

THE Railway and Marine World

With which are incorporated The Western World and
The Railway and Shipping World, Established 1890

Devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph,
Telephone and Contractors' interests

Old Series, No. 222.
New Series, No. 140.

TORONTO, CANADA, OCTOBER, 1909.

For Subscription Rates,
See page 749.

Reduction of the Kicking Horse Pass Grade on the C.P.R.

By J. E. Schwitzer, Assistant Chief Engineer C.P.R. Western Lines.

Two great engineering triumphs have been achieved this year by the C.P.R. Co., in the reduction of the steep grade in the Rocky Mountains, and the construction of a huge viaduct on its Crow's Nest Pass branch. Both are works of considerable magnitude, and both have been successfully completed in a remarkably short time. Although only separated by less than 200 miles as the crow flies, these engineering feats are essentially different in every aspect, even in their surroundings and conditions, the one being located in mountain recesses, and the other on the broad plains of a ranching and grain-growing region.

The original C.P.R. line between Field and Hector, was constructed for about 4.1 miles with 4.5% grade, which was the heaviest grade on the main line of the railway; this, however, answered all purposes until the increasing traffic during the past few years necessitated the consideration of a grade revision at this point, more especially owing to the large amount of passenger traffic and the danger of operating this 4.5% grade, although on this gradient there were three safety-switches, one at mile 10.2, one at mile 11, and the other at mile 12.3. Before passing any of these switches going west on the down-grade, all trains had to come to a stop, when a man threw the switch for the main line, allowing trains to proceed. Under an agreement with the Government, this gradient had to be reduced.

Special surveys were made in 1902 and 1905 of alternative routes. The different propositions finally resolved themselves into the consideration of three lines, as shown on the plan, fig. 21, page 711. The line which is marked A required the abandoning of Field and moving the terminal at this point, besides being very expensive work, running into a series of slides. From the appearance of the ground, the Yoko Valley, or the north branch of the Kicking Horse River, appears to lend itself readily to a location in this direction; but on account of the exceedingly steep banks, and a large number of snow and rock slides, this line was abandoned. It therefore necessitated the consideration of the lines shown in dot and dash line and dotted line on the plan, fig. 21. The dot

and dash line required running parallel to the bed of the river at several points in order to secure the gradient; this would require the railway and the river to be carried through the same cuts, and on account of the danger of ice blocking the river, besides being a very expensive project to divert the river, this line was abandoned, and the dotted line adopted as a general location. After having further surveys made, and in order to save length of tunnel,

several snow-slides to contend with, which would endanger the operation of the line. It was decided by the management to undertake this work in 1907, the contract being let to McDonnell and Gzowski for the construction work.

There was no work of any particular interest outside of the ordinary grading except the tunnels. The tunnel known as no. 1 is 3,255 ft. long, on a reverse curve; tunnel no. 2, 2,921 ft. long, being partly on a 10 deg. curve radius 573.7 and partly on a tangent. Each of these curves have 300 ft. of spiral at each end. The grade is 2.2%, compensated at 0.04 per degree of curvature throughout, except in the tunnel, where 0.06 is used, and on the tangents in the tunnels an allowance of 0.02 was made for slippery rails.

As already stated, the maximum grade on the original line was 4½% for a distance of 3.71 miles, and the balance of 0.2 mile varies from 3.5 to 4%. On the old line it required four engines to handle a train of 700 tons over this grade, while it is estimated that on the new line with two engines of the same class the company will be able to haul 982 tons. The engines used in operating over the old grade are what are known as 180% engines, having a total tractive force of 46,900 lbs., the weight on the drivers being 173,700 lbs., the total weight of the engine and tender loaded being 154 tons.

The amount saved on account of reducing this grade at the time the estimate was prepared was not in itself sufficient to warrant the expenditure; but, taking into account the question of handling passenger traffic so much more safely, as well as allowing longer trains to be operated, besides doing away with the terminal at Laggan, the terminal of the Western division being moved to Field, it was decided to go on with the work.

The work was started on this grade revision in September, 1907, and it was finished in August, 1909. The work on the tunnels was started from both ends, the contractor at first using an old-style Jumbo, but steam-shovels were later substituted in these tunnels, and the work progressed a little quicker. No great difficulty was experienced in the tunnel work, as it is through medium hard limestone, with a dip of about 20 deg. A large quantity of timber was required in both the large tunnels on account of striking slides in the rock, and a little trouble was experienced from water, but this was kept under



DUNCAN McDONALD

Manager Montreal Street Railway and President Canadian Street Railway Association.

this was changed to the line shown in dot and dash; while this increased the curvature by 102 deg. and lengthened the line by 362 ft., the tunnel was shortened by 1,000 ft. and on account of the cost of the tunnel work it was decided to adopt this line. Before actually starting the work on this line, further investigations were made up the Yoko Valley, and it was decided that it was impracticable to build a line up the valley, as, for a distance of two miles or more, it would be on the face of perpendicular rock slides, ranging from 3,000 ft. to 5,000 ft., besides which there would be

PORTABLE LIGHTS

Pay well when the days get short. Let us send you our illustrated catalogue.

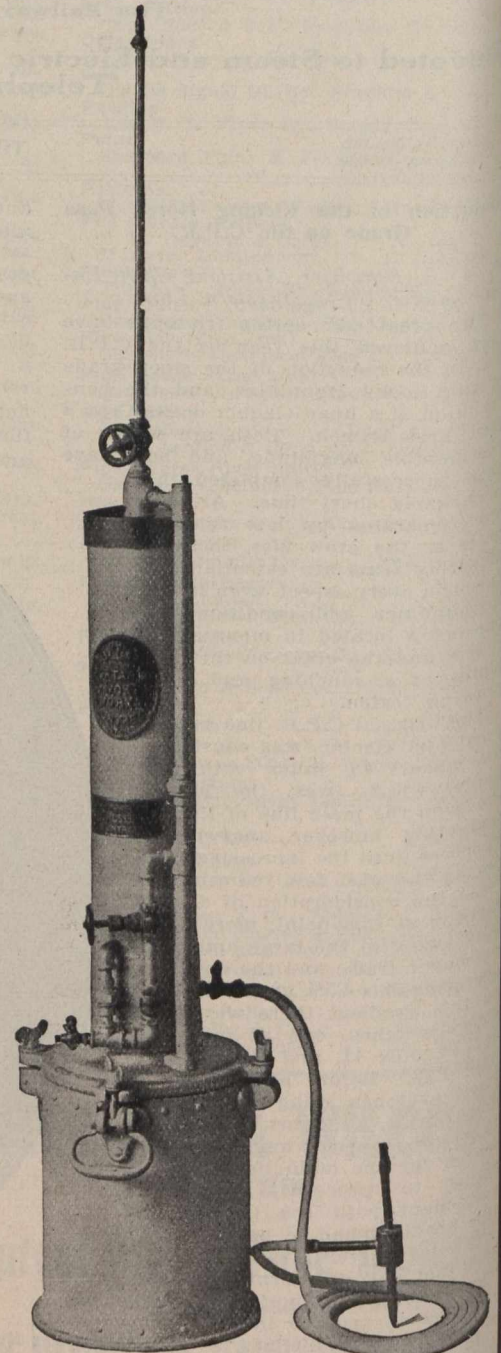
THE BUCKEYE LIGHT



MADE IN SIZES FROM
 1000 TO 5000 CANDLE POWER
 IS RECOGNIZED AS THE STANDARD FOR
CONTRACTORS WORK
RAILROADS
 FOR TRACKLAYING, WRECKS AND REPAIR WORK
STEEL & IRON WORKS
FOUNDRIES,
BRIDGE BUILDING Etc.

ASK FOR CATALOGUE.
NIGHT TURNED INTO DAY.

BUCKEYE KEROSENE LIGHTS.
2,000 to 10,000 Candle Power. We carry in stock the popular sizes.



HOLLAND ACETYLENE LIGHTS.
For smaller work. In stock. Generate their own acetylene gas.

MUSSENS LIMITED

Head Office.

MONTREAL

Branches

Toronto, 73 Victoria St.
 Cobalt, Hunter Block
 Winnipeg, 259-261 Stanley St.
 Vancouver, 614 Hastings St., W.

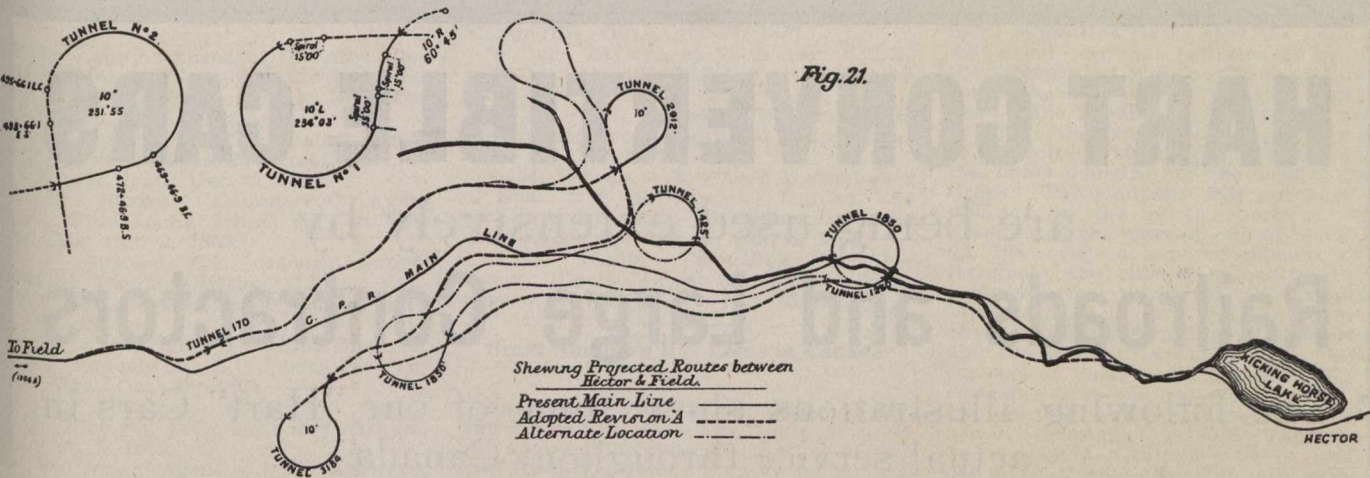


Fig. 21.

Showing Projected Routes between Hector & Field.
 Present Main Line
 Adopted Revision A
 Alternate Location

control at the upper ends with two small steam-pumps. The two headings in the tunnels met on May 22, the levels checking in tunnel 1 within two-hundredths of a foot, and tunnel 2 within one-hundredth of a foot.

The question of ventilation was investigated, but it was not considered that any would be required in either of these tunnels until the traffic increases to such a degree that it will be necessary to double track outside the present tunnels. On account of the tunnels being on a spiral, and the portals being in such close proximity to each other, there will practically be the same atmospheric conditions at the portals of each of the tunnels, and the tunnel should have a complete change of air in about 2½ minutes.

On account of the nature of the rock, which appears to slack after being exposed to the air for some little time, the greater part of the tunnels were taken out, so that they might be lined with concrete when that may be necessary. This will give a maximum grade of 2.2% through the mountains, of which there will be 12.7 miles east bound and 5.1 miles west bound.

As a comparison between other tunnels it may be stated that the present tunnels have an area of 376.9 sq. ft. of section through the longest tunnel, the actual grade being 1.6%.

Elkhorn tunnel, on Norfolk and Western Rd., is 3,000 ft. long, with an area of 235 sq. ft., and a grade of 2 and 1.4%. It was found necessary to instal a ventilating plant in this tunnel, as the train movements were about 100 per 24 hours.

Cascade tunnel, on Great Northern Ry.—Length, 13,280 ft.; grade, 1.74%. There has been no ventilating plant used at this point, and it is proposed to operate this by electricity, the installation for which was to be completed about the end of June of the present year.

Stampede tunnel, on Northern Pacific Rd.—9,844 ft. long.; area, 333.7 sq. ft.; grade, 0.74% for 5,000 ft., then 0.2% to east portal. Completed 1888. No ventilation.

Boulder tunnel, on Montana Central Ry.—6,139 ft. long; area, 239 sq. ft.;

grade, 0.6% ascending from east portal, thence 0.02% descending to west portal.

Busk tunnel, on Colorado Mildanl Ry.—9,400 ft. long; area, 275 sq. ft.; grade, 1.41%. Built 1893. No ventilation.

Hoosac tunnel, on Boston and Maine Rd.—Double track, 4.7 miles long; area, 572 sq. ft.; grade 0.5% from each end to centre, at which point there is a shaft. This was operated without mechanical ventilation till 1899, though in 1890 it was considered to have reached its limit with 65 trains a day without mechanical ventilation.

300 sq. ft. No ventilating plant installed till at least 1904, when train movement became so heavy that it was necessary to install electric locomotives. [These were placed in operation in 1908.—EDITOR.]

Arlberg tunnel, on Arlberg Ry.—Completed 1883; 6.4 miles long; area, 442.6 sq. ft.; double track; grade, 0.2% for 2.6 miles, ascending from east end, thence 1.5% descending to west end. Owing to increased traffic it began to give trouble in 1885, when the company began to use coke. In 1888 the traffic increased to 31 two-engine trains per 24 hours, but no abnormal effects were noticed till Sept., 1890, when some workmen were overcome by gases, but recovered on removal to air. In 1894 started to use petroleum for fuel, and in 1896 all locomotives were equipped to burn petroleum, which has been satisfactory ever since.

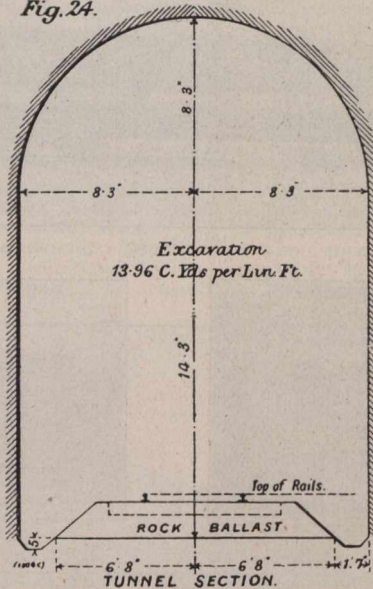
St. Gothard tunnel, St. Gothard Ry.—9½ miles long; construction completed 1882; grade practically level, being only sufficient to provide drainage. The ventilation was natural till about 1899, when Saccardo system was installed. At this time the traffic was 61 trains per day. The approaches to the St. Gothard has seven spiral tunnels of the following lengths:—5,000 ft., 3,670 ft., 3,605 ft., 5,100 ft., 5,019 ft., 4,000 ft., and 5,010 ft. with grades of 2.5%, with natural ventilation only; besides a straight tunnel of 5,150 ft.

Tangevard tunnel, on Bergen and Christiania Ry.—Length about 5 miles; no ventilation; grade, about 1.5%.

Khojak tunnel, India.—Double track, 3 miles long. Was originally divided into three sections by two shafts, but on account of these shafts it was found that there was a dead section between the two shafts. These were then closed up, and till 1900 it was not found necessary to ventilate same.

[The half-tone illustration on page 713 gives what is really a bird's eye view of the Kicking Horse Valley and the old and new C.P.R. lines. The old line is shown by the barred white line, and that which has taken its place by the single and longer line. EDITOR.]

Fig. 24.



Big Bend tunnel, Chesapeake and Ohio Rd.—6,500 ft. long; area, 250 sq. ft.; grade ascending, 0.4% for 4,300 ft., thence, descending, 0.08% for balance. It was divided in three sections of about 2,000 ft. by two shafts. These were found to be insufficient for proper ventilation when traffic reached 45 trains a day.

St. Clair tunnel, Grand Trunk Ry.—Built 1901; 6,000 ft. long; grades 2%, descending, each way to centre of section of 2,000 ft., which is on 1% grade. Area,

Fig. 22.

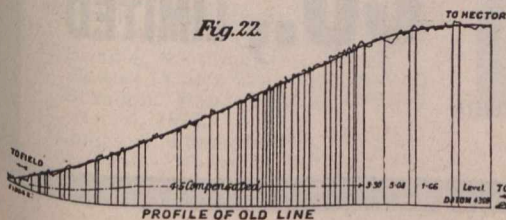
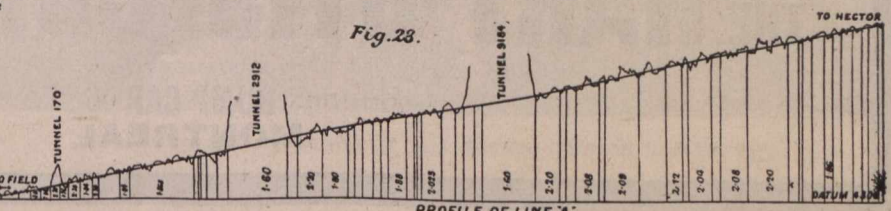


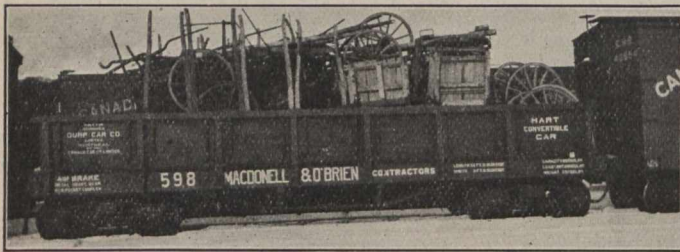
Fig. 23.



HART CONVERTIBLE CARS

are being used extensively by Railroads and Large Contractors

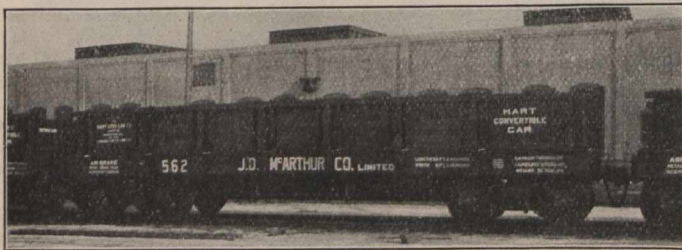
The following illustrations show some of our "Hart" Cars in actual service throughout Canada.



"Hart" Cars are specially adapted for Ballast and Construction work



Built in steel or wood — 40 or 50 ton Capacity.



The Cars which are building the new Railroads of Canada.



The Cars which are maintaining the old Railroads of Canada.

THE HART-OTIS CAR CO., LIMITED

SUCCESSORS TO
DOMINION DUMP CAR CO., LIMITED
MONTREAL

October Birthdays.

Many happy returns of the day to:—
 R. A. Burford, cashier C.P.R. ticket office, New York City, born at Brooklyn, N.Y., Oct. 4, 1878.
 G. E. Burns, Freight Claims Agent C.P.R. Eastern Lines, Montreal, born at St. Thomas, Ont., Oct. 6, 1863.
 T. C. Burgess, Commercial Agent G.T.R., Minneapolis, Minn., born at New York City, Oct. 2, 1853.
 F. F. Busted, C.E., General Superintendent Pacific Division C.P.R., Vancouver, B.C., born at Battery Point, Que., Oct. 10, 1858.
 C. E. Cartwright, Division Engineer C.P.R., Vancouver, B.C., born at Toronto, Ont., Oct. 13, 1864.
 G. L. Courtney, ex-General Agent C.P.R., Victoria, B.C., born at Chatham, Ont., Oct. 7, 1868.
 S. E. Cruse, Agent C.P.R., Antwerp, Belgium, born at Liverpool, Eng., Oct. 10, 1864.
 W. D. Cunneyworth, Freight and Passenger Agent Temiskaming and Northern Ontario Ry., born at Bronte, Ont., Oct. 22, 1865.
 L. V. Druce, Commercial Agent G.T.R., Seattle, Wash., born at London, Eng., Oct. 20, 1873.
 J. Earls, ex-Secretary and Treasurer Canadian Freight Association at Toronto, Ont., born in Ireland, Oct. 30, 1838.
 W. P. Fitzsimmons, Commissioner of Industries G.T.R., Montreal, born at Detroit, Mich., Oct. 27, 1868.
 B. W. Greer, ex-General Freight Agent C.P.R., Vancouver, B.C., born at Aldboro, Ont., Oct. 4, 1867.
 A. H. Harris, Special Traffic Representative C.P.R., Montreal, Que., born in Devonshire, Eng., Oct. 15, 1855.
 J. W. N. Johnstone, General Passenger Agent Reid Newfoundland Co., St. John's, Nfld., born at Campobello, N.B., Oct. 4, 1878.
 W. M. Kirkpatrick, General Freight Agent Ontario Division through traffic, C.P.R., Toronto, born at Kingston, Ont., Oct. 8, 1874.
 W. B. Lanigan, Assistant Freight Traffic Manager C.P.R., Winnipeg, born at Three Rivers, Que., Oct. 12, 1861.
 J. W. Leonard, General Manager C.P.R. Eastern Lines, Montreal, born at Epsom, Ont., Oct. 1858.
 W. T. Marlow, Import Freight Agent C.P.R., Montreal, born at Limerick, Ireland, Oct. 25, 1872.
 R. Marpole, General Executive Assistant C.P.R., Vancouver, B.C., born in Montgomeryshire, Wales, Oct. 9, 1850.
 F. G. Martyn, Assistant Superintendent C.P.R., London, Ont., born at Bury, Que., Oct. 7, 1848.
 H. Paton, President Shelden Forwarding Co., director Bell Telephone Co., Montreal, born at Johnstone, Renfrew, Scotland, Oct. 5, 1852.
 D. Pottinger, Member Government Railways Managing Board, Moncton, N.B., born at Pictou, N.S., Oct. 7, 1843.
 N. L. Rand, Master Mechanic I.C.R., Moncton N.B., born at Shediac, N.B., Oct. 28, 1843.
 G. B. Reeve, ex-Second Vice-President and General Manager G.T.R., La Mirada, Cal., born in Surrey, Eng., Oct. 23, 1840.
 H. G. Reid, Master Mechanic C.P.R., North Bay, Ont., born at Pembroke, Ont., Oct. 27, 1863.
 W. S. Rollo, joint agent G.T.R. and Central Vermont Ry., St. John's, Que., born at Dundee, Scotland, Oct. 8, 1852.
 J. K. Savage, Chief Train Dispatcher C.P.R., Brandon, Man., born at Forrester, Ill., Oct. 5, 1876.
 Sir Thomas G. Shaughnessy, K.C.V.O., President C.P.R., Montreal, born at Milwaukee, Wis., Oct. 6, 1853.
 C. W. Spencer, ex-General Manager

Mackenzie, Mann & Co.'s Railway Lines east of Port Arthur, Montreal, born at Kemptville, Ont., Oct. 31, 1857.

W. S. Taylor, ex-Treasurer C.P.R., born at Dornoch, Sutherlandshire, Scotland, Oct. 18, 1839.

E. N. Todd, Export Freight Agent C.P.R., Montreal, born at Huntington, Que., Oct. 17, 1879.

L. H. Wheaton, Engineer Maintenance of Way and Structures, Halifax and Southwestern Ry., Bridgewater, N.S., born at Sackville, N.B., Oct. 5, 1866.

G. B. Wyllie, Travelling Passenger Agent, Illinois Central Rd., Buffalo, N.Y., born at Toronto, Ont., Oct. 15, 1851.

Great Northern Ry. Lines in Canada

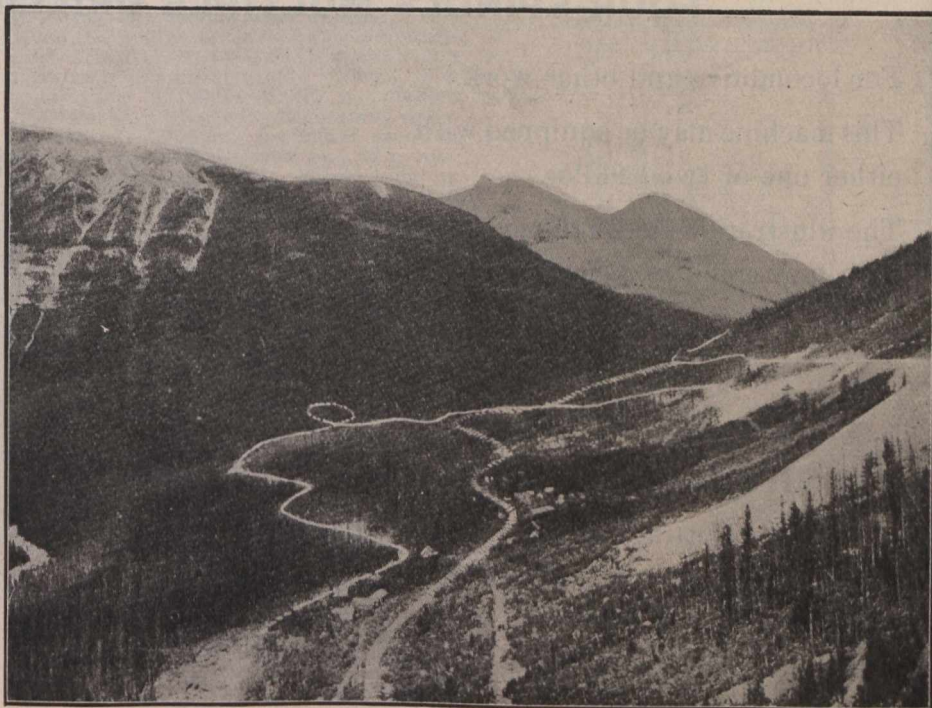
Vancouver, Victoria and Eastern Ry. and Navigation Co.—The route at present adopted for the continuation of this line from Penticton, B.C., towards Vancouver is known as the Coquilalla route. Chief Engineer Kennedy and a survey party are working in the vicinity of Eagle Creek, a tributary of the Tullameen River, with a view of securing a route which will save a considerable amount of heavy construction at the head of Coquilalla pass. From the head of Eagle Creek to Unknown Creek there is a long divide, which, if favorable for tunneling, will save some mileage in addition to a lot of heavy cutting.

