current year: President, T. McHattie, 1st Vice-President, S. King; 2nd Vice-President, W. E. Fowler; executive committee (five to be elected), J. Powell, T. H. Hopkirk, Acton Burrows, D. B. Swinton, A. A. Maver, J. Fenwick, A. Plow, W. D. Robb, L. R. Johnson; finance committee, H. Osborne, W. C. Stark, A. F. Wright, R. R. Neild.

Messrs. McHattie, King and Fowler, being the only nominees, were unanimously elected President and 1st and 2nd Vice-Presidents respectively. Acton Burrows declined reelection on the executive committee on the ground that, being resident in Toronto, he found it difficult to attend the meetings of the committee, which are not held on the same day as the regular monthly meetings, and because he thought it better that the offices should all be given to practical railway men. Ballots resulted in Messrs. Johnson, Hopkirk, Powell, Robb and Swinton being elected as the executive committee, and Messrs. Osborne, Stark and Wright as the finance committee.

The annual dinner was held at the Windsor Hotel, Montreal, Jan. 22, President McHattie in the chair. Among the speakers was Dean Bovey, of McGill University, who particularly referred to the railway department which is to be established there.

### Passenger Meetings at Toronto.

The Niagara Frontier Summer Rate Committee met in Toronto Jan. 14, and arranged rates for the ensuing season. H. H. Gildersleeve, General Manager, Lake Ontario and Bay of Quinte Steamboat Co., was elected Chairman and G. C. Wells, C.P.R. passenger department, Montreal, Secretary.

The Great Lakes and St. Lawrence River Rate Committee met in Toronto Jan. 15, and also arranged rates for the ensuing season. C. E. Markham, General Passenger Agent Erie and Western Transportation Co., Buffalo, N.Y., was elected Chairman, and G. C. Wells, Montreal, Secretary. The principal feature of the meeting was the taking of preliminary steps to form an association to be called the International Water Lines Passenger Association. A. H. Schantz, General Superintendent and Passenger Traffic Manager, Detroit and Cleveland Navigation Co., Detroit, Mich., was elected Chairman, and M. Nelson, rate clerk Northern Steamship Co., Buffalo, N.Y., Secretary. A committee was appointed to go fully into the matter and submit a draft constitution and by-laws at a meeting to be held in Detroit in Feb. It is the intention to issue full particulars of tariffs and other information respecting the water transportation of the continent for the use of ticket agents in Canada and the United States.

A fire broke out in the private car of E. A. James, Manager Canadian Northern Ry., on the C.N.R. express train from St. Paul, Minn., to Winnipeg, Man., while he was on his return journey from Toronto, after his recent appointment to the position of Manager. The fire was discovered at a point where there was no water available, and fast speed was made to the nearest point where there was a water tank, when the fire was extinguished. Mrs. James was also in the car at the time of the fire.

### Lindsay, Bobcaygeon and Pontypool Ry.

This line, which has been under construction since Aug. 15, 1903, runs from Burketon, on the C.P.R. about 40 miles east of Toronto, northeasterly through the townships of Cartwright, Manvers, Ops, Verulam, in the counties of Durham and Victoria. It passes through the village of Nestleton, which is 7 miles north of Burketon, and enters the corporation of Lindsay close to the Scugog river, crossing the Midland division of the G.T.R. under the bridge across that river. It then skirts the river, running between it and the G.T.R. spur line to a level crossing of that branch at King Street, into the station grounds located between Caroline and Lindsay streets. Then passing out of the corporation from the east limit of the town the line runs in an almost straight line to Sturgeon lake at the mouth of Emily creek. Thence following the shore of the lake to opposite the west end of the village of Bobcaygeon, and crossing the Little Bob river on to the island where the present terminus is located, near the west end of the Trent Valley Canal locks. The distance from Burketon to Lindsay is 23 miles, and from Lindsay to Bobcaygeon 17 miles, a total of 40 miles.

The work done comprises all the grading and fencing of the line and all the small structures, with the exception of the work in Lindsay, which is being carried on during the winter. The more important structures are: A pile trestle of 200 ft., crossing the East river, about 6 miles south of Lindsay, and a similar structure over Emily creek, also 200 ft. long, and a trestle bridge over the Little Bob river at Bobcaygeon, with a steel swing span of two equal arms, giving a 35-ft. opening each side of the pivot pier, which with the abutments will be built of concrete. The maximum gradient going northward is 1% and south bound 0.8%. The maximum curvature is 4', excepting the entrance to the station yard at Lindsay, which is somewhat sharper. The station buildings and water tanks are under construction. The station building at Lindsay will be a first-class building on stone foundations, with hot water heating, electric light and all modern conveniences in the way of lavatories, etc., together with a freight shed 100x40 ft., and other necessary buildings. At Bobcaygeon the station will be somewhat smaller, and the freight shed 60x40 ft. At Dunsford and Nestleton there will be ordinary wooden stations and freight sheds combined, with dwelling house above. Water tanks of 40,000 gals. capacity, entirely housed, will be erected near Burketon and at Bobcaygeon, while at Lindsay two stand pipes will be provided in the station yard supplied from the town waterworks. A 70 ft. steel turntable will be put in at Lindsay and at Bobcaygeon, and at the latter point a 2-stall engine shed.

It is expected to commence laying track about April 15 at Burketon. The rails will be 60 lbs. to the yard, American Society of C.E. section, and the ties of the number and dimension required under the Dominion Government specifications. Good ballast pits have been secured at two points on the line, and all the work will be done fully up to the highest standard of construction. It is expected that there will be nothing remaining to be done during the coming season except the track laying and ballasting and the telegraph line, and the road should be fully completed for operation in July. H. W. D. Armstrong is the Chief Engineer.

**Grand Trunk Pacific Ry.**—The new Minister of Railways, speaking at Moncton, N.B., recently, and the Minister of Marine speaking at Hochelaga, both declared emphatically that the eastern section of the pro-

posed new transcontinental railway would be constructed in its entirety. The Minister of Marine added that he agreed with the Minister of Railways when he said that if the Winnipeg to Moncton section was not built, there would be no new transcontinental railway at all. C. M. Hays, 2nd Vice-President and General Manager, and W. Wainwright, General Assistant and Comptroller G.T.R., have paid frequent visits to Ottawa in connection with the negotiations in progress for a modification in the agreement made in 1902. Parliament has been called to meet Mar. 10, and the Premier recently stated that the matter of the modification of the G.T. Pacific Ry. agreement would be discussed at any early stage of the session. Ottawa reports state that the general terms of the modifications to the agreement have been agreed upon, but that no announcement will be made in regard to the details prior to the meeting of Parliament.

**St. Louis Exposition.**—G. T. Bell, General Passenger and Ticket Agent G.T.R., referring to the arrangements made by that railway for carrying passengers from Canadian points to St. Louis, Mo., during the Louisiana Purchase Exposition, which opens in May, stated that visitors to the fair from Montreal, Kingston, Toronto, Hamilton, London and other eastern points in the Dominion would be able to reach St. Louis, at least, twice daily in G.T.R. coaches and sleeping-cars. The G.T.R. has in the press some special publications in connection with the exposition and the G.T.R. route to St. Louis. For those of limited means who seek for themselves and families every means of advancing their knowledge, and who form the largest proportion of the patrons of expositions, the Canadian lines intend to make very low excursion fares, with a time limit, which will cover the entire period of the holidays of this class of people. This will permit of a visit of sufficient length to St. Louis, and also of a brief stop-over or side-trip to other places of special interest or to meet relatives and friends in the west. There will also be special excursion rates for those who have more leisure, and who can afford to pay for special accommodations. The G.T.R., in giving these fares, will co-operate with connecting lines in the New England territory in the sale of excursion tickets via Washington and other routes so that U.S. visitors to the exposition may return from St. Louis by way of Canada, giving an opportunity to visit Muskoka and other summer resorts on the G.T.R. system.

The G.T.R. will make an extensive exhibit in the Forestry, Fish and Game Building at the Louisiana Purchase Exposition, at St. Louis, Mo., the arrangement, etc., of which is going on under the charge of H. R. Charlton, Advertising Agent. The exhibit will consist of a series of large views representing the chief points on the company's line, and the principal game and fishery products of the pleasure and hunting resorts served by the line. It will be a thoroughly representative exhibit, and will be on a larger scale than any hitherto made by the company.

The Montreal Railway Y.M.C.A. new buildings were opened Jan. 20. The buildings and furnishings cost \$41,500, towards which the G.T.R. contributed \$15,000 and the site, and \$1,531 was contributed by the railway employees. R. S. Logan, assistant to the 2nd Vice-President G.T.R., was in the chair, and in the course of his remarks stated that the G.T.R. had expended \$60,000 on Y. M. C. A. buildings on its system, and that twelve associations were working at different points on the line, at which there was a daily attendance of over 1,200 persons.



**Michigan Central Rd. Appointment.**—J. B. Morford, heretofore Superintendent Canadian Division Michigan Central Rd., has been appointed Assistant General Manager, with office at St. Thomas, Ont. He will perform such duties as may from time to time be assigned to him by the General Manager. Mr. Morford was born at Warwick, Orange County, N.Y., July, 1840. He entered railway service as water boy on the New York and Erie Rd., now the Erie Rd., since which he has been consecutively: May, 1852, to Oct., 1853, despatch messenger between New York and Dunkirk, N.Y.; Oct., 1853, to Nov., 1857, passenger and freight brakeman, eastern division, same road; Nov., 1857, to Sept., 1866, passenger conductor, same road; Sept., 1866, to Jan., 1871, chief train dispatcher, Morris and Essex Rd., now a part of the Del-

aware, Lackawanna and Western Rd.; Jan., 1871, to Jan., 1873, successively, general agent at 30th street station, New York, and stationmaster Grand Central station, New York Central and Hudson's River Rd.; Jan., 1873, to Feb., 1875, General Superintendent Long Island Rd.; Feb., 1875, to Jan., 1882, successively Superintendent Sandy Hook

Steamboat Co., and Superintendent lighterage and ferries Central Rd. of New Jersey; Jan., 1882, to April, 1883, Superintendent of Construction Sabine and East Texas Ry.; April, 1883, to Dec., 1883, Superintendent Eastern and Toledo division Michigan Central Rd.; Dec., 1883, to Feb., 1903, Superintendent Canadian division same road.

## OCEAN STEAMSHIP AGENCIES

### AMERICAN LINE.

PLYMOUTH — CHERBOURG —  
SOUTHAMPTON.

Sailing from New York, Saturdays, at  
9.30 a.m.

PHILADELPHIA—LIVERPOOL.

Sailing from Philadelphia on Saturdays.

### ATLANTIC TRANSPORT LINE.

NEW YORK—LONDON.

Sailing from New York on Saturdays.

### DOMINION LINE.

PORTLAND TO LIVERPOOL.

PORTLAND TO AVONMOUTH DOCKS,  
(Bristol and Antwerp.)

### LEYLAND LINE.

BOSTON—LIVERPOOL.

Sailing from Boston on Saturdays.

### RED STAR LINE.

NEW YORK — ANTWERP — PARIS.

Sailing from New York, Sat-  
urdays, at 10.30 a.m.

### WHITE STAR LINE

NEW YORK — QUEENSTOWN —  
LIVERPOOL.

Regular Weekly Service.

BOSTON—QUEENSTOWN—LIVERPOOL.

### BOSTON-MEDITERRANEAN SERVICE

AZORES—GIBRALTAR—NAPLES—GENOA.

Sub-agents at all principal points in Ontario,  
where accommodation can be reserved and  
tickets secured.

**CHAS. A. PIPON**

Passenger Agent for Ontario,

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## UNIFORM CAPS

FOR OFFICIALS AND  
EMPLOYEES OF

**Railways, Steamboats, Express  
and Telegraph Companies.**

**MILITARY AND POLICE HELMETS.**

Embroidery in Gold and Silver  
Bullion for all Purposes.

**W. H. CODDINGTON, Hamilton, Ont.**

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MANUFACTURERS OF

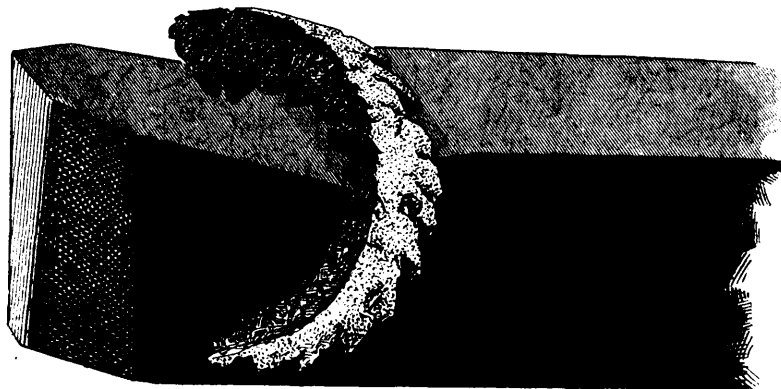
**Brass Castings** For the Wearing Parts of Loco-  
motives.

**Journal Bearings** For Passenger and Freight  
Car Service.

**Miscellaneous Brass Castings** For Engine  
and Car Work

Works and Office: ST. THOMAS, ONT.

