

THE

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## The Hammer Blow from Incorrect Counterbalance.

By H. H. Vaughan, Assistant to the Vice-President, C.P.R.

The generally accepted solution of a consideration of the action on the rail of a wheel containing counterbalance is that of a variable pressure between the rail and the wheel, added to or reduced by the vertical force due to the action of the unbalanced weight. Thus in fig. 1 (pg. 159), if OA represents the time of one revolution, BC the pressure between the rail and the wheel due to the weight on the wheel, OB and ODAE the vertical force due to the action of the overbalance, the result and pressure between the rail and the wheel is shown by the line BFG and equals the ordinate of the shaded area at any time.

Should the overbalance be excessive and the speed so high that the vertical force caused by the overbalance exceeds the weight on the wheel, there may be a negative pressure between the wheel and the rail, or in other words, a force tending to lift the wheel, which condition is shown in fig. 2, where the cross hatched portion below OA represents an upward force which tends to lift the wheel and attains a maximum value TP at the instant when the counterbalance is vertically upwards. For a numerical example suppose the weight on the wheel is 20,000 lbs. and the maximum vertical effect of the overbalance is 25,000 lbs. The pressure on the rail will become 45,000 lbs. at the point S, while at T there will be a force of 5,000 lbs. tending to lift the wheel, and that the wheel does lift under the action of this force is well shown from the experiments on the Purdue and St. Louis testing plants. The greatest pressure on the rail occurs when the counterbalance is vertically downwards, and as this in many cases of improperly balanced engines reaches such figures as 50,000 to 60,000 lbs., the damage that has occasionally been caused to the rail,

when such engines have run at specially high speeds, has been ascribed to this great downward force. A consideration of the diagrams shows that however great this force may be at this point, its application is entirely gradual, and it cannot possibly partake of the nature of a blow given by a falling weight, however high the speed, as the pressure between the rail and the wheel gradually increases from nothing or a comparatively small amount until it reaches its maximum, and then decreases, and it has therefore become usual to regard the hammer blow, so often mentioned in connection with counterbalance, as a misnomer, and to ascribe the damage that may occur, to the high pressures which exist, rather than to the

effect of an actual fall of the wheel on the rail.

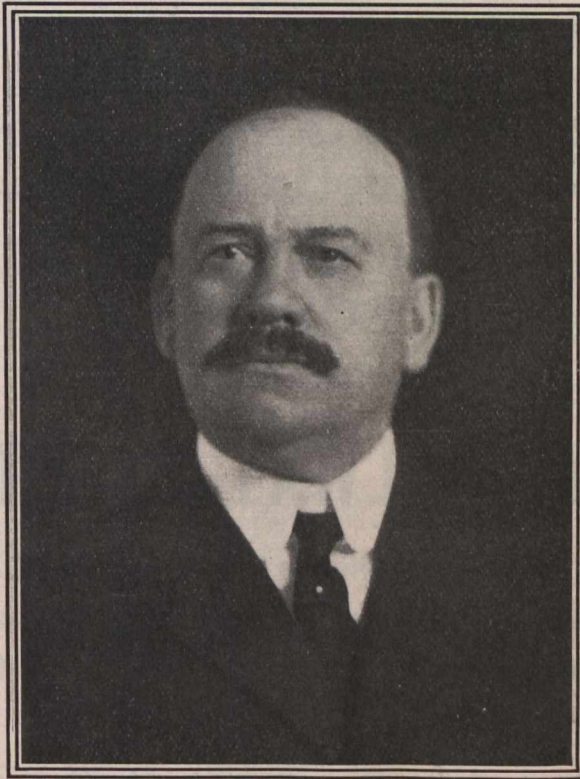
In the early part of 1908 a serious case of damaged rails occurred on the C.P.R., the rails being sharply bent for about a mile, on both sides at intervals about equal to the circumference of a driving wheel. The damaged spots were carefully measured over a considerable distance, averaged, and the diameter of the wheel so found corresponded with that of an engine which had

general disbelief in the calculations of the forces caused by the unbalanced weights on the wheels was the natural result. It then occurred to the writer to investigate the action of the wheel when lifted from the rail by the upward force caused by the overbalance, with results that are interesting and to a large extent explain the action which takes place.

The wheel is taken as a mass of 3,200 lbs. weight, pressed down by the spring with a force equal to the static weight on the rail, less its own weight, running on a rigid track and acted upon by the forces caused by the overbalance. As an example, the speed was assumed to be 300 revolutions per minute, the weight on the rail 20,000 lbs. and the force due to the overbalance 25,000 lbs., so that the force tending to lift the wheel attained a maximum of 5,000 lbs. The mathematical discussion which applies to any set of conditions is given below, and the results are shown in fig. 3 for this particular example.

The horizontal dimensions in this diagram indicate the movement of the wheel in degrees, 0° being the position of the wheel when the counterbalance is vertically upwards, while the vertical dimensions indicate to three different scales, the forces acting on the wheel, the velocity of the wheel upwards and its upward movement. Thus, at about - 37½°, or when the centre line of the counterbalance makes that angle with the vertical, the upward force due to the overbalance equals the weight on the wheel, and beyond that exerts an upward force on the wheel, tending to lift it, which becomes a maximum of 5,000 lbs. at 0° and zero again when the counterbalance has moved 37½° past the centre. The wheel then commences to be acted upon by a downward force due to its weight and the force of the spring which becomes greater than the effect of the counterbalance. Since the latter continues to decrease, and at 90° becomes zero, and later in its turn acts downward, this force increases

rapidly. Further consideration indicates that the upward velocity of the wheel, zero at - 37°, gradually increases until the wheel has turned to 37°, when its upward velocity is a maximum, since, while the forces acting on it upward have been decreasing from 0°, they have still been acting to increase its upward velocity. As the downward forces become reversed, they first destroy this upward velocity, which becomes zero at about 75°, after which they impress on it an increasing downward velocity until the wheel reaches the rail. To find the point at which this takes place, it is necessary to plot the space line or that showing the movement of the wheel vertically upwards from the rail. This commences with zero



EDSON J. CHAMBERLIN

Vice-President and General Manager Grand Trunk Pacific Railway.

made a very fast run over the damaged track the day previous. The wheels of this engine were taken out and the main drivers found to contain an excessive amount of overbalance, actually amounting to about 1,000 lbs. As the weight on these wheels was 22,000 lbs., the force on the rail at the speed estimated varied from 57,000 lbs. to an upward force of 13,000 lbs. A portion of the rail was experimented with in a testing machine, and it was found impossible to bend it in the same manner as had occurred on the track, with different centres of supports and with loads as high as 200,000 lbs. While the cause of the damage was thus located, the method by which it was effected was still not apparent, and a



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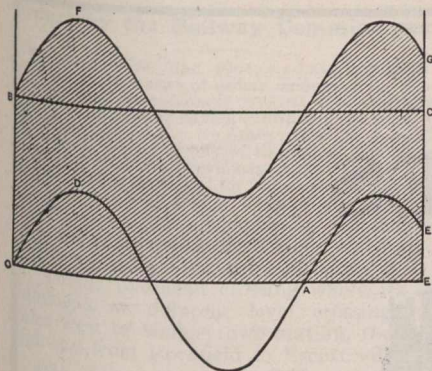


FIGURE 1

at  $-37^\circ$ , gradually increasing to 0.0465 ft. or about .55 inch at  $75^\circ$ , at which point the upward velocity is zero and the upward movement has attained its maximum. The wheel then begins to return to the rail, its movement becoming zero again, or in other words, striking the rail at  $115^\circ$ , and by referring to the velocity curve, it will be seen that at the point the downward velocity is 4.7 ft. per second. This velocity corresponds to that gained in dropping freely through a height of 0.36 ft., or about  $4\frac{1}{2}$  ins., and as the weight is 3,200 lbs., there is an actual, but not severe, blow.

It is interesting to note that this diagram explains completely the results obtained on testing plants, and with wire run under the drivers, in which W. F. M. Goss has noted that the wheel appeared to drop more quickly than it went up, and at a considerably greater distance from the centre, and it is evident that this should be so. The movement of the wheel does not coincide with the variation in the force. As long as the force is upward the wheel is acquiring an upward velocity, and this velocity does not become zero until the downward forces have acted on the wheel for a sufficient time to destroy it. In the same way, the upward movement goes on increasing, not only until the upward velocity decreases, but until it is destroyed and the wheel does not return to the track until the downward velocity has attained a very considerable amount.

The diagram in fig. 4 shows similar curves plotted at 320 revolutions for the engine mentioned as having caused the damage to the rail on the C.P.R. This is, of course, an exceptionally bad case, but it will be seen that the wheel did not return to the track for  $177^\circ$ , when it had a downward velocity of  $17\frac{1}{2}$  ft. per second, corresponding to a free fall of  $4\frac{3}{4}$  ft., from which height a weight of 3,200 lbs. would certainly deliver a blow of sufficient energy to account for the effects observed.

In an extreme case of this nature, how-

ever, the method of analysis employed gives results that are greater than would actually occur, since the force acting down on the wheel is not constant, but would increase as the wheel moved upward and deflected the spring. For instance, if the latter had a deflection of 0.2 ft. under the working load of 18,800 lbs., the downward force with any upward movements of the wheel would equal

$$3200 + 18800 \left( \frac{s + 0.2}{0.2} \right)$$

in place of a constant amount of 22,000 lbs., and the acceleration equation would then become

$$\frac{d^2s}{dt^2} = C \cos kt - \left[ 3200 + 18800 \left( \frac{s + 0.2}{0.2} \right) \right]$$

This expression involves  $s$  and becomes exceedingly complicated to integrate, but the effect of including it would be to diminish the upward movement and slightly reduce the striking velocity. In the first case its influence is inappreciable as the upward movement is small, but in the second it would certainly reduce this, and account for the box not striking the frame. An exact solution would in addition allow for the elasticity of the track, and this in its turn would apparently increase the velocity of the blow, although an equation involving it would probably be too complicated to treat mathematically except by an expert.

While, however, the solution here given in fig. 4 may not be exactly correct, the actual striking velocity being lower than that calculated, there is no doubt that it is of considerable magnitude, and probably from 12 to 15 ft. per second, and an absolute hammer blow is therefore accounted for which is of sufficient intensity to explain the damage that has occurred.

It is interesting to note that in extreme cases the wheel does not return to the track or the blow occur until the wheel has moved to a position where the counterbalance is within  $20^\circ$  or  $30^\circ$  of being vertically downward, and the popular connection of this blow with the downward movement of the counterbalance is thus explained.

The result of these calculations would emphasize the danger of an unbalanced force which could equal the weight on the wheel. On the usual assumption that the maximum speed in miles per hour equals the diameter of drivers in inches, this would restrict the overbalance in any wheel to  $2\frac{1}{2}$  per cent. of the weight on the wheel, and to be entirely safe the practice on the C.P.R. is now to limit it to  $1\frac{1}{4}$ %, and to make it 1% if possible.

MATHEMATICAL ANALYSIS.

When counterbalance is vertically upward  $t = 0$

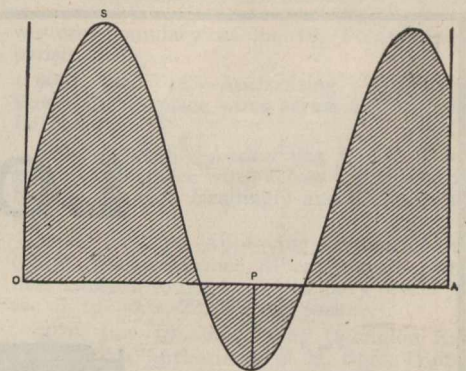


FIGURE 2

Let  $w$  = acceleration due to downward force of spring and weight of wheel, acting on mass of wheel

$c$  = acceleration due to maximum value of force caused by overbalance, acting on mass of wheel

$s$  = vertical movement of wheel, from rail, feet

$t$  = time, seconds

$kt$  = angular movement of wheel, radians

Then,  $\frac{d^2s}{dt^2} = c \cos kt - w$

$$\frac{ds}{dt} = \frac{c}{k} \sin kt - wt + C$$

$$= 0 \text{ when } t = -t_1, \text{ when } \cos kt_1 = \frac{c}{w}$$

$$\text{Then } C = \frac{c}{k} \sin kt_1 - wt_1$$

$$\text{And } \frac{ds}{dt} = \frac{c}{k} \sin kt + \frac{c}{k} \sin kt_1 - wt - wt_1,$$

from which the velocity curves are plotted

$$s = -\frac{c}{k^2} \cos kt + \frac{ct}{k} \sin kt_1 - \frac{wt^2}{2} - wt_1t + C$$

$$= 0 \text{ when } t = -t_1$$

$$\text{Then } C = \frac{ct_1}{k} \sin kt_1 + \frac{c}{k^2} \cos kt_1 - \frac{wt_1^2}{2}$$

$$\text{and } s = \frac{c}{k^2} (kt_1 \sin kt_1 + \cos kt_1) - \frac{wt_1^2}{2} - \frac{wt^2}{2} +$$

$$t \left( \frac{c}{k} \sin kt_1 - wt_1 \right) - \frac{c}{k^2} \cos kt_1$$

from which the space curves are plotted.—American Engineer and Railroad Journal.

The Life Underwriters' Association of Canada recently applied for the same rates of fares on railways in Eastern Canada as are given to commercial travellers. The application was refused in view of the different conditions of the two organizations.

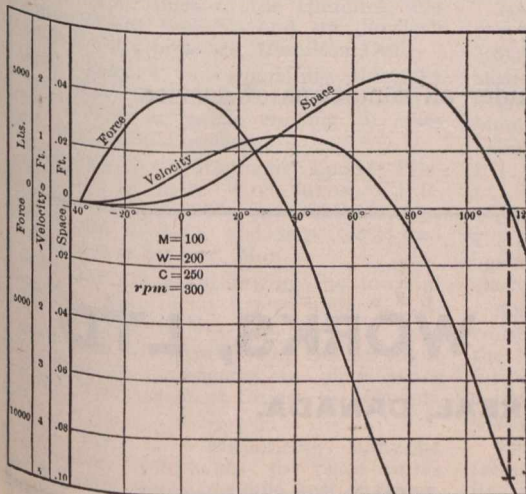


FIGURE 3

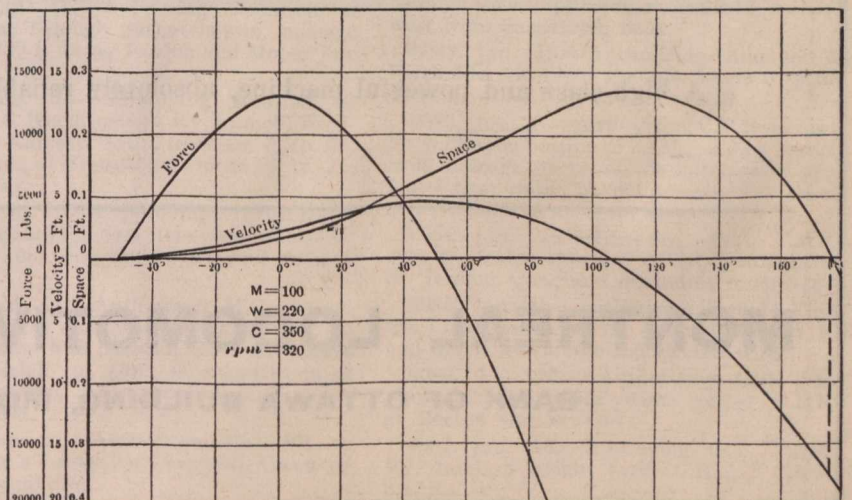
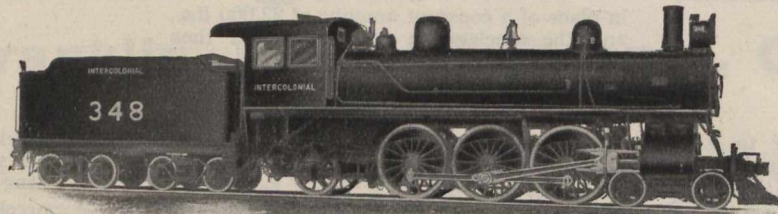


FIGURE 4

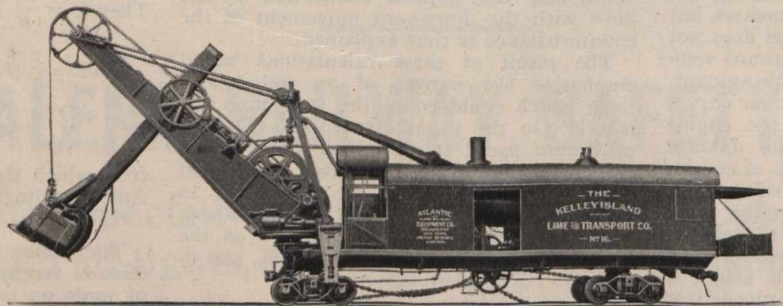


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6030. Jan. 12.—Dismissing application, with leave to revive if desired, of Front of Escott tp., Ont., for order directing G.T.R. to provide overhead crossing where its line intersects at different level crossings  $2\frac{1}{2}$  miles west of Mallorytown station, the main highway from Rockfield to Escott village.

6031. Jan. 12.—Authorizing the National Transcontinental Ry. Commissioners to cross Temiscouata Ry. about 12.2 miles westerly from Edmundston, N.B., or 46.62 miles from a point  $2\frac{1}{2}$  miles west of Grand Falls, N.B.

6032. Jan. 13.—Ordering that work required by order 5670, Nov. 11, 1908, in connection with C.N.R. crossing over Mrs. H. A. McLeod's property at Stoney Brae, Ont., be completed by Jan. 21, and that the company be subject to a penalty of \$25 for every day subsequent thereto it shall be in default in complying with the order.

6033. Jan. 13.—Ordering that the Windsor, Essex and Lake Shore Rapid Ry. be subject to a penalty of \$25 for each night that the semaphore light at its crossing with the M.C. Rd. on Erie Ave., Leamington, Ont., is not lighted on and after Feb. 1.

6034. Jan. 12.—Dismissing application of C. Franche, Wendover, Ont., for order directing C.N.R. to provide farm crossing in the middle of his lot.

6035. Jan. 5.—Authorizing St. Lawrence and Adirondack Ry. to construct its railway across various highways in Quebec province.

6036. Jan. 14.—Authorizing Bell Telephone Co. to place wires across M.C. Rd. 3 miles east of Berry station, Ont.

6037. Jan. 14.—Authorizing Bell Telephone Co. to place wires across G.T.R. at water front, west of John St., Toronto.

6038. Jan. 14.—Authorizing C.P.R. to construct three spur lines to the Larchwood Lumber Co.'s premises, Algoma district, Ont., to be completed within 2 years.

6039. Jan. 12.—Authorizing G.T.R. to provide folding gates at its crossing on Rosa de Lima St., Montreal, on or before Apr. 15, the city to bear one-half the cost of protection, maintenance and operation, and further ordering that the city be not responsible for damages resulting from negligence of man in tower.

6040. Nov. 11.—Authorizing G.T.R. to construct spur lines to the Hamilton and Toronto Sewer Pipe Co. and the Fowler's Canadian Co.'s premises, Hamilton Ont.

6041. Jan. 4.—Authorizing Manitoba Government Telephones to place wires across C.N.R. at public crossing 10 miles north-west of St. Boniface.

6042. Jan. 9.—Authorizing Louise Telephone Co. to place wires across C.P.R. between secs. 30-2-11 and 25-2-12, also 30-2-11 and 31-2-11, and secs. 4-3-11 and 5-3-11, west of 1st mer., Man.

6043. Jan. 14.—Authorizing the town of Megantic, Que., to lay a pipe under C.P.R. in St. Agnes ward, Megantic, Que.

6044. Jan. 14.—Authorizing Guelph Light and Heat Commissioners to place wires across G.T.R. tracks at Crimea St., Guelph, Ont.

6045. Jan. 14.—Authorizing Manitoba Government Telephones to place wires across C.N.R. tracks one mile west of Grays.

6046. Jan. 14.—Authorizing C.P.R. to operate bridges on its Emerson section at

mileages 28.2 and 53.6, and rescinding order 5712, Nov. 27, 1908.

6047. Jan. 14.—Authorizing Kinloss and Luctnow Telephone Co. to place wires across G.T.R. one mile west of Lucknow station, Ont.

6048. Jan. 8.—Dismissing application of R. Laidlaw Lumber Co., Toronto, for order directing that order 4988, July 8, 1908, be made retroactive so as to apply to all cars loaded with lumber received at Toronto over G.T.R. from Feb., 1907, until the interswitching arrangements prescribed by the Board became effective Sept. 1, 1908, and switched by the C.P.R. to applicant's siding at Dundas St., Toronto; also that the Railway Co. refund \$42 as demurrage on eight carloads received at Toronto, April, 1907.

6049. Jan. 11.—Authorizing city of Hamilton, Ont., to lay sewer pipe under T.H. & B.R. at Sanford Ave.

6050. Jan. 13.—Authorizing city of Hamilton to lay water main under G.T.R. Port Dover branch at Wentworth St.

6051. Jan. 12.—Approving location of C.N.O.R. from Udney, Ont., toward Orillia, and authorizing construction of railway across intervening highways in Mara tp.

6052. Jan. 9.—Authorizing People's Telephone Co. and E. P. Smith, of Johnville, Que., to place wires across C.P.R. near Johnville station, Que., and rescinding order 5636, Nov. 3, 1908.

6053. Jan. 11.—Authorizing C.P.R. to construct a branch line in Winnipeg across portions of blocks 40, 41 and 42, and a lane in rear of Brant St.

6054. Jan. 11.—Authorizing C.P.R. to construct spur lines in Winnipeg to the Anchor Elevator and Warehousing Co.'s premises.

6055. Jan. 15.—Authorizing Alberta Ry. & Irrigation Co. to construct branch line on Blood Indian Reserve, to lot 3, block 32, Cardston, Alta.

6056. Jan. 15.—Authorizing Edmonton & Slave Lake Ry. to construct spur to Morinville Mines, Alta.,

6057. Jan. 15.—Authorizing Bell Telephone Co. to place wires across Lake Erie & Detroit River Ry. at Adelaide St., London, Ont.

6058. Jan. 15.—Authorizing Mission Telephone Line to place wires across C.P.R. at Dewdney station, B.C.

6059. Jan. 15.—Authorizing Bell Telephone Co. to place wires across Lake Erie & Detroit River Ry. at Adelaide St., London, Ont.

6060. Jan. 16.—Authorizing T. Richards to place a wire across G.T.R. at George St., Elmwood, Ont.

6061. Jan. 16.—Approving deviation of C.P.R. line through Saskatchewan, mileage 130.6 to 133.1, being Pasqua and Moose Jaw stations.

6062. Jan. 16.—Approving location of Manitoba & Northwestern Ry. branch, Bredenbury to Kamsac, Sask., from sec. 3, tp. 23, r. 1, w. 2 m., at Bredenbury, to sec. 3, tp. 27, r. 1, w. 2 m.

6063. Jan. 16.—Approving revision of C.P.R. line through Saskatchewan, from mileage 64.8 to 68, being Qu'Appelle and McLean stations.

6064. Jan. 14.—Authorizing M.C. Rd. to construct farm crossing over its railway, on the boundary line between C. & F. Slade's farms, Raleigh tp., Ont., in substitution of existing crossing and rescinding order 5926, Oct. 20, 1908.

6065. Jan. 22.—Authorizing M.C. Rd. to reconstruct a bridge on Chippewa Creek on its Niagara division.

6066. Jan. 18.—Authorizing Bell Telephone Co. to place wires across C.P.R. at

western boundary of lot 18, Point Claire parish, Que.

6067. Jan. 18.—Authorizing Vancouver Power Co. to place wires across C.P.R. near Barnet, B.C.

6068. Jan. 18.—Authorizing G.T.P. Telegraph Co. to place wires across C.P.R. Souris branch, between Headingly and Springstein, Man.

6069. Jan. 18.—Approving location of the C.P.R. Lanigan-Prince Albert branch, from near Lanigan to northern boundary of s.e.  $\frac{1}{4}$  sec. 5, tp. 35, r. 22, w. 2 m., Sask.

6070. Jan. 18.—Approving Dominion Ex. Co.'s by-law, authorizing W. H. Burr, Traffic Manager, to prepare and issue tariffs of tolls.

6071. Jan. 18.—Approving location of Atlantic, Quebec & Western Ry. station, Port Daniel, Que.

6072. Jan. 18.—Authorizing G.T.R. to construct bridge west of the Trent River, near Trenton, Ont.

6073. Jan. 13.—Dismissing application of Pere Marquette Rd. for permission to refund to Parke, Davis & Co. 8c. per 100 lbs. on shipment of pharmaceutical goods from Walkerville, Ont., to Montreal.

6074. Jan. 18.—Authorizing C.N.O.R. to construct branch line from Sellwood Jct. to Sellwood, through Hutton tp., Nipissing district, Ont., to be completed within 2 years from date.

6075. Jan. 15.—Authorizing C.P.R. to open for traffic the portion of its line on Medicine Hat section known as the Gull Lake diversion, Alta.

6076. Jan. 12.—Authorizing G.T.R. to maintain a crossing at Maxville, Ont., and to construct gates in line with the right-of-way fence; and ordering that the G.T.R. be not required to cut trains standing on the siding track, for the purpose of crossing other trains on the main line at this point.

6077. Jan. 13.—Dismissing application of Ontario Powder Co. for an order authorizing Bay of Quinte Ry. to refund \$35, alleged overcharge on shipment of ice from Tweed to Kingston, Ont.

6078. Jan. 19.—Authorizing the Wahnapiata Power Co. to place power lines across C.N.O.R. in Neelon tp., Nipissing district, Ont.

6079. Jan. 19.—Authorizing Wahnapiata Power Co. to place power wires across C.P.R. tracks at milepost 70, between Romford and Wanapitei, Ont.

6080. Jan. 18.—Prescribing rules in connection with proposed additions to and changes in Canadian Classification of freight traffic.

6081. Jan. 12.—Approving revised location of C.N.R. Co.'s Goose Lake branch, through townships 33-29, ranges 9-15, w. 3 m., west from Saskatoon, Sask.

6082. Jan. 19.—Authorizing Andover & Perth Electric Light Commissioners to place wires across C.P.R. in Perth, N.B.

6083. Jan. 20.—Authorizing C.P.R. to open for traffic the portion of its Moose Jaw branch from mileage 63 to 91, Saskatchewan, provided that trains be not operated at speed greater than 15 miles an hour.

6084. Jan. 14.—Directing that C.P.R. stop its trains opposite C.N.R. platform at St. Jerome, Que., and rescinding order 5189.

6085. Jan. 20.—Authorizing Toronto Electric Light Co. to lay tile ducts under G.T.R. and C.P.R. for power and electric wires.

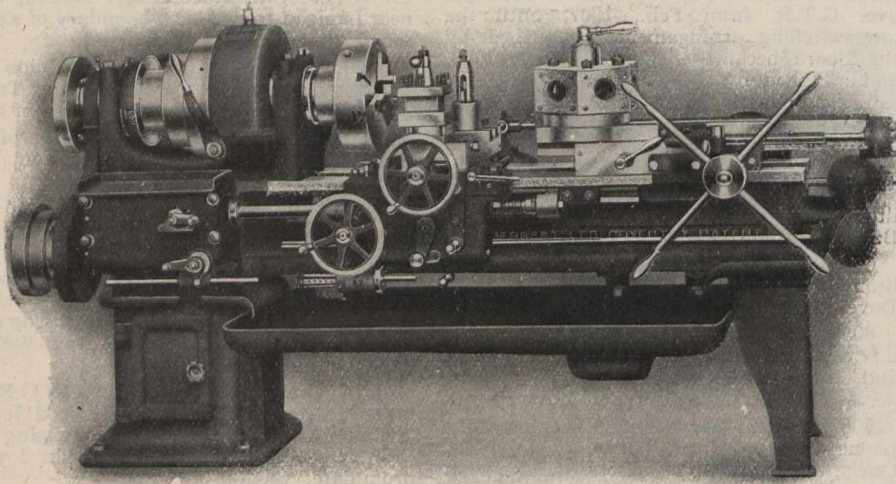
6086. Jan. 19.—Authorizing Bell Telephone Co. to place wires across C.P.R. at Beeton station, Ont.

6087. Jan. 18.—Approving G.T. Pacific Ry. standard freight tariffs C.R.C. 2, C.R.C. 3, C.R.C. 4.

6088, 6089. Jan. 19.—Directing Ingersoll Electric Light and Power Co. to place its



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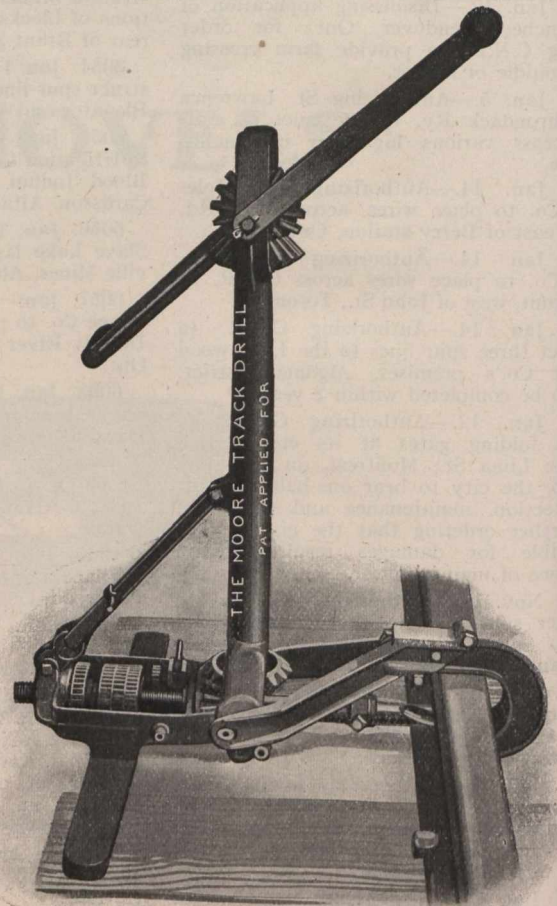
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wires across C.P.R. Port Burwell and Ingersoll branches, at least 25 ft. above rails, and rescinding orders 3900 and 3904.

6090. Jan. 27.—Dismissing application of Crawshaw Brothers, Scotch Block, Ont., for order directing G.T.R. to construct a siding to their quarry.

6091. Jan. 19.—Directing Ingersoll Electric Light and Power Co. to place its wires across C.P.R. to St. Charles Condensing Co.'s premises, at least 25 ft. above rails, and rescinding order 3903.

6092. Jan. 22.—Ordering that the Express tariff and rules in existence prior to January 1, 1909, referred to in order 6020, be construed by all express companies to be the ratings, tariffs, and rules embodied in Classification and Tables of Graduated Charges 16, revised to Aug. 1, 1905, and "exceptions" thereto for use in Canada, which were in force on Dec. 31, 1908. And ordering that 9 be substituted for 8 in the 9th line of the operative part of order 6020.

6093. Jan. 21.—Ordering that, pending the final determination by the board of the tariffs of tolls which the Bell Telephone Company shall be authorized to charge, and the form of agreement with other companies to be approved by the Board, certain agreements of the company be temporarily approved.

6094. Jan. 22.—Authorizing Q.M. & S. Ry. to construct a spur to the Imperial Oil Co.'s premises, Iberville, Que.

6095. Jan. 18.—Amending order 1428, re Fairville, N.B., crossing, by ordering the municipality and the St. John Ry. Co. to pay to the C.P.R. within one month, one-third of the wages of the day and night watchman, directed to be provided by order of July 7, 1905, from July 1, 1906, to Jan. 18, 1909.

6096. Jan. 12.—Dismissing application of Hyde & Webster, Montreal, for a less rate on brick between Casselman and Montreal.

6097. Jan. 18.—Dismissing complaint of St. John, N.B., Board of Trade against increase by Dominion Atlantic Ry. of passenger fare on steamship line between St. John, N.B., and Digby, N.S., from \$1.50 to \$1.75 per capita.

6098. Jan. 18.—Dismissing complaint of I. R. Todd, St. Stephen, N.B., against rate charged by C.P.R. on pulpwood from St. Stephen to Milltown, N.B.

6099. Jan. 18.—Dismissing complaint of the St. John, N.B., Board of Trade against C.P.R. charge of 50c. per short ton shunting charges on goods from steamers from West St. John to East St. John.

6100. Jan. 23.—Approving location of the C.N.O. Ry. through Mowat tp. and Henvey Indian reserve, Parry Sound District, Ont., mileage 275.7 to 293.

6101. Jan. 25.—Authorizing G.T.R. and Napierville Junction Ry. Co. to operate trains on the tracks over, upon, or through the connection near Lacolle, Que, authorized by order 5264.

6102. Jan. 25.—Directing that the time for the installation of the interlocker of the G.T.P. Ry. where the same crosses the C.P.R. Pembina branch at Oak Point Junction, near Winnipeg, provided for in order 5417, and required by order 5573, to be installed not later than Jan. 31, 1909, be extended until March 31, 1909.

6103. Jan. 8.—Authorizing Niagara, St. Catharines and Toronto Ry. to construct its railway, at rail level, upon, along and across roads and highways in Thorold tp., Ont.

6104. Jan. 22.—Amending order 5943, of Dec. 16, 1908, by striking out the words "City of St. Johns," where they occur in the recital and operative parts of the order and substituting the words "Town of Iberville."

6105. Jan. 3.—Directing the Town of Orillia, Ont., to remove certain electric

power wires placed across the G.T.R. at public road allowance, between cons. 5 and 6, east of Orillia, within 30 days, and that failing to comply with the order the town be liable to a penalty of \$25 a day for every day it shall be in default.

6106. Jan. 22.—Approving revised location of C.P.R. Crow's Nest Pass branch from Lethbridge to Macleod, Alta., mileage 0.0 to 31.4.

6107. Jan. 23.—Confirming orders 4733, May 19, 1908; 4773, May 27, 1908, and 3058, May 23, 1907, issued by the Board in connection with the V.W. and Y. Ry. spur from False Creek to Burrard Inlet, Vancouver, B.C., as applied in the name of the V.V. and E. Ry. and N. Co., which has acquired the rights of the V.W. and Y. Ry.

6108. Jan. 23.—Approving the construction and maintenance of Walkerton and Lucknow Ry. bridge over Saugeen River at Walkerton, Ont., subject to agreement between C.P.R. and Town of Walkerton, dated Dec. 30, 1908.

6109. Jan. 25.—Authorizing Kaministikwia Power Co. to place wires across C.P.R. and C.N.R. at Heath St., West Fort William, Ont.

6110. Jan. 12.—Authorizing National Transcontinental Ry. to construct its railway at rail level across public highway running along the St. John River, between Edmundston and Connors; also permanently divert such highway and construct another in lieu thereof.

6111. Jan. 26.—Authorizing the Rat Portage Lumber Co. to place wires across C.P.R. at Harrison's Mills station, B.C., as per agreement dated Jan. 1, 1908.

6112. Jan. 26.—Approving Grand Valley Ry. Co. standard freight tariff C.R.C. 1.

6113. Jan. 26.—Authorizing the St. Lawrence and Adirondack Ry. Co. to reconstruct five bridges.

6114. Jan. 26.—Authorizing G.T.R. and Hamilton St. Ry. to operate trains over crossing of the Hamilton St. Ry. by G.T.R. additional track on Barton St., Hamilton, Ont., at intersection with Ferguson Ave.

6115. Jan. 27.—Approving revised location of C.P.R. as lessee of Manitoba and Northwestern Ry. from Bredenburg to the C.P.R. Pheasant Hills branch at Esterhazy, Sask., mileage 0 to 20.2.

6116. Jan. 27.—Approving location of the C.P.R. Lanigan-Prince Albert branch, from northern boundary of s.e.  $\frac{1}{4}$  sec. 5, tp. 35, range 22, west 2nd meridian, to the Regina, Saskatoon and North Saskatchewan Ry., in n.w.  $\frac{1}{4}$  sec. 26, tp. 42, r. 28, west 2nd meridian, mileage 8.7 to 82.4.

6117. Jan. 26.—Dismissing application of Village of Upton, Que., under sec. 237 for authority to continue Grand Trunk St. across G.T.R.

6118-6126. Jan. 8.—Authorizing C.P.R. to construct spurs to premises of J. R. Arbuthnot Co., Woods & Co., Nichols & Shepherd, Hargrave & Co., H. Leadly, Christie Bros., Kelly Bros., Prairie City Oil Co., and F. C. Bell, Winnipeg.

6127. Jan. 27.—Directing C.N. Quebec Ry. Co. to remodel plant in tower at crossing of C.N.Q.R. and Montreal St. Ry. near intersection of Valois Ave. and Ontario St., Montreal, and to provide for interlocking of derails with home signals, by May 15, 1909, and providing a penalty of \$25 a day for default.

6128. Jan. 26.—Directing that C.N. Ry. construct a new plant in tower house, or remodel old plant at the crossing of C.P.R. near Emerson, Man., to enable semaphores to be relocked, work to be completed June 15, 1909, and providing a penalty of \$25 a day for default.

6129. Jan. 12.—Ordering C.N.O.R. to pay G.T.R. for user of Union Station and yards

at Toronto, amount agreed upon between the companies Nov. 7, 1906, up to and including the date of this order, and directing the C.N.O.R. to make an arrangement, if possible, for user of said station and yards, which will be satisfactory to the C.P.R. and G.T.R., said arrangement to take effect from the date of this order. Also ordering that in the event of failure of companies to make a satisfactory agreement upon terms, the same shall be fixed by Board.

6130. Jan. 8.—Authorizing C.P.R. to construct spur to Western Coal Co.'s premises, Winnipeg.

6131. Jan. 29.—Authorizing C. Vanderburg, Nelles Corners, Ont., to lay a natural gas pipe in culvert under G.T.R.

6132. Jan. 8.—Authorizing C.P.R. to construct a spur to F. J. Wellwood's premises, Winnipeg.

6133. Jan. 8.—Authorizing C.P.R. to construct a spur to Anchor Elevator and Warehousing Co.'s premises, Winnipeg.

6134. Jan. 29.—Approving location of B.C. Southern Ry., Michel branch, from mileage 1.7 to 30, British Columbia.

6135. Jan. 29.—Rescinding order 5760, Dec. 3, 1908, which dismissed application of Ingersoll Telephone Co. for authority to erect telephone cables across Tillsonburg, Lake Erie and Pacific Ry., at Ingersoll, Ont.

6136. Jan. 29.—Authorizing City of Winnipeg to erect transmission wires across C.P.R. at Gomez and Carter Sts., Winnipeg; and amending order 5777, Dec. 3, 1908.

6137. Jan. 8.—Authorizing C.P.R. to construct a spur to Oldfield, Kirby and Gardner's premises, Winnipeg.

6138. Jan. 21.—Temporarily approving of various contracts of the Bell Telephone Co. with other telephone companies.

6139. Jan. 27.—Authorizing C.P.R. to cross certain highways in Vespra, Ont., by its Sudbury-Kleinburg branch.

6140. Jan. 27.—Dismissing application of G. F. Stiles for order directing C.P.R. to construct farm crossing and directing company to provide an under-crossing 12 ft. high and 12 ft. wide, as originally provided and as required by an agreement between Stiles and the company.

6141, 6142. Jan. 27.—Dismissing complaint of F. B. Stevens & Co., and J. B. Stringer, Chatham, Ont., alleging unjustly discriminative rates on shipments of corn from intermediate Canadian points as against those from Detroit, Mich., to Montreal and points east.

6143. Jan. 27.—Dismissing application of C.P.R. for authority to divert present highway where it crosses C.P.R. at Kleinburg, Ont.

6144. Jan. 27.—Directing Toronto, Hamilton and Buffalo Ry. to provide highway bridge over its track at Garth Street, Hamilton, Ont., and ordering that the company submit to the Board copies of any agreements between it and the C.P.R., or any other railway company in respect to the use and maintenance of its track at this point.

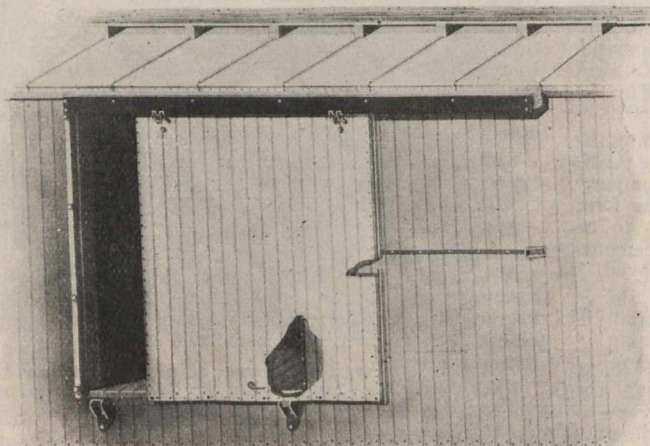
6145. Jan. 12.—Approving location of Toronto and Niagara Power Co.'s lines from its transformer house at Niagara Falls, Ont., through Stamford tp.

6146. Feb. 1.—Authorizing C.P.R. to construct spur to the Manitoba Linseed Oil Mills, Winnipeg.

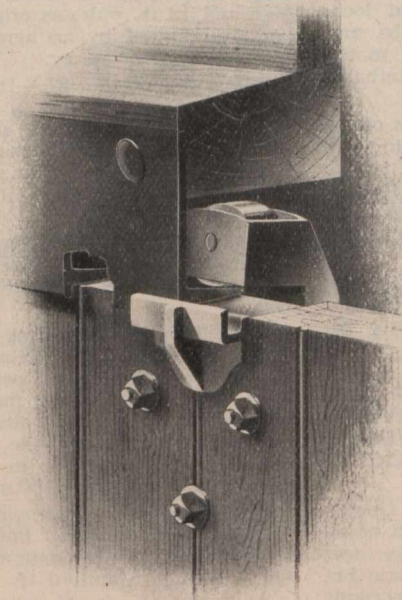
6147. Jan. 21.—Disallowing charge of 1c. per 100 lbs. imposed by C.P.R. at Cartier, Ont., on western grain and grain products in carloads, consigned to Cartier for orders, and by G.T.R. at Sarnia Tunnel, on grain and grain products, in carloads, destined to Eastern Canada, and routed via Chicago, Chicago Junction or Milwaukee, to Sarnia Tunnel, for orders, and directing that a stop-over charge of 25 cts. a car per day



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for the first 48 hours, and the car service toll therefor, be substituted thereafter. This to become effective not later than Feb. 15.

6148. Jan. 21.—Disallowing charge of 1c. per 100 lbs. imposed by G.T.R. at Sarnia Tunnel, Ont., on lumber, shingles, timber and other forest products, in carloads, originating in British Columbia, destined to Eastern Canada, and consigned to Sarnia Tunnel for orders, and directing that a stop-over charge of 25 cts. a car per day for the first 48 hours, and the car service toll therefor, be substituted thereafter. This to become effective not later than Feb. 15, 1909.

6149. Jan. 29.—Dismissing application of Alberta Government for authority to carry telephone wires across Alberta Ry. and Irrigation Co.'s tracks at experimental farm, Lethbridge.

6150. Feb. 2.—Authorizing C.P.R. to use bridge 43.8, Montreal terminals, Eastern Division.

6151. Feb. 2.—Approving plan of concrete wall built in connection with C.P.R. south bank branch, under crossing of G.T.R. at St. Henri, Que.

6152. Feb. 2.—Approving location of C.N.O.R. from Sellwood Jct. toward Port Arthur, Ont., through Hutton and Creelman tps.

6153. Feb. 2.—Authorizing C.P.R. to construct its railway across highway between Keewatin and Kenora, at mileages 1.75 and 3.15.

6154. Jan. 26.—Amending order 5667, Nov. 24, 1908, authorizing Brantford and Hamilton Electric Ry. to open for traffic its railway from Alfred St. to Market St., Brantford, Ont., by striking out the provision by which speed of cars was limited.

6155. Jan. 27.—Approving diamond and interlocking semaphores installed at crossing of C.N.R. and C.P.R. near Homefield station, Man., and authorizing the companies to operate their trains over the crossing without being brought to a stop.

6156. Feb. 3.—Approving deviation of C.P.R. main line near Kincorth station, Sask., from mileage 96 to 97.5.

6157. Feb. 3.—Approving deviation of branch lines or sidings of G.T.R. extending from the main line in Meaford tp., Ont., to the Meaford Manufacturing Co., and the Meaford Wheelbarrow Co.'s premises.

6158-6163. Feb. 3 and 4.—Authorizing the Manitoba Government Telephones to erect their wires across C.P.R. tracks at 6 points.

6164. Feb. 3.—Authorizing C.P.R. to open for traffic the double tracks of its Smith's Falls section between Kemptville Jct. and Mountain, Ont.

6165. Jan. 12.—Dismissing application of City of Peterboro, Ont., for order amending order 5132, Mar. 27, 1908, authorizing G.T.R. to construct two spur lines, crossing Bethune St., Peterboro.

6166. Jan. 13.—Re rates on western grain arriving at Kingston, Ont., by vessel, destined to points in Maritime Provinces. (See pg. 169.)

6167. Feb. 4.—Directing express companies to carry acetylene gas under certain conditions.

6168. Feb. 3.—Directing G.T.R. to reduce coal rate from Suspension Bridge, Black Rock, and Buffalo, N.Y., to Lindsay, Ont. (See pg. 169.)

6169. Feb. 2.—Dismissing complaint of O. Davidson, re alleged excessive whistling of C.P.R. engines in Almonte, Ont.

6170. Feb. 4.—Dismissing application of Toronto, Niagara and Western Ry for approval of location of its line from Burlington to Hamilton, Ont., through Nelson and West Flamboro tps.

6171. Feb. 4.—Permitting Windsor, Essex and Lake Shore Rapid Ry. to operate a mixed train service on its line, using trailers on rear end for passengers, provided each trailer and all freight cars between locomotive and trailer are equipped with automatic air brakes, subject to the condition that they will not handle freight cars in mixed trains in the town of Windsor, nor between the town switch and the Co.'s power house at Kingsville.

6172. Feb. 4.—Authorizing the Niagara, St. Catharines and Toronto Ry. to cross with its track and wires the Hamilton Cataract Power, Light and Traction Co.'s wires at various points.

6173, 6174. Feb. 3.—Authorizing Galetta Elec. Power and Milling Co. to place wires across G.T.R. at two points.

6175. Feb. 6.—Authorizing Manitoba Government Telephones to place wires across C.N.R. near Grays station.

6176. Feb. 6.—Authorizing the Bell Telephone Co. to place wires across G.T.R. near Glen Williams siding, Ont.

6177. Feb. 6.—Authorizing Chatham Gas Co. to lay a main under G.T.R. on Lacroix St., Chatham, Ont.

6178. Feb. 6.—Approving deviation of C.N.R. Co.'s Montreal road, in Cumberland tp., Ont., subject to condition that diverted road, with approaches and ditches, be maintained in as good order and condition as existing road, including approaches and ditches.

6179. Feb. 6.—Authorizing W.E. & L.S.R. Ry. to construct its line along and across highways in Gosfield South and Mersea tps., and along Erie St., Leamington, Ont.

6180. Feb. 2.—Dismissing application of Dominion Concrete Co. for order authorizing C.P.R. to refund \$196.52, amount paid the Ry. Co. on account of a siding built to its right-of-way, to connect with private siding to the complainant's industry at Kemptville, Ont.

6181. Feb. 1.—Dismissing resolution of Order of Railway Conductors, the Brotherhood of Locomotive Engineers, etc., relative to reduction of section gangs, the cross snow plow, and re terminal clearance.

6182. Feb. 1.—Dismissing complaint of Swan River Board of Trade, alleging failure of C.N.R. to furnish cars for prompt and efficient movement from that point.

6183. Feb. 1.—Dismissing application of W. R. Ritchie, Winnipeg, for order compelling C.N.R. either to proceed to arbitration or withdraw registration of location plans where same affect applicant's property in St. Boniface, Man.

6184. Feb. 1.—Dismissing application of Mrs. J. E. Collings, re failure of C.N.R. to settle claim for right-of-way.

6185. Feb. 1.—Dismissing complaint of the Hanbury Mfg. Co., Brandon, Man., alleging discrimination in favor of Winnipeg on shipments to C.N.R. Regina branch, from Brandon and Winnipeg. (See pg. 169.)

6186. Feb. 1.—Directing that where shippers in Manitoba, Saskatchewan and Alberta have to furnish car doors to enable cars to be used for traffic, allowance shall be made therefor. (See pg. 169.)

6187. Feb. 2.—Authorizing C.P.R. Co. to construct a spur line to J. L. Turner's premises, Beausejour, Man.

6188. Feb. 2.—Dismissing application of Kemp Mfg. Co. and Winnipeg Ceiling and Roofing Co. for order directing railway companies to equalize freight rates on metallic sidings from eastern points to Manitoba, Saskatchewan and Alberta, as against freight rates charged on manufactured product. (See pg. 169.)

6189. Feb. 1.—Dismissing complaint of Winnipeg Elevator Co. respecting charges made by C.P.R. for drawing plans, etc.

6190. Jan. 25.—Directing every railway company subject to the authority of the Board, operating a railway by steam power, to equip each car with the Pintsch compressed oil-gas system or a certain acetylene system; and rescinding order 5690, Nov. 17, 1908.

6191. Feb. 6.—Directing G.T.R. Co. to keep night watchman at crossing of the Montreal Road, Kingston Jct., with G.T.R., pending construction of subway.

6192. Feb. 4.—Dismissing application of the C.N.O.R. for order to vary order 5869, Dec. 16, 1908, granting C.N.O.R. authority to place its track across Bay View Ave., York tp., Ont.

6193. Feb. 4.—Dismissing application of the Toronto Electric Light Co. for leave to place ducts below the C.P.R. tracks on Christie St., North Toronto, Ont.

6194. Feb. 4.—Authorizing the C.N.O.R. and C.P.R. to operate trains over the crossing east of Lorette, Que., as authorized by order 4862, June 2, 1908.

6195. Feb. 3.—Dismissing application of C.P.R. for order amending order 3242, authorizing National Transcontinental Ry. to cross C.P.R. near St. Bazile station, Que.

6196. Feb. 8.—Directing that sleeping car and parlor or chair-car tariffs filed with Board be printed on sheets uniform in size, viz., 11 inches by 8 inches, and be specifically numbered by each company beginning with C.R.C. no. S1, and that subsequent tariffs be numbered consecutively with the prefix C.R.C. no. S—; and further directing that said tariffs be filed under filing devices similar to these used for the filing of passenger tariffs.

6197. Feb. 8.—Approving application of C.P.R. for approval of plans showing spans at each end of bridge 0.72, Fraser River, C.P.R. Mission branch, B.C.

6198. Feb. 8.—Authorizing Qu'Appelle, Long Lake and Sask. Rd. and Steamboat Co. to construct spur lines on Smith St. and in the lane between Smith and McIntyre Sts., Regina, Sask.

6199. Feb. 8.—Authorizing C.P.R. to open for traffic the portion of its Mountain section from mileage 99.17 to 100.4, known as the Rogers Pass diversion, B.C.

6200. Feb. 8.—Authorizing C.P.R. Co. to construct a spur line to the Tillsonburg Packing Co.'s premises, Ingersoll, Ont.

6201. Feb. 8.—Authorizing G.T.R. to construct spur lines to the Woods Products Co.'s premises, Donald, Dysart tp., Ont.

6202. Feb. 8.—Directing Toronto, Hamilton and Buffalo Ry. to make certain improvements in crossing of its railway with the Lee Mountain road, Saltfleet tp., Ont.

6203 to 6212. Feb. 9.—Authorizing Okanagan Telephone Co. to cross C.P.R. with wires at 10 points in B.C.

6213. Feb. 9.—Approving plan showing pier of Cornwall Bridge draw span, Ottawa and New York Ry.

6214. Feb. 9.—Authorizing Chatham, Wallaceburg and Lake Erie Ry. to open for traffic the portion of its line from the crossing of the M.C.R. at Charing Cross to Erie Beach Park, Ont.

6215. Feb. 9.—Authorizing Provincial Natural Gas and Fuel Co., of Ontario, to lay a main under the G.T.R. in Stamford tp., Ont.

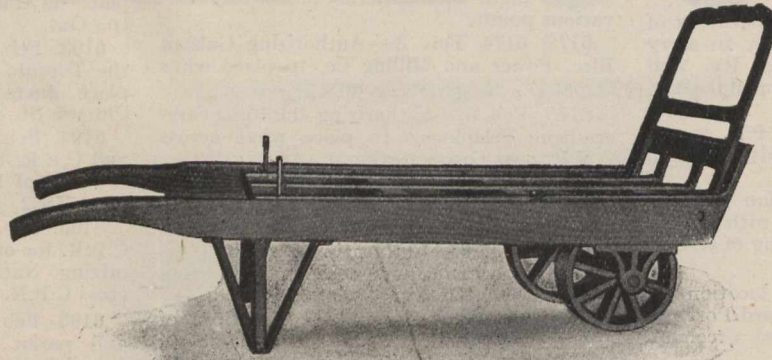
6216. Feb. 6.—Authorizing C.P.R. to use bridge crossing Lachine Canal at the Canada Sugar Refinery, on its south bank branch.

6217. Feb. 9.—Authorizing Okanagan Telephone Company to cross C.P.R. with wires near mile post 35.

6218. Feb. 9.—Authorizing G.T.R. to construct spur line from its Lachine Canal bank branch to G. A. Grier & Sons' premises, Montreal.



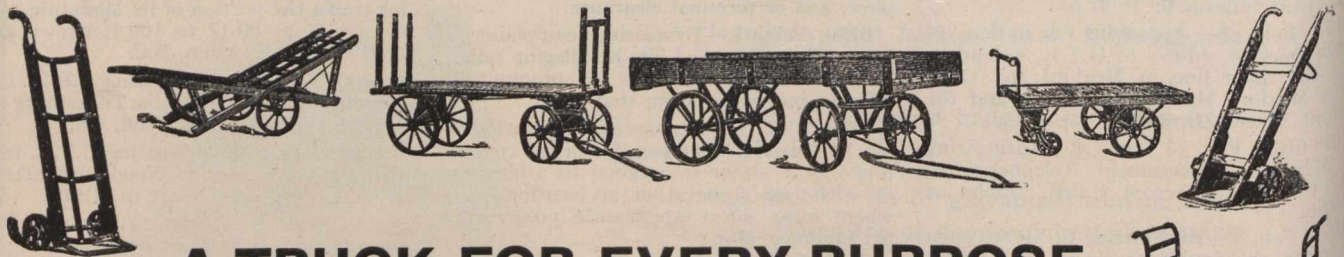
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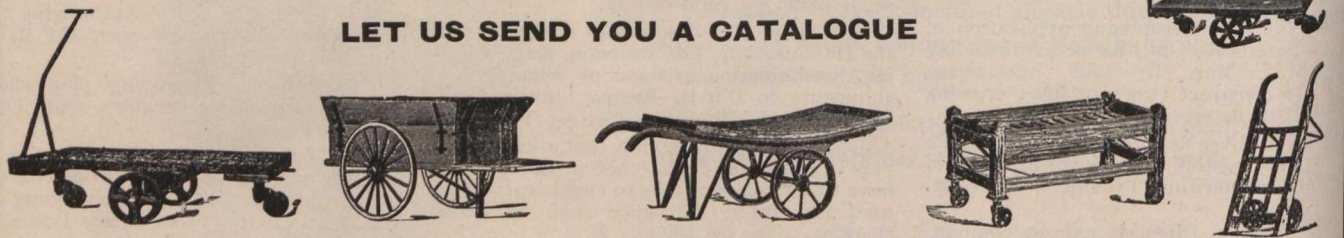
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6219. Feb. 8.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6220, 6221. Feb. 8.—Authorizing Okanagan Telephone Co. to erect wires across C.P.R. at two points.