Oroville to Brewster, Wash.—A contract has been let for the construction of a branch line southerly from Oroville, a station on one of the sections of the line known in Canada as the Vancouver, Victoria and Eastern Ry., which crosses over into the State of Washington, to Brewster, a distance of about 70 miles. The new line will tap the semi-arid district which the government is reclaiming in the Pouge Flat country, and will also furnish transportation to a considerable fruit growing area irrigated by private corporations. It is intended ultimately to extend the line from Brewster to a junction with the G.N.R. main line at Wenatchee, Wash.

Vancouver Terminals.—The proposition submitted by the company to the Vancouver city council for the construc-

tion of terminal facilities in that city is under consideration. The draft agreement submitted states that the company will erect terminal facilities at or near the intersection of False Creek and Jackson Ave., Dunleavy Ave., Gore Ave., or Park Lane produced. The city is asked to obtain the removal of all governmental restrictions, so as to be able to convey the lands constituting the bed of False Creek. The company will purchase the uplands on the north shore of False Creek from the easterly end of block 118, d.l. 198, over to a point opposite to its terminals, the city, if necessary, to expropriate the lands for the company. The company in turn will convey to the city the present foreshore of these lands, and the city will grant to the company the bed of False Creek further out. The company proposes to fill in the part granted to it within 90 days, and to establish its terminals thereon. They are to be completed within five years, and the Northern Pacific Rd. will join with the G.N.R. in the work, using the terminals for its own purposes. If the city desires, the company will fill in the foreshore adjacent, owned by the city, the latter to provide the bulkheading. The terminals are to be designed for union terminals so that the G.N.R., the N.P.R. and the Grand Trunk Pacific Ry. can all build lines into them. (Sept., pg. 647.)

H. Elliott, President of the N.P.R., spent some time recently in Vancouver, B.C. In an interview he said his company had not yet acquired any interest in the foreshore purchase on the north side of False Creek by the Great Northern Ry., and its entrance into Vancouver would hang entirely upon the outcome of the negotiations going on between the city and the G.N.R. The N.P.R. was anxious to enter Vancouver and the full completion of this project would depend upon the reasonableness of cost with which terminal facilities could be created. For the present the N.P.R., if it went in, would run its trains over the G.N.R. line between Sumas and Vancouver, using the B.C. Government bridge over the Fraser River. Present business would not justify the construction of a separate line, and the cost of such a line could be better employed at present in the construction of terminals.

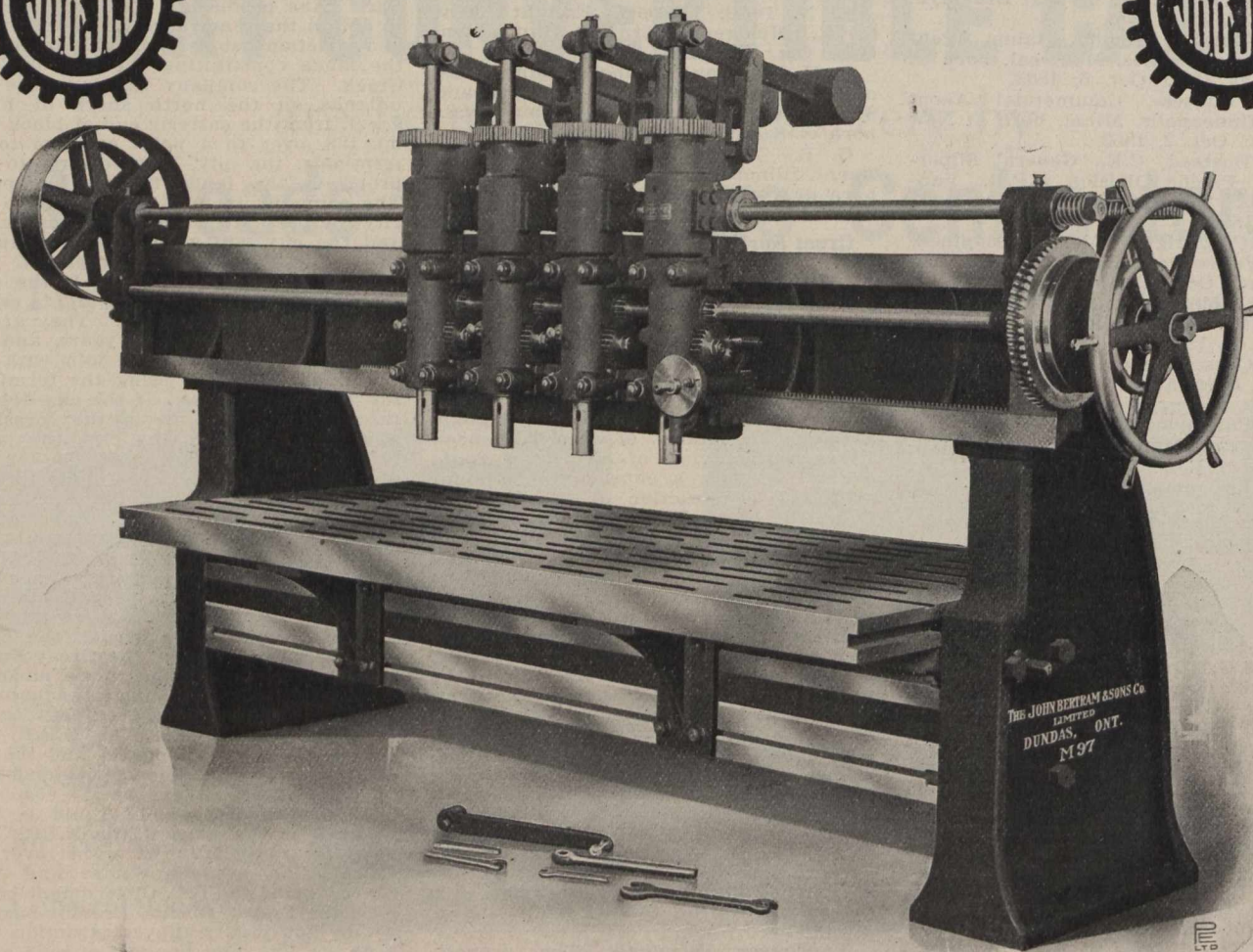


BIRD'S EYE VIEW OF THE KICKING HORSE VALLEY.

The old C.P.R. route is shown by the barred white line; the new route by the single line starting at the left hand side near the bottom of the illustration.



BERTRAM MULTIPLE DRILLS



FOUR-SPINDLE MULTIPLE DRILLING MACHINE

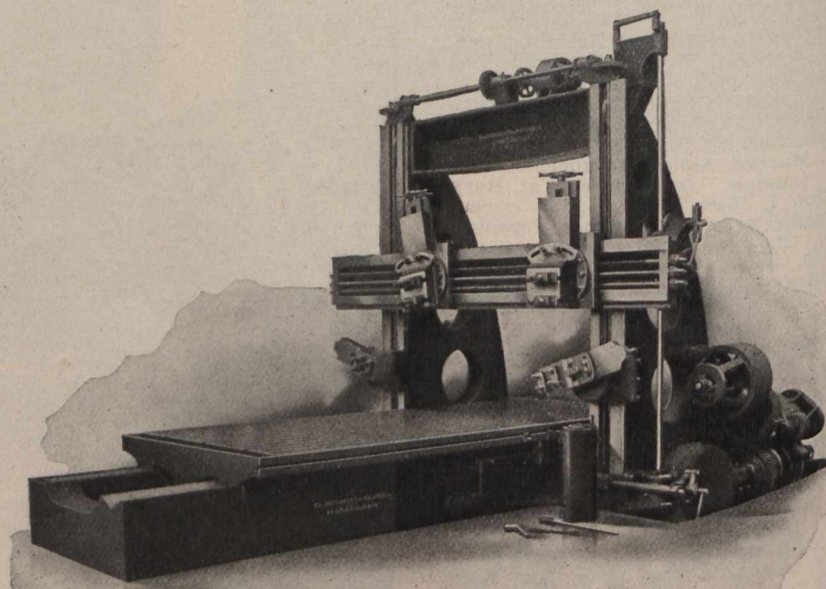
For locomotive and other work.

This machine may be equipped with either one or two saddles.

The illustration shows the machine with four spindles, belt driven.

10 Ft. x 10 Ft. x 20 Ft. BERTRAM PLANER

With Four Cutting Heads, having quick power traverse, with direct-connected motor drive by pneumatic clutches.



THE JOHN BERTRAM & SONS CO. LIMITED - Dundas, Ontario, Canada

SALES AGENTS: THE CANADIAN FAIRBANKS COMPANY LIMITED

Offices:—Montreal, Toronto, Winnipeg, Vancouver, Calgary, St. John.

The Intercolonial Railway Shops.

The new I.C.R. shops at Moncton, N.B., having been completed, the whole force of employes have been removed there from the old shops, and the machinery from the latter has also been transferred. Our issue of Sept., 1908, contained a very full account of the new shops by C. F. Bristol, Stud. Can. Soc., C.E., which dealt in considerable detail with the layout, method of construction, etc. Now that the new shops are in operation it may be of interest to reproduce some portions of that article, particularly referring to the layout. Those who wish to have full details of the construction are referred to our Sept., 1908, issue.

The new shops are located about a mile from Moncton station, on the main line to Montreal. The site is on a plateau, about 60' above sea level, and although nearly flat, slopes gently to the southward in the direction of a small creek. As shown on the accompanying plan, two main sidings, with numerous branches and spurs, facilitate shunting and render ready access to all buildings and yards. The two passenger car shops are long and narrow, and so designed that cars may be placed transversely in each shop. These buildings are parallel

ment provides greater facilities for stripping and repairing engines.

THE FREIGHT CAR SHOP is 134' 8" by 362'. Two rows of columns divide the shop into three bays, each 44 ft. wide, and each containing two tracks through the entire length of the shop. In each end are 6 doors, 12 ft. wide by 16 ft. high. In addition to these there are several narrow gauge tracks for small trucks.

THE PLANING MILL is 81 ft. 10 in. by 202 ft. 8 in., and is constructed practically the same as the freight car repair shop.

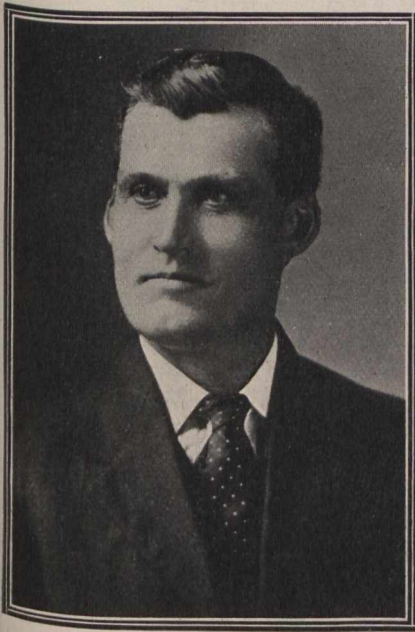
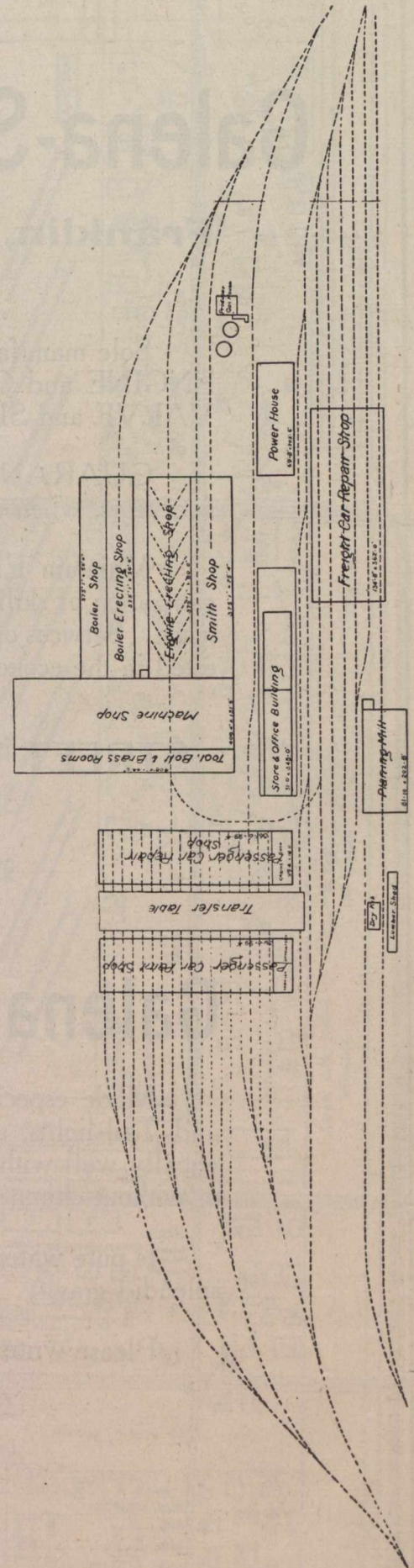
THE PASSENGER CAR AND PAINT SHOPS are each 361 ft. 8 in. by 100 ft. The cabinet shop is elevated half a story in one end of the passenger car shop, on what is termed the mezzanine floor. In the car paint shop, on a similar floor, are the upholstery and varnish rooms.

STORES AND OFFICE BUILDING. The first floor and basement of the stores and office contains the local and general stores department, and the second story, over the western half, is devoted to the offices of the stores department, the Superintendent of Motive Power and Staffs.

THE LOCOMOTIVE PLANT includes five shops, viz.: the machine shop, 131 ft. 6 in. by 408 ft. by 36 ft. high, divided into two bays by a centre line of columns, each bay being served with an overhead electric travelling crane of ten tons capacity. This shop has an annex 44 ft. by 408 ft. The smith shop, at right angles to the machine shop, is 75 ft. x 375 ft. x 37 ft. high. Water gas is used for the different furnaces. Jib cranes are placed conveniently near the several fires and furnaces, while a track through the centre of the shop permits the handling of heavy work by means of trucks. The engine erecting shop, separated from the smith shop by a partition, is 80 ft. x 375 ft. x 50 ft. high. Two 60-ton electric travelling cranes are installed for moving and placing locomotives. Through the centre runs a surface track with a shallow concrete pit. On each side of this central track are eight side tracks with pits arranged herring-bone style. These side tracks are designed to accommodate engines requiring heavy repairs, and this form of layout provides ample space for overhauling. This leaves the central track free for light repair work, and obviates the necessity of lifting one engine over another. Between the engine erecting house and boiler shop walls is a space 25 ft. wide, which permits of additional side lights. The boiler shop is 100 ft. x 375 ft., divided into two bays by a row of columns down the centre. The bay for boiler erection is 44 ft. high, and the west end of it contains the riveting tower, 25 ft. long by 75 ft. high. A 35-ton electric travelling crane is installed in this bay, and a 30-ton crane in the riveting tower to serve the bull rivetter. The tool bay is severed by means of a 10-ton electric travelling crane, which traverses the entire length of the shop. In addition to this, jib cranes are placed convenient to the different tools.

THE POWER HOUSE is built on the same principle as the planing mill. The engine room and boiler room are each 69 ft. x 100 ft., and separated by a reinforced concrete wall. The boiler equipment consists of four Babcock & Wilcox water tube boilers of 250 h.p. each, arranged in two batteries, while the necessary space is reserved for a third battery. Fuel economizers, and a feed water heater and pump, are installed to take care of the feed water. An induced draft plant forms part of the equipment, also a 1,000-gallon u.w. pump. In this room, a fan, direct connected to an auxiliary engine, supplies the heat required in the freight car shop. The coal bins are arranged along the side of the building in front of the boilers.

The engine and generator equipment is as follows: two horizontal double-



H. D. MACKENZIE,
General Foreman, Locomotive Shops, I.C.R.

to each other and at right angles to the main line, with 18 tracks in each. Cars may be readily transferred from any track in one shop to any track in the car shop. The locomotive shops comprise the machine shop and annex, boiler shop, boiler erecting shop, engine erecting shop, and smith shop, all under one roof. The four latter shops are parallel other by means of the electric transfer table between the two shops. The stores and office building, power house, producer gas house, freight car shop, planing mill, lumber shed, and dry kiln are all laid out parallel to the main line of the railway, and are all served by side tracks. The planing mill is situated convenient to the passenger car shop and freight to the main line, but at right angles to the machine shop.

A notable feature in connection with the engine erecting shop is the arrangement of the pits. The main pit runs almost the entire length of the shop, while the track is continued across the machine and passenger car shops into the paint shop, where locomotives may be painted should the erecting shop be crowded. The side pits are all laid at an oblique angle to the main pit, and this arrange-

Galena-Signal Oil Company

Franklin, Pa., and Toronto, Ont.

Sole manufacturers of the celebrated GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS.

GUARANTEE COST per thousand miles for from one to five years, when conditions warrant it.

Maintain EXPERT DEPARTMENT, which is an organization of skilled railway mechanics of wide and varied experience. Services of Experts furnished free of charge to patrons interested in the economical use of oils.

**STREET RAILWAY LUBRICATION A
SPECIALTY**

Galena Railway Safety Oil

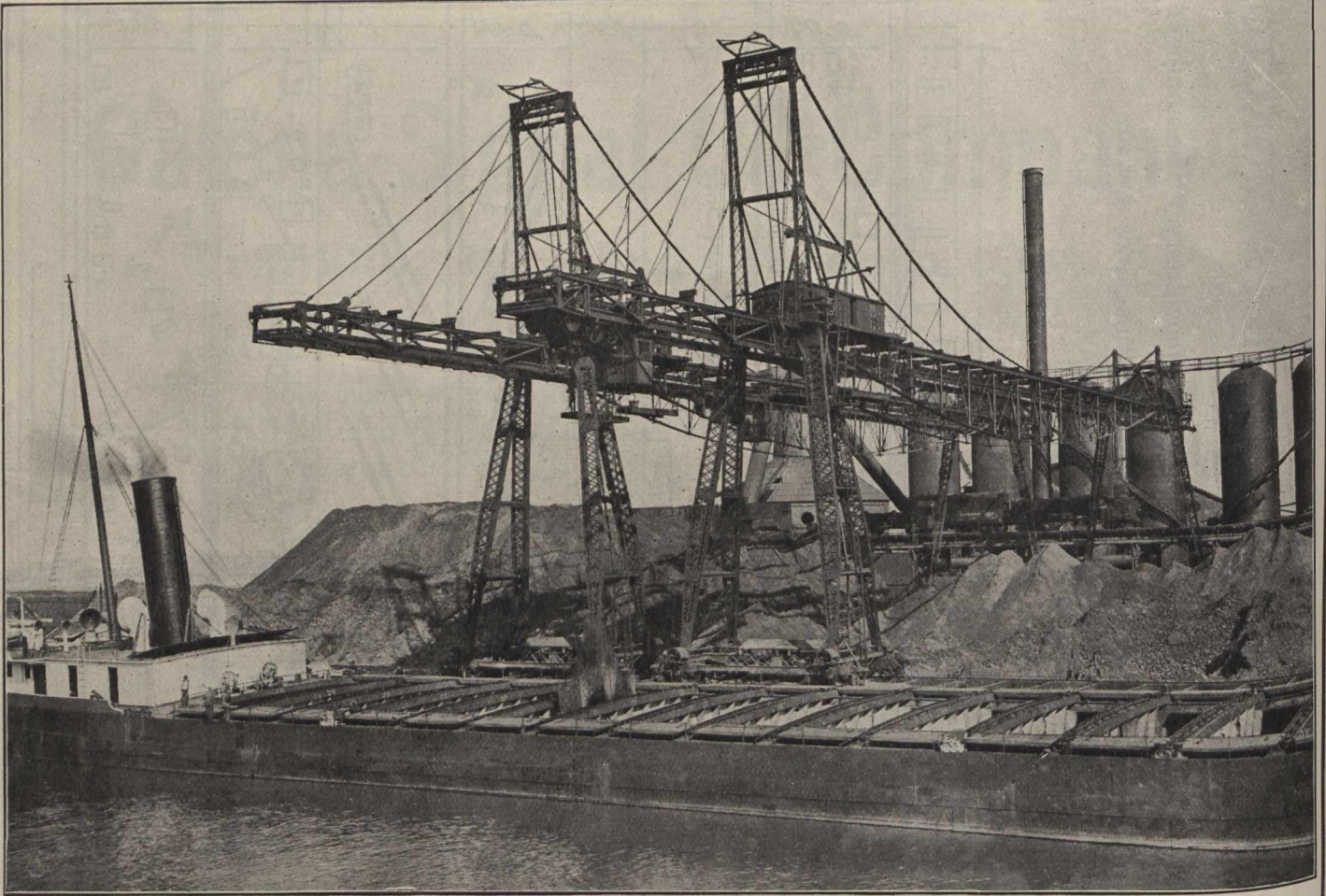
Made especially for use in Headlights, Cab, Classification and Tail-lights, and for Switch and Semaphore Lamps. Burns equally well with the long time as with the one day burner, with or without chimney, as the burner requires.

Is pure water white in color; high fire test; low cold test, and splendid gravity.

Please write to home office for further particulars.

CHARLES MILLER,

PRESIDENT



FEDERAL FURNACE CO.'S TWO BRIDGE TRAMWAY.

THE BROWN HOISTING MACHINERY CO.

Engineers, designers and builders of hoisting
machinery of all descriptions.

Write us stating your requirements and ask
for catalogues.

Main Office and Works:

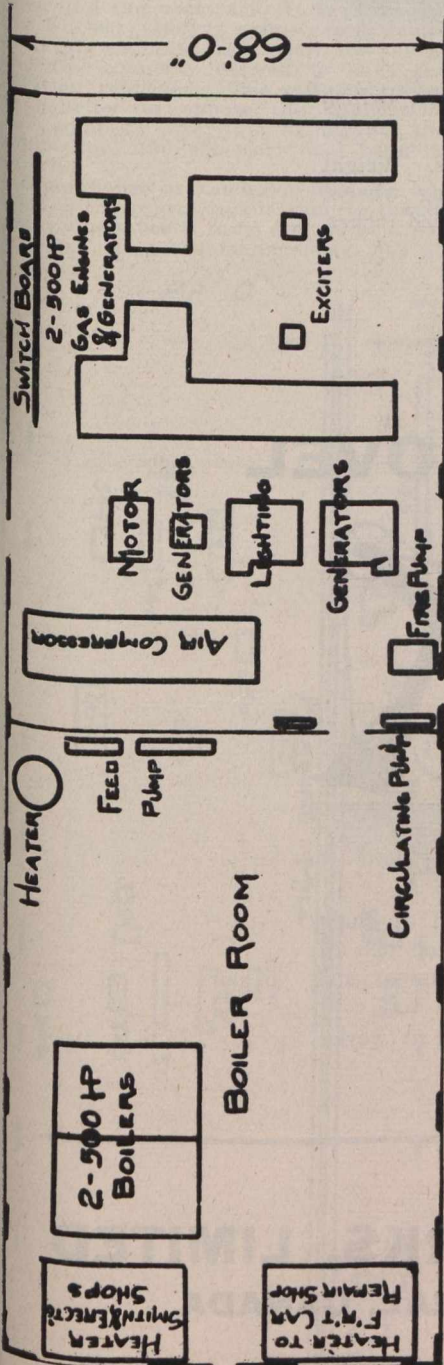
CLEVELAND, OHIO

Branch Offices:

PITTSBURG AND NEW YORK

acting gas engines, normal rating 500 b.h.p. each, adapted to drive two 300 k.w. direct-connected 60-cycle a.c. generators. These generators are three-phase, 1,500 r.p.m., and 220 volts. In addition to these machines there will be two 70 k.w.d.c. belt-driven generators of 250 volts and 875 r.p.m. The gas engines are driven by producer gas, which is to be manufactured in the producer gas house, situated near the power house. The gas for the furnaces in the smith shop will be water gas, also manufactured in the gas house. The gas generators will convert continuously about 1,000 lbs. of coal per hour, generating therefrom about 18 cu. ft. of water gas for the furnaces, and about 55 cu. ft. of producer gas for the engines.

The shops are heated by the hot blast system, using exhaust steam from the auxiliary engines and pumps, supplemented by live steam from the boilers. Fans, direct connected with engines, force the hot air through concrete conduits, furnished with risers in the walls.



GROUND PLAN OF BOILER ROOM AND POWER HOUSE.

These risers discharge close to the floor near the windows. The sewerage system is extensive, consisting of one main 2,800 ft. long, emptying into a small creek which flows to the Petitcodiac River.

On page 717 is a ground plan of the machine shop, showing the location of each machine, the numbers placed on the plan corresponding with those given in the list of machinery which follows this article. On pages 719 and 721 are ground plans showing the location of machinery in the boiler room and power house, the planing mill and the passenger car repair shop. Nearly 100 of the machines in use were supplied by the John Bertram & Sons Co., Ltd., Dundas, Ont., this being by far the largest number ordered from any one manufacturer. Allis-Chalmers-Bullock, Ltd., Montreal, supplied 157 motors for the electric drives of the lathes, planers and other machinery of which 43 are direct current, most of them being arranged for variable speed, and 114 are induction motors. The Canadian Westinghouse Co., Ltd., Hamilton, supplied 29 a.c. motors and 16 d.c. motors. Particulars of other electrical apparatus supplies are given in the list of machinery appended to this article.

Following is a complete list of the mechanical staff of the Moncton shops: Superintendent of Motive Power, G. R. Joughins; Assistant to Superintendent of Motive Power, W. U. Appleton; General Foreman Locomotive Shops, H. B. McKenzie; General Foreman Car Shops, A. B. McDonald; Foreman Locomotive Erecting Shops, J. Nugent; Foreman Boiler Shop, J. Joyce; Foreman Blacksmith Shop, A. Stockhall; Foreman Tender Shop, W. H. Chapman; Foreman Freight Car Shop, R. L. Black; Foreman Passenger Car Shop, I. A. Steeves; Foreman Painter, A. S. Coleman.

Uniform Railway Operating Rules.

Reference was made in our last issue to the uniform code of operating rules which has been approved by the Board of Railway Commissioners for all railways under its jurisdiction. There are no changes in the basic principles of the new rules as compared with the Standard Code prepared by the American Railway Association. The new rules, however, contain some slight changes in phraseology, and also contain instructions which the leading Canadian railway managements regard as essential in the operation of trains. About the only difference between the rules now being used by the G.T.R. and the C.P.R. is in the color of signals; the G.T.R. using red for stop, green for caution, and white for proceed; the C.P.R. used red for stop, yellow for caution, and green for proceed. The balance of the rules as to movement of trains by train orders, etc., is practically the same. Under the new rules, the color of signals as now used by the C.P.R. has been adopted for all railways under the Board's jurisdiction.