## The JESSOP High-Speed . . . TOOL STEEL



is  
Unexcelled  
for Turning  
Locomotive  
Tires,  
Car Wheels,  
Shafting,  
Etc.

1/4-inch cut,  
1/4-inch feed.  
Speed 20 to 40  
feet per minute.  
Tools hardened  
by heating  
white hot and  
cooled in air.

**CAN NOT BE  
BURNED.**

**WM. JESSOP & SONS, Limited, Sheffield, Eng.**

Chief American Office, 91 John St., New York. C. L. BAILEY, Agent, 80 Bay St., Toronto.

## DOMINION BRIDGE CO., Limited

MONTREAL, P. Q.

# BRIDGES

TURNTABLES : : : :

ELECTRIC CRANES

ROOF TRUSSES : : :

STEEL BUILDINGS

Structural METAL WORK of All Kinds

Beams, Channels, Angles, Plates, Etc., in Stock

**Grain Elevator Notes.**

The Intercolonial Ry. elevator at Halifax, N.S., is receiving oats and wheat for shipment to Manchester, Eng. This is the first season that the elevator has been in operation.

The Collingwood, Ont., taxpayers on Jan. 4, voted in favor of the passing of a by-law granting a bonus of \$25,000 to aid in erecting an elevator of 1,000,000 bush. capacity at that port. J. J. Daley, of Chicago, Ill., is promoting the project.

J. Nehin, of Buffalo, N.Y., has been recommended by the committee of the Montreal Harbor Commissioners for the position of Superintendent of the new elevator. The appointment is to be for three years, at a salary of \$2,500 a year.

Application will be made at the current session of the Manitoba Legislature for an act incorporating the Northwest Grain Dealers' Association, with power, among other things, to operate elevators. Wilson & Ewart, Winnipeg, are solicitors for the applicants.

The Canadian Elevator Co. is contemplating the erection of a large elevator at Port Arthur. The workhouse, which, it is said, will be erected in time to handle the 1904 crop, will have a capacity of 1,250,000 bush. The storage elevators will be built of tile or concrete.

W. Gibbins & Co. (Ltd.) has been incorporated under the Manitoba Companies' Act, with a capital of \$2,000, and offices in Winnipeg, with power, among other things, to lease or erect elevators or other grain warehouses. The incorporators are W. C. Graham, R. C. Birkett, W. Watson, H. F. Gordon, and Mrs. E. Gibbins, wife of W. T. Gibbins, grain merchant, all of Winnipeg.

The official statement of the grain receipts at and shipments from the elevators at Port Arthur and Fort William, Ont., for the crop year of 1903, from Sept 1 to the close of navigation gives the following figures:

RECEIPTS.		C.N.R. Elevators.		King's Elevator.	
	C.P.R. Elevators.				Bush.
Wheat	9,907 173.00	5,511,699.40	994,500.00		
Oats	52,486.10	10,570.16	4,596.06		
Barley	7,016.12	46,063.42	6,676.54		
Flax	5,365.50	12,336.38	128,607.03		
	9,972,240 72	5,580,669.36	1,134,379.63		

SHIPMENTS.		C.N.R. Elevators.		King's Elevator.	
	C.P.R. Elevators.				Bush.
Wheat	9,908,231.50	5,236,494.00	868,965.00		
Oats	104,400.12	13,024.14	9,755.16		
Flax	5,365.50	10,678.22	135,897.38		
	10,018,197.12	5,280,196.36	1,004,217.54		

The residents of Port Arthur, by a majority of 81, adopted a by-law in favor of running the street cars on Sundays.

**Canadian Transfer Co.**—The annual meeting was held in Montreal Jan. 26. Following are the officers and directors for the current year: President, Lieut.-Col. F. C. Henshaw; Manager and Secretary, F. M. McRobie; other directors: H. Paton, C. Cassils, G. R. Starke, H. M. Allan.

**Dominion Coal Co.**—In consequence of the separation of the Dominion Coal Co. from the Dominion Iron and Steel Co., a number of the officers of the latter Co. have left and are now associated with the D.C. Co. They are 3rd Vice-President, G. H. Duggan; Assistant Auditor, J. R. Blackett; Sales Agent, A. Dick; Traffic Manager, J. R. McIsaac. The duties of J. R. McIsaac have been increased in other directions, and he has therefore been relieved of work in connection with the Sydney and Louisburg Ry., the management of which has been placed in the hands of F. W. Warren, Assistant to the 3rd Vice-President. Office, Glace Bay, N.S.

**SHIPPING MATTERS.**

**Muskoka Lakes Navigation and Hotel Co., Ltd.**

The following financial statements for the season of 1903 were presented at the annual meeting in Toronto Jan. 19:

TRANSPORTATION—REVENUE AND EXPENSES.	
REVENUE.	
Passengers	\$43,844 73
Freight	15,385 75
Table	10,557 84
Towing	904 25
Passenger earnings	851 10
Mails	3,647 30
Express	406 25
Refreshment stands	425 00
	\$76,022 42
EXPENSES.	
Provisions	\$11,929 21
Oil and waste	593 05
Painting and repairs	10,389 21
Fuel	9,045 63
Running expenses	17,765 30
Laundry	253 13
Marine railway expense	165 68
Marine shop expense	12 63
Gravenhurst wharf expense	12 00
Bracebridge	35
General expense	5,209 90
Office	3,537 91
Surplus revenue	17,108 40
	\$76,022 42

**TRANSPORTATION—PROFIT AND LOSS AT DEC. 31, 1903.**

By balance revenue account	\$17,108 40
" accounts payable, written off	287 49
" Royal Muskoka interest	37 14
	\$17,433 03
To interest and discount	\$ 587 50
" insurance	1,215 92
" bad debts	31 55
" interest on insurance premium	31 04
" Royal Muskoka	19 22
	1,885 23
Net profit	\$15,547 80

**"ROYAL MUSKOKA" HOTEL.**

REVENUE.	
Board and meals	\$25,943 40
Bar, net receipts	3,712 60
General revenue	597 11
Billiards revenue	23 95
Barber shop revenue	36 50
Laundry receipts	391 18
Launch Royal—net revenue	125 25
Total revenue	\$30,829 99
EXPENSES.	
Provisions and supplies	\$ 9,676 96
Bar supplies	2,190 89
Bar wages	414 17
Light, heat and power	930 15
Freight on supplies	1,348 74
Hotel fares	770 40
Wages, kitchen, dining-room, housekeepers, bell boys, etc.	5,680 96
Laundry wages	564 33
" supplies	263 36
Salaries, management and office	3,256 64
Music	709 15
Stationery and printing	441 50
Advertising	1,822 27
General expenses	2,453 68
Taxes	334 00
Insurance	2,498 96
Baggage	72 50
Towing	81 50
Exchange and interest	52 56
Travelling expenses	62 27
Total expenses	\$33,626 99
Excess of expenses over revenue	\$ 2,797 00
Interest	7,515 02
Total loss	\$10,312 02

**GENERAL PROFIT AND LOSS ACCOUNT.**

Roaf claim	\$ 300 00
Transportation department, net gain	15,547 80
G.T.R. rent account	8,388 28
	\$24,236 08
Old accounts written off	\$ 489 73
1902 disbursements	798 97
Hotel net loss	2,797 00
Interest	7,515 02
Net gain	12,635 36
	\$24,236 08

**BALANCE SHEET, DEC. 31, 1903.**

ASSETS.	
Cash as per cash book	\$ 82 93
Accounts receivable, transportation	3,866 00
Accounts receivable, hotel	428 85
G.T.R. rent as per agreement	8,388 28
Inventories, transportation	1,529 79
Inventories, hotel	551 19
10 steamers and outfits	98,763 08
5 scows	2,124 26
3 dry docks	11,066 49
Wharves and storehouses	2,426 08
Offices	1,040 00
Office furniture	261 85
Real estate, Rosseau	724 22
Hotel construction	118,701 56
Furniture equipment	42,170 84
Property	6,073 00
Launch Royal	534 00
Organization	1,034 54
G.T.R. goodwill	14,900 02
Total assets	\$314,667 08
LIABILITIES.	
Dominion Bank	\$ 4,882 48
Accounts payable, transportation	4,027 35
Accounts payable, hotel	1,310 76
Bills payable, Dominion Bank	20,000 00
Mortgage payable Canada Permanent Mortgage Corporation	85,000 00
Contingent fund	13,177 19
	\$128,397 75
Net assets	\$186,269 33
Capital stock issued	\$173,633 97
At credit, profit of loss	12,635 36
	\$186,269 33

A few days prior to the annual meeting A. P. Cockburn notified the other directors that he intended to secure some change in the composition of the board. The reasons for which he desired this change were stated to be that the shareholders of the former navigation company were entitled to representation, and that he had been unfairly treated since the amalgamation under the new title. In 1902 his position was Manager and Treasurer, instead of Manager and Secretary as formerly. In 1903 there was a desire on the part of the majority of the directors to have a change in the management and he gave way, and did all he could to promote the interests of the company, and acted with the new manager to that end. He was appointed Secretary-Treasurer at the beginning of the year, but later on the majority of the board expressed a desire for a change and he gave way, retaining the position of Secretary without salary.

It appears that out of the 1,730 shares A. P. Cockburn controlled over 900 at the meeting, and in addition had a proxy from H. C. McLean, who has removed to Winnipeg, for 167 shares. He voted this proxy in favor of H. C. McLean only, and the other shares he controlled in favor of the following, who were elected directors: Sir John Boyd, R. K. Burgess, A. P. Cockburn, G. R. R. Cockburn, G. T. Ferguson, J. S. Playfair, Toronto; H. C. McLean, Winnipeg; Lieut.-Col. McLaren, Hamilton. The old directors who were not re-elected are F. J. Phillips, Toronto; M. S. Wilson, Dundas, Ont.; S. Barker, M.P.; R. A. Lucas, Hamilton, and G. Homer, Gravenhurst, Ont., the latter of whom declined re-election. At a subsequent meeting J. S. Playfair was elected President. Lieut.-Col. McLaren has resigned from the board.

**Dominion Line Steamships.**—The Toronto agency of the Dominion Line Steamships, plying between Portland, Me., and Liverpool, and between Montreal, Quebec and Liverpool, has been transferred to C. A. Pipon, Passenger Agent for Ontario for the International Mercantile Marine Company, 41 King street east, Toronto. The other steamers of the Dominion Line, sailing from Boston to Liverpool and from Boston to Mediterranean ports, were transferred some time since to the White Star Line, for which Mr. Pipon is also agent.

**St. Lawrence and Chicago Steam Navigation Co.**

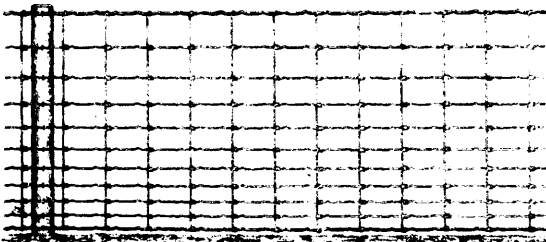
The following report was presented at the annual meeting in Toronto Jan. 16:—"The result of the season of 1903 on the lakes was below the average of many years, the rates on east bound traffic being especially low. The reason for this as regards Canadian vessels is quite obvious. The transportation question has been much in evidence during the last few years, and the cry of 'scarcity of Canadian tonnage' has been frequently and erroneously raised by interested parties, in the public press and elsewhere, and numbers of ill-advised and inexperienced persons have rushed into the building and purchasing of vessels until there is now a glut of Canadian

tonnage on the market which has made its presence severely felt and exercised a most depressing influence on rates of freight. The authorized capital of this Company is now \$1,000,000, and including the issue of \$65,000 in Aug. last, the paid-up capital now stands at \$563,300. The Company's new steamer, W. D. Matthews, was delivered by the builders on Oct. 28, 1903, and fully comes up to all expectations formed concerning her. The W. D. Matthews is the largest freight steamer ever built in Canada. The directors have paid two dividends, amounting together to 10% on the capital stock of the Company, and have carried forward a balance of \$24,640.65."

PROFIT AND LOSS.  
Balance forward, Jan. 1, 1903 ..... \$18,913 68

Steamships .....	\$76,883 59
Interest .....	2,004 23
Premium on 6 shares unsubscribed .....	238 50
	<hr/>
	79,126 32
	<hr/>
	\$98,040 00
Insurance .....	\$12,213 61
Telegraphing and postage .....	322 70
Expense .....	1,786 45
Salaries .....	5,000 00
Taxes .....	451 59
Supplemental charter .....	460 00
	<hr/>
	\$20,234 35
Dividend, 5%, paid July 2, 1903 .....	\$25,000 00
" " payable Jan. 2, 1904 .....	28,165 00
	<hr/>
	53,165 00
	<hr/>
	24,640 65
	<hr/>
	\$98,040 00
	<hr/>
	ASSETS.
Steamer Rosedale .....	\$100,000 00
" Algonquin .....	100,000 00
" Iroquois .....	136,000 00

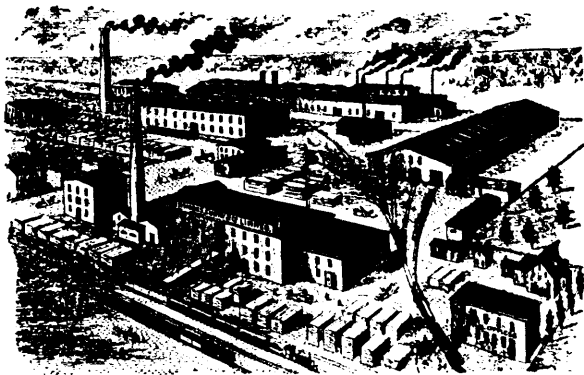
**"AMERICAN" WOVEN WIRE RAILWAY FENCING**



Special Steel.  
Special Treatment,  
Special Galvanizing,  
Extra Heavy Wire,  
Perfect Hinge Joints.  
Tension Curves amply provide requisite elasticity to successfully combat varying temperature. "AMERICAN" FENCES have a world-wide reputation; quality the best.