6222. Feb. 2.—Authorizing Georgian Bay and Seaboard Ry. (C.P.Ry.) to cross until Nov. 1, 1909, the G.T.R. by means of trestle over Hog's Bay, Tay tp., Ont.

6223, 6224. Feb. 9.—Authorizing Okanagan Telephone Co. to cross C.P.R. at Strand Hotel level crossing, and at Rosedale Ave., Armstrong, B.C.

6225. Feb. 9.—Authorizing Le Chemin de Fer de Colonisation du Nord to construct its railway across highways and divert certain portions of highways between Nominique, Que., and a point 10 miles northwesterly.

6226. Feb. 10.—Authorizing the C.P.R. to open for traffic the portion of its Sheho extension from Leslie, mileage 66.2, to Wynward, mileage 89.0, Sask.

6227, 6228. Feb. 10.—Authorizing Dunnville Consolidated Telephone Co. to cross G.T.R. at Forks road, and Cedar St., Dunnville, Ont.

6229. Feb. 11.—Authorizing Dominion Natural Gas Co. to lay pipe under G.T.R. in Simcoe, Ont.

6230. Feb. 13.—Authorizing British Yukon Ry. to operate its trains and engines over bridge at Caribou, Yukon.

6231. Feb. 11.—Authorizing C.P.R. to construct the Wellington to Alberni branch of its line across highways between mileage 77.97 and 88.83, B.C.

6232. Feb. 12.—Ordering G.T.R. to provide protection by gates at Depot St., Grimsby, Ont.

6233. Feb. 6.—Ordering C.N.R., C.P.R. and G.T.R. to equip their locomotives in Winnipeg with appliances to prevent unnecessary and unreasonable emission of smoke.

6234. Feb. 8.—Refusing application of A. E. Hill, Griswold, Man., for order compelling C.P.R. to issue 1,000 mile tickets good to travel over Western Division and branch lines in Man., Sask. and Alta.

6235. Feb. 8.—Ordering C.N.R. and G.T.P.R. to provide transfer facilities for joint handling of traffic at Petrel, Man.

6236. Feb. 8.—Dismissing complaint of Manitoba Grain Growers' Association of Kelsoe, Man., against C.P.R. removing its agent from that point.

6237. Feb. 8.—Ordering C.P.R. to keep station Basswood, Man., open permanently, and provide an agent therefor.

6238. Feb. 8.—Dismissing application of City of Winnipeg, Man., for authority to connect city tramway running from Lac du Bonnet to Point du Bois, with C.P.R. Molson to Lac du Bonnet branch.

6239. Feb. 8.—Dismissing application of City of Winnipeg, for order directing C.N.R. to provide proper protection where it crosses Pembina St.

6240. Feb. 8.—Dismissing complaint of H. H. Shields, of Melton, Man., against rates charged by C.N.R. for warehousing carload of wheat at Port Arthur, Ont.

6241. Feb. 8.—Dismissing complaint of G. Steel, of Glenboro, Man., of failure of C.P.R. to furnish efficient and proper supply of cars for the movement of grain traffic from that point.

6242. Feb. 8.—Fixing form for release of responsibility for freight shipped to flag stations upon lines of all railways.

6243. Feb. 8.—Ordering the G.T.P.R. to construct a suitable and proper crossing for farm purposes at sec. 29, tp. 13, r. 25, Man.

6244. Feb. 8.—Dismissing complaint of J. Caverly, of Bowsman, Man., respecting train service on C.N.R. Melford branch.

6245-6251. Feb. 16.—Dismissing applications of Yorkton-Northwest Electric Co. for leave to cross C.P.R. at various points in Saskatchewan.

6252. Feb. 15.—Dismissing application of the Brandon, Sask. and Hudson's Bay Ry. Co. for approval of location of its railway in Brandon, Man.

6253, 6254. Feb. 15.—Authorizing Atlantic, Quebec and Western Ry. to build across 18 highways.

6255. Feb. 10.—Regulations respecting removal of planking from highway and farm crossings during winter.

6256. Feb. 16.—Authorizing the Sask. Government Telephones to erect line across C.P.R. between secs. 14 and 15, tp. 8, r. 7, w. 2nd mer.

6257. Feb. 16.—Authorizing Dr. Quinlan, of Stratford, Ont., to erect telephone wires across G.T.R. in Ellice tp., Ont.

6258. Feb. 16.—Authorizing Dunwich and Dutton Telephone Co. to erect wires across G.T.R. near Middlemiss, Ont.

6259 and 6260. Feb. 10.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6261. Feb. 11.—Authorizing C.P.R. to construct spur line to Soo Line Milling and Elevator Co.'s premises, Weyburn, Sask.

6262. Feb. 11.—Authorizing G.T.R. to construct spur line to United Factories' premises, Newmarket, Ont.

6263. Feb. 2.—Directing Ingersoll Electric L. & P. Co. to re-erect 12 wires erected across C.P.R. in Ingersoll, Ont.

6264. Feb. 8.—Dismissing complaint of the Wallaceburg Sugar Co. to effect that operation of certain Canadian Car Service Rules are unfair and burdensome to large shippers, and applying for average plan of car service.

6265. Feb. 8.—Authorizing Hawthorn Hill Rural Telephone Co. to erect wires across G.T.R. in Minto tp., Ont.

6266, 6267. Feb. 16.—Authorizing C.P.R. to construct and operate bridge over La-chine Canal, near Ogilvie Flour Milling Co.'s premises, Montreal.

6268. Feb. 16.—Authorizing C.P.R. to take certain lands in connection with its Windsor St. yards and station facilities at Montreal.

6269. Feb. 13.—Dismissing application of W. Hoskin, J. Butler and others for order requiring C.P.R. to provide crossing over yard at Twentieth St., Saskatoon, Sask.

6270. Feb. 17.—Authorizing Farmers' Long Distance Telephone Co., Blenheim, Ont., to erect its wires across P.M. Rd. near Fargo, Ont.

6271. Feb. 4.—Amending order 5672 authorizing G.T.P. Ry. to carry traffic over line from Fort William to end of track, by substituting mileage 0.00 to 188.77 for mileage 0.5 to 188.2, where it appears in said order.

6272 to 6274. Feb. 17.—Authorizing Alberta Government to erect wires across C.P.R. near Lethbridge.

6275. Feb. 17.—Temporarily approving some agreements of Bell Telephone Co. with other telephone companies provided tolls are not any higher than were charged immediately previous to July 13, 1906.

6276. Feb. 17.—Authorizing Alberta Government to erect wires across A.R. & I.C. Ry. at Experimental Farm, Lethbridge.

6277. Feb. 19.—Authorizing City of Brantford, Ont., to lay a storm sewer under G.T.R.

6278. Feb. 18.—Authorizing V.V. & E.R. & N. Co. to open for traffic the portion of its line from Huntingdon to Cloverdale, and from Olivers, on Victoria Terminal Ry. & Ferry Co.'s line, to International boundary near Blaine, and from Olivers to bridge over Fraser River at New Westminster.

6279, 6280. Feb. 19.—Authorizing Bell Telephone Co. to erect wires across C.P.R. near St. Faustin and Farnham.

6281. Feb. 19.—Authorizing location of C.N.O.R. line from Queen St., Toronto, to Rosedale station, with extension to Cherry St. yards.

6282. Feb. 11.—Authorizing T.H. & B.R. to construct a covered concrete culvert across its railway in Saltfleet tp., Ont.

6283 to 6291. Feb. 19.—Authorizing Canadian Machine Telephone Co. to erect wires across or under G.T.R. at various points in Ontario.

### Railway Commissioners' Inspectors.

Particulars as to the location of the Board of Railway Commissioners' inspectors were given in our last issue. Formerly their duties were confined to investigations of accidents and to the inspection of rolling stock. The condition of passenger stations has now been added. Their districts and headquarters are as follows: Maritime Provinces and Quebec, E. C. Lalonde, Longueuil; Ontario, J. Ogilvie and J. Clarke, Ottawa; Manitoba and Saskatchewan, W. S. Blyth, Winnipeg; Alberta and British Columbia, M. J. McCaul, Calgary.

The inspectors report direct to individual members of the Board as follows: For the Maritime Provinces and Quebec, to Deputy Chief Commissioner Bernier; for Ontario, to Assistant Chief Commissioner Scott; for Manitoba and Saskatchewan, to Commissioner McLean, and for Alberta and British Columbia, to Commissioner Mills.

**C.P.R. Running Rights over I.C.R.**—The Minister of Railways laid before the House of Commons, Feb. 8, the correspondence with the C.P.R. relative to its proposal to secure running rights over the Intercolonial Ry. between St. John, N.B., and Halifax, N.S. The last is a memorandum dated Jan. 28, in which it was suggested that the C.P.R. pay interest at say 2% on the value of the property to be used jointly and a train rate per mile covering cost of maintenance; that if the C.P.R. were to do station to station business it should pay to the I.C.R. a percentage of gross receipts from the traffic, say 15% for first five years, 20% for second five years, and 25% thereafter; that the C.P.R. should pay the taxes levied on the I.C.R. by reason of a private company operating it; pay interest at 2% on cost of all subsequent additions and improvements; interest rate to be reduced when G.T. Pacific Ry. or any other company obtained running rights; C.P.R. to take over at same pay and standing any trainmen dropped by the I.C.R. to the C.P.R. replacing I.C.R. trains.

**Railway Employes' Complaint.**—The Board of Railway Commissioners passed the following order no. 6181 at Winnipeg, Feb. 1: In the matter of the resolution of Order of Railway Conductors, Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen and Engineers, Brotherhood of Railway Trainmen, and Order of Railway Telegraphers, relative to reduction of section gangs, the cross snow plow, and re terminal clearance (as at present used), being embodied in the new rules; upon the hearing of this matter in the presence of counsel for the railway companies affected and H. Irwin, representing the applicants, who alleged that he had no specific instructions with reference to the complaint other than to speak to the question of terminal clearance and cross snow plow; and upon his allegation that these matters had been satisfactorily adjusted, it is ordered that the said complaint be, and it is hereby, dismissed.

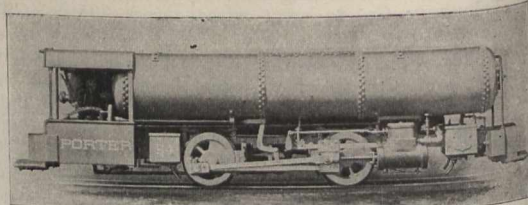


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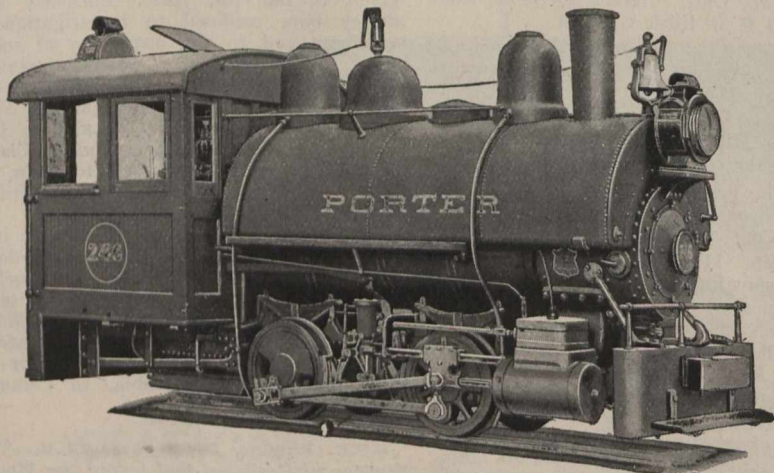
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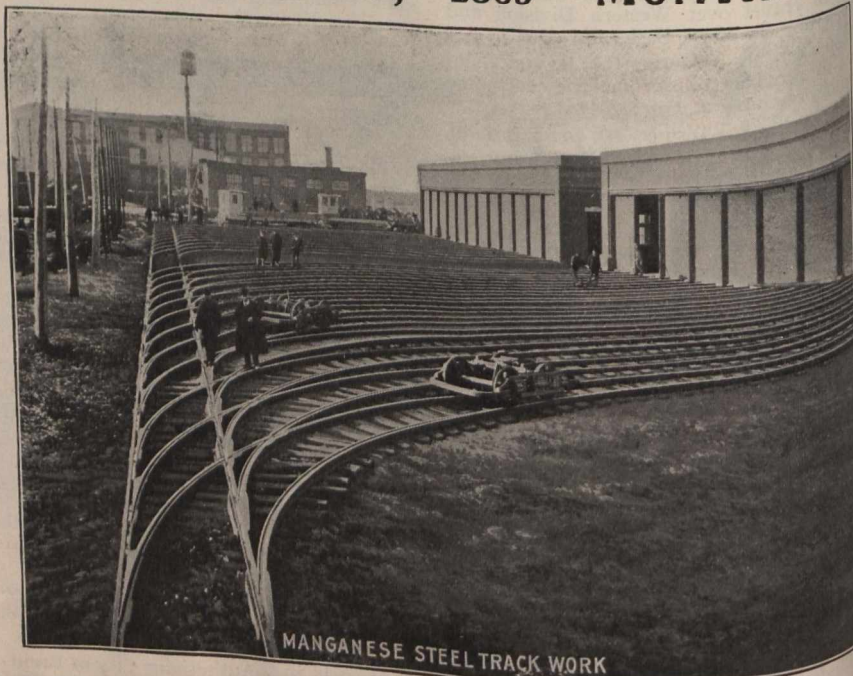
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Railway Commissioners' Traffic Orders.

6166. Jan. 13.—In the matter of the complaint of J. Richardson & Sons, grain and commission merchants, Kingston, Ont., complaining that railway companies unjustly discriminate against Kingston and in favor of Lake Huron and Georgian Bay ports on shipments of western grain to points in Quebec and the Maritime Provinces, and applying for an order directing the railway companies to file rates from Kingston to points in Quebec and the Maritime Provinces similar to those which the said companies have established from Georgian Bay and Lake Huron ports. Upon the hearing of counsel for the railway companies, H. W. Richardson for the complainants appearing in person, the evidence adduced, and what was alleged—it is ordered that the rates charged from Kingston by the G.T.R., the C.P.R., and the Kingston and Pembroke Ry. Companies on western grain arriving at Kingston by vessel, and destined to points in Quebec and the Maritime Provinces, be made on the basis of 7c. per 100 lbs. from Kingston to Montreal; and that the proportional or arbitrary rates from Montreal to the said points in Quebec and the Maritime Provinces to be added to the said rate of 7c. per 100 lbs. from Kingston to Montreal, do not exceed the proportional or arbitrary rates from Montreal in force concurrently on western grain transferred at Lake Huron ports. And it is further ordered that the above rate become effective not later than Feb. 18.

COAL RATE TO LINDSAY, ONT.

6168. Feb. 3.—In the matter of the complaint of McLennan & Co., of Lindsay, Ont., alleging that the rate charged by the G.T.R. on hard coal from Black Rock and Suspension Bridge, N.Y., to Lindsay, is too high as compared with the company's rates to Cambay, Cobocok, Peterboro, Lakefield, Port Hope, and Belleville, Ont. Upon hearing counsel for complainants, the G.T.R. Co. and the C.P.R. Co., the evidence adduced, and what was alleged; and upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the G.T.R. Co. be directed to reduce its rate on coal in carloads from Suspension Bridge, Black Rock, and Buffalo, to Lindsay, to \$1.15 per ton of 2,000 lbs., subject to a compliance with the provisions of sub-sec. 5 of sec. 315 of the Railway Act.

RATES ON C.N.R. REGINA BRANCH.

6185. Feb. 1.—In the matter of the complaint of the Hanbury Manufacturing Co. of Brandon, Man., alleging discrimination in favor of Winnipeg on shipments to points on the C.N.R. Regina branch, via Regina, from Brandon and Winnipeg. Upon hearing this matter, and upon reading the report of the Chief Traffic Officer, and in the presence of counsel for the railway company, no one appearing for the applicants, although duly notified; and upon said counsel representing that the cause of complaint was advanced by the petitioners had been removed, it is ordered that the complaint be dismissed.

PAYMENT FOR GRAIN CAR DOORS.

6186. Feb. 2.—In the matter of the complaint of the Grain Growers Grain Co., of Winnipeg, alleging long delay on the part of railways in repayment to shippers of grain for lumber supplied for car doors; upon hearing this complaint in the presence of counsel for applicants as well as of counsel for the C.P.R., the C.N.R., and the G.T.P.R. Companies, and upon hearing what was alleged by counsel, it is ordered that where shippers, upon all or any railways subject to the jurisdiction of the Parliament of Canada, in Manitoba, Saskatchewan, and Alberta, are compelled to furnish car doors

to enable cars to be used for traffic, allowance shall be made upon the following basis: Lower car door \$1, upper car door 50c., and adjustment upon the above basis shall be made by the agent at or nearest to the point of shipment, at the time of shipment; payment to the shipper of the account out of funds of the railway company, of which he is agent, in his hands; or the shipper may deduct from the freight charges, if any, payable by him upon the shipment in such car for which the said door or doors were so supplied, the amount of such bill upon the foregoing basis, receipting the same and turning the account into the agent as so much cash.

RATES ON METALLIC SIDINGS.

6188. Feb. 2.—In the matter of the application of the Kemp Manufacturing Co. and Winnipeg Ceiling and Roofing Co., for an order directing railway companies to equalize freight rates on metallic sidings from eastern points to Manitoba, Saskatchewan, and Alberta, as against the freight rates charged on the manufactured product. Upon reading the complaint filed with the Board on May 11, 1907, this case having been set down for hearing in Winnipeg in Sept., 1908, and adjourned at the instance of the applicants; and upon its coming on for hearing at Winnipeg on Feb. 1, and when called no one appearing, and the same having been adjourned until this day, notice of such adjournment having been given to the applicants at Winnipeg, and no one now appearing, and upon reading the letter from the Metallic Roofing Co. of Jan. 28, 1909, and the letter from the Manager of the Canadian Manufacturers' Associations' Transportation Department of Jan. 29, 1909, it is ordered that the application be dismissed.

PLANS AND LEASES FOR ELEVATOR SITES.

6189. Feb. 1.—In the matter of the complaint of the Winnipeg Elevator Co., Ltd., respecting charges made by the C.P.R. for drawing plans, preparation of leases of elevator sites, etc., upon hearing this matter in the presence of counsel for the railway companies and of C. B. Piper for applicants; and it appearing from the statement of Mr. Piper and the matters covered by his complaint that the Board had no jurisdiction in the premises, it is ordered that the complaint be dismissed.

SLEEPING, PARLOR AND CHAIR CAR TARIFFS.

6196. Feb. 8.—Whereas, by Act of the Parliament of Canada, chap. 61, 7-8 Edward 7, sub-sec. 30 of sec. 2 of the Railway Act, was repealed and the following substituted therefor: "30. 'Toll' or 'rate' means and includes any toll, rate, charge, or allowance charged or made either by the company, or upon or in respect of a railway owned or operated by the company, or by any person on behalf or under authority or consent of the company, in connection with the carriage and transportation of passengers, or the carriage, shipment, transportation, care, handling, or delivery of goods, or for any service incidental to the business of a carrier; and includes also any toll, rate, charge, or allowance so charged or made in connection with rolling stock, or the use thereof, or any instrumentality or facility of carriage, shipment, or transportation, irrespective of ownership or of any contract, expressed or implied, with respect to the use thereof; and includes also any toll, rate, charge, or allowance so charged or made for furnishing passengers with beds or berths upon sleeping cars, or for the collection, receipt, loading, unloading, stopping over, elevation, ventilation, refrigerating, icing, heating, switching, ferriage, cartage, storage, care, handling, or delivery of, or in respect of, goods trans-

ported or in transit, or to be transported; and includes also any toll, rate, charge, or allowance so charged or made for the warehousing of goods, wharfage, or demurrage or the like, or so charged or made in connection with any one or more of the above-mentioned objects, separately or conjointly."

It is ordered that sleeping car and parlor or chair car tariffs filed with the Board by the railway companies subject to the legislative authority of the Parliament of Canada, or by any person on behalf or under authority or consent of the said railway companies, be printed on sheets uniform in size, namely, 11 x 8 inches, and be specifically numbered by each company, beginning with C.R.C. no. S. 1, and that subsequent tariffs be numbered consecutively with the prefix "C.R.C. no. S. ..." And it is further ordered that the said tariffs be filed with the Chief Traffic Officer of the Board under filing devices similar to those used for the filing of passenger tariffs.

RELEASE FOR SHIPMENTS TO FLAG STATIONS.

6242. Feb. 8.—In the matter of the complaint of the Winnipeg Board of Trade respecting alleged demand of the C.P.R. that shippers in Winnipeg sign a release form for freight shipped to regular or flag stations; upon hearing counsel for applicants, as well as for C.P.R. Co., and upon hearing what was alleged, it is ordered that hereafter the form of release of responsibility for freight shipped to flag stations, upon the lines of all railways in Canada, subject to the jurisdiction of the Parliament of Canada, be in the following form:

"In consideration of the ..... Railway Company having received the above-described property for transportation from ..... station to ..... station, ..... do hereby release said Company from all loss or damage that may occur to any of the above-mentioned property after it has been unloaded from the cars at ..... station, the said station being a flag station without agent."

2. That no other form of release shall be required to be signed by any shipper of any property to any flag station upon any line of railway in Canada, until further order (if any) regarding facilities and conveniences to be established by railway companies at flag stations.

THOUSAND-MILE TICKETS ON C.P.R.

6234. Feb. 8.—In the matter of the application of A. E. Hill, of Griswold, Man., for an order compelling the C.P.R. to issue 1,000-mile tickets, good to travel over the Western Division and branch lines in Manitoba, Saskatchewan and Alberta: Upon hearing this matter in the presence of counsel for the railway company, and for reasons given at the said hearing, it is ordered that the application be refused.

WAREHOUSING CHARGES AT PORT ARTHUR.

6240. Feb. 8.—In the matter of the complaint of H. H. Shields, of Melton, Man., against excessive rates charged by the Canadian Northern Ry., for warehousing carload of wheat consigned to its warehouse at Port Arthur, Ont.: Upon the hearing of this application in the presence of counsel for the railway company, no one appearing for complainant, and upon a perusal of the papers connected with the said complaint, and the application to and ruling of the Warehouse Commissioner, it is ordered that the complaint be dismissed.

The C.P.R. is looking into the question of the use of creosote for treating ties, etc.

A conference of G.T.P.R. employes, representing locomotive engineers, conductors, firemen and other trainmen, is reported to have taken steps to formulate a schedule and set of working rules, with schedule of wages and hours similar to those in force on the C.P.R., for submission to the management.

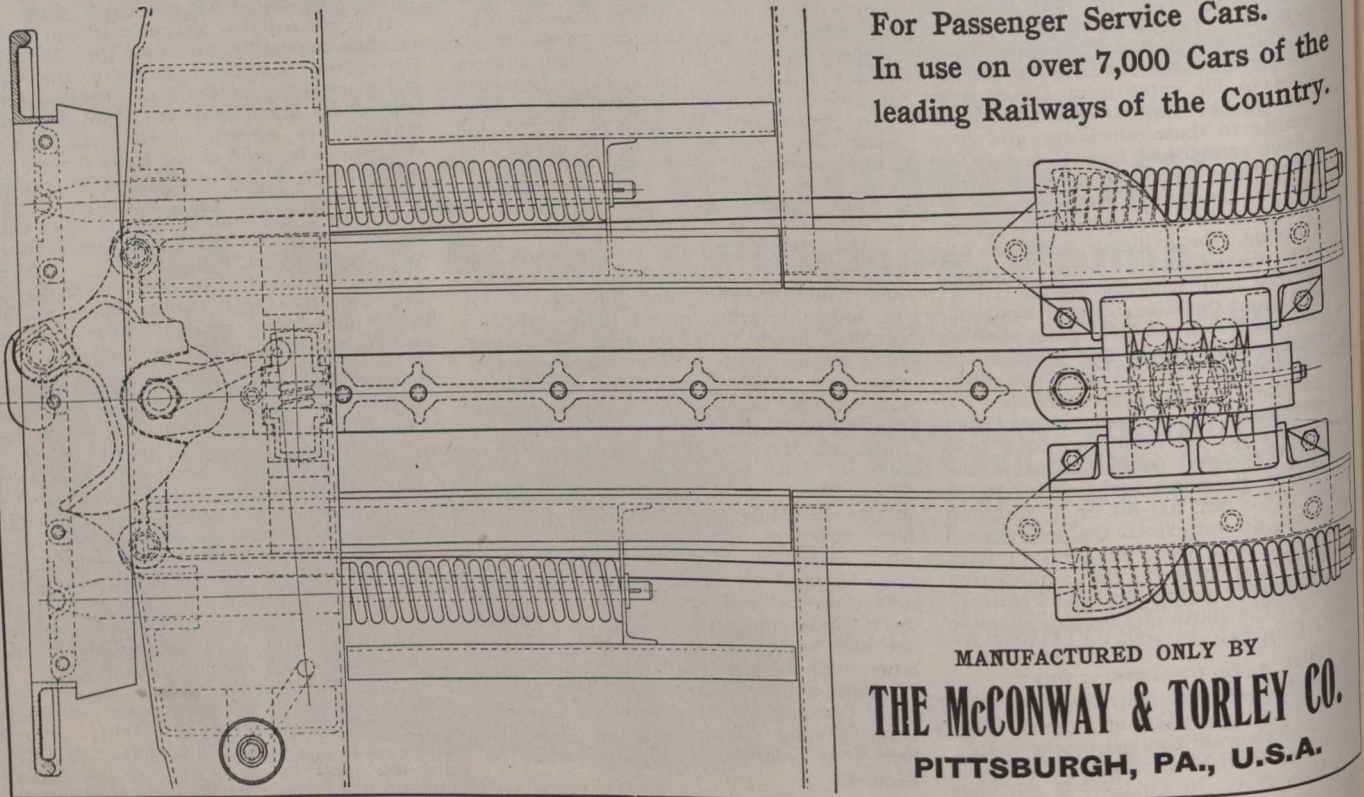
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## RAILWAY DEVELOPMENT.

## Projected Lines, Surveys, Construction, Betterments, Etc.

**Alberta and Great Waterways Ry.**—The Alberta Legislature is being asked to incorporate a company with this title for the purpose of constructing a railway from Edmonton northeasterly to or near the westerly end of Lac la Biche, thence to Fort McMurray; and from some point on the line near the west end of Lac la Biche to the eastern end of the lake, together with all the usual and necessary powers conferred upon railway companies. W. McDonald, Edmonton, Alta., is solicitor for applicants.

When this bill was under discussion in the Legislature, Feb. 13, the Premier stated that the line would not be a branch of the G.T. Pacific Ry., but would be constructed by an independent company. The bill provides that construction is to commence within a year, and to be pushed forward with all possible speed, the line to be opened for traffic in 50-mile sections. A clause is inserted providing that the Government may at any time purchase the line, such option, however, not to be assignable by the Government.

**Alberta Central Ry.**—A bill before the Dominion Parliament provides for a further extension of time within which the railways authorized to be constructed by acts of 1901, 1903, 1905 and 1907, may be completed, and repeals sec. 4 of the act of 1901 and sec. 3 of the act of 1907. Authority to construct the following additional branch lines is asked: From the present authorized westerly terminus at Rocky Mountain House to the G.T. Pacific Ry. near the Yellowhead Pass; from the present authorized easterly terminus near the elbow of the Battle River to near Saskatoon or Warman, Sask.; and from the main line east of Red Deer southerly and easterly to near Moose Jaw, Sask. Power is also asked to increase the capital stock to \$2,000,000, and to increase the bond issue from \$20,000 to \$25,000 a mile of line constructed.

A deputation of residents from the Red Deer District waited on the Government of Alberta, at Edmonton, Feb. 6, and asked the Government to guarantee the bonds of the company. The A.C.R. Co. was incorporated by the Dominion Parliament in 1901, with J. T. Moore, G. W. Smith, C. W. G. Green, D. J. Munn, W. A. Moore, J. J. Gaetz, J. C. Moore, and J. Flett, of Red Deer, as provisional directors. The projected line would start from the Calgary Edmonton Ry. near Red Deer, cross the Red Deer River near Content, proceed northward to Stettler, and make connection with the Lacombe branch of the Calgary and Edmonton Ry., and thence proceed northeasterly to a connection with the G.T. Pacific Ry. at Battle River.

**Alberta South-Western Ry.**—Application is being made to the Alberta Legislature for an act incorporating a company with this title for the purpose of constructing a railway (with all convenient branches, whether under or over six miles in length) from the G.T. Pacific Ry. branch line between Calgary and Coutts, northeasterly from Macleod, thence to or near Macleod, and westerly from near Macleod to Pincher Creek, thence to the western boundary of the province, a distance of about 100 miles, and together with all the usual rights, powers and privileges granted to railway companies. G. B. Henwood, Edmonton, Alta., is solicitor for applicants. See also G.T. Pacific Ry. Branch Lines.

**Algoma Central and Hudson Bay Ry.**—W. K. Whigham, of London, Eng., representing the new interests in the Lake Superior Corporation, has been inspecting the industrial plants and the railway lines

owned by the corporation. Before proceeding to Sault Ste. Marie, Ont., he had an interview with representatives of the Ontario Government in Toronto, when the question of the extension of the A.C. and H.B. Ry. to a junction, at least, with the C.P.R. transcontinental line was discussed. The matter will be raised during the session of the Legislature when the question of subsidies comes up for discussion. (Feb., pg. 101).

The Lieut.-Governor, in his speech at the opening of the Ontario Legislature, Feb. 16, said: "The Canadian Improvement Co., having made sale of its interests in the Lake Superior Corporation to English capitalists, has been enabled to pay off the remaining \$1,000,000 of its certificates guaranteed by the Government of Ontario, these have been cancelled, and the province has now been relieved of all further liability under the act respecting aid to the A. C. and H.B. Ry. and associated industries at Sault Ste. Marie. A probable result of this sale will be the introduction of a large amount of additional capital into the province to extend these industries and to complete the building of the A.C. and H.B. Ry., and the Manitoulin and North Shore Ry."

**Blind River, Ont.**—A by-law has been passed by the municipality of Blind River, Ont., offering a bonus of \$17,000 to any transportation company which will construct a railway from Blind River north to Lake Natininda, and Lake Chiblow, 17 miles. G. J. McArthur is Publicity Commissioner, and J. Muncaster is Secretary of the Board of Trade, at Blind River.

**Bow River Collieries Ry.**—Application is being made to the Alberta Legislature for an act amending sec. 4, chap. 28, of the Statutes of 1908, by authorizing an extension of this railway from the southern terminus in tp. 17, range 17, west of the 4th meridian, to the International boundary, between ranges 1 and 15, west of the 4th meridian, and from south of the Belly River, on the projected extension, westerly to Lethbridge; and from between Bow River and Belly River on the projected extension, north-easterly to Calgary.

**Brandon Transfer Ry.**—Application is being made to the Dominion Government for an act authorizing an extension of time within which the railway in the city of Brandon, Man., authorized by its act of 1906, may be constructed.

**British Columbia, Alberta, Saskatchewan and Manitoba Ry.**—The Crawford Bay and St. Mary's Ry. Co. is applying to the Dominion Parliament for an act changing its name as above, such change of name, however, not to in any way impair, alter or affect the company's rights or liabilities. It is also provided that the head office should be at Lethbridge, Alta.; that the company may enter into agreements with the Northern Empire Ry., according to the provisions of secs. 361, 362 and 363 of the Railway Act, and that the period within which the authorized lines may be constructed shall be extended for a further period.

**Brockville, Westport and North-Western Ry.**—Application is being made to the Dominion Parliament for an act extending the time for the construction and completion of the authorized extension from Westport northerly and westerly.

**Canadian Liverpool and Western Ry.**—Application is being made to the Dominion Parliament for an act incorporating a company with this title, the provisional directors being: S. G. McClenahan, Montreal; G. S. May, D. G. Stewart, T. B. Rankin, and W. Johnston, Ottawa. The railway which the company is asking authority to construct would extend from the Transcontinental Ry. near the junction of the Ribbon, Manuan and St. Maurice Rivers in Quebec,

northeasterly to the south shore of Lake St. John, thence easterly along the Saguenay River to its mouth; thence southwesterly following the River St. Lawrence to Quebec, and thence to Montreal. The company also desires to have power to carry on a general navigation business; to construct wharves, docks, elevators, etc., to be used in connection therewith; to acquire and utilize water powers, etc., for the generation of electricity; to construct telegraph and telephone lines, and to make agreements with the Transcontinental Ry. Commissioners, the G.T. Pacific Ry., the G.T.R., the C.P.R. and the Canadian Northern Quebec Ry. The works to be carried out are declared to be for the general advantage of Canada. The capital stock is fixed at \$1,000,000, and it is desired to issue securities to the amount of \$50,000 per mile of railway.

**Canadian Western Ry.**—Application is being made at the current session of the Alberta Legislature for an act incorporating a company with this title to construct a railway to be operated by steam, electricity, or any other motive power from the International boundary between the east side of range 23 and the west side of range 28, west of the 4th principal meridian, to the C.P.R. Crow's Nest Pass line, near Cowley or Pincher Creek, thence northerly to Calgary; also a branch from the above line between tp. 10, range 1, west of 5th principal meridian, northwesterly, following the north fork of the Old Man River, through Livingstone Gap, and along the middle fork of the river to the boundary line between Alberta and British Columbia, west of Gould's Dome. Power is also being asked to construct branch lines, and telephone and telegraph lines, to generate and distribute electrical power, and for all other powers usually conferred on railway companies. Special reference is made to the making of traffic and other arrangements with any lines in Montana, and in British Columbia. Hough, Campbell & Ferguson, Winnipeg, are solicitors for applicants.

The provisional directors named in the bill now before the Dominion Parliament for the incorporation of a company with this title are J. S. Hough, T. L. Metcalfe, A. D. Kildahl, H. J. Box and O. L. Boynton, of Winnipeg. The railway which the company asks power to construct was described in our Nov., 1908, issue, pg. 793. A clause is inserted to the effect that the company shall not construct or operate its line of railway along any highway, street or public place without obtaining the consent, expressed by by-law, of the municipality having jurisdiction over the same. The company is also asking for power to develop electric power, to construct telegraph and telephone lines, and to enter into agreements with the C.P.R., the Great Northern Ry., the Calgary and Edmonton Ry., the G.T. Pacific Ry. or the Canadian Northern Ry. The capital stock of the company is fixed at \$2,000,000, and it is authorized to issue securities to the extent of \$50,000 a mile of line constructed.

The promoters of this company are owners of a coal mine at Taber, Alta., 75 miles from Dunmore Jct., on the C.P.R. Crow's Nest Pass branch, to which point it is considered probable that in time a line from Weyburn, on the C.P.R. Portal-Moose Jaw line, will be constructed. The company has also secured a mine between the Livingstone and Main ranges of the Rocky Mountains, near Cowley, Alta., about 70 or 80 miles from the International boundary. It is in connection with this property that the present developments of the company's plans are due. The line to be constructed to the International boundary, it is understood, will be financed by the Chicago, Milwaukee and St. Paul Ry. Co., and connected with its new extension to the



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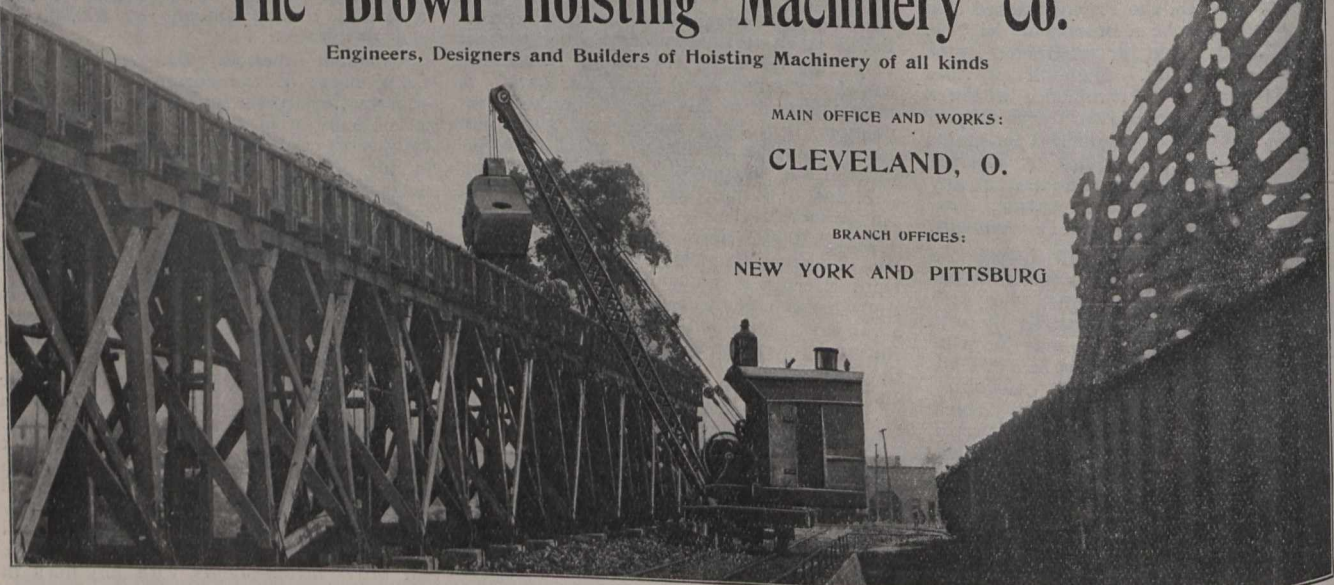
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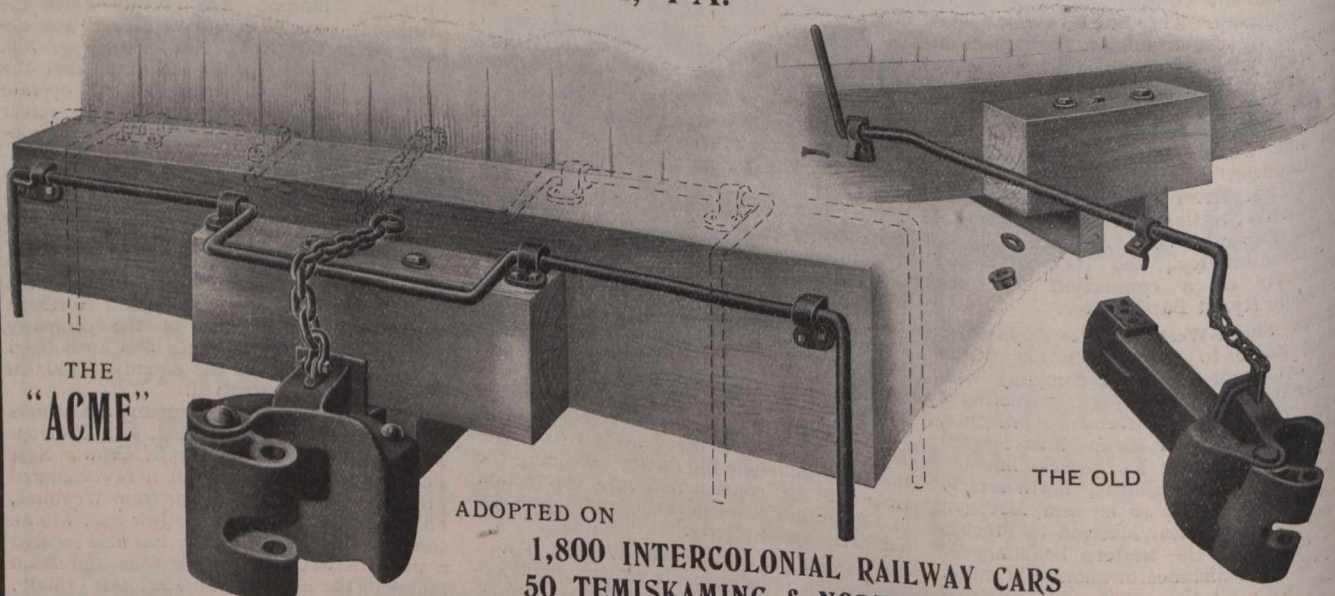
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- 50 TEMISKAMING & NORTHERN ONTARIO CARS
- 300,000 CARS IN STATES

## DOUBLE HANDLE CALLED FOR

man goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is DEFECTIVE AND PROHIBITED BY LAW."—Judge McPherson, Des Moines, Iowa.

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Pacific coast at Helena, Montana. The object of the connection which will be effected by the completion of the line is to secure for the C.M. and St. P.R. a coal supply from Alberta.

**Collingwood Southern Ry.**—The Dominion Parliament is being asked to pass an act extending for a further period of two years the time within which the company may commence the construction of the railway authorized by its act of incorporation passed in 1907.

**The Chicago, Milwaukee and St. Paul Co. of Washington,** under which title the Chicago, Milwaukee and St. Paul Ry. is constructing its western extension, has changed its corporate name to the Chicago, Milwaukee and Puget Sound Ry., and has taken possession of the property of its predecessor in Idaho, Montana and South Dakota.

**Detroit River Tunnel.**—Press reports state that good progress continues to be made with the construction of the tunnel under the Detroit River between Detroit, Mich., and Windsor, Ont. The open cut on the tunnel approach on the Canadian side is completed, together with the retaining walls at the lower end, and a considerable portion of the approach work on the Detroit side is also completed. Of the subaqueous section of the tunnel seven sections of the double tube, making a length of 1,813 ft., have been sunk, and the concrete placed round them. Five of the sections have been pumped out, and preparations are being made for putting in the inner ring of concrete. The total length of the tunnel and approaches will be 12,800 ft. It is expected that it will be entirely completed at the beginning of 1910.

**Hamilton, Ont.**—The Ontario Legislature is being asked to pass an act authorizing the Hamilton City Council to issue debentures for various purposes, including the cost necessary to construct railway spur lines for manufacturing industries, for freight purposes only, with sidings and switches within the city; or to enter into agreements with railway companies for the construction, operation or use of such spur lines. For the purpose aforesaid the city asks for the powers conferred upon railway companies by the Ontario Railway Act, 1906.

**Hudson Bay.**—The Dominion estimates for the ensuing financial year include an item of \$65,000 to provide for the survey and location of a line of railway from the Saskatchewan River to Hudson Bay.

The Minister of the Interior stated in the House of Commons Feb. 3, that it would appear from the sales of land during the last four months of 1908, a sufficient quantity was disposed of in the way of homesteads and pre-emptions to cover almost one-half of the estimated cost of the proposed railway from Saskatchewan to Hudson Bay. A total of 2,879,139 acres has been so disposed of, the sale price being \$6,229,699. The cost of the railway is estimated at about \$15,000,000. (Feb., pg. 105.)

Replying to a question in the House of Commons, Feb. 15, the Minister of Railways stated that \$61,567 had been expended upon surveys for the railway to Hudson Bay. There were 110 persons employed upon the survey, which it was expected would be completed during March. Pending the receipt of the report, no decision had been reached as to the construction of the line.

**Hudson's Bay and Pacific Ry.**—The original act of incorporation of this company was passed by the Dominion Parliament in 1896 (second session), and amending acts were passed in 1898, 1901, 1903, and 1905. By an act under consideration at the present session, it is sought to have sec. 7 of the 1896 act, chap. 65 of the stat-

utes of 1901, chap. 127 of the statutes of 1903, and sec. 1, chap. 104, statutes of 1905, repealed. A new set of provisional directors is named by sec. 2 of the present bill, the list, which contains a number of those in the original list, is as follows: Admiral A. H. Markham, Colonel J. Harris, J. Weston, J. A. Clarke, J. A. Reid, Lieut.-Colonel T. T. Turnbull, of London, Eng.; A. Racine, E. H. Lemay, of Montreal; E. E. Le Beree, R. Jones, Ottawa. The first clause of the bill grants a further extension of time for the construction of the line.

**Hudson Bay Pacific Ry.**—The Minister of Justice, reporting to the Governor-General, calls attention to the act passed last session of the British Columbia Legislature incorporating a company with this title. The company is authorized by the act to construct a railway from the western to the eastern boundary of the province, and the Minister says: "It is questionable whether it is competent to the Provincial Legislature to authorize such a work, since the legislative authority of a province does not extend to works connecting two provinces or extending beyond the limits of the province. He does not on that account recommend disallowance, but adds that the statute "may be left to such operation as it may have," and that a copy of the report be sent to the Lieut.-Governor of British Columbia for the information of his government.

**Intercolonial Ry.**—Replying to a question in the House of Commons Feb. 4, the Minister of Railways said the field work of the survey for double-tracking the I.C.R. from near Amherst to near Truro, via Parrsboro N.S., was started Aug. 24, and was completed Dec. 1, 1908. Plans and profiles had been prepared showing the projected route. The cost of the surveys was \$9,914.05.

The estimates submitted to the House of Commons for the ensuing financial year provide for the following:

Double-tracking parts of line.....	\$ 69,000
Original construction.....	800
Strengthening bridges.....	70,000
New turntables.....	13,000
Increasing water supply.....	74,700
Increasing accommodation generally.....	133,000
Improvements, Mulgrave, N.S.....	22,000
"    Loggieville, N.B.....	25,500
"    North Sydney, N.S.....	4,000
"    Sackville, N.B.....	10,000
"    Ste. Rosalie, Que.....	55,000
"    Drummondville, Que.....	5,000
"    Newcastle, N.B.....	10,000
"    Campbellton, N.B.....	64,500
"    Point Tupper, N.S.....	4,000
Increased accommodation Truro, N.S.....	52,000
"    Pictou, N.S.....	5,500
"    Halifax, N.S.....	180,000
"    St. Flavie, Que.....	5,000
Diversion of line, Sydney Mines, River George	50,000
"    Chatham branch.....	30,000
Cut-off line at Moncton.....	50,000
Locomotive and car shops, with equipment,	
and new freight yard, Moncton, N.B.....	400,000
Engine house, machine shops, etc., at Riv-	
ière du Loup, Que.....	158,500
Engine house, Chaudière Jct., Que.....	20,000
Overhead crossing, Proberts, N.S.....	5,000
Subway crossing, Eastville, N.S.....	10,000

**Kootenay and Alberta Ry.**—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct the following lines of railway: From the C.P.R. Crow's Nest branch, between Cowley and Pincher Creek, Alta., southerly through the Beaver Valley to the North Kootenay Pass, thence southerly down the Flathead River Valley, B.C., to the International boundary. From the C.P.R. Crow's Nest branch southerly through Pincher Creek, the Fishburn settlement, the Blood Indian Reserve, and Milk River Valley to the International boundary at Coutts, Alta.; a branch line from, at or near the crossing of the Waterton River, Alta., southerly to the southwest corner of the Blood Indian reserve, passing in the vicinity of Mountain View, thence along Lee's Creek Valley to Cardston. The company also desires to have power to acquire

and utilize steam and water power for compressing air and generating electricity for any purposes and commercially dealing in the same; to construct, control and operate telegraph and telephone lines; and to enter into agreements with other railway companies. Smith & Johnston, Ottawa, are solicitors for applicants.

Application is also being made to the Alberta Legislature for an act incorporating a company with this title to construct the following lines of railway: From near Cowley, southwesterly through Beaver Valley to the North Kootenay Pass in the Rocky Mountains. From Cowley southeasterly through Pincher Creek, Fishburn and Cardston, thence easterly to the International boundary at or near Coutts. Emery, Newell & Bolton, Edmonton, are solicitors for applicants. (See also Flathead River to Kootenay Pass, Feb., pg. 101.)

**London and North Western Ry.**—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct a railway from London to Sarnia, Ont.; from near London to Lake Huron near Goderich; with power to construct branch lines not exceeding in any one instance 15 miles, such branches not to extend beyond the limits of Middlesex, Lambton or Huron counties. It is also desired to have authority to construct telegraph and telephone lines; to acquire and utilize steam or water power; to generate electricity for motive power, and to dispose of the same for manufacturing purposes. Ivey and Dromgole, London, Ont., are solicitors for applicants.

**Maritime Coal, Ry. and Power Co.**—Application is being made to the Dominion Parliament for an act of incorporation with all the powers formerly held by the company under its Nova Scotia charter of 1904, as amended by the N.S. Act of 1906, and with all the powers formerly held by the Canada Coals and Ry. Co., under the charter granted in 1892, with the amendments thereto, and to ratify and confirm the same. The company also desires to have power to operate steam and other vessels, wharves, docks, elevators; to acquire and utilize water or other power for the generation of electricity, and to dispose of the same, and for other purposes, and asks for a declaration that the company's railways are works for the general advantage of Canada.

**Niagara Peninsula Ry.**—Application is being made to the Ontario Legislature for an act authorizing the company to construct a branch line northerly from the present northerly limit of the authorized line, through Humberston, Crowland and Thorold tps., to Allanburg, Ont., and increasing the capital stock of the company to \$100,000, and for other purposes. Rowell, Reid, Wilkie, Wood and Gibson, Toronto, are solicitors for applicants.

The railway is being promoted in the interests of the Canadian Portland Cement Co., of which M. J. Haney, Toronto, is President.

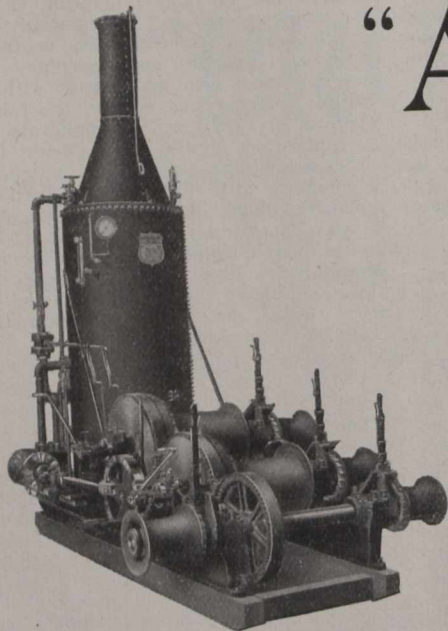
**North-West Ranching and Packing Co.**—The Alberta Legislature is being asked to pass an act incorporating a company with this title to carry on business as ranchers, owners of abattoirs, packing plants, etc., and in connection therewith to construct switches, side tracks, spur lines, and tramways, to connect railways, telegraph and telephone lines; and to operate tugs and other vessels. The head office is to be at Edmonton. J. B. Powell, Edmonton, is solicitor for applicants.

**Owen Sound and Meaford Ry.**—The Ontario Government is being asked to recommend the Legislature to authorize the guaranteeing of the bonds of the company so as to enable it to proceed with construction.



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Steam and Electric Hoists  
Locomotive Cranes and  
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**ST. PAUL, U.S.A.**

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## THE ELECTRIC HEADLIGHT

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

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

**PYLE-NATIONAL ELECTRIC HEADLIGHT CO.**  
MONADNOCK, CHICAGO



**The Pere Marquette Rd.**, according to a press report, is negotiating for the purchase of the vacant G.T.R. locomotive shops at Port Huron, Mich.

**Prince Edward Island Ry.**—The estimates submitted to the House of Commons for the ensuing financial year provide for the following works:

Branch line Harmony to Elmira.....	\$ 50,000
Increase of accommodation at Charlotte-town.....	194,000

(Feb., pg. 103.)

**Prince Edward Island Tunnel.**—During a session of the P.E.I. Legislature, Feb. 15, the Premier stated that he had had a conversation with the Dominion Minister of Finance, who informed him that before the Government would proceed in this matter, they would have to secure full and satisfactory data. About 20 years ago, when the tunnel project was first suggested, surveys had been made, but these were utterly valueless for the purpose of affording a basis on which engineers could make calculations. The borings for coal, which are now being conducted in the province, have shown that water in unexpectedly large quantities is liable to be met with at different depths. This indicates serious difficulties in the way of tunnel construction under the Straits of Northumberland. The Premier added that prominent engineers had told him that it would be a very hard matter to figure on a definite price even with a survey. He believed that the Dominion Government would shortly take steps to secure data which would determine the feasibility of an undertaking, which, if carried out, would be the greatest of its kind in the world.

**Quebec and New Brunswick Ry.**—Application is being made to the Dominion Parliament for an Act amending the company's powers by increasing its bonding powers to \$35,000 a mile; by fixing and extending the times for the commencement and completion of its lines of railway; and by empowering it to construct a branch from its authorized line near Connor to Centreville, N.B., by the most convenient route in the neighborhood of the International boundary, thence to Woodstock, and from Woodstock by the St. John River Valley to St. John, passing through Madawaska, Victoria, Carleton, York, Sunbury, Queens, Kings and St. John counties. D. R. Murphy, Montreal, is solicitor for the company.

**Quebec Bridge and Ry. Co.**—Replying to a question in the Commons Jan. 26, the Minister of Railways said the board of engineers appointed by the Government to design a new bridge had gathered together a corps of expert designers, calculators, and draughtsmen, and were busily engaged upon the work. So far they had not advanced to such an extent as would admit of an estimate as to the cost of reconstruction. It is expected that plans and specifications will be completed and tenders invited for the work during the current year.

**Quebec Central Ry.**—A contract has been let to Powers and Dussault, Quebec, for the construction of 30 miles of line from St. George Beauce to St. Justine, Que.

**Quinze and Blanche River Ry.**—The Dominion Parliament is being asked for an act extending the time fixed by chap. 123, of 6 and 7 Edward VII, within which this company may construct its railway, and for other amendments of its charter powers. Gormully, Ord and Powell, Ottawa, are solicitors for the company.

**Red Deer Ry.**—Application is being made to the Alberta Legislature for an act extending the time within which the company may construct the lines authorized in chap. 29, of the Statutes of 1907. Moore & Davie, Red Deer, Alta., are solicitors for applicants.

**Rimouski International Ry.**—Application is being made to the Dominion Parliament for an act incorporating a company with this title, with P. E. D'Anjou, Bic, Que.; J. A. Talbot, H. Lepage, E. Letendre, L. Tache, A. Cumberland, P. Raymond, J. A. Theberge, N. Bernier, L. N. Asselin, Rimouski, Que.; J. F. Demars, Levis, Que., as provisional directors. The company desires to have authority to construct a railway from Rimouski, or from a point between that town and Pointe-au-Peré wharf, along the course of the Rimouski River to the middle of Duquesne tp., thence westerly following the valley of one of the tributaries of the lakes to the northern portion of Chenier tp., thence to Lac des Aigles in Biencourt tp., thence following the Biencourt River valley to the first Squateck Lake, in Robitaille tp.; and thence to the second Squateck Lake and the Squateck River in Anclair tp., on to the Great Squateck Lake in Rouillard tp., and by the Owens River, the west branch of the Iroquois River, to Edmundston, N.B., with power to operate in connection with its railway, steam and other vessels, with the necessary docks, wharves, warehouses, elevators, etc. It also desires to have power to generate electricity for its various purposes, to own hotels, lay out pleasure parks, etc. It also desires to be authorized to enter into agreements for various purposes with the Temiscouata Ry., the C.P.R. and the Boston and Maine Rd., the Intercolonial and the Transcontinental Rys. The capital is fixed at \$3,000,000 and authority is asked to issue bonds to the extent of \$30,000 a mile of railway to be constructed.