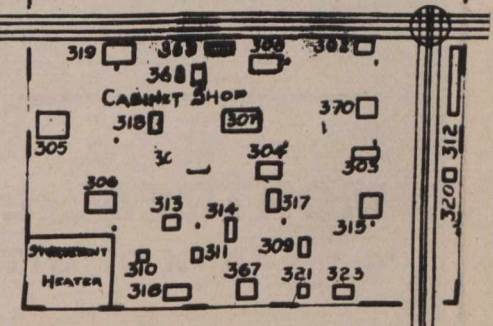
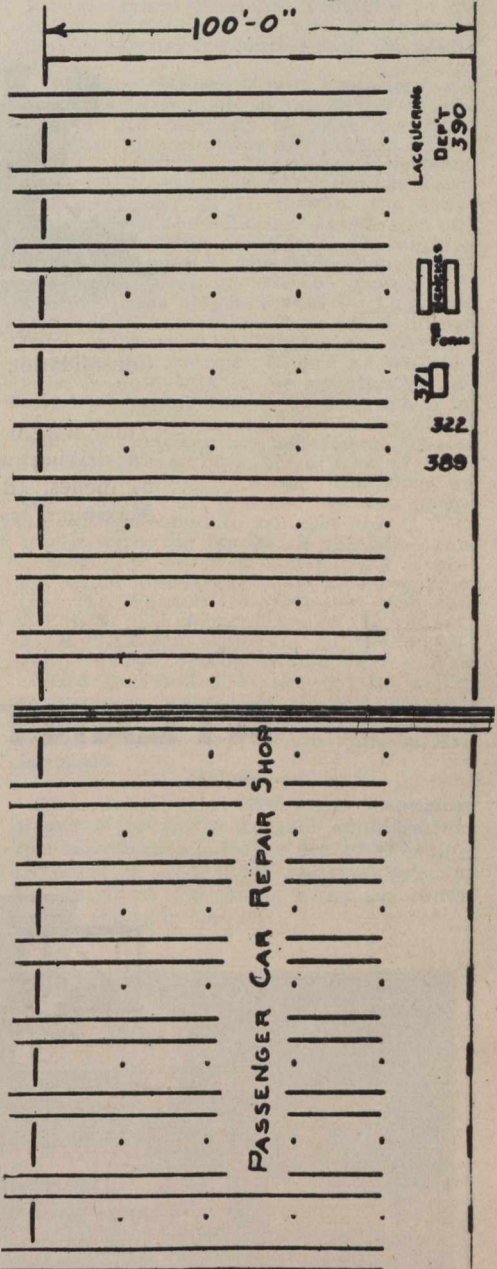
G. T. R. Rates to Michigan Points.

In the case of the Saginaw, Mich., Board of Trade et al vs. the G.T.R. Co. et al, the Interstate Commerce Commission has decided as follows:—The percentage of the Chicago rates, adopted by defendants as a basis for fixing rates from Atlantic coast territory to Saginaw, Flint, and other points in the Saginaw Valley, is not found, under the circumstances of the case, to be too high, when compared with the percentages that fix the rates enjoyed by other groups in adjacent territory.

The proximity of Detroit and Toledo to the great channels of through transportation and their location on direct through routes where the density of traffic is very great and the general operating and traffic conditions are favor-

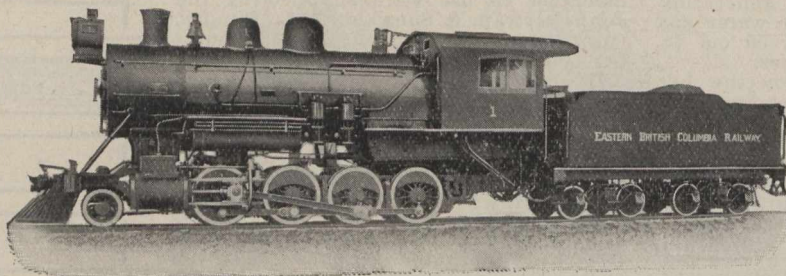
able, are elements that cannot be ignored by the rate maker and must necessarily tend to lower rates than can be accorded to communities that are removed from these great streams of traffic.

The general foundation upon which rests the whole structure of eastbound and westbound rates in the "percentage-basis" territory is described and discussed in the judgment.



GROUND PLAN OF PASSENGER CAR REPAIR SHOP.

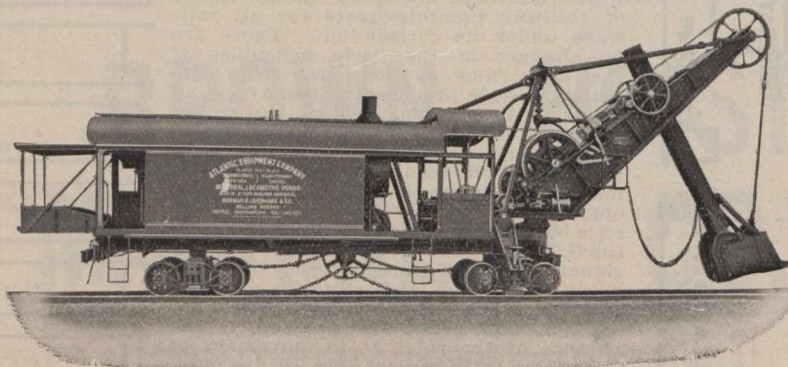
LOCOMOTIVES FOR ALL CLASSES OF SERVICE



Consolidation Type Freight Locomotive, Built for Eastern British Columbia Railway.

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

ATLANTIC STEAM SHOVEL



Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED
BANK OF OTTAWA BUILDING, MONTREAL, CANADA

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

Victoria Jubilee Bridge.—In view of the near completion of the electric railway to St. Lambert the G.T.R. is making some changes there. A new approach is being constructed to the bridge at the Laprairie side so that farmers using the bridge may escape the danger of crossing the tracks, as they do at present; and as the electric cars are to use the lower, or St. Lambert, side of the bridge, vehicles will have to use the upper, or Laprairie side.

Preston St. Bridge, Ottawa.—The company has withdrawn its opposition to the raising and widening of the bridge over which its line crosses Preston St., Ottawa. Some months ago the city secured an order from the Board of Railway Commissioners to raise the bridge on the ground that it constituted an impediment to vehicular traffic. The engineers' estimate of the cost of the work and the necessary grade alteration was \$16,000. It was subsequently found that this estimate was below the mark, and the company desired to have the question reopened. The city instructed its solicitor to oppose the application. The company has now withdrawn the application, and the work will be gone on with.

Roundhouse at Lindsay.—We are advised with respect to the reports that a new roundhouse is to be erected at Lindsay, Ont., that the management has no

information to make public at present.

Midland Ry. Improvements.—The question of the erection of a new roundhouse at Lindsay is bound up with that of the improvement of the old Midland Ry. In this connection the Board of Railway Commissioners has passed orders authorising the company to construct the following branch lines: (1) From near Tiffin, through Tiny and Tay tps. to the second concession of Tay tp. (2) A branch line from Midland via Penetanguishene to a junction with the Penetang branch. (3) From near Wyeville northerly to the second concession of Tiny tp. We are advised that the management has no information to give out in connection with this matter at present. For some time past there has been a considerable amount of survey work done on various parts of the Midland Ry., and reports have been circulated in different localities as to the company's intentions. The management states in regard to all of them that nothing has been definitely decided. It would appear, therefore, that some general plan is being worked out for the betterment of the Midland Ry., and that no definite statement will be made until this has been adopted.

Toronto.—The company has abandoned its yards at Little York, east of Toronto, for terminal purposes, and concentrated all its work at the Mimico yards, west of Toronto. The Locomotive Foreman has been removed from York to Mimico; the engineers and firemen stationed at York will be moved to Belleville, and it is possible that the conductors and brakemen will be moved there also. Locomotive repair work heretofore done at York will be done at Belleville in future. W. D. Robb, Superintendent of Motive Power, was in Belleville, Sept. 3, making arrangement for the transfer. Trains running between Belleville and Hamilton will take on engines at these two points instead of Toronto as heretofore.

Guelph Station.—The question of the erection of a new station at Guelph has again been put off, and the whole question will be left open until the Neeve St. crossing matter is settled.

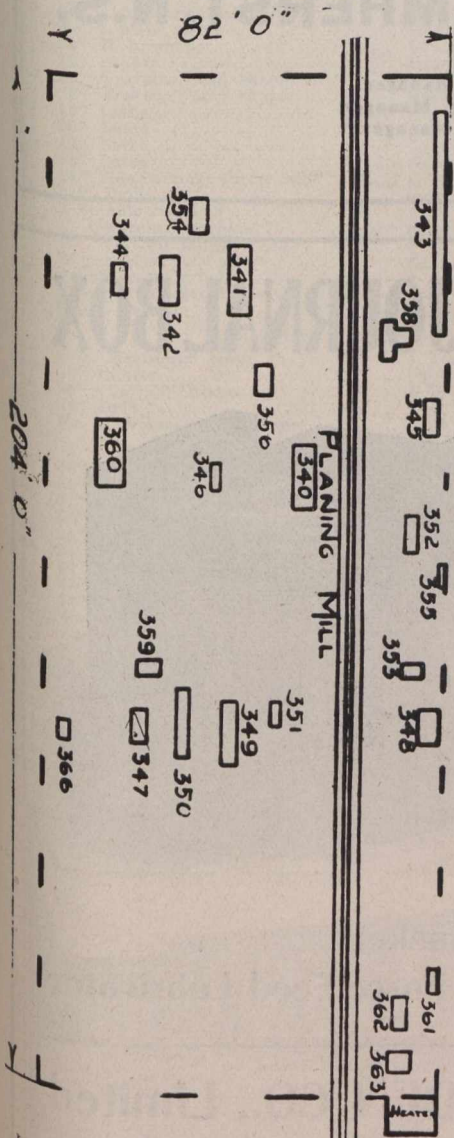
London Track Elevation.—The Mayor of London, Ont., had an interview with officials of the company at Montreal re-

cently on the question of track elevation in London. In an interview, on his return, he said the company is still willing that the city should take the matter to the Board of Railway Commissioners, and that the company was willing to consider a bona fide offer from the city to bear a part of the cost of elevating the tracks. The company was opposed to giving consideration to any proposal for the erection of a union station. Third Vice-President Fitzhugh promised to go to the city about the end of Sept. to further discuss the matter with the council.

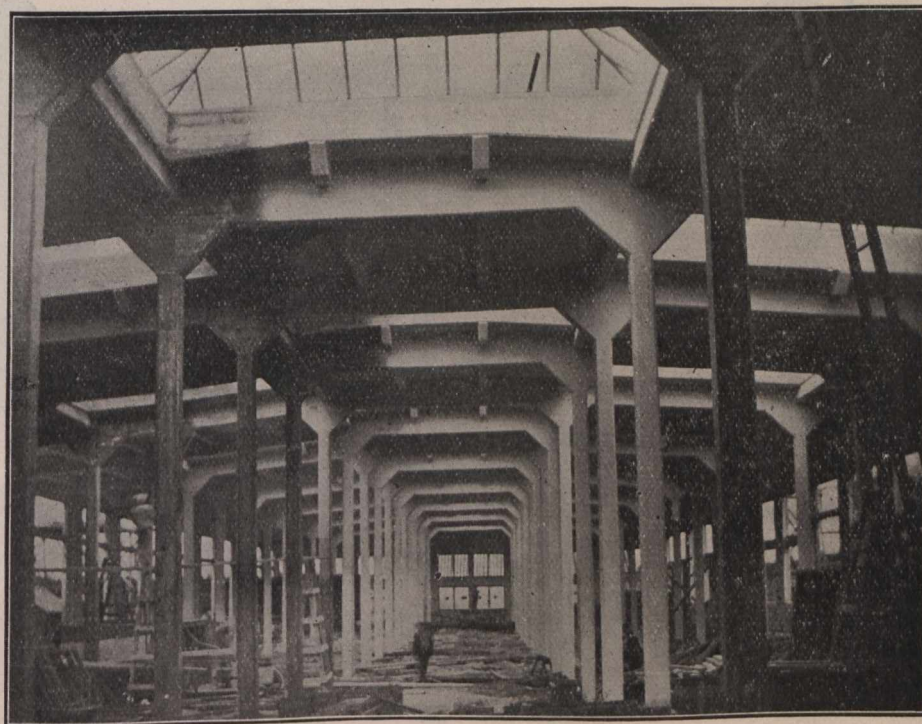
Windsor Water Front Property.—An offer has been made to the city of Windsor by the company to lease for park purposes the whole or any portion of the G.T.R. property on the river front from Hurley's dock to Piggott's lumber yard. The property, M. H. Cowan, the company's Assistant Solicitor, stated, was not for sale and any attempt to expropriate would be fought to the Privy Council.

Another Detroit River Tunnel.—A Detroit press dispatch says:—"That the G.T.R. will construct a four-track tunnel from the foot of Dequindre St., Detroit, beneath the Detroit River to Walkerville is now said to be practically assured." Among the statements made in support of this report is one to the effect that the company has secured an option for three years of a large area of land three miles back from the river at Walkerville, Ont., and another that nothing will be done to connect the G.T.R. tracks with the tracks of the Michigan Central Rd., which is constructing a tunnel under the river. It is also reported that the Wabash Rd. will join with the G.T.R. in the construction of the tunnel. A. B. Atwater, Assistant to the President, G.T.R., Detroit, stated that it was absurd to think that the G.T.R. would construct a tunnel. It already has one between Sarnia and Port Huron and the construction of a second one is not probable.

The Government Railways Managing Board is issuing a booklet enumerating the advantages offering for the establishment of industrial undertakings in the Maritime Provinces, along the route of the Intercolonial Ry.

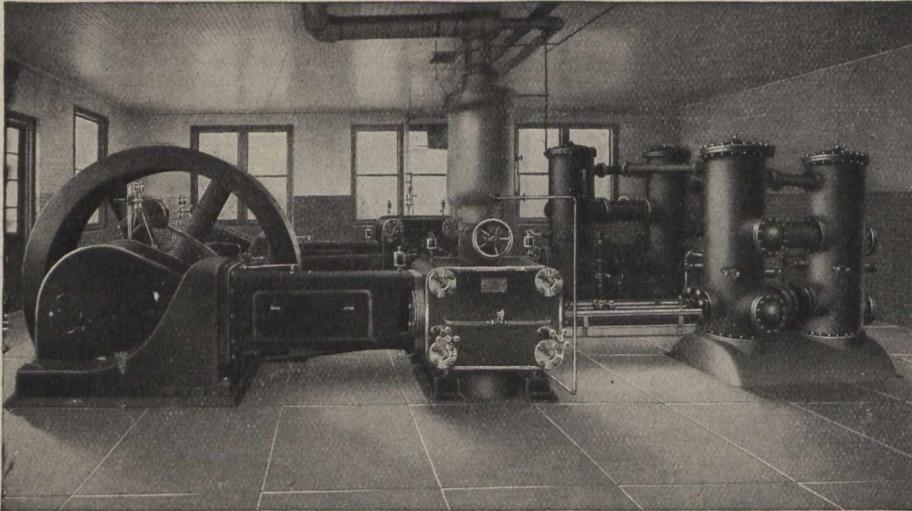


L.C.R. SHOPS, MONCTON. GROUND PLAN OF PLANING MILL.



INTERIOR CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

Robb Power Plants



ENGINES

Corliss, Slide Valve
Horizontal, Vertical

BOILERS

Return Tubular
Water Tube
internally Fired
Portable

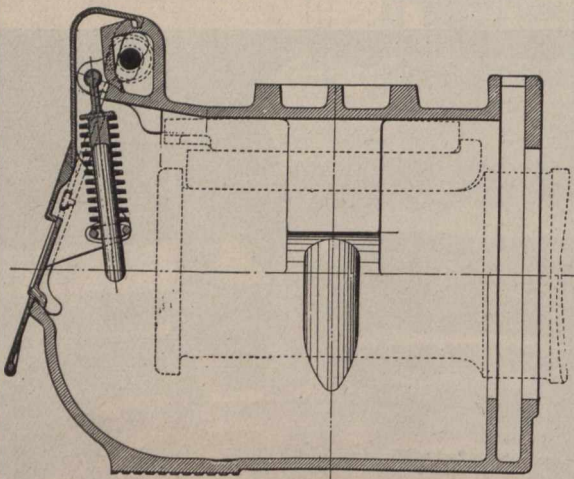
ROBB ENGINEERING CO., LIMITED, AMHERST, N.S.

DISTRICT
OFFICES:

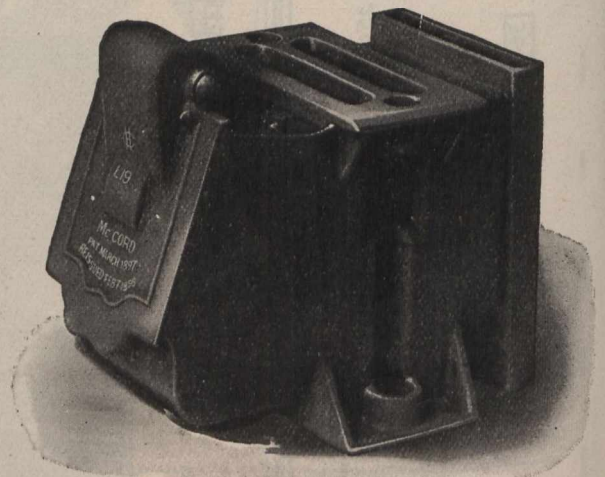
709 Power Building, MONTREAL, Watson Jack, Manager.
Traders Bank Building, TORONTO, Wm. McKay, Manager.
Union Bank Building, WINNIPEG, J. F. Porter, Manager.
Calgary Block, Calgary, J. F. Porter, Manager.

THE McCORD MALLEABLE IRON JOURNAL BOX

MANUFACTURED IN CANADA



The
Strongest,
Lightest,
Tightest
Box Made



The McCORD Draft Gear
The McCORD Spring Dampener

The McKIM Gasket
The McCORD Force Feed Lubricator

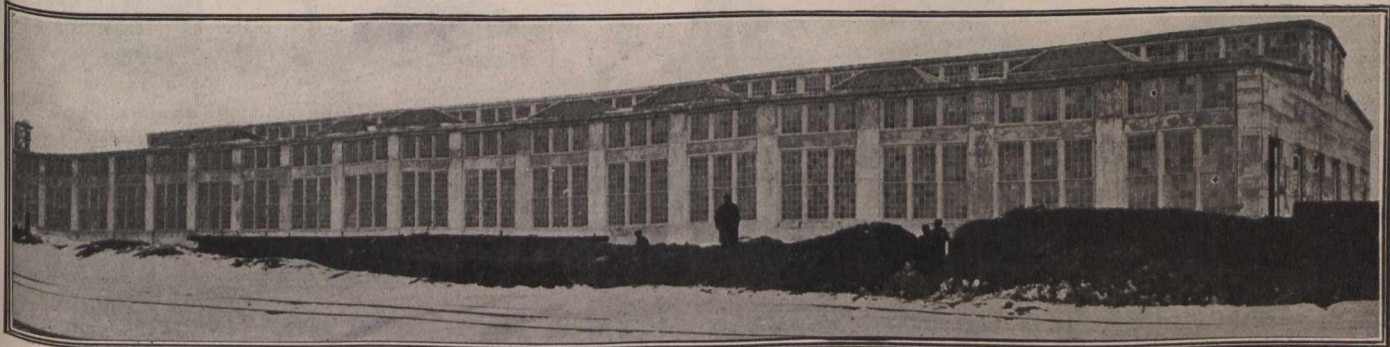
McCORD & COMPANY
Old Colony Building, Chicago

THE HOLDEN CO., Limited
302 St. James Street, Montreal

List of Machinery, Etc., in Moncton Shops, I.C.R.

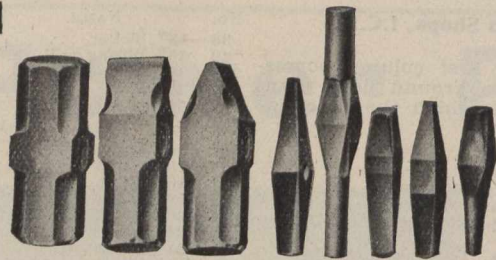
The numbers given at the left of the first column correspond with the numbers appearing in the ground floor plans on pages 717, 719 and 721, by reference to which the exact location of each machine, etc., may be seen.

No.	NAME.	MOTOR.	No.	NAME.	MOTOR.
1	100" Wheel lathe	1 50 h.p., 500-1000 r.p.m., D.C.	38	18" Slotter	1 10 h.p., 400-1600 r.p.m., D.C.
2	72" Wheel lathe	1 7½ h.p., 1200 r.p.m., A.C.	42	36" Boring mill	Group.
3	Driving wheel journal lathe	1 20 h.p., 30-1200 r.p.m., D.C.	249	30" Boring mill	1 5 h.p., 400-1600 r.p.m., D.C.
271	Loco. quarring machine	Group.	45	30" Drill	Group.
18	72" wheel press	2 5 h.p., 1200 r.p.m., A.C.	43	60 ton Hyd. press	1 5 h.p., 1200 r.p.m., A.C.
268	Loco. axle lathe	1 10 h.p., 1200 r.p.m., A.C.	MOTION DEPARTMENT.		
7	84" Boring mill	1 20 h.p., 850-1300 r.p.m., D.C.	109	14" Lathe	Group.
8	72" Fire mill	1 20 h.p., 300-900 r.p.m., D.C.	64	16" Lathe	Group.
9	60" Boring mill	1 3 h.p., 1200 r.p.m., A.C.	61	18" Lathe	Group.
10	48" Boring mill	1 15 h.p., 400-1600 r.p.m., D.C.	219	18" Lathe	Group.
32	48" Boring mill	1 10 h.p., 1200 r.p.m., A.C.	34	20" Lathe	Group.
267	42" Car wheel borer	1 20 h.p., 400-1200 r.p.m., D.C.	33	24" Lathe	Group.
11	42" Car wheel borer	1 3 h.p., 1200 r.p.m., A.C.	48	64" Lathe (light)	Group.
13	42" Car wheel borer	1 7½ h.p., 450-900 r.p.m., D.C.	252	18" Shaper	1 5 h.p., 1200 r.p.m., A.C.
5	48" Car wheel lathe	1 10 h.p., 400-800 r.p.m., D.C.	256	24" Shaper	1 5 h.p., 1200 r.p.m., A.C.
21	42" Car wheel lathe	1 3 h.p., 1200 r.p.m., A.C.	240	8" Slotter	1 5 h.p., 400-800 r.p.m., D.C.
6	36" Car wheel lathe	1 7½ h.p., 1200 r.p.m., A.C.	264	12" Slotter	1 7½ h.p., 560-1680 r.p.m., D.C.
270	48" Car wheel lathe	1 15 h.p., 400-1600 r.p.m., D.C.	265	36"×36"×6' Planer	1 15 h.p., 1200 r.p.m., A.C.
4	48" Wheel press	1 10 h.p., 1200 r.p.m., A.C.	85	18" Drill	Group.
266	Double car axle lathe	1 3 h.p., 1200 r.p.m., A.C.	238	2 Spindle sensitive drill	Group.
66	Double car axle lathe	1 20 h.p., 850-1350 r.p.m., D.C.	262	36" Drill	1 5 h.p., 1200 r.p.m., A.C.
CYLINDER AND FRAME DEPARTMENT.			282	No. 2 Horz. boring and drilling mach.	1 3 h.p., 1200 r.p.m., A.C.
20	Frame slotter, 3 head	1 10 h.p., 1200 r.p.m., A.C.	27	30" Vertical miller	1 5 h.p., 400-1600 r.p.m., D.C.
21	Frame drill, 3 spindle	2 5 h.p., 1200 r.p.m., A.C.	298	Link grinder	1 7½ h.p., 1200 r.p.m., A.C.
23	72"×72"×25' Planer	1 30 h.p., 900 r.p.m., A.C.	70	No. 4 Universal grinder	Group.
39	48"×48"×20' Planer	1 30 h.p., 900 r.p.m., A.C.	87	Emery grinder	Group.
269	Double bar cylinder borer	1 10 h.p., 600-1200 r.p.m., D.C.	191	Power hack saw	Group.
25	6 ft. Radial drill	Group.	BRASS DEPARTMENT.		
272	6 ft. Radial drill	1 5 h.p., 1200 r.p.m., A.C.	108	14" Lathe	Group.
ROD DEPARTMENT.			115	14" Lathe	Group.
26	36"×12' Horizontal miller	1 15 h.p., 900 r.p.m., A.C.	116	14" Lathe	Group.
276	No. 2 plain miller	Group.	117	16" Lathe	Group.
71	24" D. h. shaper	Group.	118	16" Lathe	Group.
31	12" Shaper	Group.	120	16" Lathe	Group.
253	18" Traverse head shaper	1 5 h.p., 1200 r.p.m., A.C.	123	24" Lathe	Group.
250	8" Traverse head shaper	Group.	121	18" Brass finisher's lathe	Group.
62	16" Lathe	Group.	237	2 Spindle sensitive drill	Group.
212	20" Lathe	Group.	127	Sensitive drill	Group.
85	12" Lathe	Group.	126	18" Drill	Group.
50	12" Lathe	Group.	259	30" Drill	1 5 h.p., 1200 r.p.m., A.C.
296	24" Side carriage turret lathe	Group.	112	No. 8 shop saw	Group.
213	24" Drill	Group.	125	Circular saw	Group.
273	2 Spindle rod drill	2 10 h.p., 500-1500 r.p.m., D.C.	76	No. 4 Universal miller	Group.
211	4" Centreing machine	Group.	124	Plain miller	Group.
274	42" Vertical miller	1 15 h.p., 600-1200 r.p.m., D.C.	TOOL ROOM.		
44	15 ton Hydraulic press	Group.	184	10" Toolmaker's lathe	Group.
220	Swing frame grinder	1 3 h.p., 1200 r.p.m., A.C.	185	10" Toolmaker's lathe	Group.
221	Swing frame grinder	1 3 h.p., 1200 r.p.m., A.C.	114	12" Toolmaker's lathe	Group.
37	Emery grinder	Group.	49	14" Toolmaker's lathe	Group.
CROSSHEAD DEPARTMENT.			119	14" Toolmaker's lathe	Group.
46	6 ft. Horizontal borer	1 7½ h.p., 560-1680 r.p.m., D.C.	197	17" Lathe	Group.
69	15" Slotter	Group.	122	20" Lathe	Group.
29	24"×24"×6' Planer	1 10 h.p., 1200 r.p.m., A.C.	80	3" Centreing machine	Group.
263	36" Drill	1 5 h.p., 1200 r.p.m., A.C.	251	12" Shaper	Group.
36	No. 2 Crosshead pin turner	Group.	277	No. 3a Heavy universal miller	Group.
PISTON DEPARTMENT.			236	2 Spindle sensitive drill	Group.
55	36" Lathe	Group.	78	Double spindle car brass borer	Group.
56	36" Lathe	Group.	110	Magnetic metal separator	Group.
279	32" Lathe	1 10 h.p., 500-1500 r.p.m., D.C.	130	Emery grinder	Group.
54	30" Lathe	1 10 h.p., 400-800 r.p.m., D.C.	131	Emery grinder	Group.
243	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.	132	Emery grinder	Group.
244	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.	53	No. 5 drop apron tool grinder	Group.
245	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.	60	No. 1 universal and tool grinder	Group.
246	24" Lathe	1 7½ h.p., 540-1430 r.p.m., D.C.	278	No. 13 universal and tool grinder	Group.
59	42" Boring mill	1 10 h.p., 400-1600 r.p.m., D.C.	128	No. 3 Cutter and reamer grinder	Group.
86	Wet emery grinder	Group.	129	Twist drill grinder	Group.
57	Emery grinder	Group.	BOLT AND NUT DEPARTMENT.		
BOX DEPARTMENT.			88	2" 6 Spindle nut tapper	Group.
198	17" Lathe	Group.	89	1½" 6 Spindle nut tapper	Group.
199	20" Lathe	Group.	234	1½" 6 Spindle nut tapper	Group.
200	20" Lathe	Group.	90	½" 4 Spindle nut tapper	Group.
254	24" Lathe	Group.	91	½" 4 Spindle nut tapper	Group.
41	30"×30"×8' Planer	1 5 h.p., 1200 r.p.m., A.C.	92	2" Quadruple bolt cutter	Group.
40	36"×36"×9' Planer	1 10 h.p., 1200 r.p.m., A.C.	94	2" Triple bolt cutter	Group.
247	36"×36"×16' Planer	1 15 h.p., 900 r.p.m., A.C.	93	1½" Triple stay bolt cutter	Group.
			233	Lassiter 4 spindle stay bolt machine.	Group.
			95	1" Triple bolt cutter	Group.
			96	1" Triple bolt cutter	Group.
			97	1½" Double bolt cutter	Group.
			98	2" Single bolt cutter	Group.
			99	3"×36" Turret machine	Group.
			100	2"×24" Turret machine	Group.
			101	2" Automatic turret machine	Group.
			232	No. 3 Automatic screwing machine	Group.
			235	No. 2 Automatic stud machine	Group.
			102	2"×17" Turret machine	Group.
			175	1½" Nut facer	Group.
			104	2½"×48" Bolt lathe	Group.
			105	2½"×48" Bolt lathe	Group.