WRITE TO US AND WE WILL SAVE YOU MONEY.

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**THE CANADIAN STEEL & WIRE COMPANY, Limited**  
HAMILTON, CANADA.



**Rhodes, Curry & Co.,**  
Ltd.,

**Railway and Street Cars**

of all descriptions.

Special Cars for Coal, Ore, Lumber, &c., with Ball Bearing Wheels.

**Car Wheels, Axles, Castings, Forgings, &c.**  
**AMHERST, NOVA SCOTIA.**

**Dominion Line Steamships**

FAST TWIN-SCREW SERVICE. WEEKLY SAILINGS.

**HALIFAX TO LIVERPOOL**      **PORTLAND TO LIVERPOOL**

**PORTLAND TO LIVERPOOL**

Canada - - Saturday, Feb. 6th, 2 p.m.  
Dominion - - " Feb. 27th, "  
Canada - - " Mar. 12th, "  
Vancouver - - " Mar. 26th, "

Spacious Promenade Decks, Electric Light, Passenger Accommodation all amidships.

For all particulars apply to the local agent of the Company or to

**C. A. PIPON,**  
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DOMINION LINE OFFICE,  
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**WINDMILLS**  
(Canadian Airmotor)

**TANKS**  
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RAILROAD WORK  
A SPECIALTY

Ontario Wind Engine and Pump Co., Limited  
TORONTO, - ONT.

**RAILWAY SPRINGS**

Equalizing, Drawbar, Buffer and Spiral Springs of all kinds.

Locomotive, Tender and Passenger Car Springs of every description.

Electric Car Springs from the largest to the smallest.

MANUFACTURED BY

**B. J. COGHLIN & CO., 432 St. Paul Street, Montreal, Canada.**

**The Accident and Guarantee Co. of Canada, MONTREAL.**

Capital, authorized, \$1,000,000.00  
Subscribed - - 250,000.00

Personal Accident, Sickness, Fraternal and Working Men's Benefit Insurance.

**T. A. MORRISON & CO.,**  
206 St. James St., Montreal.

New and Secondhand Contractors' Plant, etc.

Steamer W. D. Matthews (expended to date)	223,090 60
Insurance unexpired	7,000 00
Balance in Dominion Bank	21,850 05
	<u>\$587,940 65</u>
<b>LIABILITIES.</b>	
Capital	\$563,300 00
Balance of profit carried forward	24,640 65
	<u>\$587,940 65</u>

The board for the current year is the same as before, viz: President, W. D. Matthews; Managing Director, J. H. G. Hagarty; Superintendent, S. Crangle; other directors, C. S. Gzowski, G. F. Hagarty, E. B. Osler.

**Notices to Mariners.**

- The following notices to mariners have been issued by the Department of Marine:—
- No. 116. Dec 5.—Nova Scotia.—313. south coast, Shelburne harbor, Sand spit lighthouse moved. 314. Cape Breton, Bras d'Or lake, west bay, Clark cove, range lights established, pole lights discontinued.
  - No. 117. Dec. 10.—British Columbia.—315. Tide tables for Barkley sound, Vancouver island, Alert bay, Queen Charlotte Sound, and Port Simpson.
  - No. 118. Dec. 17.—Nova Scotia.—317. south coast, Halifax harbor, Pleasant shoal, bell buoy established. 318. South and east coast, from Pennant Point to Cape North, winter buoy service, bell buoys and whistling buoys.—New Brunswick—319. St. John river, Belleisle bay, Hatfield point, back range light discontinued.
  - No. 119. Dec. 22.—Nova Scotia.—320. south coast, entrance to Lockport, Bull rock, bell buoy established.
  - No. 120.—Dec. 23.—Ontario.—322. Georgian bay, west side, Lion's Head harbor, light established.
  - No. 121. Dec. 23.—New Brunswick.—323. Bay of Fundy, North shore, Tiner point, fog alarm established.
  - No. 122. Dec. 30.—British Columbia.—324. Grenville channel, western entrance, Watson rock, beacon carried away.

**Maritime Provinces and Newfoundland.**

- Capt. F. L. Lockhart died at Hantsport, N.S., recently, aged 57.
- Capt. J. K. Hatfield, one of the oldest master mariners in Nova Scotia, died at Yarmouth recently, aged 85.
- Tenders for the construction of the dry dock at St. John, N.B., will be considered by the Imperial Dry Dock Co., early in Feb.
- The St. John, N.B., city council is asking for tenders for the construction of a steel screw ferry steamer. The contract is to be let early in Feb.
- The str. Senlac, for the St. John-Halifax run, was launched complete at St. John, Jan. 4, and was placed in service at the end of the month. Capt. N. McKinnon has been appointed master.
- The special committee of the St. John, N.B., city council, which has been considering the question of harbor improvements, is awaiting advices from the Dominion Government before taking further action.
- Thos. Fraser, who was in charge of the Carmichael shipyards at New Glasgow, N.S., for many years, and had charge of the construction of the str. Mulgrave for the Dominion Government, died recently at New Glasgow.
- The Tidal Survey branch of the Department of Marine has published tide tables for Halifax, Quebec, Father Point and St. John, N.B., for 1904, with tidal differences for Nova Scotia, the Bay of Fundy, the Gulf and River St. Lawrence; and information on the currents.
- The Barkentine Nora Wiggins Co. (Ltd.) has been incorporated under the Dominion

Companies' Act with a capital of \$9,600 and head office at Yarmouth, N.S., to acquire the barkentine Nora Wiggins, of Yarmouth, and to carry on a general navigation business. The provisional directors are: B. Davis, F. Ladd, J. H. Killam and Rev. W. H. Keartz, of Yarmouth.

The Star Line Steamship Co. at its annual meeting at St. John, N.B., elected the following directors and officers: President, Jas. Manchester; Vice-President, A. H. Hannington; Secretary and Manager, R. Orchard; other directors, C. E. Taylor, T. H. Bullock and G. R. Vincent. It was decided not to declare a dividend for the year, on account of the loss of the str. David Weston.

The Cape Breton Steamship Co. (Ltd.) has been incorporated under the Dominion Companies' Act with a capital of \$40,000 to purchase the str. Baines-Hawkins or other steamers, and to carry on a general navigation business, with headquarters at Sydney, N.S. The provisional directors are: D. Rudderham, R., H. C., C. H. and W. H. Harrington, J. A. Young, W. Horne, W. Hackett, J. W. and E. Ingraham, J. W. McLean, H. G. McLeod, S. H. Stevenson, G. A. and J. C. Peters, R. P. Morrison, J. M. Terrio, H. W. Black, of Sydney, and F. O'Neill, Louisburg.

The Newfoundland Government recently called for tenders for two steamers to make 26 fortnightly trips each, one for the northern service, and one for the southern and western service, the service to commence May 1, and the contract to run for ten years. The efficiency of the services given by the steamers of the Reid Newfoundland Co. has been questioned, and the Government wants to see what it will cost to get an improved service. W. D. Reid, Vice-President, R.N. Co., in a lengthy communication points out that the rates charged are 50% less than those authorized; that its steamers call at 116 more places and provide superior accommodation to the service it superseded, and that the charges for meals, etc., compare favorably with those charged in Canada and the United States for similar services.

**Province of Quebec Shipping.**

- The new steamer which the Quebec Steamship Co. is having built in England is for its trade between New York and Bermuda.
- The Richelieu and Ontario Navigation Co. will build a 2,000 ton marine railway at Sorel, which is to be ready in the spring of 1905.
- The annual report of the corporation of pilots operating between Montreal and Quebec, shows that there are 55 men in active service, and that their earnings for 1903 amounted to \$1,500 each. Seven of the pilots are over 60 years of age.
- The Department of Marine has notified the Montreal Harbor Commission that the Government has approved of the plans for the erection of two-storey steel sheds on the wharves. The estimated cost of the sheds is \$2,500,000, and the Harbor Commission is arranging to call for tenders.
- The Richelieu and Ontario Navigation Co.'s str. Carolina, which went ashore in the Saguenay river in the fall of 1903, and received considerable damage, is being overhauled at the Company's shipyards at Sorel. A number of new plates are being put in the hull, and new boilers are to be placed in position. She is expected to be completed in May. The work is being done under the charge of G. Johnston, Mechanical Superintendent.
- The hull of the str. Montreal, which was burned at Montreal in Feb., 1903, was sold by the underwriters to the Richelieu and Ontario Navigation Co., for which company she was being completed at the time of the fire. It was towed to Levis and put in the dry dock, where it was thoroughly

overhauled and renewed where necessary. In Nov. it was then towed to Sorel, where the work of reconstructing the interior of the vessel on the original lines is being gone on with, and it is expected that the vessel will be ready for her route in the spring of 1905. The work is being done by the R. and O. N. Co., in accordance with the plans prepared by the original builders, the Bertram Engine Works, Toronto, and is under the charge of G. Johnston, Mechanical Superintendent.

The Montreal Transportation Co., (Ltd.), has been incorporated under the Dominion Companies' Act, with a capital of \$500,000, to carry on a general transportation and forwarding business in Canada, to own and operate elevators, to carry on any other business which may reasonably be conducted in connection therewith; to acquire stock in similar companies, and to amalgamate with any other company having similar powers. B. McLennan, G. M. Kinghorn, T. A. Crane, A. E. Ogilvie, F. Robertson, A. Kingman, of Montreal; B. M. Britton, of Toronto, are the provisional directors. This is the new and extended charter which the shareholders of the M. T. Co. authorized the directors to apply for at a recent general meeting. The annual meeting of the Company for the election of officers was called for Jan. 21.

**Ontario and the Great Lakes.**

- A 50-ft. tug, to be completed by April, is under construction at Owen Sound for C. Jones.
- The tugs Beatrice M. and Orcadia have been sold to J. Bowman, Rossport, for fishing purposes on Lake Superior.
- The Chicago and St. Lawrence Navigation Co. recently declared a dividend for the half-year of 5%, payable Jan. 2.
- The str. Wex'ord, owned by the Western Lakes Transportation Co., is having two new steel boilers put in at Collingwood.
- The str. Aletha is undergoing repairs and refitting at Kingston. She will be again on the Bay of Quinte route next season.
- The Ottawa Forwarding Co. is building a new steamer at the canal basin, Ottawa, and is having repairs done to a number of its tugs.
- The marine railway at Trenton, Ont., which does not appear in the published lists of the marine railways on the Great Lakes, is owned by Cooper and Hicks.
- The Ottawa Forwarding Co. has been granted a supplemental charter under the Dominion Companies' Act, under which its capital has been increased from \$50,000 to \$100,000.
- The Kingston city council has passed a by-law providing for the construction of a wharf at the foot of Clarence st. The wharf will be used principally as a landing place for the Wolfe Island ferry.
- The foremast of the Toronto schooner Emerald was found on the shore of Prince Edward county near Point Peter light, and there is now no doubt that she was lost during the storm of Nov. 15.
- The Hamilton Steamboat Co.'s str. Macassa is having a new boiler put in and is being generally overhauled. It is also proposed to improve the passenger accommodation. The work is being done at Hamilton.
- Capt. F. Crapp, of the Windsor str. Ionia, laid up for the winter at Milwaukee, Wis., has been missing since Dec. 30, and it is feared that he was killed in the recent accident on the Pere Marquette Rd., near Grand Rapids, Mich.
- The plans for a canal round the rapids at the head of the Niagara river, on the New York side, have been completed and, together with the estimates, are before the U.S. war department. A decision on the matter is expected at an early date.

There are 20 large freight and passenger steamers lying up for the winter at Collingwood, in addition to a number of tugs, dredges, etc. Most of the steamers will have a good deal of money expended on them in repairs during the winter.

One of the cylinders of the Niagara Navigation Co.'s str. Chicora, now under repair in the dry dock at Kingston, fell into the dock and was so badly damaged that a new one will have to be cast. The damage is estimated to be about \$2,500.

The steam barge Clinton has been sold by order of the court to Captain Hicks, of Trenton. He gets the vessel on payment of \$500 for the benefit of the general creditors, and the discharge of his claim for repairs, dockage, etc., amounting to \$3,000.

Representatives of the Lord's Day Alliance recently waited on the Deputy Minister of Railways and Canals, to protest against the proposal of the Dominion Marine Association that the canals should be open for traffic on Sundays the same as on other days.

The Great Lakes pool of underwriters is estimated to have lost \$300,000 on the past

season's operations. The aggregate losses, including cargoes, were about \$2,100,000. The season, from an underwriters' standpoint, is said to have been the worst since 1898.