**Salisbury and Harvey Rd.**—It is recited in the preamble of a bill now under consideration by the House of Commons that all the rights, franchises, railway and other property of the Salisbury and Harvey Ry. were sold under the powers of decretal orders of the Supreme Court in Equity of New Brunswick, and were purchased by J. D. Newton, of New York City. The bill provides for the incorporation of a new company as the Salisbury and Harvey Rd. Co., with J. D. Newton, D. E. Bergen, of New York City; Hon. J. D. Hazen, D. K. Hazen; and E. P. Raymond, of St. John, N.B., as provisional directors, to acquire and take over the railway, with all its rights, franchises, etc. The railway is declared to be a work for the general advantage of Canada, and the company may within two years after the passing of the act commence the construction of the lines authorized by sec. 1, chap. 80, of the statutes of 1900, and complete the same within five years; it may acquire steam and other railways; construct telegraph and telephone lines, and may make agreements with the Harvey Branch Ry. Co., and the Albert Southern Ry. The securities to be issued by the company shall not exceed \$10,000 a mile, and its capital stock is fixed at \$500,000.

**Saskatchewan Valley and Hudson's Bay Ry.**—Application is being made to the Dominion Parliament for an act granting an extension of time for the commencement and completion of the lines which the company is authorized to construct by sec. 7, chap. 132, of the Statutes of 1907. Short, Cross & Biggar, Edmonton, Alta., are solicitors for applicants.

**Southern Central Pacific Ry.**—By a bill under consideration by the Dominion Parliament the list of provisional directors is proposed to be amended by striking out the name of J. D. McLennan, of Cleveland, Ohio, and substituting therefor T. Sturgis, of New York City. Sec. 4 of the amending act is proposed to be repealed, and a new section substituted extending for a further period of two years the time within which the construction of the authorized line may be commenced.

Application is being made to the Dominion Parliament for an act authorizing this company to sell or lease to, or purchase or lease from, or to amalgamate with any other railway company or companies, and generally to enter into agreements of a like nature. A. T. Thompson, Ottawa, is solicitor for the company. (Feb., pg. 105.)

**South-West Alberta Ry.**—The Alberta Legislature is being asked to pass an act incorporating a company with this title to construct a railway from the International boundary between ranges 22 and 29, west of the 4th meridian, north and westerly to or near the Pincher Creek Coal Mining Co.'s mines in tp. 6, range 30, west of the 4th meridian, and tp. 6, range 1, west of the 5th meridian, and thence northerly and westerly to the C.P.R. Crow's Nest Pass, at or near Pincher station in tp. 6, range 30, or tp. 6, range 29, west of the 4th meridian, with all the powers usually conferred on railway companies. The provisional directors are: O. W. Laboree, R. D. Miller, Spokane, Wash.; Jas. Finlay, A. C. Kemmis, Pincher Creek, Alta. The length of the projected line is 54 miles.

**Strathcona and Brazeau Ry.**—The Alberta Legislature is being asked to pass an act incorporating a company with this title for the purpose of constructing a railway from near Strathcona, on the Calgary and Edmonton Ry., westerly to the Brazeau coal fields on the Brazeau River, and thence to the Yellowhead Pass. Power is also asked to make agreements with other railways for amalgamation, leasing or otherwise, and with all other necessary and usual powers, rights and privileges. R. H. Bowes, Toronto, is solicitor for applicants.

**Temiskaming and Northern Ontario Ry.**—A statement has been made by the Premier of Ontario that the question of extending this line from Charlton to Elk Lake, Ont., about 28 miles, is under consideration. The projected extension will be a continuation of the five mile branch now being operated from Englehart to Charlton. A deputation from Earleton waited on the Government Feb. 9, to ask that in the construction of the branch the requirements of that district be met. Residents in the Parry Sound district are advocating an extension of the line southerly to Parry Sound, thus providing the railway with a deep water port on the Great Lakes for ore traffic. (Feb., pg. 105.)

**Vancouver and Northern Ry.**—Application is being made to the British Columbia Legislature for an act incorporating a company with this title, the provisional directors being: C. T. Dunbar, F. C. Wade, E. J. McFeely, H. M. Burwell, C.E. The railway which the company desires power to construct would start at Vancouver, and would follow the valley of the Seymour Creek to the watershed north of Loch Lomond, thence via the valley of the easterly branch of Seymour Creek and along the valley of the Indian River to the north arm of Burrard Inlet; thence northerly via the Mamquan and Cheakamis valleys to the Pemberton Meadows; with a branch line via the valley of Furry Creek or Stammus Creek, or both, to Howe Sound. The offices of the company are to be at Vancouver, and its capital \$500,000.

**The Vancouver, Fraser Valley and Southern Ry. Co.** is asking the Dominion Parliament for an act extending for a further period of two years the time within which the company may commence the construction of the railway which it was authorized by its act of incorporation of 1906 to construct.

**The Vancouver, Westminister and Yukon Ry. Co.** is asking the Dominion Parliament to pass an act extending for three years the period within which the company may commence the construction of the branch lines authorized to be constructed by its act of



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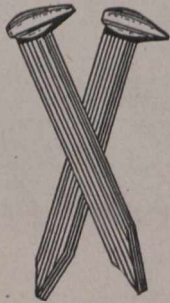
OFFICE AND WORKS

### ESPLANADE STREET EAST, TORONTO

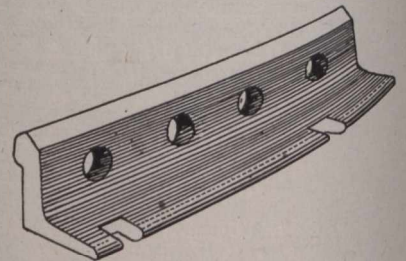
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1906. It also desires to be given power to enter into agreements, subject to secs. 361, 362 and 363 of the Railway Act, with the Burrard, Westminster Boundary Ry. and Navigation Co.

**Victoria and Barclay Sound Ry.**—Application is being made to the Dominion Parliament for an act incorporating a company with this title to construct a railway from Victoria, by way of Otter Point and San Juan to Barclay Sound, near Sarita River, with branch lines not exceeding, in any one case, 12 miles in length. Power is also being asked to maintain a steam ferry between Beecher Bay, or some other point on Vancouver Island on the Straits of Juan de Fuca, to some point on the straits in the United States. It is also desired to have power to own and operate steam and other vessels, wharves, docks, warehouses, elevators, etc.; to generate electricity for various purposes; to construct telephone and telegraph lines, and to erect bridges for the use of which tolls may be charged. The capital stock is fixed at \$5,000,000, and securities may be issued to the amount of \$50,000 a mile of railway. The provisional directors named are: W. K. Houston, H. H. Jones, W. E. Laird, C. L. Betterton, Victoria, B.C.; J. M. Hawthorne, Seattle, Wash.

**The York and Carleton Ry. Co.** has under consideration plans for the construction of an extension of nine miles from Ryan Brook, the present terminus of its line, to Nappadogan, N.B., a divisional point on the National Transcontinental Ry.

**Winnipeg and North-Western Ry.**—By an act under consideration by the Dominion Parliament this company asks an extension of time within which the line authorized by its act of incorporation (chap. 141, 1907), may be constructed. Power is also asked to construct the following branch lines: (a) From near the Narrows of Lake Manitoba westerly to tp. 25, range 30, west of the first principal meridian, thence north-westerly to its authorized line of railway at Nut Lake; (b) from the last mentioned line near Good Spirit Lake southeasterly to the G.T. Pacific Ry., near the second principal meridian, or between such meridian and the boundary of Manitoba. It is also desired to have power to guarantee in whole or in part the principal or interest, or both, of securities of any railway company, transportation, elevator, warehouse, or other company authorized to carry on any business incidental to the working of a railway upon a two-thirds majority of the company's shareholders.

**St. Boniface Union Stockyards.**—The city council of St. Boniface, Man., has had an agreement drawn for execution between the C.P.R., the G.T. Pacific Ry., and the Canadian Northern Ry., on the one hand, and the city on the other, with respect to the establishment of a union stockyard within the city limits. According to the agreement the company to be formed must expend \$305,000 within two years; must include St. Boniface in its name; must maintain a public market for a term of years; agree not to ask for exemption from taxation; and a site has to be provided which the corporation may either lease or purchase for the erection of a municipal abattoir. The council will, on the signing of the agreement, proceed with the construction of a sewer on Dawson road at a cost of \$180,000.

At a meeting of the Engineers' Club of Toronto, Feb. 12, F. L. Somerville, formerly Division Engineer G.T.R., Toronto, read a paper on "The Railway Crossing; Its Development and Proposed Elimination." The members of the Ontario Railway and Municipal Board and G. A. Mountain, Chief Engineer of the Board of Railway Commissioners, took part in the discussion.

### March Birthdays.

Many happy returns of the day to:—  
W. G. Annable, General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal, born at Ottawa, Mar. 3, 1875.

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

C. N. Armstrong, ex-General Manager Atlantic and Lake Superior Ry., Montreal, born at Maskinonge, Que., Mar. 19, 1850.

A. H. Baird, C.P.R. Ticket Agent, Paris, Ont., born at Montreal, March 1, 1834.

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

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

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

H. S. Carmichael, General Passenger Agent C.P.R., Liverpool, Eng., born in Scotland, Mar. 7, 1874.

W. P. Chapman, Resident Engineer Mackenzie, Mann & Co., Ltd., Toronto, born at Abbotsley, Hunts, Eng., Mar. 9, 1857.

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

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

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

C. O. Foss, District Engineer National Transcontinental Ry., St. John, N.B., born at Wentworth, N.H., Mar. 20, 1852.

W. S. Fry, Treasurer Quebec Central Ry., Sherbrooke, Que., born at Lee, Kent, Eng., Mar. 18, 1874.

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

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

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

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

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

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

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

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

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

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

J. M. McKay, Trainmaster C.P.R., Portage la Prairie, Man., born at Tiverton, Ont., Mar. 13, 1868.

Owen McKay, ex-Chief Engineer Lake Erie and Detroit River Ry., Windsor, Ont., born in Ross tp., Renfrew Co., Ont., Mar. 13, 1848.

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

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

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

W. D. Reid, President Reid Newfoundland Co., born in Australia, Mar. 20, 1867.

D'Arcy Scott, Assistant Chief Railway Commissioner for Canada, born Mar. 8, 1872.

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

J. F. Slocum, Secretary-Treasurer International Ry. Co., Buffalo, N.Y., born at Geneva, N.Y., Mar. 25, 1876.

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

G. Sommerville, Agent Merchants Line Steamers, Toronto, born at Kingston, Ont., Mar. 21, 1855.

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

J. N. Sutherland, ex-General Freight Agent C.P.R., Atlantic Division, Oakville, Ont., born at Sydney, N.S., Mar. 17, 1843.

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

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

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

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

### Eastern Canadian Passenger Association.

At a meeting at Toronto Feb. 2, reduced fares were considered for numerous events, among these being the following:

Easter Holiday Fares, 1909.

Ottawa, Ont., May 4-6, Woman's Foreign Missionary Society of Presbyterian Church in Canada.

Montreal, May 12-15, Montreal Horse Show. Bicentenary of beginning of British rule and of Church of England in Canada, Halifax, Windsor, Annapolis, N.S.; Fredericton, N.B., Aug., 1910.

Winnipeg, Aug., Canadian Medical Association.

Buffalo, N.Y., June 9-16, National Conference of Charities and Correction.

Plattsburg, N.Y., or Burlington, Vt., July 4-14, Tercentenary celebration of discovery of Lake Champlain.

Colonist one-way second-class fares to California common points, to North Pacific coast points, and to Mexico, season 1909.

Denver, Colo., July 5-9, National Education Association.

Winnipeg, Aug. 25-Sept. 1, British Association for Advancement of Science.

Syracuse, N.Y., Sept. 13-18, New York State Fair.

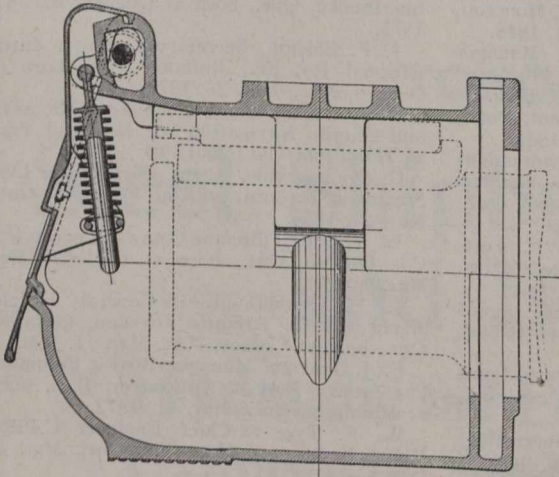
Louisville, Ky., June 8-10, Imperial Council, Ancient Arabic Order Nobles of Mystic Shrine.

**The Western Canada Railway Club** has been organized recently, with headquarters at Winnipeg. Meetings are held at the Royal Alexandra Hotel there on the second Monday of each month, excepting June, July and August. Following are the officials of the club for the current year: Hon. President, Wm. Whyte; Hon. Vice-Presidents, M. H. McLeod, G. J. Bury, G. W. Caye, and W. Phillips; President, Grant Hall; Vice-President, A. E. Cox; 2nd Vice-President, L. B. Mirriam; Secretary, W. H. Rosevear; Treasurer, E. Humphrys; Executive Committee, E. W. DuVal, S. J. Hungerford, W. R. Smith, R. R. Neild, C. W. Cooper, Jos. McKenzie, L. O. Moody; Audit Committee, L. O. Genest, A. H. Mulcahey, A. Shields.

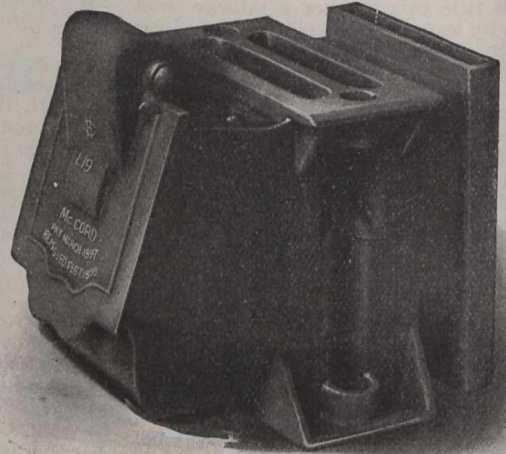


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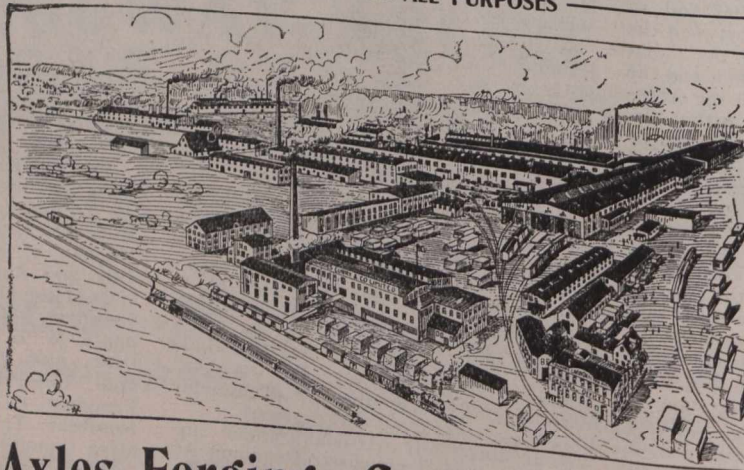
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**Railway Finance, Meetings, etc.**

**Alberta Ry. and Irrigation Co.**—Approximate net profits from all sources, exclusive of land sales, for Dec., 1908, \$40,340, against \$38,724 for Dec., 1907. Total net profits for 6 months ended Dec. 31, 1908, \$219,778. Approximate railway receipts for Jan., \$16,333, against \$14,143 for Jan., 1908.

**Canadian Pacific Ry.**—Orders-in-council authorizing the C.P.R. to increase its capital stock passed June 30, 1904; Nov. 12, 1904; Feb. 19, 1906, and Aug. 17, 1908, were laid upon the table of the House of Commons Feb. 18. The last of the orders gave the company power to increase its capital stock to \$200,000,000, and contains the clause inserted in the order of 1906, to the effect that the stock issued under it shall not be deemed "capital expended in the construction of the railway under sec. 20 of the company's act of incorporation."

A London, Eng., cable, Feb. 17, stated that it had been publicly announced that the C.P.R. had sold 39,840 shares on the London market, thus completing the issue of common stock up to \$150,000,000 as authorized by the order-in-council of 1906. The stock represented the odd amounts that could not be evenly allotted to shareholders.

**Canadian Pacific Ry.**—The directors have declared the following dividends for the half-year ended Dec. 31, 1908, payable April 1: 2% on the preference stock, and 2% on the common stock. It was also decided to declare a dividend of 1/2 of 1% on the common stock out of the interest on the proceeds of land sales. After paying the working expenses, fixed charges and the dividends for the half-year, the company will carry forward a surplus of \$4,818,232.

**Chicago and Great Western Ry.**—Press despatches from Chicago, Ill., state that interests associated with the G.T.R. are negotiating for the purchase of a controlling interest in the C. and G.W.R. This line is known as the Maple Leaf Route, and, starting from Chicago, has its terminus at Kansas City, Mo.; Omaha, Neb., and Minneapolis, Minn. Its affairs are in process of reorganization.

**Cumberland Ry. and Coal Co.**—Following are the officers and directors for the current year: President, R. H. Drummond; Vice-President, E. McDougall; Managing Director, J. B. Cowans; Secretary-Treasurer, E. Laflamme; other directors: D. Morrice, W. J. Morrice, G. L. Cains, W. J. Crossen, P. P. Cowans, J. D. Hayden.

**Dominion Atlantic Ry.**—Gross earnings for Dec., 1908, \$91,000, against \$89,186 for Dec., 1907. Total for 12 months ended Dec. 31, 1908, \$1,259,300, against \$1,294,741 for same period 1907.

**Duluth, Rainy Lake and Winnipeg Ry.**—Following on the recent taking over of this railway by the C.N.R., officers and directors for the current year have been elected as follows: President, W. H. Cook, Duluth, Minn.; Vice-President, D. B. Hanna; Secretary and General Auditor, J. D. Morton; Treasurer, L. W. Mitchell, Toronto; other director, W. D. Bailey, Duluth, Minn.

**Grand Trunk Ry.**—An act under consideration by the Dominion Parliament authorizes the company, in addition to the several amounts of G.T. consolidated debenture stock mentioned in the company's act of 1897, and the acts mentioned in sec. 5 of the same, to issue a perpetual consolidated debenture stock to be called G.T. Consolidated Debenture Stock, at not exceeding 4% interest, in such sums as the shareholders shall determine, provided that the aggregate amount of the annual interest on such stock shall not exceed £100,000. The stock

so created to rank equally and be consolidated with debenture stock issued or to be issued as G.T. Consolidated Debenture Stock under any act now in force. The company may also issue additional amounts of G.T. 4% guaranteed stock, provided that the total sum issued, including that issued or to be issued under existing acts, shall not in the aggregate exceed at any one time \$12,500,000. When the bill came before the Railway Committee of the House of Commons Feb. 16, W. Wainwright, Fourth Vice-President, stated that the money to be realized by the sale of the stock would be used in making general improvements. It was decided to insert a clause providing that the money to be raised shall be used for improving the roadbed, double-tracking, reduction of gradients, sidings and terminal facilities, or increasing elevator capacities. The act is to be brought into effect by an order-in-council.

**Guelph Junction Ry.**—The percentage payable to the city of Guelph by the C.P.R., which operates the G.J.R., for the three months ended Dec. 31, 1908, was \$6,450.90. This is one of the largest payments ever received by the city from the operation of the railway.

**Intercolonial Ry.**—Replying to a question in the House of Commons Jan. 26, the Minister of Railways said the earnings and expenses of the I.C.R. from April to Nov., 1908, compared with 1907 were as follows:

	Earnings.		Expenditure.	
	1908.	1907.	1908.	1907.
April..	\$ 740,576.43	\$ 817,952.34	\$ 740,851.01	\$ 669,380.90
May..	689,736.62	799,095.95	781,086.18	715,888.88
June..	703,251.85	754,141.27	841,442.32	751,472.47
July..	803,143.53	836,452.37	819,139.12	811,019.17
Aug..	789,765.10	866,808.56	787,003.43	868,569.20
Sept..	793,541.67	807,566.14	796,301.04	762,319.92
Oct..	759,521.09	803,017.13	801,582.62	751,754.78
Nov..	696,897.56	754,140.62	746,326.74	730,602.38
	\$5,976,433.85	\$6,439,174.38	\$6,313,732.46	\$6,061,007.70

The figures for Dec., 1908, are not available.

**Lake Superior Corporation.**—D. McNicoll, Vice-President C.P.R., is reported to have stated that press reports to the effect that the C.P.R. was in any way connected with the reorganization of the Lake Superior Corporation, and the various industries centred there, were without foundation, and that he knew nothing about any such proposed connection.

**New York Central and Hudson River Rd.**—E. H. Harriman has been elected a director, succeeding C. C. Clarke; and Wm. C. Brown, the recently appointed President, has been elected a director, succeeding S. F. Barger, resigned.

**Prince Edward Island Ry.**—The Minister of Railways, replying to a question in the House of Commons Jan. 26, said the earnings and expenditures of the P.E.I. Ry. for the current financial year to Dec. 31, as compared with the same period of 1907, were as follows:

	Earnings.		Expenditures.	
	1908.	1907.	1908.	1907.
Apr..	\$ 20,220.38	\$ 23,229.44	\$ 30,193.09	\$ 30,108.28
May..	26,045.12	25,715.49	30,376.93	32,977.82
June..	26,365.84	23,956.86	33,097.68	30,743.10
July..	33,328.19	33,630.31	33,676.99	38,824.54
Aug..	32,350.59	30,993.81	34,806.53	35,369.52
Sept..	30,777.40	26,401.31	37,251.96	37,893.58
Oct..	30,566.50	27,659.60	39,555.24	36,511.38
Nov..	29,655.98	30,641.62	34,120.25	33,236.36
Dec..	24,519.75	22,876.49	35,509.99	30,546.03
	\$ 253,829.75	\$ 245,104.93	\$ 308,588.66	\$ 306,210.61

**Quebec Central Ry.**—Gross earnings for Dec., 1908, \$73,599.93; expenses, \$56,779.17; net earnings, \$16,820.76; against \$72,074.98 gross earnings; \$61,190.59 expenses; \$10,884.39 net earnings, for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, \$553,676.51; expenses, \$377,924.69; net earnings, \$175,751.82; against

\$569,366.52 gross earnings; \$385,892.03 expenses; \$183,474.49 net earnings, for same period 1907.

**Quebec and Lake St. John Ry.**—Gross earnings for Jan., \$46,249.05, against \$36,275.49 for Jan., 1908. Mileage operated, 285.4, against 240 in Jan., 1908.

**Temiskaming and Northern Ontario Ry.**—Gross earnings for Oct., \$97,850.90; expenses, \$55,417.60; net earnings, \$42,433.30; ore royalties, \$21,080.00; gross earnings for Nov., \$98,304.03; expenses, \$63,595.00; net earnings, \$34,709.03; ore royalties, \$20,175.70; estimated gross earnings for Dec., 1908, \$117,000; expenses, \$65,000; net earnings, \$52,000.

**Temiscouata Ry.**—Total traffic receipts for Jan., \$14,550.41, against \$16,643.91 for Jan., 1908.

**New Westminster Bridge.**—Replying to a question in the British Columbia Legislature Jan. 26, the Commissioner of Works stated that the amount collected by way of tolls for the use of the railway bridge over the Fraser River at New Westminster for the year ended Dec. 31, 1908, was \$25,702.60, which included \$15,000 rental from the Vancouver, Victoria and Eastern Ry. The amount paid to collectors of tolls was \$3,162.50. The Government was prepared to make reductions in the tolls charged from time to time as the traffic increased. An agreement had been made between the Government and the B.C. Electric Ry. for the use of the bridge.

**Wisconsin Central Ry.**—W. J. Wollman, C. G. Simpson, F. H. Prince, E. N. Foss, L. Baldwin, have been elected directors, succeeding W. A. Bradford, Jr., G. A. Fernald, T. L. Chadbourne, H. B. Starr, G. J. Gould, and T. F. Gales, who have resigned.

Newman Erb, President, has been elected chairman of the Executive Committee, succeeding W. A. Bradford, Jr., and W. J. Wollman, C. G. Simpson, and F. H. Prince, have been elected members of the Executive Committee, to fill vacancies caused by resignations, owing to the change of control.

**Railway Lands Patented.**—Letters patent covering Dominion lands in Manitoba, Saskatchewan, Alberta and British Columbia, were issued to railways during Oct., 1908, as follows:

	ACRES
Canadian Northern Ry.....	9.02
Canadian Pacific Ry. grants.....	66.75
Grand Trunk Pacific Ry.....	647.87
	723.64

The Guelph and Goderich Ry. Co. is being sued by M. A. Piggott, Hamilton, Ont.; H. E. Larkin and A. Sangster, St. Catharines, Ont., to recover \$500,000 alleged to be due on account of the construction of the railway from Guelph to Goderich, Ont. The company offers about \$100,000, and alleges that the plaintiffs have not completed their work.

Press despatches from Winnipeg, Feb. 6, stated that it was announced by the railway companies that it had been definitely determined to abolish the half-fare rate for clergymen, students and missionaries, who have enjoyed this privilege in the middle and western provinces since the settlement of the west.

A deputation from the Engineers' Club of Toronto recently waited on the Dominion Government to urge the appointment of a Canadian-born engineer to the Quebec Bridge Commission, the membership of which at present consists of one French born and educated engineer, but resident in Canada; one British and one United States engineer.



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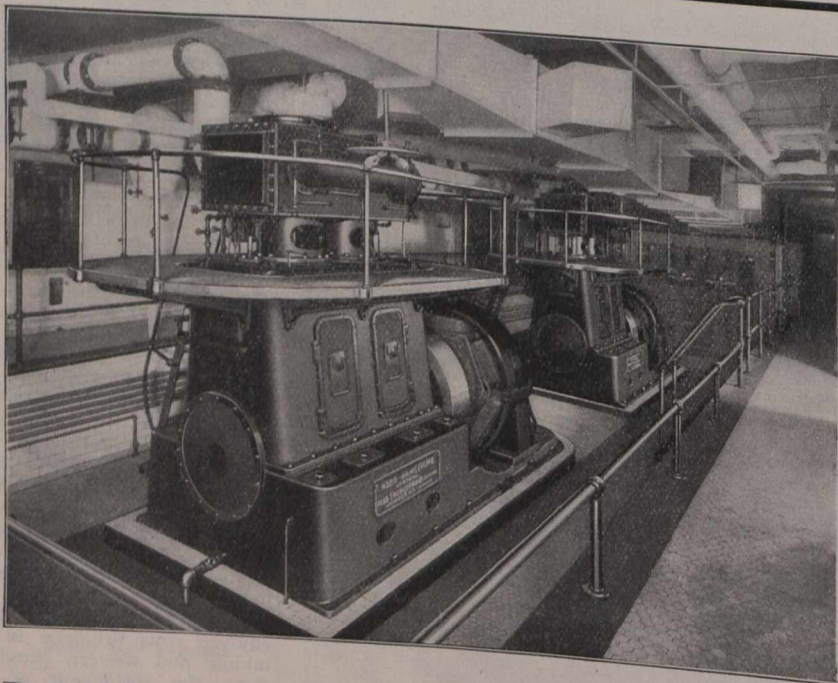
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- Mechanical Engineer
- Machine Designer
- Electrical Engineer
- R. R. Con. Engineer
- Civil Engineer
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- Chemist
- Mining Engineer
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- Bookkeeper
- Stenographer
- Ad Writer
- French ) With Edison
- German ) Phonograph
- Spanish )

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

**St. John, N.B., Improvements.**—An agreement has been reached between the St. John harbor committee and the C.P.R., by which the transfer of water lots at Sand Point to the company will be made. The agreement is subject to ratification by the city council. As soon as the agreement is completed the company will carry out some improvements in connection with the deep water wharfage facilities at the harbor.

**Piles Junction to Grand Mere, Que.**—The Dominion Parliament is being asked to pass an act extending the time within which the company may construct the projected line from Piles Jct. to Shawinigan Falls, and Grand Mere, Que.

**St. Lawrence Hall, Montreal.**—A press report from Montreal states that the C.P.R. contemplates the erection of a 10-storey office building to cover the whole site of the St. Lawrence Hall, in which its city ticket office is now located. The building would provide accommodation for the C.P.R. city offices, the Dominion Express Co., and other interests allied with the C.P.R.

**Windsor St. Station, Montreal.**—Application is being made by the company in connection with its plans for extensions at this station, for permission to close certain streets on property which it has acquired. The plans placed before the civic roads committee of the city council show that, with one or two exceptions, the Ontario and Quebec Ry. Co., of which the C.P.R. is lessee, has acquired all the properties south of the present station building as far as St. Antoine St., and west as far as Aqueduct St. It is desired to obtain leave to close Donegani and Bission Streets. The committee decided to view the properties and the streets proposed to be closed before giving consideration to the plans.

**Place Viger Station Improvements.**—D. McNicoll, Vice-President C.P.R., recently gave some information to the civic roads committee of the Montreal City Council with regard to the proposals for improving Place Viger station and yards. The company is applying for authority to close Lacroix and the southern ends of several other streets on property which has been acquired. The property purchased practically isolates the premises of the Montreal Brewing Co., for which the C.P.R. states an exorbitant price is being asked. The committee promised to consider the plans submitted.

**Montreal-Toronto Second Track.**—A press report states that the company's programme of work for the current year includes the construction of 40 miles of additional second track on the line between Montreal and Toronto. This 40 miles would be in the vicinity of Smith's Falls, Ont.

**Extension to Gowganda.**—L. O. Armstrong, Colonization and Tourist Agent, who has been investigating the Gowganda district for the C.P.R., stated recently that as soon as the permanence of the camp was fully assured, there was every possibility of the company constructing a line into the district.

**Ottawa, Northern and Western Ry.**—Application is being made to the Dominion Parliament for an extension of time for the construction of the company's projected railway from Maniwaki, Que., the present terminus of the old Pontiac Pacific Junction Ry., to James Bay, for a further period of five years.

**Georgian Bay and Seaboard Ry.**—A Montreal despatch Feb. 15 stated that the C.P.R. programme of construction for eastern lines for the current year includes a line from Peterboro to Coldwater Jct., Ont., where connection will be made with the portion of the G.B. and S. Ry. already constructed from Coldwater Jct. to Victoria Harbor.

**Tillsonburg, Lake Erie and Pacific Ry.**—Application is being made to the Dominion Parliament for an act extending for a further period of five years the time within which the T., L.E. & P.R. Co. may complete the railway it was authorized to construct by sec. 2, chap. 105, of the statutes of 1902. An extension of time for construction was obtained in 1904.

**Weisenburg to Elora.**—A press report states that surveys have been made for the construction of a line from Weisenburg, on the Guelph and Goderich Ry., to Elora, Ont., where a junction would be effected with the C.P.R. Elora branch. The line would be about seven miles long, and the surveys are said to show that a good gradient can be secured, and that there would be few difficulties in the way of construction.

**London, Ont., Yards.**—Sir Thos. G. Shaughnessy, President, and D. McNicoll, Vice-President, are expected to visit London, Ont., early in March, for the purpose of inspecting the company's yards there, before finally passing on the plans and estimates prepared for their extension.

**Guelph and Goderich Ry.**—The company is applying to the Dominion Parliament for an act extending the time within which it may construct the branch line of railway from its line in Wellesley tp. to St. Mary's and Clinton, via Stratford, for a further period of five years.

**Western Lines Construction.**—The C.P.R. Co. is asking the Dominion Parliament for an act extending the time within which it may construct the following railways: (1) From tp. 32 to 34, range 21 to 23, west 2nd meridian, northerly to Prince Albert, Sask. (2) From the Pheasant Hills branch in tp. 39 or 40, range 19 or 20, west 3rd meridian, towards Battle River, thence westerly through tps. 43, 44 or 45 to range five or six, west 4th meridian, thence southerly and westerly to tps. 36, 37 or 38, range 11, 12 or 13, west 4th meridian. (3) From tps. 27, 28, 29, 30 or 31, range 4, 5, 6 or 7, west of 3rd meridian, westerly and northerly to a junction with the Calgary and Edmonton Ry. Lacombe branch. (4) From tps. 39, 40 or 41, range 3, 4 or 5, west 4th meridian, to tps. 30, 31 or 32, range 17, 18 or 19, west 3rd meridian. (5) From Weyburn westerly through tps. 6, 7, 8 or 9, to range 30, west 2nd meridian. (6) From near Estevan to tp. 4, range 22, west 2nd meridian. (7) From tps. 6, 7, 8 or 9, range 30, west 2nd meridian, westerly to connect with the Crow's Nest Pass branch, between range 16, west 4th meridian, and Lethbridge, Alta. It is also desired to have authority to construct a line from the revision of the Crow's Nest Pass branch in tp. 9, range 22, west 4th meridian, northerly and northwesterly to a junction with the Calgary and Edmonton Ry. Macleod branch near Aldersyde, Alta., a distance of about 85 miles.

**South-Western Alberta Extensions.**—The C.P.R. right-of-way agent has been spending some time in Cowley, Alta., recently, and has purchased a number of properties there. As a result, it is said that the town will be moved to a site two miles south of its present location, it being understood that the C.P.R. has promised to pay the expense of moving the buildings.

In connection with the company's application to Parliament for extension of time for the construction of certain lines in the vicinity of the Crow's Nest Pass branch, and the Calgary and Edmonton Ry., it is interesting to note that the Great Falls, Mont., Board of Commerce, at a meeting held Feb. 2, appointed a deputation to wait on the Government of Alberta and C.P.R. officers "concerning the proposed extension of the C.P.R. to Grand Falls."

**Lethbridge, Alta.**—A press despatch states that the company proposes to erect shops

for the western division at this point, which will provide employment for about 600 men.

**Grade Reduction at Hosmer.**—Plans for the reduction of gradients on the Crow's Nest Pass branch, from Hosmer, B.C., to the summit of the Rocky Mountains, are reported to be under consideration by J. E. Schwitzer, Chief Engineer for the western lines. When the line was constructed the general expectation was that the heavy traffic hauls would be practically all westbound, and for that reason everything was done to give the westbound traffic the benefit of the gradients. The development of the traffic, however, has been such that there is every prospect that the balance of the heavy hauls will be in favor of the eastbound trains. The opening of the coal mines at Hosmer, which began shipping coal in Jan., will be a big factor in providing eastbound traffic, as the demand for the coal will be in Alberta, Saskatchewan and Manitoba. We are advised that no decision as to grade reduction between the points named has as yet been arrived at.

**Kootenay Central Ry.**—The act incorporating a company with this title passed by the Dominion Parliament in 1901, was amended in 1904, and an application is now before Parliament to obtain a further extension of time for the construction of the authorized line of railway.

A survey party has been engaged for some time past correcting previous surveys between Golden and Galoway, on the C.P.R. Crow's Nest Pass line. The route of the projected line from Galoway follows along the east side of the Kootenay River, crosses that stream at Canal Flats, and proceeds down the valley of the Columbia River to Golden on the C.P.R. main line. It would have a length of about 200 miles. J. N. Logan, right-of-way agent, in an interview at Fernie recently, said the heaviest gradient on the projected line would be at the summit near Crow's Nest Lake. Nowhere on the route was there any difficulty to be met with that would necessitate a heavier gradient than 1%.

**Kootenay and Arrowhead Ry.**—The Dominion Parliament is being asked to pass an act extending the time within which the K. & A.R. Co. may construct the lines authorized by sec. 7, chap. 70, of the statutes of 1901.

**Esquimalt and Nanaimo Ry.**—The laying of track on the extension of the line from Wellington to Alberni, B.C., has been commenced, but at present only about 2.50 miles is being laid, in order to facilitate construction work. At the point where this track terminates is a very heavy rock cut. Beyond the cut, construction is under way as far as French Creek. It was expected that the surveys between French Creek and Alberni would be completed by Feb. 27, so that further contracts could be let without delay.

A press despatch says the new western terminus of the C.P.R. will be at Hardy Bay, on the north shore of Vancouver Island. The despatch further says: "Even to-day very few people are aware of the fact that a survey line has been run from Nanaimo clear through to Hardy Bay, and that the rails are laid beyond Campbell River, considerably over half way."

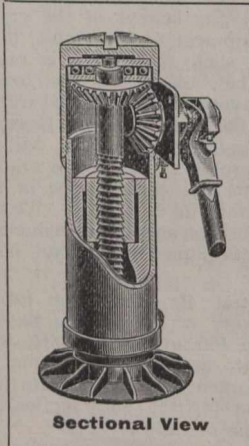
**Lines in United States.**—A New York report states that there are under consideration some plans by which the C.P.R. lines would secure a route to Newport News, Va. The suggestion is that the route will be via the Chicago, Cincinnati and Louisville Rd., and the Chesapeake and Ohio Rd. The report also states that the C.P.R. has purchased an extensive coal area in West Virginia. (Feb., pg. 109.)

See also Wisconsin Central Ry.

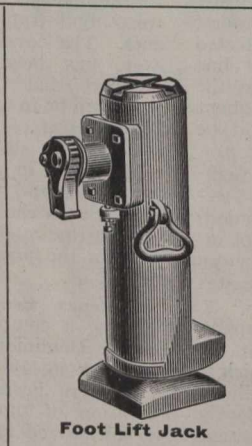


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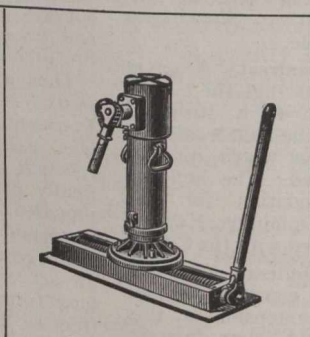


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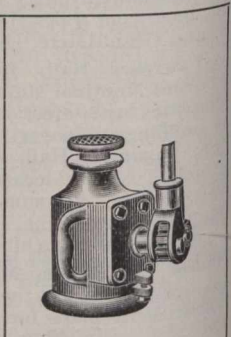
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**Canadian Northern Ry. Construction, Etc.**

**Maritime Provinces.**—The Premier of Nova Scotia was in Toronto Feb. 1, and following days, in consultation with W. Mackenzie, President, and other C.N.R. officers. It is said that the conference had to do with railway matters in the province, and an agreement is reported to have been reached which will mean the construction of several hundred miles of steam and electric railways, and some alteration in the conditions affecting the Halifax and South-Western Ry. On Feb. 5, Mr. Murray, Mr. Mackenzie and a number of C.N.R. officers, went to Montreal and Ottawa to consult with the Dominion Government. The Nova Scotia Legislature will, it is said, be asked, at its forthcoming session, to ratify the arrangement reached.

Since the foregoing has been put in type, we have been officially advised that no agreement has been entered into for the construction of additional railways.

The Mayor of St. John, N.B., was in Ottawa early in Feb., in connection with railway matters, and met some of the C.N.R. officers. A press report from St. John states that an engineer of the city has been informed by C.N.R. officials that, failing the obtaining of rights over the Intercolonial Ry., the company will proceed with the construction of its own lines to the Atlantic coast.

**Canadian Northern Quebec Ry.**—The Dominion Parliament is being asked to extend the time within which the following lines may be constructed: An extension of the St. Jacques-Rawdon branch beyond Rawdon to near Lake Archambault, Montcalm County, Que.; a double or single line of railway from the Quebec and Lake St. John Ry., or from deep water in the harbor, and thence through the city of Quebec to the shore of James Bay, and a branch line from the main line at or near Lake St. John, through Chicoutimi and St. Alphonse or Ha Ha Bay, to the St. Lawrence River at or near Tadoussac.

**Quebec and Lake St. John Ry.**—Application is being made to the Quebec Legislature for an act extending the time within which the lines authorized by sec. 10, chap. 71, 4 Edward VII, may be constructed and for other purposes.

The company is locating a route for an extension from Roberval, on Lake St. John, Que., westerly for about 30 miles; and for a line from Chicoutimi easterly for about 20 miles.

**Canadian Northern Ontario Ry.**—The question of the entrance of the C.N.O.R. into Ottawa is not yet finally settled. Until this is disposed of, it is impossible to fully complete the line from Hawkesbury, the work on which is in a forward condition.

The sleigh road which has been constructed from Sellwood, on the company's line near Sudbury, Ont., into the Gowganda country, was opened for traffic Feb. 2. Stopping places are provided at Burwash, Welcome Lake and Phoenix, and a good service is said to be given by the Gowganda Transport Co. The question of constructing a railway into the district was brought before the Ontario Government, Jan. 29, by the President and other C.N.R. officers. Mr. Mackenzie subsequently said the future must decide whether the present stage road would be followed by a railway; the company had not then asked for a subsidy for such a line.

At the same interview plans were laid before the Government showing the route of the proposed line to connect the present line at Sudbury with the western lines now terminating at Port Arthur, Ont. It is said that the C.N.R. will submit a formal proposition to the Government as to the aid which the company desires to secure. The plan outlined at Ottawa for this line shows a route starting near Sudbury, and running northwesterly up the valley of the Vermillion

River towards its head waters, until the southern limits of the great clay belt is reached near the Missinabi River, thence to Long Lake, and on to near the C.P.R. at Nipigon River, and thence north of but close to the C.P.R. into Port Arthur. This route, it is reported, will provide easy gradients, and will be much easier to construct than was the C.P.R. between the same points.

The company has located about 80 miles of its line from Sellwood towards Port Arthur, Ont. Of this 27 miles is under contract and construction is being proceeded with. Angus Sinclair, Toronto, is the contractor.

A deputation of farmers and other residents in the district west of Lake Manitoba, waited on the Manitoba Government, Feb. 16, to press for the construction of a C.N.R. branch through that district. The Premier stated that the Government had promised a guarantee of bonds for the construction of such a line, the bonds were ready for issue at any time, and the Government would present the case to the C.N.R. President. The Premier had an interview with M. H. McLeod, General Manager and Chief Engineer, who stated that an engineer would be sent to make a survey for the line, but he could not say anything at all in regard to construction.

Construction work was done during 1908 upon the following lines, and track will be laid on them during the current year: Oak Point northerly, 12 miles; Rossburn branch, a further distance of 20 miles; Hallboro branch, 50 miles; Prince Albert to Battleford, five miles; a spur of 0.6 mile at mileage 73 Ontario Division. The company also completed during 1908 a revision of the track between Lumsden and Disley, Sask., on the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.'s line, 8.46 miles.

**Canadian Northern Ry.**—Considerable improvements are to be made at the company's shops at Winnipeg during the coming season. These include the erection of a new carpenters' shop to cost \$25,000, and some smaller additions to existing buildings.

A contract is reported let to S. Brown, Winnipeg, for the erection of new freight sheds at Saskatoon, Sask., at a cost of about \$20,000. Some improvements and additions are, it is said, also to be made to the local shops.

In connection with the construction of a line into the Brazeau coal district, a Strathcona, Alta., report says it will be built during the summer.

**Edmonton and Slave Lake Ry.**—Application is being made to the Dominion Parliament for an Act extending the time within which the company may construct its authorized line from Edmonton, via Athabasca Landing and Lesser Slave Lake, to Peace River, about 400 miles. (Feb., pg. 113.)

VICE-PRESIDENT MANN IN BRITISH COLUMBIA.

D. D. Mann, Vice-President Canadian Northern Ry., who was the principal guest at a Canadian Club luncheon at Victoria recently, said, in the course of a speech: "The great wealth of these extensive western provinces unquestionably is to be found in the products of the soil, of the mine, of the forest, and of the orchard; and it is and will be through the free and unfettered interchange of traffic in all these immensely rich and valuable products between the different sections of this great western country that we can in the best possible manner contribute to the complete development of Canada, as a whole, and to the full and permanent accomplishment of its brilliant future. This can only be brought about through the building of great lines of railway, which shall penetrate into every available portion of this country, running from the east to the west. It is our own particular ambition to construct our own railway from the shores of the Atlantic to the Pacific coast, and with this important end in

view, I have paid this visit to your city and called upon the Premier of this province with the view of seeking such assistance from the Provincial Government as will enable us and at no distant date to build our transcontinental road right down through your province, until it reaches tide-water. While nothing of a definite character has as yet in this relation been arranged, I am glad to be able to state that we have already received some encouragement; while I am in a position to assure you that if the necessary aid is granted we will positively construct our line to the coast.

"The C.N.R. has at present 3,450 miles of its road completed and in full operation between the Great Lakes and the foothills of the Rockies, while we intend to complete 2,000 additional miles in the near future. We have secured assistance towards the execution of our undertakings, both from the Dominion and Provincial Governments, which has not only ensured speedy construction, but has also enabled us to secure the required capital at the lowest possible rates. Of all the bond guarantees which we have received during the last 12 or 15 years, no contributing government has ever yet been called upon to pay a single dollar. These railways, which we are building over the prairies in the northwestern provinces, will, moreover, not only reach every competitive point, as well as every city and town within the limits of those provinces, but will also minister to the needs and to the convenience of at least 75% of the entire population of those prairie provinces, while during this coming year, when our lines are farther advanced towards completion, a great field and a vast home market will be opened for the splendid and varied products of your forests, of your mines, of your fisheries and of your orchards.

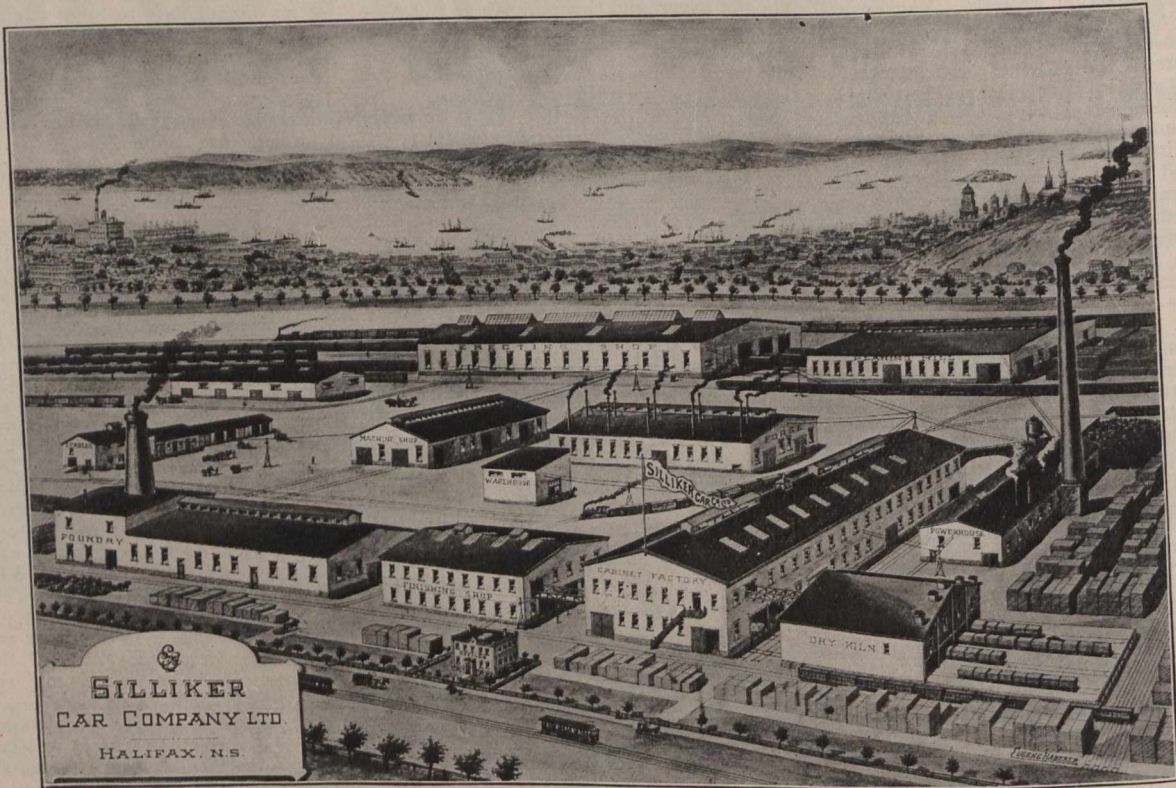
"In 1886, when the C.P.R. was finished, there were only 157,000 people, all told, settled in that fertile and wonderful stretch of country which lies between the shores of the Great Lakes and the Rocky Mountains; while now over 1,000,000 souls occupy that same territory. During the last 7 years 142,000 settlers have annually come into those rich and inviting tracts; and taking up homesteads upon these plains have become permanent and useful settlers, a great movement of population which has been largely and directly connected with the opening up of the Saskatchewan Valley and the steady construction of the C.N.R. And when we turn our attention to, and extend our proposed transcontinental line down through your beautiful province to the coast, which I hope will be done at a very early date, it is also our intention to build branch lines to your many fertile valleys, where white men with their families will settle and become permanent citizens of this great commonwealth. This province gives every reasonable promise of becoming, at a very early date, one of the greatest, if not the very greatest, among all the provinces of the Dominion, an opinion and a forecast which are amply justified by the many and most important natural resources that you possess in your minerals, in your fruits, in your vast forests and in your fisheries, conjoined with the important markets which are open to your occupancy, the rapidly expanding market upon the plains of the northwestern provinces, as well as your easily accessible foreign markets. In view of all these facts we may with much confidence regard the future of the province of British Columbia as assured and beyond all question."

The I.C.R. employes at the Moncton, N.B., shops, are said to have demanded the continuance of the present short time day, viz., 8 hours, but with pay for the full day of 10 hours. It is said that the ex-Minister of Railways, Hon. H. R. Emmerson, has promised to support this demand.



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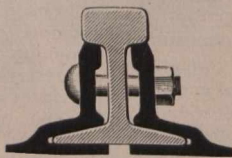
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has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

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in use



Rolled  
from Best  
Quality  
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Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

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## TRADE AND SUPPLY NOTES.

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

F. H. Hopkins & Co., and Mussels Limited, Montreal, have issued large wall calendars for the current year.

The Rail Joint Co. of Canada, Montreal, has issued its catalogue 3, giving illustrated particulars of its rail joints for standard, girder and special rail sections, also step or compromise and insulating rail joints.

The New South Wales Government is reported by a Canadian Associated Press cable to have expressed particular satisfaction with the quality of steel rails imported recently from the Dominion Iron and Steel Co., Sydney, N.S.

Thos. Reid, who has been sales manager for the John Bertram & Sons Co., Ltd., for a number of years, has moved his headquarters from Dundas, Ont., to Montreal, where he will be associated with the Canadian Fairbanks Co., Ltd., the Bertram Co.'s general sales agents.

The Farlow Draft Gear Co., Baltimore, Md., advise that during the past month following rolling stock: 1,500 Virginian Ry. 1,350 Western Md. Ry. 750 Seaboard Air Line Ry. 200 Nashville, Chattanooga and St. Louis Ry. 200 Swift Refrigerator Transit Co.

The Canadian Westinghouse Co., Ltd., has issued instruction book no. 5026, containing instructions for repairing and re-winding Westinghouse railway type armatures; also circular 1148 relating to mercury rectifier battery charging outfits; 1158, relating to electric motor friction brakes, and an illustrated catalogue of fans and fans-motors.

The Ontario Wind Engine and Pump Co., manufacturers of gravity molding machines, have sold one large power machine to the G.T.R. Montreal shops, also one to Reid & Brown, foundrymen, Toronto. The C.P.R. is also installing one at Winnipeg. The Ontario Wind Engine & Pump Co. has also sold two Parks molding machines to Canadian foundrymen.

Robert W. Hunt & Co., consulting and inspecting engineers, have engaged the services of John Cargill, who will make his headquarters at the firm's New York office, 40 West St., and will largely devote his attention to examinations and reports upon railway and other corporate properties, for which his experience gained while connected with the Pennsylvania Lines, British Westinghouse, Metropolitan Railway Co., of London, Eng., and other organizations, has prepared him.

The Canadian Fairbanks Co. has issued a novel map-calendar for 1909 and 1910, which is of great value to anyone in any way interested in railways. Its size is 48 by 36 inches. The upper half is devoted to a map showing all the steam railways in the Dominion, in distinctive colors, separate colors being used for the larger systems, and a uniform one for the smaller lines. This map is undoubtedly the best one of Canadian railways which has been issued as far as showing the lines distinctively is concerned. The lower half is occupied by the calendar, six months to a sheet, while underneath is an alphabetical index to railway stations with a ready reference to the sections of the map on which they are to be found.

The B. Greening Wire Co., Ltd., Hamilton, Ont., has made a number of additions to its buildings and plant in the last 18 months. The new weaving mill, which is probably one of the best structures of its kind in Canada, is 260 by 130 ft. At the end is a temporary enclosure, which will be removed, and further extensions made, as soon as trade warrants it. The building is devoted entirely to wire weaving machinery, and contains a number of ponderous looms, some of them over 15 tons in weight, for making heavy smokestack netting, mining screens, etc., as wide as 72 inches. Fast running smaller looms make meshes as fine as no. 70 of brass wire for sleeping car ventilators. Among the other buildings are the wire mill, cleaning house, with a capacity of 50 tons a day, and the carpenter shop, which is isolated from the other buildings, the increased yard room being used for the different kinds of lumber. Among the other features of this industry are wire rope spinning, wire drawing and galvanizing, poultry netting twisting machines, presses for perforating all kinds of metals, for all purposes; automatic wire chain machines for making Greening's chains, etc. These processes are carried on in the older buildings.

## Train Dispatching by Telephone.

We are advised by a G.T.R. official that in common with other railways, the management is giving consideration to developments in the use of the telephone in dispatching trains, but has not yet reached any conclusion.

Assistant Superintendent Nixon, G.T.R., London, is reported to have said in a recent interview: "A year's trial of the telephone as a means of dispatching trains has proved its practicability; railway telegraph men recognize that the day of the ticker is past so far as they are concerned, they are prepared to hasten the change all over the continent. The system will be adopted by the G.T.R. as soon as practicable. The adoption of the system will not in any way reduce the number of operators required, but will give the railway a much quicker and fully as efficient a system of operating."

W. J. Camp, Electrical Engineer C.P.R. Telegraphs, said recently: "In Dec., 1907, the first installation of the telephone was made on the New York Central Rd. over a small stretch between New York and Fonda; to-day the new system extends over 4,900 miles; and by the end of another year it will cover 15,000 miles of track in the U.S. and Canada. In Canada the C.P.R. took the initiative in the matter and, in the latter part of June, put in the first installation in the country between Montreal and Farnham. Last summer, I predicted that another ten years would see the telephone used exclusively for train dispatching. Now some railway telegraph superintendents shorten this term to five years. I think that period too short, however, as the cost of installation and operation of the telephone over the telegraph is so much greater that the smaller side lines will be slower in adopting it. However, our experience is that the greater speed which may be secured in transmitting messages fully warrants the additional expense.

The Great Northern Ry., U.S., has the system in operation on 203 miles; is installing it on a further distance of 238.8 miles, and is considering its extension on the remaining 944.2 miles of its line.

The Minister of Railways stated in the House of Commons, Feb. 9, that all railway charters granted this session are to be made subject to the policy to be adopted in regard to level crossings.

## National Transcontinental Railway.

The estimates submitted to the House of Commons provide for \$20,000,000 for account of surveys and construction on the National Transcontinental Ry. during the ensuing financial year.

In connection with the question of classification of work it was stated in the Commons, Jan. 27, that C. Schreiber, Consulting Engineer of the Railway Department, had been agreed upon by the Chief Engineer of the National Transcontinental Ry., and the Chief Engineer of the G.T. Pacific Ry., as arbitrator.