FREIGHT CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

TRACK TOOLS!

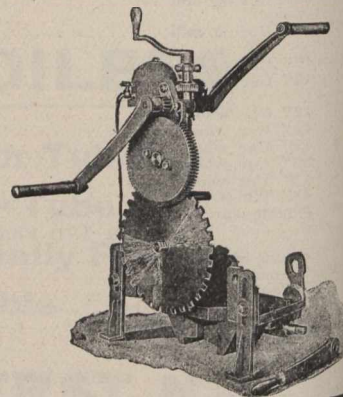
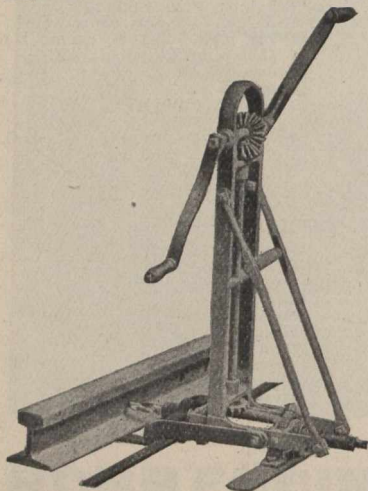


TRACK TOOLS!

We carry a very large stock of TRACK TOOLS

Of Every Description Spike Mauls - Chisels - Hammers Track Drills - Rail Saws - Forks Gauges - Levels - Wrenches Etc.

Let us quote on your requirements.



F.H. Hopkins & Co

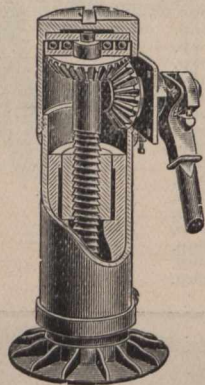
Successors late James Cooper

Montreal

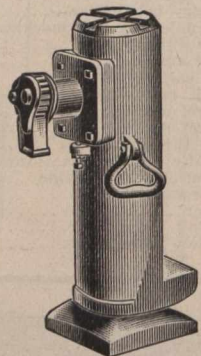
NORTON JACKS

Are Made in Canada and Save You Delay and Duty on American Made Jacks.

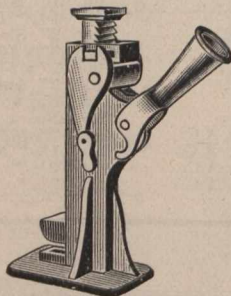
50 Styles 8 to 100 Tons Capacity Carried in stock for IMMEDIATE DELIVERY



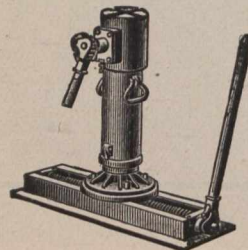
Sectional View



Foot Lift Jack



15 Ton Track Jack



Traversing Jack



Journal Jack

MANUFACTURED BY

A. O. NORTON, COATICOOK, QUE.

Stock Carried by MUSSENS LIMITED, Montreal and Winnipeg

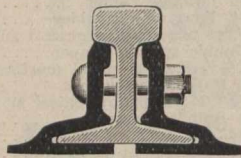
Vertical list of numbers on the right margin: No. 106, 107, 111, 189, 24, 255, 257, 268, 248, 224, 65, 275, 294, 295, 299, 308, 74, 75, 258, 260, 261, 82, 72, 83, 215, 217, 225, 81, 79, 192, 113, 209, 210, 214, 384, 386, 385, 387, 388, 260, 133, 134, 135, 136, 287, 148, 141, 168, 182, 299, 137, 138, 139, 206, 205, 204, 203, 160, 154, 181, 155, 157, 156, 178, 172, 174, 177, 166, 176, 153, 145, 178, 146, 147, 180, 143, 144, 170, 297, 171, 152, 167, 162, 163, 169, 179, 151, 150, 149, 165, 286, 290, 291, 187, 184, 164, 226, 227, 228, 228, 243

ADDITIONAL SAFETY AND ECONOMY IN TRACK MAINTENANCE

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.

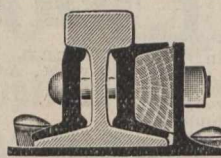
HIGHEST AWARDS

Paris, 1900;
Buffalo, 1901; St. Louis, 1904



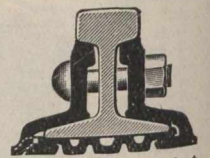
Continuous Joint

Over
50,000
miles
in use



Weber Joint

Rolled
from Best
Quality
Steel



Wolhaupter Joint

Catalogues at Agencies

- | | | | | |
|---------------------|---------------------|-----------------|----------------|----------------|
| Baltimore, Md. | Boston, Mass. | Chicago, Ill. | Denver, Colo. | Pittsburg, Pa. |
| San Francisco, Cal. | Seattle, Wash. | St. Paul, Minn. | St. Louis, Mo. | Troy, N.Y. |
| | London, E. C., Eng. | New York City. | | |

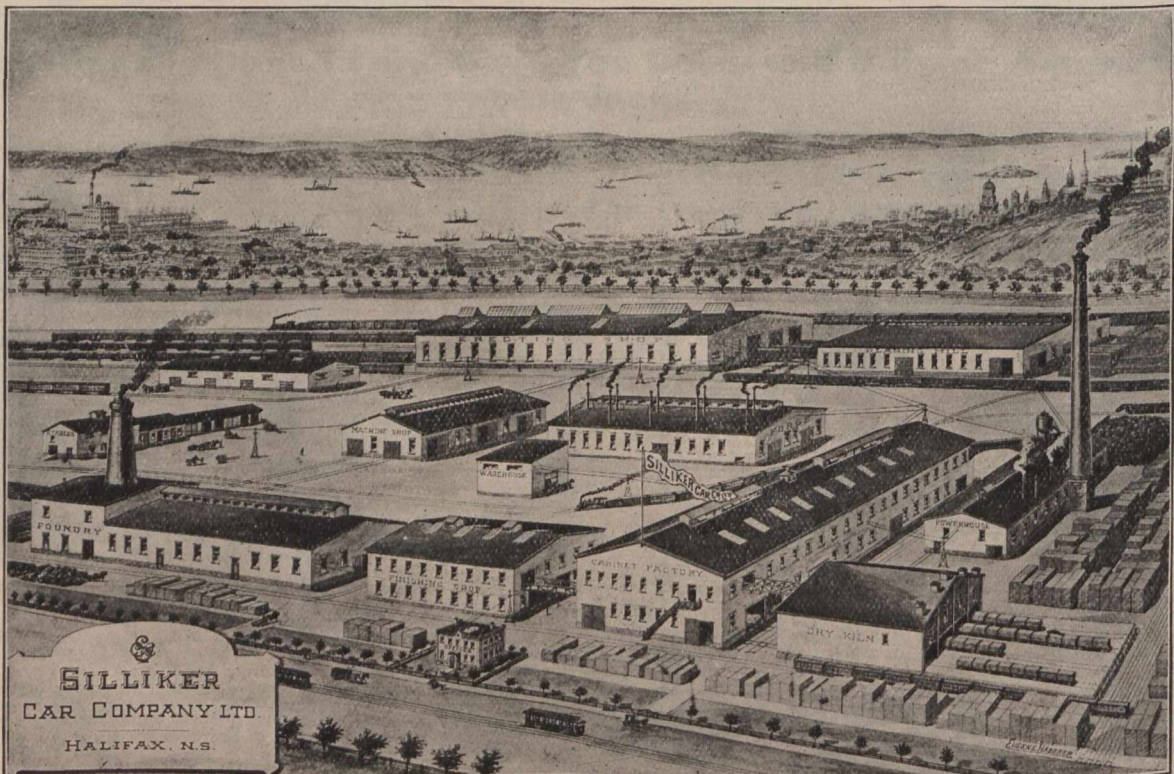
THE RAIL JOINT COMPANY OF CANADA, LIMITED

OFFICES: BOARD OF TRADE BLDG., MONTREAL, CAN.

Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

SILLIKER CAR COMPANY, LIMITED, HALIFAX, N. S., CANADA

STREET RAILWAY CARS



HEAVY FORGINGS AND CASTINGS

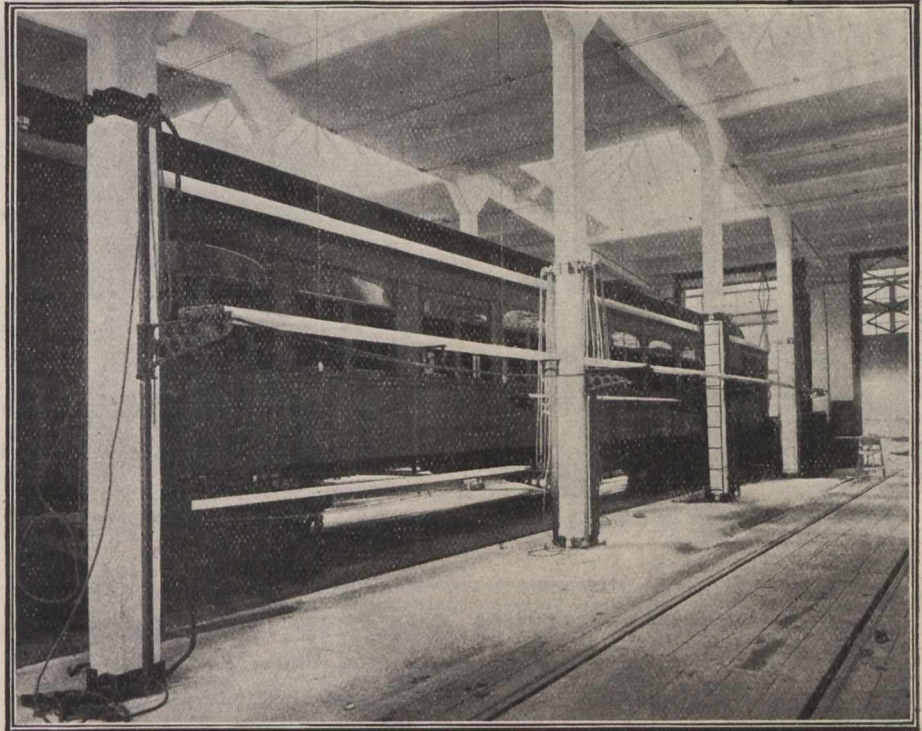
RAILWAY, FREIGHT AND PASSENGER CARS OF ALL KINDS

SILLIKER
CAR COMPANY LTD
HALIFAX, N.S.

Care and Washing Out of Locomotive Boilers.

By J. V. Jackson, Boiler Inspector, G.T.R.

Upon consideration of the subject of washing out boilers, it must be admitted that it is a very important part in the successful operation of any plant depending on boilers and steam power, and should, therefore, be given every possible attention by all concerned, to see that the work is done in a proper manner, and at the correct periods of time, or mileage run. This, however, is to be decided by some persons in authority, and governed by the conditions of water in the districts through which the different locomotives work. Before proceeding with the washing out of boilers I will first consider the reasons for requiring to have boilers washed out. It is well known that all waters contain impurities of some kind, more or less. Some of these impurities will settle as soon as they enter the boilers, and will there strongly adhere to the tubes and barrel plates, in this manner causing the barrel and tubes to block up quickly, interfering with the proper circulation of water through the boiler. There are other impurities, which are held in suspension, and will float to the surface of the water, when the water is sufficiently heated, in the form of a scum. Considerable of this matter is kept continually in motion by the circulation of the water inside the boiler, and, in this manner is carried back and forth to all parts of the boiler, and the gradual accumulation of these foreign substances leads to the formation of a coating of scale on practically all parts of the tubes and plates with which the water comes in contact. A very thin scale is considered to be beneficial to a boiler, seeing that it has the effect of preventing the corrosive action of the water upon the plates, tubes, etc., but when it becomes at all thick, the heat-conducting power of the plates to the water is greatly diminished, and it is stated that 1-16 inch thickness of scale calls for an increase of from 10% to 15% in fuel, whereas heavy scale forming on plates which are in direct contact with the flames from the furnace, may become a source of danger, since the heat from the fire is not carried to the water as fast as it should be and



INTERIOR OF PASSENGER CAR REPAIR SHOP, I.C.R., MONCTON, SHOWING ADJUSTABLE PLATFORM FOR WORK ON OUTSIDE OF CARS.

the plate does not get the necessary protection of the water, which should absorb this heat. In this manner the plates are liable to become overheated, and to corrugate between the stay bolts, also to start a large number of stays leaking. This result requires sending the boiler to the repair shops, for sheets to be straightened, and all stays to be made tight, which is very expensive, when considered in comparison with the cost of preventing the cause, which is by proper attention to regular washing out.

In many cases where scale is allowed to accumulate heavily against firebox sheets, the sheet will crack out away from the staybolt holes, which sign,

when found in the sheets of a firebox, is looked upon as strong evidence of the presence of heavy scale in the water space at this point. This scale should be at once removed, and sheets and blots made clean. If the cracks are bad, the defective portion of plate should be cut out, and a patch put on in place. These patches are usually fastened to the firebox sheets with patch bolts, which protrude through the sheet, and into the water space, from $\frac{1}{4}$ to $\frac{1}{2}$ inch. These small projections into the water space being close together, act as good collectors of sediment, and often become one solid line of scale around the inside edges of the patch, thus destroying the protection given to the edge of patch by the water, and in a large degree being the cause of patch bolts leaking at the heads, and edges of patches burning and cracking badly, thus showing the necessity of keeping firebox sheets and bolts clean at all times, using the best means possible to accomplish this work, also, as a general rule, knowing where to look for accumulations of sediment, scale, etc. In the first place, we have the crown sheet, which, being directly over the fire, and flames impinging at a direct angle against the plate causes the water to evaporate very rapidly at this point and to disintegrate itself from any suspended matter with which it may then be impregnated; this matter may be precipitated to the sheet or pass towards the front end of the boiler as scum, but in many cases it is found that the staybolts supporting the crown have become coated with this sediment, from the given line of the working level of water down to and on the crown sheet, and, seeing that the crown sheet is the most important part of every locomotive boiler, too much care cannot be taken to seeing that it and all the staybolts supporting it are kept clean from scale and sediment. We also find considerable sediment at the tubes and sides of barrel of boiler, at the point of entrance of feed water from top checks, also along the bottom and sides of barrel to throat sheet, and side water legs, to which it is carried and deposited, due to the circulation of the water, and it will be found heavy at the bottom of the barrel, also



INTERIOR OF MACHINE SHOP, INTERCOLONIAL RAILWAY, MONCTON.

MONTREAL STEEL WORKS, LIMITED

POINT ST. CHARLES, = = MONTREAL

— MANUFACTURERS OF —

Steel Castings

(Acid Open Hearth System)

Switches and Track Work

for Steam and Electric Roads

Springs

of all kinds

Manganese Steel Castings

for wearing Parts, insuring Great Hardness and Durability

Interlocking Plants

Trucks for Electric Cars

— Agents for Canada for —

THOS. FIRTH & SONS, LIMITED, Sheffield, England

“Speedicut” High Speed Steel, Tool Steel, Axe Steel, Saw Steel, Files, etc. A large stock carried in our warehouse.

BARROW HÆMATITE STEEL CO., Barrow-in-Furness, England

Quotations for Tee Rails, Fish Plates, etc., promptly furnished. Catalogues sent on application.

Pintsch Light

Steam Heat

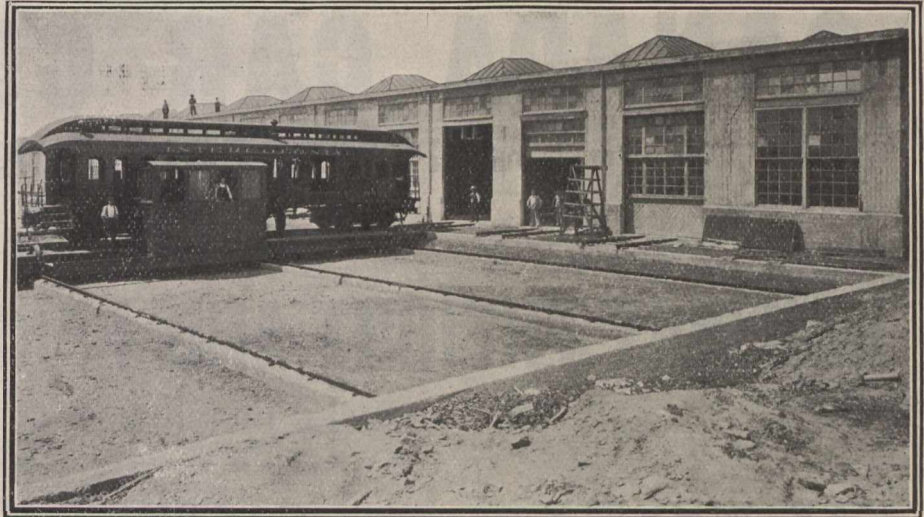
Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads



Car Heating Systems guaranteed to meet all conditons of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, trainpipe valves and other appliances.

at lowest points in waterlegs, and near blow-off cock. In locomotives which are fitted with arch tubes, it will, in many cases, be found that the circulation, through these tubes, which is from throat sheet water leg to a high point of the door sheet, will carry and deposit scale and sediment on to the top of the fire-hole sleeve, there to be held by the staybolts, and to accumulate until the fire-hole seam becomes overheated at the top, and sprung, due to what is rightly termed mud burn. This seam then leaks badly, and is often chipped and caulked by boilermakers, without having the cause of same removed, therefore great care should be taken by those in charge of washing out, to see that no sediment is allowed to remain on top of the fire-hole sleeve to cause trouble. A large amount of scale and sediment is also usually found at the bottom of door sheet water legs and at back ends of side water legs, where the water is more liable to be quiet, and favorable to the settlement of scale. We also find the tubes become heavily coated with scale close to the firebox tube sheet. This is undoubtedly due to the rapid evaporation of the water at this point, and the close formation of the nest of tubes being very favorable to receive the impurities deposited from the water. This adheres strongly to the tubes, generally, as hard scale. We must also watch carefully along the side water spaces at the upper portion of the ogee, at this point the staybolts are irregular, and the water space becomes decidedly narrower, and any large pieces of scale thrown over from the crown or broken off the high part of sides, may become lodged on these bolts and collect sediment quickly, until there is a solid blockage between the sheets which will cause serious trouble.

In mentioning these several points to be carefully watched in locomotive boilers, I do not mean that other parts of the boiler do not become subject to the formation of scale and sediment, but wish to show that all available parts of a locomotive boiler should be thoroughly searched with a suitable light after having been washed out, to ascertain that the work has been properly done, and no scale or sediment is left in the boiler which can be removed. Taking into con-



TRANSFER TABLE BETWEEN PASSENGER CAR AND PAINT SHOPS, I.C.R., MONCTON.

sideration the disposition of washout holes and means of access to the interior of the boiler for the purpose of washing out, we find it advisable to have several holes on each side of saddle sheet, to wash down the sediment from off the crown sheet, also to turn the water down on to the high part of side water legs, and to break up and remove any scale which may have become lodged amongst the bolts at these high parts; several holes are also required in back head to enable streams of water, and use of cleansing rods in various directions along crown sheet, also to wash down the back water space. Also several washout holes are required in side water legs, and at bottom of each corner. With simple engines there are holes wanted in bottom of front end tube sheet, to enable bottom of barrel being cleaned out, whereas, with the crossover or two cylinder compound locomotives, we find that washout holes in bottom of front end tube sheet cannot well be used to advantage, therefore it is necessary to have washout holes in the bottom of the barrel, there being

usually two on each side of the boiler at points where they can be used to the best advantage, and do the best service. These holes are also finding favor, and are being put into boilers of simple locomotives.

In washing a locomotive boiler it is advisable to first allow the steam pressure to blow off by blow-off lines from the locomotive, through car-heating steam hose to overhead pipes, which pipes are run from each pit in the locomotive house, to hot water well, where it acts as a heater to the water in the well at that time. This process is to be followed until the pressure in the boiler is reduced to about 10 lbs. gauge pressure, when hose connections from the blow-off cock of boiler to the blow-off pipes in pit can be made, and the hot water allowed to run from the boiler, and into the hot well or settling basin, until the boiler is quite empty, at which time all plugs may be removed from washout holes, and boiler be allowed to cool until a person can barely hold his hand upon the plates of same, or to about 160 degrees, at which time the boiler will be in a condition to be washed out with the water taken from the hot well for washout purposes, which well is kept at a lower temperature than the feed water well; but if this water is too hot for handling by men washing out the boilers, it may be tempered with cold water, by opening the cold water valve to pump, and combining the cold and hot water as required, directly before entering the pump, or the cold water may be turned on directly into the hot water well, until brought to the temperature required, about 130 degrees, for washout purposes, and be pumped from there direct to those washing out the boilers.

In this matter of cooling and washing there is little possibility of the so-called baking process, of turning settling sediment from the water into scale on sheets, when blowing off the water and preparing for washing out; also by washing out with hot water, the plates of the boiler are kept heated, and are thereby in a good condition to receive the hot feed water. This feed water is clean water which has overflowed from the washout hot well, which is, in turn, water that has passed through the settling basin, and over into the hot well for washout purposes, thus ensuring clean water for refilling boilers. But when washing the boilers it is necessary to start at the wash out holes on either side of the saddle sheet, and to clean everything possible in the form of scale and sediment from the crown sheet of firebox, by cleaning rods, and water from washout hose and nozzles, through these



INTERIOR OF FREIGHT CAR REPAIR SHOP, INTERCOLONIAL RAILWAY, MONCTON.

CANADA CAR COMPANY

MONTREAL, QUE.

LIMITED

MANUFACTURERS OF

RAILWAY FREIGHT AND PASSENGER CARS

OF ALL DESCRIPTIONS

CAR WHEELS CASTINGS FORGINGS
AND ALL NECESSARY EQUIPMENT FOR
CAR CONSTRUCTION

Cars Built to Standard Designs or to Customers' Specifications

P.O. ADDRESS:
BOX 2286, MONTREAL

Works: TURCOT

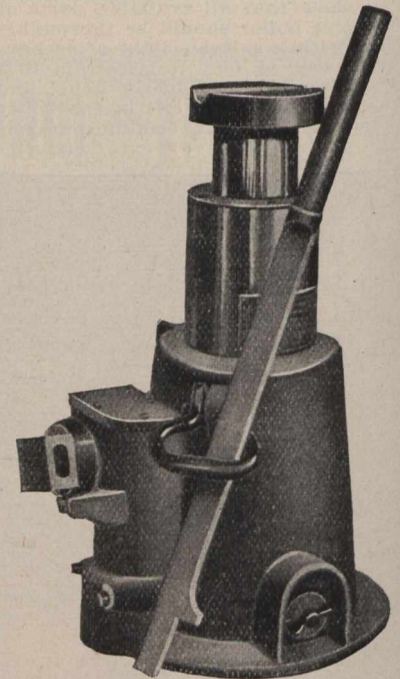


Inside Pump Type

Quick Action Hydraulic Jacks

Joyce-Cridland Hydraulic Jacks have a speeding device whereby they can be run quickly up to load, where the speeding device automatically cuts out, leaving only the power pump in action. This device adds no extra pump or complicated parts to the jack. These jacks are so built that they may be used in any position and the filling liquid will not escape. The outside pump type has a short barrel, adapting it for use in cramped quarters.