The contract for the deepening of the rock cutting at Ramey's bend on the Welland canal, has been given to Weddall, Battle and Manley, of Trenton; and that for the removal of the centre piers of the bridges over the canal at Port Robinson, Quaker and Welland, to Magann and Phin, of Toronto.

A press report states that several of the steamship companies operating on the Great Lakes have plans for building new steamers prepared, but do not propose making any contracts in respect of them until they have an

opportunity of seeing how the turbine steamer, to be placed on Lake Ontario, turns out.

The Lake Carriers' Association has been giving consideration recently to the project of the deep water ship canal between Lake St. Clair and Lake Erie. The construction of such a canal would save 79 miles in distance, and would do away with the delays to navigation in St. Clair river. English and French capital is reported to be behind the project.

J. Ireland, of Parry Sound, is arranging to open a navigation route on Otter, Blackstone and Crane lakes. The route would connect with the Canada Atlantic Ry. at Otter Lake station, and there will be a portage of a quarter of a mile between Otter and Black-

## WIRE ROPE, "ACME" BRAND.



Extra tensile strength for heavy work. Should only be used on special large wheels and drums.

THE B. GREENING WIRE CO., Limited,  
Hamilton, Ont. Montreal, Que.

Established 1849

CHAS. F. CLARK, Pres. JARED CHITTENDEN, Treas.

**BRADSTREET'S**

Capital and Surplus \$1,500,000

OFFICES THROUGHOUT THE CIVILIZED WORLD

EXECUTIVE OFFICES

NOS. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices.

CORRESPONDENCE INVITED

OFFICES IN CANADA:

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**The Northern Electric and  
Manufacturing Co., Limited**

MONTREAL

Contractors for and Dealers in

**Electrical  
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and  
Supplies**

Experimental and Model Work,  
Fine Machinery, Special Tools,  
Patterns, Gear-Cutting, Special-  
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ESTIMATES PROMPTLY FURNISHED.

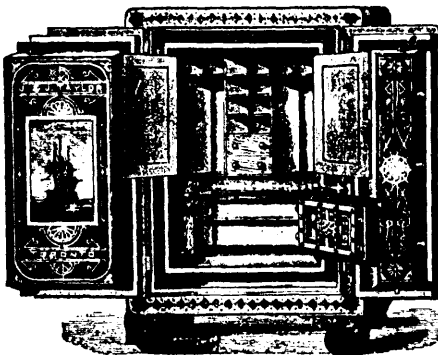
**Eugene F. Phillips Electrical Works, Limited,**  
MONTREAL, CANADA.

**BARE AND INSULATED ELECTRIC WIRE**

Electric Light Line Wire, Incandescent and Flexible Cords,

**RAILWAY FEEDER AND TROLLEY WIRE**

Americanite, Magnet, Office and Annunciator Wires,  
Cables for Aerial and Underground Use.



**J. & J. TAYLOR**

(TORONTO SAFE WORKS)

TORONTO ——— ONTARIO

MANUFACTURERS OF

Express Safes Express Boxes  
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Etc., Etc., Etc.

ESTABLISHED 1855

**"NOVO" Air-Hardening Steel**

**TWIST DRILLS, REAMERS, MILLING CUTTERS**

High Speed and Durability. Producing Wonderful Results.

**WM. ABBOTT, Agent, 334 ST. JAMES ST.  
MONTREAL**

stone lake. The route will give 30 miles of navigation and would require two steamers.

The Canadian Transit Co. is inviting subscription in London, Eng., for 165,000 shares of £1, upon which the new Canadian Co. guarantees 5% interest during the construction of the vessels; and £135,000 of 5% gold bonds. The money is to be used to construct and equip twelve steamers for the purpose of trading between Port Arthur and Fort William, Ont., and Montreal.

E. L. Sawyer, company promoter, of Paris, France, but formerly of Toronto, was the broker engaged in the proposal to float the Muskoka Navigation Co. in 1901. In connection with his plans he employed Clarkson & Cross, chartered accountants, to examine the books of the Muskoka and Georgian Bay Navigation Co., which it was proposed to take over. The accountants claimed \$500 for their services, and have been given judgment for that amount.

K. Tully, C.E., read a paper on "Fluctuations of Lake Ontario," before the Canadian Institute, Toronto, on Jan. 9. The Toronto harbor records showed a lowering of the water level of 13.61 inches between 1858 and 1903, during which period Mr. Tully has had personal knowledge of the matter as engineer to the Toronto Harbor Commission. The

quirements and to those of the Canadian Government. The dimensions will be: length, 260 ft.; breadth, 33 ft.; depth, 20 ft. 9 in. Under the Canadian regulations she will carry between 1,500 and 2,000 passengers, and the provisions for the comfort of passengers are of the best description. A spacious saloon panelled in polished mahogany will be situated on the main deck aft, in which the seating accommodation, tastefully upholstered in velvet, will be arranged so as to form ten comfortable bays. This saloon will be exceptionally well lighted by large plate glass windows in the sides of the vessel and by electric light during the night passages. In close proximity to the saloon will be the tea and ladies' rooms, both fitted up in the best and latest styles. Below the saloon, on the lower deck, will be a large dining saloon, with ample seating accommodation, the galley and pantry being arranged forward of it. Gentlemen will be specially looked after in the way of a bar lounge close to the main saloon, and a smoking room which will be placed on the promenade deck. Suitable lavatory accommodation will be provided forward of the saloon. On the main deck will be a deck-house forming a large entrance hall to the main saloon, the gangway doors for passengers leaving or joining the vessel being placed at each side of this hall, and an easy stair-

**Manitoba and Northwest Territories.**

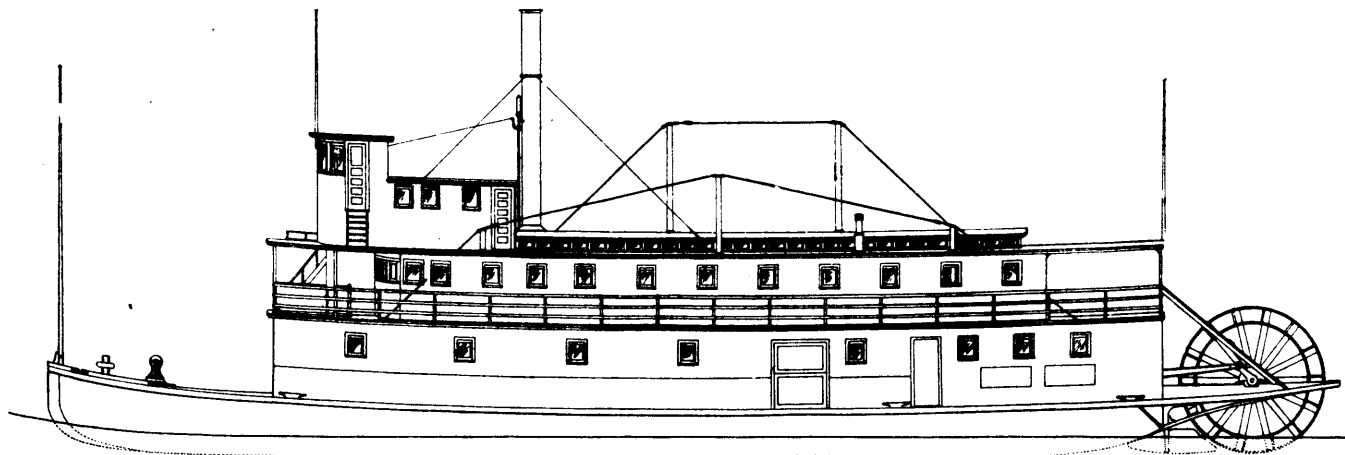
Work has been commenced on the construction of a large stern-wheel steamer at Prince Albert, by Capt. Mosher. The steamer will be taken to Edmonton in the spring, and will make that place its headquarters.

A cut showing the general lines of the new steamer for the Peace river trade of the Hudson Bay Co. is given on page 67 of this issue. The general dimensions, etc., of the steamer were given in our Jan. issue, pg. 33. The steamer will be sufficiently powerful to tow a barge of about the same size as herself.

The East Grand Forks Transportation Co. of East Grand Forks, Minn., proposes to construct, during the winter, a new barge. In the spring the company will commence carrying freight on the Red river to Winnipeg. These will be the first shipments from East Grand Forks to Winnipeg by river for many years.

**B.C. and Pacific Coast Shipping.**

The Stanley Dollar, one of the Dollar line of steamers trading from U.S. ports to the Orient, has been given a British registry and renamed the Missouri.



HUDSON BAY CO.'S STEAMER FOR PEACE RIVER.

main causes for this lowering of the level of the lake were the wholesale lumbering in Ontario, Wisconsin and Michigan, the opening of the Chicago drainage canal, and the deepening of the outlet of Lake Ontario at the Galops rapids.

The Canadian canal at Sault Ste. Marie was closed for the season of 1903 on Dec. 13, and the U.S. canal two days later. The total freight passing through the two canals for the season was 34,674,437 tons, against 35,961,146 tons in the season of 1902. The figures for the Canadian canal are:

	1903.	1902.	Increase or Decrease.
April .....	159,763 tons	197,926 tons	38,163 tons -
May .....	636,747 "	334,264 "	302,483 "
June .....	917,105 "	1,118,564 "	201,459 "
July .....	890,338 "	523,936 "	366,402 "
Aug. ....	679,420 "	639,838 "	239,582 "
Sept. ....	629,320 "	560,031 "	79,289 "
Oct. ....	683,405 "	604,713 "	78,692 "
Nov. ....	603,511 "	635,314 "	31,803 "
Dec. ....	92,576 "	113,747 "	21,171 "
	5,902,185 tons	4,728,351 tons	773,834 tons +

The turbine steamer for Lake Ontario which is being built by R. W. Hawthorn, Leslie & Co. (Ltd.), at Hebburn-on-Tyne, Eng., is for the Lake Ontario Steamship Co. (Ltd.), of Hamilton, and will be operated between Hamilton and Toronto. The vessel will be specially suitable for such a service, and will be built both to the British Board of Trade re-

quirements and to those of the Canadian Government. The dimensions will be: length, 260 ft.; breadth, 33 ft.; depth, 20 ft. 9 in. Under the Canadian regulations she will carry between 1,500 and 2,000 passengers, and the provisions for the comfort of passengers are of the best description. A spacious saloon panelled in polished mahogany will be situated on the main deck aft, in which the seating accommodation, tastefully upholstered in velvet, will be arranged so as to form ten comfortable bays. This saloon will be exceptionally well lighted by large plate glass windows in the sides of the vessel and by electric light during the night passages. In close proximity to the saloon will be the tea and ladies' rooms, both fitted up in the best and latest styles. Below the saloon, on the lower deck, will be a large dining saloon, with ample seating accommodation, the galley and pantry being arranged forward of it. Gentlemen will be specially looked after in the way of a bar lounge close to the main saloon, and a smoking room which will be placed on the promenade deck. Suitable lavatory accommodation will be provided forward of the saloon. On the main deck will be a deck-house forming a large entrance hall to the main saloon, the gangway doors for passengers leaving or joining the vessel being placed at each side of this hall, and an easy stair-

case will give access to the dining saloon below. Cargo will only be carried on the main deck forward, and below this, accommodation will be provided for the officers, engineers, steward, waiters and crew. The promenade deck will have a fine reach of clear space forward and aft, and there will be a large well-lighted shelter forward. The hurricane deck will also be available as a promenade deck, being clear from end to end except for the space required for stowing lifeboats and life-saving appliances, and for the captain's quarters and wheelhouse forward. The whole of the accommodation will be heated by steam and the vessel lighted throughout by electric light, a powerful searchlight being fitted on the bridge. The engines of the new vessel will consist of three Parsons' compound steam turbines, viz., one high pressure turbine in the centre line of ship and one low pressure on either side. Each turbine will control an independent line of shafting and there will be three propellers, i.e., one on each shaft. The reversing turbines, which will be of special size, will be incorporated in the low pressure turbines, to admit of the boat being worked astern. Steam will be supplied by two large cylindrical boilers, and the propelling machinery will be capable of driving the vessel at a speed of about 21 miles an hour. The vessel is to be completed for placing on the route during the season of 1904.

The str. Mainlander, recently purchased by the Pacific Coast Steamship Co., has been withdrawn from the Vancouver-Seattle run. The str. Ramona is now on this run.

The str. Clallam, belonging to the Alaska Steamship Co., and plying between Victoria, B.C., and Seattle, broke her rudder Jan. 9, and went adrift in a storm, subsequently sinking, with the loss of 32 lives.

The repairs to the str. Moana, of the Canadian-Australian line, which are being made at Esquimalt, will cost about \$10,000. A number of plates in the hull had to be renewed and a new rudder post fitted.

The Ship Brodick Castle Co. has been registered under the B.C. Companies' Act with a capital of \$45,000, to acquire the ship Brodick Castle, of Glasgow, Scotland, and to carry on a general navigation business.

The agreement between the Dominion Government and the promoters of the floating dock company at Vancouver provides that work on the dock shall be started by May 1 and completed within two years thereafter.

The C.P.R. Pacific coast steamer Amur, stranded near Port Simpson recently, but was got off, and after returning to Victoria, was taken to Esquimalt and docked. An examination showed that she was not much damaged.