Reports as to construction in New Brunswick show that with the exception of a mile or two, the right-of-way for the 255 miles through the province is all cleared. A good deal of grading has been done, and several sections of track have been laid. It is intended to lay out a division yard at Lake Napaddogan, 118 miles from Moncton, and 137 miles from the Quebec boundary.

An arrangement has been made between the G.T. Pacific Ry. and Foley, Welch and Stewart, by which the latter has taken over and will complete the contract for a section of 150 miles in the vicinity of the Abitibi River, which the G.T. Pacific Ry. sublet to the J. H. Reynolds Construction Co.

Tenders will be received to Mar. 19, for the construction and erection complete, of shops a short distance east of Winnipeg.

## GRAND TRUNK PACIFIC RY.

The Dominion Parliament is being asked to approve an agreement made Dec. 1, 1908, between the C.P.R. and the G.T. Pacific Ry. for terminals, etc., at Fort William, Ont. The agreement provides for the use by the G.T.P.R. of certain sections of the C.P.R., within Fort William, to connect the lines of the two companies, for 999 years; and for the use by the C.P.R. of certain sections of the G.T.P.R. within Fort William. The agreement fixes the terms which each company is to pay for the use of the sections, which are denominated joint sections, such terms being calculated upon a percentage of the cost. The schedule attached to the agreement sets out in detail the boundaries of the area within which the joint sections are situated.

Another bill before the Dominion Parliament affects the subsidy payable by the Ontario Government in respect of the construction of the Lake Superior branch. The agreement provides that the company shall not grant any secret special rates or rebates; that road material for the municipalities of the Provincial Government shall be carried at actual cost of handling; that no agreement for the lease or transfer of the line to any other company shall be made without the consent of the Provincial Government, and that if the Dominion Government shall at any time take over the line, the company shall pay over the amount of the cash subsidy, and the amount or value of the land grant given by the province. The bill is being held back at the instance of the Minister of Railways.

Press reports from Winnipeg stated recently that the company was making preparations to erect a 12-story office building there. We are officially advised that there is no truth in the report. Accommodation for the company's offices is to be provided in the Fort Garry station now under construction.

A third bill before Parliament is for the purpose of ratifying an agreement signed June 6, 1908, between the G.T.P.R. and the Midland Ry. of Manitoba, for the purpose of constructing a union station and other joint facilities in Portage la Prairie, Man. The station and freight shed are being erected by the G.T.P.R., and the use of the facilities will be granted to the Midland Ry. upon terms set out in the act.



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Negotiations are reported to be in progress with the Dominion Government for the purchase of a tract of land at the foot of Eighth Ave., Calgary, Alta., to be used jointly with the Canadian Northern Ry. for a union station.

In connection with the construction of lines in British Columbia, it is said that a proposition has been submitted to the B.C. Government by D'Arcy Tate, Assistant Solicitor, on behalf of the G.T.P. Ry., for the construction of a line from Fort George to Vancouver. The suggestion is that the Government guarantee the bonds of the company in respect of the construction of this line.

It is reported that the company has ready for sending on to Prince Rupert six locomotives, some passenger cars, and 150 freight cars. These, it is expected, will be placed in operation early in the summer upon the completed portion of the first 100 miles of line easterly from Prince Rupert. The company's agent at Prince Rupert stated Feb. 8 that a warehouse 300 ft. long would be constructed immediately on the wharf there to meet immediate requirements.

**Grand Trunk Pacific Branch Lines.**—The Dominion Parliament is being asked for an act authorizing the company to construct the following additional lines: (1) From the G.T.P.R. main line west of Pembina Crossing, Alta., southwesterly to the Embarras River, and thence southerly to the headquarters of the Little Pembina River, about 100 miles. (2) From the G.T.P.R. along the Embarras River southeasterly towards the McLeod River, 25 miles. (3) From the authorized line between Calgary and Coutts southwesterly to Macleod, thence through or in the vicinity of Pincher Creek to the western boundary of Alberta, about 100 miles. Power is also being asked to issue securities to the amount of \$30,000 a mile.

Application is being made to the Dominion Parliament for an act authorizing the company to enter into an agreement with the Alberta South Western Ry. for any of the purposes mentioned in sec. 361 of the Railway Act, and authorizing the G.T.P.R. Co. to guarantee the bonds, debentures or other securities of the G.T.P. Branch Lines Co., issued in respect of the Alberta South Western Ry., and to declare the A.S.W.R. to be a work for the general advantage of Canada.

**Alberta South Western Ry.**—Application is being made to the Alberta Legislature for an act incorporating a company with this title for the purpose of constructing a railway from the G.T.P.R. branch line between Calgary and Lethbridge, such point being northwesterly from Macleod, to or near Macleod, and westerly from, at, or near, Macleod, and thence westward to the western boundary of the province, about 100 miles. M. Mackenzie, representing Macleod in the Legislature, stated that the application was on behalf of the G.T.P. Ry. (Feb., pg. 123.)

The Toronto Board of Control received tenders to Feb. 23 for the construction of a transportation building on the Industrial Exhibition grounds.

Referring to the nuisance caused by locomotive smoke within the city of Toronto, Property Commissioner Harris said, Feb. 16: "The railway companies are showing a commendable desire to prevent the smoke nuisance along the Esplanade. Conditions have changed recently, and more care is taken in firing up. They have also issued an order draft to get the fire burning quickly. The railway companies are in earnest in the matter, and have suspended some of the firemen for violating the rules they have issued to prevent the smoke nuisance."

**Canadian Northern Ry. Earnings, etc.**

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July..	\$728,500	\$525,600	\$202,900	\$159,000-
Aug..	747,400	561,300	186,100	30,400-
Sept..	901,700	650,600	251,100	42,000+
Oct..	1,172,700	752,600	420,100	110,200+
Nov..	1,156,900	744,300	412,600	144,300+
Dec..	927,900	642,800	285,100	42,400+
	\$5,635,100	\$3,877,200	\$1,757,900	\$149,500+
Inc. or Dec.	\$ 126,800	\$ 84,400	\$ 42,400	.....

Approximate earnings for Jan. \$26,200, and for 2 weeks ended Feb. 14, \$240,500, against \$578,200 and \$227,100 for same periods 1908.

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

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
J'ly	\$6,292,880.82	\$4,018,307.57	\$2,274,573.25	\$232,279.41-
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58-
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93-
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86-
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
	\$40,711,657.71	\$26,670,480.35	\$14,041,177.36	\$380,845.23-
Inc. or Dec.	\$ 143,838.36	\$ 216,006.87	\$ 389,845.23	.....

Approximate earnings for Jan. \$4,711,000, and for 2 weeks ended Feb. 14, \$2,292,000, against \$4,458,000 and \$1,742,000 for same periods 1908.

Mileage operated 9,844 miles.

**DULUTH, SOUTH SHORE AND ATLANTIC RY.**—Gross earnings for Dec., 1908, \$223,245.92; expenses, \$163,336.86; net earnings, \$59,909.06, against \$217,947.08 gross earnings; \$173,542.67 expenses; \$44,404.41 net earnings for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, \$1,451,345.27; expenses, \$987,261.74; net earnings, \$464,083.53, against \$1,781,249.47 gross earnings; \$1,277,834.00 expenses; \$503,415.47 net earnings for same period 1907. Approximate earnings for Jan., \$196,058, and for 2 weeks ended Feb. 14, \$96,842, against \$200,111 and \$85,840 for same periods 1908.

**MINERAL RANGE RD.**—Gross earnings for Dec., 1908, \$65,367.30; expenses, \$54,928.14; net earnings, \$10,439.16, against \$61,499.60 gross earnings; \$53,176.72 expenses; \$8,322.97 net earnings for Dec., 1908. Gross earnings for 6 months ended Dec. 31, 1908, \$429,380.11; expenses, \$339,906.91; net earnings, \$89,473.20, against \$423,663.12

gross earnings; \$335,752.05 expenses; \$87,911.07 net earnings for same period 1907. Approximate earnings for Jan., \$61,660, and for 2 weeks ended Feb. 14, \$31,162, against \$58,794 and \$25,626 for similar periods 1908.

**MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.**—Gross earnings for Dec., 1908, \$930,472.10; expenses, \$565,896.73; net earnings, \$364,575.37, against \$1,081,117.73 gross earnings; \$569,248.33 expenses; \$511,869.40 net earnings for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, \$7,038,800.16; expenses, \$3,653,605.09; net earnings, \$3,385,195.07, against \$6,773,878.65 gross earnings; \$3,945,622.89 expenses; \$2,828,255.76 net earnings for same period 1907. Approximate earnings for Jan., \$762,360, and for 2 weeks ended Feb. 14, \$371,753, against \$697,283 and \$282,004 for same periods 1908.

**Grand Trunk Ry. Earnings, Expenses, etc.**

Subject to audit, the accounts for the half-year ended Dec. 31, 1908, show the following results:

Gross receipts	£3,382,800
Working expenses	2,422,400
Net receipts	£ 960,400
Net revenue charges for the half-year, less credits	478,700
Balance	£ 481,700
Deduct Canada Atlantic Ry. deficiency for the half-year	£43,400
Less, Detroit, Grand Haven and Milwaukee surplus for the half-year	3,100
Surplus	£441,400

This surplus of £441,400 added to the balance of £1,600 from June, 1908, makes a total amount of £443,000 available for dividend, which will admit of the payment of the dividend for the half-year on the 4% guaranteed stock, the full dividend of 5% for the year on the first preference stock, and a dividend of 2½% for the year on the second preference stock, leaving a balance of about £12,000 to be carried forward.

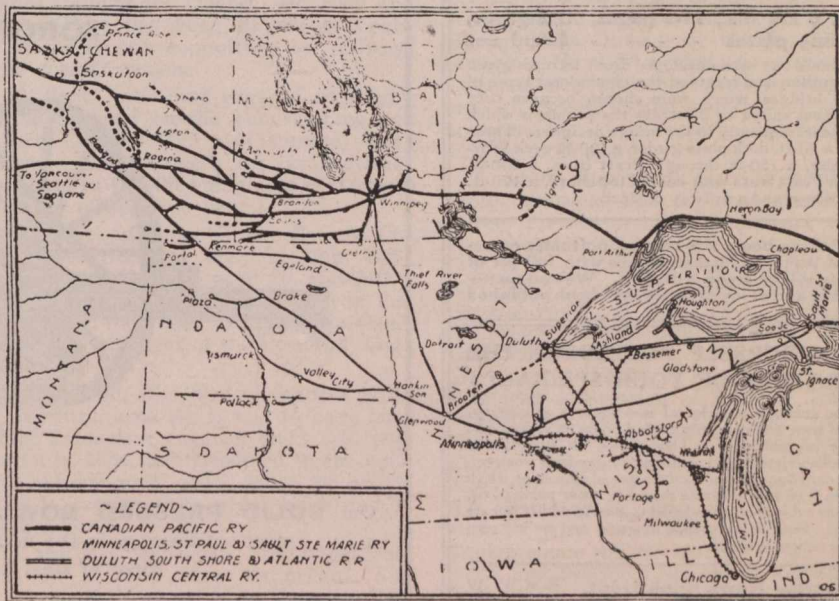
The accounts of the G.T. Western Ry. for the half-year show a surplus of £24,300, which amount is carried forward to the current half-year.

Approximate earnings for Jan., \$2,640,416, and for 2 weeks ended Feb. 14, \$1,235,220, against \$2,768,444 and \$1,005,226 for same periods 1908.

Mileage operated, 2,874.

**TRAFFIC RECEIPTS OF THE SYSTEM.**

Aggregate from Jan. 1:	1909.	1908.	Increase.	Decrease.
Grand Trunk	£408,948	£428,289	.....	£19,341
Canada Atlantic	23,220	25,126	.....	1,906
G. T. Western	85,556	86,113	.....	557
D., G. H. & M.	24,827	29,331	.....	4,504
Total	£542,551	£568,859	.....	£26,308



**The Wisconsin Central Railway and Its Connections.**

The above map, which is reproduced from the Railway and Engineering Review, shows the Wisconsin Central Ry. and its connection with the Minneapolis, St. Paul and Sault Ste. Marie Ry., by which it has been practically acquired, also the Duluth, South Shore and Atlantic Ry., another C.P.R. subsidiary, and the C.P.R. lines in Northwest Ontario, Manitoba and Saskatchewan.

The President of the W. C. R. has announced that plans to shorten the main line between Chicago, Minneapolis and St. Paul are under consideration. The plans are said to involve a cut off from Mukwonago, Wis., to Grand Rapids, 135 miles, and from Spencer, Wis., to Owen, 15 miles. These, it is stated, would reduce the distance between Chicago and St. Paul by 45 miles.



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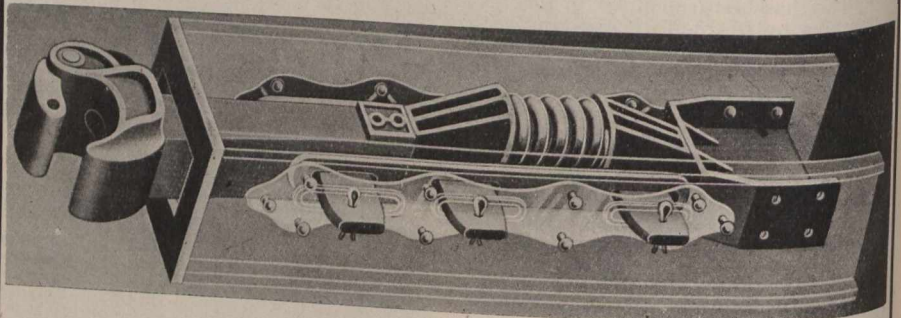
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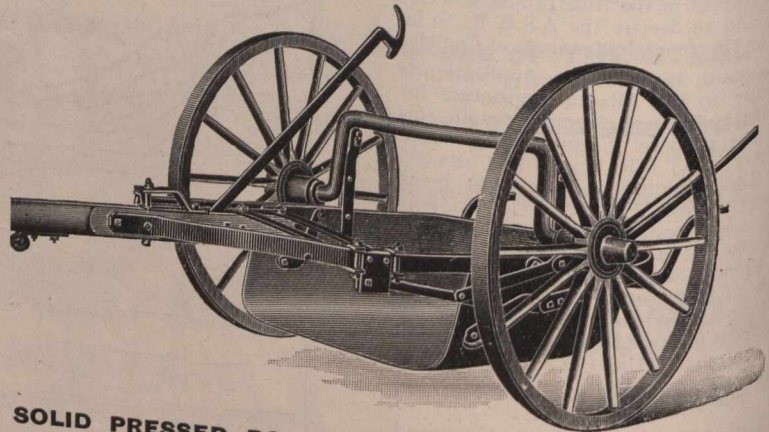
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## MAINLY ABOUT PEOPLE.

C. R. Hosmer, director C.P.R., has been elected a director of the Dominion Textile Co.

Sir Wm. Van Horne sailed from New York, Feb. 1, on a visit to Cuba, and returned Feb. 22.

Lord Strathcona has given \$5,000 to the University College Hospital, Gower St., London, Eng.

C. Strong, for some years Michigan Central Rd. Agent at Perry, Ont., died there Jan. 29, aged 33.

Sir Thos. G. Shaughnessy is reported to have bought three stores on St. James St., Montreal, for \$15,000.

Hon. L. J. Forget, President Montreal St. Ry., with his family, sailed from New York, Feb. 3, for the Mediterranean.

Miss Maud Angus, daughter of R. B. Angus, C.P.R. director, was married to Dr. W. W. Chipman, at Montreal, Feb. 15.

A. M. Nanton, Managing Director Alberta Ry. and Irrigation Co., has been elected first President of Winnipeg Stock Exchange.

A. S. McAllister, Secretary of the Point St. Charles Railway Y.M.C.A., has been transferred to a similar position at Kenora, Ont.

J. W. Leonard, General Manager C.P.R. Eastern Lines, remained at Preston Springs, Ont., during February, on account of ill-health.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, who has been seriously ill with pneumonia, was reported, Feb. 25, to be progressing favorably.

T. J. Drummond, Montreal, Vice-President Lake Superior Corporation, has been elected a director of the Royal Bank of Canada.

E. F. Osler, eldest son of E. B. Osler, M.P., a C.P.R. director, was married in Toronto, Feb. 16, to Miss N. J. H. Kerr, daughter of Hon. J. K. Kerr.

Sir H. Montagu Allan is suing the city of Montreal for \$4,603, damage sustained to walls surrounding his house, caused by leakage from the high level reservoir.

I. McMichael, Vice-President and General Manager Great North Western Telegraph Co., Toronto, is spending a holiday in Florida, where he owns an orange grove.

Arthur Fletcher, a C.P.R. ex-employee, is reported by a Winnipeg press despatch to have inherited £500,000 through the death of an uncle in New South Wales.

Senator W. Gibson, Beamsville, Ont., railway and general contractor, has been appointed chairman of the Senate committee on banking for the current session.

Probate of the will of the late W. Beckett Hill, Managing Director Allan Steamship Co., was recently granted in Liverpool, Eng. The estate was valued at about £24,254.

S. B. Mitchell, Agent C.P.R. at Taber, Alta., was presented with a gold watch, fob and charm, Feb. 10, by the townspeople, on his removal to a similar position at Lethbridge, Alta.

W. Gell, Master Mechanic, G.T.P.R., at Rivers, Sask., was operated on at St. Joseph's Hospital, London, Ont., early in Jan., and was reported, Feb. 22, to be progressing favorably.

R. Campbell, who was for some time Manager of the Inverness Ry. and Coal Co. in Nova Scotia, has been appointed General Manager of the Northern Crown Bank, Winnipeg.

J. E. Quick, General Baggage Agent G.T.R., Toronto, has been re-elected Secretary-Treasurer of the American Association of General Baggage Agents for the 25th consecutive year.

Owen McKay, Chief Engineer Essex Terminal Ry., Windsor, Ont., was a mem-

ber of the board of examiners for certificates of land surveyors for Ontario, sitting at Toronto in Feb.

Major R. W. Leonard, C.E., St. Catharines, Ont., who was engineer in charge of construction of the Cape Breton Ry., is now President and General Manager of the Coniagas Mines, Cobalt.

James Brown, at one time locomotive foreman G.T.R., at Hamilton, Ont., died there recently, aged 83. He was in the employ of the G.W.R. and G.T.R. for over 30 years, and retired about 20 years ago.

H. G. Elliott, Assistant General Passenger and Ticket Agent G.T.R., Montreal, has been elected President of the Province of Quebec Fish and Game Protective Association for the current year.

M. K. Cowan, K.C., Assistant Solicitor G.T.R., has recovered from the illness which prevented his appearing at the recent sittings of the Board of Railway Commissioners at Toronto, at the end of Jan.

R. J. Smith, chief ticket clerk C.P.R. Passenger Department, Montreal, has been appointed as the Eastern Canadian Passenger Agents' Association's representative on the Inter-territorial Ticket Committee.

G. W. Stephens, Chairman of the Montreal Harbor Commission, was, it is announced, married in London, Eng., Feb. 24, to Signorita Bisacchi di Belmente, of Naples, Italy, whom he met while abroad during 1908.

T. H. White, C.E., formerly Chief Engineer of Construction Mackenzie, Mann & Co.'s eastern lines, and Mrs. White, who have spent over a year in travelling in Europe and Africa, have returned to Toronto.

Three men were arrested on Queen St., Toronto, Jan. 27, for having stolen an automobile from the residence of D. D. Mann, Vice-President Canadian Northern Ry. The arrest was made within an hour after the machine was missed.

Senator Beique, who acted for the Delaware and Hudson Co. in the purchase of the lines forming the Quebec, Montreal and Southern Ry., has been appointed chairman of the Senate committee on railways for the current session.

T. F. Scott, who was engaged as a construction engineer on the Temiskaming and Northern Ontario Ry. at Cochrane, Ont., has been recommended for appointment as assistant to the City Engineer of Toronto at a salary of \$3,250 a year.

John Starr, of John Starr, Son & Co., electrical contractors, etc., Halifax, N.S., who died there Feb. 15, aged 80, was father of D. A. Starr, General Manager Clyde Valley Electric Power Co., Glasgow, Scotland, and formerly Manager of the Cornwall, Ont., Electric Ry.

R. Whitehead, who died at Smith's Falls, Ont., recently, aged 80, is said to have been the first locomotive engineer on G.T.R. construction in 1854, and remained in the company's service until 1876, when he joined the C.P.R. service, from which he retired on pension a few years ago.

Wm. and Mrs. Mackenzie, Miss Ethel Mackenzie, A. M. and Mrs. Grantham, and Z. A. Lash, K.C., returned to Toronto, Feb. 24, after about three weeks' absence, during which they visited Monterey, Mexico, and Mexico City. The party travelled in Mr. Mackenzie's private car Atikokan.

J. Duguid, who has been appointed General Foreman G.T.R. shops, Toronto, was presented with a gold watch, Feb. 20, by the employes of the machine and erecting shops, Stratford, Ont., on his leaving there to assume his new duties. At the same time Mrs. Duguid was presented with a silver tea service.

T. Henry, W. Stitt and G. T. Bell have been appointed to represent the Eastern Canadian Passenger Association to confer with other passenger associations respecting arrangements for the sale of variable route summer tourist tickets from south-eastern territory to resorts north of the Ohio and Potomac Rivers.

The late H. C. Hammond's will, which has been filed in Toronto for probate, disposes of an estate valued at \$1,205,944.91. Amongst the public bequests are: The Toronto Free Hospital for Consumptives, \$20,000; Sick Children's Hospital, \$5,000; Home for Incurables, Toronto, \$5,000; Children's Aid Society of Toronto, \$3,000.

Lord Mount-Whyte, who has been living on the big estate in Scotland which he bought from Andrew Carnegie, is now spoken of as the next Governor-General of Canada. The choice old ex-Canadian says he will only accept the exalted position on one condition, and that is that his official duties must not be allowed to interfere with his annual shooting holiday in the west every autumn.—"Ten Years Hence," Winnipeg Tribune.

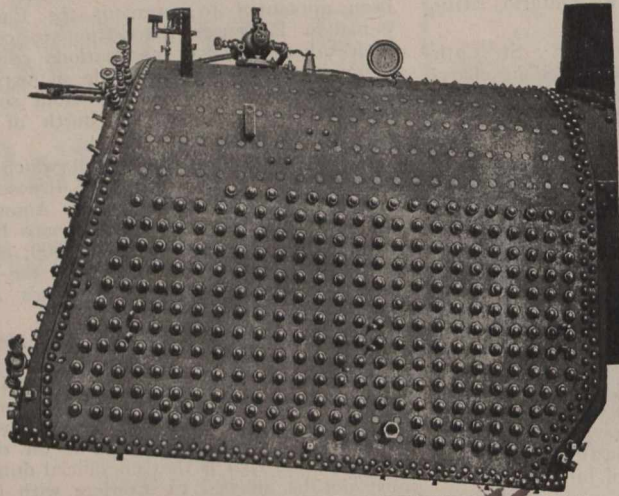
E. N. Todd, whose appointment as Export Freight Agent, C.P.R., Montreal, was announced in our Jan. issue, was born at Huntington, Que., Oct. 17, 1879; and entered C.P.R. service May, 1896, as junior clerk, Foreign Freight Department, Montreal, since when he has been: June, 1899, to May, 1900, chief import clerk, same department; May, 1900, to Aug., 1901, in service with the Franco-Canadian Steamship Line; Aug., 1901, to 1904, chief correspondence clerk, Foreign Freight Department, C.P.R., Montreal; 1904 to Jan., 1909, Export and Import Freight Agent, C.P.R., Toronto.

T. Lowry, President of the Minneapolis, St. Paul and Sault Ste. Marie Ry., died at Minneapolis, Minn., Feb. 4, after several months' illness. He was born in southern Illinois, Feb. 27, 1843, and entered railway service in 1886, as a director of the Minneapolis, Sault Ste. Marie and Atlantic Ry. He was elected President of the M., St. P. and S.S.M. Ry. in 1889, and again in July, 1891. In referring to Mr. Lowry's death, Sir Thos. G. Shaughnessy, President C.P.R., said, recently: "He was recognized as one of the foremost men in the northwestern States. He was an energetic and enterprising business man, and was of the type that the world finds it difficult to spare."

A unique dinner took place at the Windsor Hotel, Montreal, Feb. 12, those present being: Seven Presidents of international associations residing in Montreal, viz., G. T. Bell, G.P. & T.A., Grand Trunk and G.T. Pacific Rys., and President American Association General Passenger and Ticket Agents; J. H. Callaghan, General Storekeeper C.P.R., and President Railway Storekeepers' Association; W. J. Camp, Electrical Engineer C.P.R., and President Association of Railway Telegraph Superintendents; C. H. Gould, Librarian McGill University and President American Library Association; W. McNab, Principal Assistant Engineer G.T.R., and President American Railway Engineering and Maintenance of Way Association; J. Powell, chief draughtsman G.T.R. Motive Power Department, and President Society of Railway Club Secretaries; and H. H. Vaughan, Assistant to Vice-President C.P.R., and President American Railway Master Mechanics' Association.

Press reports state that a scheme is under consideration to inaugurate a company to operate a line of airships between Ottawa and Montreal. M. D. Baldwin, Montreal, is said to be interested in the project, which, if it may be considered at all seriously, may be said to be "in the air." In the meantime no serious fluctuations of railway stock quotations have been noted.





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Babbit Metal, Valves, Steam-cocks, Gauges, Washers, Waste, Packing of all kinds, Car Bits, Braces, Angle Braces, Augers. All kinds of Carpenters' Tools, Machinists' Tools, Lathe Tools, Drills, Wrenches, etc.

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**RICE LEWIS & SON, LTD., TORONTO**

**THE ALGOMA STEEL CO., LIMITED**

SAULT STE. MARIE, ONTARIO

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ORDERS FOR

**STEEL RAILS**

FOR DELIVERY DURING  
THE SEASON OF 1909

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**DRUMMOND, McCALL & CO.**  
GENERAL SALES AGENTS



**Railway Rolling Stock Notes.**

The Minneapolis, St. Paul and Sault Ste. Marie Ry. has ordered 4 locomotives for early delivery.

Rhodes, Curry & Co., Ltd., Amherst, N.S., between Jan. 15 and Feb. 15, delivered 30 box cars, 60,000 lbs. capacity, to the G.T. Pacific Ry.

The Temiskaming and Northern Ontario Ry. has ordered 2 switching locomotives from the Canadian Locomotive Co., Kingston, Ont., for delivery before July 31.

The House of Commons is being asked to vote \$170,550 for additional rolling stock, and \$95,800 for providing new machinery for locomotive and car shops, for the Intercolonial Ry.

The G.T. Pacific Ry., between Jan. 15 and Feb. 15, received the following additions to rolling stock: 200 box cars, nos. 308150 to 308349, and 6 first-class cars, nos. 2010 to 2015.

The G.T.R. is utilizing the steam locomotives which were in use in the St. Clair tunnel prior to its electrification, one of which was illustrated in our Feb. issue, for switching purposes.

The C.N.R., between Jan. 15 and Feb. 15, ordered the following rolling stock: 4 first-class cars, 2 second-class cars and 2 combination passenger and baggage cars, from the Silliker Car Co., Halifax, N.S.

J. J. Gartshore, Toronto, has sold two standard gauge saddle tank locomotives recently, one to the Tomiko Lumber Co., Tomiko, Ont., and one to the Standard Chemical Co. for its new works at Fassett, Que.

The I.C.R. between Jan. 14 and Feb. 16 has ordered the following rolling stock: 2 baggage cars from the Preston Car and Coach Co., Ltd., Preston, Ont., and 3 baggage cars from the Crossen Car Co., Cobourg, Ont.

The Crossen Car Mfg. Co., Cobourg, Ont., delivered between Jan. 13 and Feb. 13, 3 second-class sleeping cars to the Intercolonial Ry., 8 cabooses and one private car, named Athabasca, to the Canadian Northern Ry.

The C.N.R., between Jan. 15 and Feb. 15, received the following additions to rolling stock: 8 cabooses from the Crossen Car Mfg. Co., Cobourg, Ont., and 6 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont.

The C.P.R. between Jan. 12 and Feb. 13 received the following additions to rolling stock: 318 box cars, 2 snow plows, 2 Pacific type locomotives from its Angus, Montreal, shops; 8 vans from its Farnham, Que., shops, and 80 steel frame box cars from the Dominion Car and Foundry Co., Montreal.

The C.P.R. between Jan. 12 and Feb. 13 placed the following orders for rolling stock: 151 box cars, 1 box baggage car, 1 stock car, 1 steel coal car, 1 Hart-Otis ballast car, at its Angus, Montreal, shops; 7 vans at its Farnham, Que., shops; and 30 Pacific type locomotives at the Montreal Locomotive Works, particulars of which were given in our Feb. issue.

The G.T. Pacific Ry., between Jan. 15 and Feb. 15, placed orders as follows: 10 colonist cars, nos. 3005 to 3014; 5 parlor cafe cars, nos. 3900 to 3904; 16 first-class cars, nos. 2018 to 2033; 8 second class cars, nos. 1010 to 1017; 3 dining cars, nos. 4000 to 4002; 8 sleeping cars, to be named, with the Canada Car Co., Montreal, and 25 eight-wheeled locomotives (details of which were given in our Feb. issue) with the Montreal Locomotive Works.

Following are chief particulars of the Pacific type locomotive, class G2d, which

the C.P.R. is building at its Angus, Montreal, shops, as mentioned in our Jan. issue:

Weight on drivers	136,000 lbs.
Total weight	215,000 lbs.
Cylinders	21" by 28"
Drivers, diam.	69"
Boiler, type	wagon top, radial stayed
pressure	200 lbs.
Heating surface	2,952 sq. ft.
Tubes, no. and diam.	193-2 1/2", 22-5"
length	19' 6"
Firebox	94 3/8" by 70"
material	Otis steel
Grate area	45' 6"
Capacity, water	5,000 Imp. gals.
coal	10 tons
Axles	Krupp steel
Brake beams	Simplex trussed
shoes	C.P.R. standard
Couplers	Tower
Headlight	Pyle National Electric
Journal bearings	Canadian bronze
Sight feed lubricators	Detroit
Steam heat equipment	Gold
Tires	Krupp crucible
Wheel centres	cast steel
Superheater	Vaughan-Horsey

**Highway and Farm Crossings Regulations.**

The general regulations affecting highway crossings have been amended by the Board of Railway Commissioners as follows:

1. That unless otherwise ordered by the Board, the width of approaches to rural railway crossings over highways be 20 ft. road surface on concession and main roads, and sixteen feet on side and bush roads.

2. That a strong, substantial fence or railing, 4 1/2 ft., with a good post-cap 4 x 4 inches, a middle piece of timber (1 1/2 by 6 inches), and a 10-inch board firmly nailed to the bottom of the posts to prevent snow from blowing off the elevated roadway, be constructed on each side of every approach to a rural railway crossing, where the height is 6 ft. or more above the level of the adjacent ground, leaving always a clear road surface 20 ft. wide.

3. That the width of approaches to rural railway crossings made in cuttings be not less than 20 ft. clear from bank to bank.

4. That, unless otherwise ordered by the Board, the planking or paving blocks or broken stone, topped with crushed rock screenings, on rural railway crossings over highways (between the rails and for a width of at least 8 ins. on the outer sides thereof), be 20 ft. long on concession and main roads, and 16 ft. on side and bush roads.

**REMOVAL OF PLANKING FROM CROSSINGS.**

The Board of Railway Commissioners passed the following order 6255, Feb. 10: In the matter of the practice of certain railway companies of removing the planking at highway and farm crossings during the winter months; and in the matter of secs. 30, 235 and 253 of the Railway Act; upon the report and recommendation of the Chief Engineer of the Board, it is ordered:

1. That every railway company subject to the Board's jurisdiction be forbidden to remove the planking from any highway crossing on its line of railway during the winter months.

2. That in the operation of those portions of its main or branch lines where the snow-fall is such as to require the running of snowplows or flangers, the company may, on Dec. 1 in each and every year, remove the planks from the inside of the rails at any farm crossing, for a space not exceeding 12 ins. in width, provided that the planks so removed be replaced by the company in the spring, as soon as the snow is off the ground.

3. That, in the case of farm crossings not used during the winter months, the company may, on Dec. 1 in each and every year, remove all the planking at such crossings, subject to the condition that the same be replaced as soon as the snow is off the ground in the spring.

**Sanitary Precautions for Railways.**

The Board of Railway Commissioners has sent out the following draft of an order which it proposes to issue and which will be considered at a Board meeting in Ottawa in March:

In the matter of the application of the Montreal Board of Trade, under secs. 269 and 284 of the Railway Act, for the adoption by the Board of regulations prohibiting the practice of spitting in railway cars and in railway stations and waiting-rooms, except in proper receptacles provided for the purpose; and requiring the railway companies to properly clean and disinfect railway cars, stations and waiting-rooms, in order to prevent the dissemination of tuberculosis or other infectious diseases: In pursuance of the powers conferred upon it by secs. 30 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, be required within three months from the date of this order:

1. To properly clean and disinfect, and thereafter to keep clean and disinfected, its passenger cars, stations and waiting-rooms, in order to prevent dissemination of tuberculosis or other infectious or contagious diseases.

2. To cause printed notices to be placed and maintained in each of its passenger coaches, one at each end of the car, and in some conspicuous place in each of its stations and waiting-rooms, prohibiting the practice of spitting in the said cars, stations and waiting-rooms, except in proper receptacles provided for the purpose, and prescribing a penalty for violations thereof. In the Province of Quebec such notices to be printed in French as well as English.

3. That every such railway company be liable to a penalty not exceeding \$50 for every failure to comply with the foregoing regulations within the time for their coming into force and thereafter.

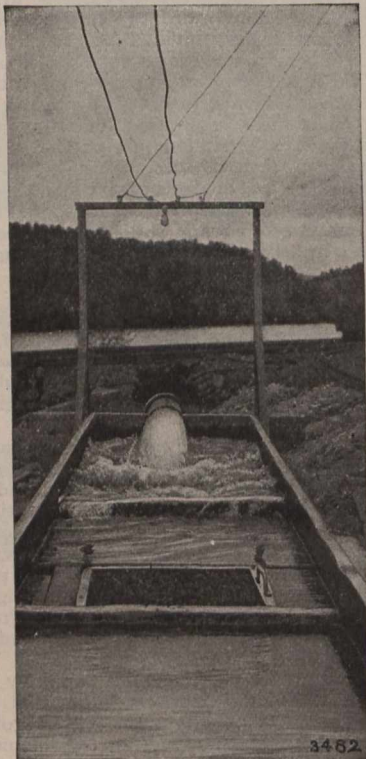
**Grain Receipts at the Dual Ports.**

Frank E. Gibbs, Grain Inspector, Fort William, Ont., has furnished the following statement showing cars of grain received over the C.P.R. and C.N.R. from Sept. 1, 1908, to Jan. 31, 1909, at Fort William and Port Arthur:

	C.P.R.	C.N.R.
One Hard	54	66
One Northern	4,981	3,257 1/2
Two Northern	7,326	3,047
Three Northern	6,460	3,370 1/2
No. Four	2,584	1,406
No. Five	1,327	603 1/2
No. Six	614	319 1/2
Feed	315	176
Condemned	3	6 1/2
Goose	1	
One Red Winter	355 1/2	
Two Red Winter	527 1/2	
Three Red Winter	552	
Four Red Winter	202 1/2	
Five Red Winter	132	
One White Winter	5 1/2	
Two White Winter	6 1/2	
Three White Winter	12	
Four White Winter	5	
Five White Winter	3 1/2	
One Mixed Winter	22	
Two Mixed Winter	9 1/2	
Three Mixed Winter	1	
Four Winter	4	
Rej. for Seeds	422	419 1/2
Rej. for Smut	2,011 1/2	918 1/2
Rej. Winter, Smut	242	
No Grade	760 1/2	307 1/2
Wheat	28,939 1/2	13,898
Rye	8	
Oats	3,334	1,607 1/2
Barley	796 1/2	944 1/2
Flax	1,238	105
	34,316	16,555
Total		50,871 cars.
Corresponding period, Jan. 31, 1908:		
C.P.R.		23,425 cars.
C.N.R.		10,297 "
Total		33,722 "



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Before the six railways of the Canadian Northern System followed the old fur trails into the Canadian game lands, only a hardy few dared to go in. But now, the back places of the woods—wealthy in moose, caribou, deer and bear—may be quickly and easily reached. The Canadian Northern system serves a wide range of undisturbed territories. Here are a few suggestions:

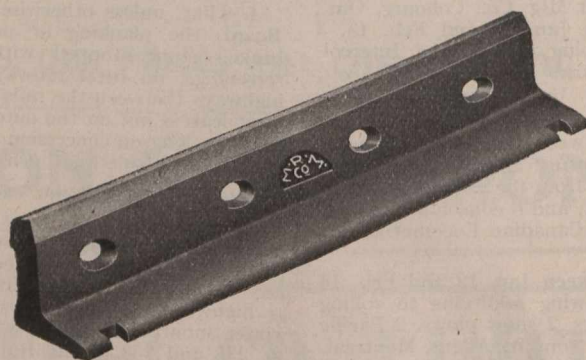
The country between Parry Sound and Sudbury, traversed by the CANADIAN NORTHERN ONTARIO RAILWAY, is a land of lonely muskeg and brulé, the native country of the white-tailed deer. From Sudbury north to Sellwood this same line goes in through a moose hunting territory unequalled in Ontario.

The CANADIAN NORTHERN QUEBEC and QUEBEC AND LAKE ST. JOHN RAILWAYS span the native country of the ouananiche, northern brook trout, and the spruce-shored lakes of the Roberval country, where moose and caribou abound.

The eastern shore of Nova Scotia, from Yarmouth to Halifax, is served by the HALIFAX AND SOUTH WESTERN RAILWAY. On the barrens, slightly inland from the railway, are some of the best places for big moose in the east.

THE CANADIAN NORTHERN RAILWAY from Port Arthur to Edmonton, with many branches, griddles almost undisturbed haunts of moose, caribou, deer, wolves, bear, and all species of four-footed and feathered game.

**For Information, General and Special, Address the  
Information Bureau, Canadian Northern  
Railway, Toronto**



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They are rolled from the very best material, and will stand the closest inspection.

**THE MONTREAL ROLLING MILLS CO.**



## TRANSPORTATION APPOINTMENTS.

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

**Board of Railway Commissioners.**—It was recently announced in an Ottawa paper that E. A. Primeau had been assigned to the Secretary's work of the Board, in so far as it relates to telegraph, telephone, power and pipe crossings, and also the accident and equipment departments. We are officially advised that Mr. Primeau was appointed Assistant Secretary last spring and that the assigning of any duties to him is a mere matter of internal arrangement of the Board's work. There has been no change in his title. E. W. McNeill has been placed in charge of the Board's record department.

**Canadian Pacific Ry.**—E. W. Champion has been appointed District Master Mechanic, district 1, Eastern Division, vice B. Pendleton, transferred. Office, Farnham, Que.

R. Preston, formerly Master Mechanic, Ontario Division, who has been on leave of absence, has been appointed acting Shop Superintendent, West Toronto.

A. Maynes, heretofore Rule Examiner, West Toronto, has been appointed District Master Mechanic, district 1, Ontario Division, vice J. R. Spragge, transferred, a position he held prior to his appointment as Rule Examiner. Headquarters, West Toronto.

J. K. Spragge, heretofore District Master Mechanic, district 1, Ontario Division, has been transferred to district 3, vice A. E. Stewart, which position he held prior to his transfer to district 1. Headquarters, West Toronto, Ont.

A. E. Stewart, heretofore acting District Master Mechanic, district 1, Ontario Division, West Toronto, has been given a position as locomotive engineer.

B. Pendleton, heretofore District Master Mechanic, district 1, Eastern Division, Farnham, Que., has been appointed Locomotive Foreman, London, Ont.

**Duluth, Rainy Lake and Winnipeg Ry.**—J. D. Morton, Chief Accountant Canadian Northern Ry. and General Auditor Canadian Northern Ontario Ry. and allied eastern lines, has also been appointed Secretary and General Auditor, D., R.L. and W.R. Office, Toronto.

L. W. Mitchell, acting Treasurer C.N.R., Toronto, has also been appointed Treasurer D., R.L. and W.R. Office, Toronto.

M. A. Murphy, heretofore General Manager, has been given the title of Superintendent, reporting to the head office, Toronto. Office, Duluth, Minn.

G. R. Hall will continue to act as Traffic Manager. Office, Duluth, Minn.

**Grand Trunk Pacific Ry.**—P. Desmond, heretofore in charge of the yards at Wainwright, Alta., is reported to have been appointed Roadmaster at Watrous, Sask.

**Grand Trunk Ry.**—Jas Duguid, heretofore foreman of the machine shop, Stratford, has been appointed General Foreman, Toronto, vice J. C. Garden, promoted.

C. Geldart has been appointed foreman machine shop, Stratford, vice J. Duguid, promoted.

The following agents have been appointed: C. H. Ranson, Prescott, Ont.; R. J. Parker, Dublin, Ont.; F. N. Chambers, Burt, Mich. Outside Agencies, A. R. Dingman, Kingsville, Ont.

In our last issue it was stated that R. Bushby, Eastern Passenger Agent, Cortland, N.Y., had, at his own request, been transferred to other duties. We are advised that he retains a connection with the company, but holds no official position.

**Intercolonial Ry.**—W. U. Appleton, chief clerk to the Superintendent of Motive Power, has also been appointed Assistant to the Superintendent of Motive Power, and will in

addition to his duties as chief clerk act as general assistant in matters relating to the Mechanical Department. Office, Moncton, N.B.

The position of Master Mechanic in charge of Moncton shops, which became vacant by the death of A. B. McHaffie, has been abolished, and their supervision has been rearranged as follows: H. D. Mackenzie, heretofore Mechanical Foreman at Stellarton, N.S., has been appointed General Foreman of Locomotive Shops, and A. B. MacDonald, heretofore car foreman, has been appointed General Foreman of Car Shops, with jurisdiction and responsibility over all employes and work in their respective departments.

Jas. Blair was appointed acting Mechanical Foreman at Stellarton, N.S., Feb. 2, vice H. D. Mackenzie, promoted, and on Feb. 10 he was appointed Mechanical Foreman.

**Mackenzie, Mann & Co.'s Eastern Lines.**—A. F. Stewart, heretofore Assistant Chief Engineer of Construction, has been appointed Chief Engineer of Construction, lines in Ontario and Quebec, vice T. H. White, who has been on leave of absence for the past year and who has now been assigned to other duties.

**New York Central and Hudson River Rd.**—R. G. Cullivan, heretofore General Foreman Locomotive Department, has been appointed Division Superintendent of Motive Power of the Hudson and Middle Divisions, vice E. A. Watson, resigned. Headquarters, West Albany, N.Y.

**Northern Navigation Co.**—C. A. Macdonald, heretofore Auditor Freight and Passenger Accounts, has been appointed Comptroller—his former title being discontinued. Office, Collingwood, Ont.

**Richelleu and Ontario Navigation Co.**—The title of J. W. Canvin, Travelling Passenger Agent Alexandria Ry., N.Y., has been changed to District Passenger Agent.

**Temiskaming and Northern Ontario Ry.**—G. A. McCarthy, Chief Engineer, has resigned to enter private practice in Toronto. The resignation will take effect Apr. 1.

A. J. Parr has been appointed Assistant Freight and Passenger Agent, in charge of rates, traffics, and claims.

## G.T.R. Stratford Shops.

The formal opening of the recently erected shops at Stratford, Ont., was signalized, Feb. 18, by a dinner given by the Stratford municipality to C. M. Hays, Second Vice-President and General Manager, and other G.T.R. officials. Mr. Hays, in responding to the toast of the G.T.R., paid a high tribute to the Motive Power Department, especially mentioning the services rendered by W. D. Robb, Superintendent of Motive Power, and R. Patterson, Master Mechanic, Stratford. He considered the shops a model, and said they would be a training school for many men, both on the G.T.R. and the G.T.P.R., and would put the company to the fore in all departments. The G.T.R. had, during his term, doubled its earnings, and largely increased its passenger traffic and mileage. Referring to the agitation for the elimination of level crossings, the G.T.R. had 3,000, and to fix these, it was estimated, would require an expenditure of \$50,000,000, which would take years to provide for. On the question of a new station at Stratford, Mr. Hays said, that in due course it would be built, but moderation in immediate demands was necessary.

U. E. Gillen, Superintendent Middle Division, gave the following statistics: Canada has one mile of railway to every 289 people, or to every 161 sq. miles, in all 30,000 miles, of which 8,000 are in Ontario. These carry 33,000,000 passengers annually, and 64,000,000 tons of freight. Their net revenue is \$46,000,000, with 3.66% profit on the investment.

A full description of the shops, with details of lay out, was given in our Dec., 1907, issue.

## Report on I.C.R. Connecting Lines.

The Minister of Railways laid on the table of the House of Commons, Feb. 11, a report as to the advisability of securing for the I.C.R. a number of connecting lines to act as feeders. During last year the question was discussed in Parliament, and it was contended that, were the I.C.R. not a Government railway, several of these connecting lines would have been absorbed. The Minister of Railways promised that an investigation would be made, and as a consequence, in Sept., 1908, E. Tiffin, General Traffic Manager; D. A. Storey, General Freight Agent, I.C.R.; and W. A. Bowden, Engineer of the Department of Railways, were appointed to enquire and report into the condition of the various connecting lines, and the possibilities of their proving remunerative, should it be deemed advisable to absorb them into the I.C.R. system.

The conclusions arrived at, as contained in the report, are mainly as follows: "We would express the unanimous feeling as gleaned from interviews with the people living along these lines that great good to the country would follow the suggested absorption. There is not a dissenting voice amongst all the people we interviewed as to the good the country and its people would derive, and there can be no question as to the impetus such action would have on business that is now lagging and falling away because of want of facilities for the proper conduct of the present traffic. It is a well-established fact that in nearly every case where branch lines have been absorbed by trunk lines such a policy has proved to be of great value to the branch lines as well as furnishing additional revenue to the main line and then becoming valuable feeders to them as they increase the traffic and earning powers of the trunk lines. Hindered by lack of capital and inefficient equipment, it cannot be expected that the branch lines can provide the services or facilities needed for the development of the country which they profess to serve, and, further, we are constrained to say the branch lines are to-day not in a position to give a satisfactory service, and, in fact, we believe they have now about reached that stage of becoming more of a hindrance than a help to the proper development of the country. We are satisfied that the careful nursing of present industries and the development of new ones which would necessarily follow the absorption of these branch lines would make their absorption of vital interest and one worthy of the best consideration. Furthermore, the people of the Maritime Provinces, who, as a rule, are but poorly served by the branch lines, are asserting that in view of the large amount of money or other assistance accorded to the Canadian northwest for the purpose of developing the country, they are entitled to at least a measure of generous treatment for similar purposes."

The report does not deal with all the connecting railways, as there are a number of lines, with which any such deal would be out of the question, but only with such lines as it is considered would be likely to be willing to be absorbed, and which it is surmised could with advantage be taken over and operated as feeders. An additional report, prepared by the N.B. Government, deals with connecting lines in New Brunswick.

In our Oct., 1908, issue we dealt fully with the various lines connecting with the I.C.R. in Quebec, New Brunswick and Nova Scotia, quoting mileage, capital employed, subsidies granted, both Dominion and Provincial, and rolling stock in service.

A petition is reported to have been extensively signed in Alberta, asking the Dominion Parliament to make it illegal to employ a man upon railway work for longer than eight hours a day.



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MONCTON, N.B.



**Steam Railway Track Laid in 1908.**

In our last issue we gave a preliminary statement of steam railway track laid in Canada in 1908. Revised and completed returns since received show that 1,505.95 miles was laid by the different companies, against 1,469.65 in 1907. This mileage was distributed by provinces as follows:

	Miles.	Miles.
Saskatchewan.....	657.70	
Ontario.....	238.04	
Quebec.....	229.14	
Manitoba.....	166.30	
Alberta.....	74.90	
New Brunswick.....	67.00	
British Columbia.....	56.87	
Nova Scotia.....	9.00	
Yukon.....	7.00	
<b>Total.....</b>	<b>1,505.95</b>	
The mileage was laid by the different companies as follows:		
ATLANTIC, QUEBEC AND WESTERN RY.	Miles.	Miles.
Port Daniel to Anse à la Barbe.....	5.00	
Grand Pabos to Anse aux Canards.....	2.00	
		7.00
CANADIAN NORTHERN QUEBEC RY.		
Garneau to Quebec.....		60.90
CANADIAN NORTHERN ONTARIO RY.		
Connecting track at French River.....	7.90	
Orillia branch.....	3.60	
		11.50
CANADIAN NORTHERN RY.		
Rosburn branch north of Rossland.....	22.30	
Saskatoon southwesterly.....	75.00	
Pas Mission branch.....	20.00	
Carlton branch, Dalmeny northerly.....	28.00	
Thunder Hill branch, Benito westerly.....	21.00	
Connection at Fort Frances, Ont.....	1.50	
		167.80
CANADIAN PACIFIC RY.		
Northern Colonization Ry.—From 2 miles north of Nominig, Que., towards L'Orignal.....	30.74	
Georgian Bay and Seaboard Ry.—Coldwater Junction to Victoria Harbor.....	11.50	
Walkerton and Lucknow Ry.—Mileage 26.2 to Walkerton, Ont.....	11.50	
Tilsonburg, Lake Erie and Pacific Ry.—Code Junction to Embro, Ont.....	5.69	
St. Mary's and Western Ontario Ry.—From Embro to St. Mary's, Ont.....	15.90	
Toronto-Sudbury branch—From Naiscontyong to Pickerel.....	25.25	
From Teulon northerly, Man.....	2.00	
Mowbray extension, Man.....	4.00	
Stoughton-Weyburn Line, Sask.....	25.00	
Wolsley-Reston line, Sask.....	24.00	
Sheho-Lanigan line, Sask.....	46.10	
Pheasant Hills branch, Sask.....	74.60	
Moose Jaw northwesterly, Sask.....	101.60	
Lethbridge-Macleod line, Alta.....	12.00	
		389.88
CENTRAL ONTARIO RY.		
From Maynooth to Lake St. Peter.....		8.00
DELAWARE AND HUDSON CO.		
Quebec, Montreal and Southern Ry.—From Pierreville to St. Philomen.....		48.50
EASTERN BRITISH COLUMBIA RY.		
From McGillivray to Corbin Mines, B.C.....		14.00
GRAND TRUNK PACIFIC RY.		
Lake Superior Branch—Mileage 99.6 to mileage 188.8, Ontario.....		89.20
Winnipeg to Portage la Prairie, Manitoba.....		45.00
Mileage 312 to mileage 414.9, Saskatchewan.....		102.90
Mileage 466.64 to mileage 627.1, Saskatchewan.....		160.50
Mileage 627.1 to mileage 685, Alberta.....		57.90
Mileage 786.6 to mileage 791.6, Alberta.....		5.00
		460.50
GREAT NORTHERN RY. (U.S.)		
Between International boundary and Olivers, B.C., 11.33 miles, less 0.86 in 1907.....		10.47
Between Olivers and Brownsville, B.C., 9.72 miles less 5.22 laid in 1907.....		4.50
Between Cloverdale and Sumas, B.C., 29.28 miles, less 1.38 laid in 1907.....		27.90
These mileages were laid on the line known as the Vancouver, Victoria and Eastern Ry.....		42.87
INTERNATIONAL RY. OF NEW BRUNSWICK.		
From end of mileage 35 to 62.....		27.00
SYDNEY AND LOUISBURG RY.		
From Grand Lake Jet. to Colliery 12.....	7.00	
From No. 14 Jet. to Colliery 14.....	2.00	
		9.00
TEMISKAMING AND NORTHERN ONTARIO RY.		
From Wateybeag to Cochrane, Ont.....	44.00	
From Englehart to Charlton, Ont.....	8.00	
From Cobalt to Kerr Lake, Ont.....	4.00	
From milepost 110 to Moore's Cove on Lake Temiskaming, Ont.....	2.00	
		58.00

	Miles.	Miles.
TRANSCONTINENTAL RY.		
Moncton, N.B., westerly.....	37.00	
Chipman, N.B.....	3.00	
Bellaire, Que., 7 miles e. to 11 miles w.....	18.00	
St. Thicple, Que., 16 miles w. to 17 miles e.....	33.00	
La Tuque, Que., 16 miles e. to 15 miles w.....	31.00	
Winnipeg towards Superior Jct.....	48.00	
		170.00

	Miles.	Miles.
WHITE PASS AND YUKON RY.		
Macrae to Copper Mines.....		7.00
WINNIPEG CITY POWER PLANT LINE.		
Lac du Bonnet to Point du Bois, Man.....		24.00
<b>Total.....</b>	<b>1,505.95</b>	

Of this mileage 1,260.58 miles were laid in connection with three systems, as follows:

	Miles.	Miles.
Transcontinental Ry.....	170.00	
G.T. Pacific Ry.....	460.50	
		630.50
Canadian Pacific Ry.....	389.88	
		389.88
Canadian Northern Que. Ry.....	60.90	
C.N. Ontario Ry.....	11.50	
C.N. Ry.....	167.80	
		240.20
<b>Total.....</b>	<b>1,260.58</b>	

The remaining mileage was laid by nine different companies, the most important piece of construction being the completion of tracklaying on the Temiskaming and Northern Ontario Ry., to the junction with the Transcontinental Ry. at Cochrane, Ont.

**Penny Fares on the G.T.R.**

The Judicial Committee of the Privy Council delivered judgment in London, Eng., Feb. 17, in the case of Robertson vs. G.T.R., on the appeal of the G.T.R. from the judgment of the Supreme Court of Canada, compelling the G.T.R. to issue third-class tickets at the rate of one penny per mile for each mile travelled, and to provide at least one train having in it third-class carriages, which shall run every day between Montreal and Toronto.

The case against the G.T.R. dates back to Nov. 1, 1906, when proceedings were commenced in the Toronto Police Court against C. M. Hays, Second Vice-President and General Manager, for a violation of the provisions of sec. 138 of the criminal code. A technical conviction was registered, and the matter sent to the Appeal Court, where the conviction was quashed Mar. 4, 1907. Application was then made to the Board of Railway Commissioners, and the late A. C. Killam, then Chief Railway Commissioner, delivered judgment, and an order was issued July 3, 1907, directing the G.T.R. to run every day, throughout the length of its line between Montreal and Toronto, at least one passenger train having in it third-class carriages for passenger traffic; and that the fare for each third-class passenger, by any train on the said portion of its railway, do not exceed 2 cents for each mile travelled. The order also granted the company leave to appeal to the Supreme Court of Canada. This judgment was published in full in our Sept., 1907, issue. The appeal came before the Supreme Court Oct. 28, 1907, and judgment was delivered Dec. 13, 1907, sustaining the Board of Railway Commissioners' order and granting the company leave to apply to the Privy Council for leave to appeal the case to the Judicial Committee. Leave was granted Mar. 19, 1908, and the case was heard Feb. 16, 1909, when the decisions of the Board of Railway Commissioners and the Supreme Court of Canada were sustained.

The Lord Chancellor, in delivering judgment, said that the section of the G.T.R. Act of Incorporation, which required that the fare for each third-class passenger by any train on the company's railway should not exceed one penny currency for each mile travelled, and that at least one train having in it third-class carriages should run every day throughout the length of the company's line between Montreal and Toronto, was still

in force. The whole question was whether the section was inconsistent with the Railway Act of 1906. He held that it was not, and also that the Privy Council could not decide whether or not the section referred to was left on the statute book by desire or because it was overlooked. The appeal was dismissed with costs.

**Great Northern Railway Lines in Canada.**

**Manitoba Great Northern Ry.**—Application is being made to the Manitoba Legislature by L. W. Hill, President of the Great Northern Ry., and others, for an act incorporating a company with this title, for the purpose of constructing railways in the province.