Full description and explanation of the working parts of the Joyce-Cridland Hydraulic Jacks are given in Bulletin 33.



Outside Pump Type

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

Railway Rolling Stock Notes.

The Temiskaming and Northern Ontario Ry., between Aug. 12 and Sept. 17, added two switching locomotives to its rolling stock.

The C.F.R., between Aug. 14 and Sept. 10, ordered the following rolling stock: 250 box cars of 30 tons capacity, eight sleeping cars, three flangers and three steel snow plows from its Angus shops, Montreal, and 10 vans from its Farnham shops, Que.

The C.P.R., between Aug. 14 and Sept. 10, received the following additions to rolling stock: 84 box cars, six observation cars, two dining cars, three combination first class and smoking cars, and five D10 locomotives from its Angus shops, Montreal.

The C.N.R., between Aug. 15 and Sept. 15, received the following additions to rolling stock:—101 box cars, 5 first class coaches, 2 baggage cars and 4 cabooses from Rhodes, Curry Co., Amherst N.S.; 300 box cars from the Canada Car Co., Montreal; 40 box cars from Crossen Car Manufacturing Co., Cobourg, Ont.; 2 baggage and mail cars and four combined second class and baggage coaches from Silliker Car Co., Halifax, N.S., and 2 baggage and mail cars.

The Silliker Car Co., Halifax, is building a combination passenger and sleeping coach and 10 flat cars, for the Anglo-Newfoundland Development Co.; and 2 motor cars for the Halifax Electric Tramway Co. Between June 15 and Sept. 18, it delivered 27 box cars, 18 flat cars and one combination passenger and sleeping coach to the Anglo-Newfoundland Development Co., and 2 60 ft. baggage and mail cars, and 4 70 ft. combination second class and baggage cars to the C.N.R.

The G.T.R. has ordered 15 consolidation locomotives from the Montreal Locomotive Works. Following are chief particulars:—

Weight on drivers	184,000 lbs.
Total weight	211,200 lbs.
Cylinders	22½ × 35" and 32"
Drivers, diam.	63"
Boiler type	extended wagon top.
Boiler pressure	210 lbs.
Heating surface, total	2,925.3 sq. ft.
Tubes, no. and diam.	353, 2"
Tubes, length	15 ft.
Firebox	96¾ × 75¼"
Grate area	50.62 sq. ft.
Capacity, water	7,000 U.S. galls.
Capacity, coal	10 tons.

The G.T.R. has ordered 25 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont., of which the following are general particulars:

Wheel base of engine, rigid	14' 0"
Wheel base of engine, total	22' 7"
Wheel base of engine and tender	50' 3"
Height of engine	14' 8"
Heating surface, firebox	160.2 sq. ft.
Heating surface, tubes	1,551.5 sq. ft.
Driving wheels, diam.	63"
Driving wheel centres	Cast steel
Driving journals	9" by 10"
Cylinders	19" by 26"
Boiler, type—Extended wagon top, radial stayed.	
Boiler, pressure	180 lbs.
Tubes, No. and diam.	266, 2"
Tubes, length	10' 10"
Air brakes	Westinghouse ET.
Weight of tender loaded	130,800 lbs.

In reference to the C.P.R. observation cars, particulars of which appeared in our July, Aug. and Sept. issues, our attention has been called to a feature in which they are said to eclipse all other observation cars on American lines, viz., the extreme height of the observation windows, which gives 34 ins. of clear window between the bottom of the window shade, when raised as far as possible, and the bottom portion of the window. Our correspondent says this is 10 ins. more clear space than he has seen on any other cars in America. He adds: "I have tested the observation room under every condition of light and it is practically perfect as a means of viewing scenery from a train."

National Transcontinental Railway.

The estimates for work done on the N.T.R. in New Brunswick during August amounted to \$515,768. The Commissioners have asked for tenders for the supply and erection of steel bridges for the line in New Brunswick as follows: over Cains River, to be completed by Dec. 1; over the South West Miramichi River, to be completed by Mar. 15, 1910; two over the Juniper brook, to be completed by April, 1910; over the Odell Brook, to be completed by April, 1910.

As a result of a meeting on Sept. 7 between the Minister of Railways, the three engineers appointed to design the new Quebec bridge, and the three other engineers appointed lately to consult with them, it was announced that practically all the vital points as to the style of structure, etc., had been decided on, and that the preparation of plans would be gone on with at once. Plans for both cantilever and suspension type of bridge will be prepared simultaneously, and tenders called for both. The general principles already decided upon will make the bridge a much more substantial structure than the fallen one. It will be 150 ft. above high tide, and if the cantilever type is chosen will be of the straight type, without the arch effect of the old structure. It will be 85 ft. wide from centre to centre of trusses, or 24 ft. wider than the old bridge. The increased width will give ample room to accommodate the steam and electric railway tracks, roadway, footpaths, etc. The centre span will be reduced from 1,800 ft. to 1,717 ft. This will be accomplished by the erection of another pier on the Quebec side, 100 ft. from the existing deep water pier. In addition to this, the pier on the south side will be enlarged to allow for the greater width and bearing power required. It has also been decided to use a considerable amount of nickel steel in the construction of the new bridge. The Minister of Railways said he was hopeful of an early start being made with construction, but he could not say when tenders would be asked.

J. T. Davis, of the contracting firm of M. P. and J. T. Davis, stated Sept. 1 that he had been instructed by the Government engineers to go ahead with the work of construction of the terminal lines at the Sillery end of the Quebec bridge at once. There had been some changes made from the plans as arranged by the old bridge company. There would not be much work done this year, as the rock cutting was very heavy.

J. G. Scott, ex-General Manager of the Quebec and Lake St. John Ry., has recently completed a trip over the lines under construction in the St. Maurice River valley. He says the railway from Hervey Jct., the point of junction with the Canadian Northern Ry., to La Tuque is completed, with the exception of a steel viaduct not far from the latter point. This bridge which is being constructed by the Dominion Bridge Co., will be 3,000 ft. long and 180 ft. high. Approaching La Tuque, some very heavy work, including some tunnels, had to be done in order to retain the limit of 0.4% which the specifications exact as the heaviest gradient allowed against eastbound traffic. The roundhouse, yards and divisional workshops are located about a mile west of the town on account of the gradient. Leaving La Tuque, the line crosses the Bostonnais and Croche Rivers in the next five miles, and then crosses to the west bank of the St. Maurice River. The bridge across the St. Maurice consists of six spans of steel on concrete piers and abutments. The piers are protected by wooden piers a few hundred feet higher up the river so as to break up any ice flowing in the spring. From La Tuque to Vermillion, over 30 miles, the line runs along the west bank of the St. Maurice

side holes, thereby throwing the loose sediment down into the water legs, from whence it can be easily removed, and from these holes the crooked nozzle should be turned down on to the bolts at top of side water spaces, to be sure of this being well cleaned of any loose sediment. The water can also be thrown over on to the tubes to wash the same, from the front holes in saddle sheet. Next get into the cab, to wash and clean crown sheet from the holes in back head sheet, and to turn the water from the crooked nozzle down into the back water-leg to clean the bolts and sheets of any loose sediment. Next go to the front end of barrel, and to barrel holes under the barrel, and by the proper use of long barrel cleaning rods, and short and long and crooked nozzles, with a continued good pressure of same, say 100 to 150 lbs. to properly clean the barrel of all mud and scale, sending same down into the water legs of boiler. Here at the water leg holes, the sediment should be broken up and cleaned out from the boiler as much as possible with long, short, and bent cleaning rods furnished for this purpose, and then the water should be turned on from the highest holes in water legs first, and bolts, etc., washed in all directions, and from these high holes to gradually work downward at each hole until the lowest point of the boiler has been washed clean, being sure to keep the low holes clear at all times when washing out, to allow the soft mud and sediment to freely escape with the water. At this point it is necessary that the leading boilermaker should examine the inside of the boiler, wherever accessible, with a long search-light to see that no sediment or scale is allowed to remain lodged inside, and to ensure the boiler being properly cleaned before refilling, because any neglect on the part of the washer-out is likely to cause more work for the boilermaker and more expense for the company, therefore the boilermaker should see that the boilers are kept clean. After placing all plugs in washout holes in a proper manner, we will go back to the feed water hot well, and find the water, which is kept from 170 to 200 degrees in the well, is fed by gravity to a feed pump, and from there is forced through a superheater (which is heated by exhaust steam from stationary engines, air compressors and pumps which in turn exhaust into the hot well) and through refilling lines to the boiler, thereby enabling steam to be got up from same in a very short notice, and the boiler is not allowed to get cold. The process of washing out locomotive boilers as stated in this article will take about 90 minutes to blow off and take out plugs, and about four hours on an average from engine arriving on washout pit, to be washed out, refilled, and made ready to be fired up for service.

The foregoing paper was read before the Central Railway and Engineering Club recently.

Ontario Railway & Municipal Board.—The fire at the Parliament Buildings, Toronto, Sept. 1, destroyed a portion of the west wing, in which the Board's offices were located. The offices were not burned, but with their contents were much damaged by water and smoke, and as a considerable portion of the wing will have to be rebuilt, the Board has rented offices in the Manning Block, Queen St. West, and has removed there.

The Mount Royal Construction, Ltd., has been incorporated under the Dominion Companies' Act, with a capital of \$20,000 and offices at Montreal, for the purpose of transacting a general contracting business and in connection therewith to carry on a number of allied businesses. The provisional directors are: A. Laurier, L. T. A. Trudeau, Z. Filion, J. P. Laurier, Montreal; L. J. Trudeau, St. Remi, Que.

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 Hamilton Steel & Iron Co.

HAMILTON, CANADA

LIMITED

PIG IRON

RR. AXLES

ANGLE BARS

TRACK SPIKES

TIE PLATES

Marine and Railroad

FORGINGS

In Rough, Rough Turned or Smooth Finished

BAR IRON

BAR STEEL

Plain, Cold Twisted or Deformed

STEEL BARS

For

CONCRETE REINFORCEMENT

River at a considerable elevation. The track at present terminates at Vermillion. Beyond this point to Weymontachene, 54 miles, the line is nearly ready for the steel. Leaving the St. Maurice at this point the line strikes westward towards Lake Abitibi, and grading operations are being actively pushed on the first 25 miles. Beyond this point the work being done is confined to engineering and clearing the right of way.

West of Lake Abitibi, it has been announced that the Ontario Government has decided to retain the town sites along the railway, and to dispose of the lands for the benefit of the Provincial Treasury.

The Commissioners have asked for tenders for the supply and erection of the following steel bridges on District D, which extends from Lake Abitibi to beyond the crossing of the Mattagama River: Over Circle River, to be completed by July, 1910; over Low Bush River, to be completed by June, 1910; over Brule Creek, to be completed by April, 1910; over Frederic House River, to be completed by April, 1910; over Buskego River, to be completed by April, 1910; over Driftwood River, to be completed by May, 1910; over Mattagama River, to be completed by June, 1910.

Work on the 75 mile section north of Lake Nipigon is reported to be nearly completed. The contract is mostly muskeg fills, and it is expected, that track will be laid by the end of the year. The Nipigon Construction Co. has the contract.

GRAND TRUNK PACIFIC RAILWAY.

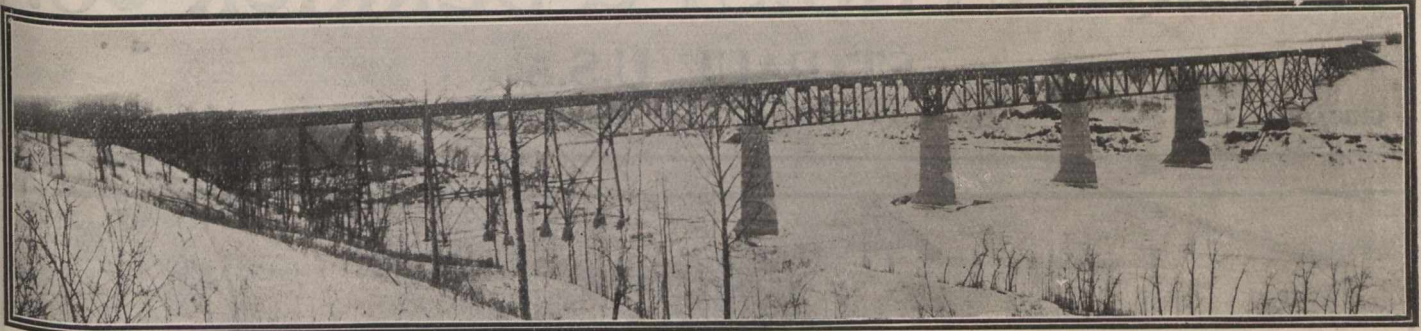
On Sept. 7 a regular train service was put on as far as Wainwright, 110 miles west of Scotts, where the service had previously ended. The service through to Edmonton was put on Sept. 15.

The bridge illustrated on this page spans the North Saskatchewan River valley at Clover Bar crossing, on the G.T.P.R. main line, 786.5 miles west of Winnipeg and about 8 miles east of Edmonton. The foundations were made in the usual way by means of open coffer dams and concrete forms, and the noses of the river piers were provided with steel protectors. Five hundred and twelve piles were used only in the foundations of pedestals nos. 2, 3, 4, 5, 18, 19 and 20. The substructure of plain concrete comprises two wing abutments, 14 pairs of pedestals and 4 river piers, and the total amount of concrete used was 22,000 cu. yds. The area at the base of each of the 4 river piers at foundation level is 3,772 sq. ft.; average height 120 ft., each containing about 4,160 cu. yds. of concrete. The superstructure is composed of two 50 ft. end spans, eight 50 ft. and four 40 ft. intermediate spans, resting on 7 steel towers; three 225 ft. deck truss spans resting on piers and two 150 ft. deck truss spans resting on pier and tower. The amount of steel in the superstructure is about 2,100 tons. The total length of bridge between parapets is 1,655.5 ft., and the distance from base of rail to low water is about 136.5 ft. The average

tion, extending from the Copper River to Aldermere, in the Bulkley valley, 135 miles, for which a contract has been let to Foley, Welch & Stewart. E. J. Chamberlin, General Manager, stated Sept. 1 that he expected that a start had then been made on the heaviest work on the whole contract, three tunnels near Kitsalas Canyon. They will be 400, 800 and 1,400 ft. long respectively. Work will be commenced at once on the 2,500 ft. tunnel 19 miles beyond Hazelton. An aerial tramway is being installed at Kitsalas Canyon to handle supplies and material around a dangerous section of the river.

Speaking at Vancouver, at the end of Aug., C. M. Hays, President G.T.P.R., said the G.T.P. would undoubtedly be in Vancouver. There must be railway connection between Vancouver and the north. The people will not be satisfied with a line only to Prince Rupert, but will desire it pushed further on. The G.T.P.R. charter provided that at the proper time it was to be extended to the Yukon.

E. J. Chamberlin, General Manager, who was with the President and the English directors, said that the survey work from Kamloops to Vancouver would be rushed; the work north of Kamloops on the proposed line was nearing completion. It was proposed to reach tidewater through the Fraser River Canyon. In regard to terminals, the President desired to have joint terminals and



GRAND TRUNK PACIFIC RAILWAY BRIDGE OVER NORTH SASKATCHEWAN RIVER AT CLOVER BAR, ALTA.

On Sept. 1 it was reported that there were about 40 miles of track to be laid on the line east of Winnipeg to connect up with the Grand Trunk Pacific Ry. Lake Superior branch, and thus give a through connection from beyond Edmonton, Alta., to Fort William, Ont. It is expected that this will not be laid until the beginning of Oct. on account of the scarcity of labor. Tracklaying has been delayed on account of the non-completion of the bridge over the Wabigoon River, north of Dryden. In consequence of this delay in the completion of this section of the line it is reported that the G.T.P.R. has made an arrangement with the Canadian Northern Ry. to carry the grain brought into Winnipeg from the West to Fort William.

The first divisional point on the line east of Winnipeg has been named Redditt. It is situated in Ontario, about 12 miles east of the Winnipeg River, and 122 miles from Winnipeg. A roundhouse and other terminal buildings will be constructed; the work is to be started at an early date. The second divisional point will be at Rowell, directly north of Dryden. The most important of the town sites on this section of the line will be at Superior Jet.

The Commissioners are considering tenders for the excavation and back filling of a pipe line from the Red River to the locomotive shops, etc., east of St. Boniface, Man., the work to be completed by Dec. 31.

height between base of rail and ground line is 87 ft. Work on the substructure was begun Dec., 1906, and the entire structure was completed Jan., 1909.

We are advised that a contract has been awarded to the J. D. McArthur Co., Winnipeg, for the construction this year of a branch line towards Calgary, starting from Tofield, Alta. The length of line to be constructed under the contract is 50 miles. We are further advised that there is no foundation for the report, referred to in our last issue, that it was intended to start work this year on the construction of a branch from Justice to Brandon, Man. (Sept., pg. 653.)

At the Prince Rupert end of the line a cargo of steel rails arrived Sept. 3 from Sydney, N.S., and another is en route. There is reported to be a serious lack of labor in Northern British Columbia, and the contractors and the company are considering the advisability of asking the Dominion Government to permit the importation of Chinese and Japanese labor to enable them to complete the line in time. An Ottawa press despatch, Sept. 15, says it is not likely that anything will be done in regard to this matter until there can be a full meeting of the Cabinet, and further that it is not likely that the Government will grant the request. It is expected to get the first section of the line easterly from Prince Rupert completed this year. Already the contractors who have completed their work have been moving on to the second sec-

tion from that rose his willingness to join forces with the Great Northern Ry.

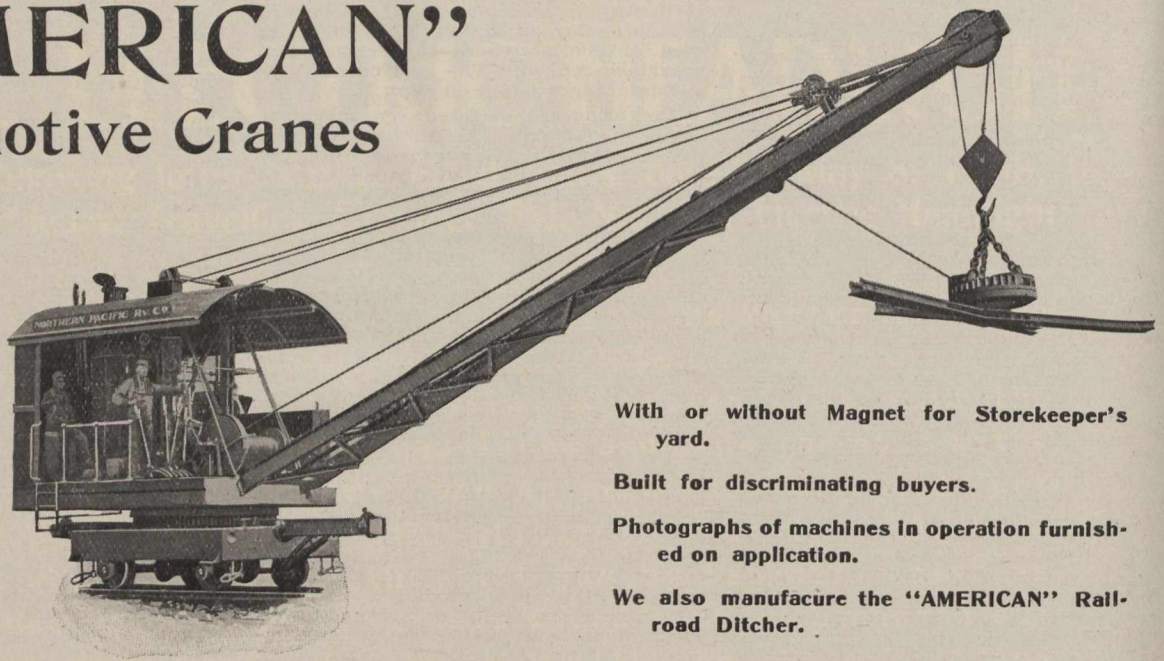
The Board of Railway Commissioners passed order 7881, Aug. 27, making regulations for the carriage of explosives by railways. The regulations are the same as those promulgated by the Interstate Commerce Commission, which, in the main, adopted the code prepared by the American Railway Association.

The C.P.R. grade reduction work between Hector and Field, B.C., having been completed, trains have been running over the new line since Aug. 25 and are governed by special rules regarding the electric staff system. The former special rules governing the movement of trains between Hector and Field have been cancelled and the company's standard and air brake rules now apply between those points.

Cameron-Chappelle, Ltd., has been incorporated under the Dominion Companies Act with a capital of \$80,000 and offices at Ottawa, Ont., for the purpose of carrying on throughout Canada and elsewhere the business of contractors. The company is authorized to enter into contracts or agreements for the construction of lines of railway, telegraphs, canals, bridges, etc. The provisional directors are: C. S. Cameron, J. W. Chappelle, Port Arthur, Ont.; W. A. Cameron, A. L. McDougall, J. A. Cameron, Ottawa, Ont.

"AMERICAN"

Locomotive Cranes



With or without Magnet for Storekeeper's yard.

Built for discriminating buyers.

Photographs of machines in operation furnished on application.

We also manufacture the "AMERICAN" Railroad Ditcher.

AMERICAN HOIST & DERRICK CO.

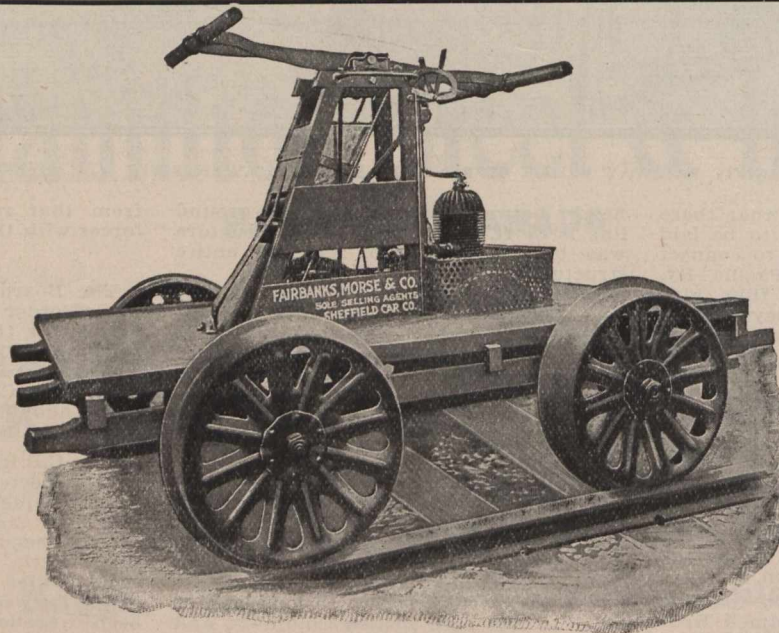
ST. PAUL, U.S.A.

CHICAGO

NEW YORK

PITTSBURG

NEW ORLEANS



No. 13 Fairbanks-Morse Gasoline Hand Car

COMBINATION HAND POWER AND GASOLINE POWER SECTION CAR.

A FAIRBANKS MORSE SECTION CAR will prove itself the best investment on the road. The men start to work strong and fresh and will do a better day's work when they know they can rest on the way back. Sections can be lengthened. Speed 15—18 miles an hour. 5 h. p. air cooled gasoline engine.

THE CANADIAN FAIRBANKS CO., LTD.

MONTREAL ST. JOHN, N.B. TORONTO WINNIPEG CALGARY VANCOUVER

C.P.R. Annual Report.

Following is the 28th annual report addressed to the shareholders over the signature of the President, Sir Thos. G. Shaughnessy:

The accounts for the year ended June 30, 1909, show the following results:

Gross earnings	\$76,313,320 96
Working expenses	53,357,748 06
Net earnings	\$22,955,572 90
Net earnings of steamships in excess of amount included in monthly reports	399,909 50
Interest on deposits and loans	\$545,098 76
Interest due from Duluth, South Shore and Atlantic Ry. on consolidated bonds held by the Co. \$604,280 00	
Less advanced by company	464,280 00
Interest from Minneapolis, St. Paul & Sault Ste. Marie Ry. on bonds held by company	159,720 00
Interest from Mineral Range Rd. on bonds held by company	50,160 00
Interest from Montreal & Atlantic Ry., and on other bonds held by company	58,484 70
Dividend on St. John Bridge & Ry. Extension Co. stock held by company	50,000 00
Dividend on Canada North-West Land Co. stock, held by company	28,125 00
Dividend on Alberta Ry. & Irrigation Co. stock, held by company	69,376 94
Dividends on Minneapolis, St. Paul & Sault Ste. Marie Ry. preferred and ordinary stocks held by company	805,613 00
	1,906,578 40
	\$25,262,060 80
Deduct fixed charges	9,427,032 74
Surplus	\$15,835,028 06
Deduct amount transferred to steamship replacement act. \$300,000 00	
Contribution to pension fund 80,000 00	
	880,000 00
	\$14,955,028 06
From this there has been charged a 1/2-yearly dividend on preference stock of 2%, paid April 1, 1909	\$1,053,933 32
And a 1/2-yearly dividend on ordinary stock of 3%, paid April 1, 1909	4,500,000 00
	5,553,933 32
	\$9,401,094 74
From this there has been declared a second 1/2-yearly dividend on preference stock of 2%, payable Oct. 1, 1909	\$1,053,933 32
And a second 1/2-yearly dividend on ordinary stock of 3%, payable Oct. 1, 1909	4,500,000 00
	5,553,933 32
Leaving net surplus for year	\$ 3,847,161 42
In addition to the above dividends on ordinary stock, 1% was declared from interest on land funds.	
The working expenses for the year were 69.92% of the gross earnings, and the net earnings 30.08% as compared with 69.47 and 30.53% respectively in 1908.	
Four per cent. consolidated debenture stock to the amount of £2,727,340 was created and sold, and, of the proceeds, £129,848 was used to increase the fleet of steamships on the Pacific coast; £1,861,835 was applied to the construction of branch lines, and the balance, £735,657, was devoted to the acquisition of the bonds of other railway companies whose lines constitute a portion of the system, the interest on which had been guaranteed by the Company.	
Four per cent. preference stock to the amount of £800,000 was created and sold, one-half of the proceeds being used for the purchase of a controlling interest in the shares of the Alberta Ry. and Irrigation Co., and the balance to meet capital expenditures that had previously been sanctioned.	
A guarantee of interest was endorsed on 4% consolidated mortgage bonds of the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. to the amount of \$1,600,-	

000, issued and sold to meet the cost of constructing 80 miles of railway added to that company's system.