The estimated cost of the projected widening by the U.S. Government of the navi-



gable channel at Wrangel narrows is \$1,000,000. It is proposed to make the channel navigable for the largest vessels trading along the coast at all states of the tide.

The Tidal Survey branch of the Department of Marine has published tide tables for Victoria, B.C., and Sand Heads, Strait of Georgia, for 1904, with tidal differences for Esquimalt, Vancouver, New Westminster and Baynes Sound, and current on the first narrows, Burrard Inlet.

The tug Halys and a steam barge, owned by Capt. W. W. West, and operated on Kootenay lake, were burned in Queen's bay, about 20 miles from Nelson, Jan. 3. The Halys was a screw steamer built in Washington Territory, 1888, her dimensions being: length, 40 ft.; breadth, 11 ft.; depth, 4 ft.; tonnage: gross, 44; net, 34 tons.

The C.P.R. has reinsured its Atlantic, Pacific and upper lake steamers in London, Eng., at the same rates as for 1903.

The Canada Fire and Marine Insurance Co. is applying to the Manitoba Legislature for incorporation. T. C. Livingstone, solicitor, Winnipeg, is acting for the promoters.

J. F. Fraser, who was recently appointed Commissioner of Lights under the Department of Marine, has jurisdiction over the whole of the Dominion in regard to the operation and maintenance of the system of aids to navigation.

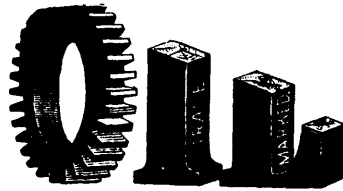
The Elder-Dempster Co. has announced that a new steamer, to be called the Canada-Cape, will be launched shortly for the Canada-Cape of Good Hope line, and that in future the service will be carried on by four steamers.

We are advised that it is the purpose of the Department of Marine to establish a Lighthouse Board for Canada which will deal with all matters relating to the location and character of aids to navigation. The Chief Engineer of the department will be one of the members of the board.

The Minister of Marine recently stated that he had in contemplation the further extension of the gas buoy system in the St. Lawrence river; the increase of aids to navigation in the

Bay of Fundy; the extension of the lighthouse system; and the establishment of a training school for marine officers.

The fisheries protection cruiser which is being constructed at Barrow-in-Furness, Eng., for the Dominion Government will have the following dimensions: length between perpendiculars, 200 ft.; moulded breadth, 25 ft.; depth, 14 ft.; draught when loaded, 10 ft. She will have an approximate displacement of 555 tons; a speed of 16 knots an hour; will be lighted by electricity throughout; fitted with a powerful searchlight, and armed with 437 mm. Maxim automatic guns. She will carry a crew of 75.



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Vacuum Oils Reduce Friction, thus  
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VACUUM 600 W. CYLINDER  
VACUUM No. 1 MARINE EN-  
GINE (better than Lard)  
ELDORADO ENGINE  
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ARCTIC CUP GREASE  
MINERAL SEAL OIL

300 Fire Test, for Illuminating Purposes

The QUEEN CITY OIL CO. LIMITED  
TORONTO

### Among the Express Companies.

The Dominion Ex. Co. has opened offices at Lang, Assa.; Dewdney and Saddle Rock, B.C.

The building on St. Peter st., Quebec, in which are the Dominion Ex. Co.'s and the C.P.R. Telegraph offices, was destroyed by fire Jan. 14.

E. A. Brand, who has been appointed Secretary to the Superintendent Canadian Ex. Co. at Toronto, was given a dinner by the local staff at London, Ont., Jan. 14, on leaving to take up the duties of his new office.

### 5 King Street East

## FURS and HATS

SPRING HATS ALL IN.  
EVERYTHING UP-TO-DATE.

In Ladies' Ready-to-Wear we are showing a select stock. Prices reasonable.

Ladies, now is the time to have your Furs repaired and remodelled. Fur Show Rooms open at all seasons.

Catalogue and Price List  
sent on application.

Holt, Renfrew & Co.  
TORONTO and QUEBEC.

## MANITOBA

The Government Crop Bulletin issued Dec. 12th, 1902, gives the following statistics for the year:

CROPS.		AVERAGE		TOTAL.
ACRES.	YIELD.	ACRES.	YIELD.	
Wheat.....	3,039,940	26.	bus.	53,077,267 bus.
Oats.....	725,060	47.5	"	34,478,160 "
Barley.....	329,790	35.9	"	11,848,422 "
Potatoes.....	22,005	157.	"	3,459,325 "

### STOCK.

Number of stock in the Province, July 1, 1902:  
Horses..... 146,591    Sheep..... 20,518  
Cattle..... 282,343    Pigs..... 95,598  
Value of Dairy Products..... \$926,314

### 15,000 FARM LABORERS

Came from Eastern Canada to assist in the harvest fields of Manitoba in 1902—and the demand was not fully satisfied.

### MANITOBA FARMERS ARE PROSPEROUS.

Farmers erected, this year, farm buildings valued at one and one-half million dollars.

**MANITOBA LANDS**—For sale by the Provincial Government. Over 1,000,000 acres of choice land in all parts of the Province are now offered at from \$2.50 to \$5.50 per acre. Payments extend over nine years. **Special Attention** is directed to 500,000 acres along the line of the Manitoba and Northwestern Railway at \$3.50 and \$4.00 per acre.

**FREE HOMESTEADS** are still available in many parts of the Province.

For full information, maps, etc., **FREE**, address JAMES HARTNEY, Manitoba Emigration Agt., 77 York Street, Toronto, Ont.  
Or J. J. GOLDEN, Manitoba Emigration Agt., 617 Main St., Winnipeg, Man.



The Ticket Agent and General Public are reminded that all tickets reading over this line, Chicago to as far South as DuQuoin and all other points south of DuQuoin, are honored at option of passenger **via ST. LOUIS.**

Send your friends where a diversified route and to visit World's Fair is permissible without extra charge and inconvenience. This applies in either direction.

On Wednesday, via New Orleans,  
Through Tourist Sleeper to California.

On Wednesday, via Omaha,  
Through Tourist Sleeper to California.

Homeseekers' rates twice a month to certain points at reduced rates. The Eight Track Route to St. Louis Fair. Five Stations to start from in Chicago. Ask your agent about it or write.

G. B. WYLLIE,

Canadian Passenger Agent.

210 ELLICOTT SQUARE, BUFFALO, N.Y.

## NEW YORK CENTRAL

& HUDSON RIVER R. R.  
THE FOUR-TRACK TRUNK LINE.

In connection with the C.P.R., T.H. & B. and M.C. Railroads operate the quickest and best trains between Toronto, Hamilton and New York.

**Day Train** leaves Toronto 9.45 a.m., Hamilton 10.45 a.m., connects with the "EMPIRE STATE EXPRESS" Arrives New York 10 p.m.

**Night Train** with sleeping car and dining car leaves Toronto 5.20 p.m., Hamilton 6.20 p.m., arrives New York 7.50 next morning.

### ONLY ONE

station in the City of New York, the Grand Central Station of the New York Central.

Connections at Suspension Bridge with the Grand Trunk Railway.

L. DRAGO,  
Canadian Passenger Agent, 69½ Yonge Street,  
TORONTO, ONT.

The Canadian Ex. Co. operated a special express train between Toronto and London during the Christmas season. It is expected that the company will make this special train for the Christmas trade a permanent fixture.

The Dominion Ex. Co. and the Western Ex. Co. have appointed as their agents in Liverpool, England, M. Beck & Co., of 61 South John st. All communications relating to Liverpool business are henceforth to be addressed to that firm.

The Dominion Ex. Co. has opened a route on the Temiskaming and Northern Ontario Ry. from North Bay to Red Water, Ont. The service is mainly for the convenience of the construction gangs and for the settlements at Haileybury and New Liskeard, Ont.

C. McMichael was arrested at Halifax December 24, on a charge of passing bogus express orders. The order forms had been stolen from the Canadian Ex. Co.'s office at Orangeville, Ont., and several of them had been filed in and passed at various points in Ontario.

W. S. Stout, heretofore Vice-President and General Manager, Dominion Ex. Co., has been elected President and General Manager. The office of President has been vacant since the death of J. Cassils, of Montreal, in 1902. C. F. Smith, of Montreal, has been elected Vice-President.

The Western Ex. Co. has opened a route on the Minneapolis, St. Paul and Sault Ste. Marie Ry. from Glenwood to Carlos, Minn., on the extension of the line towards Winnipeg, Man., now under construction, and has opened offices at Carlos, Henning, Ottertail and Parker's Prairie, thereon.

The Principal of the Guelph, Ont., Agricultural College has been advocating at Farmers' Institute meetings the nationalization of the express service, and its operation in connection with the post office department. At a public meeting recently held at Bowmanville, Ont., a resolution was passed in favor of the nationalization of the express service, and sending a petition to the Postmaster-General asking him to take the matter into consideration.

The Canadian Ex. Co. has extended its service over the branch lines of the Central Vermont Ry. in Canada. There are three routes: Montreal to Waterloo, Que.; St. John's to Frelighsburg, Que.; and Marieville to St. Cesaire, Que., and offices have been opened at the following points: Angeline, Chambly Basin, Chambly Canton, Farnham, Frelighsburg, Granby, Iberville, Marieville, Richelieu, Rougemont, St. Angele, St. Brigide, St. Cesaire, St. John's, Stanbridge East, Versailles, Waterloo.

The U.S. Customs department has issued a new regulation relating to shipments of goods from Canada to the U.S. of the value of \$4 and over. It is now necessary for an entry to be made and an "owners' oath" executed by the consignee before delivery is made, such oath to be made before a Customs' notary or collector. The express companies in Canada consequently have issued notices that perishable goods and live stock cannot be accepted for transit to U.S. points without this "owners' oath," and all other goods will only be accepted subject to delay at the frontier until the "owners' oath" is obtained if it was not provided at the time of shipment.

**Telegraph and Cable Matters.**

The G.N.W. Telegraph Co. has opened an office at Lynedoch, Ont.

The Dominion Government proposes to establish a number of additional wireless telegraph stations, Marconi system, in the Gulf of St. Lawrence, as well as one on Sable island with a connecting station on the Nova Scotia mainland.

Application will be made at the current session of the Manitoba Legislature for the incorporation of a company to carry on a variety of enterprises including the construction of telegraph and telephone lines within a radius of 75 miles of Emerson.

J. D. Oppe, General Manager of the Marconi Wireless Telegraph Co., recently stated that he was satisfied that it would be only a short time before communication for commercial purposes would be established between Canada and England by the company.

Owing to the frequent snapping of the cable between Pelee island, Lake Erie and the mainland, operated as a telephone cable by the G.N.W. Telegraph Co., application is being made to have the Dominion Government establish wireless telegraph stations on the island and at a point on the mainland.

The Western Union Telegraph Co. announces the following additions to the list of transfer offices in Canada: Dunnville, Gananoque, Gravenhurst, Listowel, Morrisburg, Paris, Parry Sound, Ridgetown, St. Mary's, Wiarton, Ont., and Granby, Que., all being class E., and that St. Thomas, Ont., has been advanced to class D., among the transfer offices.

The 200 miles of telegraph line under construction on Cape Breton island for the Dominion Government will complete the circuit of the island. We were recently advised that offices had been opened at Louisburg, Gabarous, Main-a-Dieu and Scatarie island, and that the remaining offices were expected to be opened early in Jan. Ahearn & Soper, (Ltd.), Ottawa, had the contract.

F. T. Jennings, heretofore chief operator and circuit manager C.P.R. Telegraphs, Montreal, has been appointed Inspector of Telegraphs same division, succeeding J. F. Richardson, recently appointed Superintendent Eastern division. H. Bott, assistant chief operator, has been appointed chief operator; J. F. B. Caisse, heretofore night chief, has been appointed assistant chief operator; J. Mitchell has been appointed night chief, and A. Bennie assistant night chief.

Hon. H. Copeland, Agent General in London, Eng., for New South Wales, and one of the Australian representatives on the Pacific Cable Board, who recently visited Canada, said in an interview that the cable had proved of immense service to Australia and New Zealand by reducing tolls and generally improving the service. The new Australian Federal Government had granted all the concessions asked by the Pacific Cable Board, and at Mr. Copeland's suggestion had reduced the terminal charges on ordinary messages from 10 to 6 cents a message, and on Government messages from 10 to 3 cents. With regard to the reports that the "All Red Line" was losing trade because it stood too much on its dignity as an international concern, he said such statements were "pure, unmitigated nonsense." As a matter of fact, he added, agents had been sent to New Zealand and other countries to work up trade.