**Midland Ry. of Manitoba.**—The Manitoba Legislature is being asked to pass an act authorizing the company to construct certain lines in addition to those which it was originally authorized to construct, viz.: From Winnipeg to Brandon, Elkhorn, and the western boundary of the province, and from Morden, northwesterly to Rathwell, thence to the first-mentioned line.

A Winnipeg press despatch states that it is the intention of both the Great Northern Ry. and the Northern Pacific Ry. to operate in Manitoba, under the charter of the Midland Ry. of Manitoba.

**Vancouver, Victoria and Eastern Ry.** and Navigation Co.—H. A. K. Drury, of the Board of Railway Commissioners' engineering staff, has completed an official inspection of the company's recently completed lines from Cloverdale to Sumas, and from Olivers, B.C., to the International boundary.

L. P. Gilman, Assistant to the President G.N.R., and President Elliot, Northern Pacific Ry., and a number of officers of both companies, arrived in Vancouver Feb. 4, concerning the location of terminals on False Creek, in the east end of the city. They waited on the city council and asked for the co-operation of the city in securing the remaining properties required to carry out the plan of providing union terminals on a large scale, and making the creek available for deep sea shipping. The companies, it was stated, had expended \$600,000 in acquiring properties at the head of the creek, but further purchases were blocked by the abnormal prices asked, hence the desire to secure the aid of the city. The proposals for the improvement of the Vancouver harbor was presented to the authorities Feb. 5. They involve the construction of a break-water two miles long, from Spanish bank across the mouth of English bay, creating an enclosed harbor of 3,600 acres at the mouth of False Creek, at an estimated cost of \$1,000,000. Other parts of the scheme contemplate the construction of locks in False Creek, making the waterway available for shipping at all stages of tide, and cutting the canal to the coal harbor at the head of Burrard Inlet, connecting the city's two harbors. The council decided to send a deputation to Ottawa to consult with the Dominion Government in regard to the matter. The city will apply to the Provincial Government for authority to expropriate an extensive tract of land at False Creek. (Feb., pg. 107.)

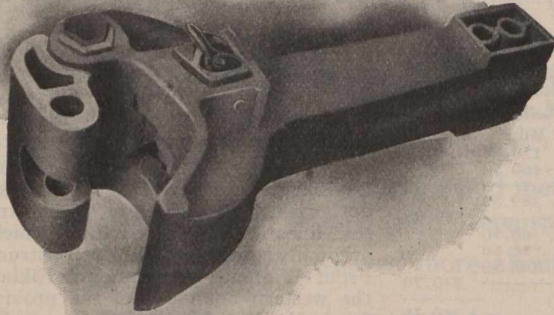
A. O. Norton, manufacturer of jacks, Boston, Mass., and Coaticook, Que., was a passenger, as also were Mrs. and Miss Norton, H. A. and Mrs. H. A. Norton, on the White Star s.s. Cretic from Boston, Feb. 27, for the Azores and the Mediterranean.

J. N. Bastedo, Passenger Agent Atchison, Topeka and Santa Fe Ry., Detroit, Mich., died there Feb. 27, aged 51. Prior to going to Detroit, he was engaged in Toronto, where he was well known. The funeral was arranged to take place from his brother's residence in Toronto Mar. 1.



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

**Ottawa Union Station and Hotel.**—A deputation waited on the Government Feb. 15 with reference to the hotel part of the new union station project. It is said that a formal report will be drawn up for presentation to the city council. The view generally entertained is that the Government will insist upon the station building being gone on with anyway. W. Wainwright, Fourth Vice-President G.T.R., in an interview, said the architects had stated that the working plans were prepared, tenders had not been called for, but there was sufficient time to do so before the spring. "We purpose," he added, "going ahead with the original idea."

**London, Ont., Improvements.**—The Board of Railway Commissioners sat in London, Ont., Feb. 25, for the purpose of considering the questions of the Adelaide St. crossing, the G.T.R. crossings in East London, and the West Lorne crossings. It is understood that the question of the track elevation will be affected by the decision in the matter upon the London city crossings. The Mayor had a conference with E. H. Fitzhugh, Third Vice-President G.T.R., prior to the Commission's meeting.

It was stated in London Feb. 12 that the Chief Engineer had completed the company's plans for track elevations, etc., in London, Ont., and that they would be submitted shortly for the consideration of the General Manager. The plans, it is said, provide for the elevation of the tracks for five or six blocks, and the erection of a new station.

## Corrections for the Erring.

"Mr. T. Hattie, G.T.R. master mechanic at Montreal, has been appointed superintendent of motive power at St. Alban's."—Canadian Engineer, Jan. 29.

T. McHattie, not Hattie, who was formerly Master Mechanic, Eastern Division G.T.R., Montreal, has, as announced in our last issue, been appointed Superintendent of Motive Power and Car Department, Central Vermont Ry., with office at St. Alban's, Vt.

"W. P. Hinton, General Passenger Agent of the Grand Trunk, has been appointed Assistant Passenger Traffic Manager of the Grand Trunk Pacific, with office at Winnipeg, Man."—Railroad Age Gazette, Feb. 12.

W. P. Hinton is not General Passenger Agent G.T.R. He is Assistant General Passenger Agent, G. T. Bell being General Passenger and Ticket Agent. Up to Feb. 24, Mr. Hinton had not been appointed to any position on the G.T.P.R. The daily press has published a lot of rumors about such an appointment, and our contemporary has probably been misled by some of these.

"The quarterly meeting of the executive committee of the Canadian Street Railway Association was held last Saturday. Mr. J. F. Hutcheson, superintendent of the Ottawa Electric Railway Company, presided. Others who took part were: Acton Burdall and P. Dube, of the Montreal Electric Railway; E. A. Evans, of Quebec; William Hopper, of St. John, N.B.; C. B. King, London; W. McCrea, Toronto, and James Anderson, Windsor. Details of several matters dealt with by the Association in Ottawa a few months ago were disposed of, and some arrangements made for the annual meeting, which takes place in Winnipeg in midsummer."—Canadian Engineer, Feb. 19.

The meeting referred to was not a "quarterly meeting," as the executive committee does not meet quarterly. It was not held on a "Saturday," but on Friday, Feb. 12. J. E., not "J. F.," Hutcheson is Superintendent of the Ottawa Electric Ry. The Montreal St. Ry. officials on the committee are Duncan MacDonald and P. Dube, not "Duncan Macdonald and P. Dube." There is no "William Hopper" on the committee. H. M. Hopper, of St. John, is a member of it. "W. McCrea, Toronto," was not at the meeting. W. McCrea, Toronto, is, however, a member of the committee. The annual meeting will not take place in Winnipeg "in midsummer."

## A Great Purchasing Railway

The following portions of the remarks made by Sir Thos. G. Shaughnessy, President of the Canadian Pacific Ry., in moving the adoption of the directors' report at the recent annual meeting are of especial interest as showing the enormous purchases made by that great railway corporation and as pointing out that its policy of keeping abreast of the requirements of traffic will be pursued in the future with even greater vigor than in the past. Sir Thomas said:

"You will be asked at the special general meeting, to be held immediately after this meeting, to sanction an increase in the ordinary capital stock from \$150,000,000 to \$200,000,000, and to empower your directors to utilize the additional stock in such amounts from time to time as may be desirable in connection with the company's capital requirements. It is not easy to designate in advance, with any degree of particularity, the purposes for which money will be required, excepting in the matter of rolling stock. In the six years, 1902 to 1908, there was an increase in your equipment of 659 locomotives, 842 sleeping cars and day coaches, and 25,190 freight cars, at an approximate cost of \$37,000,000. This is equivalent to one locomotive every three working days, one passenger car every two days, and 14 freight cars each day during the entire period of six years, and yet the prospects are that within the next six weeks the demand will be in excess of the supply of freight cars. While it is a healthy sign to have a shortage rather than an excess of equipment, it is due to the public, and in the best interests of the company, that neither money nor effort should be spared to meet the reasonable requirements of shippers along your line, and, therefore, we must continue to build or purchase locomotives and cars as quickly as the development of traffic may warrant. In the ordinary course of events the volume of traffic on your lines should increase with a fair degree of rapidity, and an expansion of traffic necessarily involves not only additional cars and locomotives, but enlarged accommodation and greater facilities to care for it at very many new places over your 9,500 miles of railway, and in providing these, large sums of money are quickly absorbed."

In connection with the above we may be permitted to point out that THE RAILWAY AND MARINE WORLD is taken by every C.P.R. official who has in any way anything to do with the placing of orders for rolling stock, etc., as well as by the other officials of the company. And the same may be said of the officials of the Grand Trunk, Canadian Northern, Intercolonial, and other Canadian lines, our circulation covering all the companies throughout Canada and Newfoundland. The lesson to be deduced from this by locomotive and car builders, manufacturers of railway specialties, etc., is obvious, and that is why so many of them use the columns of Canada's only railway periodical for advertising purposes.

W. S. Stout, President and General Manager Dominion Express Co., left Toronto early in Feb., accompanied by F. H. Chrysler, K.C., of Ottawa, and is attending the Board of Railway Commissioners' sittings at various points west of Lake Superior, where matters pertaining to the operation of express companies are being brought forward.

## Joseph Hobson's Life Work.

Referring to the life work of Joseph Hobson, whose portrait was published in a recent issue in connection with the electrification of the St. Clair tunnel, the Hamilton Times recently said: "There is one really great Canadian whose title to recognition of merit, disputed by none, has been too long overlooked, and that the neglect is hardly creditable to our people—especially to our great institutions of learning, which are sometimes very free in awarding their honors. We refer to Jos. Hobson, M. Inst., C.E., the veteran railway engineer. Of Mr. Hobson's many great works, the construction of the St. Clair tunnel, recently electrified, is one that renders his fame secure and has made his name familiar to the engineering world. It is an honor to Canada that such a work should have been projected and carried to completion by one of her own people. It will be his memorial, testifying to his ability to accomplish great things in his chosen profession. But why should our universities—Toronto, McGill, Kingston, and the rest—not be forward in placing the seal of their approval upon Mr. Hobson's genius and achievements? They have not always been tardy in recognizing Canadian worth. Has it been an oversight? Whatever the explanation, they should see to it that they honor themselves by honoring Mr. Hobson. Canada has many knights infinitely less worthy of the Sovereign's decoration than is the modest gentleman who has, with such beneficent results, left his impress upon the G.T.R., to the immense benefit of his country. Shall Canadians be unappreciative or ungrateful?"

## "Silent Partners" in Railway Building.

A correspondent, in reporting a conversation with a G.T.P.R. official regarding the "Silent Partner" in railway construction, says: "There is M. H. McLeod, who was Chief Engineer, now General Manager, of the Canadian Northern Ry. He has lived years in the open, slept out in the snow, sleet and rain to find a trail for Mackenzie & Mann. There is Jack Callahan, Superintendent of Construction of the C.P.R. west of the lakes. He is another one of these 'Silent Partners,' and there is Bob Jones, who figures in Cy. Warman's last two books as 'Smith the Silent.' This man had his habitation in the wilderness west of Edmonton for three years. He and others above and below him are responsible for the level line that leads away from the Prairie Provinces to the Pacific Coast, and when people travel, as they will within the next few years, through this western wonderland, through the very heart of the Rockies at the rate of a mile a minute, they should not forget that it would be impossible to do so but for the patient toil of these 'Silent Partners.' Here is a quotation from a letter written by a well-known engineer to a friend of his in Montreal:

"I have known hardships, hunger, poverty and loneliness. I have toiled in the desert, in tropical swamps and in Canadian winters for my profession, my art—for many years. I have possessed little but I have been free always. I come when I will, I go when I please. I acknowledge that by the usual standard I am a failure, but the pleasure of planning and waiting has been mine, and the moments I have lived when I have been able to do with my brain what others would do by men, muscle and money, have been worth much to me. I have never sacrificed my profession to my interests or ambition, and still retain the ideals I started with. If I have accumulated nothing material, I have at least kept my professional honor."—Montreal Gazette.



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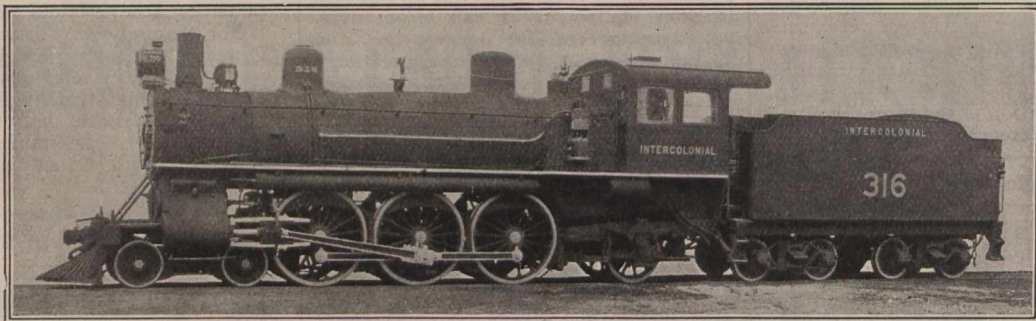


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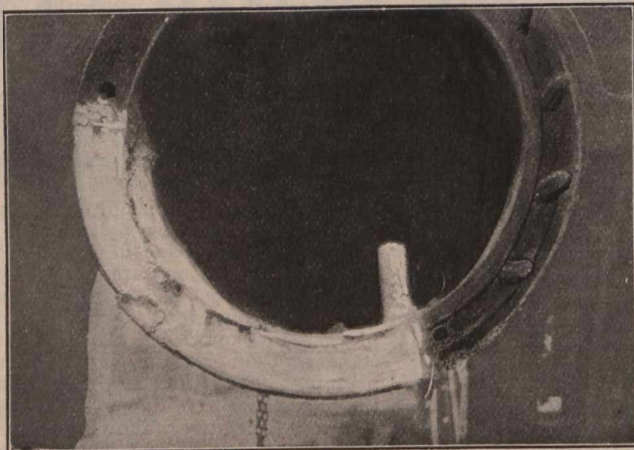


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## The Passenger Traffic of a Transcontinental Railway.

By H. W. Brodie, Assistant General Passenger Agent, Central and Western Divisions, C.P.R.

The following paper was read at the annual divisional time meetings of the central, western and Pacific divisions, C.P.R., recently:

In this address to you, the superintendents of the operating department, it is my desire to present only a general outline of what is required to organize, develop and successfully handle passenger traffic on a transcontinental railway, embracing, as it does, a large local business, and participating in what we might almost term around-the-world passenger traffic. In addition, to endeavor to make plain the relationship existing between the operating and passenger departments of a great system, and the responsibilities that rest upon you if the business is to be successfully conducted; also to outline in general the requisite qualifications of a successful head of the passenger branch of the service, and what must be done to develop the business.

### RESPONSIBILITY OF THE OPERATING DEPARTMENT.

When the construction department of a railway company completes its work and turns over a new highway to be used for the transportation of persons and property from one portion of a country to another, it becomes at once a necessity for the owners to select special men for the carrying out of the various works to be performed. As these few remarks relate specifically to two departments, we shall not consider the construction of others. One man must be selected whose duty it will be to arrange for the movement of traffic in a safe and satisfactory manner at a minimum amount of cost, and another to organize and develop the passenger business.

It is almost universally recognized that the standing of a railway in the eyes of the public is measured by the standard of its passenger service; the reason being that but a small percentage of the population of a country is made up of shippers, compared with the number who find it necessary to be transported from one place to another, either for pleasure or the pursuit of business. The leading American railways to-day have gained their reputations by furnishing the very best possible service, eliminating the time handicap for the commercial interests, better enabling them to develop great industries and business institutions, of great value to the line, through the development of a large freight traffic. The public, generally, are keenly interested in the operation of railway trains, and the importance of the successful transportation of passengers should be fully realized by every person connected with their movement.

Let us study a few of the features which present themselves to the passenger man. We shall first devote our attention to the relationship that exists between the operating department and the passenger organization of a railway. The work and constant effort put forth to secure traffic, hereafter outlined, will soon fail and its effect be lost if you, as the heads of the operating department, do not carry well the burden of the responsibility resting upon you—the responsibility of fulfilling in every detail your obligation to carry out what we have represented you are capable of doing. First and foremost, you must fully realize that you deliver the commodity we sell. We advertise the line, the trains you operate, the country they pass through. If you fulfil your part, the people who pass in one direction over the rails will return in the opposite direction later on. If you fail they will not return. It is a recognized

principle in handling passenger traffic, that it is even more difficult to hold traffic than it is to secure new traffic. The man who purchases transportation expects value for his expenditure, just the same as the man who buys a coat. If he finds its qualities have been misrepresented and that it does not fit, he changes his tailor; and, in like manner, the passenger changes his route. Every passenger who goes through your hands in one direction should, under normal conditions, sooner or later return.

We do not have, at present, fixed rules of operation, governing the size of passenger trains in respect of the number of cars to be carried, or standards of tonnage, making allowance, under certain conditions, for wind resistance and other drawbacks—in this respect being behind the freight movement, where tonnage is closely figured, and it is known almost to a certainty what the engine performance will be. Is this as it should be? It is recognized as important that freight shipments should not be delayed in transit. How much more important that passengers should not be? It means the breaking of important business engagements, loss of valuable time, and sometimes it is a question of life and death. A shipper will express annoyance if his freight is delayed, but if, when he travels on the same line, he is delayed and loses valuable time, his annoyance becomes intensified tenfold, and he is unsparing in his denunciation, and not infrequently carries it to a point of concluding that the line is not a satisfactory highway for the transportation of either his person or property. Watch closely your passenger trains. See that all connections are made. Run them on time.

Close observation seems to prove that the constant handling of the public by railway men has a tendency to cause them to become indifferent, and to forget that their responsibility never ceases. Therefore, the necessity of eternal vigilance and constant supervision on your part. Every person interested must do his best at all times to maintain an enviable reputation for the road. When your engines are turned out for service on a passenger train, they should be neat and cleanly in appearance, and capable of doing their work, which is to carry the train over the division in precisely the allotted time. Engineers should understand that they are responsible for the reputation of the road as a whole, and every time a train is delivered on time that reputation is not only maintained, but the engineer proves himself. Train dispatchers share in this responsibility, and should at all times assist engineers and conductors responsible for the movement of passenger trains. Not only should they operate their trains on time, but should handle them smoothly, avoiding sudden jars, which are sometimes noticeable when pulling into stations or stopping at water tanks. Such jars create a bad impression in the minds of passengers, and make them feel that we are not careful of their comfort. The equipment of trains should be uniform, clean outside and in. Dirty car windows, aisles and seats are inexcusable in the eyes of passengers. All heating arrangements should be in proper condition, also ventilating appliances, so that the temperature of the cars may be properly regulated. Capable train crews only should be in charge, who thoroughly understand these details of service and attend to them.

The train conductor is an important man. He stands in the same relation to his passengers as the captain of a ship. He should be neat in appearance, careful and considerate in dealing with his passengers. It should be his duty to keep a close watch and a firm hand on his brakemen, for if he fails to train a brakeman in the way he should go, it means, in all probability, that

he will become an inefficient conductor later on. As he is, so to speak, on parade when in charge of his train, he should be alert and active, for the impression he creates in the minds of his passengers reflects on the discipline and organization maintained by his company. Even the mind of an immigrant is impressionable, and it takes a long time to change his view, if, upon his arrival, he is harshly treated on the dock, bundled into inferior coaches, and transported to his new place of abode at a slow rate of speed, in the care of an indifferent train crew, and possibly finds when he reaches his destination that his baggage has not arrived, and when it does that it has been roughly handled; and if, in addition, when he complains to the company's representative—the station agent—he receives a curt reply, and sometimes no reply at all. There is but one result. When the time comes for him to return on a visit he seeks a new highway. The same applies to the Asiatic steamer passenger, and, although possibly in a lesser degree, to the first-class tourist.

It is of great importance that people located on branch lines should receive the same careful consideration at all times as those who journey over the main line. They should have engendered in them a feeling that should not be permitted to leave them, viz., that the branch line service is so good they need have no doubt about the main line. Otherwise, what do we find? A constant scanning of the papers for advertisements of what appear to be more attractive outlets, and when they pay we get the short haul, for they will even inconvenience themselves to reach the lines of a competitor. Therefore, because your branch line passenger travels but a limited distance the greater portion of the year he must not be lightly considered, for he has a large amount to spend at other times. If we fail to procure that revenue, the object for which the branch was built or acquired, viz., to feed its trunk line, is defeated.

All stations should be kept neat and clean, and you should endeavor at all times to do away with unsightly objects on or about the premises. Local agents should be selected with care and properly schooled. They are the representatives of the company who come in direct, daily contact with the people, and should, in addition to a knowledge of rules and regulations, have a full appreciation of their responsibilities as the company's sales agents. They should cultivate a desire to serve the people with the same degree of cheerfulness as they would if running a business for their own profit. A great many agents think, because it is necessary for people to come to them, that they are the custodians of the locality and what it contains, rather than representatives of a company dependent upon the people for its livelihood. You are in close touch with the agents at all times and should endeavor to instruct them so that they may have the proper viewpoint in relation to their employment.

All plans for taking care of passengers at important terminal and junction points should be carefully considered, and everything possible done to simplify the arrangements. Proper notices, giving explicit directions, should be displayed in conspicuous places to assist the traveller. Baggage and express staffs should be taught to respect the travelling public, and not be permitted to roughly push their trucks and express wagons through numbers of people, something which not infrequently happens at terminal and junction points. Car cleaners, inspectors, and those whose business it is to refill water tanks require constant supervision. A passenger objects to being bumped with a bucket of ice, or sprinkled by a carelessly adjusted hose on the roof of a car.

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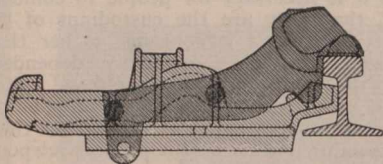
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The derail block clears its path of snow when moving in either direction. This feature makes the Hayes Derail preëminent for economy in winter.

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and careful endeavor to satisfactorily transport the public. We must, in our treatment of them, adopt golden rule principles. By the exercise of constant supervision and vigilance you will assist materially in the work and bear your proper responsibilities in your relationship to the passenger branch of the business of a transcontinental railway, which you are especially designated to attend to. In concluding this part of the address, let me be understood, in making these remarks, that we are not unmindful or unappreciative of what you have already done. Our present standing in comparison with others speaks plainly.

#### RESPONSIBILITIES OF THE PASSENGER DEPARTMENT.

A discussion of the passenger business of a transcontinental railway would not be complete if it did not contain proper reference to those who look after the management of the department responsible for the securing and building up of the traffic, and deal with their responsibilities. It is not my intention to discuss in detail what must be done, but rather to give you a more complete idea of the other side of the question we have been dealing with, outlining the responsibilities that rest upon such men, the special qualifications they should possess, and the work expected of them. Therefore, so that you may fully appreciate the standard of requirement, let me particularize to the extent of describing the successful head and his work. Please do not misinterpret these remarks as a desire to impress upon you what we are, for that is not the intent or purpose, but rather, as indicating our own shortcomings. No one person realizes or more fully appreciates his own inefficiency than does a conscientious head of the passenger branch of the service.

The man who is to successfully supervise the passenger business of a large system must have in his constitutional make-up a good imagination—for he must anticipate developments and requirements; a clear, far-sighted vision—for he requires to scan continually, not only his own line at home, but, in addition, large areas abroad; patience—a most essential virtue for one whose work brings him constantly in contact with the travelling public; tact, and at the same time shrewdness—for many negotiations must be carried on with competitors where harmonious working is essential to satisfactory results; (antagonistic methods invariably develop conditions that ultimately mean sacrifice of legitimate revenue). At all times he must be ever ready and quick, not only to see but to grasp, and take advantage of an opportunity; resourceful—for he must know how to meet and overcome, what I may characterize as a flanking movement, quickly executed at a critical time, by an adversary.

He does not work on fixed rules, nor is he limited in his field of operations to prescribed districts. The scope is world-wide, and it is a necessity that he should be able to study and comprehend industrial conditions everywhere, as such conditions invariably have a direct effect upon the traffic of his road. The advancement of the settlement of the territory through which the line runs, and tributary thereto, is of paramount importance and he must advance such settlement at opportune times. In order to do so successfully, he must study individuals and their conditions elsewhere. It is always problematical whether a prospective settler will locate in one place or another. His final decision must be the result of influence brought to bear upon him.

The development of competing lines requires close attention, and must be carefully analyzed and criticized with respect to the service furnished, so that at all times the management may be advised of what

is taking place, and thereby enabled to meet like business conditions by furnishing equal or better facilities. It is his duty at all times to observe carefully and watch closely over the passengers transported, being ever mindful of them, anticipating their requirements, smoothing out difficulties that may arise, and keeping them comfortable and happy.

Finally, he must be a good salesman, standing, in his relation to the company he represents, as the manager-in-chief of their sales department, establishing numerous agencies over a large area, in all kinds and conditions of fields of operation, gathering revenue in exchange for the commodity offered, viz., transportation, advertising his commodity effectively at the most reasonable cost, obtaining returns for every dollar of expenditure.

The passenger man to-day is not the free agent he was a few years ago. He is now subject to all kinds and conditions of governmental control and regulation. It requires watchfulness to see that, in the construction of his fares to be charged, in all districts, under all conditions, he complies with the laws of the country as a whole, or of a particular province or state. The tariffs must be carefully constructed, for they require to be filed with expert commissions, who dissect them in detail. There is no sliding scale and he cannot shave a price, or give something for nothing as a consideration for a wholesale movement. The hundreds of representatives must be taught to understand and respect the law, and not, in their anxiety to secure traffic, overstep the bounds of regulation, and, as an inevitable consequence, inflict severe penalties on his company.

There is a great responsibility in the development of the traffic of the line. At the commencement of operation there is to be found ready for movement a considerable volume of business known as local passenger traffic, or, to more clearly define, traffic originating on the line or in the immediate vicinity. It is of great importance that such local traffic be supplemented by business to be gathered from outlying districts, and brought to the company's rails at its own junction points with connecting systems, operating not only in our own country but in foreign countries lying adjacent thereto; also from foreign countries across the seas to be delivered at our ocean terminals.

If a transcontinental railway depended entirely upon its local traffic for revenue, the business would be unremunerative. Therefore, it is imperative that such business as above-mentioned be directed over the line. It is necessary to reach to China for the homeward-bound Englishman, diverting him from his old accustomed route by way of the Red Sea; also for the Oriental, moving outward and homeward in large numbers; the traveller from Australia or New Zealand, carrying them to the Pacific Coast termini; and, on the other hand, the European must be considered, not only the high-class tourist who travels for pleasure, but the peasant class, especially the latter, who are, so to speak, transplanted, and in due course of time become citizens and steady contributors to the revenue of the line.

From the North, and particularly from the South, people must be gathered, including business men, tourists, land-seekers and settlers. In order to successfully accomplish this work at all such places must be located what I may call, for better illustration, sales agents, who present our commodity in its best light and effect sales of transportation. They work continuously, at all times their efforts supplemented by effective advertising, judiciously placed, and so it is that the trunk line trains become filled with revenue-bearing business. A passenger, journeying in one of the through

trains for the first time, little appreciates the efforts that have been put forth to induce him to make the trip. It is the result of the continuous working of one great machine. And so it comes about if this machine runs smoothly and does its work properly, one extensive branch of the railway business fulfils what is expected of it. With a full knowledge of our joint responsibilities, with the hearty co-operation of all, a necessity in the carrying out of any undertaking, we may, with confidence, take up our burden, and with cheerfulness proceed to make a reputation worthy of men entrusted with so great a responsibility.

#### Accidents at Level Crossings.

In connection with the investigation now in progress under the Board of Railway Commissioners with regard to the most feasible means to adopt for the protection of level railway crossings in Canada, an Ottawa dispatch says statistics have been prepared showing the number and character of fatal accidents at crossings during the past five years. Since the Board was created in 1903 records have been kept as to all railway fatalities in the Dominion, and in nearly every case there is on file a report from one of the Board's officials giving particulars as to the accidents. During that period there have been altogether 270 fatalities at level crossings. But the striking fact in connection with an analysis of the various fatalities is that nearly 95% of them have been due to the carelessness or recklessness of the victims themselves, rather than to the fact that the crossings were unprotected. In Prince Edward Island there has not been a single level crossing fatality in five years, and on the Intercolonial Ry. there have been only 13 in that period.

G. F. Webb, Hamilton, Ont., has issued a writ against the St. Mary's and Western Ontario Ry. for damages for having wrongfully deprived J. E. Webb of certain railway contractors' plant. J. E. Webb was a contractor upon the St. M. & W.O.R. construction between Embro and St. Mary's, Ont., and made an assignment to G. F. Webb. The railway company took over the contract and completed the work.

Allan Cameron, General Traffic Agent, C.P.R., who has recently been transferred from London, Eng., to New York, wrote, Feb. 10: "While in England I was receiving THE RAILWAY AND MARINE WORLD, and would be very pleased to have your mailing department send it to New York to me. I do not wish to miss the valuable transportation information concerning Canadian companies which your paper contains."

On the recommendation of the American Association of General Passenger and Ticket Agents, a uniform prepared order for handling interline prepaid ticket business will be adopted in Eastern Canadian Passenger Association's territory on May 1, the prepaid order to be issued at the time deposit is accepted, a uniform fee of 50c. to be paid for the order, whether for local or interline tickets, same not to be subject to refund.

During Dec., 1908, 22 employes were killed and 21 injured in the course of their work on Canadian railways. Of the fatalities, 6 were due to being run over, 4 to collisions, 3 each to being caught between cars, and to being struck by locomotives, 2 to a cave-in, and one each to a fall; to blood poisoning from a steel splinter, to being frozen, and to a dynamite explosion; while of the other accidents, 5 were due to derailments, 4 to being struck by locomotives, 3 each to machinery and to collisions, 2 to an explosion of steam, and one each to tools, to flying material, to being caught between cars, and to a fall.



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The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario.

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The Wheel Base of Ry. Rolling Stock.

By Roger Atkinson, formerly Mechanical Superintendent C.P.R.

The annual cost for maintenance of track, both as to roadbed as well as ties and rails, depends largely upon the arrangement of engine wheel base and trucks, as well as upon trucks under cars. This is not so obvious to the majority of mechanical department officials, as they do not usually have the opportunity to observe and study the signs of gradual destruction and consequent expense so involved, for, as a rule, they only see the

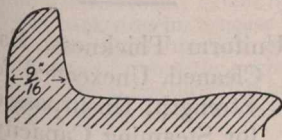


FIG. 1.

results of an extreme case, such as when a derailment occurs, and then they rarely have a chance to examine the track as well as the rolling stock, on account of the road gang having to get the former into working condition again in the shortest possible time, and the blame for derailment is usually put upon the rolling stock without any competent "devil's advocate" for the accused being present, so as to get at the remote and probable true cause. Under these conditions the charge is commonly formulated by an official, who, while perfectly able in his own department, cannot be expected to know the mechanics of the machine, or the effect of certain forms of construction in detail.

We are all perfectly familiar with the difficulty of pulling out, or pushing in, a drawer in a piece of furniture when the drawer is very wide and short, the least angularity in the

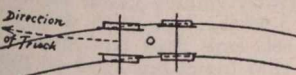


FIG. 2.

moving force, or friction, causing it to bind and lock in a diagonal position. This tendency is absent with a narrow, deep drawer, but in one that is square, or nearly so, the locking tendency depends upon the lateral play in the guides, to a great extent in a direct ratio, and also to the point of application of the pull, and the direction of pull. When a force is once locked diagonally, enough guides laterally, may be applied without getting it to slide.

From the illustration we may derive a comprehension of the effect of a truck under a freight car or tender, having a wheel base of 4 ft. 10 in., on a track of standard 4 ft. 8 1/2 in. gauge, when the truck is out of square, causing one of the leading pair of wheels to bind on the flange against the rail, and by its own friction increases the locking effect, pushes the truck still further out of square, and tends to spread the track, while the leading edge of the flange on the binding wheel tries to mount

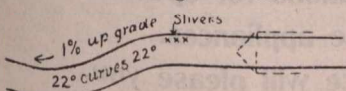


FIG. 3.

the rail, and failing to do so, acts like a pair of scissors or shear blades, destroying both its own flange and the rail head. This flange pressure increases greatly with increase of gauge, as is usual on curves, and when a sharp flange is formed it will actually shear strips off the rail. The flange of a steel-tired wheel will cut away and form a sharp flange quicker than a cast iron wheel under these conditions, and the writer has had cases where the flange

was only 9/16 in. thick at the root, as in fig. 1. It will be obvious that this action is increased on such curves as are opposite in curvature to the direction which the wheels tend to take (fig. 2), as well as by the widening of the gauge, which is therefore undesirable, but is rendered necessary to some extent as a compromise for the impossibility of making an engine with a straight centre line conform theoretically to a curved track, and the less it is adopted or required, the more easily can the cars be hauled, thus saving power, and with less damage both to themselves and the track. The reluctance or resistance of the trucks to curving is also greatly increased when the load is carried on the side bearings, and the locking effect may be thus produced with trucks which are perfectly square. To illustrate this point, an instance may be quoted where trouble was experienced on a wharf track, having a 22 deg. reverse curve on a 1% grade. Two locomotives, eight-wheel type, one having 16 x 24 in. cylinders, with 8 ft. fixed wheel base, and rigid centre truck, and the other 17 x 24 in. cylinders, with 8 1/2 ft. fixed wheel base and swing truck, could only haul 30 empty freight cars of 40,000 to 60,000 lbs. capacity, at about 2

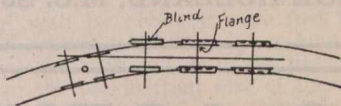


FIG. 4.

miles an hour. On inspection, after the train passed, slivers of rail up to about 5 in. long, wedge shaped in section, and hot, were found inside the outer rail on the curve (see fig. 3), and the gauge of track was found to be 4 x 9 3/4 in., having to be so made to allow the locomotive with the rigid truck to work without derailment. An 18 x 24 in. six-wheel switcher, with 10 ft. 0 in. fixed wheel base, and blind tires on centre pair, was put on the service, and easily hauled such trains with the curve closed to nearly standard gauge. As the driving wheels of the engines taken off did not show any indications of striking the outer rail, and their flanges were not cut sharp, the cutting could only be done by the freight cars, as it did not occur after the gauge was closed.

As widening on curves, then, is a modification required on account of the engine wheel base, it is advisable to look into and analyze as far as possible the design and results of various arrangements. Something like 20

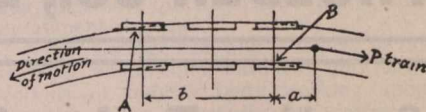


FIG. 5.

years ago some 10-wheel passenger engines were built which had swing trucks and blind tires on the front pair of drivers. These engines, when they struck a curve, had too little guidance from the truck till they got well on the curve, and consequently headed for the ditch until they reached the limit of play of the truck (see fig. 4), with the main driver flange binding on the outer rail, and remained in this posture through the curve when they righted with a wriggle. The opposite curve produced the complementary effect, and the result was two treads on the blind front tires about 2 1/2 in. centre to centre, and cut flanges on the main drivers, and eventually broken main axles, due to heavy flange pressure. In the meantime, however, some of these engines were equipped with a rigid centre truck, and the result was that they went round curves with a saw-tooth motion, like a fish in an aquarium tank, bobbing its nose against the glass as it goes. The wheel base was too rigid and the main drivers cut their flanges against the inside rail, while the truck wheels rapidly acquired side play, sometimes as much as 2 1/2 in., and the repairs

to truck boxes on account of side wear, up to 3/4 in. and even 7/8 in. deep, could not be kept up within the shops. During this period a couple of engines were equipped with blind tires on centre drivers instead of on the front, and swing trucks with lateral spring control, and were operated on a very crooked division with perfect satisfaction, so that it became standard practice, and not too soon, as the crop of cracked main axles which were removed soon after indicated.

If we pause for a little time to consider the action and direction of the forces called into play, it is plain that if a six-wheel switcher

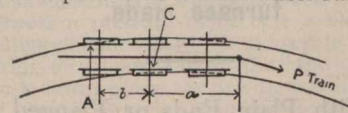


FIG. 6.

with main wheels having blind tires is placed upon a curved track, the centre line of the engine will form a chord to the curve, extending from the centre of the front axle to the centre of the back axle, at right angles to a radius of the curve which bisects the fixed wheel base, and there will be no lateral strain upon the flanges and rails (other than any wedging action, which may be caused by tight flanges), and also no bending of the engine frame.

If this engine pulls a train on the curve, then the angular pull of train, P (see fig. 5), will cause the back wheels to bind on the inner rail at B, and the front wheels to bind on the outer rail at A; the resistance of the point B will form a fulcrum, and the force at A will depend on the ratio of the leverages a and b, that is, if a is small and b great, the turning effect on the engine will be small, and also the flange pressure at A, and vice versa, so that a long overhang from B to the drawbar pin

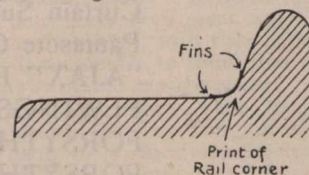


FIG. 7.

will tend to cut the front flange, also to bend the frame and spread the track. Now suppose the engine to have a front truck, either two or four-wheel, as a mogul or 10-wheeler, then, in order to get the truck on the track, it must be jacked over to the correct position with a force depending upon the method of truck suspension and degree of curvature, and when in place it exerts the same force to tend to swivel the engine round until the lateral force is divided between the truck and the back wheel against the outer rail and resisted by the front driver against the inner rail. This is how the guiding force of the truck is provided, and it tends to pull the outer front wheel away from the outer rail, against which it would naturally run, on account of the centre line of the engine being a chord on the curve; it also tends to bend the engine frame to suit the curve. There is another force also tending to cause the outer leading wheel to hug the outer rail, and that is the angular pull of the train on the curve pulling the back end of the engine against the inner rail. If, therefore, the outer front driver flange is to be prevented from cutting, the lateral force of the truck inward must be sufficient to overbalance both of these outward tendencies, and should increase with the degree of curvature. If the guiding power of the truck is too small, the inertia of the engine tending to make it travel in a straight line, also causes it to be projected against the outer rail on entering a curve and tends to overturn the rail, or disturb the track sideways.

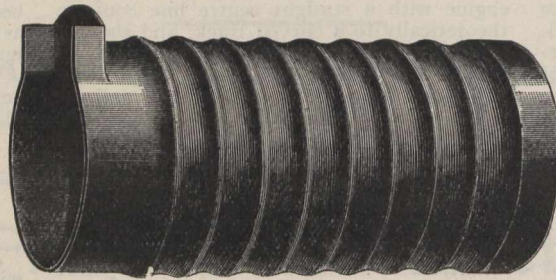
Let us now go back to the six-wheel switcher and consider the forces when the centre tires have flanges, as well as the front and back



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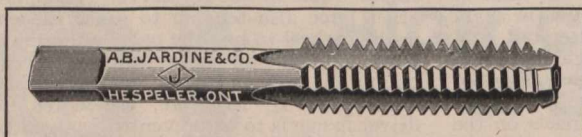
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tires. It is evident that the middle flange on the inside, when on a curve, binds on the inner rail, tending to bend the frame to the curve, and to open the gauge; when the engine hauls a train the angular pull of the train acts on the inner main flange as a fulcrum, see fig. 6, at C, with the distance  $a$  as a lever, and forces the front outer flange at A against the rail on the short lever  $b$ . There is, therefore, a great force tending to spread the track, and this turning movement is limited when the back inside driver comes against the inner rail at B. Otherwise it would derail the engine if the curve was great. This action is not relieved to any extent by setting the front and back tires in, because the inset back tire lets the engine turn just as much as the front tire is set in; but the engine is then at a greater angle to the direction of motion, and the outer flanges are at a worse cutting

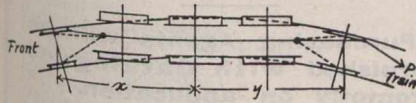


FIG. 8.

angle. The same reasoning holds good for a mogul, or 10-wheel, engine wheel base, as the turning fulcrum point is shifted by the main flange from the back wheels to the main wheels, so that the truck loses in guiding power by acting on a shorter distance, while the angular train pull has a longer lever to act upon and force the front of the engine outwards.

In addition to the wear and tear produced in the above manner, the inset of front and back tires permits the engine, when on straight track, to run with a nosing or twisting motion, especially if the counterbalance is not very perfect. This soon develops side wear on the truck boxes, and looseness in the truck, thereby losing guiding power, which reacts on both track and engine. The inset of front and back tires also induces more wear on frogs and guard rails by contact with the inner wheel flange; the steady or constantly active destructive action thus produced is not visible, but exists, and is important. It is easy to persuade ourselves because these flange strains are not important because they are far below any immediate breaking strain, but it is the perpetual repetition which causes failure and the consequent expense. I have seen a case where a mogul

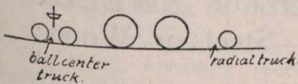


FIG. 9.

engine with all flanged tires newly turned to gauge, and to the M. M. Association form of tread, that in less than 400 miles' running caused the corner of the rail to wear the root of the flange so heavily that the flow of metal formed fins, as shown in sketch (fig. 7), and of course there was equivalent wear of rail over the 400 miles.

It should also be borne in mind that the whole lateral force of the truck which is useful to bring the engine into line with the track when running forward is detrimental to it when running backward, causing the outer back flange to bind on the outer rail, and this is increased when the engine is equipped with flange tires on the main drivers, and still more so by the resistance of the train if it is backing up by the angularity of the pushing force tending to make the back end buck out sideways.

It will therefore now be evident that if we find it necessary to equip an engine with a rear truck, either to protect the back wheels for backward running, or to carry the back overhang of the engine, that the lateral force required to put this truck on the track on a curve will neutralize the guiding force of the front truck when running forward, because it

assists the angular force or pull of the train to keep the engine in line with itself, causing the engine to swing round its centre as a pivot, and bring the outer front driving flange hard against the outer rail. This action is more powerful when main drivers are flanged than when blind, as shown previously by the difference in leverage; and that truck which has the greater distance from the main drivers,  $x$  or  $y$ , (fig. 8), will (if the weight on each be the same) bring the engine nearer its own centre line; so that a heavily loaded distant back truck will (both by leverage and weight) exercise control over a lightly loaded, closely set front truck, and vice versa. The swing hangers or other lateral provision for side resistance may be carefully designed to avoid pulling the back end of the engine into line with the train, which in turn renders it useless as a leading truck.

I know of a case in which an eight-wheel engine, with front truck having a ball centre, was converted into a double-ender tank engine (fig. 9), with a radial truck at the back to carry the coal bunker and part of the water tank. When operated, this engine constantly gave trouble when running backwards by the back truck jumping the track, until its guiding power was practically dispensed with by giving it very free lateral motion. Engines which have a long overhang at the back end, from the fixed wheel base to the pin in front end of the tender drawbar (see fig. 10), are therefore most easily deflected from the desired direction by the pull of the tender, and in turn exercise a strong lateral force,  $F$ , tending to throw the tender off the track towards the outside of the

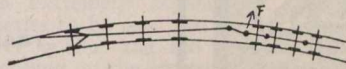


FIG. 10.

track on a curve, especially at a frog, which may explain some of the derailments which have been under discussion of late. To illustrate this, on one occasion a coach about 70 ft. long in the body was being turned by an ordinary 10-wheel engine on a Y, which had a rather short curve, connecting two main lines. The engine and coach were backing, and when the back truck of the tender reached the frog at the entrance to the curve, it promptly derailed on the outside of the curve. It was pulled on again, and pushed slowly, but mounted the frog again. The coach was then disconnected, and the tender pushed against it without coupling, as the couplings were quite a distance apart, and no derailment occurred.

As the average tires and rails may be taken to be of about equal hardness, and as a revolving or moving body working upon a standing body is usually less detruded or affected than the standing body, for example, in the blind saw used for cutting rails, etc., which has usually less material removed than the work operated upon, we may take for granted that more material is removed from the rails than from the wheels, and also that the rails, frogs, etc., suffer more damage by displacement than the engine shows, so consequently the cost of maintenance is increased if such wheel base and other arrangements are not adopted as conform with the least strain to the nearest theoretical conditions to reduce curve resistance.

So far as the locomotive is concerned, one of the clearest indications of excessive flange pressure on curves is found in the breaking of main axles, either under the wheel seat or between the wheel and the centre of the journal. This type of failure does not often occur with a back driving axle, and even more rarely with a front axle, and is usually construed as being caused by the cylinder pressure acting on the long main crank pin as a lever. There are two important reasons why this is not entirely the case, first, that sometimes the front or back axles fail, which can-

not be caused by cylinder pressure, and, second, if the cylinder pressure were the only cause, the cracks in the axle would be developed on both sides at right angles to the crank pin (see fig. 11), which has never been the case in my experience in many years. The cracks are always found to be at an angle such as indicated in Fig. 12. This seems to show that the maximum bending stress is a combination of the cylinder pressure and a regular recurring flange pressure, due to the lateral twist of the engine, probably due to defective counterbalancing, and which would be naturally increased by such an arrangement as inseting the front and back tires, as it permits a pressure to become a blow by providing distance in which to operate. The breaking of a main axle in the location and manner shown where the driving wheels have blind tires is practically unknown; whereas

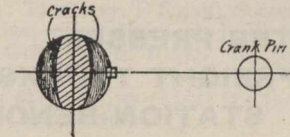


FIG. 11.

both driving wheels, having flanges, have been known to break off one axle in the same accident.

I had, on one occasion, an opportunity to examine a very heavy passenger engine which was under repair, the principal trouble being that sharp flanges had developed on all driving wheels to such an extent that the tires had to be turned down about  $\frac{1}{4}$  in. in order to get a good flange again. All drivers had flanges, and the front and back tires had been set in, as is common practice on some roads. The engine was new and had only been in service for a period of about four months, but not continuously. It would appear that there must have been great wear upon the track, and expense, with risk of derailment, and it is reasonable to think that such a result shows defective engineering.

In mediæval times, when knights wore plate armor, the best point of attack and most liable to produce effective results, was to strike at the joints; and the point where departments overlap, or should do so, is the joint where the general manager can penetrate and get in his lance called "Please explain," and while he may have too many irons

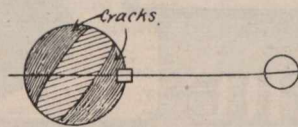


FIG. 12.

in the fire to spare more than one or two of his "argus eyes" for the purpose, he could well be represented by a qualified champion who was both knight and armorer, and expert at both making and breaking joints.—*Railway and Locomotive Engineering.*

Following are the officers and directors of the Canadian Transfer Co. for the current year: President, W. C. McIntyre; directors, H. Paton, C. Cassils, G. R. Starke and Sir H. Montagu Allan; Manager and Secretary, F. M. McRobie.

The Dominion Ex. Co. recently moved its Winnipeg offices to a new building on Bannatyne Ave., where all the up-town business of the company will be conducted on and after Mar. 1. The new premises give much greater facilities for the handling of business.

The Minister of Railways has issued an order, Feb. 24, that the mechanical staff of the I.C.R. was to be employed at full time of 10 hrs. a day from Mar. 1. The order affects about 2,000 employes. The staff has been working only 8 hrs. a day for some time, with a proportionate reduction in pay.

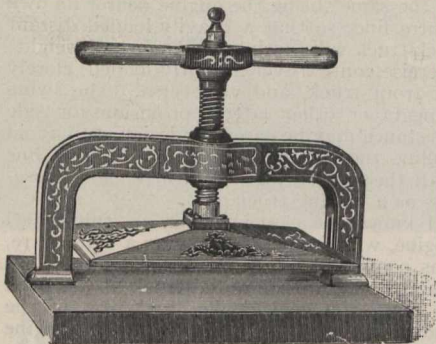


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**Railways Outside Dominion Jurisdiction.**

In our issue of Oct., 1908, we published a list of railway companies under this heading, the same being copied from a return presented to the Senate, in response to a resolution adopted by that body. We were subsequently informed by the Secretary of the Board of Railway Commissioners that the list as submitted to the Senate was incorrect, and he has since supplied us with the following list of railway companies which are not within the jurisdiction of the Board:

- Beersville Coal and Ry. Co.
- Bracebridge and Trading Lake Ry.
- Brandon Transfer Ry.
- Brantford and Erie Ry.
- Bruce Mines and Algoma Ry.
- Boston and Maine Rd.
- Burk's Falls and French River Ry.
- Campbellford, Lake Ontario and Western Ry.
- Canada Coal and Ry. Co.
- Cape Breton Ry.
- Caraguet Ry.
- Carillon and Grenville Ry.
- Central Marmora Ry. and Mining Co.
- Central Ry. of Canada.
- Crow's Nest Southern Ry.
- Gulf Shore Ry.
- Halifax and Southwestern Ry.
- Halifax and Yarmouth Ry.
- Hamilton, Grimsby and Beamsville Electric Ry.
- Harvey Branch Ry.
- Hereford Ry.
- Hillcrest Ry. and Coal Co.
- Huron and Ontario Ry.
- Irondale, Bancroft and Ottawa Ry.
- Indian River Ry.
- International Ry.
- International Coal and Mining Co.
- International Ry. of N.B.
- Inverness Ry. and Coal Co.
- Kaslo and Slocan Ry.
- Kent Northern Ry.
- Kootenay Ry. and Navigation Co.
- Kootenay Valley Ry.
- Lenora, Mount Sicker Ry.
- Liverpool and Milton Ry.
- Lotbiniere and Megantic Ry.
- Maganetawan Ry.
- Massawippi Valley Ry.
- Midland Ry. (Manitoba).
- Morrissey, Fernie and Michel Ry.
- New Westminster Southern Ry.
- Nosbonting and Nipissing Ry.
- Nova Scotia Steel and Coal Co.
- Pacific Northern and Omineca Ry.
- Phillipsburg Ry. and Quarry Co.
- Prince Edward Island Ry.
- Quebec Central Ry.
- Quebec and Lake St. John Ry.
- Sydney and Louisburg Ry.
- Temisaming and Northern Ontario Ry.
- Vancouver Copper Co.'s Ry.
- Victoria and Sidney Ry.
- Victoria Terminal Ry. and Ferry Co.
- Wellington Colliery Ry.
- York and Carleton Ry.

**Telephone Dispatching on the C.P.R.**

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, speaking recently on the installation of telephones to replace the telegraph for dispatching on the C.P.R. system, is reported to have said: "During the last few years great improvements have been made in telephone apparatus, with the result that uses can be made of it which were not possible in earlier years. During the last three years the C.P.R., with other roads, has been making experiments in the use of the telephone for train dispatching. Early last season telephone equipment was supplied to the line from Montreal to Farnham, a very busy section, and the success of the test was so marked that the equipment was continued to Newport. Early in the year, Mr. Whyte, Second Vice-President, who keeps in the closest touch with all new developments, asked me for estimates for certain sections of western lines. As a result, appropriations were secured for the immediate installation of telephone equipment on two important sections, namely, from Winnipeg to Brandon, 133 miles, and from Swift Current to Medicine Hat, 150 miles. Heavy copper metallic circuits will be provided, two heavy copper wires being strung on each section. These circuits will be entirely self-contained, the signalling and talking all being done on the same pair of wires."

It was recently reported that the C.P.R. proposed to extend the present area of telephone dispatching on the Eastern Division, by installing it between Montreal and Ottawa, but we are officially advised that there is no such intention and that such a proposition has not received any consideration as yet.

**Canadian Pacific Railway Forestry.**

The C.P.R. Forestry Department was started in 1906, with the object of experimenting upon small sections through the prairie to ascertain if timber suitable for ties could be grown thereon. Tamarac and jack pine have been planted, but a considerable time must necessarily elapse before any definite conclusions can be drawn as to the possible results. In the spring, European larch and other varieties will be planted. In connection with this work a nursery has been established at Wolseley, Sask., for the supply of seedlings, and another one will be ready at Springfield, Man., early next spring. In addition to this work, small parks have been planted on land adjoining several small towns in the western provinces, the majority of which are co-operating with the company in making a success of the work, which is in the charge of a man formerly employed by the City of Berlin in a similar capacity. Another feature of the department is the planting of trees along the line, to replace snow fencing, and to act as wind-breaks around section houses, etc. A large number has already been planted around section houses, and, with two exceptions, the growth has been extremely satisfactory. Among the varieties to be used are Scotch pine, spruce, laurel, golden and red willows, etc., much depending on the character of the soil, location, climate and rainfall. The trees already planted are as yet not sufficiently grown to make a show from the roadway, but in a few years' time their appearance will considerably enhance the view from all points.

J. R. Binns, the wireless telegraph operator on the s.s. Republic, when she was run down by the s.s. Florida off the Nantucket Shoal recently, was presented with a suitably engraved gold watch, by G. Marconi, on behalf of the Marconi Wireless Telegraph Co., London, Eng., Feb. 9, "in recognition of the efficient discharge of his duties on that occasion."

The appeal of the C.P.R. against the assessment by the British Columbia Government of lands in the Nelson, Slocan, Golden and Fort Steele districts, forming part of the British Columbia Southern Ry. land grant, which the C.P.R. earned by the construction of the Crow's Nest Pass and other lines, came before the Court of Revision at Nelson, B.C., recently. The amount involved is estimated at between \$125,000 and \$150,000.

**ELECTRIC RAILWAYS**

**Dominion Power and Transmission Company.**

The annual meeting of this company, which controls and operates, among other utilities, the Hamilton Street Ry., the Hamilton and Dundas Ry., the Hamilton, Grimsby and Beamsville Ry., and the Brantford and Hamilton Ry., was held in Hamilton Feb. 16. The financial report does not give the earnings and expenses of the various constituent companies. The net earnings for the year 1908 were \$249,193.35; bond interest, \$125,000; carried to profit and loss, \$124,193.35; the balance at the credit of which, on Jan. 1, 1908, was \$9,371.41. There was paid in dividend on preference stock \$87,451.27, and on limited preference \$23,494.50, leaving \$22,619.05 at

balance of profit and loss Dec. 31, 1908. The combined earnings of properties owned or administered by the company were \$1,600,312.25; operating expenses, \$974,641.44; bond interest, \$323,047.32; balance to profit and loss, \$302,623.49.

The directors' action in passing the dividend in order to provide for improvements on the Hamilton St. Ry. was approved. It was announced that, provided satisfactory arrangements could be made with the city council, new tracks would be laid on Herkimer, James and Barton Streets this year, and later on, the York, King St. West and Locke Street lines would be reconstructed. The company wants permission to widen the devil strip from 4 ft. to 5 ft. all over the city.

The retiring directors were re-elected. The officers and directors for the current year are: President, J. R. Moodie; Vice-President, Jas. Dixon; Treasurer, J. Knox; Secretary, W. C. Hawkins; other directors: J. W. Sutherland, S. O. Greening, L. Harris, W. Southam, A. Cooke.

It is said that an expert traction manager is to be appointed.