The total area of agricultural lands sold during the year was 376,046 acres, at an average price of \$13.52 per acre, but this included 69,963 acres of irrigated land that brought an average of \$24.71 per acre. If this area be deducted from the total sales, the average price realized from the balance of the lands was \$10.96 per acre. The irrigation canals and ditches in what is known as the Western Block, containing approximately 995,000 acres, of which 353,000 acres are irrigable, are now practically finished, and, while the cost of the work was in excess of the original estimate, the Directors are very much gratified by the result. It is now apparent that within the next few months all the lands in this block will have been sold at satisfactory prices, and another season most of the block will be occupied by settlers. Thus you will receive a large volume of traffic from an area on the main line east of Calgary, containing 1500 square miles, that was previously considered unfit for agricultural purposes. The Directors are now considering the desirability of extending the irrigation system to the Central Block of about one million acres.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. Co., having acquired a majority of the outstanding shares of the common stock of the Wisconsin Central Ry. Co., made an agreement for a lease of that company's railway for 99 years, undertaking to pay by way of rental 4% per annum on the preference stock, amounting to \$12,500,000, of which \$1,232,895 is in the company's treasury. It is evident that this transaction will materially benefit the M.S.P. & S.S.M. Ry. Co., in which the C.P.R. has such a substantial interest.

In January last the Directors sold in the market the small residue of the last issue of common stock, amounting to \$3,984,000. The sale yielded a premium of \$2,394,779, which will be used for additions and improvements to the company's property.

The Directors desire approval of the investment of \$5,172,900 of the surplus earnings in 34,486 shares of the common stock and 17,243 shares of preferred stock of the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co., subscribed for at par when that company increased its capital stock, this being the C.P.R. pro rata proportion of the issue.

The Company has acquired all the capital stock of the Orford Mountain Ry. Co., whose railway connects with its system at Eastman, Que. The Orford Mountain Ry. Co. owns 58 1/2 miles of railway, against which there are outstanding bonds at the rate of \$12,000 a mile, or \$702,000 in all. The consideration for the transfer of the stock and a lease of the railway for 999 years is the guarantee by the C.P.R. of the payment of the interest on these bonds at the rate of 4% per annum. The lease will be submitted for approval.

In the last three years the C.P.R. system in Canada has been extended 1,101 miles, viz.: from 8,777 to 9,878 miles, and work is progressing on 403 additional miles, most of which will be completed this autumn. A considerable portion of this mileage was constructed through new and sparsely settled districts where railway communication was required to encourage settlement, and, while satisfactory progress is being made, a little time must necessarily elapse before the territory served by the lines will be so developed as to yield the average amount of traffic, but meantime, of course, the additional mileage has increased the fixed charges and operating expenses.

The year was a particularly trying one to those engaged in the steamship trade, and there was a shrinkage in the com-

pany's net revenue from that source of over \$700,000. Nevertheless the directors decided to appropriate to the steamship replacement fund the same amount as in 1908, namely, \$800,000.

The undermentioned directors will retire from office at the approaching annual meeting. They are eligible for re-election: D. McNicoll, C. R. Hosmer, Hon. R. Mackay, J. Dunsmuir.

CONDENSED BALANCE SHEET.

Railway and equipment	\$302,196,637 71
Ocean, lake and river steamships	18,085,886 38
Acquired securities (cost)	63,153,544 46
Payments on subscriptions to Minneapolis, St. Paul & S. S. Marie Ry. stock	1,221,139 20
Properties held in trust for company	5,566,632 72
Deferred payments on land and town site sales	16,353,673 94
Advances to lines under construction	3,964,846 69
Advances and investments	6,474,828 60
Material and supplies on hand	10,669,440 33
Current assets:	
Agents' and conductors' balances	\$1,612,507 58
Net traffic balances	124,975 63
Miscellaneous accounts receivable	3,953,596 70
	5,691,079 91
Temporarily invested in Dominion Govt. securities	4,861,901 53
Cash in hand	21,078,812 94
	\$459,318,424 41
Note.—In addition to above assets, the company owns 8,437,594 acres of land in Manitoba, Saskatchewan and Alberta (average sales past year \$13.52 per acre) and 4,503,505 acres in British Columbia.	
Capital stock	\$150,000,000 00
4% preference stock	52,696,665 71
4% consolidated debenture stock	128,930,132 52
Mortgage bonds:	
First mortgage, 5%	\$34,998,633 33
Canada Central Ry., 6%	973,333 33
Algoma branch, 1st mortgage	3,650,000 00
	39,621,966 66
Current liabilities:	
Audited vouchers	\$6,061,791 08
Pay rolls	3,544,886 05
Miscellaneous accounts payable	4,056,900 50
	13,663,577 63
Interest on funded debt and rental of leased lines:	
Coupons due July 1, 1909, and including coupons overdue not presented	\$1,204,840 69
Accrued fixed charges	198,723 79
	1,403,564 48
Equipment obligations	1,630,000 00
Equipment replacement fund	974,014 70
Steamship replacement fund	3,140,666 67
Appropriation for additions and improvements	3,530,499 78
Reserve fund for contingencies	995,238 73
Land grant:	
Sales of land and town sites	27,567,267 44
Surplus	35,164,830 09
	\$459,318,424 41
FIXED CHARGES FOR YEAR ENDED JUNE 30.	
1st mortgage bonds 5%	\$1,749,931 66
Canada Central Ry. 2nd mortgage 6% bonds	53,400 00
St. Lawrence & Ottawa Ry. 4% 1st mortgage bonds	38,933 34
Man. So. West Col. Ry., 1st mortgage 5% bonds	127,200 00
Toronto, Grey & Bruce Ry. rental	140,000 00
Ontario & Quebec Ry. debenture stock 5%	975,129 56
Ontario & Quebec Ry. ordinary stock 6%	120,000 00
Atl. & Nor. West. Ry. 1st mortgage bonds (less Government propn.)	229,983 34
Algoma Branch 5% 1st mortgage bonds	182,500 00
Rental, Calgary & Edmonton Ry.	138,357 60
" Farnham to Brigham Jct.	1,400 00
" Mattawamkeag to Vanceboro.	23,800 00
" New Brunswick Ry. System	372,829 74
" Terminals at Toronto	27,932 39
" Terminals at Hamilton	33,812 80
" Hamilton Jct. to Toronto	42,062 34
" St. Stephen & Milltown Ry.	2,050 00
" Lindsay, Bobcaygeon & Pontypool Ry.	2,145 52
" St. Marys & Western Ontario Ry.	4,610 41
" Joliette & Brandon Ry.	5,000 00
" Lachine Canal branch	854 16
Interest on Montreal & Western Ry. purchase	17,217 09
Interest on equipment obligations	98,251 48
4% CONSOLIDATED DEBENTURE STOCK.	
Interest from July 1, 1908	\$4,928,057 32
Interest from Jan. 1, 1909	114,573 99

NOVA SCOTIA STEEL AND COAL CO.

MANUFACTURERS OF

LIMITED

Railway and Electric Car Axles, Angle Bars and Tie Plates, Railway Spikes

Tee Rails 12, 18, and 28 lb. per yard

ALL SIZES BAR STEEL FOR CAR-BUILDERS' USE. Spring, Machinery, Tire, Angles, and Merchant Bar Steel. Heavy Forgings of all Descriptions.

SCOTIA PIG IRON Also Miners and Shippers of the Famous Old Mines "SYDNEY" COAL

High in Carbon—Low in Ash. The best Steam Coal for Locomotive, Steamship, and Stationary Boilers.

Works at
NEW GLASGOW AND SYDNEY MINES, NOVA SCOTIA.

Collieries at
SYDNEY MINES

FOR PRICES AND OTHER PARTICULARS APPLY TO

Head Office : NEW GLASGOW, N. S.

POLSON IRON WORKS

LIMITED

TORONTO, CANADA

Steel Shipbuilders, Engineers — and Boilermakers —

Hydraulic and Dipper Dredges, Steel and Composite Steamers and Yachts, Marine and Stationary Engines and Boilers. . . .

OFFICE AND WORKS

ESPLANADE STREET EAST, TORONTO

	\$5,042,631 31
Less received from subsid-	
Northern Colonization Ry.	8,000 00
	<u>5,034,631 31</u>

RECEIPTS AND EXPENDITURES.
 Cash in hand, June 30, 1908 \$18,821,630 21

RECEIPTS.

Surplus revenue as per statement...	14,955,028 06
Land department—	
Lands and townsites:	
Net proceeds of sales	\$6,524,137 77
Less amounts remaining in deferred payments	5,811,743 71
	<u>712,394 06</u>
Collection of deferred payments of previous years' sales	3,480,735 56
	<u>4,193,129 62</u>

Capital stock:	
Subscription to \$24,336,000.00 additional ordinary stock.	
Remaining instalments and premium on unsubscribed stock sold	\$4,601,338 88
Sale of \$3,984,000 ordinary stock	6,378,779 08
	<u>10,980,117 96</u>
4% preference stock—	
Amount realized from issue £800,000	3,806,128 93
Consolidated debenture stock—	
Amount realized from issue £2,727,340	13,343,870 31
	<u>\$66,099,905 09</u>

Deduct—	
Advances to lines under construction	\$3,964,846 69
Advances and investments	6,474,828 60
Current assets	5,691,079 91
	<u>\$16,130,755 20</u>
Less amount at June 30, 1908	15,123,961 29
	<u>1,006,793 91</u>

EXPENDITURES.

Dividends on preference stock—	
2% paid Oct. 1, 1908	\$ 976,066 65
2% paid April 1, 1909	1,053,933 32
	<u>\$2,029,999 97</u>
Dividends on ordinary stock—	
3 1/2% paid Oct. 1, 1908	4,258,800 00
3 1/2% paid April 1, 1909	5,250,000 00
	<u>9,508,800 00</u>
Properties held in trust for company	910,552 76
Construction of acquired and branch lines	4,370,405 83
Additions and improvements, main line and branches	9,178,764 32
Additions and improvements, leased and acquired lines	2,219,103 90
Rolling stock, shops and machinery	6,347,826 69
Ocean, lake and river steamships—	
Fitting Atlantic steamships for passenger service, and providing facilities at Liverpool and Montreal	\$ 55,251 53
Additional steamships and appurtenances for Pacific coast service	579,482 57
Additional river steamers and barges	112,223 57
Completing equipment of two new steamers	22,083 48
	<u>\$769,041 15</u>
Less sale of steamships R. P. Rithet and Transfer, and balance account sale of s.s. Athenian	22137 93
	<u>746,903 22</u>

	\$65,093,111 18
--	-----------------

SECURITIES ACQUIRED:

Berlin, Waterloo, Wellesley and Lake Huron Ry., 1st mortgage bonds	\$ 426,000 00
Calgary and Edmonton Ry., 1st mortgage bonds	1,000,000 00
Manitoba and North Western Ry., 1st mortgage bonds	1,454,200 00
Northern Colonization Ry., 1st mortgage bonds	700,000 00
Alberta Ry. and Irrigation Co., ordinary stock	2,135,361 22
Kingston and Pembroke Ry., ordinary stock	3,748 10
Minneapolis, St. Paul and Sault Ste. Marie Ry., ordinary stock	125 00
	<u>5,719,434 32</u>

Less received from Canada North West Land Co. on 5,625 shares ordinary stock	22,500 00
	<u>5,696,934 32</u>
Subscription to Minneapolis, St. Paul and Sault Ste. Marie Ry., ordinary stock	1,221,139 20
Payments of equipment obligations	282,987 26
	<u>42,513,417 47</u>

DEDUCT:

Decrease in material and supplies on hand	441,402 25
Increase in current liabilities	2,919,618 51
	<u>3,361,020 76</u>

Temporarily invested in Dominion Government securities	4,861,901 53
Cash in hand	21,078,812 94
	<u>\$65,093,111 18</u>

EXPENDITURES ON ADDITIONS AND IMPROVEMENTS FROM JULY 1, 1908, TO JUNE 30, 1909.

MAIN LINE.

QUEBEC TO BONFIELD:

Additional sidings, buildings, stations and yards	\$ 106,371 44
Permanent bridges and improvements of line	214,599 40
	<u>\$320,970 84</u>

MONTREAL TERMINALS:

Additional sidings, buildings, stations and yards	259,582 55
Permanent bridges and improvements of line	331,888 45
Wharves, docks and warehouses	3,070 54
Telephone dispatching equipment	7,884 37
	<u>602,425 91</u>

PORT ARTHUR TO LAGGAN:

Additional sidings, buildings, stations and yards	654,111 19
Permanent bridges and improvements of line	587,414 07
Winnipeg station and hotel	9,888 28
Winnipeg shops	52,404 19
Winnipeg terminals	45,508 13
Wharves, docks and warehouses	273,451 93
Double tracking	1,835,885 93
Telephone dispatching equipment	64,697 80
Right of way	9,102 66
	<u>3,532,464 18</u>

LAGGAN TO VANCOUVER:

Additional sidings, buildings, stations and yards	347,800 46
Permanent bridges and improvements of line	267,556 81
Field Hill revision of line	696,873.88
Wharves, docks and warehouses	217,948 53
Right of way	237 80
	<u>1,530,417 48</u>

Less sale of property at Vancouver	369,893 75
	<u>1,160,523 73</u>
VICTORIA HOTEL	38,134 24
LAKE LOUISE HOTEL	16,682 91
	<u>\$6,510,164 42</u>

BRANCH LINES.

South Western branch	\$ 3,962 78
Stonewall branch	Cr. 220 59
Selkirk branch	36,632 95
Emerson branch	7,121 93
Nakusp and Slocan branch, Cr.	133 01
Revelstoke and Arrow Lake branch	18,823 37
Snowflake branch	3,269 40
Waskada branch	2,794 65
Buckingham branch	17 06
St. Lin branch	25 10
St. Eustache branch	266 71
Lake Temiskaming branch	455 43
McGregor branch	978 83
Mission branch	131,083 08
Arcole—Regina branch	1,262 12
Pheasant Hills branch	827 66
North Star branch	1,326 25
Darlingford branch	340 92
St. Marys and Western Ontario Ry.	66 42

SOURIS BRANCH:

Additional sidings, buildings, stations and yards	\$ 72,456 32
Permanent bridges and improvements of line	203,592 23
Right of way	605 02
	<u>276,653 57</u>

ALGOMA BRANCH:

Additional sidings, buildings, stations and yards	39,656 86
Permanent bridges and improvements of line	47,221 91
	<u>86,878 77</u>

CROWS NEST PASS BRANCH:

Additional sidings, buildings, stations and yards	98,892 66
Permanent bridges and improvements of line	45,465 09
Right of way	529 57
	<u>144,887 32</u>

CROWS NEST PASS BRANCH:

McLeod—Lethbridge deviation	1,438,729 24
-----------------------------	--------------

BRITISH COLUMBIA SOUTHERN RY.:

Additional sidings, buildings, stations and yards	55,171 46
Permanent bridges and improvements of line	245,773 13
Wharves, docks, and warehouses	1,333 21
Right of way	439 85
Balfour extension	79 46
Yahk branch	10,566 09
	<u>313,363 20</u>

	\$2,469,413 16
--	----------------

Telegraph extensions and additions	42,330 40
Office building, London, Eng.	3,520 51
rented and temporary sidings	153,335 83
	<u>\$9,178,764 32</u>

EARNINGS FOR YEAR ENDED JUNE 30, 1909.

Passengers	\$20,153,000 83
Freight	48,182 520 11
Mails	778,822 35
Sleeping cars, express, elevators, telegraph and miscellaneous	7,198,977 67
	<u>\$76,313,320 96</u>

WORKING EXPENSES FOR YEAR ENDED JUNE 30, 1909.

Transportation expenses	\$25,568,989 65
Maintenance of way and structures	10,074,049 04
Maintenance of equipment	11,080,886 50
Traffic expenses	2,123,860 02
Parlor and sleeping car expenses	461,433 37
Expenses of lake and river steamers	753,988 88
General expenses	2,356,402 99
Commercial telegraph	933,137 61
	<u>\$53,357,748 06</u>

EQUIPMENT AT JUNE 30, 1909.

Locomotives	1,478
First and second class passenger cars, baggage cars and colonist sleeping cars	1,461
First class sleeping, dining and cafe cars	275
Parlor cars, official and paymasters' cars	60
Freight and cattle cars (all kinds)	47,748
Conductors' vans	797
Boarding, tool and auxiliary cars and steam shovels	3,013

OCEAN, LAKE AND RIVER STEAMERS.

Atlantic Service—Empress of Britain, Empress of Ireland, Lake Manitoba, Lake Champlain, Lake Michigan, Mount Temple, Montcalm, Montfort, Lake Erie, Montrose, Montreal, Milwaukee, Mount Royal, Montezuma, Monmouth, Cruiser.

Pacific Service—Empress of India, Empress of Japan, Empress of China, Montague.

Pacific Coast Service—Amur, Beaver, Charmer, City of Nanaimo, Czar, Joan, Nanoose, Otter, Princess Beatrice, Princess Charlotte, Princess Ena, Princess May, Princess Royal, Princess Victoria, Tees, Transfer No. 1, Transfer No. 2, Queen City.

Upper Lake Service—Manitoba, Athabasca, Alberta, Keewatin, Assiniboia.

British Columbia Lake and River Service—Aberdeen, Hosmer, Kokanee, Minto, Moyie, Nelson, Rossland, Kuskanook, Columbia, Okanagan, Proctor, Sandon, Slocan, York, Kootenay, Valhalla, Ymir, Whatshan.

Ferry Service—Michigan, Ontario.

DESCRIPTION OF FREIGHT FORWARDED.

	1907-08.	1908-09.
Flour, barrels	5,843,988	6,683,354
Grain, bushels	88,345,234	97,236,150
Live stock, head	1,349,771	1,371,873
Lumber, feet	1,764,445,495	1,726,944,584
Firewood, cords	249,605	249,628
Manufactured articles, tons	3,981,888	4,425,241
All other articles, tons	5,102,116	5,916,248

FREIGHT TRAFFIC.

	1907-08.	1908-09.
Number of tons carried	15,040,325	16,549,616
Number of tons carried one mile	5,865,089,008	6,372,269,174
Earnings per ton per mile	0.75 cents.	0.76 cents.

PASSENGER TRAFFIC.

	1907-08.	1908-09.
No. of passengers carried	9,463,179	9,784,450
No. of passengers carried one mile	1,052,010,356	1,071,149,528
Earnings per passenger per mile	1.89 cents.	1.88 cents.

TRAIN TRAFFIC STATISTICS.

TRAIN MILEAGE.

	1908-09.	1907-08.
Passenger trains	14,170,522	13,196,093
Freight trains	18,816,900	17,788,649
Mixed trains	1,932,776	1,798,673
	<u>34,920,198</u>	<u>32,783,415</u>

CAR MILEAGE.

PASSENGER—

	1908-09.	1907-08.
Coaches and P. D. and S. cars	67,763,387	63,744,049
Combination cars	2,763,961	2,375,441
Baggage, mail and express cars	30,545,494	26,689,471
	<u>101,070,842</u>	<u>93,308,961</u>

FREIGHT—

Loaded	363,036,580	327,388,310
Empty	108,873,650	94,125,570
Caboose	20,048,637	18,735,988
	<u>491,958,867</u>	<u>440,249,868</u>

Total freight cars per traffic train mile	6.28	6.22
Freight cars per traffic train mile	23.71	22.48

N. CURRY, President
N. A. RHODES, Vice-President

CAPITAL \$1,000,000

J. M. CURRY, Sec.-Treas

RHODES, CURRY COMPANY, LIMITED

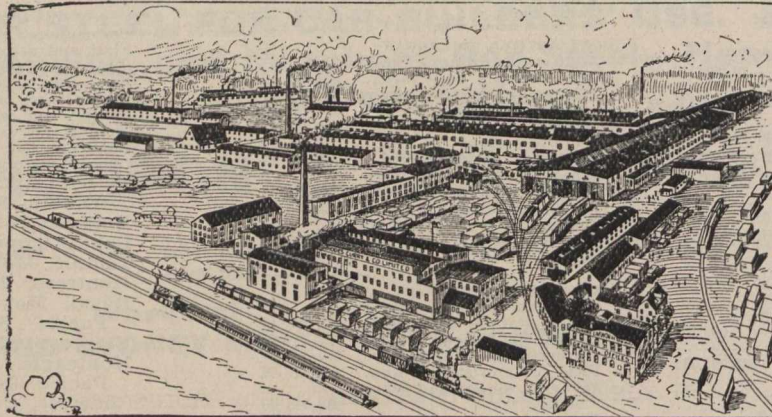
AMHERST, NOVA SCOTIA

RAILWAY AND STREET CARS

SPECIAL CARS FOR ALL PURPOSES

Capacity per Month

- 300 Freight Cars
- 4 Passenger Cars
- 4 Snow Plows
- 3,000 Car Wheels



Capacity per Month

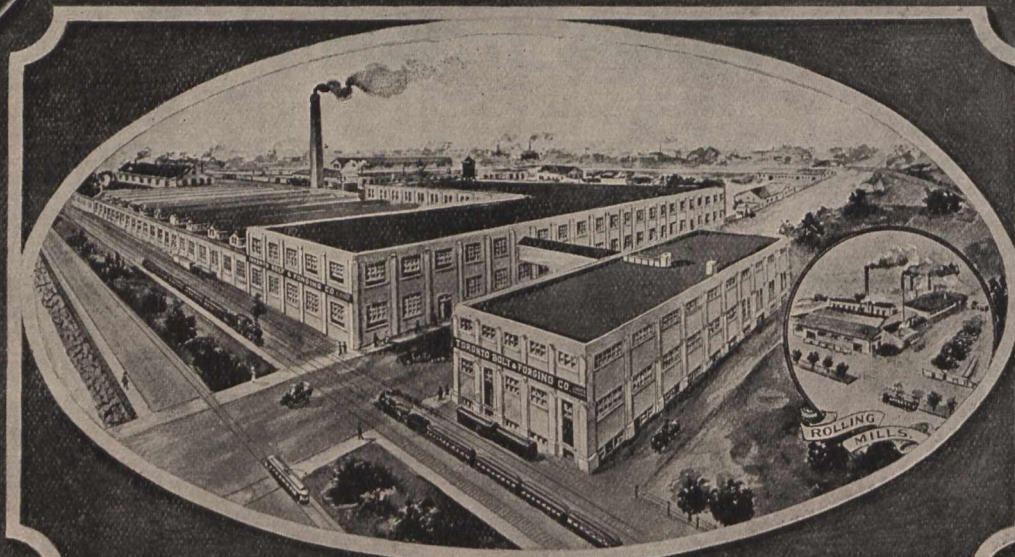
- 2,500 Car Axles
- 500 Tons Castings
- 1,000 Tons Forgings
- 1,000 Tons Bar Iron and Steel

Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

MAKERS OF BOLTS OF ALL KINDS

N
U
T
S

R
I
V
E
T
S



TORONTO BOLT AND FORGING CO. LIMITED
TORONTO, CANADA.

PASSENGER TRAFFIC.

	1908-09.	1907-08.
Passengers carried (earning revenue)	9,675,075	9,334,811
Passengers carried (earning revenue) one mile	1,058,912,909	1,038,393,535
Average journey per passenger	108,750	112,716
Average amount received per passenger	2.04	2.08
Average number of passengers per train mile	65.76	69.25
Revenue from passengers per passenger car mile	15.01	15.58
Total passenger train earnings per train mile	27.96	29.15
Total passenger train earnings per mile of road	1.49	1.56
Total passenger train earnings per mile of road	2,456.20	2,537.42

FREIGHT TRAFFIC.

	1908-09.	1907-08.
Tons of revenue freight carried one mile	6,210,086,958	5,699,092,014
Tons of non-revenue freight carried one mile	995,000,557	984,489,076
Total tons (all classes) freight carried one mile	7,205,087,515	6,683,581,090
Average amount received per ton per mile of revenue freight	0.760	0.755
Average no. of tons of revenue freight per train mile	299.29	290.96
Average no. of tons of non-revenue freight per train mile	47.95	50.26
Average no. of tons (all classes) freight per train mile	347.24	341.22
Average no. of tons of revenue freight per loaded car mile	17.11	17.41
Average no. of tons of non-revenue freight per loaded car mile	2.74	3.01
Average no. of tons (all classes) freight per loaded car mile	19.85	20.42
Freight train earnings per loaded car mile	13.00	13.14
Freight train earnings per train mile	2.27	2.20
Freight train earnings per mile of road	4,845.52	4,671.13

STATEMENT, PENSION DEPARTMENT, TO JUNE 30, 1909.

Balance at June 30, 1908	\$657,345 60
Amount contributed by company for year	80,000 00
Amount received as interest	36,421 62
	\$773,767 22
Payment of pension allowances for year	93,449 36
Balance in cash and investments	\$680,317 86
NUMBER ON PENSION ROLL AT JUNE 30, 1909.	
Under 60 years of age	38
Between 60 and 70 years of age	200
Over 70 years of age	123
Total	361

The Daldry Engineering and Construction Co., Ltd., has been incorporated under the Manitoba Companies' Act with a capital of \$20,000 and offices in Winnipeg, for the purpose of carrying on the business of contractors of all kinds of work and construction. The provisional directors are: C. G. Stewart, F. A. Tallman, J. E. Robertson, A. H. S. Murray and H. M. Kennedy, Winnipeg.