**Montreal Telegraph Co.**

At the 57th annual meeting in Montreal Jan. 14, the balance sheet for the year ended Dec. 31, 1903, was presented as follows:

ASSETS.	
Telegraph lines in Canada and the U.S.	\$1,625,800.00
Telegraph cables in Canada and the U.S.	33,487.39
Telegraph offices and equipment of offices in Canada and the U.S.	212,500.00
Real estate in Montreal, Ottawa, Quebec and Toronto	279,946.46
	\$2,151,823.85
Cash, accounts receivable, bonds and other securities and real estate (not included in lease to G.N.W.)	135,337.97
	\$2,287,161.82
LIABILITIES.	
Shareholders' capital	\$2,000,000.00

Excess in value of property operated by the G.N.W. Tel. Co. over shareholders' capital	151,823.85
	\$2,151,823.85
Dividend payable Jan. 15, 1904	\$40,000.00
Unclaimed dividends, etc.	1,156.47
Contingent Fund	94,181.50
	135,337.97
	\$2,287,161.82

The directors' report said: The dividend guaranteed by the Western Union Telegraph Co. under the terms of the agreement of Aug. 17, 1881, was distributed in the usual manner, and on the fixed dates, with a payment of 10c. a share to shareholders of record on March 31 last. The Company's property in the foregoing statement, valued at \$2,151,823.85, is operated and maintained by the G.N.W.T. Co. of Canada. Its operation and maintenance is also guaranteed by the Western Union Telegraph Co. of New York, under an agreement with this Company for 97 years from July 1, 1881. The Company continues free from debt or encumbrance of any kind.

The following were elected officers and directors: President, H. A. Allan; Vice-President A. T. Paterson; other directors: J. Joseph, W. McMaster, W. R. Miller, W. Wainwright; Secretary-Treasurer, D. Ross Ross.

**General Telephone Matters.**

The Bell Telephone Co. is completing the installation of a telephone system at Raymond, Alta.

The long-distance telephone line between Halifax and Sydney, N.S., was expected to be completed and ready for operation by Feb. 20.

The Eastern Telephone Co., press reports state, is relieving all unmarried men on its staff of their duties and replacing them by married men.

The Bell Telephone Co. proposes to practically reconstruct the local telephone system in Carman, Man., which it recently acquired, and to put in a new exchange.

The Bell Telephone Co. has completed its long-distance line from Calgary to Edmonton, Alta., and communication was established between the two points early in Jan.

The Kamouraska Telephone Co.'s line, which was placed in operation recently, extends from Riviere du Loup to Quebec. J. C. Pouliot, Riviere du Loup, Que., is President.

Proceedings have been taken by a ratepayer of Hamilton, Ont., to have the by-law recently passed by the city council granting a new franchise to the Bell Telephone Co. quashed.

The Bell Telephone Co.'s assessment in Galt, Ont., was raised by the assessors from \$2,000 to \$6,000, and on an appeal being made to the county court judge, it was fixed at \$4,995.50.

The telephone system of St. John, Nfld., is provided by the Anglo-American Telegraph Co., W. C. Winsborrow being the Superintendent. The list of subscribers shows 391 instruments in use.

The issue of debentures by the Port Arthur, Ont., town council to pay for the installation of the municipal telephone service, is reported to have been largely taken up in Toronto, at a premium of 5%.

The Bell Telephone Co. proposes to extend its long-distance lines into Saskatchewan, and W. C. McKay, Prince Albert, is reported to have secured a contract for getting out the poles so that work may be started in the spring.

The promoters of the proposed new telephone service in St. John, N.B., claim to have secured the promise of 1,000 subscribers, and state that the plans for laying wires under ground, etc., will shortly be laid before the council.

The New Brunswick Telephone Co. has laid a new cable across the St. John river from near Miller's mill to the market slip in



Carleton, 1,200 ft., and an overhead cable to connect with the central office in Carleton, a total distance of nearly two miles.

The Sydney Fur Co. (Ltd.) is applying at the current session of the Nova Scotia Legislature for an act of incorporation. The company proposes to establish a farm for breeding fur-bearing animals, and in connection therewith is asking for power to construct telephone lines, and to connect the same with the lines of other companies.

The Canadian Telegraph and Telephone Co. has been canvassing for subscribers in Toronto, and it is claimed that the names of 5,000 have been secured to a preliminary contract. The company has been approaching the city council with a view of obtaining a franchise, on the understanding that the wires be placed underground.

C. E. Phelps, who was consulted by the Montreal city council relating to the placing

of telephone and other wires underground, has presented a report showing that the cost of the work would be about \$1,205,100. The main or trunk line conduits would be built by the most direct routes into the territory which each was designed to feed, keeping as nearly as possible along the line of street railway tracks to facilitate feeding to the trolley wires, with a distributing system interconnected at each street intersection.

The Michigan Central Rd. has in use seven telephone-telegraph circuits on its lines, and is fitting up telephones in a number of its baggage cars, freight cabooses, etc., so that communication may be had, in cases of emergency, with the nearest station. Circuit 4 terminates in the Windsor, Ont., yards and connects with the U.S. sections of the line; circuit 5 connects the Detroit general offices, Windsor station, Windsor yard, Ridgetown, and Division Superintendent, St. Thomas, 112 miles; circuit 6 connects St. Thomas, Water-

ford, Welland, Montrose and Suspension Bridge, 116 miles; and circuit 7 connects Victoria yard, Ont., and Black Rock, N.Y.

Referring to the municipal telephone system in operation at Port Arthur and Fort William, Ont., the Mayor of Fort William recently said: "Our telephone plant is scarcely yet completely installed. We operated successfully from Dec., 1902, to Mar. 10, 1903, when the central equipment was destroyed by fire. We erected a fire-proof building, reinstalled central equipment and resumed operation June, 1903. Since then applications for telephones have been so numerous that we have found it difficult to keep up with the demand. Fort William, in the nine months of its operation, has 310 telephones in use, and Port Arthur 330, making a total of 640 for both towns. There is a system of free exchange between the towns, and the tariff is only \$1 a month for domestic and \$2 for commercial use."

MADE IN CANADA

## Mica Fire-Proof Coverings

- FOR -

**Boilers, Flues, Furnaces, Heaters, Steam and Hot and Cold Water Pipes.**

**COLD STORAGE INSULATION**  
The Highest Non-Conductor in the World.

**AWARDED THE GOLD MEDAL AT PAN-AMERICAN EXPOSITION, AND GRAND PRIZE AT PARIS**

MICA COVERING is a Canadian invention, and a purely Canadian industry, as all the mica is procured from Canadian mines, and the material used in the manufacture of the covering is made in Canada.

Send for particulars to the  
**Mica Boiler Covering Co., Limited**  
86-92 Ann Street, Montreal, Can.

## The Direct Line

To New York, Philadelphia, Atlantic City, Baltimore, Washington and the South. The Grand Trunk Railway in connection with the

### LEHIGH VALLEY RAILROAD

Forms the Direct Line from Toronto, Hamilton, London and all points in Canada for the above cities.

ROUTE OF THE

### "Black Diamond Express"

(Handsomest train in the world.)

The Great double-track scenic highway, stone ballasted, protected by automatic electric block signals, Through Pullman Parlor and Sleeping Car Service, Dining Car Service à la carte, Everything first class. Call on Grand Trunk Ticket Agents for tickets and further information, or address

ROBT. S. LEWIS,  
Canadian Passenger Agent, 53 Yonge Street, Toronto.  
A. A. HEARD, CHAS. S. LEE,  
Ass't Gen. Pass. Ag't, New York. Gen. Pass. Ag't, New York.  
G. R. CHESBROUGH,  
West'n Pass. Ag't, Buffalo, N.Y.

## When You Stop to Think

How much the success of your business and the comfort of your household depend on communication with others, you will appreciate the fact that telephone service is worth a great deal more than it costs.

**METALLIC CIRCUIT SERVICE**  
EFFICIENT, RAPID, CONSTANT.

**THE BELL TELEPHONE COMPANY**  
OF CANADA.

## STEEL, PEECH & TOZER,

LIMITED,

SHEFFIELD, ENGLAND.

**STEEL AXLES, TYRES, AND SPRING STEEL.**

"PHOENIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:

**James Hutton & Co., Montreal.**

## JOHN J. GARTSHORE,

83 Front St. West, TORONTO.

**Railway and Tramway Equipment.**

**New and Second-hand Rails**

(All Sections.)

**Locomotives, Cars, Derricks,**

**Hoisting Machinery, etc.**

**Old Material Bought and Sold.**

## THE PLACE VIGER

MONTREAL.

A beautiful new hotel just built by the Canadian Pacific Ry., in connection with their new passenger station. The building occupies an entire block and the style of architecture is that of the Chateau period of the French Renaissance. The hotel faces the Viger Gardens, and is thoroughly up-to-date in all its appointments. American tourists will find the Place Viger a most delightful hotel home.

**RATES: 83 UPWARDS.**

Special arrangements with large parties and those making prolonged stays. For further information address, Manager, Place Viger Hotel, Montreal.

## IMPERIAL BANK OF CANADA.

Capital authorized - - - \$4,000,000  
Capital paid up - - - 2,983,896  
Res - - - - - 2,636,312

DIRECTORS:

T. R. MERRITT, President; D. R. WILKIE, Vice-President; Wm. RAMSAY, ROBERT JAFFRAY, T. SUTHERLAND STAYNER, ELIAS ROGER, Wm. HENDRIE.

HEAD OFFICE, TORONTO.

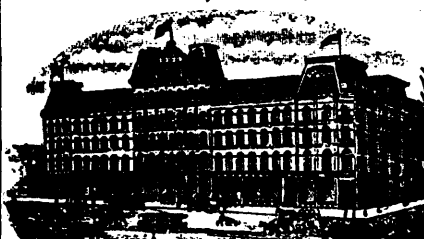
D. R. WILKIE - - General Manager.  
E. HAY - - - - Asst. General Manager.  
W. MOFFAT - - - Chief Inspector.

Branches in Quebec, Ontario, Manitoba, North-West Territories and British Columbia

AGENTS.—London, Eng., Lloyds Bank Limited; New York, Bank of Montreal, Bank of the Manhattan Co., Bank of America. Sterling exchange bought and sold. Letters of credit issued available in any part of the world.  
A general banking business transacted.

## THE RUSSELL

OTTAWA, ONTARIO.



The Leading Hotel of the Capital of Canada

F. X. ST. JACQUES - - - - Proprietor

## OUR SPECIALTIES

**RAILROAD and STEAMSHIP PRINTING**

**LARGEST IN CANADA**

**The Mail Job Printing Company, Limited**

75 York Street, Toronto

Phones, Main 5 - 130 - 135

Richard Southam  
Manager

Composite Telegraph and Telephone System on the C.P.R.

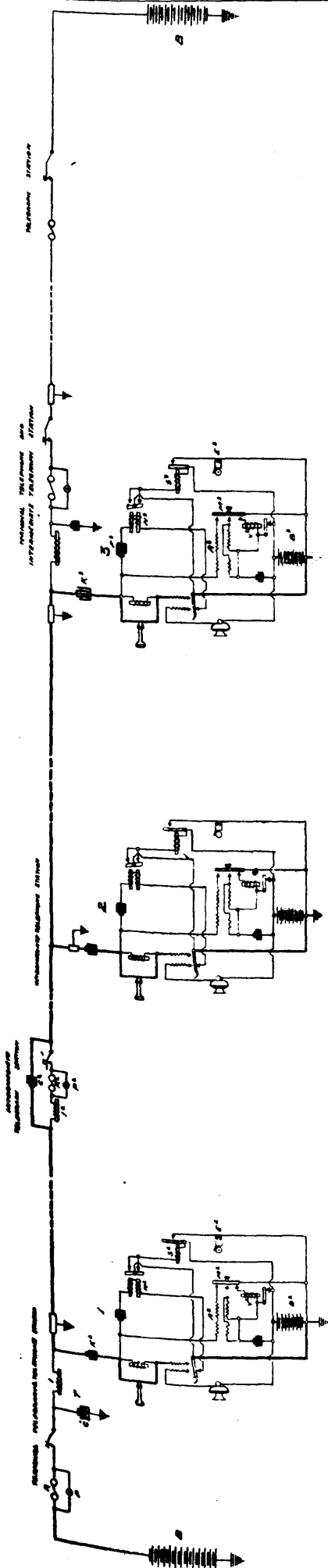
The Bell Telephone Co.'s electrical engineering department has prepared the following description of the composite telegraph and telephone apparatus with which it has recently equipped one of the C.P.R.'s telegraph wires between Montreal and Ottawa, which allows telephone service to be added to grounded telegraph lines without interfering in any way with the telegraph service already carried on over such line. The system has been designed specially to meet the demands of railway companies for a service of this character applicable to terminal or way stations of lines of the above character. The length of the telegraph line and the number of way stations with which this system can be successfully employed depend largely on the character of the telegraph lines. The size and the material of the line wire and the amount of wire in cable are the most important factors limiting the range of the system. In general, it may be stated that it is usually possible to operate successfully over an ordinary telegraph line, 100 miles long having five intermediate stations.