**London Street Ry. Co's. Report.**

Following are extracts from the report for the year 1908:

EARNINGS.		
	1907	1908
Passengers.....	\$226,509.77	\$230,866.09
Miscellaneous.....	5,866.82	4,166.31
Gross Earnings.....	\$232,376.59	\$235,032.40
EXPENSES.		
MAINTENANCE:		
Way and structures.....	\$ 17,294.91	\$ 13,573.55
Equipment.....	24,279.36	28,128.03
TRANSPORTATION:		
Power plant.....	32,882.44	30,125.32
Car service.....	65,864.88	68,845.27
GENERAL.....	27,703.29	26,894.55
Total operating expense..	\$168,024.88	\$167,566.72
NET EARNINGS.....	\$ 64,351.71	\$ 67,465.68
DEDUCTIONS.		
Interest on bonds.....	\$ 25,000.00	\$ 25,005.82
Interest on overdraft.....	2,228.64	3,448.92
Total deductions.....	\$ 27,228.64	\$ 28,454.74
NET INCOME.....	\$ 37,123.07	\$ 39,010.94

"The policy of your directors to keep the properties in the very best condition has been maintained during the year, and in addition the following improvements have been made:

"Track and roadway, Ottawa Avenue derail, \$211.12; electric line, lightning arresters, \$345.96; power plant equipment, Gould storage battery balance, additional circuit breakers, oiling system, consulting engineer, \$7,966.97; cars, fenders, trucks, \$1,260.32; electric equipment of cars, five complete, \$5,988.01; interest and discount, discount on bonds, \$1,000.00; miscellaneous, printing mortgage, issue and delivery of bonds, \$66.27; paving, Dundas St., Wellington to Adelaide, 3,900 ft., \$13,971.99; total, \$30,810.64.

"The tracks have been generally repaired during the year and are in good shape. When the city required Dundas St. repaved between Wellington and Adelaide Sts., it was found desirable to rebuild the double-track in this section and a most substantial construction was adopted, new 70-lb. high T rail in 60-ft. lengths being laid on A no. 1 cedar ties embedded thoroughly in a concrete foundation to a depth of 6 ins., making a very durable job and demonstrating the superiority of T over groove girder rail. While the cost is an abnormal charge on the maintenance at present, we feel confident however that results will show the wisdom of this policy. The rolling stock has been well maintained during the year, the older cars being entirely overhauled and in some cases practically rebuilt with such alterations



### The Canadian Pacific Railway Company.

Dividends for the half-year ended 31st December, 1908, have been declared as follows:

On the Preference Stock, Two per cent.  
On the Common Stock, Three per cent.

A further sum equal to one-half of one per cent. on the Common Stock will be paid thereon at the same time out of interest on the proceeds of land sales.

Warrants for the Common Stock Dividend will be mailed on 31st March next, to Shareholders of record at the closing of the books in Montreal, New York and London respectively.

The Preference Stock Dividend will be paid on Thursday, April 1st next, to Shareholders of record at the closing of the books at the Company's London Office, No. 62 Charing Cross, London, S.W.

The Common Stock Transfer Books will close in Montreal, New York, and London at 3 p.m. on Monday, March 1st. The Preference Stock Books will also close at 3 p.m. on Monday, March 1st.

All books will be re-opened on Friday, April 2nd next.

By order of the Board,

W. R. BAKER,  
Secretary.

Montreal, 8th February, 1909.

**NOTICE.**—The Canadian Pacific Railway will apply to the Parliament of Canada, at its present session, for an Act,—

I.—Extending the time within which it may construct: (a) the railway which it was authorized by chapter 52 of the Statutes of 1902 to construct from a point at or near Piles Junction, thence to Shawinigan Falls, and thence to Grand Mere.

(b) The railways which it was authorized to construct by section 3 (a), (b), (c), (d), (f), (g) and (i) of chapter 74 of the Statutes of 1907, as follows:

(1) From a point in townships 32 to 34, range 21 to 23, west 2nd, northerly to Prince Albert.

(2) From a point on its Pheasant Hills Branch, in township 39 or 40, range 19 or 20, west 3rd, towards Battle River, thence westerly through township 43, 44 or 45 to a point in range 5 or 6, west 4th, thence southerly and westerly to township 36, 37 or 38, range 11, 12 or 13, west 4th.

(3) From a point in township 27, 28, 29, 30 or 31, range 4, 5, 6 or 7, west 3rd, in a westerly and northerly direction to a junction with the terminus of the Lacombe Branch of the Calgary and Edmonton Railway.

(4) From a point in township 39, 40, or 41 range 3, 4 or 5, west 4th, to a point in township 30, 31 or 32, range 17, 18 or 19, west 3rd.

(5) From Weyburn westerly through township 6, 7, 8 or 9 to a point in range 30, west 2nd.

(6) From a point at or near Estevan to a point in township 4, range 22 west 2nd.

(7) From a point in township 6, 7, 8 or 9, range 30, west 2nd, westerly to connect with the Crow's Nest Pass Branch between range 16, west 4th, and Lethbridge.

II.—Authorizing it to construct a line from a point on the revision of the Crow's Nest Pass Branch in township 9, range 22, west 4th, in a northerly and northwesterly direction to a point of junction with the Macleod Branch of the Calgary and Edmonton Railway at or near Aldersyde, in the Province of Alberta, a distance of about 85 miles.

And for other purposes.

WALTER R. BAKER,  
Secretary.

Dated at Montreal, 20th January, 1909.

## TORONTO BOLT AND FORGING CO.

Manufacturers of

LIMITED

### BOLTS AND NUTS

OF ALL KINDS, INCLUDING

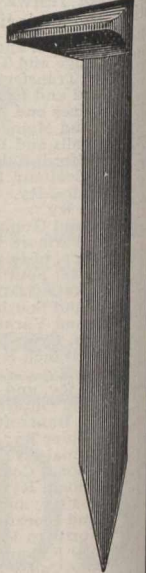
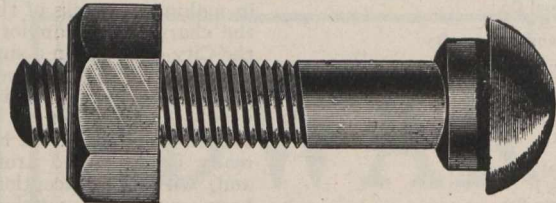
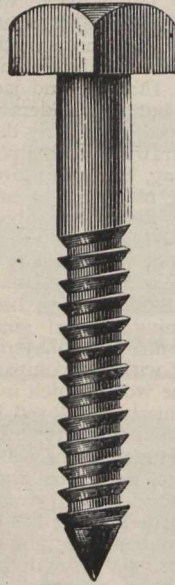
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Track Spikes

Lag Screws

Boiler and

Bridge Rivets



TORONTO

CANADA

## DOTY ENGINE WORKS CO.

LIMITED

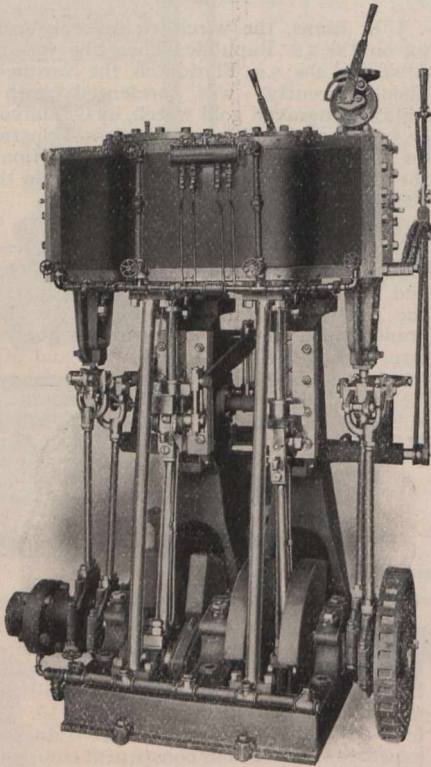
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MARINE ENGINES  
MARINE BOILERS

For Fresh and Salt  
Water Service

We Build Steel, Composite and Wood Hulls

WRITE FOR CATALOGUES AND ESTIMATES





as have been found advantageous, so that all our cars are now in a first-class condition. The complete installation of the 320 ampere storage battery has equalized the extreme demands for power and has made a noticeable decrease in the coal consumption as well as effectively increasing the capacity of the plant. Negotiations with the city relative to the extension of the company's line in the north end of the city are still under consideration. Your directors met the committee of the city council relative to the proposed purchase of the railway by the city in accordance with their request on February 6, 1908, but since then there has been no further development. All agreements with the city have been fulfilled, the two-way service demanded on the Ottawa line having proved satisfactory has been maintained with a fair return. Your directors have great pleasure and satisfaction in being able to state that the sentiment in the community generally is favorable to the company, and it is the constant aim of the management to so improve the service as to merit the goodwill of the patrons. A committee of citizens desirous of obtaining Sunday cars secured the consent of the council to authorize a vote on the matter at the municipal election in January, which resulted with a substantial majority in favor of same. Your directors disposed of \$50,000 of bonds during the latter part of the year at a very fair price, considering the financial depression, and prices of like securities. In view of the general decline in business throughout the country we draw your attention with pleasure to the increase in the gross earnings and surplus for the past year. We confidently expect that the coming year will prove quite as satisfactory. There were 63 shareholders of record Dec. 31, 1908.

ASSETS.

Road and equipment, real estate, buildings and plant.....	\$1,105,474.98	
Improvements, additions, etc.....	30,810.64	\$1,136,285.62
Cash on hand.....	\$ 1,868.98	
Accounts receivable.....	1,159.35	
Stores.....	21,107.74	
Coal stock.....	2,285.36	
Suspense.....	13,441.11	
Uniforms.....	223.42	
Sundries—(prepaid accounts).....	73.92	
Unexpired insurance.....	200.00	40,359.88
Total.....		<u>\$1,176,645.50</u>

LIABILITIES.

Capital stock.....	\$ 550,000.00	
Bonds—5%.....	550,000.00	
Mortgage (Bathurst St. lots).....	750.00	\$1,100,750.00
Bond interest.....	\$ 8,662.82	8,662.82
Molsons Bank (over-draft).....	\$ 9,533.88	
Accounts and wages payable.....	15,289.35	
Dividend payable Jan. 2, 1909.....	16,442.42	41,265.65
Tickets float (unredeemed tickets).....	\$ 6,522.92	
Injuries and damages fund.....	1,418.51	
Profit and loss (surplus).....	18,025.60	25,967.03
Total.....		<u>\$1,176,645.50</u>

PROFIT AND LOSS ACCOUNT.

Dividend (3%) payable July 15, 1908.....	\$ 16,269.34
Dividend (3%) payable Jan. 2, 1909.....	16,442.42
Directors' and auditors' fees.....	1,470.00
Adjustments.....	7,642.23
Surplus.....	18,025.60
Total.....	<u>\$ 60,169.59</u>
Surplus, Jan. 1.....	\$ 21,138.77
Unclaimed wages.....	19.88
Net income for 1908.....	39,010.94
Total.....	<u>\$ 60,169.59</u>

Statistical information: Gross earnings, \$235,032.40; operating expenses, \$167,566.72; expenses per cent. of earnings, 71.3; net

earnings, \$67,465.68; net income per cent. of capital, 7.10; passengers carried, 6,442,998; car earnings per revenue passenger, 3.64c.; transfers, 1,062,306; total passengers, 7,505,304; car earnings per passenger, 3.07c.; car mileage, 1,427,353; gross earnings per car mile, 16.47c.; operating expenses per car mile, 11.74c.; net earnings per car mile, 4.73c.; miles of track, 33.25; gross earnings per mile of track, \$7,068.64.

At the annual meeting Feb. 3, an increase of \$50,000 in the capital stock was authorized for extensions, etc., contemplated for the current year. The officers and directors were re-elected for the current year as follows: President, H. A. Everett, Cleveland, O.; Vice-President, T. H. Smallman, London; other directors, P. W. B. Broderick, W. M. Spencer, London; H. S. Holt, Montreal; E. W. Moore, C. W. Wason, Cleveland, O.; Manager, C. B. King; Sec.-Treas., G. H. Bentson.

Winnipeg Electric Railway Report.

W. Whyte, Vice-President, occupied the chair at the annual meeting in Winnipeg Feb. 10. Following are extracts from the report for the year 1908 signed by W. Mackenzie, President:

"The gross profits were \$1,117,222.38, as compared with \$946,675.67 in 1907. After providing for percentages on earnings accrued to the city and interest on bonds, your directors declared four quarterly dividends, amounting to \$595,789.46, leaving a surplus of \$149,613.78, which has been transferred to the credit of profit and loss account, making a total credit to this account to Dec. 31, 1908, of \$598,024.41. The percentages of earnings show an increase of 28.08% compared with 1907, while the operating expenses show an increase of 40.36%, as compared for the same period. The net earnings show an increase of 18.01% over those of 1907.

"The roadbed, rolling stock, buildings and other properties have been efficiently maintained. The hydraulic works at Pinnawa Channel, Winnipeg River, have also been very satisfactorily and efficiently maintained, and your directors believe will compare favorably with any power plant of equal capacity. The car service, both as to efficiency of operation and equipment, compares favorably with that of any street car company in America. The following improvements and additions to the company's equipment and system have been made: 17 large double-truck closed cars, equipped with air brakes, heaters in the motorman's vestibule, and other modern appliances, were constructed in the company's Winnipeg shops and put into service. 12,963 miles of track were constructed; 3,381 miles of this being surface track with ballast, 1,935 miles track in wood block pavement, .887 miles track in macadam pavement, and 6.758 miles track with concrete foundation. 1,344 new poles were erected in the extension of power and electric lighting lines, with 302,049½ lbs. of wire. 26,806 ft. of gas main were laid in extending and renewing the system of gas mains. 31,840 ft. gas pipe were laid, installing 558 new gas services and renewing old ones.

ASSETS.

Cost of property, street railway, buildings, plant and equipment; electric lighting, plant and equipment; electric power, plant and equipment; gas buildings, plant and equipment; water power, plant and equipment.....	\$12,722,247.89
Stores.....	135,545.93
Accounts receivable.....	104,659.81
Cash on hand.....	7,976.92
Conductors' working fund.....	5,819.05
Winnipeg, Selkirk and Lake Winnipeg Ry.....	403,550.82
Total.....	<u>\$13,379,800.42</u>

LIABILITIES.

Capital stock.....	\$ 6,000,000.00
Bonds.....	5,000,000.00
Accounts payable.....	\$ 705,156.45
Wages for Dec.....	36,791.12
Interest on bonds paid Jan. 2, 1909.....	125,000.00
Car license due Feb. 1, 1909.....	\$ 3,500.00
City percentage due Feb. 1, 1909.....	44,981.63
Unredeemed tickets.....	48,481.63
Bank of Montreal.....	3,267.80
Suspense.....	658,297.08
	204,781.93
Surplus.....	\$12,781,776.01
	598,024.41
Total.....	<u>\$13,379,800.42</u>

CONTINGENT LIABILITY.

Suburban Rapid Transit Co.'s bonds.....	\$ 500,000.00
Winnipeg, Selkirk and Lake Winnipeg Ry. bonds.....	400,000.00
Interest and payment guaranteed.....	\$ 900,000.00

REVENUE AND EXPENDITURE.

Gross earnings for year.....	\$2,206,094.88
Gross expenses for year.....	1,088,872.50
Net earnings for year.....	\$1,117,222.38
Fixed charges.....	\$371,819.14
Dividends.....	595,789.46
	967,608.60
Surplus for year.....	<u>\$ 149,613.78</u>

PROFIT AND LOSS ACCOUNT.

Balance at credit Dec. 31, 1907.....	\$ 806,310.63
Less paid on account stock dividend.....	357,900.00
	\$ 448,410.63
Net earnings.....	149,613.78
Balance at credit Dec. 31, 1908.....	<u>\$ 598,024.41</u>

The passengers carried in 1908 were 22,019,507, against 20,846,317 in 1907. The number of transfers issued was 7,777,315, against 5,954,067. The railway earnings per capita were 9.80, against 9.84.

The directors and officers for the current year, who were re-elected, are: President, W. Mackenzie; Vice-President, W. Whyte; Secretary-Treasurer, F. Morton Morse; other directors: D. D. Mann, Sir Wm. C. Van Horne, A. M. Nanton, Hugh Sutherland, D. B. Hanna, R. J. Mackenzie; Manager, Wilford Phillips.

Toronto Ry. Co.'s Report.

Following are extracts from the report for the year 1908:

"While it was naturally to be expected that the gross income should be somewhat adversely affected by the recession in general business conditions prevailing throughout the year, which resulted in the closing down in whole or in part of many manufacturing establishments, and the general curtailment of trade, it is very gratifying to be able to present so favorable a report, showing as it does an increase in the net earnings of \$103,264.91. A summary of the reports and statements attached shows the following results for the year:

Gross passenger earnings.....	\$3,566,493.72
Maintenance and operating expenses.....	1,889,046.62
Net earnings.....	\$1,677,447.10
Sundry incomes.....	43,779.26
Total net earnings.....	<u>\$1,721,226.36</u>

DEDUCTIONS.

PAYMENTS TO CITY:	
Percentages.....	\$ 447,397.67
Cost of pavements.....	81,158.00
Taxes.....	50,438.89
Total payments to city.....	\$ 578,994.56
Bond interest, etc.....	195,033.33
	774,027.89

SURPLUS.....	\$ 947,198.47
Deduct four quarterly dividends of 1½% each.....	479,513.80
Net surplus after payment of all fixed charges and dividends.....	<u>\$ 467,684.67</u>
Percentage of maintenance and operating expenses to passenger earnings.....	<u>52.9%</u>



"The increase in gross passenger earnings amounted to \$147,005.64, which, considering the general depression mentioned above, is very satisfactory. Another favorable feature is the fact that all maintenance and operating departments show decreases. The chief reduction occurs in the cost of power and the shareholders are to be congratulated upon the advantageous outcome of the negotiations whereby this company has secured control of the splendid property of the Electrical Development Co. and its practically unlimited supply of power. In this connection, it is a source of gratification that since the company commenced using power from Niagara Falls, over two years ago, the interruptions to the service have not aggregated three hours.

"During the year \$431,870.94 has been expended for extensions, additions and betterments. Over 40 of the latest type

**NOTICE** is hereby given that the Annual Meeting of the Shareholders of the **VICTORIA ROLLING STOCK COMPANY OF ONTARIO, LIMITED**, will be held at the offices of Messrs. Osler & Hammond, 21 Jordan Street, Toronto, on **Wednesday, March 3rd, 1909**, at twelve o'clock noon, for the reception of the Annual Report and election of Directors for the ensuing year.

By order,

R. A. SMITH,  
Secretary.

Toronto, February 12th, 1909.

**NOTICE** is hereby given that application will be made by the Grand Trunk Pacific Branch Lines Company, to the Parliament of Canada, at the present session thereof, for an Act amending its Act of incorporation, 6 Edward VII, chapter 99, by empowering the said company to lay out, construct and operate a line of railway from a point on the company's authorized line at or near Regina, Province of Saskatchewan, thence westerly to Moosejaw, a distance of about 45 miles, and to issue bonds, debentures or other securities in respect thereof to the extent of thirty thousand dollars per mile.

W. H. Biggar,  
Solicitor for Applicants.

Montreal, 15th February, 1909.

**NOTICE** is hereby given that application will be made by the Grand Trunk Pacific Branch Lines Company to the Parliament of Canada, at the present session thereof, for an Act amending its Act of incorporation, 6 Edward VII, chapter 99, by empowering the said company to lay out, construct, and operate the following lines of railway:—(1) From a point on the main line of the Grand Trunk Pacific Railway west of Pembina Crossing, in the Province of Alberta, thence running southwesterly to a point at or near the Embarras River, and thence in a southerly direction towards the headwaters of the Little Pembina River, a distance of about 100 miles; (2) From a point on the main line of the Grand Trunk Pacific Railway, thence along the Embarras River running southwesterly towards the McLeod River, a distance of about 25 miles; (3) From a point on the company's authorized line between Calgary and Coutts and running southwesterly to McLeod, thence through or in the vicinity of Pincher Creek to the western boundary of the Province of Alberta, a distance of about 100 miles, and to issue bonds, debentures or other securities in respect thereof to the extent of thirty thousand dollars per mile.

W. H. BIGGAR,  
Solicitor for Applicants.

Montreal, 8th February, 1909.

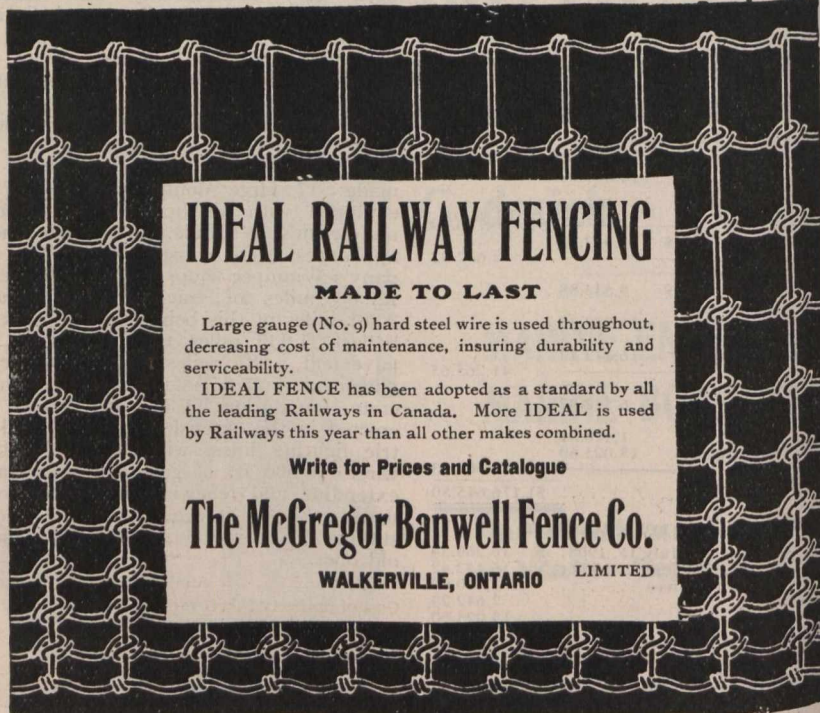
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## Automatic Acetylene Gas Buoys, Beacons and Fog Signals.

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IDEAL FENCE has been adopted as a standard by all the leading Railways in Canada. More IDEAL is used by Railways this year than all other makes combined.

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of double-truck convertible cars were constructed in the company's shops, and placed in service, thereby affording the company additional facilities for handling the ever increasing traffic.

"The loop lines constructed two years ago have proved of such great advantage to the public that, during the past year, the Richmond St. loop was extended easterly from Victoria to Church St.

"Careful attention has again been devoted to maintaining the different properties of the company and substantial improvements and betterments have been made.

"While our relations with the city council have continued friendly, it is to be regretted that notwithstanding the reports of the city engineer, and of the special expert engaged by the city endorsing the streets selected by the company for new tracks, the city has not seen the wisdom of assisting the company to relieve the congestion which so severely inconveniences the public. The company paid the city in 1908, \$578,994.56, an increase of 210% in the last decade. Since the inception of the company in 1891, it has paid into the city treasury \$4,554,446.00.

"The earnings of the Toronto and York Radial Ry. Co., during the year, have been very satisfactory. The gross earnings total \$314,564.00, as compared with \$282,144.00 in 1907. The Lake Simcoe extension to Jackson's Point, 24½ miles, was operated in 1907 for only six months. This line was recently extended to Sutton, 1½ miles, and the extension was opened for traffic in Dec. The revenues of the T. and Y.R.R. Co. are derived as follows: Passenger earnings, \$268,808.80; freight, express, mail, \$45,755.31; total, \$314,564.11. The freight and express earnings continue to improve and show a gain of 23% over the previous year. The company's property has been maintained in excellent condition, and, after all operating expenses have been accounted for, there remains net earnings of \$110,202.57, as against \$105,740.35 for the previous year."

The number of passengers carried in 1908 was 89,139,571, against 85,574,788 in 1907. The transfers issued were 32,700,576, against 31,370,825 in 1907.

The percentage of operating expenses to earnings, 52.9, compares with previous years as follows: 1907, 53.9; 1906, 52.9; 1905, 56.8; 1904, 58.2; 1903, 55.3; 1902, 55.3; 1901, 51.6; 1900, 51; 1899, 48.8; 1898, 47.4.

ASSETS.	
Road and equipment, real estate and buildings, including pavements, etc.	\$13,972,891.00
Stores in hand	369,187.09
Accounts receivable	654,820.86
Cash in bank	442,568.63
	<u>\$15,439,467.58</u>
LIABILITIES.	
Capital stock	\$8,000,000.00
Bonds—4½% sterling	2,415,326.66
4½% currency	983,000.00
6% debentures	600,000.00
Injuries and damages insurance fund	38,736.91
Accounts and wages payable	70,700.00
Accrued interest on bonds	162,063.63
Unredeemed tickets	69,743.02
Unearned accrued sinking fund Toronto Power Co.	70,371.23
Dividend no. 50, payable Jan. 2	122,665.44
Contingent account	120,000.00
Profit and loss as at Dec. 31, 1907	200,742.10
Balance surplus	2,268,433.92
	<u>\$15,439,467.58</u>

TORONTO AND YORK RADIAL RY. CO.—INCOME ACCOUNT.	
Gross earnings	\$ 314,564.11
Operating expenses	204,361.54
Net earnings	<u>\$ 110,202.57</u>

Wm. Mackenzie, President, who occupied the chair at the annual meeting Feb. 3, said that the earnings for Jan., 1909, were \$18,600 over those for Jan., 1908. In

answer to a question he announced that the dividend would be advanced from 6% per year to 7% with the next quarterly distribution. The directors were re-elected. The officers and directors for the current year are: President, Wm. Mackenzie; Vice-President, F. Nicholls; Hon. G. A. Cox, W. D. Matthews, Sir H. M. Pellatt, R. Forget, J. Gunn.

**Toronto and York Radial Ry.**

The Ontario Railway and Municipal Board gave the following judgment, Feb. 1, in the case of the Town of North Toronto vs. the Toronto and York Radial Ry. Co.: When this application came before the Board Nov. 23, 1908, counsel for the parties consented to an inspection and report by J. F. H. Wyse, C.E., the Board's engineer. Mr. Wyse, in the course of his inspection, conferred with the company's engineer and the applicants, and has made his report. The Board heard arguments Jan. 26 upon the report, and the only question now is, as to whether or not the Board has power, under the contract or under the Railway Act, to make an order carrying out the engineer's recommendations.

The chief objection made by the company is in reference to the drains across the tracks, and the macadamizing between the rails and 18 ins. on the outside. The Board has examined the locus in quo on more than one occasion, and knows that the tracks are in a portion of the travelled road. The contract between the parties is found in schedule A to 60, Vic. 1897, cap. 92. Section 10 of the contract is clear that the road within and alongside of the switches and turnouts must be macadamized as the applicants' engineer shall direct. Sec. 13 of the contract provides that the whole space occupied by the track allowance shall be kept in good order and repair to the satisfaction of the applicants' engineer. The Board is of opinion that the only way to keep the tracks in good order and repair is to put in drains and to macadamize as recommended by the Board's engineer. The Board therefore orders that its engineer's recommendations as to drains across the tracks and macadamizing switches, turnouts, and tracks shall be carried out by the company. This work shall be done within 4 months from the date of the formal order. The split switches now in use are faulty in construction for an electric railway, and must be replaced by tongue switches.

"With reference to the Glen Grove cars, the Board is of opinion that they are dangerous to the public from want of renewal and repair, and proper brakes, etc., and by reason of the bad and ragged condition of the fenders. The Board therefore orders that its engineer's recommendations be carried out by the company. The Board thinks that 4 new cars will be sufficient for this service, and that they should be put in commission with all reasonable despatch, and not later than May 1.

"The engineer not having made any recommendation as to the removal of snow, the Board reserves that question for further order and direction.

"In reference to the discrimination between local and through traffic, the Board thinks that if the company's rule as to the right-of-way on the Glen Grove division is observed by the conductors and motormen, it will secure as good a local service as can be given under existing conditions. The Board, however, desires to point out its engineer's recommendation that the company's line through North Toronto should be double-tracked, in the centre of the street. One does not require to be an engineer to know that it is very difficult to make a service satisfactory where cars have to be side-tracked for other cars to pass. This

causes delay and irregularity in the service which will always be unsatisfactory to the public. The portion of Yonge St. maintained by the applicants is in very bad condition, hollow in the centre instead of being crowned; in wet weather muddy, and in dry weather full of ruts. The company is prepared to double-track. The town should not only permit the company to do so, but it should crown up the street and macadamize it from side to side. There is no reason why the people of North Toronto should not have, not only a good street railway service, but also a decent street for their vehicular traffic. The Board strongly recommends the town authorities and the company to get together with a view to improving the unsatisfactory conditions that now exist, and are sure to continue so long as the cars are operated on a single track.

"The company will have to pay \$20 for stamps on the formal order, but otherwise the Board makes no order as to costs."

**Ottawa Electric Railway Company.**

Following are extracts from the report for the year 1908: The gross earnings for the year were \$616,229.37, against \$574,278.46 in 1907. The net earnings for the year were \$199,439.81. Dividends amounting to 12% were paid. 13,711,382 passengers were carried compared with 12,623,440 in 1907. While the gross receipts showed a satisfactory increase considering the prevailing business depression, they were more than counterbalanced by exceptional increases in working expenses. This was due to various causes, among them the item of snow clearing, \$30,000, being twice as much as the average year; the expense caused by the extreme lowness of the Ottawa River last fall, necessitating the use of steam power, and the heavy damages resulting from a collision between two cars on the Britannia line on May 24.

During the year the water power users, including this company, have constructed a concrete dam above the Chaudiere Falls, which, in connection with a series of storage dams to be built by the Dominion Government on the upper reaches of the Ottawa River, will overcome the water shortage, and will add to the value of the company's water powers.

The net earnings have been disposed of as follows: Interest paid on bonds and loans, \$26,736.11; four quarterly dividends of 2½% and a bonus of 2%, \$146,818.70; mileage payments, \$12,302.13; placed to credit of contingent account to be applied to reduction of track renewal, car equipment and other accounts, \$13,582.87; total, \$199,439.81. The balance remaining at credit of profit and loss account is \$34,988.88, and of rest account \$200,000.

Last summer a contract was entered into with the Minister of Agriculture for the extension of the tracks from Holland Ave. through the Experimental Farm. This work was completed in the fall. At the same time the Holland Ave. tracks were relaid with heavy rails, and the gradient much improved. Eighty-pound rails were also put down on Somerset St. from Bay St. to Bronson Ave., where a new asphalt pavement was laid, and on Princess Ave. from Government House gate to the Rockcliffe car barns. A new car barn has been erected on the west side of Cobourg St. on lots purchased last summer, which will give store-room for 48 single-truck cars. Two single-truck pay-as-you-enter cars were put into service last fall, and have proved so satisfactory that it has been decided to increase the number, and 12 more are under construction. In compliance with an order made by the Board of Railway Commissioners the Somerset St. bridge was widened 14 ft. One-fourth the cost of this



work will be paid by the city. Your directors look forward to a successful business during the coming year.

ASSETS.

Roadbed and equipment, water power property and plant, real estate and buildings.....	\$2,183,590.78
Stores.....	5,495.48
Cash.....	9,973.14
Accounts receivable.....	2,457.18
Insurance paid in advance.....	5,150.00
	<u>\$2,206,666.58</u>

LIABILITIES.

Capital stock.....	\$1,247,700.00
First mortgage, 4% bonds.....	500,000.00
Dividend, payable Jan. 1, 1909.....	56,140.77
Interest on bonds, payable Jan. 5, 1909.....	10,000.00
Unpaid dividends.....	390.67
Pay list to Dec. 31, 1908.....	12,386.15
Bills payable.....	130,000.00
Accounts payable.....	1,477.24
Contingent account.....	13,582.87
Rest account.....	200,000.00
Profit and loss account.....	34,988.88
	<u>\$2,206,666.58</u>

PROFIT AND LOSS ACCOUNT.

Balance at credit Dec. 31, 1907.....	\$ 34,988.88
Net profit for 1908.....	199,439.81
	<u>\$ 234,428.69</u>

Dividends and bonus.....	\$ 146,818.70
Interest on bonds and loans.....	26,736.11
Mileage payment.....	12,302.13
Contingent account.....	13,582.87
Balance at credit Dec. 31, 1908.....	34,988.88
	<u>\$ 234,428.69</u>

The passengers carried during the year were 13,711,382, against 12,623,440 in 1907. The percentage of operating expenses to receipts was 66 4/10%, against 59 8/10% in 1907.

At the annual meeting Feb. 1 the directors were re-elected. Following are the officers and directors for the current year: President, T. Ahearn; Vice-President, P. Whelen; other directors: G. P. Brophy, Hon. G. A. Cox; W. Y. Soper, T. Workman; Secretary-Treasurer, J. D. Fraser.

Projects, Construction and Betterments.

Calgary, Alta.—Tenders were received to Feb. 18, for the supply of three water tube boilers, equivalent to 1,000 h.p., with piping and induced draft system for 2,500 h.p.; one 500 k.w. generator connected to a 750 h.p. high speed engine for railway system, with condensers, switchboard, etc.; 397 tons of 80-lb. steel rails, 746 tons of 60-lb. steel rails, with special work, angle irons, etc.; 12 standard street railway cars; 1 street railway sprinkler and 1 street railway sweeper; and also for the overhead work necessary on the street railway system under construction. (Feb., pg. 135.)

Cobourg, Port Hope and Havelock Ry.—At a meeting of Hamilton township council, Feb. 5, a resolution was passed recommending the legislature to pass the act of incorporation, "as being the one route and company in our opinion in the best interests of the township and this community." (Feb., pg. 135.)

Dominion Ry. and Plaster Co.—The Cape Breton, N.S., county council has decided to grant a bonus of \$2,000 a mile and exemption from taxation to this company, which is promoting the construction of an electric tramway from Sydney, N.S., to the plaster quarries at East Bay. (See Sydney-East Bay Electric Tram Ry., Feb., pg. 137.)

Fort Erie and Buffalo Bridge Co.—Application is being made to the Dominion Parliament for an act incorporating a company with this title, to construct a highway and general traffic bridge across the Niagara River within the corporate limits of Fort Erie, Ont., and extending to Ferry St., Buffalo, and with power to operate an electric railway over the bridge. Power is also asked to co-operate with a company incorporated in the State of New York, with similar objects. German and Norwood are solicitors for applicants.

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It is the best fence you can buy because it is the cheapest, when measured by the years of good service it will give. PEERLESS FENCING is made of all No. 9 hard, springy wire, which is not easily affected by weather, wear or unruly stock. Just the fence suited to railroads. Neat in appearance—conforms to topography of ground and at same time upright wires are perpendicular. It will pay you to get the free book we are sending to all who write us. A postal will do.

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In the New York State Legislature a bill is under consideration to incorporate a company with the title of the Lower Bridge Co., to construct a bridge across the Niagara River a short distance below the existing G.T.R. bridge. The names mentioned in connection with the incorporation of the company are: W. German, M.P.; Jas. and John Bampfield, C. S. Warner, for the Canadian, and H. G. Nichols, J. L. Nice, M. J. Maloney and L. Hinkey, for the U.S. interests.

**Hamilton Street Ry.**—In the bill which the Hamilton, Ont., city council is asking the Ontario Legislature to pass, it is sought to have power to raise \$125,000 by debentures, the sum necessary to pay the city's share of the cost of construction and repair of the pavements upon certain streets in the city, rendered necessary by the reconstruction of Hamilton St. Ry. tracks. (Feb., pg. 135.)

**Hamilton, Waterloo and Guelph Electric Ry.**—Surveys are being made upon the route of this projected railway. It is reported that the right-of-way from Rockton to Galt, Ont., has been secured, and that it is expected to obtain the remainder of the land required within a couple of months.

**The Huron and Ontario Ry. Co.** is applying to the Dominion Parliament for an act extending the time within which the railways authorized by its several acts may be constructed. It is also desired to have power to issue securities to the amount of \$40,000 a mile of single-track and to \$50,000 a mile of double-track railway constructed.

**Montreal and Southern Counties Electric Ry.**—The by-law voted upon by the St. Lambert taxpayers, Jan. 21, was carried by 246 against 26. (Feb., pg. 136.)

**Montreal Terminal Ry.**—The Dominion Parliament is being asked to pass an act authorizing the company to construct within five years an elevated railway from the western limits of Montreal to the eastern limits of Maisonneuve, Que. The route of the railway is to be approved by the municipalities through which it passes, and in the event of disagreement between the company and the councils it is provided that the route shall be determined by the Board of Railway Commissioners. The bill provides that the railway shall be erected at a height of not less than 20 ft. from the surface of the streets, and that the mode of construction and the manner of operation shall be approved by the municipalities, or in the event of disputes, by the Board of Railway Commissioners.

**The Niagara-Welland Power Co.,** which has power, among other things, to construct an electric railway from Niagara Falls to a number of points north of Lake Erie, is asking the Dominion Parliament to grant it an extension of time within which it may carry out the several works.

**North Midland Ry.**—It was stated, Feb. 6, that a proposition had been prepared for presentation to the London city council, with regard to the construction of this projected railway. The officers of the company say that they have a guarantee that British financial men are prepared to put up \$800,000 upon condition that \$200,000 is raised in Canada. The suggestion is that the city of London should exchange bonds with the company so as to aid in raising the amount.

**People's Ry.**—A statement has been issued within a three-mile radius of the various points through which the line would pass there is a population of 74,224, or 1,216 per mile of the 61 miles. The company's idea is to make this a municipal line, the municipal councils taking \$300,000 of preferred stock; to issue \$600,000 of common stock to the public, and to allot \$100,000 of common stock to the promoters. (Feb., pg. 136.)

**The Port Arthur and Fort William St. Ry.** is being operated by a joint commission repre-

senting the city councils of Port Arthur and Fort William. On the Fort William portion of the line the city proposes to carry out improvements upon the track within the city limits. In the fall of 1908, the council removed half a mile of 40-lb. rails—single track—and replaced it with a double track. The work already done has been performed by day labor, and it is proposed to do further work in the same way. S. L. Farquharson is Construction Superintendent for Fort William.

**The South Western Traction Co.** has under consideration a proposal to extend its line to Aylmer and Delaware, Ont., during the current year. The St. Thomas city council has suggested that it would be prepared to guarantee the company's bonds in respect of such construction if the S.W.T. Co. will take over the municipal line in the city.

**Tillsonburg and Southern Counties Radial Electric Ry.**—The Ontario Legislature is being asked to pass an act incorporating a company with this title, to construct a system of electric railways from Tillsonburg, and to operate in the townships of Bayham, South Dorchester, Middleton, Houghton and North Walsingham, with power to extend the lines to be constructed to London, Woodstock and Ingersoll, with all powers conferred by the Ontario Railway Act of 1906, and such sections of the Light, Heat and Power Act as may be necessary for the successful operation of the said railway.

**The Toronto, Niagara and Western Ry.** is asking the Dominion Parliament to pass an act extending the time within which it may construct the railways authorized by its various acts. The lines authorized include lines from Toronto to Niagara Falls, Ont., and from Niagara Falls through the counties north of Lake Erie.

**Toronto Ry.**—The city of Toronto is making application to the Ontario Legislature for authority, among other things, to raise \$135,000 without first obtaining the consent of the ratepayers, for the cost of bridges, grading, repaving, purchase of lands, etc., necessary to afford access for a street railway to the Exhibition grounds through the Garrison commons, or to use a portion of the revenue derived from the Toronto Ry. for such purposes. Also to authorize the issue of street railway debentures for \$422,396.37 to pay for construction, repaving and renewing pavements on portions of streets occupied by right-of-way of the Toronto Ry.

**The Toronto Suburban Ry. Co.** is applying to the Ontario Legislature for an act extending the time within which it may construct the various lines authorized.

#### Electric Ry. Finance, Meetings, Etc.

**British Columbia Electric Ry.**—Gross earnings for Dec., 1908, \$206,050; operating expenses, \$105,991; net operating earnings, \$100,059; renewal funds, \$11,544; net earnings, \$88,515; income from investments, \$13,550; net income, \$102,065; against \$182,510 gross earnings; \$87,952 operating expenses; \$94,558 net operating earnings; \$10,750 renewal funds; \$83,808 net earnings; \$11,036 income from investments; \$94,844 net income for Dec., 1907. Gross earnings for 6 months ended Dec. 31, 1908, \$1,143,639; net earnings, including income from investments, \$535,139; against \$996,800 gross earnings and \$502,320 net earnings for same period 1907.

**Cape Breton Electric Co.**—Gross earnings for 12 months ended Dec. 31, 1908, \$247,545.69; operating expenses, \$142,509.21; net earnings, \$105,036.48; interest and taxes, \$48,511.93; improvement fund, \$10,950; dividends, preferred stock, 6%, \$14,040; balance, \$31,534.55. The company does the entire electric lighting and electric rail-

way business in Sydney, N.S., and the entire electric lighting business in North Sydney; and operates the ferry between Sydney and North Sydney, and an interurban electric line between North Sydney and Sydney Mines. It owns \$220,000 of the \$427,000 outstanding first mortgage bonds, and \$250,000 of the \$500,000 capital stock of the Sydney and Glace Bay Ry., which has a line of 19 miles between Sydney and Glace Bay. The company has authorized first mortgage, 30 year 5% gold bonds, due Jan. 1, 1932, of \$1,500,000, of which \$860,000 is outstanding; authorized capital stock, \$2,000,000; authorized preferred 6% non-cumulative stock, \$250,000. Of the preferred stock, \$234,000 is issued, and of the common stock \$1,000,000 is issued. The earnings and expenses above quoted include one-half of those of the S. and G.B. Ry. The managers of the company are Stone and Webster, Boston, Mass.

**Edmonton, Alta.**—In the application for additional powers which the Edmonton city council is making to the Alberta Legislature, a clearer definition of the city's right to operate its tramway lines within the city limits is asked for, with a view of setting right some indefiniteness in the acts previously passed. It is also desired to secure an amendment of schedule A of the Edmonton charter, making the borrowing powers thereby conferred in relation to the municipal public works, and those conferred by chap. 45 of the statutes of 1906, on the Strathcona Radial Tramway Co., with such modifications as may be deemed advisable applicable to all public works or utilities, now or hereafter operated by the city.

**Halifax Electric Tramway.**—Total receipts for 12 months ended Dec. 31, 1908, \$190,134.00, against \$174,859.06 for 1907. Receipts for Jan., \$13,785.59; and for 2 weeks ended Feb. 14, \$6,199.52, against \$12,920.09; and \$5,767.08 for same periods 1908.

**Montreal St. Ry.**—Gross earnings for Jan., \$295,453.37; expenses, \$202,344.45; net earnings, \$93,108.92; city percentage on earnings, \$15,230.09; interest on bonds and loans, \$15,107.19; rent leased lines, \$498.67; surplus, \$62,272.97; against \$285,515.36 gross earnings; \$202,503.94 expenses; \$83,011.42 net earnings; \$14,756.41 city percentage on earnings; \$16,732.41 interest on bonds and loans; \$444.43 rent leased lines; \$51,078.17 surplus for Jan., 1908. Gross earnings for 4 months ended Jan. 31, \$1,230,524.47; expenses, \$759,639.47; net earnings, \$470,885.00; standing charges, \$113,304.88; surplus, \$357,530.13; against \$1,188,238.38 gross earnings; \$742,026.88 expenses; \$446,211.50 net earnings; \$115,187.05 standing charges; \$331,024.45 surplus for same period 1907-08.

**St. Thomas Street Ry.**—An offer is under consideration by the city council of St. Thomas, Ont., for the leasing of the electric railway in the city. The South Western Traction Co., which has a line from London to Port Stanley, has offered to take over the St. Thomas city line upon certain conditions. The Street Railway Commissioners have suggested that the S.W.T. Co. take over and operate the line without remuneration in consideration of the city guaranteeing the company's bonds for the extension of its suburban line to Aylmer. The matter is still being discussed.

**South Western Traction Co.**—Application is being made to the Ontario Legislature for an act increasing the company's borrowing powers from \$25,000 to \$33,000 per mile of railway, and authorizing the company to secure the increased indebtedness by giving such securities and creating such liens and charges as may be necessary or expedient.

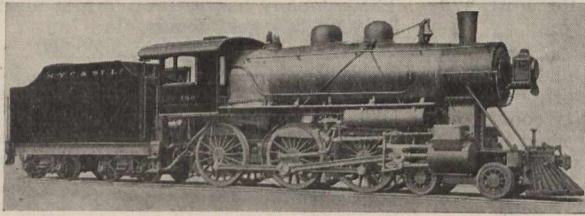
**Toronto Suburban Ry.**—Application is being made to the Ontario Legislature for an act to repeal section 6 of chap. 94, Vict.



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SINGLE EXPANSION AND COMPOUND**



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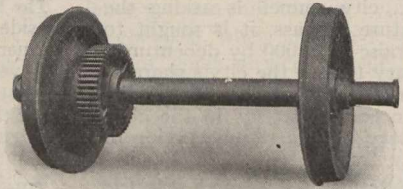
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SOLID FORGED AND ROLLED STEEL WHEELS  
STEEL TIRED WHEELS STEEL AND IRON AXLES  
ELLIPTIC AND HELICAL SPRINGS

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All wire is not the same. We explained in our talk No. 1 that we supply two grades, the 0.30 carbon, known as "High Carbon," and another grade, the 0.10 carbon, generally known as "Hard Drawn" wire. This latter is for those buyers who think they save a cent or two first cost.

Before buying railroad fencing,

Find out for yourself the strength difference between "High Carbon" wire and other kinds. Needn't buy blindfold any more. Test for yourself—this way:

Take a foot-long piece of the horizontal wire from the other kind of fence—and a piece from a Page "High Carbon" Fence.

Heat both pieces cherry-red. Drop them in cold water. And then—

Try to bend them—both of them.

The "High Carbon" wire will be found to have taken such a temper that it will cut glass. The other wire will bend like sheet-tin and easier.

That test proves Page wire to be a real "High Carbon" Wire that will take a temper—which simply means it is high class—steel—hence far greater strength, toughness, power to stand strain and stand up.

And that test also proves "Hard Drawn" a wire that softens if you try to temper it. Such wire is more likely to stretch too much in service—make saggy fences.

Make the test; you'll see then why the cent or two more Page "High Carbon" Wire Fence costs per rod is a great investment—because it gets you a fence that will outlast other kinds two-to-one—because Page Fence is fully a third stronger than the others.

And you will see, too, that this great strength makes it possible to stretch Page "High Carbon" Fence tighter—and to use fewer posts to hold it tight. The saving in posts figures 5 to 8 cents a rod—and yet the Page Fence will be a stauncher fence.

Let us send you a booklet that proves why Page Fences wear best and tells how you can prove fence-quality before you buy it. The Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria.

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Sailing from New York Saturdays.

**Philadelphia—Queenstown—Liverpool**  
Sailing from Philadelphia Saturdays.

## ATLANTIC TRANSPORT LINE

**New York—London**

Sailing from New York Saturdays.

## WHITE STAR—DOMINION LINE

**Portland to Liverpool—Winter**

**Montreal—Quebec—Liverpool**

**Montreal to Avonmouth Docks**

(Bristol and Antwerp)

## RED STAR LINE

**New York—Antwerp—Paris**

Sailing from New York Wednesdays.

## WHITE STAR LINE

**New York—Liverpool—Queenstown—**

Sailing from New York Saturdays.

**N.Y.—Plymouth—Cherbourg—Southampton**

Sailing from New York Wednesdays.

**Boston—Queenstown—Liverpool**

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41 KING ST. EAST, TORONTO.

The Imperial Bank has opened a branch at Cochrane, Ont., the new town located at the junction of the N.T. and T. and N.O. Rys.



57, and confirming in lieu thereof a mortgage deed securing a new issue of bonds.

The **Winnipeg Electric Ry. Co.**'s stocks were listed at the opening of the Winnipeg Stock Exchange, Feb. 1.

### Electric Railway Notes.

The St. John, N.B., Ry. intends putting on a pay-as-you-enter car as an experiment.

Frank Ross is the largest holder of the Quebec Ry., Light and Power Co.'s common stock, with 6,887 shares. Rodolphe Forget, M.P., is the next largest holder, with 4,594 shares.

When the Toronto Ry. constructed the new loop at Sunnyside, it laid tracks, with the approval of the Toronto city council, on a lane which was believed to be public property. Mrs. M. Brett claimed a property right on a portion of it, and Chancellor Boyd has upheld her claim, giving her \$250 damages.

E. P. Coleman, of Taunton, Mass., enters the Dominion Power and Transmission Co.'s service at Hamilton, Ont., Mar. 1. We are advised that he will devote his time to the Company's railway matters more from the business and administrative end than from the operating. His title has not been decided on as yet.

The Toronto and York Radial Ry. Co. has passed the following by-law, which has been temporarily approved by the Ontario Railway and Municipal Board: "No person, except officials of the company, will be allowed to stand in the front vestibule or on the front platform of any cars. On open cars only the seating capacity of the front seat will be allowed. Children under 12 years of age, except when accompanied by their parents, must not be allowed to sit on the front seat."

The Niagara Falls, Ont., Board of Trade has made application to the Ontario Railway and Municipal Board, alleging that the International Ry., through its subsidiary, the Niagara Falls Park and River Ry., has exclusive control for electric railway purposes of the Niagara River bank between Bridge St., Niagara Falls, and Chippewa, thus having a monopoly of the scenic route along the river road in Niagara Falls, through the Queen Victoria Niagara Falls Park, passing the Falls, skirting the upper rapids, and on through to Chippewa; and that all persons desiring to travel along the river road to the park or rapids are compelled to use this railway; and that the minimum cash fare on the company's cars is 10c., no matter how short the ride, and it prays for relief, and that the company be compelled to adopt a 5c. fare for distances not exceeding 3 miles.

The Comptroller of Railway Statistics issued a circular to electric railway companies recently, informing them that the Department had decided on a new form of classification to be adopted in the keeping of their accounts, and that the same must be applied retroactively as from July 1, 1908. The circular admitted that great inconvenience would be caused to companies' accounting officials by this change, but claimed that the advantage of having a uniform system of accounting in Canada and the United States would be a counterbalancing advantage. The new classification is practically identical to the same as that adopted by the U.S. Interstate Commerce Commission, which, however, gave six months' notice before its introduction. The Canadian Street Railway Association's executive committee has promised vigorously against the system being made retroactive. The schedules or forms of returns to be made by companies are not yet obtainable, the blame for the delay being attributed to the Government printing bureau at Ottawa. It is said they are very elaborate, and ask for information on a variety of questions that are not in any way necessary for statistical purposes.

### Canadian Street Railway Association.

A special meeting of the executive committee was held in Ottawa, Feb. 12, those present being: The President, J. E. Hutcheson, Superintendent Ottawa Electric Ry., in the chair; J. Anderson, Manager Sandwich, Windsor and Amherstburg Ry.; P. Dubee, Secretary Montreal St. Ry.; H. M. Hopper, Secretary-Treasurer St. John Ry.; and Acton Burrows, Secretary-Treasurer. Considerable routine business was disposed of. The Hull Electric Co. was elected as a member. It was decided to hold the annual meeting at Winnipeg in May, and the Secretary-Treasurer was authorized to make the necessary arrangements.

Following the meeting of the executive committee the Association's special committee on transfers met and decided on certain recommendations which will be considered at the Association's next meeting.

### Electric Railway Track Laid in 1908.

The total length of new track laid, reported by electric railway companies in Canada as laid during 1908, was 32.94 miles, against 72.27 miles in 1907. With the exception of the Brantford and Hamilton Ry., which completed and placed in operation its line, and the Mount McKay and Kakabeka Falls Ry., a new line at Fort William, Ont., the new track laid consisted entirely of extensions of existing lines. Of the new track laid, 23.66 miles were in Ontario, 6.00 miles in Manitoba, and 3.28 in Quebec. The mileage, as distributed among the various companies, is as follows:

	Miles.	Miles.
BRANTFORD AND HAMILTON RY.		
Ancaster to Brantford, Ont. ....		16.00
MONTREAL ST. RY.		
Extension Papineau Ave. ....	0.56	
Extension Westmount Ave. ....	0.75	
		1.31
MONTREAL PARK AND ISLAND RY.		
Plateau Ave. to Montreal W. ....		1.97
MOUNT MCKAY AND KAKABEKA FALLS RY.		
Fort William westward. ....		3.00
OTTAWA ELECTRIC RY.		
Extension to Experimental Farm. ...		1.80
SARNIA ST. RY.		
To Pere Marquette station. ....		1.25
TORONTO AND YORK RADIAL RY.		
Jackson's Point to Sutton, Ont. ....		1.38
TORONTO RY.		
Various extensions. ....		0.23
WINNIPEG ELECTRIC RY.		
Various extensions. ....		6.00
Total. ....		32.94

### Grain Elevator Notes.

A rumor on the Winnipeg Grain Exchange recently credited the T. Eaton Co. with having arranged with the Grain Growers' Grain Co. to join in the grain and elevator business. This was, however, denied by President J. C. Eaton.

E. H. Heaps, President Vancouver Board of Trade, in an interview recently, is reported to have said: "If grain elevators are not built in Vancouver by private enterprise, the C.P.R. will take the task in hand, just as it did in Fort William. The C.P.R., however, does not desire to build elevators, but will do so if private enterprise does not come to the rescue."

The Western Terminal Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$500,000, and office at Winnipeg, to carry on an elevator, warehousing, wharfinger, shipping and navigation business. The provisional directors are: R. Siderfin, A. H. Campbell, F. D. Dilts, W. M. Graham, G. D. Munro, Winnipeg.

The various trades and labor councils throughout the Prairie Provinces passed resolutions, Feb. 3, in support of the Grain Growers' Association's attitude on the question of Government ownership of interior elevators, on the ground that such action

is in accord with one of the clauses of the trades congress charter, supporting Government ownership of public utilities.

The Goderich Elevator and Transit Co., Ltd., Goderich, Ont., is reported to be about to increase its machinery and accommodation. Heavier driving motors and a new marine leg to elevate 18,000 bush. an hour, new turn shovel engines, and larger distributing conveyers, are among the improvements contemplated. The company recently completed a successful year, and paid a 10% dividend.

The National Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$500,000 and office at Winnipeg, to construct or otherwise acquire and operate grain elevators, including company elevators, terminal elevators, and the requisite docks, wharves, sheds, etc., and to carry on a general elevator and grain business, and in connection therewith to own and operate steam and other vessels, and other means of transportation by land and water. The provisional directors are: H. H. Palethorpe, R. J. McClelland, H. W. Whitla and H. Phillips, Winnipeg.

R. Dawson Harling, in a paper before the Engineers' Club of Toronto recently, on the Manchester Ship Canal, gave the following particulars of the company's grain elevator, which was the first one to be built in Great Britain on the Canadian plan. It has a capacity of 1,500,000 bush., divided into 268 bins, and can receive grain from vessels at the rate of 350 tons an hour, move the grain within the elevator for changing bins or delivery, and weighing in bulk at 500 tons an hour; sack, weigh and load into 40 railway cars and 18 delivery wagons simultaneously, and load barges or coasting vessels at the rate of 150 tons an hour in bulk, or at the rate of 250 sacks an hour when bagged.

### Government Ownership of Elevators.

The reply of the Premiers of Manitoba, Saskatchewan and Alberta, to the proposals put forward by the Grain Growers' Association regarding the question of Government ownership of elevators, was made public Jan. 30. In the course of their reply, they say: "We understand that you take the position that nothing further can be hoped for by amendments to existing legislation, in so far as internal elevators are concerned, and to obtain what your executive desire. Several matters presented involve in their institution, carrying out and performance, considerations of unusually grave and complicated questions, constitutional, financial and legislative.

"The three Provinces are asked to wholly provide, operate and maintain on the public credit the requisite quota of elevators for the storage of grain, and to regulate generally the manner in which the shipment and transportation of grain is conducted. This will necessarily involve, as you will understand, a new constitutional principle not hitherto exercised and means the incurrence of heavy financial responsibility and the putting into practical form by constructive, regulative and restrictive legislation the right of absolute Provincial Government control of the matters involved."