A party of editors of U.S. agricultural papers, which recently toured the Canadian Northwest, at the invitation of the Canadian Northern Ry., in expressing their appreciation for the courtesies extended to them, state:—"Not only have we viewed a long succession of rich farming districts, with bumper crops of wheat, oats and barley, but also the evidences of one of the most remarkable instances of railway building in history. No such instance of rapid and substantial railway development and opening of vast tracts of agricultural land to the people is on record, even in this day of quick and gigantic accomplishment."

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

Tobique and Campbellton Ry.—At the last session of the New Brunswick Legislature an Act was passed repealing sections 5 and 8 of the act of incorporation, and substituting others therefor. The new section 5 fixes the capital stock at \$89,000 and the new section 8 authorizes the company to issue bonds or debentures to the extent of \$15,000 a mile of railway to be constructed.

Aroostook Jct., Me.—We are advised that the company has so strengthened its bridges and track north of Woodstock, N.B., that this fall it will be able to run its heavy locomotives to Aroostook Jct., so that instead of running north and south from Woodstock, as at present, they will run through from McAdam to Aroostook Jct. This will cut Woodstock out as a divisional point, simply leaving it a turn-around-point for trains to and from Fredericton over the Gibson branch. At present the company is erecting a 6-stall standard no. 3 locomotive house, putting in a 70 ft. turntable, erecting a bunk house for engineers, a large boarding house for the employes and two double cottages for the accommodation of employes who are to be removed there on the completion of the work. The company is also increasing the yard accommodation at Aroostook Jct. by extending three through sidings, building two new through sidings and two running tracks, and is erecting a standard no. 2 freight shed.

Presque Isle, Me.—A contract has been let to A. E. Hamilton for the erection of a new freight shed, 120 by 30 ft., at Presque Isle, Me.

Sherbrooke, Que.—Work for the new buildings which the company has undertaken to erect at Sherbrooke, Que., is going on rapidly. The first structure to be erected is the coal chute. It is 28 by 31 ft., is 60 ft. high, and stands between the two tracks so that the engines can be loaded on either side at the same time. The rise from the tracks for the cars is 6 ft., and the coal being dumped out will be carried upwards by means of elevator buckets. The foundation will be of reinforced concrete and the superstructure of iron and spruce. The locomotive house will be of concrete reinforced, and will have accommodation for six locomotives. At the rear of the locomotive shed will be a machine shop and offices for the locomotive foreman, etc. A store and oil house will be erected in close proximity to these buildings. The present coal chutes will be removed and the site used as part of the site for the new passenger station, which will be 110 by 35 ft. The foundation will be of concrete, with brick walls and slate roofing. There will be four entrances to the building, which will be laid out very much in the style of the present union station. A platform, very much longer than the present one, will be erected.

Northern Colonization Ry.—A no. 4 standard passenger station at Val Barrette, on the extension of this line from Nominig, Que., has been completed.

The Chief Engineer of the Board of Railway Commissioners recently made an inspection of the completed portion of the extension of this line from Nominig towards Maniwaki, the present terminus of the Ottawa and North Western Ry. up the Gatineau Valley. The line has been constructed as far as Duhamel, about 25 miles northwest of Nominig. It is expected that the extension to Maniwaki will be completed next summer.

Windsor St. Station, Montreal.—A contract has been let to C. E. Deakin for the construction of the pier foundations for the enlargements planned at this station. Work was started Sept. 13. The foundations will consist of concrete pillars sunk down to the solid rock, which is at a depth varying from 15 to 40 ft. It is desired to have the piers completed so that the actual work of erecting the

building may be started at the earliest possible moment in the spring.

Ottawa Northern and Western Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of the authorized extension of this line from the present northwesterly terminus at Waltham, Que., crossing the Ottawa River at Allumette Island, to Pembroke, thence northwesterly passing south of Lake Nipissing to Sault Ste. Marie; also for the construction of a branch from Waltham northwesterly through the province of Quebec to Pontiac county; also for the construction of a line from Shawville, Que., westerly across the Ottawa River, through the county of Renfrew to Pembroke, Ont.

Wharf at Brockville, Ont.—The company, as lessees of the Brockville and Ottawa Ry., has deposited with the Department of Public Works at Ottawa plan and description of the site of an alteration in a wharf extending westerly from the east limit of Ferry St., Brockville, for which the approval of the Government is asked.

Kingston and Pembroke Ry.—We are advised that beyond ballasting and generally putting the line in better condition, the company has not any extensions in contemplation, nor are any improvements in progress.

Campbellford, Lake Ontario and Western Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a line from the C.P.R. between Blairton and Ivanhoe stations, Ont., southwesterly through Peterborough, Hastings and Northumberland counties to Cobourg, thence westerly and northwesterly through Northumberland, Durham, Ontario and York counties to the C.P.R. between Locust Hill and Leaside Jct. stations, passing through Campbellford, Warkworth, Cobourg, Port Hope, Newcastle, Bowmanville, Oshawa and Whitby.

Georgian Bay and Seaboard Ry.—Plans have been filed at the registry office at Lindsay, Ont., for a section of this proposed railway from Georgian Bay to a junction with the main line in the vicinity of Peterboro, Ont. The line has been constructed from Victoria Harbour to Coldwater, where it joins the C.P.R. Toronto-Sudbury line, and the plans now deposited are for the portion of the line in Victoria county.

West Toronto Improvements.—We are advised that the following buildings are under construction or will be erected this year at West Toronto: Extension to erecting and machine shops, 128 ft. by 139 ft. 5 in.; of concrete, brick and steel construction. Office building for car checkers, etc., 30 by 50 ft., one story brick building. Enlargement of 8-stall locomotive house, by the addition of an additional three stalls, each 80 ft. long, concrete and steel construction. Locomotive foreman's office, 24 by 24 ft., one story wooden building.

West Ontario Pacific Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a line from London, Ont., northerly through Middlesex, or Oxford, Perth, Huron and Bruce counties to Lake Huron, in Bruce county.

Walkerton and Lucknow Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of this line from Lucknow to Wingham, Ont., and of a branch from Teeswater northwesterly to Kincardine, Ont.

South Ontario Pacific Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of lines from Woodstock, Ont., through Brantford, thence through Hamilton to the Niagara River, where connections may be made by ferry or

MOOSE OPEN SEASON

QUEBEC, - - September 1st to December 31st
NEW BRUNSWICK, - " 15th to November 30th
NOVA SCOTIA, - - " 16th to November 16th

WRITE FOR FREE PAMPHLET, DESCRIBING TERRITORY, GAME LAWS, &C., TO

General Passenger Department
INTERCOLONIAL RAILWAY
 MONCTON, N. B.

JAS. W. PYKE & COMPANY

CANADIAN REPRESENTATIVES

FRIED. KRUPP, ESSEN, GERMANY

Steel Rails.

Wrought Iron Steel-Tyred Disc Wheels

Locomotive and Car Wheel Tyres.

Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND
ELECTRIC RAILWAYS.

OFFICE: SOVEREIGN BANK BUILDING,
 232 ST. JAMES STREET,

MONTREAL

DOMINION IRON & STEEL CO.

LIMITED

MANUFACTURERS OF

BASIC OPEN HEARTH STEEL RAILS

Order Books are now open for delivery during 1909. Intending Purchasers should place orders early to insure prompt delivery.

HEAD OFFICES
 AND WORKS:

SYDNEY, CAPE BRETON, CANADA

bridge with railways in the U.S. from Hamilton to near Cooksville or Toronto, with extensions from some point of the authorized line by way of Embro and St. Marys to Lake Huron between Bayfield and Kincardine.

White Water, Man.—Tenders are under consideration for about 13,000 cubic yards of grading for a reservoir near White Water, Man.

Saskatoon to Wetaskiwin.—Tracklaying was started at the Hardisty end of the Wetaskiwin branch Aug. 27, the gang working easterly to meet the one working westerly from Sedgewick. The track is being laid with 85-lb steel, and it is expected that the work will be completed by the end of Sept., and that ballasting and other work will have been so far completed by Nov. 1 that a regular train service will be put on.

Lethbridge-MacLeod Cut-off.—Ballasting was started on this cut-off Sept. 1 and, as from 120 to 150 cars of ballast a day was being laid, the work was to be completed by the end of the month. In connection with the cut-off a new material yard will be put in seven miles west of Lethbridge which will handle all materials for the new line at present under construction northerly as far as Carmangay.

Strathcona-Edmonton Bridge.—The proposed bridge over the Saskatchewan River to carry the projected line to connect the C.P.R. line, now terminating at Strathcona, with Edmonton, Alta., will have a length, exclusive of approaches, of 2,684 ft., a width of 25 ft., and the floor of the bridge will be 295 ft. above high water mark. These dimensions are as the bridge is designed for a railway bridge exclusively, and the cost of the same is estimated at \$842,727. The desirability of constructing the bridge so as to accommodate general traffic has been under consideration by the company and the city council of Edmonton for some time. The estimated cost of the bridge designed to accommodate both railway and general traffic is \$1,428,793.

Fernie Yards.—The company is making extensive changes in the yards at Fernie, B.C. Several new sidings are being laid on the ground formerly used as a baseball and recreation park.

British Columbia Southern Ry.—The Board of Railway Commissioners has passed an order approving of the location of this railway from Michel to Kananaskis branch, mileage 30 to mileage 37.84. We are advised that no work has yet been done on this branch.

Esquimalt and Nanaimo Ry.—Tenders are under consideration for the grading and bridging on the Alberni branch from mileage 108 to Alberni, 27.5 miles. This section extends from the Little Qualicum River to Alberni. Some of the track has already been laid on the first section of the extension, at the Wellington end. Grading has been completed from Wellington to Nanoose, 12 miles, and from near Nanoose to French Creek, 13 miles. Between these two points there is some rock cutting that is not completed. On the old portion of the line between Victoria and Nanaimo the fencing and other work at Victoria West has been completed and the bridge has been once more thrown open for pedestrian traffic.

Puget Sound.—With reference to press reports that the company was about to construct a line to Puget Sound, D. McColl, Vice President, stated at Seattle, Aug. 30, that the C.P.R. had no intention of constructing such a line as long as the present tariff agreement with the Northern Pacific Rd. proved profitable.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—It has been announced that the Wisconsin Central Rd. shops at Fond du Lac, Wis., are to be enlarged and modernised. The work will include the construction of a new foundry and require considerable new machinery equipment. (Sept., pg. 639.)

Railway Commissioners' Traffic Orders.

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

M.C.R. SWITCHING CHARGES AT ST. THOMAS.

7767. Aug. 7.—Re application of Canada Iron Corporation, Ltd., for order directing the Michigan Central Rd. Co. to refund \$348, being amount of overcharge for tolls charged for switching cars to and from the applicant's works in St. Thomas, Ont., together with interest at 5% per annum on the excessive payments from the date of each payment down to the date the refund is made. Upon reading the application, the answer of the M.C.R. Co. and the report of the Chief Traffic Officer of the Board, it is ordered that the legal switching rate chargeable upon cars switched by the M.C.R. for applicant from the G.T.R. tracks to the applicant's works between July 19, 1907, and June 4, 1908, inclusive, was \$3 a car; and it is further ordered that the M.C.R. Co. be authorized to refund to the applicant, upon the aforesaid cars switched for it by the railroad company in the period July 19, 1907, to June 4, 1908, the difference between the legal rate of \$3 a car and the rate of \$6 a car as charged.

RATES ON CORN AND CORNMEAL.

7768. Aug. 7.—Re complaint of C. W. Stewart, of St. John, N.B., that he is unable to market cornmeal in consequence of an alleged discrimination in favour of his competitors and to his disadvantage, upon hearing the complaint at St. John, N.B., on Jan. 19, 1909, in the presence of complainant and counsel for the C.P.R. Co., and what was alleged, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the complaint be dismissed.

BINDER TWINE RATES FROM WELLAND.

7897. Aug. 10.—Re complaint of the Plymouth Cordage Co., of North Plymouth, Mass., and Welland, Ont., alleging that rates charged by the G.T.R., the M.C.R. and the Wabash Rd. on binder twine, in carload, from Welland to Canadian points west of Welland were unjustly discriminatory with respect to rates charged on the same article from Buffalo and Auburn, N.Y.; North Plymouth, Mass.; Detroit, Mich., and Chicago, Ill., and applying for an order directing a refund in connection with certain alleged overcharges; upon hearing the complaint in the presence of counsel for complainant, the Canadian Freight Association, the C.P.R. and the G.T.R. Cos., and what was alleged by counsel, it is ordered that the complaint be dismissed; and it is further ordered that the M.C.R. be authorized to refund to the applicant 2 c. per 100 lbs. in respect of four carloads of binder twine shipped by the applicant to Wallaceburg, Dresden and Wheatley, Ont., being the difference between the legal rate of 18c. per 100 lbs. and the rate of 20c. per 100 lbs. collected by the railway company on said shipments.

The Central Canada Railway and Engineering Club held its opening meeting for the season in Toronto, Sept. 21, when 26 new members were admitted. J. V. Jackson, Boiler Inspector G.T.R., Montreal, read a paper on the care and washing out of locomotive boilers, which is given in full on another page of this issue. The paper was fully discussed by A. M. Wickens, J. Duguid and others.

The Railway Agents' Association of the New England States, on their annual holiday outing, extending from Sept. 11 to Sept. 15, visited Montreal, Ottawa, Huntsville and Toronto, travelling by the G.T.R. and Richelieu and Ontario Navigation Co.'s routes.

C. P. R. Control of Orford Mountain Ry.

By reference to the C.P.R. annual report on another page it will be seen that the C.P.R. Co. has acquired all the O.M.R. Co.'s capital stock and also a lease of the line for 999 years. The O.M.R. Co. was incorporated by the Quebec Legislature in 1888. In 1901 the Dominion Parliament confirmed the provincial incorporation, and authorized the company to amalgamate with some other companies. In 1902 an act was passed granting an extension of time for the construction of the various lines authorised. The Dominion Parliament in 1890, 1899 and 1903 voted subsidies in aid of these lines. The company has constructed a line from Windsor Mills to Mansonville, Que., 55.10 miles, crossing the C.P.R. at Eastman Jct. It has also 2.30 miles of yard track and sidings. Its rolling stock on June 30, 1908, consisted of 3 locomotives, 4 passenger cars, 11 flat cars and 1 caboose. At the same date its outstanding capital stock was \$50,000, and it had issued bonds for \$702,000. It had received \$192,942.50 in subsidies from the Dominion Government and \$138,884.92 from the Quebec Government. The statistics showing the operations of the line for the year ended June 30, 1908, were published in our issues of April, pg. 241; May, pg. 323; and July, pg. 471.

The present officials of the O.M.R. are:—President, S. W. Foster, Knowlton, Que.; Sec. Treas., G. O. Stevens, Waterloo, Que.; Superintendent, Freight and Passenger Agent, A. C. Lytle, Eastman, Que.; Chief Engineer, R. K. Harris, Kingsbury, Que.

Canadian Northern Ry. Coal Interests.

Two companies have been incorporated under the Dominion Companies Act with offices at Toronto and the following provisional directors: G. G. Ruel, A. J. Reid, A. J. Mitchell, F. C. Annesley, and F. J. Buller, all associated with the Toronto offices of Mackenzie, Mann and Co., Limited. The titles of the two companies are Brazeau Collieries, Ltd., and Rocky Mountain Collieries, Ltd. Each is registered with a capital of \$1,000,000, and is authorized to acquire coal fields, mineral lands, timber rights, etc.; to carry on the business of mining for coal and other minerals, and to conduct a number of other businesses in connection therewith. These include the operation of wharves, docks, elevators, etc. The Brazeau Collieries will operate, it is said, an area of about 4,000 acres of coal bearing land situated on the Brazeau and McLeod rivers, about 175 miles west of Edmonton, Alta. The Rocky Mountain Collieries will operate on the Kananaskis River, south of the C.P.R. transcontinental line, and west of Calgary.

The Michigan Central Rd. has ordered 100 tons of steel sheet piling for coffer dam work in Canada.

The freight committee of the Regina, Sask., Board of Trade had a conference with various railway freight officials, Sept. 7, when a proposition was submitted for the consideration of the companies concerned, which it was considered would be acceptable to the shipper, providing for a reduction in freight charges, until such time as the Board of Railway Commissioners is able to dispose of the question of a standardized schedule of freight charges, or otherwise. W. B. Lanigan, Assistant Freight Traffic Manager C.P.R. Western Lines; R. E. Larmour, General Freight Agent C.P.R. Central Division, and G. H. Shaw, Traffic Manager C.N.R., dealt with the matter on behalf of the companies.

The Hudson's Bay Company



THE COMPANY OFFERS FOR SALE

Farming and Grazing Lands in Manitoba and the Northwest Territories

ON EASY TERMS OF PAYMENT

Town Lots for Sale at Winnipeg, Ft. William, Edmonton, Prince Albert, etc.

The Company has General Stores at Winnipeg, Vancouver, Calgary, Edmonton, and other places where purchasers will find the best of goods at moderate prices.

Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

Canadian Gold Car Heating & Lighting Co. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished.

Improved System of Acetylene Car Lighting.

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

H & E Patent Ball-Bearing Lifting Jacks

For Railway and Bridge Work, Contractors' and Builders' Use



Foot-Lift



For Convenience, Speed and General Efficiency these Jacks are Unequaled. Are fully guaranteed.

Being made of the best grades of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. Sizes from 8 to 50 tons now complete. Send for prices and discounts.



Square Base



Journal Jack



Plain

MANUFACTURED BY

H & E LIFTING JACK COMPANY

WATERVILLE, QUE.

Stock carried by Frothingham & Workman, Limited, Montreal

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction Betterments.

Alberta and Great Waterways Ry.—

We are advised that the only officers at present appointed are: President, W. R. Clarke, New York; Chief Engineer, J. A. L. Waddell, Kansas City, Mo.; General Manager, E. A. James, Winnipeg. The President recently returned from Europe, and we are advised that he was expected to visit Edmonton shortly thereafter to discuss the plans for construction with the other officers. The preliminary surveys for the line were made about two years ago, but no construction has been done. Labor is scarce all over the Western country at present, and it is not expected that very much, if any, construction will be done this year. (Aug., pg. 573.)

Alberta Central Ry.—An unconfirmed press report states that J. Grant Macgregor, formerly of Goderich, Ont., has been appointed Chief Engineer of this projected line, with office at Red Deer, Alta. (May, pg. 355.)

Alberta Ry. and Irrigation Co.—We are advised that steel is being laid on the first eight miles of the Raley branch, running south from Raley Jct. to Woolford, Alta. It is expected that this mileage will be opened in time for the movement of this season's wheat crop. Surveys were made for the construction of a branch southerly from near Spring Coulee in the winter of 1903-04, and during 1904 grading was completed for about seven miles. This work was done by the old St. Mary's River Ry., and, in 1905, when it was amalgamated with the Alberta Ry. and Irrigation Co., among the lines which the new company had power to construct was an extension of 16 miles from Raley Jct. to Kimball, and an extension thence to the International boundary, seven miles. (July, pg. 473.)

British Columbia Ry. & Development Co.—A company has been incorporated under Delaware state laws with the above title and offices at Wilmington, Del. The capital is named at \$12,000,000, and the provisional directors are: D. V. Wolkenstein, H. G. Willard, J. W. Howie, New York; S. T. Townsend, Wilmington. No information of the objects is given and nothing is said of the special field in which the company proposes to work.

We are advised that this company has been incorporated for the purpose of opening up and developing the great natural resources of British Columbia by means of steam railways. To this end the charter granted by the British Columbia Legislature in 1906 to the British Columbia and Northern Alaska Ry. has been acquired. This company is authorized to construct a line of railway from Vancouver, or a point on Burrard Inlet, to the northern boundary of the province by way of Lillooet, the Fraser Valley, Tacla Lake, Stikene River and Teslin Lake, or in the alternative by the most feasible route through the Chilcote Valley and via the Stikene River. Preliminary reconnaissances have partly been made and a survey party is to start soon to finish the survey to a point about 450 or 500 miles north of Vancouver. The company expects to be able to commence construction on or before March 1, 1910.

The officers of the company are: President, H. G. Willard; Vice President, W. G. Conklin; Treasurer, J. W. Howie; Secretary, W. C. Pratt; and the offices are at 34 Pine St., New York. (Aug., 1906, pg. 449.)

Canada and Gulf Terminal Ry.—The annual meeting of shareholders was held at Ste. Flavie, Que., Sept. 15, when all the arrangements in connection with the transfer of the Matane and Gaspé Ry.

Co.'s property, franchises, etc., as made by the directors, were confirmed and ratified. The general offices of the company, which will be situated in Montreal, will, it is said, be opened shortly. Following are the officers and directors for the current year:—President, M. J. O'Brien; Vice President, H. J. Lyons; other directors, J. A. O'Brien, Rev. A. A. Soucy, C. A. Gauvreau, M.P.; J. A. Ross, M.P.; D. Caron, M.L.A.; Secretary Treasurer, Rene Dupont.

The construction of lines between Ste. Flavie and Matane, Que., which are being built under the charter granted to the Matane and Gaspé Ry. Co., which has been acquired by this company, are officially stated to be proceeding rapidly, but no details are given. The first line to Little Metis will, it is said, be completed and opened for traffic for the summer of 1910, and the first section of the line from Ste. Flavie to Matane will, it is said, be opened for traffic in Dec., 1910. The contract, which was let by the original company to the H. J. Beemer Co., of Ottawa and New York, is now in the hands of H. Doheny, Montreal. (Sept., pg. 663.)

Canada Western Ry.—It was reported at Pincher Creek, Alta., Sept. 1, that a contract for the construction of the first 50 miles of this line is to be let this fall, and that work is to be started as early as possible in the spring. This 50 miles will consist of that part of the line from North Fork Pass to Pincher Creek. The survey party is at present located south-east of Pincher Creek, and is working towards the International boundary. F. B. Lynch, St. Paul, Minn., who is interested in this proposed line advised us, Sept. 17, that the promoters were not ready to give any information as to their plans, further than that no construction will be done this year. (Sept., pg. 649.)

Canadian Terminal Ry.—The New Brunswick Legislature at its last session amended the act incorporating this company by striking out the name of H. F. White as one of the provisional directors, and substituting the names of W. A. Mitchell and G. J. Clarke. The company was also authorized to construct the following additional lines: from L'Etang harbor to the St. John River, with a branch to connect such line with St. Stephen, and "such other branches as the company may deem proper." The act of incorporation, passed in 1907, authorized the construction of a railway from L'Etang harbor to the St. Croix River, and some unnamed branches, together with docks, wharves, etc. The act passed last session granted an extension of time for the construction of these lines. (June, pg. 413, and May, 1907, pg. 323.)

Chibougamau District, Que.—Speaking at St. Johns, Que., Sept. 6, the Provincial Premier stated that his Government would construct a railway to the Chibougamau district if the report of the mining authorities, who will be sent there to study the district, is that it is worth the heavy expense which would be involved. The Chibougamau district lies just over the height of land at the back of the Lake St. John district, and Chibougamau Lake is the southerly stretch of waters of which the Mistassini Lakes are the most important. J. G. Scott and others who were associated with him in the Quebec and Lake St. John Ry. obtained a charter from the Quebec Legislature for the construction of a railway from near Roberval into this new mining district, but no construction has been done. Another company was incorporated by the Quebec Legislature in 1907, to construct a line to the same district from Lake Temiskaming.

The Premier of Quebec announced Sept. 14 that at the next session of the Legislature he would submit a resolution authorizing the sending of an engineer-

ing party to the Chibougamau region to study its natural resources and the possibility of constructing a railway into it from Roberval.

(See Temiscamingue, Chibougamau and James Bay Ry., Aug., 1907, pg. 563.)

Delaware and Hudson Co.—Surveys are being made at Montreal with a view to the fixing of a site for the construction of another bridge over the St. Lawrence River. The probable location will be from the old wharf on the St. Lambert side to the guard pier on the Montreal side. It is reported that the surveys are being made in the interests of the Delaware and Hudson Co., which owns the Quebec, Montreal and Southern Ry. Another report states that the New York Central and Hudson River Rd. and the Rutland Rd. are to be associated with the D. and H. Co. in the construction of the bridge. (See Montreal Bridge and Terminal Co., July, pg. 479.)

Detroit River Tunnel.—The final section of the tunnel under the Detroit River being constructed by the Michigan Central Rd. was lowered into place Sept. 14. This section connects the tubes in the river bed with the shore on the Canadian side. The contractors state that the tunnel will be ready by Oct. 1 for a preliminary trip through it. (July, pg. 475.)

Fraser River Bridge.—The British Columbia Government has authorized the expenditure of a considerable sum upon improvements at the bridge over the Fraser River at New Westminster. The traffic floor will be replanked for the first time since the bridge was constructed in 1903-04. Tenders for this part of the work were received by the Department of Public Works, Sept. 11. The repainting of the bridge is proceeding, but it is not expected to be completed until early in 1910. The bridge is owned by the Provincial Government, and the train service over it is operated by the Great Northern Ry.

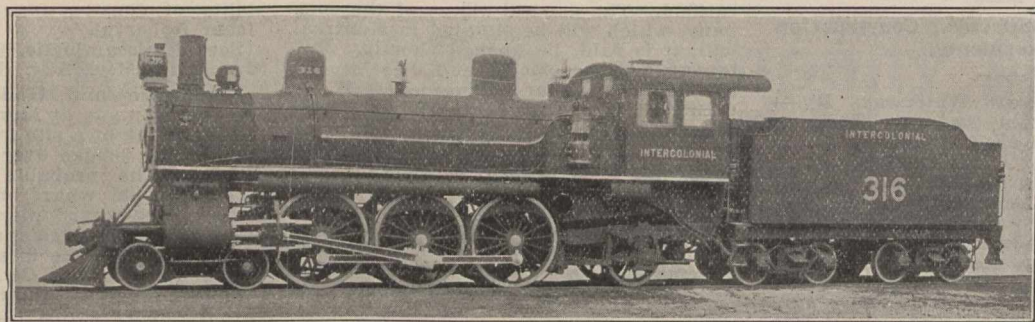
Halifax and South Western Ry.—We are advised that the contract for the construction of the branch from the main line to the Canada Iron Corporation's mines at Torbrook, N.S., has been let to the Nova Scotia Construction Co. The contract for the ore handling plant at Port Wade, described on page 632 of our Sept. issue, has been let in two sections; for the ore dock to Reid and Archibald, Halifax, and for the manufacture and erection of the handling plant to I. Matheson & Co., New Glasgow, N.S. (May, pg. 355.)