The general arrangement of the system is shown in the accompanying drawing. At each terminal of that portion of the line over which telephone messages are to be transmitted is placed a terminal differentiator, consisting of an impedance coil in series with the line wire and a condenser from the line wire to earth. As the telegraph battery is placed outside this piece of apparatus the latter serves to graduate the rise and fall of the telegraph currents so that Morse signals will not interfere with the telephone service and so that inductive or other disturbances will not be transmitted to the telephones from portions of the line beyond the coils. Each telegraph way-station is provided with an intermediate differentiator, consisting of a condenser and impedance coil. The impedance coil is placed in series with the telegraph relay, and relay coil and key are shunted by the condenser. This apparatus affords a by-pass through the condenser for the telephone talking and signalling currents. Were it not for this apparatus the talking currents would be seriously reduced by the impedance of the relays and the telephone signalling currents would cause the relays to "chatter" or give false signals. In addition to the above precautions the relays are directly bridged by polarization cells. The latter offer such opposition to the passage of the direct telegraph currents that their presence does not in the least interfere with telegraphic signalling. At the same time, they serve as a shunt for any telephone signalling current that, passing through the impedance coil of the intermediate differentiator, would otherwise affect the relay. Each telephone set is connected to the line through a condenser, thus avoiding interference with the telegraphic service. The set, in addition to the transmitter, receiver and induction coil, contains for calling a special vibrator operated by a push-button, and for receiving calls, a direct current bell controlled by a slow-acting relay, which, in turn, is controlled by a biased, polarized relay. For signalling and talking, a battery of 5 or 7 Edison-Lalande cells as found necessary is provided at each station. The station set is arranged to be mounted on the wall and is similar in general appearance to the standard magneto sub-station set. A special transmitter marked C. R. C. (Composite Railway Circuit) is employed with these sets. The receiver is of the standard type, but is permanently shunted by a special impedance coil which is designed to divert from the receiver the traces of the telegraphic or other currents which otherwise would cause disturbing noises to be heard. This impedance coil has a movable iron core which can be inserted into the coil, or removed from it, to a greater or less degree, thus widely varying the impedance and regulating the proportion of the current that is shunted around the receiver. The value of this impedance should be as high as is consistent with the necessary freedom from disturbing noise.

The circuits used in the railway composite system are shown in the accompanying drawing. At the left is a terminal telephone and telegraph station, next toward the right an intermediate telegraph station, next a telephone station which may or may not be associated with the preceding telegraph station, next a terminal and telegraph station, and beyond an isolated telegraph station. All telephone stations are connected between the line and earth. At the extreme left hand terminal of the line is shown one of the telegraph batteries B, the telegraph relay R of the combined telegraph and telephone terminal station, the polarization cell P shunting and relay R, and the terminal differentiator T, consisting of impedance coil I and condenser C1. The telephone set at this combined station is connected to the line through condenser K2. At this station B2 represents the local battery of 5 or 7 Edison-Lalande cells. The transmitter, hook-switch, induction coil, receiver, and its shunting impedance are represented conventionally. At V2 is a vibrator, operating through a coil, with condenser placed around the vibrator contact, and the operation of the vibrator controlled by a key M2. This portion of the equipment provides the high frequency signalling current. At N2 is a biased polarized relay, and at S2 a slow-acting relay, controlled by the former, and having connected to its own back-contact the direct current bell E2. This portion of the apparatus is for receiving incoming signals. At the next station (an intermediate telegraph station) is shown an intermediate differentiator consisting of impedance coil I2 and condenser C2. The relay R2 is also shunted by the polarization of cell P2. The remaining stations so closely resemble those referred to above as to require no further description.

To call a distant station, as, for example, station 3 from station 1, the operator at station 1 depresses key M2, which causes the circuit of battery B2 to be closed through the vibrator V2, the operation of which produces an interrupted current in the split primary winding of coil A2, and consequently a similar induced current being transmitted through the condenser K2, along the line, through the condenser C2, of the intermediate differentiator to station 3, and beyond. At station 3 this signalling current flows through condenser K3 and F3, and the polarized relay N3 to earth. This current causes the armature of relay N3 to vibrate, thus opening the circuit which previously existed from the battery B3 through the slow-acting S3 to earth. The armature of relay S3 falling back, closes the circuit of the direct current bell E3 which gives the signal. The talking circuit is of the simplest character and requires no explanation.

RAILWAY COMPOSITE TELEPHONE AND TELEGRAPH CIRCUIT



## PURCHASING AGENTS' GUIDE.

(Continued from third page of Cover.)

<b>Semaphores</b>			
The Hiram L. Piper Co.	Montreal.		
The N. L. Piper Railway Supply Co.	Toronto.		
<b>Shafting</b>			
Rice Lewis & Son.	Toronto.		
<b>Shaking Grates</b>			
Babcock & Wilcox (Ltd.)	Montreal.		
<b>Shipbuilders' Tools and Supplies</b>			
Rice Lewis & Son.	Toronto.		
<b>Ship Lamps</b>			
The Hiram L. Piper Co.	Montreal.		
The N. L. Piper Railway Supply Co.	Toronto.		
<b>Ships</b>			
Polson Iron Works.	Toronto.		
<b>Shovels</b>			
James Cooper.	Montreal.		
The Hudson's Bay Company.			
Rice Lewis & Son.	Toronto.		
<b>Side Bearings</b>			
Simplex Railway Appliance Co.	Montreal.		
<b>Signal House Numbers</b>			
Acton Burrows Co.	Toronto.		
<b>Signals</b>			
The Hiram L. Piper Co.	Montreal.		
N. L. Piper Railway Supply Co.	Toronto.		
<b>Signs</b>			
Acton Burrows Co.	Toronto.		
<b>Snow Ploughs</b>			
Rhodes, Curry & Co.	Amherst, N.S.		
<b>Spikes</b>			
Rice Lewis & Son.	Toronto.		
<b>Springs</b>			
B. J. Coghlin & Co.	Montreal.		
Montreal Steel Works.	Montreal.		
<b>Station Name Signs</b>			
Acton Burrows Co.	Toronto.		
<b>Steamboats</b>			
Polson Iron Works.	Toronto.		
<b>Steamboat Signs</b>			
Acton Burrows Co.	Toronto.		
<b>Steam Couplers</b>			
Safety Car Heating and Lighting Co.	New York.		
<b>Steam Shovels</b>			
James Cooper.	Montreal.		
W. H. C. Mussen & Co.	Montreal.		
<b>Steam Traps</b>			
The James Morrison Brass Mfg. Co.	Toronto.		
<b>Steel</b>			
W. Abbott.	Montreal.		
James Cooper.	Montreal.		
B. J. Coghlin & Co.	Montreal.		
Wm. Jessop & Sons.	Sheffield, Eng.		
Rice Lewis & Son.	Toronto.		
<b>Steel Buildings</b>			
Dominion Bridge Co.	Montreal.		
<b>Steel for Springs</b>			
James Hutton & Co.	Montreal.		
<b>Steel Plate</b>			
Jas. W. Pyke & Co.	Montreal.		
<b>Steel Tyres</b>			
B. J. Coghlin & Co.	Montreal.		
James Hutton & Co.	Montreal.		
Jas. W. Pyke & Co.	Montreal.		
<b>Stop Cocks, Iron and Brass</b>			
The James Morrison Brass Mfg. Co.	Toronto.		
<b>Structural Metal Work</b>			
Dominion Bridge Co.	Montreal.		
Locomotive and Machine Co. of Montreal.			
Jas. W. Pyke & Co.	Montreal.		
<b>Studs, Engine and Binder</b>			
John Morrow Machine Screw Co. (Ltd.)	Ingersoll		
<b>Superheaters</b>			
Babcock & Wilcox (Ltd.)	Montreal.		
<b>Switches</b>			
Montreal Steel Werks.	Montreal.		
<b>Switch Lamps</b>			
The Hiram L. Piper Co.	Montreal.		
The N. L. Piper Railway Supply Co.	Toronto.		
<b>Switch Locks</b>			
The Hiram L. Piper Co.	Montreal.		
<b>Switch Ropes</b>			
The B. Greening Co.	Hamilton, Ont.		
<b>Switch Targets</b>			
Acton Burrows Co.	Toronto.		
<b>Tanks and Tank Fixtures</b>			
Ontario Wind Engine and Pump Co.	Toronto.		
<b>Tarpaulins and Waterproof Covers</b>			
Sonne Awning, Tent and Tarpaulin Co.	Montreal.		
<b>Telegraph and Telephone Office Signs</b>			
Acton Burrows Co.	Toronto.		
<b>Tents</b>			
Sonne Awning, Tent & Tarpaulin Co.	Montreal.		
<b>Tie Plates</b>			
B. J. Coghlin & Co.	Montreal.		
<b>Tobacco and Cigars</b>			
The Hudson's Bay Company.			
<b>Toilet Paper</b>			
The Hudson's Bay Company.			
<b>Tools</b>			
Rice Lewis & Son.	Toronto.		
<b>Track Jacks</b>			
James Cooper.	Montreal.		
Montreal Steel Works.	Montreal.		
W. H. C. Mussen & Co.	Montreal.		
A. O. Norton.	Coaticook, Que.		
<b>Track Tools</b>			
Canada Switch and Spring Co.	Montreal.		
James Cooper.	Montreal.		
Rice Lewis & Son.	Toronto.		
Montreal Steel Works.	Montreal.		
W. H. C. Mussen & Co.	Montreal.		
The Hiram L. Piper Co.	Montreal.		
<b>Tramway Equipment</b>			
James Cooper.	Montreal.		
W. H. C. Mussen & Co.	Montreal.		
J. J. Gartshore.	Toronto.		
<b>Trucks (Electric Car)</b>			
Baldwin Locomotive Works.	Philadelphia, Pa.		
Montreal Steel Works.	Montreal.		
<b>Trucks (Warehouse and Express)</b>			
Rice Lewis & Son.	Toronto.		
<b>Turnbuckles</b>			
Montreal Steel Works.	Montreal.		
<b>Turntables</b>			
Dominion Bridge Co.	Montreal.		
<b>Valves, Iron and Brass</b>			
The James Morrison Brass Mfg. Co.	Toronto.		
<b>Varnishes</b>			
McCaskill, Dougall & Co.	Montreal.		
<b>Vessels</b>			
Polson Iron Works.	Toronto.		
<b>Waste</b>			
B. J. Coghlin & Co.	Montreal.		
Rice Lewis & Son.	Toronto.		
N. L. Piper Ry. Supply Co.	Toronto.		
The Queen City Oil Co.	Toronto.		
<b>Water Softeners</b>			
Babcock & Wilcox (Ltd.)	Montreal.		
<b>Wheelbarrows</b>			
James Cooper.	Montreal.		
Rice Lewis & Son.	Toronto.		
<b>Windmills</b>			
Ontario Wind Engine and Pump Co.	Toronto.		
<b>Window Blinds</b>			
The Hudson's Bay Company.			
<b>Wines and Liquors</b>			
The Hudson's Bay Company.			
<b>Wire and Wire Rope</b>			
Dominion Wire Rope Co.	Montreal.		
The B. Greening Co.	Hamilton, Ont.		
Rice Lewis & Son.	Toronto.		
W. H. C. Mussen & Co.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wire, Brass and Steel</b>			
Dominion Wire Manufacturing Co.	Montreal.		
<b>Wire Cloth</b>			
The B. Greening Co.	Hamilton, Ont.		
<b>Wire, Copper</b>			
Dominion Wire Manufacturing Co.	Montreal.		
E. F. Phillips Electrical Works, Ltd.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wire, Electric</b>			
Dominion Wire Manufacturing Co.	Montreal.		
E. F. Phillips Electrical Works, Ltd.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wire Goods</b>			
Dominion Wire Manufacturing Co.	Montreal.		
<b>Wire, Insulated Copper</b>			
E. F. Phillips Electrical Works, Ltd.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wire, Telegraph and Telephone</b>			
Dominion Wire Manufacturing Co.	Montreal.		
E. F. Phillips Electrical Works, Ltd.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wire, Transmission and Trolley</b>			
Dominion Wire Manufacturing Co.	Montreal.		
The Wire and Cable Co.	Montreal.		
<b>Wood Screws</b>			
Dominion Wire Manufacturing Co.	Montreal.		
<b>Wrought Steel Piping</b>			
Babcock & Wilcox (Ltd.)	Montreal.		
<b>Yachts</b>			
Polson Iron Works.	Toronto.		

The Canadian Northern Ry. has placed in operation, in connection with the Great Northern Ry., U.S., a through fast train service between Winnipeg, Man., and St. Paul, Minn. The service is operated over the C.N. Ry. from Winnipeg to Emerson, Man., thence by the Great Northern Ry.; a train leaves each terminal point every evening, the C.N. Ry. cars running through, but there is change of locomotives at the boundary.

# BABCOCK & WILCOX

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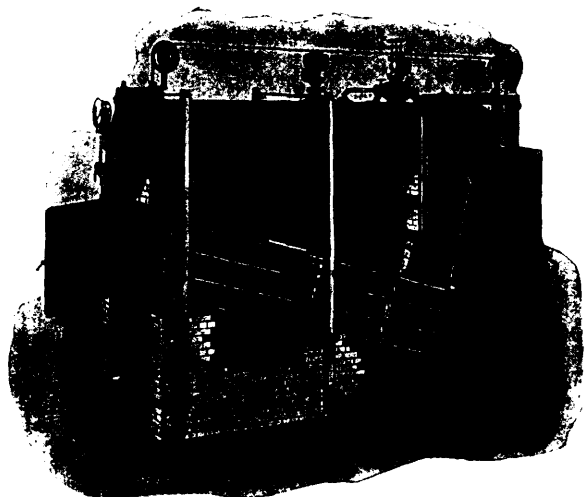
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with Superheater.