Arguing from this standpoint, the Premiers contend that to fulfil these obligations would necessitate amendments to the B.N.A. Act, or otherwise the action might prove futile and possibly disastrous. It would be a distinct invasion of the powers and prerogatives of the Federal Parliament, as defined in the clause which says none of the subjects which the Federal Parliament is given control of shall be deemed to come within the class of matters of local or private nature. Elevators are a public utility, monopolistic establishments, and the operation thereof



cannot be claimed to be purely local or private in character, and, therefore, one in which the Parliament of Canada has exclusive jurisdiction. The B.N.A. Act also specifically provides that the exclusive legislative authority of Parliament shall extend to certain classes of subjects, among which are regulation of trade and commerce, weights and measures, and national railways, such as the C.P.R., C.N.R. and G.T.P.R. They contend that they cannot find that any Province has ever attempted to deal with any of these questions, and from this they take the ground that the requests of the grain growers can be complied with only in one of two ways, either by legislative action of the Parliament of Canada, which now possesses ample powers of dealing therewith, or by securing amendments to the British North America Act, conferring full and absolute control and authority on the Provinces in the premises as follows: To wholly and absolutely control, regulate and govern storage and handling of grain. To prescribe and regulate weights and grades of grain, subject to no other authority. To fully control transportation companies, railways, etc., in the matter of expropriation of elevators and sites, distribution of cars, and in other regulations and restrictions, which shall be essential to convenient handling of grain. Also generally all such powers and authority as to trade and commerce and weighing and grading of grain necessary to give the Provinces complete inherent and ex-territorial jurisdiction in every respect, that is to say, full authority within the Provinces and also outside, where the grain may be handled at terminal points.

Dealing with the financial side of the question, the reply continues: "C. C. Castle, Warehouse Commissioner, has furnished official statements to us, showing, among other things hereinafter set forth, the following information, namely, that the number of elevators under operation last season was 1,334, with a storage capacity of 39,724,000 bush. To put into effect any practical scheme of public ownership of elevator facilities and complete Government control over the handling and shipment of grain would involve the Provinces in a very large financial undertaking. It would be necessary to provide, in the first place, the requisite number of elevators to handle the business; not any part, but the whole of it, for the monopoly should be absolute in all respects, and in the next place, for the cost of maintenance and management. Mr. Castle states that the cost of constructing an ordinary standard 25,000-bush. elevator is between \$5,000 and \$5,400. The initial outlay, therefore, to be provided for by the Provinces to establish and equip an adequate elevator system or to acquire that already in existence would be between \$7,000,000 and \$10,000,000. Then would arise the question of providing the necessary funds. This could only be accomplished by issue of bonds by the Provinces. We are of the view that without the Provinces possessing the fullest power to legislate in the premises, the proffered securities would not be deemed desirable in the money markets of the world. It is, therefore, apparent that a solution of the problem is not only complicated in detail financially, but presents, as before stated, grave and constitutional difficulties.

"Mr. Castle further officially states to us that for the 12 months ended Aug. 31, 1908, the total amount of wheat inspected at Winnipeg was 54,404,150 bush., of which approximately 42,000,000 bush. were shipped through the elevators, and 12,500,000 bush. from loading platforms; thus about 22 per cent. of the total wheat crop was loaded from the loading platforms.

"For the 3 months ended Nov. 30, 1908, he states there were 44,672,500 bush. of wheat inspected at Winnipeg, of which 30,094,078 bush. were shipped through the elevators, and 14,578,422 bush. were shipped over

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### IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make CANADA plain in the address.

## C.P.R. LANDS

THE CANADIAN PACIFIC RAILWAY COMPANY have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.

Map No. 1—Winnipeg to Second Meridian.....	\$ 8.00 to \$15.00 per acre.
Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians.....	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10 W., 4th Meridian (generally).....	8.00
Map No. 5—South-Western Alberta.....	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian.....	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians.....	10.00 to 25.00 per acre.

All prices are subject to change without notice.

### TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at \$ 8.00 per acre, cash payment \$191.70	first year's interest \$65.28	and nine instalments of \$160.00
" " 9.00 " " " "	215.70 " " " "	180.00
" " 10.00 " " " "	239.70 " " " "	200.00
" " 11.00 " " " "	263.60 " " " "	220.00
" " 12.00 " " " "	287.60 " " " "	240.00
" " 13.00 " " " "	311.55 " " " "	260.00
" " 14.00 " " " "	335.60 " " " "	280.00
" " 15.00 " " " "	359.50 " " " "	300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum.

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

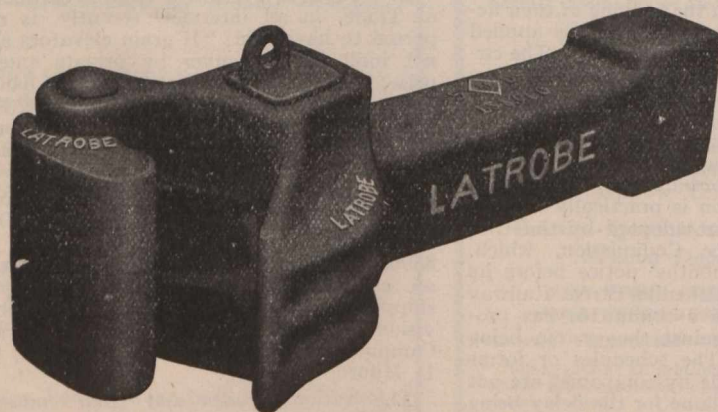
F. T. GRIFFIN, Land Commissioner, Winnipeg

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This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan 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.

F. T. GRIFFIN, Land Commissioner, Winnipeg

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the loading platforms, or about 33% of the total shipment. And that if the next crop is reasonably clean he would not be surprised if 40% of the total shipment was from the loading platforms.

"We fully appreciate the magnitude and importance of the whole question, and are fully alive to our responsibilities in the matter, and in conclusion beg to assure your association of our willingness at all times to consider any grievances of the agriculturists of our respective Provinces, our sympathy with them, and our readiness to co-operate with them in any measure or measures that will place them in a more advantageous position to carry on their labors. That upon the procurement of the necessary amendments to the B.N.A. Act, giving to the Provinces the powers hereinbefore indicated, to completely establish and control a public monopoly, in the storage, handling and inspection of grain, that we are quite willing to endeavor, subject to the approval of our respective assemblies, to frame a scheme financially safeguarded for the giving of effect to the desire of your executive."

**MARINE DEPARTMENT.**

**Notices to Mariners.**

The Dominion Department of Marine has issued the following notices:

No. 5. Jan. 22.—10. Quebec, River St. Lawrence, Hare Island, Middle Bank, change in character of buoy.

No. 6. Jan. 25.—12. Ontario, Lake Huron, entrance to Georgian Bay, Cove Island, change in sounding of fog alarm. 13. Ontario, Georgian Bay, west side, Flowerpot Island, fog alarm established. 14. Ontario Georgian Bay, west side, Cabot Head, new fog alarm building.

No. 7. Jan. 27.—15. Ontario, River St. Mary, St. Joseph Island, Sailors' Encampment range, light masts replaced by towers.

No. 8. Jan. 28.—16. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap Levrard, changes in buoyage.

No. 9. Feb. 4.—17. Ontario, Georgian Bay, Owen Sound, range lighthouses rebuilt.

No. 10. Feb. 4.—18. Nova Scotia, west coast, Pubnico whistling buoy replaced by gas and whistling buoy. 19. Nova Scotia, south coast, off entrance to Shelburne Harbor, whistling buoy replaced by gas and whistling buoy. 20. Nova Scotia, south coast, off Liverpool Bay, whistling Buoy replaced by gas and whistling buoy. 21. Nova Scotia, south coast, off north-east whistling buoy replaced by gas and whistling buoy. 22. Nova Scotia, south coast, Halifax harbor approach, Thrumcap ward Island, gas and bell buoy. 23. Prince Edward Island, south coast, Indian Rocks, whistling buoy replaced by gas and whistling buoy. 24. Prince Edward Island, south coast, Hillsborough Bay, Prim reefs, bell buoy replaced by gas and whistling buoy.

No. 11. Feb. 11.—25. Ontario, Lake Huron, Goderich, temporary range of lights established.

No. 12. Feb. 16.—26. Ontario, River St. Clair, east of St. Clair middle ground, gas buoy established.

No. 13. Feb. 18.—27. General, Canadian Government wireless telegraph stations, information respecting aids to navigation furnished to vessels.

A London, Eng., press dispatch states that negotiations have been opened with a view to arbitration in connection with the Allan Steamship Line's protest against the White Star Line's Canadian service.

**Atlantic and Pacific Ocean Marine.**

The White Star s.s. Laurentic was thoroughly tested on her trial trip at Belfast, Ireland, Jan. 31, with satisfactory results.

By the completion of the work of clearing obstructions from its approach, no. 6 berth, at St. John harbor, was made ready for use Feb. 13, and will be occupied by the Allan Steamship Line's vessels.

The British Colonial Secretary has requested the Governor-General to intimate that the Imperial Government has appointed Oct. 1 as the date on which the provisions of the Merchant Shipping Act, 1904, relating to the load line and life saving appliances, will be applied to foreign ships in the ports of the United Kingdom.

The Cunard Line s.s. Mauretania, in arriving off the Ambrose Channel lightship Feb. 18, created a new series of records over the long route. The passage was completed in 4 days 17 hrs. 50 mins., being 1 hr. 46 mins. better than the previous record. The highest 24 hr. run on the trip was 671 miles.

The White Star Line has filed a claim in the U.S. District Court against the Lloyd Italiano Societa de Navigazione, owners of the s.s. Florida, for \$1,000,000 damages for the vessel, and \$500,000 for her cargo, as a result of the recent collision between that vessel and the company's s.s. Republic off Nantucket Shoal. The statement of claim asserts that the collision was wholly the fault of the Florida, which did not maintain an efficient lookout, did not give proper whistles, paid no heed to the Republic's whistles, failed to indicate changes of helm, proceeded at an immoderate speed, and neither stopped nor reversed her engines. It is further asserted that the Republic, when the Florida's whistles were heard in the fog, put her engines full speed astern and helm hard aport. The statement asks the court to lay the blame for the accident on the Florida, and to order the payment of \$2,000,000 to the owners of the Republic. The owners of the Florida have also filed an action in the same court, claiming that the collision was caused solely by neglect on the part of the Republic, and also asks the court to fix the company's liability to a sum not exceeding \$224,000, claimed to be the damage value of the Florida. The Florida has been seized under a writ of attachment.

The claim of the Ulster Steamship Co., owners of the s.s. Malin Head, against the Allan Steamship Line, owners of the s.s. Corinthian, and counter-claim by the latter against the former, were before the Admiralty Division of the High Court of Justice in London, Eng., recently, as a result of the collision between the two vessels near Grosse Isle in the River St. Lawrence, Sept. 13, 1908. The matter was investigated by Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, and judgment given, fixing the blame on the Corinthian's master and pilot, fining the latter \$100, and exonerating the Malin Head's master, pilot and officers. The full text of the judgment was given in our Jan. issue. An additional investigation was held before the British Admiralty Court, and it is said that the judgment delivered is in full accord with that of Commander Spain. The case was argued before the court Feb. 4, the chief points for the defence being that the scrap log of the Malin Head could not be relied on, owing to omission to enter up details of the collision, and that she should have been beached immediately after the collision instead of attempting to take her to Quebec. Justice Bargrave Deane, in reserving judgment, said he did not think he could find those on the Malin Head were wrong in the course they took in that respect.

**Maritime Provinces and Newfoundland.**

B. Atkinson has been appointed Harbor Master at Apple River, N.S.

A. Wyman has been appointed Government wharfinger at Short Beach, N.S.

The name of the dredge No. 1 has been changed by order-in-council to Wingfield.

B. Richards has been appointed Government wharfinger at Murray Harbor North, P.E.I.

The name of the schooner Effort, no. 107,299, registered at Annapolis Royal, N.S., has been changed to Ready Now, by order-in-council.

The name of the schooner Quick Step, no. 88,504 on the Canadian register, with Sydney, N.S., as its port of registry, has been changed to Leonice by order-in-council.

An order-in-council has been issued changing the name of the steamer Rona to Valdes. The Rona was registered at Vancouver, B.C., in Dec., 1908, as Valdes, with no. 126,324 as given in the list of steam vessels registered, published in our Feb. issue.

The harbor facilities committee of the St. John, N.B., city council has recommended that the C.P.R.'s offer to transfer a 1,600 ft. strip of land to the city in exchange for shore rights behind Sand Point, be accepted, subject to some minor provisions to be decided on by a sub-committee.

The Minister of Marine, in reply to a question in the House of Commons Feb. 8, said that the ice-breaking steamship now under construction by Vickers, Son and Maxim, in England, will be ready on contract time, May 11. The cost of the vessel would be £103,000, of which \$125,316 has been paid.

The work of dredging the St. John, N.B., harbor to the south of Sand Point, was commenced Feb. 18 by the dredge Iroquois. It is understood that this dredging is a part of a contract made by the Public Works Department for the removal of 800,000 cubic yards of material, under a Government scheme for the construction of additional wharves and terminal facilities.

During Jan. 60 steamships, with an aggregate tonnage of about 248,000, arrived at Halifax, N.S., against 48 with a tonnage of about 199,000 in Jan., 1908. The number of coasting steamers was less than previously, being 57, as against 80 for the same months. This difference is explained by the number of small steamers utilized in bringing the cargo ashore from the wrecked s.s. Mount Temple last year.

In connection with the recent visit of inspection to life-saving stations on the Nova Scotia coast, by Admiral Kingsmill, it is reported that a number of improvements to be made during the current year are in contemplation. Amongst them are; a cable connection between the mainland and Sambro Island, and the establishment of central stations at St. John, N.B., and Cape Sable and Halifax, N.S., where large motor boats will be maintained. It is also said that the station at Grand Manan will be moved to a more advantageous point.

The Maritime Steamboat Co. is making application to the N.B. Lt.-Governor in Council for a charter of incorporation by letters patent, with power to operate one or more steamboats for towing and for carrying passengers, freight, mails, etc., on the Bay of Fundy, and plying between any points in the counties of Charlotte and St. John, and to build, purchase or otherwise acquire steam and other vessels. The proposed capital of the company is \$20,000, and the head office at Black's Harbor, N.B. The provisional directors are: L. Connors, P. W. Connors, W. J. Campbell, B. Connors, R. Thompson, Black's Harbor, N.B.; J. A. Thompson, G. F. Paul, Beaver Harbor, N.B.



**Province of Quebec Marine.**

E. de Chantal has been appointed Government wharfinger at Coteau Landing, Que.

The Prime Minister informed the House of Commons Jan. 26 that the cost of the icebreaking steamship Montcalm to Dec. 31, 1908, had been \$762,538.01, viz., construction, \$301,233.25; repairs, \$144,669.42; maintenance, \$316,635.34. The repairs necessitated by the collision of May 21, 1908, cost \$21,857.65.

A request has been made by merchants and manufacturers at places along the north shore, that navigation between Quebec, Rivière Ouelle, Malbaie and St. Cimon be kept open through the winter. They claim that with a powerful steamboat like the Montcalm this could easily be done, as generally the river along the north shore at places like Murray Bay, St. Cimon and Tadousac is free from ice.

The Minister of Railways and Canals, in the House of Commons Feb. 9, on the question of a vote for construction of wharf and basins on the Lachine Canal, said work was started in Dec., 1908, but it was not expected to complete it this year. To complete the wharf and basins \$150,000 is being asked; \$30,000 was asked last year, and \$40,000 has been spent for cement. A further \$29,000 is asked for to stop leaks in the north bank at Cote St. Paul.

The Rhine Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$32,000 and office at Montreal, to build, own and charter steam and other vessels, and to carry on the business of shipowners and common carriers within and without the Dominion. The provisional directors are: G. I. Dewar, Ottawa; W. A. Taft, Arlington, Mass.; W. H. Chandler, Newton, Mass.; J. B. Fallon, Boston, Mass.; W. McKissock, Brookline, Mass.

The Timandra Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$32,000 and office at Montreal, to build, own and charter steam and other vessels, and to carry on the business of shipowners and common carriers within and without the Dominion. The provisional directors are: G. I. Dewar, Ottawa; W. A. Taft, Arlington, Mass.; W. H. Chandler, Newton, Mass.; J. B. Fallon, Boston, Mass.; W. McKissock, Brookline, Mass.

Tenders were recently invited for a ferry service between Quebec and Levis under new regulations adopted by the joint committee of the Quebec and Levis councils, but up to Feb. 2, the last day for receiving them, none had come to hand. The Quebec and Levis Ferry Co., the present holders of the franchise, did not, as it was anticipated, tender, and it has been stated that it has received an offer to transfer its boats to a point in Ontario for the operation of a ferry service there.

**Ontario and the Great Lakes.**

C. A. Macdonald, heretofore Auditor of Freight and Passengers' Accounts, Northern Navigation Co. of Ontario, has been appointed Comptroller, and the former title has been discontinued.

Application is being made to the Ontario Legislature, by the town of Sault Ste. Marie, for an act to validate and confirm a by-law granting aid to J. O'Boyle for the construction of a dry dock there.

Howard S. Folger, General Manager Thousand Islands Steamboat Co. and St. Lawrence River Steamboat Co., has been also elected President of both companies, to succeed his late father, Henry Folger.

The Ottawa Forwarding Co. is building

at Ottawa a steam tug for service on the Ottawa River, 70 ft. long over all, 16 ft. beam, 7½ ft. deep, with 16 in. square cut-off engine, with Fitzgibbon boiler, 130 lbs. working pressure. It is intended to have her ready for service by May 1.

The Lake Vessel Owners' Association is the name of the organization formed Feb.

15, on the lines indicated in the Dominion Marine Association report printed on another page. The association represents a capital of about \$100,000,000, and takes over 5% of its insurance on its own account.

The large dredge which is being built for the Great Lakes Dredging Co. by Horvigan and Beagle, Port Arthur, for dredging

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the mouth of the Rainy River, is under way at Keewatin, Ont. Work is being pushed so that the dredge may be at work as soon after the opening of navigation as possible.

The directors of the Northern Navigation Co. of Ontario have appointed an executive committee, consisting of W. J. Sheppard, President; H. Y. Telfer, Vice-President; C. E. Stephens, Secretary-Treasurer, and F. A. Lett, to deal with any questions arising which may require to be handled promptly and before a directors' meeting can be called.

The Northern Dredging Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$199,000 and office at Durham, to conduct a general dredging business, to contract for and to construct wharves, piers, etc. R. H. McWilliams, Durham, Ont.; V. Ratz, Parkhill, Ont.; and S. G. McKay, Woodstock, Ont., are the provisional directors.

Forwarders, Ltd., the incorporation of which was announced in our Feb. issue, advises us that it intends particularly to transfer grain from Moer's elevator, owned by Cereals, Ltd., Kingston, Ont., to Montreal. Some barges will be purchased and some leased for the forthcoming season, and the company intends to build a number of steam barges later on.

The Haileybury Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000, and office at Haileybury, Ont., to carry on the business of a navigation, warehousing, carrying and trading company, etc. The provisional directors are: J. M. Wood, A. Gibson, G. McIntosh, W. D. Leslie, J. C. A. Crawford, Haileybury, Ont.

The Admiralty Exchequer Court has delivered judgment in favor of the Richelieu and Ontario Navigation Co., as owners of the s.s. Quebec, against the owners of the s.s. Imperial, maintaining the Admiralty Court's jurisdiction and reversing Justice Dunlop's decision thereon. The two vessels were involved in a collision some time since, the Wreck Commissioner's judgment being in favor of the R. and O.N. Co.

The following officers are announced to have been appointed to the Northern Navigation Co.'s s.s. Hamonic, when she is put into service in June: Captain, R. D. Foote, S. Brisbane; Chief Engineer, J. Steward; Purser, J. Ronan. To fill vacancies, transfers as follows will take place: Capt. A. L. Campbell, from the Saronic to the Huronic; Capt. A. Wright, from the Majestic to the Saronic.

Judgment was given at Welland, Feb. 5, awarding the Welland Steamboat Co. \$2,200 and costs in its action against the Ontario and Quebec Navigation Co., for damages for failure to supply a certificate according to agreement; for it to use the steamboat Niagara for passenger and excursion business between Welland, Port Colborne, Dunnville, Crystal Beach and Buffalo. The action was tried some time ago at St. Catharines, the delay being taken to fix the damages.

The Temagami Steamboat and Hotel Co. is adding two steamboats to its fleet. They are being built by the company at Temagami, and will be completed and ready for service by the opening of the season. One of them is 70 ft. long by 12.6 ft. beam, and will have a speed of about 15 miles an hour. The other is 65 ft. long, and will be used more for private excursion parties. The company is also rebuilding the hulls and renewing the machinery of its steamboats Spry and Chance.

The Dominion Government's twin-screw steamboat Simcoe, which is under construction on the Tyne, Eng., was launched there recently. The vessel will be equipped with appliances for lifting heavy weights, and it is

designed for safe navigation through ice. She will have triple-expansion engines, two water tube Babcock and Wilcox boilers, and a wireless telegraph installation. It is intended to use her as a lighthouse tender, and for buoy service in Georgian Bay. Her dimensions are: Length, 180 ft.; beam, 35 ft.

The Hamilton and Fort William Navigation Co. is seeking to obtain an order declaring it entitled to certain material, lying partly at the Canadian Shipbuilding Co.'s, Bathurst St. yards, Toronto, and partly at Bridgeburg, Ont., or for the repayment to them by E. R. C. Clarkson, liquidator of the latter company, of \$30,000, the amount of advances made in 1907 for the purchase of material for the construction for plaintiffs of a 460-ft. freighter, to cost \$297,000. The Canadian Shipbuilding Co. went into liquidation in Jan., 1908.

J. T. Mathews, who recently returned to Toronto from Great Britain, announces that he has placed a contract in Sunderland, Eng., for the construction of a steel bulk freighter for the Merchants Steamship Co., Toronto. He says that the vessel will contain a number of novel principles in construction, and that in this respect she will be unique. She will, it is anticipated, arrive on the lakes early in July, when she will at once be placed on the Fort William-Montreal route. A press report states that the name Mapleton has been selected for her, but we are advised that no name has yet been decided on.

An order-in-council of Jan. 15 makes regulations regarding the operation of a ferry across the Rainy River, between Rainy River, Ont., and Baudette and Spooner, Minn., providing for the maintenance of a suitable landing wharf on the Canadian side; that the boat to be used shall be not less than 30 ft. long by 6 ft. wide, and shall be properly equipped; that it shall ply between the points named from 6 a.m. to 6 p.m. daily, except Sundays, from May 1 to Oct. 1, each year; that the fares be for adults 25c., children 15c., including return if made the same day; and for the giving of sureties for the full compliance with the terms of the license.

The Minister of Public Works, replying to questions in the House of Commons Jan. 25, said the dredge industry was purchased Sept. 3, 1908, for \$157,378.78, and a 500-yard scow was purchased at the same time for \$10,000, out of the appropriation for new dredging plant Maritime Provinces. The dredge was bought at Massena, N.Y., and was delivered to the Government at Cornwall, Ont.; from thence she was towed to Toronto for a new boiler to be put in at the Polson Iron Works. Repairs were also being made at Toronto on the scow. The dredge was built at Superior, Wis., and was designed for work on the Great Lakes. She was last employed on dredging the waterway for the St. Lawrence River Power Co. She should be ready for work May 1, and will cost about \$175,000, including plant, but not duty of \$39,351.85.

#### Manitoba, Saskatchewan, Alberta, Etc.

The Dominion Department of Public Works report for the year ended Mar. 31, 1908, refers to the lock and dam under construction at St. Andrews Rapids, near Winnipeg, and adds: "It is expected that the close of another year will see the structure well on towards completion. This improvement will provide continuous navigation from the city of Winnipeg to the large lake of the same name, a distance of 48 miles, and it is hoped will do much towards solving the fuel problem of the Prairie City, where coal is scarce and consequently dear, as well as providing easy means of shipment for the products of the quarry and the mine.

#### B.C. and Pacific Coast Marine.

Capt. D. A. McInnis has been appointed harbor-master at Vancouver, and Port Warden for Vancouver and Burrard Inlet.

Reports state that preparations are being made for the installation of a wireless telegraph apparatus on the C.P.R. steamship Princess May.

Sloan and Liddle, ship brokers and shipping agents, Vancouver, have dissolved partnership. The business is being continued in the same name by F. W. Liddle.

Vancouver city council is applying to the Legislature to pass an amendment to the Vancouver Incorporation Act, empowering the council to pass by-laws prohibiting and regulating the erection of wharves, etc.

The Northern Coal Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$100,000, with power among other things to build or otherwise acquire and operate steam and other vessels.

The Kootenay Motor Boat Co., Ltd., has been incorporated under the B.C. Companies Act for 50 years, with a capital of \$10,000, with power among other things to own, operate, and dispose of steam and other vessels.

The Yellow Cedar Lumber Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$500,000, and power among other things to own and operate steam and other vessels, and to carry passengers and goods.

The Edinboro Timber Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$200,000, and power among other things to own and operate steam and other vessels, and to carry on the general business of a transportation company.

The Hunter-Macmicking Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$35,000, to carry on a general wholesale fruit and produce business, and in connection therewith to own and operate steam and other vessels necessary for its purposes.

It is reported that the rate war which for the past year has been raging between the C.P.R. and the Inland Navigation Co., on the Vancouver-Victoria-Seattle route, is at an end. Details are not given, but it is announced that the C.P.R. has resumed the normal rate between the ports named.

The Twin City Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$100,000, to purchase or otherwise acquire steam and other vessels, to carry on the businesses of ship owners, ship brokers, managers of shipping property, freight contractors, stevedores, and general carriers by land and sea.

The C.P.R., we are officially advised, has decided to add another vessel to its B.C. Coast Service, and plans and specifications are now in course of preparation. The company has also under consideration the question of the construction of a steel passenger steamer to replace the s.s. Charmar, but no decision has been reached on the matter.

Flewin and Sons, Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$50,000, to carry on a general logging business, and to conduct a general towing and carrier business within the province, and for that purpose to own and operate steamboats, tugs and vessels of every description, and to erect and maintain wharves, dry docks, etc.

The G.T.P. Ry. is reported to be calling for tenders for the construction of two steamboats for the Skeena River service in connection with construction work in the province. It is stated that the vessels



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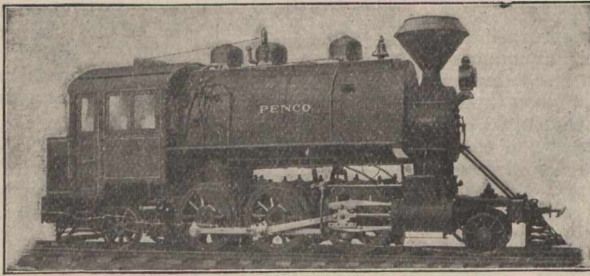
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will be similar to the Distributor at present in service, which was built by A. Watson, Victoria, the machinery being supplied by the Polson Iron Works, Toronto. The estimated cost is mentioned at \$35,000 each.

The Minister of Public Works, replying to questions in the House of Commons Jan. 25, said the department was arranging for the purchase of a dredge manufactured in Germany peculiarly adapted for the dredging of silt. The purchase is not to be made and no money is to be paid until the dredge is delivered in British Columbia, set up ready to work, and after it has been tested for such time as shall be satisfactory to the engineers of the department.

The steamboat Skeena was placed on the ways at Prince Rupert recently to undergo considerable alterations. She is owned by Foley, Welch and Stewart, G.T.P.R. contractors, and utilized as a supply vessel for their camps along the Skeena River. A change is being made in her machinery, so that she will have 260 n.h.p. instead of 200 as heretofore. The work is expected to be completed in time for the opening of navigation on the river in March.

The Boscowitz Steamship Co. has chartered the British s.s. St. Dennis for use on the northern B.C. coast run, to replace the s.s. Venture destroyed by fire. The St. Dennis is a steel, screw-driven vessel, built at Liverpool, Eng., in 1895. Her dimensions are: Length, 161 ft.; breadth, 25.6 ft.; depth, 12.7 ft. Her accommodation is for 24 first-class and 20 second-class passengers, and about 600 tons of cargo. She is owned, and until recently was operated by the Southern California Development Co.

The Boscowitz Steamship Co.'s s.s. Venture was destroyed by fire towards the end of Jan., about 12 miles from Prince Rupert. The vessel, which was tied up to the wharf on the Nass, was cut adrift to minimize the danger, and became a complete loss. She was valued at \$75,000, of which about \$50,000 was covered by insurance. She was built at Victoria in 1902; her dimensions were: Length, 153.4 ft.; breadth, 36.2 ft.; depth, 9.5 ft.; tonnage, 812 gross, 489 register; and she was a screw-driven vessel with engine of 65 n.h.p.

**Lake Shipyard Methods of Steel Ship Construction.**—A volume of much use to those interested in the construction of steel freight carriers on the Great Lakes has been issued by the Penton Publishing Co., Cleveland, Ohio. The writer is R. Curr, who apparently has had experience of construction work in the Clyde shipyards, and is able to contrast the methods adopted there with the mold system, introduced on the Great Lakes by W. I. Babcock. The book is written for practical shipbuilders, and is therefore purely a technical one, and full of illustrations showing in detail the different stages of construction. Copies of the book may be obtained from THE RAILWAY AND MARINE WORLD'S Book Department, the price being \$2.

The Dominion Department of Marine and Fisheries announces that all Canadian seal-fishing vessels desiring to take seals in the territorial waters of the Falkland Islands are required to procure a license for such purpose.

Replying to questions in the House of Commons Jan. 25, the Postmaster-General said the cost of the steamer Lady Evelyn (formerly Deerhound) was £12,500 at the place of purchase (Penzance, Eng.), and the cost of bringing her to Canada was £760. The cost of alterations, etc., to fit her for the post office service was \$27,086.58. The cost of operating her since she was put in commission Sept. 1, 1907, to Dec. 31, 1908, was \$26,584.12.

### Dominion Marine Association.

The annual meeting in Ottawa, Feb. 11, was largely attended. The President, A. A. Wright, of the St. Lawrence and Chicago Steam Navigation Co., Toronto, occupied the chair, the others present being: F. Plummer, Canadian Lake and Ocean Navigation Co.; W. W. Hall, F. E. Hall & Co.; Jas. H., E. A. Hall and R. T. Holcombe, Ottawa Forwarding Co.; J. Donnelly, Donnelly Salvage and Wrecking Co.; L. L. Henderson, R. Fraser, Montreal Transportation Co.; J. Playfair, W. H. Featherstonhaugh, Midland Navigation Co., Empress Transportation Co.; J. W. Norcross, Mutual Steamship Co.; C. A. Jaques, Montreal and Lake Erie S.S. Co., Montreal and Great Lakes S.S. Co.; C. H. Plummer, Canadian Lake Transportation Co.; R. W. Sheppard, Ottawa River Navigation Co.; D. and G. P. Murphy, Ottawa Transportation Co.; H. H. Gildersleeve and C. H. Nicholson, Northern Navigation Co.; E. E. Horsey, Lake Ontario and Bay of Quinte Steamboat Co.; G. Johnston and J. V. O'Donahoe, Richelieu and Ontario Navigation Co.; H. Richardson, Kingston Shipping Co.; H. A. and S. C. Calvin, The Calvin Co. There were also present: W. H. Smith, Canada Atlantic Transit Co., and G. A. Tomlinson, Duluth, Minn., representing the Lake Carriers' Association, and Acton Burrows, Managing Director RAILWAY AND MARINE WORLD.

Following is a summary of the report presented by the Executive Committee:

The Association has been active in legislation affecting marine interests. The recommendations which were ineffectual at the time of the passing of amendments to the Canada Shipping Act during 1908, will be again presented to the Minister of Marine with a view to the remodelling of the clauses relating to the sick mariners' tax, pilotage, certificated engineers, reporting changes of certificated officers and the carrying of passengers, and, if necessary, a special bill will be provided to achieve the Association's object. The bill relating to the water carriage of goods introduced in the Senate, and on the whole acceptable to the Association, did not reach the lower House until the last day of the session, and was held over. Information recently received gives ground for the belief that the bill may not be pressed in the House by its original promoters, and it is thought advisable that steps be taken to procure the enactment of the measure. While this last measure was under consideration, the Association's draft bill of lading for grain cargoes, in which, among other exemptions, those set out in the Harter Act of the U.S. were included, was withheld, and reliance was placed on the proposed legislation for the protection originally sought. In the meantime an agreement was made that all members should stamp their bills of lading with a clause prepared by the Secretary, incorporating the Harter Act exemptions. During the past season the discrepancies in the out-turns of cargoes have become so pronounced and intolerable, that it has been resolved to take the action proposed by the Department of Trade and Commerce on the several occasions when application has been made to it for assistance, that is, to remove from the bill of lading the clause assuming responsibility for the shortage, and to insert, if necessary, what is known as the Flax Seed Clause, whereby the vessel limits its liability to ½-bush. per 1,000, and renounces any right to an overrun, collecting freight merely on the out-turn. This has been adopted by the Association, and also the Lake Carriers' Association, and such bill of lading, as adopted by the Association, will be used for grain from Port Arthur and Fort William from the opening of navigation this year.

The matter of the proposed grain clearing house, which has also been vigorously prosecuted, was not favorably received by a joint

meeting of the Association and the representatives of shippers and terminal elevators, though the establishment of a clearing house for documents was approved, and a committee appointed to work out the details of the scheme.

The Executive Committee met the Minister and Deputy Minister of Railways and Canals, and discussed the proposed regulations governing the navigation of the Dominion canals, and though suspension of the rules was refused, the difficulties were explained and objections met, and favorable attention was promised to several suggestions made on behalf of the Association.

Legislation was passed during 1908 imposing a customs duty on repairs made to Canadian vessels in foreign ports, except when there is no dock in Canada of sufficient capacity to hold the vessel. It is recommended that an effort be made to have this legislation amended so that it may, at least, provide for an exemption in cases where no dock is available in Canada.

A majority of U.S. vessel owners on the Great Lakes have entered into an arrangement regarding marine insurance, which will probably be joined by the whole U.S. tonnage on the lakes, and Canadian vessel owners are invited to participate in the plan. It is proposed that the owner shall assume 5% of the insurable risk on his vessels, leaving 95% to be insured according to conventional methods, and in any company he may choose. For this 5% the owner is to pay a proportionate premium into a common treasury to a special attorney, who will be under the direction of an advisory board of vessel owners, and the fund thus formed will be administered in the same way as an ordinary insurance fund, being drawn upon for its proportionate part of all loss, while its surplus at the end of the year will be subject to distribution among owners. J. Playfair, Midland, Ont., has been appointed to represent vessels of the Association on the advisory board.

The Minister of Customs was asked to amend the statute relating to the coasting trade, so as to bring it into conformity with the corresponding U.S. statute, so as to prevent the carriage of merchandise from one Canadian port to another in U.S. bottoms, even for part of the voyage. The Committee is urging further action in the matter.

The steps taken by the Association regarding alleged breaches of the Customs regulations, relating to towing by foreign vessels in Canadian waters, have been recognized, and steps have been taken to secure the strict enforcement of the regulations.

At the request of the Marine Department, the Committee, in giving an opinion regarding the subsidizing of wrecking plants on inland waters, resolved that it was not advisable to raise a question which might lead to the abrogation of the reciprocal wrecking privileges existing between Canada and the U.S., and that it was inadvisable to recommend payment of subsidies until proof was given that the industry was in need of assistance.

The Committee has also recommended that official investigation into all wrecks be obligatory, and that it should be the duty of the master of each vessel to report any accident to the Marine Department, with a penalty for default.

On the proposal regarding the project for the development of power at the Long Sault Rapids, the Association has consistently opposed the matter in the interests of navigation. The proposals have been before the International Waterways Commission, and it was resolved that a definite outline of the scheme, with plans, must be prepared and presented. Copies of these have been promised to the Association, when the matter will be further considered.

At its last annual meeting the Association passed a resolution expressing disapproval of the proposal of the Minister of Justice to



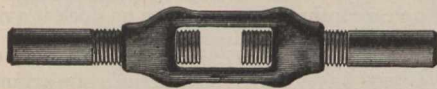
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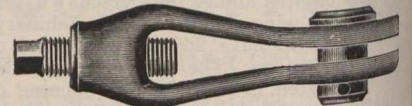
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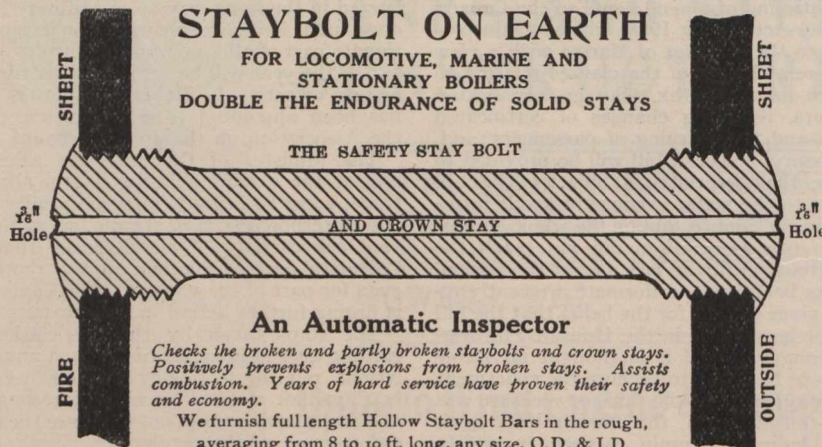


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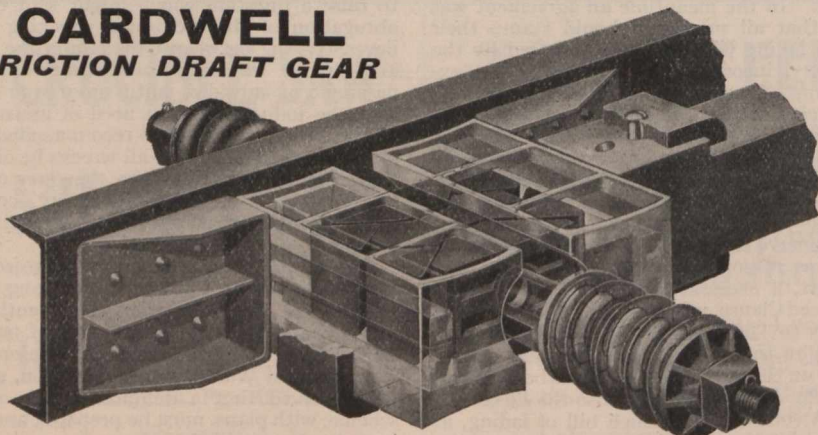
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abolish the Federal Admiralty Court and to transfer its jurisdiction to the Superior Court of each province. The proposed legislation was opposed and the matter has for the present, at any rate, been dropped.

Members were notified at the opening of last season, that the Great Lakes Register would expect to collect certain fees, based on tonnage, for the inspection of each vessel to be rated. It was resolved that inasmuch as the rating was largely for the benefit of the shippers and others, it would be unjust to levy the expense on the ships inspected, and that payment be refused. The Register was accordingly notified, with the result that inspection of the previous year was, in many cases, accepted, and inspection and rating ultimately carried out without charge.

The question of issuing certificates to second mates was submitted to the Association by the Marine Department, and it was decided to agree to the proposal providing that the holding of such certificates was not made compulsory. The Association also advised that no test of great severity be applied in the examinations, as an expert knowledge of the theories of navigation would be superfluous.

Further recommendations are considered advisable on the subject of a survey of the Welland Canal route, with a view to its betterment, before the Government is committed to any particular waterway.

The members of the Association engaged in the carriage of package freight resolved, Dec. 31, to ask the Government to place all vessels engaged in the carriage of package freight from one Canadian port to another, or of package freight ultimately destined for a Canadian port, under the jurisdiction of the Board of Railway Commissioners, the powers of the Board to be extended for the purpose. Due consideration of the matter was promised. The immediate occasion for this resolution was a discussion regarding the relations between these lines and their water route of canal, lake and river, on the one hand, and the railways on the other. This discussion was prompted by a reported proposal by a railway company to the trans-Atlantic Conference lines for the abolition of the through bill of lading from Great Britain to inland Canadian points by the all-water route, an action which would discriminate in favor of railways in the matter of rates. Correspondence with the various trans-Atlantic lines is now being conducted, with a view to the removal of any misunderstanding and to obviating the threatened difficulty.

The Grain Section of the Association has given special attention to matters connected with the grain-carrying trade. Attention should be called to the fact that the agreement in force from time to time among the members regarding a minimum rate for the carriage of grain, was rescinded in June last. A number of press articles and public correspondence charged the Association with responsibility for the deviation of export grain to the Buffalo-New York route. The Association sent a letter to the Ministers of Marine, and Customs, setting out all the facts, absolving the Association as a body from any connection with the agreement named in the press, calling attention to the rescission of the Association's agreement, and indicating the circumstances which were, in fact, responsible for the export shipments by the route named.

The Committee on Aids to Navigation during the year met and considered various proposals regarding aid and improvements said to be required at the head of the lakes and Montreal, and compiled a list of improvements which it considered necessary and desirable in the interests of safe navigation:

**MICHIGICOTEN ISLAND.**—A light, and if possible a fog horn, were asked for on north-east end of Michigicoten Island, at such point as might render the light of most service to vessels bound up as well as bound down the

lake north of the island. It was submitted that a light on the west end of the island would only serve as a beacon in approaching down the lake, could not assist in passing the eastern end of the island, and would be of no service to vessels up-bound in the north channel. Unfortunately the Canadian Association of Masters and Mates simultaneously recommended that the light and fog horn be placed on the west end of the island. The conflicting suggestions were sufficiently embarrassing to justify the Light House Board in deferring action, and the question is held over until the hydrographic re-survey of Lake Superior reaches and covers this point, as it is expected to do this year. The Lake Carriers' Association, by an independent recommendation to the Government, has happened on a solution for the question by recommending a light at each end of the island.

**BAD NEIGHBOR SHOAL.**—A whistling gas buoy was asked for, well outside of Bad Neighbor shoal. A location suggested was on the 13 fathom patch about 2 miles west of Cove Island, approximately on the intersection of a line drawn from Cove Island light to a point about 6 miles south of Duck Island light, with a line from Gat Point to East Sister Shoal. The Light House Board referred this to the Chief Engineer, who reported against the proposal on the ground that Cove Island fog horn and light are sufficient.

**NORTH SHORE.**—A range was asked for on Kokanongwi Island to clear Centre Island bank passing south of Badgely Island. This has been held over for consideration, and no action is yet taken by the Board. A spar buoy was also asked for on Robertson's Rock (a little north of Clapperton Island Light), but the Board reported that a spar was already located at this point.

**LONELY ISLAND.**—A request was made for the installation here of one of the gasolene motor fog horns then under test by the Department. No action is yet taken. The Board is, however, advised by its chief engineer against the installation of any fog horn on account of the size of the island, the claim being made that a horn is only effective protection on a point or on a small island which can be given a wide berth in any direction.

**COLLINGWOOD.**—A similar installation was asked for, but this is still under consideration.

**STAG ISLAND.**—The double channel has been established at this point and rules have been put in force for navigating the same.

**FIGHTING ISLAND.**—The cutting of the second channel here, for which petitions are being collected, and which with the new Livingstone channel would afford a double route from Detroit to Lake Erie, was endorsed by this Association in 1908. The Lake Carriers' Association, at its recent meeting, has also supported the request for the work. The next Committee might give the proposal further assistance.

**LAKE ERIE.**—The lightship Keewaunee, maintained at Southeast Shoal by the Lake Carriers' Association, has not yet been taken over by the Government, although negotiations to that end have been pending for some years, this shoal being well within Canadian waters. This Association has already endorsed the Lake Carriers' request for the maintenance of a Canadian light here, and the matter is commended to the attention of the next Committee.

**PORT COLBORNE RANGE LIGHTS.**—The occulting red light placed as a back range light has been complained of as being too dim to be serviceable, and this Association has been asked to suggest a remedy. The question should have the attention of the next Committee at its first meeting.

**NIAGARA SHOAL.**—The renewed request for a gas and bell buoy at this shoal in place of the present bell buoy has been refused by the Board on the ground that there is not enough night traffic in and out of Niagara

River, and that there being open water north of the shoal, vessels up and down the lake from Port Dalhousie can and should give this point a wide berth.

**HAMILTON ENTRANCE—BURLINGTON PIERS.**—The repair work here was the subject of much special correspondence, and through the efforts of this Association received special consideration, temporary lights being placed and notices issued, and the main work being undertaken with all the promptitude possible.

**BAY OF QUINTE.**—The Telegraph Shoal is still an obstruction to navigation. A contract is reported to have been let for its removal. The light at Salt Point at Brighton entrance is not yet replaced; the fog horn here is in operation but the distant shore ranges do not assist in making an entrance in thick weather.

**KINGSTON HARBOR.**—Range lights were asked for on the north shore at the entrance of this harbor to take the place of the long distance range of Pigeon Island and Nine Mile lights, and to lead past the Middle Ground and Seven Acre Shoals; with a second range perhaps on Point Henry, to lead into the inner harbor and past the Penitentiary shoal, to intersect the present Barrielfield range. The Board has not yet refused this request, but has apparently been advised that the improvement is not really a necessary one, one accident which occurred having taken place late in the year after the gas buoy on the Middle Ground had been removed. The removal of the Barrielfield bridge across the Kingston inner harbor is suggested, or at least the renewal of the bridge with a large central span of modern construction. The next Committee is asked to give this question special consideration.

**ST. LAWRENCE RIVER.**—Various improvements have been the subject of correspondence throughout the year, notably the Faran's Point entrance, still under consideration by the Department of Railways and Canals; the removal of an obstruction consisting of faulty construction work at the head of the Morrisburg Canal; and the strengthening of the banks of the Cornwall, Soulages and Lachine Canals.

**OTTAWA RIVER—GREEN SHOALS.**—The Public Works Department has not yet undertaken the removal of these shoals. The lack of drilling apparatus was stated to be the only reason the work was not undertaken last year. The Department now reports that during 1908, at the suggestion of this Association, it advertised for tenders for the work but received none. The matter is under consideration and should receive further attention at the hands of the next Committee.

**RIDEAU CANAL.**—Dredging has been continued; and successful lighting has been done in dangerous portions of the route by numerous removable oil lanterns placed on stakes and superintended in each section by a contractor who daily removes and replaces the lamps with the aid of a gasolene launch.

**TOPS OF BUOYS.**—The recommendation of this Association for distinguishing shapes in the tops of red and black spar buoys has not yet been acted upon. Officers of the Department are impressed with the idea that the top required would be of such a character as to be liable to be damaged by scraping or collision. The committee considers that sufficient distinction can be given without running any such risk, and the next committee should press for the improvement.

**GAS BUOYS.**—It is worth noting that the Lake Carriers' Association has just agreed by unanimous resolution, resulting from some investigation, to ask the U.S. authorities to adopt acetylene gas buoys in use in Canada in place of those now used, the Canadian system having proved vastly more efficient.

Throughout the year general correspondence regarding pending improvements has taken place, and from time to time the Secre-



tary has been called upon to disseminate information as to temporary or permanent changes in lights, buoys or channels in the waters in which the Association is interested.

The Secretary-Treasurer's report showed a balance of \$1,710.25 on hand.

The reports having been adopted the following resolutions were also adopted:

That the Dominion Government be asked to hasten the work of removing the Telegraph shoal obstruction and to replace the light at Salt Point at Brighton entrance.

That the Dominion Government be asked to dredge Port Arthur harbor to a uniform depth of 22 ft.

That the Dominion Government be asked to allow captains from the Upper Lakes, plying to Montreal, to pass an examination as

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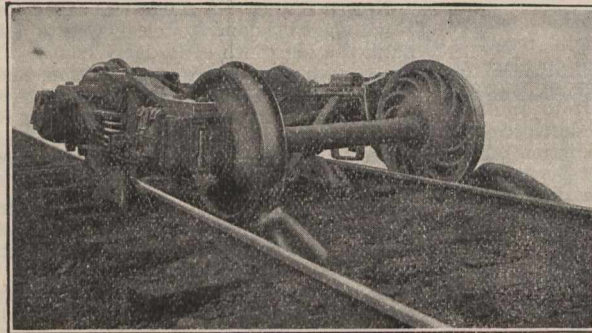
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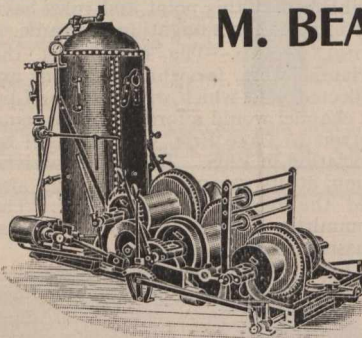
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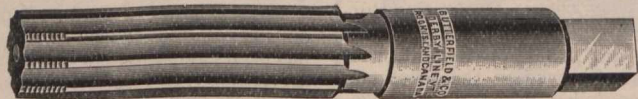
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pilots for Montreal harbor, so as to do away with the present pilotage charges there.

That the Dominion Government be asked to amend the Canada Shipping Act so that all boats of any description, carrying passengers for hire, shall be required to register and to comply with all requirements of the Canada Shipping Act.

That the committee on aids to navigation prepare uniform instructions to be issued by member companies to captains, respecting navigation in the canals and warning them to avoid accidents under pain of penalties.

That the Dominion Government be asked to remove the customs duty on repairs to vessels in U.S. ports, except when an accident occurs nearer to a Canadian dry dock, with proper repair facilities, than to a U.S. one, and that such Canadian dry dock is available at the time.

That the Association protest against the admission of any foreign vessel to the coasting trade on the inland waters.

The following were appointed a committee on power development on the St. Lawrence, to obtain expert evidence and to protest against any interference with navigation: D. Murphy, C. J. Smith, H. A. Calvin, C. A. Jaques, L. L. Henderson, F. Plummer, A. A. Wright, A. B. Mackay, F. E. Hall, J. P. Kavanagh, B. R. Hepburn.

That the Dominion Government be asked to open all the St. Lawrence Canals as early as possible, and that repair work should not be allowed to interfere with this.

It was decided to change the title of the Secretary-Treasurer F. King, to Counsel.

The by-laws having been amended so as to provide that the executive committee be elected so that four members shall hold office for one year, four for two years, and four for three years, and that each year four shall be elected to fill the vacancies occurring, the following were elected: For three years, A. B. Mackay, S. C. Calvin, R. W. Sheppard, J. W. Norcross; for two years, H. H. Gildersleeve, J. S. Playfair, F. Plummer, L. L. Henderson; for one year, C. J. Smith, A. A. Wright, C. A. Jaques, H. W. Richardson. A. A. Wright was re-elected chairman of the grain section.

The Counsel was instructed to express to the Dominion Government the Association's appreciation of the steps which had been taken respecting the proposed enlargement of the Welland Canal and to urge that the work be pushed as rapidly as possible.

G. A. Tomlinson, of Duluth, on behalf of the Lake Carriers' Association, conveyed an expression of good-will to the Dominion Marine Association, and said the Lake Carriers' Association was greatly interested in the efforts to produce a bill of lading which would be something more than a mere bankers' document. They had made a similar attempt in the U.S., but had accomplished little more than improving the English of the bill of lading. He paid a tribute to the Canadian banking system, and gave his experiences in regard to shortages on grain cargoes shipped from Duluth. He also explained the insurance scheme adopted by the Lake Carriers' Association, and in which Canadian vessel owners were asked to join.

The Executive Committee met and elected the following officers for the current year: President, C. J. Smith, General Manager Richelieu and Ontario Navigation Co., Montreal; 1st Vice-President, H. H. Gildersleeve, Manager Northern Navigation Co., Collingwood, Ont.; 2nd Vice-President, F. Plummer, General Manager, Canadian Lake and Ocean Navigation Co., Toronto.

During Dec., 1908, 3 deaths and 2 cases of injuries were reported in connection with Canadian navigation. One of the fatalities was due to machinery, and the other two, with the cases of injuries, were due to falls.

### Amur-Vadso Collision.

The following judgment has been delivered as the result of a formal investigation into the causes which led to a collision between the steamships Amur and Vadso, Sept. 19, 1908, in McKay Reach, near Trivet Point, B.C., held at Victoria, B.C., by Commander O. G. V. Spain, Wreck Commissioner, and Capt. P. C. Musgrave and J. T. Walbran, Assessors. Both the Amur and Vadso were well found in all the requirements of the Board of Trade, in regard to boats, life saving apparatus, etc., and the officers of both vessels held the proper certificates. It appears from the evidence that the navigation of the inland channels of British Columbia is carried out by the local steamers in running certain courses from a fixed position off one well-known point to a fixed position off another well-known point, and these courses with their time are run voyage after voyage, so that should a fog come on, the position of the vessel would not be lost, and this is done apparently notwithstanding anything that may supervene to make an alteration necessary for a short time; carrying out this idea, the Court considers one of the causes of the above casualty. The C.P.R. steamer Amur, bound from Victoria to Port Simpson and Queen Charlotte Islands, met at about 2.30 a.m. on the above-mentioned date, and at the above-mentioned place, the steamer Vadso, bound from British Columbia northern ports to Vancouver city. The officer in charge of the Amur having run his course and distance from Kingcome Point to Trivet Point, (the Court considers that the collision occurred westward of Trivet Point), and right in the fairway of an approaching vessel, which he had seen and noted, most injudiciously altered his course for Cummings Point, in accordance, apparently, with the above named practice, and towards the Vadso, though that vessel had very properly directed her course to starboard to pass the Amur; the Amur's course was steadied when her port light was supposed, by her officer in charge, to be sufficiently open to the Vadso, that they would pass clear, red to red, but the two vessels being nearly parallel to each other and drawing close, the Court considers that the Amur in swinging a little more than necessary showed her green light to the Vadso for a moment, though no doubt shutting it out again almost immediately; unfortunately the officer in charge of the Vadso, instead of keeping his port helm, made the grave mistake on seeing this light of altering his course to port, thus throwing his vessel across the advancing Amur, which would be again swinging to starboard, the collision was the result, and the Court considers that when the collision was imminent, the officer in charge of the Amur did the only thing possible to avoid a fatal disaster by going full speed astern, and the officer in charge of the Vadso should have done the same; the Vadso's engines, however, were not stopped until the vessels collided, or were on the point of colliding, and the way and momentum of her hull on the Amur's motionless bow was the cause of the damage; had the Vadso gone full speed astern when the collision was imminent, the Court considers that the accident would not have occurred. For bringing the Amur up nearly in a line with the approaching Vadso, which vessel had altered her course to clear him, thereby tending to confuse the officers on the Vadso as to what the Amur was going to do, the Court considers the officer in charge of the Amur should be reprimanded, though his conduct is considered correct after this action. For not keeping his port helm, having once made way in the proper order for the approaching vessel, and also when the vessels were close, for not placing his

engines at full speed astern, the Court considers the officer in charge of the Vadso should be severely reprimanded. The masters of the two vessels are exonerated from blame. It is regrettable that the sound signals were not distinctly heard by either ship. The Court wishes to draw attention to the custom in many passenger vessels on the B.C. coast, of the master standing watch and watch with the mate, and then being held responsible, as master of the vessel, for both watches; this appears to the Court to be unfair to the master, and also conducive to accidents, the above collision being a case in point; there should be two competent watch officers, the master, of course, having general supervision; the master having to keep watch and watch, it becomes impossible for him to have the necessary supervision at all times, and the Court considers it would be to the advantage of B.C. vessels if the practice could be stopped.