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To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

<b>Accident Insurance</b> Canadian Ry. Accident Ins. Co. .... Ottawa, Ont. Travelers' Insurance Co. .... Montreal.	<b>Derrieks</b> James Cooper ..... Montreal.	<b>Locomotives (Electric)</b> American Locomotive Co. .... New York, N.Y. Baldwin Locomotive Works. .... Philadelphia, Pa. Locomotive and Machine Co. of Montreal
<b>Aerated Waters</b> E. L. Drewry ..... Winnipeg.	<b>Door Signs</b> Acton Burrows Co ..... Toronto.	<b>Locomotives (Rank)</b> American Locomotive Co. .... New York, N.Y. Baldwin Locomotive Works. .... Philadelphia, Pa. Locomotive and Machine Co. of Montreal.
<b>Air Brakes &amp; Fittings</b> Canadian Westinghouse Co. .... Hamilton, Ont.	<b>Drills</b> W. Abbott ..... Montreal.	<b>Locomotives (Steam)</b> American Locomotive Co. .... New York, N.Y. Baldwin Locomotive Works. .... Philadelphia, Pa. Canadian Locomotive Co. .... Kingston, Ont. James Cooper ..... Montreal. Locomotive and Machine Co. of Montreal The Saxon Engine Works, Chemnitz, Germany.
<b>Alex</b> E. L. Drewry ..... Winnipeg.	<b>Dry Goods</b> The Hudson's Bay Company ..... Montreal.	<b>Machine Tools</b> W. Abbott ..... Montreal. The Saxon Engine Works, Chemnitz, Germany.
<b>Anchor</b> Rice Lewis & Son ..... Toronto.	<b>Economizers</b> Babcock & Wilcox (Ltd.) ..... Montreal.	<b>Manganese Steel Castings</b> Montreal Steel Works ..... Montreal.
<b>Awning</b> Sonne Awning, Tent & Tarpaulin Co. Montreal.	<b>Electric Car Route Signs</b> Acton Burrows Co ..... Toronto.	<b>Marine Boilers</b> Babcock & Wilcox (Ltd.) ..... Montreal.
<b>Axles</b> James Hutton & Co. .... Montreal. Jas. W. Pyke & Co. .... Montreal. Rhodes, Curry & Co. .... Amherst, N.S.	<b>Electric Oranes</b> Dominion Bridge Co. .... Montreal W. H. C. Mussen & Co. .... Montreal.	<b>Matches</b> The Hudson's Bay Company ..... Montreal.
<b>Babbitt</b> Rice Lewis & Son ..... Toronto.	<b>Enameled Iron Signs</b> Acton Burrows Co ..... Toronto.	<b>Mechanical Draft Fans</b> Babcock & Wilcox (Ltd.) ..... Montreal.
<b>Blankets &amp; Bedding</b> The Hudson's Bay Company ..... Montreal.	<b>Engineers' Supplies</b> The James Morrison Brass Mfg. Co. .... Toronto.	<b>Milepost Numbers</b> Acton Burrows Co ..... Toronto.
<b>Block &amp; Tackle</b> Dominion Wire Rope Co. .... Montreal. Rice Lewis & Son ..... Toronto.	<b>Engines, Stationary &amp; Marine</b> Polson Iron Works ..... Toronto.	<b>Milling Cutters</b> W. Abbott ..... Montreal.
<b>Boat Fittings &amp; Hardware</b> Rice Lewis & Son ..... Toronto. Sonne Awning, Tent & Tarpaulin Co. Montreal.	<b>Engraving</b> Acton Burrows Co ..... Toronto. Toronto Engraving Co. .... Toronto.	<b>Mohair</b> The Hudson's Bay Company ..... Montreal.
<b>Boiler Covering</b> Mica Boiler Covering Co ..... Montreal	<b>Express Office Signs</b> Acton Burrows Co ..... Toronto.	<b>Nails, Wire</b> Dominion Wire Manufacturing Co. .... Montreal.
<b>Boilers</b> Polson Iron Works ..... Toronto.	<b>Feedwater Heaters</b> Babcock & Wilcox (Ltd.) ..... Montreal.	<b>Numbers</b> Acton Burrows Co ..... Toronto.
<b>Boilers, Stationary</b> Babcock & Wilcox (Ltd.) ..... Montreal.	<b>Fencing</b> Canadian Steel and Wire Co. .... Hamilton, Ont. Dominion Wire Manufacturing Co. .... Montreal. Page Wire Fence Co. .... Walkerville, Ont.	<b>Nuts, Cold Pressed</b> John Morrow Machine Screw Co. (Ltd.), Ingersoll
<b>Boiler Tubes</b> B. J. Coghlin & Co. .... Montreal. Jas. W. Pyke & Co. .... Montreal.	<b>Flags</b> Rice Lewis & Son ..... Toronto. The Hudson's Bay Company ..... Montreal.	<b>Oakum</b> Rice Lewis & Son ..... Toronto. The Hudson's Bay Company ..... Montreal.
<b>Boilers</b> Simplex Railway Appliance Co. .... Montreal.	<b>Flour</b> The Hudson's Bay Company ..... Montreal.	<b>Oils</b> Galena-Signal Oil Co., Franklin, Pa., & Toronto. The Queen City Oil Company. .... Toronto.
<b>Boilts</b> Rice Lewis & Son ..... Toronto.	<b>Foghorns</b> Rice Lewis & Son ..... Toronto.	<b>Office Signs</b> Acton Burrows Co ..... Toronto.
<b>Boilts, Bolter Patch</b> John Morrow Machine Screw Co. (Ltd.), Ingersoll	<b>Gas and Electric Fixtures</b> The James Morrison Brass Mfg. Co. .... Toronto.	<b>Paeking</b> The N. L. Piper Railway Supply Co. .... Toronto.
<b>Brake Beams</b> Simplex Railway Appliance Co. .... Montreal.	<b>Gates</b> Page Wire Fences Co. .... Walkerville, Ont.	<b>Pinch Bars</b> The Hiram L. Piper Co. .... Montreal. The N. L. Piper Railway Supply Co. .... Toronto.
<b>Brass and Copper Cloth</b> The B. Greening Co. .... Hamilton, Ont.	<b>Gauges, Steam and Vacuum, etc.</b> The James Morrison Brass Mfg. Co. .... Toronto.	<b>Pipe Covering</b> The James Morrison Brass Mfg. Co. .... Toronto. Mica Boiler Covering Co. .... Montreal.
<b>Brass Castings</b> St. Thomas Brass Co. .... St. Thomas, Ont.	<b>General Supplies</b> The Hudson's Bay Company ..... Montreal.	<b>Plushes</b> The Hudson's Bay Company ..... Montreal.
<b>Bridge Numbers</b> Acton Burrows Co ..... Toronto.	<b>Grain Elevators</b> John S. Metcalfe Co. .... Chicago, Ill.	<b>Porter</b> E. L. Drewry ..... Winnipeg.
<b>Bridges</b> Dominion Bridge Co. .... Montreal.	<b>Groceries</b> The Hudson's Bay Company ..... Montreal.	<b>Portable Boilers</b> Babcock & Wilcox (Ltd.) ..... Montreal.
<b>Buoy Lighting</b> Safety Car Heating and Lighting Co., New York	<b>Hardware</b> Rice Lewis & Son ..... Toronto. The Hudson's Bay Company ..... Montreal.	<b>Portland Cement</b> Rice Lewis & Son ..... Toronto.
<b>Cables, Electric and Feeder</b> E. F. Phillips Electrical Works, Ltd., Montreal. The Wire and Cable Co. .... Montreal.	<b>Headlights</b> The Hiram L. Piper Co. .... Montreal. N. L. Piper Railway Supply Co. .... Toronto.	<b>Printing</b> The Hunter, Rose Co. .... Toronto. The Mail Job Printing Company. .... Toronto.
<b>Car Heating</b> Safety Car Heating and Lighting Co., New York	<b>Hose</b> Rice Lewis & Son ..... Toronto.	<b>Pumps</b> Rice Lewis & Son ..... Toronto.
<b>Car Jacks</b> James Cooper ..... Montreal. W. H. C. Mussen & Co. .... Montreal.	<b>Illustrations</b> Acton Burrows Co ..... Toronto.	<b>Rail Benders, Roller</b> Montreal Steel Works ..... Montreal.
<b>Car Lighting</b> Safety Car Heating and Lighting Co., New York	<b>Injectors</b> The James Morrison Brass Mfg. Co. .... Toronto.	<b>Railway Supplies</b> The Hiram L. Piper Co. .... Montreal. The N. L. Piper Railway Supply Co. .... Toronto.
<b>Campets</b> The Hudson's Bay Company ..... Montreal.	<b>Interlocking Signals</b> Montreal Steel Works ..... Montreal.	<b>Balls (New)</b> James Cooper ..... Montreal. Drummond, McCall & Co. .... Montreal. J. J. Gartshore ..... Toronto. W. H. C. Mussen & Co. .... Montreal.
<b>Cars</b> Rhodes, Curry & Co. .... Amherst, N.S.	<b>Iron</b> Rice Lewis & Son ..... Toronto.	<b>Balls (for relaying)</b> James Cooper ..... Montreal. J. J. Gartshore ..... Toronto. T. A. Morrison & Co. .... Montreal. W. H. C. Mussen & Co. .... Montreal. Rice Lewis & Son ..... Toronto. Jas. W. Pyke & Co. .... Montreal.
<b>Car Wheels</b> Jas. W. Pyke & Co. .... Montreal. Rhodes, Curry & Co. .... Amherst, N.S.	<b>Iron Signs</b> Acton Burrows Co ..... Toronto.	<b>Reamers</b> W. Abbott ..... Montreal.
<b>Castings (Steel)</b> Montreal Steel Works ..... Montreal.	<b>Japans</b> McCaikill, Dougall & Co. .... Montreal.	<b>Roof Trusses</b> Dominion Bridge Co. .... Montreal.
<b>Castings (Copper)</b> Rhodes, Curry & Co. .... Amherst, N.S.	<b>Journal Bearings</b> Jas. W. Pyke & Co. .... Montreal. St. Thomas Brass Co. .... St. Thomas, Ont.	<b>Rope</b> Rice Lewis & Son ..... Toronto. The Hudson's Bay Company ..... Montreal.
<b>Cement Machinery</b> Jas. W. Pyke & Co. .... Montreal.	<b>Lager Beer, &amp;c.</b> E. L. Drewry ..... Winnipeg.	<b>Safes</b> J. & J. Taylor ..... Toronto.
<b>Chains</b> Rice Lewis & Son ..... Toronto.	<b>Lamps &amp; Lanterns</b> The Hudson's Bay Company ..... Montreal. Rice Lewis & Son ..... Toronto. The Hiram L. Piper Co. .... Montreal. N. L. Piper Railway Supply Co. .... Toronto.	<b>Safety Valves</b> The James Morrison Brass Mfg. Co. .... Toronto.
<b>Coal Haulage Ropes</b> The B. Greening Co. .... Hamilton, Ont.	<b>Launche</b> Polson Iron Works ..... Toronto.	<b>Screws, Milled Machine</b> John Morrow Machine Screw Co. (Ltd.), Ingersoll
<b>Concrete Mixers and Rock Crushers</b> W. H. C. Mussen & Co. .... Montreal.	<b>Life Insurance</b> Travelers' Insurance Co. .... Montreal.	<b>Semaphore Arms</b> Acton Burrows Co ..... Toronto.
<b>Contractors' Plant</b> James Cooper ..... Montreal. T. A. Morrison & Co. .... Montreal. W. H. C. Mussen & Co. .... Montreal.	<b>Lights, Contractors and Wrecking</b> James Cooper ..... Montreal. W. H. C. Mussen & Co. .... Montreal.	
<b>Cotton Pins</b> Dominion Wire Manufacturing Co. .... Montreal.	<b>Linoleum and Floor Coverings</b> The Hudson's Bay Company ..... Montreal.	
<b>Cross Arms, Top Pins &amp; Slide Blocks</b> The Firstbrook Box Co. .... Toronto.	<b>Locomotive Brass Work</b> The James Morrison Brass Mfg. Co. .... Toronto.	
<b>Crossing Gates</b> The N. L. Piper Railway Supply Co. .... Toronto.	<b>Locomotives (Compressed Air)</b> American Locomotive Co. .... New York, N.Y. Baldwin Locomotive Works. .... Philadelphia, Pa. Locomotive and Machine Co. of Montreal	
<b>Curtains</b> The Hudson's Bay Company ..... Montreal.		
<b>Cuts</b> Acton Burrows Co ..... Toronto		
<b>Derriek Ropes</b> The B. Greening Co. .... Hamilton, Ont.		

(Continued on preceding page.)

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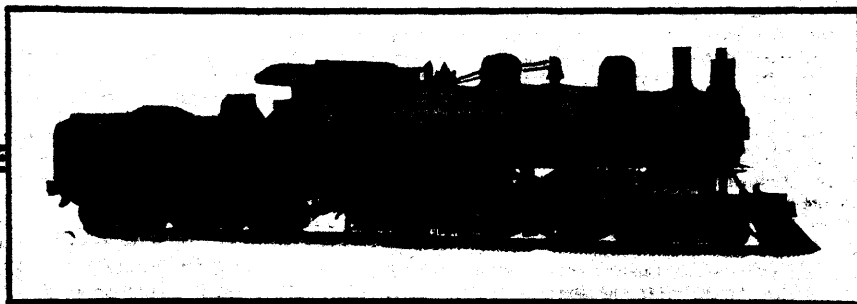
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