### The Ocean Carrier.

In a volume bearing this title published by G. P. Putnam's Sons, and the Railroad Age Gazette, New York, J. Russell Smith, Assistant Professor of Industry of the University of Pennsylvania School of Finance and Commerce, has written an interesting and instructive book. It is a companion work to a previously issued volume on "The Organization of Ocean Commerce," and is a history and analysis of the ocean-carrying trade, and a discussion of the rates of ocean transportation. The book is the outgrowth of the study of three questions—the development of line traffic, the combinations among carriers to control rates, and the combination of steamship lines and railways.

While it is written entirely from the U.S. point of view, it is an economic study, and does not show more than a natural bias in favor of U.S. routes, and U.S. methods, which is to be expected from those who have been familiar with them from their youth. To one who has been brought into intimate contact with the British mercantile marine, and has given some study to the development of the ocean carrier and to ocean freight rates, from the British point of view, the volume appears to present the view that in the main the growth of the entire trade has been fostered by U.S. initiative and enterprise. While there is some foundation for taking this viewpoint, Professor Smith overlooks the fact that in the days when the U.S. mercantile marine was an appreciable factor in the world's ocean carrying trade the nations of continental Europe were recovering from the disorganization of their trade wrought by the Napoleonic wars, the continuation of which enabled the U.S. as an independent trading nation to build up a mercantile marine and a carrying trade altogether out of proportion to its position as a financial or a producing centre. When the period of the industrial expansion of the U.S. arrived, the importance of the U.S. ocean mercantile marine began to wane, and it is doubtful if it can ever be regained. The question which will have to be determined, as appears to be suggested by a consideration of freight rates as set forth in the volume, is whether the exporting or the importing nations shall determine the route and the rate. Taken as a whole the volume is an interesting one for the general reader, and to those specially interested in transportation problems, it presents clearly and concisely the ocean-carrying problem from the U.S. standpoint. The volume is well illustrated with maps, cuts of various types of ocean carriers, etc. Copies of the work may be obtained from THE RAILWAY AND MARINE WORLD'S book department.



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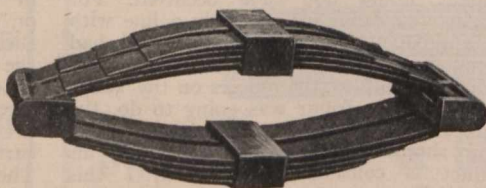
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**W. P. Fraser,**  
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**Cuba-Brighton Collision**

A formal investigation into the causes which led to a collision between the s.s. Cuba and the Montreal Transportation Co.'s barges Brighton and Dorchester, in Lake St. Francis, Nov. 12, 1908, was held recently at Montreal, by Commander O. G. V. Spain, Wreck Commissioner, with Capt. Nash and Reid as nautical assessors. Judgment was delivered as follows: It appears from the evidence that on Nov. 12, the Montreal Transportation Co.'s tug Glide, with a tow of three light barges, Ungava, Brighton, and Dorchester, was proceeding up Lake St. Francis, when they encountered a heavy gale of wind from about west-north-west; owing to this strong wind, and the adverse current, and finding that they were not making any headway, it was decided to come to anchor, which was done, the first barge Ungava letting go both anchors with 75 fathoms of cable on the starboard anchor, and 60 fathoms on the port; the tug Glide then moored alongside the barge Ungava, and made fast to her on the starboard or north side, thereby showing they recognized that vessels proceeding down the lake would pass on the south or port side of the tow, the barges Brighton and Dorchester mooring astern of the Ungava, with very short scopes; in fact, the scopes were so short that they were sufficiently close together for a man to walk from one end of the tow to the other. On the approach of darkness the regulation anchor lights were placed in position, two lights on the barge Ungava, one on the tug Glide, and each of the barges Brighton and Dorchester also had one light; in the case of the two latter vessels there was an infringement of Art. 11, of the Rules of the Road. In the case of the Brighton she only carried one light, which was not in accordance with the regulations, as she was over 150 ft. long, and in the case of the barge Dorchester, her light was placed in contravention of sec. A of Art. 11; both barges' lights were hung on the port corners of the deckhouse aft, and visible on the port or south side of the vessels only, and although this had no effect on the collision, the lights should have been visible all round the horizon; the fact of their anchoring in this position, the tug Glide taking her position on the north side of the tow, and the lights of the barges Brighton and Dorchester being placed on their port side goes to prove, in the opinion of the Court, that they all agreed and accepted the fact that there was ample room for vessels to pass clear of the tow to the south, at this point, and there was room to go either north or south of the tow; at no time was the tail of the tow less than 300 ft. from the gas buoy, as a more powerful tug named Emmerson passed twice on the day in question, once with barges in tow, and measuring 64 ft. wide; it appears to the Court, taking this into consideration, that a steamer like the Cuba, with only 26 ft. beam, if carefully navigated, should pass easily, the weather at the time being perfectly clear. The lights of the steamer Cuba were seen for some time approaching almost directly for the tow, without apparently slackening speed; this vessel was proceeding from Oswego to Quebec, coal laden; the master was below at his supper, the mate being in charge of the vessel at the time of the collision; there was no lookout man, the mate assumed that duty, the master stating that he had no other reliable man on board that could fill that position; a pilot (so-called), François Laduc, was at the wheel; the weather conditions are generally accepted, that is to say, that there was a strong wind, dark but clear night, and lights could be seen at full range. The so-called pilot, and

also the mate of the Cuba saw the lights on the tow, which they, by their evidence, considered was a tow under way, though the lights did not conform to that opinion, as the lights carried by the Ungava indicated that they were the regulation lights required by law for a vessel at anchor. There appears to have been a very ineffective lookout, and lax discipline, kept on board the Cuba, and also faulty navigation on the part of the officers of that vessel. After seeing the lights of the tow, the Cuba still kept on at full speed, showing both her red and green lights, until within about 100 ft., when the captain of the Ungava called out to the Cuba to port his helm, which the Cuba did, but not in time to avoid striking the Brighton slightly on her port side, sufficiently, however, to send her stern to the northward, and with enough force to carry away three out of the four lines which fastened the Dorchester to the Brighton; the Cuba's port bow then striking the Dorchester on the port bow, doing damage to the Dorchester, and also very considerably hurting herself, the Cuba then drifted clear and proceeded on her way, without ascertaining if there was any danger to the vessels she had collided with. The Court considers that the master and mate of the Cuba should be and they are hereby severely censured, and is also of the opinion that measures should be taken to secure competent and responsible men as pilots of vessels in inland waters. The officer in charge of the tug Glide, who was presumably in charge of the whole tow, is censured for the infringement of the Rules of the Road, in not having the proper lights on the Brighton and Dorchester, and warned to be careful in future. This matter is brought to the attention of the Montreal Transportation Co., and in future officers of vessels not carrying the proper lights will be severely dealt with. In this particular case, as before remarked, the lights in question had nothing to do with the collision.

**Richelieu and Ontario Navigation Company.**

Following are extracts from the report for the year 1908: The gross earnings were \$1,241,747.81, and the net profit, after providing for fixed charges, interest, etc., \$250,741.84. The operating expenses, exclusive of fixed charges, were 69% of the gross earnings, a saving of 3% as against the previous year. Four dividends at the rate of 1 1/4% quarterly were paid during the year.

In the last annual report your directors recommended that a sister ship to the Rapids King be built at an early date for the Rapids division. The necessity of such a steamer having become more and more apparent, on the advice of naval architects the steamer Brockville, now in this service, is being lengthened, rebuilt and modernized, and will go into commission as the Rapids Queen this coming summer. Your directors also recommend the immediate building of a large twin-screw steamer, full canal size of the most modern type, for the Lake Ontario-Thousand Island trade. This steamer to be so built as to take the place of any of the main line steamers of the company, either on the Toronto, Quebec or Saguenay divisions. Plans and estimates are being prepared for this steamer, which should go into commission on the opening of the tourist season, 1910.

The Insurance Fund has been credited with \$36,000 out of the year's earnings, and \$108,662.00 now stands to the credit of this account, of which \$101,154.50 has been invested in bonds. The bond issue and the sale of £200,000 thereof, as well as the entire redemption of the outstanding

1895 issue referred to in the last annual report have been successfully accomplished, and during the past year £3,400 of the new 1907 bonds were also redeemed. The company's steamers, hotels, shops and wharves have been thoroughly maintained and improved during the past year.

ASSETS.	
Steamers, real estate and buildings, docks, wharves, etc.....	\$4,183,333.85
CURRENT ASSETS.	
Coal, stores, provisions, etc.....	\$ 101,526.77
Accounts receivable.....	51,623.12
Suspense account.....	88,533.53
Cash.....	14,338.72
Loans on collateral securities.....	100,000.00
Insurance fund investment.....	356,022.14
	101,154.50
	<b>\$4,640,510.49</b>
LIABILITIES.	
Capital stock.....	\$3,132,000.00
Bonds 5% sterling.....	\$973,333.33
Less cancelled.....	16,546.67
	956,786.66
Accounts payable.....	\$ 76,375.25
Unclaimed dividends.....	159.00
Accrued fixed charges.....	16,222.23
Insurance fund.....	92,756.48
Surplus.....	108,662.00
	350,305.35
	<b>\$4,640,510.49</b>
INCOME ACCOUNT.	
Surplus Dec. 31, 1907.....	\$ 341,396.77
Net profit for 1908.....	250,741.84
	<b>\$ 592,138.61</b>
Dividends paid in 1908.....	\$ 156,600.00
Carried to insurance fund.....	36,000.00
Written off steamers, etc.....	49,233.26
Net surplus.....	350,305.35
	<b>\$ 592,138.61</b>

The directors for the current year are as follows: President, R. Forget, M.P.; Vice-President, W. Wainwright; Directors, Sir Henry M. Pellatt, Hon. J. P. B. Casgrain, Hon. L. J. Forget, H. M. Molson, C. O. Paradis, G. Caverhill, W. Hanson and A. H. Sims.

**Harbor and River Improvements.**

The Dominion Department of Public Works expended during the year ended Mar. 31, 1908, \$11,199,384.94, of which the following amounts were for works connected with the marine interests: Harbor and river works, \$2,447,882.02; dredging and plant, \$3,344,306.56; slides and booms, \$144,716.54.

For several years the department has been systematically carrying on the improvement of the principal harbors on the Great Lakes, along the St. Lawrence waterway, and on the Atlantic and Pacific coasts. The points which the Royal Commission on Transportation recommended should be equipped after the most approved and modern methods for handling the export and import trade of the country were: Fort William and Port Arthur, Depot Harbor, Midland, Port Colborne, Kingston, Ont.; Montreal, Quebec, Que.; St. John, N.B.; Halifax, Sydney, N.S.; Vancouver, Victoria, and the termini on the Canadian Northern Ry. and the G.T. Pacific Ry. The improvement of these ports is under way. The amounts expended at this harbor, where work has been progressing, is as follows:

	1899 to 1903	1904 to 1908
Montreal.....	\$503,536.12	\$ 520,410.48
Quebec.....	19,467.65	793,099.56
Port Arthur.....	53,268.87	469,811.50
Fort William.....	98,449.65	747,495.65
Depot Harbor.....	31,797.81	213,729.05
Midland.....	49,420.29	355,439.62
Port Colborne.....	445,829.06	444,939.72
Kingston.....	20,258.38	13,474.09
Sydney, N.S.....	6,971.42	14,822.81



	1899 to 1903	1904 to 1908
Halifax (Intercolonial Ry. terminal accommodation).....	184,528.62	1,511,204.02
St. John (harbor only).....	29,111.49	859,331.25
Vancouver.....	6,972.00	
Victoria.....	51,244.66	197,962.81

Commander O. G. V. Spain, R.N., Dominion Wreck Commissioner, has resigned, and it is rumored that Rear-Admiral Kingsmill, Commander of the Canadian Marine Service, will be appointed to hold the dual positions, which were so held by Commander Spain prior to Admiral Kingsmill's appointment to his present position.

**Among the Express Companies.**

The Canadian Northern Ex. Co. has opened an office at Sellwood, Ont.

A. R. G. Heward has been appointed Secretary, Dominion Ex. Co., vice H. E. Suckling.

A. J. Seaton has been appointed route agent, Canadian Ex. Co., with headquarters at Montreal.

C. L. Bowles has been appointed route agent, Canadian Northern Ex. Co., with headquarters at Regina, Sask.

A. G. Boswell has been appointed route agent, Dominion Ex. Co., with headquarters

at Montreal, vice J. Bagley, transferred to Toronto.

G. W. Hinton has been appointed agent, Canadian Northern Ex. Co., at Emerson, Man., succeeding O. A. Thomas, transferred to Brandon, Man., vice W. G. Graham.

Jas. Crawford has been appointed route agent, Canadian Northern Ex. Co., with headquarters at Winnipeg, succeeding F. L. Thompson, transferred to Portage la Prairie, Man.

The Canadian Ex. Co. has opened offices at Enfield, Judique and Malagash, N.S.; McGivney's, N.B.; Ste. Agnes de Dundee, Que., and Hyde Park, Ont., and has closed its

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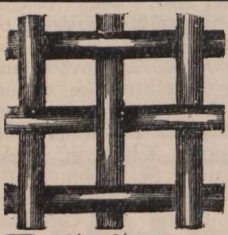
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offices at Covered Bridge and Upper Blackville, N.B., and Holland Landing, Ont.

The express companies have notified their agents that the order-in-council declaring the Canada Temperance Act, which applies within the limits or in the vicinity of any public works, applies also to all those portions of the provinces of Quebec, Ontario and Manitoba, except in the provisional district of Rainy River, Ont., lying within 20 miles of each side of the located line, and including the line itself, of the National Transcontinental Ry., from the Quebec bridge to the limits of St. Boniface, Man., excepting within the limits of incorporated cities and towns within the said area, prohibits express companies from carrying intoxicating liquors into the territory named.

The Board of Railway Commissioners has issued the following order: 6167. Feb. 4. In the matter of the application of the Commercial Acetylene Co. of New York, for an order directing express companies operating in Canada and subject to the jurisdiction of the Board, to classify for transportation acetylene gas when shipped under the so-called safety storage system. Upon hearing counsel for applicant, the G.T.R. and the C.P.R. Companies, the evidence adduced, and what was alleged—it is ordered that express companies operating in Canada, and under the jurisdiction of the Board, be directed to accept and carry acetylene gas under the rules and regulations prescribed in connection therewith in Official Express Classification 18, and at the rating therein provided; and that a supplement be issued to Express Classification 16, as now in effect, to provide for the said changes becoming effective not later than Mar. 1.

#### Express Money Order Business, Etc.

In the case of the American Bankers' Association vs. the American Express Co., et al, submitted to the Interstate Commerce Commission Nov. 11, 1908, it was alleged that defendant express companies, by dealing in domestic and foreign exchange, money orders, letters of credit, travellers' cheques and drafts, and foreign money, trespass upon the business of bankers, and by the unfair use and exercise of their business as common carriers violate the act to regulate commerce by unjust discrimination against complainants. Defendants averred that they are subject to the act only as forwarders of goods by express and not in respect to any other kind of business carried on by them, and that their financial business has no relation to their business as common carriers, and does not constitute interstate or foreign commerce.

The Commission held Jan. 5, 1909, upon defendants' motion to dismiss complaint and complainants' request for subpoena duces tecum, that as there may be some question of unjust discrimination involved in the matter, the motion to dismiss the complaint is denied; but as the information sought by complainants through the issuance of subpoena duces tecum does not at this time seem to be necessary to a showing of unjust discrimination in the transportation of money, it does not appear that it would be proper to impose the large expense that preparation of the information would involve. The request for such subpoena is also denied. There can be no doubt as to the jurisdiction of the Commission of any question of discrimination connected with the service of the express companies as carriers; but even if unjust and undue discrimination, free from criminal act, were shown to exist in their practices, it is clearly the duty of the Commission to go no further in destruction or disturbance of the business of the carrier, or in depriving the public of conveniences and facilities of value to it, than is necessary in order to

remove the discrimination to the extent that it is unjust or undue. The extent, if any, to which defendants transport money for themselves for the purpose of settling balances in the carrying on of their financial operations has not been shown. The relationship of the cost of this service and of the charges made therefor has not been presented. There may or may not be some question of unjust discrimination involved therein, and complainants should be given an opportunity to present their proofs in support of this alleged discrimination, and the defendants should have an opportunity to answer same. The Commission shall therefore, unless advised by complainants of their desire to dismiss this proceeding, set it down in due time for hearing of further testimony along the lines herein indicated.

#### Telegraph and Cable Matters.

The T. & N.O. Ry. has opened telegraph offices at Cochrane and Charlton, Ont.

The C.P.R. has opened a telegraph office at Ayles, Ont., and closed its telegraph office at Naiscootyong, Ont.

O. E. Wood, who died at Ithaca, N.Y., Jan. 30, it is claimed took the first telegraph message by sound, and was the first superintendent of telegraphs in New York City.

The latest figures to hand showing the extent of the telegraph lines in operation in the Dominion are:

	Miles of line	Miles of conductors	Offices
G.N.W. Tel. Co....	11,775	48,652	1,360
C.P.R.....	10,294	51,009	1,150
Western Union....	2,638	9,849	219
Government Lines.	6,929	6,929	393

A board of investigation has been appointed to enquire into differences between the Great North Western Telegraph Co. and its operators as follows: Chairman, Judge McGibbon, Lambton; J. G. O'Donoghue, Toronto, on behalf of the men, and J. F. Mackay, Toronto, appointed by the Labor Department. The company declined to nominate a representative.

The Prime Minister informed the House of Commons Jan. 27 that the cost of construction of Marconi wireless stations in Canada to Mar. 31, 1907, had been \$132,641.65, and for maintenance, \$200,198.48, while the expenditure for maintenance for the year ended Mar. 31, 1908, had been \$56,232.56. There were 15 stations in operation, and during the year ended Mar. 31, 1908, there had been sent for and received by the Government 4,886 messages, containing a total of 57,583 words.

B. S. Jenkins, General Superintendent C.P.R. Telegraphs, Winnipeg, is reported to have stated that during the year additional wires will be strung through from Winnipeg to Calgary and over the Edmonton, Macleod and Crow's Nest lines; also on the main line west from Calgary, and that additional facilities will also be provided in the mountains for both telegraph and telephone communication between the mountain hotels. It is also stated to be the intention, as soon as the double-track east of Winnipeg is completed, to operate a super-imposed telephone circuit between Winnipeg and Montreal, at the same time using it for telephone service between Winnipeg and Fort William for railway service only.

Referring to the recent order-in-council bringing into force the clause of the act amending the Railway Act passed last session of the Dominion Parliament, by which all telegraph companies are placed within the jurisdiction of the Board of Railway Commissioners, those associated with the principal companies concerned, state that there are at present no important telegraph questions for the Board's consideration. On the question of rates, etc., it is pointed out that there was never any complaint. They point out that rates here are as good, if not

better, than in any other part of the world. Ten words for 25c., and a cent for each extra word, is a vast difference from 25c. and 2c. a word which is the charge in the U.S., and in this connection it is declared that there can be no change.

#### The Mackay Companies.

Following are extracts from the trustees' report: The Mackay Companies still owns the whole or part of the capital stock of 102 prosperous cable, telegraph and telephone companies in the U.S., Canada and Europe, including the entire capital stock of the Commercial Cable Co. and the various companies constituting the land line system known as the Postal Telegraph. The outstanding preferred shares of \$50,000,000 have not been increased during the past two years, and the outstanding common shares of \$41,380,400 have not been increased during the past four years. Dividends have been regularly paid on the preferred shares since April, 1904, at the rate of 4% per annum, payable quarterly, and on the common shares since Jan., 1905, such dividends having been increased to 4% per annum, payable quarterly, commencing July, 1906.

The physical properties of the subordinate companies are maintained in excellent condition. All reconstruction is charged to operating expense. All extensions, improvements and investments are being paid for from annual receipts and not by the issue of shares or bonds. The Mackay Companies has no debts. Owing to the agitation which has been going on, particularly in England and Canada, for government Atlantic cables and the reduction of rates, G. G. Ward, Vice-President and General Manager of the Commercial Cable Co., addressed an open letter to the Committee on Foreign and Insular Trade of the New York Board of Trade and Transportation, Jan. 14, in which he points out the attitude of the company on the subject.

During 1908 the earnings of the Commercial Cable Co. (which has paid regular quarterly dividends for over 19 years) show a decrease in gross receipts and net profits. This was due to the fact that in the spring, powerful steam fishing vessels operated their deep sea nets or trawls on the bottom of the ocean off the coast of Ireland, in such a manner as to disrupt the company's submarine cables, as well as those of other companies. A trawl is practically a crude mass of iron and wood, which is dragged along on the bottom of the ocean. The interruption so seriously affected public business that protests were made by commercial bodies, not only throughout the U.S., but in England. At the request of your trustees, the U.S. Government called the attention of the British Government to this reckless interruption of international communication and destruction of property. Thereupon the British Government appointed a commission of enquiry, which reported in the fall, recommending that stringent inspection be made of these trawling vessels. The interruptions still continue, and all the cable companies are still affected. Inspection is not enough. Your trustees believe that steam operated trawls should be prohibited in that particular part of the sea. The cable companies are still urging the British Government to adopt some real remedy.

Notwithstanding this decrease in the gross receipts and net profits of the Commercial Cable Co., and the depression of business which prevailed throughout the U.S. during the past year, growing out of the panic and financial crisis of the fall of 1907, the profits which the Mackay Companies might draw from the companies which it controls have increased. Economies, which have been rendered possible without impairing the service, have more than offset the decrease in gross receipts. More important still, the



# NORTH AMERICAN LIFE

## ANNUAL MEETING

### REPORT FOR THE YEAR 1908

The Twenty-eighth Annual Meeting of the North American Life Assurance Company was held at its Home Office in Toronto, on Thursday, Jan. 28th, 1909, when the following report of the business of the Company for the year ended Dec. 31st, 1908, was presented:

#### CASH INCOME

The cash income for the year from premiums, interest, etc., was \$1,897,078.28, showing the satisfactory increase of \$81,980.59.

#### REDUCTION IN EXPENSE RATIO

The business has been conducted on a conservative basis, as is shown by a further reduction in the ratio of expenses to premium income, thereby placing the North American Life in the front rank of economically managed Canadian companies.

#### PAYMENTS TO POLICYHOLDERS

The amount paid on policyholders' account was \$654,991.05, and of this sum \$368,831.76 represents payments for Dividends, Matured Endowments and Investment Policies.

#### ASSETS

The Assets increased during the year by the sum of \$854,762.01, and now amount to \$9,590,638.09. The Assets continue to be, as heretofore, invested in the best class of securities available; a detailed list of these will be published with the Annual Report for distribution.

#### NET SURPLUS

After making ample provision for all liabilities and paying the sum of \$124,771.26 for dividends to policyholders, the net surplus was increased to \$876,214.15.

#### INSURANCE

The policies issued during the year, together with those revived, amounted to the sum of \$4,465,224.00, making the total insurance in force \$40,341,091.00.

#### AUDIT

A monthly examination of the books of the Company was made by the Auditors, and at the close of the year they made a thorough scrutiny of all the securities held by the Company. A committee of the Board, consisting of two Directors, made an independent audit of the securities each quarter.

**L. GOLDMAN,**  
Managing Director.

**J. L. BLAIKIE,**  
President.

The Annual Report, containing a detailed list of the securities, will be sent in due course to each policyholder.

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Best Rail Line between

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**W. H. HENRY,** Can. Pass. Agent,  
286 St. James Street, Montreal, P.Q.  
**A. A. HEARD,** Gen. Pass. Agent,  
Albany, New York.

## IMPERIAL BANK OF CANADA

CAPITAL AUTHORIZED	- -	\$10,000,000.00.
CAPITAL PAID UP	- -	5,000,000.00.
REST	- -	5,000,000.00.

HEAD OFFICE - - - TORONTO

AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.

Sterling exchange bought and sold. Letters of credit issued available in any part of the world.

SAVINGS DEPARTMENT—Interest allowed on deposits at current rate from date of deposit. A general Banking business transacted.

Branches throughout the Dominion of Canada

## Anti-Rail Creepers

Made under Laas & Sponen-  
burg, Canadian patents  
Nos. 97586, 97268, 97269.  
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service now rendered by the telegraph and cable systems, controlled by the Mackay Companies, is faster and more efficient than ever before. The financial results of the entire year serve to demonstrate the soundness of the plan on which the Mackay Companies is formed; namely, so wide a distribution of its interests as to minimize the effect of any decrease in profits from one particular source.

During the past year additional wires have been strung on one of the transcontinental land lines, and the service of the Postal Telegraph Company has been extended in the U.S. The Mackay Companies' holdings of stock in the American Telephone and Telegraph Co., commonly known as the Bell Telephone Co., are nearly six times larger than those of any other stockholder.

During the past year, H. V. Meredith, Montreal, was elected a trustee of the Mackay Companies, thereby giving to the Canadian shareholders two representatives, the other being R. A. Smith, Toronto.

ASSETS.	
Investments in other companies.....	\$92,075,593.45
Cash.....	190,795.70
	<u>\$92,266,389.15</u>
LIABILITIES.	
Preferred shares issued.....	\$50,000,000.00
Common shares issued.....	41,380,400.00
Surplus.....	885,989.15
	<u>\$92,266,389.15</u>

PROFIT AND LOSS ACCOUNT.	
RECEIPTS.	
Income from investments in other companies.....	\$3,685,761.91
DISBURSEMENTS.	
Dividends paid on—	
Preferred shares, 4%.....	\$2,000,000.00
Common shares, 4%.....	1,655,216.00
Operating expense, including transfer agents, registrars', auditors' and trustees' compensation, office rent, salaries, stationery, engraving of certificates, etc.....	25,027.45
Balance carried forward.....	5,518.46
	<u>\$3,685,761.91</u>

**Dominion Government Telegraph System.**

The total number of miles of telegraph lines under the control of the Dominion Department of Public Works, according to the report for the year ended Mar. 31, 1908, just presented to Parliament, was 7,225, comprising 393 offices, which transmitted during the year a total of 105,000 messages. All the lines were maintained in good order and worked fairly satisfactorily. No new lines of any considerable length were constructed during the year, but a number of extensions were made to existing lines in the Maritime Provinces, in the province of Quebec, particularly in the Chicoutimi district, and in Saskatchewan

and Alberta. The cost of maintenance exceeded the revenue, but the advantages accruing to the portions of the country served by these lines more than compensate for the expense borne by the Dominion. The greater portion of the Government telegraph lines is constructed through very sparsely inhabited districts and along the Gulf of St. Lawrence, where private companies would not obtain sufficient revenue to justify the building and operation of a service. As the country is opened up and railways built many of the Government telegraph lines will necessarily be abandoned or perhaps transferred to the control of railway and other companies. In several instances it has been found that the public interest is best served by transforming lines originally constructed as telegraph into telephone lines, the operation of which are more simple and fulfil to a greater degree the needs of the community. In some cases the dual operation of the line for both telegraph and telephone was attempted, but the results can hardly be said to be satisfactory.

The total revenue from the lines was \$122,432.53, and the expenditures \$386,567.34. Signal service messages, meteorological service messages, and reports, and fisheries bulletins are handled free of toll. The number of officers at the different stations is 393.

# The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

- Accident Insurance**  
Canadian Ry. Accident Ins. Co.....Ottawa, Ont.
- Aerated Waters**  
E. L. Drewry.....Winnipeg.
- Air Brakes and Fittings**  
Canada Foundry Co.....Toronto.  
Canadian Westinghouse Co.....Hamilton, Ont.
- Alloys**  
E. L. Drewry.....Winnipeg.
- Alloys**  
Goldschmidt Thermit Co.....Toronto.
- Angle Bars**  
Hamilton Steel & Iron Co.....Hamilton, Ont.  
Montreal Rolling Mills Co.....Montreal.
- Anti Rail Creepers**  
Belle City Malleable Iron Co.....Racine, Wis.  
N. J. Holden & Co.....Montreal.
- Automobiles**  
Polson Iron Works, Ltd.....Toronto.
- Axes**  
James Smart Mfg. Co.....Brockville, Ont.
- Axe Steel**  
Montreal Steel Works.....Montreal.
- Axles**  
James Hutton & Co.....Montreal.  
Jas. W. Pyke & Co.....Montreal.  
Rhodes, Curry & Co.....Amherst, N.S.
- Beacons**  
International Marine Signal Co.....Ottawa.
- Bearings, Side**  
Cardwell Mfg. Co.....Chicago, Ill.  
Chicago Railway Equipment Co.....Chicago, Ill.  
Dominion Car and Foundry Co.....Montreal.
- Blankets and Bedding**  
The Hudson's Bay Co.....
- Blasting Powder**  
Standard Explosives Limited.....Montreal.
- Boilers**  
Babcock & Wilcox (Ltd.).....Montreal.  
Polson Iron Works.....Toronto.  
Robb Engineering Co., Ltd.....Amherst, N.S.
- Boilers, Portable**  
Robb Engineering Co., Ltd.....Amherst, N.S.
- Boilers, Stationary and Marine**  
Babcock & Wilcox (Ltd.).....Montreal.  
Robb Engineering Co., Ltd.....Amherst, N.S.
- Boiler Staybolt Iron or Steel Bars**  
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.
- Boilers, Steam**  
Babcock & Wilcox (Ltd.).....Montreal.  
Robb Engineering Co., Ltd.....Amherst, N.S.
- Boilers, Water Tube**  
Babcock & Wilcox (Ltd.).....Montreal.  
Robb Engineering Co., Ltd.....Amherst, N.S.
- Boilers, Tubes**  
Jas. W. Pyke & Co.....Montreal.
- Bolsters**  
Dominion Car and Foundry Co.....Montreal.
- Bolts, Bridge**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Bolts, Carriage and Machine**  
Toronto Bolt and Forging Co.....Toronto.
- Bolts, Track**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Box Car Loaders**  
Mussens Limited.....Montreal.
- Brake Beams**  
Chicago Railway Equipment Co.....Chicago, Ill.  
Dominion Car and Foundry Co.....Montreal.
- Brake Shoes**  
American Brake Shoe & F'dry Co., Mahwah, N.J.  
Canada Iron Corporation, Ltd.....Montreal.  
N. J. Holden Co., Ltd.....Montreal.
- Brass and Copper Cloth**  
The B. Greening Co.....Hamilton, Ont.
- Bridge Numbers**  
Acton Burrows Limited.....Toronto.
- Bridges**  
Canadian Bridge Co.....Walkerville, Ont.  
Dominion Bridge Co.....Montreal.
- Buckets, Coal, Ore and Concrete**  
Canadian Fairbanks Co., Ltd.....Montreal.
- Bumping Posts**  
N. J. Holden Co.....Montreal.  
McCord & Co.....Chicago, Ill.
- Buoy Lighting**  
Safety Car Heating and Lighting Co., New York.
- Buoys**  
International Marine Signal Co.....Ottawa.
- Cables, Electric and Feeder**  
E. F. Phillips Electrical Works, Ltd.....Montreal.  
The Wire and Cable Co.....Montreal.
- Caps**  
W. H. Coddington.....Hamilton, Ont.
- Car Castings**  
American Brake Shoe & F'dry Co., Mahwah, N.J.  
Canada Iron Corporation, Ltd.....Montreal.
- Car Cleaner**  
Modoc Soap Co.....Philadelphia, Pa.
- Car Closets**  
Duner Co.....Chicago, Ill.
- Car Curtains and Fixtures**  
N. J. Holden Co., Ltd.....Montreal.
- Car Fittings**  
Wallace Supply Co.....Chicago, Ill.
- Car Heating**  
Canadian Cold Car Heating & Light'g Co., Montreal.  
Safety Car Heating and Lighting Co., New York.
- Car Lighting**  
Canadian Cold Car Heating & Light'g Co., Montreal.  
Safety Car Heating and Lighting Co., New York.
- Car Movers**  
Canadian Fairbanks Co., Ltd.....Montreal.  
F. H. Hopkins & Co.....Montreal.  
Mussens Limited.....Montreal.
- Car Replacers**  
Alexander Car Replacer Mfg. Co., Scranton, Pa.  
N. J. Holden Co., Ltd.....Montreal.  
F. H. Hopkins & Co.....Montreal.
- Cars**  
American Car and Equipment Co.....Chicago, Ill.  
Canada Car Co. (Ltd.).....Montreal.  
Canadian Fairbanks Co., Ltd.....Montreal.  
Crosen Car Mfg. Co.....Cobourg, Ont.  
Dominion Car and Foundry Co.....Montreal.  
J. T. Gardner.....Chicago, Ill.  
Hart-Otis Car Co. (Ltd.).....Montreal.  
Hotchkiss, Blue & Co.....Chicago, Ill.  
Ottawa Car Co., Ltd.....Ottawa.  
Preston Car and Coach Co., Ltd., Preston, Ont.  
Rhodes, Curry & Co.....Amherst, N.S.  
Silliker Car Co., Ltd.....Halifax, N.S.
- Car Windows**  
O. M. Edwards.....Syracuse, N.Y.
- Castings**  
Crosen Car Mfg. Co.....Cobourg, Ont.  
Standard Steel Works Co.....Philadelphia, Pa.
- Castings, Brass**  
Canadian Bronze Co.....Montreal.  
Canada Iron Corporation, Ltd.....Montreal.  
Kerr Engine Co.....Walkerville, Ont.
- Castings, Iron**  
Canada Car Co., Ltd.....Montreal.  
Canada Iron Corporation, Ltd.....Montreal.  
Kerr Engine Co.....Walkerville, Ont.
- Castings, Iron and Steel**  
American Brake Shoe & F'dry Co.—Mahwah, N.J.
- Castings, Malleable**  
Galt Malleable Iron Co.....Galt, Ont.  
Taylor & Arnold.....Montreal.



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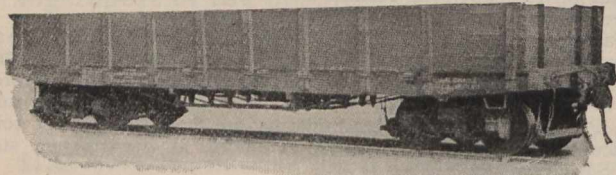
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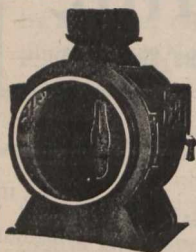
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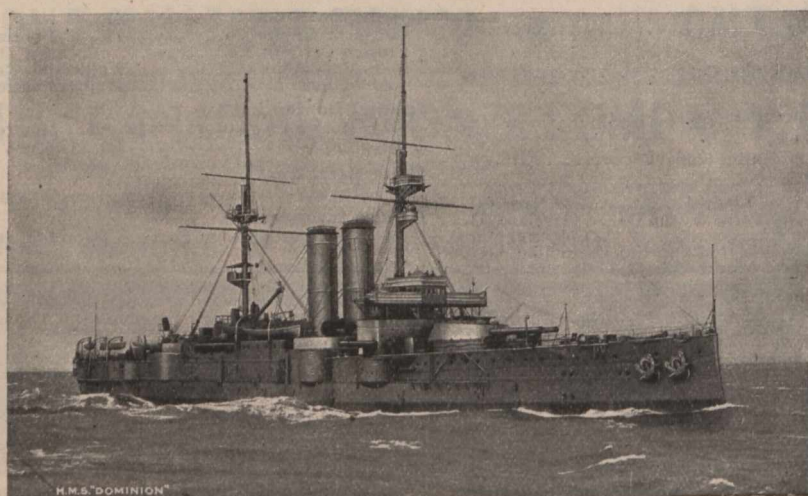


- Castings, Steel**  
Canada Iron Corporation, Ltd. .... Montreal.  
Montreal Steel Works ..... Montreal.  
Rhodes, Curry & Co. .... Amherst N.S.
- Cast-Steel Hammers**  
American Brake Shoe & F'dry Co. .... Mahwah, N.J.
- Cast Steel Track Tools**  
American Brake Shoe & F'dry Co. .... Mahwah, N.J.
- Cast Steel Wrenches**  
American Brake Shoe & F'dry Co. .... Mahwah, N.J.
- Cement Machinery**  
Jas. W. Pyke & Co. .... Montreal.
- Chains**  
B. J. Coghlin & Co. .... Montreal.
- Charcoal Iron Staybolt Bars**  
Falls Hollow Staybolt Co. .... Cuyahoga Falls, Ohio
- Clevis Nuts**  
Cleveland City Forge & Iron Co. .... Cleveland O.
- Coal Haulage Ropes**  
The B. Greening Co. .... Hamilton, Ont.
- Compressors, Air**  
Canadian Rand Co. .... Montreal.
- Concrete Mixers and Rock Crushers**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
F. H. Hopkins & Co. .... Montreal.  
Mussens Limited. .... Montreal.  
Toronto Pressed Steel Co. .... Toronto.
- Construction**  
Cleve-Mor Engin'g & Cons'tion Co. .... Cleveland, O.
- Contractors' Machinery and Plant**  
American Car and Equipment Co. .... Chicago, Ill.  
American Hoist and Derrick Co. .... St. Paul, Minn.  
M. Beatty & Sons. .... Welland, Ont.  
Canadian Fairbanks Co., Ltd. .... Montreal.  
J. T. Gardner. .... Chicago, Ill.  
F. H. Hopkins & Co. .... Montreal.  
Mussens Limited. .... Montreal.  
Robertson Mfg. Co. .... Welland, Ont.  
Toronto Pressed Steel Co. .... Toronto.
- Contractors' Supplies**  
F. H. Hopkins & Co. .... Montreal.  
Rice Lewis & Son. .... Toronto.  
Toronto Pressed Steel Co. .... Toronto.
- Conveyors, Coal and Ash**  
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James Smart Mfg. Co. .... Brockville, Ont.
- Corrugated Furnaces**  
Continental Iron Works. .... Brooklyn, N.Y.
- Couplers, Car and Locomotive**  
Acme Railway Equipment Co. .... Philadelphia, Pa.  
Dominion Car and Foundry Co. .... Montreal.  
Latrobe Steel & Coupler Co. .... Philadelphia, Pa.  
McConway & Torley Co. .... Pittsburg, Pa.  
National Malleable Castings Co. .... Cleveland, Ohio.  
Taylor & Arnold. .... Montreal.  
Washburn Steel Castings & Coupler Co. .... Minneapolis, Minn.
- Cranes**  
Canadian Fairbanks Co., Ltd. .... Montreal.
- Cranes, Electric**  
Babcock & Wilcox. .... Montreal.  
Dominion Bridge Co. .... Montreal.  
Mussens Limited. .... Montreal.
- Cranes, Locomotive**  
American Hoist and Derrick Co. .... St. Paul, Minn.
- Cross Arm Braces**  
Montreal Rolling Mills Co. .... Montreal.  
Toronto Bolt and Forging Co. .... Toronto.
- Crossing Gates**  
The N. L. Piper Railway Supply Co. .... Toronto.
- Crowbars**  
B. J. Coghlin & Co. .... Montreal.  
Toronto Bolt and Forging Co. .... Toronto.
- Culvert Pipe (Cast Iron)**  
Gartshore-Thompson Pipe & F'dry Co. .... Hamilton.
- Cuts**  
Acton Burrows Limited. .... Toronto.
- Derailing Devices**  
Hayes Track Appliance Co. .... Geneva, N.Y.
- Derrick Ropes**  
Dominion Wire Rope Co. .... Montreal.  
The B. Greening Co. .... Hamilton, Ont.
- Derricks**  
American Hoist and Derrick Co. .... St. Paul, Minn.  
M. Beatty & Sons. .... Welland, Ont.  
Miller Bros. & Toms. .... Montreal.  
Mussens Limited. .... Montreal.
- Dies**  
Butterfield & Co. .... Rock Island Que.
- Diving Outfits**  
John Date. .... Montreal.  
Mussens Limited. .... Montreal.
- Doors (Ex-Platform Trap)**  
O. M. Edwards. .... Syracuse, N.Y.
- Door Signs**  
Acton Burrows Limited. .... Toronto.
- Draft Gear**  
\* Cardwell Mfg. Co. .... Chicago, Ill.  
Farlow Draft Gear Co. .... Baltimore, Md.  
N. J. Holden Co. .... Montreal.  
McCord & Co. .... Chicago, Ill.  
Standard Coupler Co. .... New York City.  
Waugh Draft Gear Co. .... Chicago, Ill.
- Dredges**  
M. Beatty & Sons. .... Welland, Ont.
- Drills**  
W. Abbott. .... Montreal.
- Drills, Air**  
Canadian Rand Co. .... Montreal.
- Drill Sockets**  
American Specialty Co. .... Chicago, Ill.
- Dry Goods**  
The Hudson's Bay Co. ....
- Dump Cars (Contractors')**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
F. H. Hopkins & Co. .... Montreal.  
Toronto Pressed Steel Co. .... Toronto.
- Dust Guards**  
Harrison Dust Guard Co. .... Toledo, O.
- Dynamo and Electric Castings**  
American Brake Shoe & F'dry Co. .... Mahwah, N.J.
- Economizers**  
Babcock & Wilcox (Ltd.) .... Montreal.
- Electric Car Route Signs**  
Acton Burrows Limited. .... Toronto.
- Electric Ry. Brake Shoes**  
American Brake Shoe & F'dry Co. .... Mahwah, N.J.
- Electrical Fuses**  
Standard Explosives Limited. .... Montreal.
- Enameled Iron Signs**  
Acton Burrows Limited. .... Toronto.
- Engineering**  
Cleve-Mor Engin'g & Cons'tion Co. .... Cleveland, O.
- Engines, Automatic**  
Robb Engineering Co., Limited. .... Amherst, N.S.
- Engines, Corliss**  
Robb Engineering Co., Limited. .... Amherst, N.S.
- Engines, Gasolene**  
Canadian Fairbanks Co. .... Montreal.  
Ontario Wind Engine and Pump Co. .... Toronto.
- Engines, Hoisting**  
American Hoist and Derrick Co. .... St. Paul, Minn.  
M. Beatty & Sons. .... Welland, Ont.  
Canadian Fairbanks Co., Ltd. .... Montreal.  
Robertson Mfg. Co. .... Welland, Ont.
- Engines, Stationary and Marine**  
Polson Iron Works. .... Toronto.  
Robb Engineering Co., Limited. .... Amherst, N.S.
- Explosives**  
Standard Explosives Limited. .... Montreal.
- Express Office Signs**  
Acton Burrows Limited. .... Toronto.
- Feedwater Heaters**  
Robb Engineering Co., Limited. .... Amherst, N.S.
- Fencing**  
McGregor Banwell Fence Co. .... Walkerville, Ont.  
New Brunswick Wire Fence Co. .... Moncton, N.B.  
Owen Sound Wire Fence Co. .... Owen Sound, Ont.  
Page Wire Fence Co. .... Walkerville, Ont.
- Fire Brick**  
Mussens Limited. .... Montreal.
- Flags**  
The Hudson's Bay Co. ....
- Flour**  
The Hudson's Bay Co. ....
- Fog Signals**  
International Marine Signal Co. .... Ottawa.
- Forgings**  
Canada Car Co., Limited. .... Montreal.  
Cleveland City Forge & Iron Co. .... Cleveland, O.  
Crossen Car Mfg. Co. .... Cobourg, Ont.  
Hamilton Steel & Iron Co., Ltd. .... Hamilton, Ont.  
Standard Steel Works Co. .... Philadelphia, Pa.
- Foundry Appliances**  
Goldschmidt Thermit Co. .... Toronto.
- Frogs**  
Canadian Ramapo Iron Wks, Ltd., Niagara Fs, Ont.
- Fuse Batteries**  
Standard Explosives Limited. .... Montreal.
- Fuse Detonators**  
Standard Explosives Limited. .... Montreal.
- Gaskets**  
N. J. Holden Co. .... Montreal.  
McCord & Co. .... Chicago, Ill.
- Gas Pipe (Cast Iron)**  
Gartshore-Thompson Pipe & F'dry Co. .... Hamilton.
- Gates**  
McGregor Banwell Fence Co. .... Walkerville, Ont.  
New Brunswick Wire Fence Co. .... Moncton, N.B.  
Page Wire Fence Co. .... Walkerville, Ont.  
Owen Sound Wire Fence Co. .... Owen Sound, Ont.
- Grain Elevators**  
John S. Metcalfe Co. .... Chicago, Ill.
- Groceries**  
The Hudson's Bay Company. ....
- Hammers**  
James Smart Mfg. Co. .... Brockville, Ont.
- Handcars**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
Crossen Car Mfg. Co. .... Cobourg, Ont.  
F. H. Hopkins & Co. .... Montreal.  
Mussens Limited. .... Montreal.  
Rice Lewis & Son. .... Toronto.  
Toronto Pressed Steel C. .... Toronto.
- Hardware**  
The Hudson's Bay Co. ....  
Rice Lewis & Son. .... Toronto.
- Hats**  
W. H. Coddington. .... Hamilton, Ont.
- Headlights**  
The N. L. Piper Railway Supply Co. .... Toronto.  
Pyle National Electric Headlight Co. .... Chicago, Ill.
- Headlinings**  
Crossen Car Mfg. Co. .... Cobourg, Ont.
- Hoisting Machinery**  
American Hoist and Derrick Co. .... St. Paul, Minn.  
Brown Hoisting Machinery Co. .... Cleveland, Ohio.  
Canadian Fairbanks Co., Ltd. .... Montreal.
- Hoists, Electric**  
American Hoist and Derrick Co. .... St. Paul, Minn.
- Hoists (Pneumatic)**  
Taylor & Arnold. .... Montreal.
- Hollow Staybolt Iron and Steel Bars**  
Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.
- Hoppers, Car (Wet or Dry)**  
Duner Co. .... Chicago, Ill.
- Hydrants**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
Kerr Engine Co. .... Walkerville, Ont.
- Illustrations**  
Acton Burrows Limited. .... Toronto.
- Inspections**  
R. W. Hunt & Co. .... Montreal.
- Interlocking Plant and Signals**  
Montreal Steel Works. .... Montreal.  
Saxby and Farmer Ltd. .... Montreal.
- Iron and Steel Bars**  
Hamilton Steel & Iron Co., Ltd. .... Hamilton, Ont.
- Iron, Pig**  
Hamilton Steel & Iron Co., Ltd. .... Hamilton, Ont.
- Iron Signs**  
Acton Burrows Limited. .... Toronto.
- Iron Staybolt Bars**  
Falls Hollow Staybolt Co. .... Cuyahoga Falls, Ohio.
- Jacks**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
H and E Lifting Jack Co. .... Waterville, Que.  
F. H. Hopkins & Co., Ltd. .... Montreal.  
Mussens Limited. .... Montreal.  
A. O. Norton. .... Coaticook, Que.  
James Smart Mfg. Co. .... Brockville, Ont.
- Japans**  
McCaskill, Dougall & Co. .... Montreal.
- Journal Bearings**  
Canadian Bronze Co. .... Montreal.  
Crossen Car Mfg. Co. .... Cobourg, Ont.  
Kerr Engine Co. .... Walkerville, Ont.  
Jas. W. Pyke & Co. .... Montreal.
- Journal Boxes**  
N. J. Holden Co., Ltd. .... Montreal.  
McCord & Co. .... Chicago, Ill.
- Lager Beer, &c.**  
E. L. Drewry. .... Winnipeg.
- Lamps, Incandescent**  
Canadian Westinghouse Co. .... Hamilton, Ont.
- Lamps and Lanterns**  
The Hudson's Bay Company. ....  
The Hiram L. Piper Co. .... Montreal.  
The N. L. Piper Railway Supply Co. .... Toronto.
- Launches**  
Polson Iron Works. .... Toronto.
- Lights, Contractors' and Wrecking**  
Canadian Fairbanks Co., Ltd. .... Montreal.  
F. H. Hopkins & Co. .... Montreal.  
Mussens Limited. .... Montreal.
- Locomotive Cranes**  
American Hoist and Derrick Co. .... St. Paul, Minn.
- Locomotive Driver Brake Shoe**  
American Brake & Shoe F'dry Co. .... Mahwah, N.J.  
Canada Iron Corporation, Ltd. .... Montreal.
- Locomotive Gauges**  
Taylor & Arnold. .... Montreal.
- Locomotive Lagging and Covering**  
Taylor & Arnold. .... Montreal.

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- Locomotive Pop Valves**  
Taylor & Arnold.....Montreal.
- Locomotives (Compressed Air)**  
Burnham, Williams & Co.....Philadelphia, Pa.  
Canadian Locomotive Co.....Kingston, Ont.  
Montreal Locomotive Works (Ltd.).....Montreal.  
H. K. Porter Co.....Pittsburg, Pa.
- Locomotives (Geared)**  
Lima Locomotive Co.....Lima, O.
- Locomotives (Electric)**  
Burnham, Williams & Co.....Philadelphia, Pa.  
Montreal Locomotive Works (Ltd.).....Montreal.
- Locomotives (Logging)**  
Burnham, Williams & Co.....Philadelphia, Pa.  
Canadian Locomotive Co.....Kingston, Ont.  
H. K. Porter Co.....Pittsburg, Pa.
- Locomotives (Rack)**  
Burnham, Williams & Co.....Philadelphia, Pa.  
Canadian Locomotive Co.....Kingston, Ont.  
Montreal Locomotive Works (Ltd.).....Montreal.
- Locomotives (Steam)**  
American Car and Equipment Co.....Chicago, Ill.  
Burnham, Williams & Co.....Philadelphia, Pa.  
Canadian Fairbanks Co., Ltd.....Montreal.  
Canadian Locomotive Co.....Kingston, Ont.  
J. T. Gardner.....Chicago, Ill.  
Hotchkiss, Blue & Co.....Chicago, Ill.  
Lima Locomotive Co.....Lima, O.  
Montreal Locomotive Works (Ltd.).....Montreal.  
H. K. Porter Co.....Pittsburg, Pa.  
Vulcan Iron Works.....Wilkesbarre, Pa.
- Locomotive Staybolts**  
Falls Hollow Staybolt Co..Cuyahoga Falls, Ohio.  
Flannery Bolt Co.....Pittsburg, Pa.
- Lubricators**  
N. J. Holden Co.....Montreal.  
McCord & Co.....Chicago, Ill.  
Taylor & Arnold.....Montreal.
- Lumber**  
Parry Sound Lumber Co.....Toronto.
- Machine Tools**  
W. Abbott.....Montreal.
- Machinery, Marine**  
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Machinery Special**  
Miller Bros. & Toms.....Montreal.
- Machinery, Transmission**  
Miller Bros. & Toms.....Montreal.
- Machinery, Wood and Iron Working**  
Canadian Fairbanks Co., Ltd.....Montreal.
- Manganese Steel Castings**  
Montreal Steel Works.....Montreal.
- Manhole Frames and Covers**  
American Brake Shoe & F'dry Co..Mahwah, N.J.  
Canada Iron Corporation, Ltd.....Montreal.
- Marine Repairs**  
Goldschmidt Thermit Co.....Toronto.
- Marine Supplies**  
Rice Lewis & Son.....Toronto.
- Measuring Tapes**  
Lufkin Rule Co.....Saginaw, Mich.
- Metals**  
Goldschmidt Thermit Co.....Toronto.
- Milepost Numbers**  
Acton Burrows Limited.....Toronto.
- Milling Cutters**  
W. Abbott.....Montreal.
- Motors**  
Canadian Fairbanks Co., Ltd.....Montreal.  
McCord & Co.....Chicago, Ill.
- Nickel**  
The Orford Copper Co.....New York.
- Nickel for Nickel Steel**  
The Orford Copper Co.....New York.
- Numbers**  
Acton Burrows Limited.....Toronto.
- Nut Locks**  
Positive Lock Washer Co.....Newark, N.J.
- Nuts, Square and Hexagon**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Oakum**  
The Hudson's Bay Company.....
- Office Fittings**  
Canadian Office & School Furniture Co.Preston, Ont.
- Office Signs**  
Acton Burrows Limited.....Toronto.
- Oil Tanks**  
S. F. Bowser & Co., Limited.....Toronto.
- Oils**  
Galena Signal Oil Co..Franklin, Pa., and Toronto.
- Packing**  
Canadian Fairbanks Co., Ltd.....Montreal.  
The N. L. Piper Railway Supply Co.....Toronto.
- Patterns**  
Hamilton Pattern Works.....Hamilton, Ont.
- Pinch Bars**  
The N. L. Piper Railway Supply Co.....Toronto.
- Pipe Stocks**  
Butterfield & Co.....Rock Island, Que.
- Platforms, Steel**  
Standard Coupler Co.....New York City.
- Ploughs, Contractors'**  
Mussens Limited.....Montreal.  
Toronto Pressed Steel Co.....Toronto.
- Pneumatic Tools**  
N. J. Holden Co., Ltd.....Montreal.
- Porter**  
E. L. Drewry.....Winnipeg.
- Portable Boilers**  
Babcock & Wilcox (Ltd.).....Montreal.
- Printing**  
The Hunter-Rose Co.....Toronto.  
The Mail Job Printing Company.....Toronto.
- Propeller Wheels**  
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Pumps**  
S. F. Bowser & Co., Limited.....Toronto.  
Canadian Fairbanks Co.....Montreal.  
Ontario Wind Engine and Pump Co.....Toronto.  
James Smart Mfg. Co.....Brockville, Ont.
- Pumps (Centrifugal)**  
M. Beatty & Sons.....Welland, Ont.
- Rail Benders, Roller**  
F. H. Hopkins & Co.....Montreal.  
Montreal Steel Works.....Montreal.
- Rails (new)**  
Dominion Iron & Steel Co.....Sydney, N.S.  
Drummond, McCall & Co.....Montreal.  
J. T. Gardner.....Chicago, Ill.  
J. J. Gartshore.....Toronto.  
F. H. Hopkins & Co.....Montreal.
- Rails (for relaying)**  
F. H. Hopkins & Co.....Montreal.  
J. J. Gartshore.....Toronto.  
Mussens Limited.....Montreal.  
Jas. W. Pyke & Co.....Montreal.
- Rail Joints**  
Goldschmidt Thermit Co.....Toronto.  
The Rail Joint Co. of Canada.....Montreal.
- Railway Pile Drivers**  
F. H. Hopkins & Co.....Montreal.  
Mussens Limited.....Montreal.
- Railway Supplies**  
Canadian Fairbanks Co.....Montreal.  
The Hiram L. Piper Co.....Montreal.  
The N. L. Piper Railway Supply Co.....Toronto.  
Rice Lewis & Son.....Toronto.
- Ranges**  
Stearnes Steel Range Co.....Chicago, Ill.
- Reamers**  
W. Abbott.....Montreal.  
Butterfield & Co.....Rock Island, Que.
- Rivets, Boiler, Bridge and Structural**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Rolled Wheels**  
Standard Steel Works Co.....Philadelphia, Pa.
- Roof Trusses**  
Canadian Bridge Co.....Walkerville, Ont.  
Dominion Bridge Co.....Montreal.
- Rope**  
F. H. Hopkins & Co.....Montreal.  
The Hudson's Bay Co.....
- Rotary Snow Ploughs**  
Crossen Car Mfg. Co.....Cobourg, Ont.
- Sash Balances**  
O. M. Edwards.....Syracuse, N.Y.
- Sash Locks**  
O. M. Edwards.....Syracuse, N.Y.
- Saw Steel**  
Montreal Steel Works.....Montreal.
- Scales**  
Canadian Fairbanks Co., Ltd.....Montreal.
- Scoria Blocks**  
W. H. Knowlton.....Toronto.
- Scrapers (Wheel and Drag)**  
F. H. Hopkins & Co.....Montreal.  
Mussens Limited.....Montreal.  
Toronto Pressed Steel Co.....Toronto.



H.M.S. "DOMINION"

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