Hudson Bay and Pacific Ry.—The route map of this projected railway has been approved by the Department of Railways, so far as it covers the route between Prince Albert and Pas Mission, Sask. (July, pg. 477.)

Indian River Ry.—We are advised that through its lease of the Rumford Falls Rd., made a couple of years ago, the Maine Central Rd. has acquired the right to construct the Indian River Ry from Oquossoc, Me., to Megantic, Que. Examinations of the route are in progress, but the report of the engineers has not been made. The matter of the route will probably be considered at the next meeting of the Maine Central Rd. directors, which will be held within the next month or two. (Sept., pg. 649.)

Intercolonial Ry.—The Canada Iron Corporation is about to construct a large ore dock near Newcastle, N.B., and in order to reach this from the railway it will be necessary to build a siding about a mile long. We are advised that the whole of the expense in connection with this siding is to be borne by the Canada Iron Corporation. (See New Brunswick Docks and Terminals in this issue, and Northern New Brunswick and Seaboard Ry., Sept., pg. 651.)

Contract for the erection of a passenger station at Little Metis, Que., has been let



CANADIAN LOCOMOTIVE Co., LTD.,
KINGSTON, ONT.

Builders of Simple
 and Compound

LOCOMOTIVES Adapted to every
 variety of service

THE CANADA IRON CORPORATION

Successors to:

LIMITED

CANADIAN IRON & FOUNDRY CO., LIMITED
 CANADA IRON FURNACE CO., LIMITED
 ANNAPOLIS IRON CO., LIMITED
 JOHN McDOUGALL & CO., DRUMMONDVILLE

HEAD OFFICE _____ MONTREAL, P.Q.

Iron Ore, Pig Iron, Car Wheels, Cast Iron Water and
 Gas Pipe, Specials, Valves, Hydrants, Etc.
 Castings of All Kinds

W. T. RODDEN, Managing Director

J. F. JOHNSON, Secretary-Treasurer

T. L. GALLAGHER, Sales Manager

Standard Explosives

Limited

MANUFACTURERS OF

High Explosives and Blasting Powder,
 and Dealers in Safety Fuse Deton-
 ators, Batteries, Electrical Fuses, Etc.

OFFICE: BOARD OF TRADE BUILDING

MONTREAL

Works: L'ISLE PERROT, NEAR VAUDREUIL, P. Q.

to G. St. Pierre and Co., Fraserville, Que. Tenders were received to Sept. 23 for the erection of an addition of six stalls to the engine house at Riviere du Loup, Que.

The Maritime Coal Ry. and Power Co. has completed the installation of an endless haulage system at its mines in Cumberland county, N.S. It has also placed orders for additions to its power plant at Chignecto, N.S. The Robb Engineering Co., Amherst, N.S., will supply the engine. The new plant will add 750 h.p. to the power which the company can deliver or utilize at its mines or railway.

Michigan Central Rd.—At a meeting of the Detroit, Mich., city council, Sept. 14, an ordinance was passed embodying an agreement between the city and the M.C.R. in regard to the erection by the latter of a new station and terminals at a cost of \$2,000,000. The company is given 60 days to accept. As the company's officials have already approved most of the agreement, it is expected that work will soon be started.

New Brunswick Coal and Ry. Co.—By an act of the New Brunswick Legislature, the Government has been authorized to make a loan, not exceeding \$30,000, to pay the deficiency in operating the line during 1908, and for completing the ballasting of, and to provide fencing and an increased water supply for, the line. The railway is being operated by a commission appointed by the Provincial Government. (June, pg. 415.)

New Brunswick Docks and Terminals.—By an act passed last session of the New Brunswick Legislature, a company was incorporated with this title to construct railway terminals and docks, etc., at or near Newcastle, and at such other points on Baie de Chaleur or the Miramichi River as the company may select. The provisional directors are: G. E. Drummond, T. J. Drummond, J. Drummond, E. McDougall, W. M. MacLeod, R. W. Cooper, and W. F. C. Parsons, who are all connected with the Canada Iron Corporation. (April, pg. 249. See also Northern N.B. and Seaboard Ry., Sept., pg. 651, and further on in this issue.)

Northern New Brunswick and Seaboard Ry.—An act passed at the last session of the New Brunswick Legislature entitled "an act in aid of the development of the Gloucester county iron deposits," authorized the Government to guarantee the principal and interest of the bonds of the N.N.B. and S. Ry. or such other company as may be incorporated to construct a railway from the iron mines near the Grand Falls of the Nipisiguit River, in Gloucester county, to the Intercolonial Ry. and thence to Alston Point on the north side, or to Carron Point on the south side of the entrance to Bathurst harbor, such guarantee not to exceed \$15,000 a mile, nor for more than 26 miles. The rate of interest of the bonds is not to exceed 4%, and the bonds shall be payable in not more than 30 years from the date of issue. It is provided that the provincial guarantee shall be endorsed on the bonds after the Canada Iron Corporation's guarantee. The security to be taken by the government in return for its guarantee of the bonds consists of a first mortgage of the lines to be constructed, with the franchises, right of way, rolling stock, etc. (Sept., pg. 651.)

Portland Canal Ry.—Application will be made to the Dominion Parliament to incorporate a company with this title to construct a railway from the head of Portland Canal, B.C., along Bear River, 80 miles; also up American Creek; and with power to construct branch lines not exceeding in any one case 10 miles. The company also desires power to construct telegraph and telephone lines, to carry on a general navigation business, to construct wharves, docks, elevators, etc. It is also asked that the works to be con-

structed be declared to be for the general advantage of Canada. Pringle and Guthrie, Ottawa, are solicitors for applicants. (June, 1907, pg. 409.)

Quebec Eastern Ry.—The surveys being made up to the present have been entirely of an exploratory character and nothing definite has been decided as to route or construction. The line is projected from Sherbrooke to Levis, Que., and will include the Lotbiniere & Megantic Ry., which runs from Lyster to Thetford Mines and Black Lake. The main line will probably pass through Stoke South Ham, Wolferton, Halifax, Inverness, Lysander Falls and Ste. Agathe. There will be some fairly heavy rock cutting but the construction will be mostly light, with a few small bridges. (Sept., pg. 651.)

St. John Valley Ry.—An act was passed last session of the New Brunswick Legislature incorporating a company with this title to construct a railway from St. John, near Westfield, thence following St. John River Valley to Fredericton, thence to Woodstock, and via the villages of Lakeville and Centreville, to near Andover, and to Grand Falls, St. Leonards, or some other point on the National Transcontinental Ry. The line is to follow as nearly as practicable the valley of the St. John River and on the opposite side of the river to that now traversed by the C.P.R. The company is given all the usual powers, its capital is fixed at \$2,000,000, and its offices are to be at Fredericton. The incorporators are: C. F. Chestnut, J. J. F. Winslow, J. T. A. Dibblee, B. E. L. Smith, C. M. Sherwood, E. A. Savage, J. Palmer, G. W. Hodge, F. B. Edgecombe, J. S. Neill, J. J. Weddall, H. Wilmot, A. R. Slipp, R. B. Emmerson, J. F. Tweeddale, W. H. Thorne, G. B. Jones, W. E. Foster, T. H. Bullock. (June, pg. 416.)

St. Maurice Valley Ry.—Application will be made to the Dominion Parliament for an extension of time for the construction of a railway from Three Rivers, Que., northwesterly to the west side of the St. Maurice River to Pointe Chevalier, thence following the St. Maurice River to the mouth of the Shawinigan River and crossing the river to Shawinigan Falls; also a line crossing to the east side of the St. Maurice River at Pointe Chevalier and running northerly to where it will cross the Shawinigan River to Shawinigan Falls and following the St. Maurice River to Grand Mere and thence to St. Jean des Piles, and following the general direction of the Matawin River to a junction with the National Transcontinental Ry. in Maskinonge county.

Superior and Western Ry.—The Dominion Parliament last session passed an Act incorporating a company with this title for the purpose of constructing a railway from Velora, on the Grand Trunk Pacific Ry. Lake Superior branch, 151.72 miles from Fort William, to the National Transcontinental Ry. north of Sturgeon Lake. The Ontario Legislature last session voted a subsidy of 1,000 acres a mile for seven miles from Waco station, mileage 160 from Fort William. On May 25 the Board of Railway Commissioners passed an order authorizing the S. and W. Ry. to join the G.T.P.R. tracks at Velora Jct., Ont. Alex. McDougall, Fort William, Ont., is president of the company. (May, pg. 359.)

An order has been passed by the Board of Railway Commissioners authorizing the company to open for traffic the portion of its line from the junction with the G.T. Pacific Ry. Lake Superior branch, near mileage 154, to the head of Sturgeon Lake, seven miles.

Temiskaming and Northern Ontario Ry.—A deputation from Elk Lake district waited on the Commissioners and the members of the Ontario Legislature, who have just completed a trip of inspection

over the line, at Cobalt, Sept. 9, to urge the construction of a branch line from Cobalt through the Elk Lake district. It was stated that there was a town of 5,000 population at Elk Lake, which for two months in the year were practically isolated. The deputation said the municipality would provide the right of way without cost to the Government.

Thessalon and Northern Ry.—By an act passed last session of the Dominion Parliament, the line of railway which this company was authorized to construct by its act of incorporation, passed in 1907, by the Ontario Legislature, was declared to be a work for the general advantage of Canada. The company was also authorized to enter into agreements with the C.P.R., the G.T.R., or the C.N.R. The company has constructed a line from the north side of Lorne St., Thessalon, to the Algoma branch of the C.P.R., 1.93 miles. A spur line 2,154 ft. long to the Algoma Customs Smelting and Refining Co.'s ore trestle, and the grading for a coal siding or spur, 1,536 ft. long to the coal dock on Georgian Bay have been completed.

The railway, which the company was authorized to construct, will extend from the C.P.R. Algoma branch, two miles northeast of Thessalon southeasterly into the town, thence northwesterly to the C.P.R. Thessalon station, and from either of the two points on the C.P.R. northerly to the Mississauga River, in Gould tsp. The provisional directors are: A. A. Burke, T. Buchanan, D. J. Sandie, R. Pinder, and W. H. Taylor, all of Thessalon, Ont. At the same session of the Legislature a cash subsidy of \$5,000 was voted in aid of the construction of that portion of the line from Thessalon to the C.P.R., to be constructed within two years. (Feb., pg. 105.)

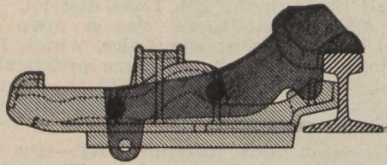
The Newfoundland Legislature at its last session voted \$42,000 for railways.

The Lyaal Co. has been incorporated under the Dominion Companies' Act, with a capital stock of \$500,000 and offices in Montreal, for the purpose of transacting a general contracting business, and in connection therewith to carry on a number of other allied businesses. The provisional directors are: R. Taschereau, R. Genest, J. Marier, J. E. Billette and T. G. Charleboise, Montreal.

M. Frewen, a director of the G.T. Pacific Ry. Co., acting for a number of British capitalists, has entered a suit against the G.T. Pacific Development Co., alleging failure on the part of defendant company to deliver to him 1,000 lots, situated in the Prince Rupert townsite, for which it is alleged he contracted several weeks before the Vancouver sale. It is stated that about \$1,500,000 is involved.

Owing to numerous complaints received respecting annoyance caused passengers on Canadian railways by U.S. immigration officers, the Board of Railway Commissioners propose to pass an order directing railway companies to instruct conductors to prevent any undue interference by such officers. A draft order has been prepared and submitted to the companies so they may offer suggestions in regard to it.

The International Association of Railway Financial Officers, which held its third annual meeting at Bluff Point, N.Y., Sept. 7 and 8, has a membership of 106, consisting of the financial vice presidents and treasurers of the leading railway systems on this continent, and has for its object the standardization of the forms of railway auditing, etc., as well as the presentation and discussion of the many financial problems relating to the conduct of railways. F. Scott, Treasurer G.T.R., Montreal, was elected President for the current year, and S. L. Shannon, Comptroller and Treasurer Intercolonial Ry., Moncton, N.B., was appointed a member of the executive committee.



The plan of having a single size applicable to a wide range of rail weights and heights is a valuable feature of Hayes Derails. It vastly simplifies ordering and stock keeping. For instance, size 5 of any model may be used on any ordinary rail from 4 to 6 inches high, which limits include most of the rails in common use.

The sliding type may be operated by any mechanism which is used to throw a switch; it works in with existing conditions in any track without special attachments.

28,000 Hayes Derails are now in use on over 300 roads. They are made in Canada at Hamilton, Ontario.

Address: Hayes Track Appliance Co., Geneva, N.Y.

CROSSEN CAR MFG. COMPANY OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway
Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.



Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R.R. and Niagara Falls. Dining, Cafe-Parlor, and Library Cars on Day Trains. Pullman Vestibuled Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

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.
W. E. DAVIS, Passenger Traffic Manager, MONTREAL.

G. T. BELL, Gen. Passenger and Ticket Agent, MONTREAL, QUE.

Railway Finance, Meetings, Etc.

Alaska Central Ry.—An order has been made for the sale of this partially constructed railway, at Valdez, Alaska, Oct. 9. The bonds are largely held in Canada, the Sovereign Bank being the largest holder. About 50 miles of the line, northerly from Seward, were put in operation in 1907, and there were about 60 miles additional under construction, and a further 185 miles were under contract. The company defaulted on its interest and a receiver was put in possession in May, 1908.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales for July, \$30,003 against \$26,721 for July, 1908. Railway traffic receipts for Aug., \$27,581 against \$24,645 for Aug., 1908. Aggregate traffic receipts for two months ended Aug. 31, \$54,622.

Atlantic and Lake Superior Ry.—A general meeting of holders of certificates of participation in the A. and L. S. R. Trust Fund was held in London, Eng., Sept. 14 for the purpose of approving an agreement for the sale of the railway belonging to the trust fund.

Burks Falls and French River Ry.—The annual meeting was held at Burks Falls, Ont., Sept. 1. Following are the officers and directors for the current year:—President, R. J. Watson, Burks Falls, Ont.; Vice President, V. Ratz, Park Hill, Ont.; Solicitor, D. R. McLean, Burks Falls, Ont.; Secretary-Treasurer, H. W. Cooper, G.T.R., Montreal; other directors, A. A. Agar, Burks Falls, Ont.; W. J. Ard, South River, Ont.

Canada Atlantic Ry.—A discharge of a mortgage for \$14,000,000 dated Oct. 31, 1903, by the company to J. C. and W. Greene, Ottawa, as trustees for bondholders and a reconveyance of the property to the company have been deposited with the Secretary of State at Ottawa.

Canadian Northern Ontario Ry.—There has been deposited with the Secretary of State at Ottawa a trust deed made between the company and the British Empire Trust Co. and the National Trust Co., dated June 28, securing its 4% perpetual consolidated stock and bonds upon the whole of its undertaking, property, and assets present and future, subject to certain exceptions, charges and provisions set out in the trust deed.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa a trust mortgage deed, dated July 26, securing its 4% Winnipeg Terminals gold bonds upon certain terminal lands and buildings in Winnipeg, also upon all the company's rights and interests in an agreement made with the Grand Trunk Pacific Ry. and the National Transcontinental Ry. Commissioners. The agreement is made with the province of Manitoba, which guaranteed the bonds.

Cumberland Coal and Ry. Co.—Press reports state that the C.P.R. has had agents making an inspection of the C. C. & R. Co.'s railway and coal mines in the vicinity of Springhill, N.S. Owing to difficulties with the men the mines have been closed down, and, as practically the whole of the traffic of the railway depends on the coal mined, it is expected that the railway will cease operating also. The C.P.R. was a large customer of the company for coal for the operation of its eastern lines.

Dominion Atlantic Ry.—Gross earnings for July \$142,700, against \$144,954 for July, 1908. Aggregate gross earnings for 7 months ended July 31, \$628,850, against \$615,552 for same period 1908.

Grand Trunk Pacific Branch Lines.—There has been deposited with the Secretary of State at Ottawa a mortgage, or

deed of trust, dated July 28, made by the G.T.P.B. Lines Co. to the National Trust Co. and the Province of Alberta, securing an issue of 4% first mortgage bonds due 1939, issued and to be issued under the provincial statutes of 1909, chap. 15. This act authorized the construction of certain railways in the province to aid in the construction of which the Government was directed to guarantee the bonds of the company.

A mortgage deed similar to the above, dated June 24, has also been deposited with the Secretary of State, to which the Government of Saskatchewan is a party, in respect of lines to be constructed in that province under chap. 4 of the Saskatchewan statutes, 1908-9. The Boston & Maine Rd.

Klondike Mines Ry.—The annual meeting was held at Ottawa, Sept. 6. Following are the officers and directors for the current year:—President, J. A. Seybold; Vice President, W. C. Greig; Secretary, A. Haydon; other directors, C. G. Kekewich, J. Latta. The company does not publish an annual report.

London and Port Stanley Ry.—An informal conference has been held by the directors of this railway, which is practically owned by the city of London, Ont., and the representatives of the Pere Marquette Rd., which is operating it under lease, with respect to the terms for a renewal of the lease. The present lease has some years to run, but as a number of betterments are required to bring the line into a condition to handle all the traffic offering, the company is asking for an extension of the lease for 20 years.

Massawippi Valley Ry.—The annual meeting was held at Rock Island, Que., Sept. 1. Following are the officers and directors for the current year: President, J. G. Foster, Derby Line, Vt.; Vice President, C. W. Cate, Sherbrooke, Que.; Treasurer, J. H. Williams, Bellows Falls, Vt.; other directors, J. W. Dunklee, Boston, Mass.; C. H. Kathan, Rock Island, Que.; H. N. Turner, St. Johnsbury, Vt.; C. D. White, F. Grundy and F. N. McCrea, Sherbrooke, Que. This line is leased to

New Brunswick Coal and Ry. Co.—Press reports state that the C.P.R. has had an inspection made of this company's property with a view of an arrangement being made for its extension and operation. The railway part of the company's undertaking is at present being operated by a Commission appointed by the New Brunswick Government. The question which the C.P.R. officials is investigating is said to be as to the quality of the coal to be obtained from the mines. It is stated that if this prove to be satisfactory an arrangement will be made with the provincial authorities to construct an extension of 20 miles to Fredericton and to lease the whole line to the company.

Port Hood-Richmond Ry.—A. E. Dymont, Toronto, has been elected a director to succeed F. Outram, Port Hope, Ont., who has resigned.

Quebec and Lake St. John Ry.—Gross earnings for Aug., \$55,420.84, against \$68,860.76 for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, \$387,830.72, against \$397,857.54 for same period 1908. Mileage operated, 285, against 240 during the same period 1908.

Quebec Central Ry.—The directors have declared the full dividend on the 7% income bonds for the year, thus bringing up the period during which they have had their maximum return to three and a half years.

Quebec Central Ry.—Gross earnings for July, \$107,743.11; expenses, \$67,300.37; net earnings, \$40,442.74, against \$129,501.35 gross earnings, \$78,878.98 expenses, \$50,622.37 net earnings for July, 1908.

Salisbury and Albert Ry.—Following are the directors for the current year:

J. D. Newton, President; D. Bergen, New York; J. D. Hazen, D. K. Hazen, E. P. Raymon.

Spokane International Ry.—An issue of \$4,200,000 first mortgage 5% bonds repayable in 1955 has been listed on the New York Stock Exchange. The bonds were issued to pay for terminal and station property and for construction and equipment. The C.P.R. advanced one-eighth of the construction cost and has an option on 52% of the stock. The C.P.R. has a traffic agreement with the company.

Temiskaming and Northern Ontario Ry.—Gross earnings for June, \$131,350.04; expenses, \$73,647.78; net earnings, \$58,202.26; ore royalties, \$19,273.16. Net result of operation for six months ended June 30, \$377,529.65. Gross earnings for July, \$146,111.00; expenses, \$75,119.75; net earnings, \$70,991.25. Approximate gross earnings for Aug., \$155,000; expenses, \$75,000; net earnings, \$80,000.

White Pass and Yukon Ry.—Gross earnings for July, \$223,657.

Inspection of G. T. R. and G. T. P. R.

Sir C. Rivers Wilson, President G.T.R., and the party of directors and officers of the G.T.R. and the G.T. Pacific Ry., who have been on a trip of inspection over the two lines, arrived in Montreal Sept. 15 on their return journey. After remaining in Montreal for a day, the President and his personal party went to New York, whence they sailed for England, Sept. 18.

The party started out from Montreal on their trip early in August, travelling in a special train, visiting Belleville, Toronto, and other important points on the G.T.R. in Western Ontario. Crossing into the United States they journeyed over the G.T. Western Ry. to Chicago. From this point they proceeded west over U. S. lines to Seattle, Wash., where they had some negotiations with reference to joint terminals in that city with the Great Northern Ry. From Seattle, they travelled to Vancouver, where they were entertained at a dinner given by the Board of Trade, Aug. 27. A trip was then made by steamboat to Prince Rupert, where the G.T.P.R. coast terminals were inspected. Coming east the party reached Edmonton over the C.P.R., and travelled thence to Winnipeg over the G.T. Pacific Ry., reaching that place Sept. 5. Fort William was reached Sept. 8, and the party left on the Northern Navigation Co.'s steamship Hamonic the same evening for Sarnia. The special train was resumed at Sarnia, and on the return journey to Montreal, London, Hamilton, and other points were visited. On Sept. 14, the party was in Ottawa, and had an interview with the Premier and members of the Cabinet.

In an interview at Montreal, Sir C. Rivers Wilson said he was very much pleased with the progress made on the line, the only regret he had was as to the condition of the section of the line which the Dominion Government was constructing between Winnipeg and Superior Jct. The failure of the Government to complete the construction of this section was a great disappointment to him, as it was no doubt to the government. Although the company's section of the line would be completed before the government section, it would be behind the date anticipated, Sept., 1911, but he hoped trains would be running from the head of the lakes to Prince Rupert by the latter end of 1912 or the spring of 1913.

The Dominion Labor Department received a report Sept. 9, to the effect that all matters in dispute between the Canadian Northern Ry., and its subsidiary companies and its locomotive engineers, had been satisfactorily adjusted.

FARNLEY STAYBOLT IRON



HIGHEST GRADE OF IRON FOR STAY-BOLTS, RIVETS AND MINING PURPOSES

All sizes carried in stock in Montreal and Winnipeg

Write us for prices, samples and tests.



TAYLOR & ARNOLD

c/o W. E. SKINNER, LIMITED
SOMERSET BLOCK

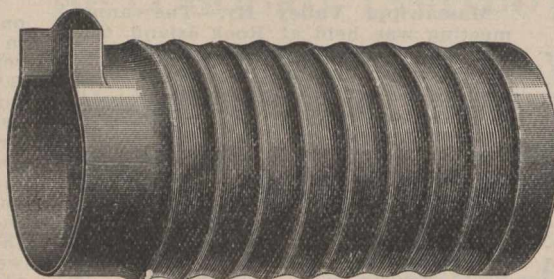
WINNIPEG, MAN.

180 St. James St., MONTREAL

MORISON Suspension Furnaces

The Universally satisfactory record of "THE MORISON" proclaims it the best furnace made.

With Plain Ends or Flanged to any required shape.



For Land and Marine Boilers

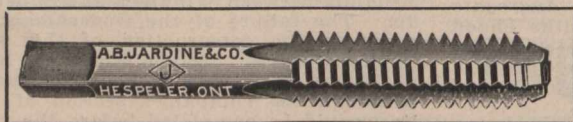
Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

Manufactured by

THE CONTINENTAL IRON WORKS, WEST AND CALYER STS. BOROUGH OF BROOKLYN. NEW YORK
Near 10th and 23rd St. Ferries.

Sole Canadian Agent—MR. GEORGE HOLLAND, M.C. Soc. C.E., P.O. Box 529, MONTREAL

"Jardine" Taps for the Boiler Shop
"Jardine" Taps for the Machine Shop
"Jardine" Taps for all Purposes



Send us your specifications for special Taps. We have the appliances. Delivery and price will please you.

There are no better Tools than "Jardine" Tools.

ASK FOR OUR CATALOGUE No. 13.

A. B. Jardine & Co. - - Hespeler, Ont.

THE RAILWAY & MARINE WORLD

With which are incorporated The Western World and The Railway and Shipping World, Established 1890.
An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

ACTON BURROWS LIMITED. - Proprietors
157 Bay Street, Toronto, Canada.
Local and Long Distance Telephone, Main 3201.

ACTON BURROWS. - Managing Director and Editor-in-Chief.

AUBREY ACTON BURROWS. - Secretary and Business Manager.

A. FENTON WALKER. - U.S Representative,
143 Liberty Street, New York City.

Official Organ of

- The Canadian Freight Association.
- The Canadian Roadmasters' Association.
- The Canadian Street Railway Association.
- The Canadian Ticket Agents' Association.

SUBSCRIPTION PRICES, INCLUDING POSTAGE:

TORONTO AND WEST TORONTO POSTAL DELIVERY, \$1.25 a year.
To other places in CANADA, and to NEWFOUNDLAND AND GREAT BRITAIN, \$1 a year.
To the UNITED STATES and other countries in the Postal Union, except those mentioned above, \$1.50 a year, or six shillings sterling.
SINGLE COPIES, 12 cents each, including postage.

The best and safest way to remit is by express money order. Where one cannot be obtained a post office money order or bank draft payable at par in Toronto may be sent. Cheques or drafts not payable at par in Toronto cannot be accepted. Remittances should be made payable to THE RAILWAY AND MARINE WORLD.

NOTICE TO ADVERTISERS

ADVERTISING RATES furnished on application.
ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication, if proof is required, or by the 15th if proof is not required.

TORONTO, CANADA, OCTOBER, 1909.

Canadian Car Service Bureau.

EASTERN LINES—CHAIRMAN OF EXECUTIVE BOARD, M. MAGIFF, St. Albans, Vt.; MANAGER, J. E. DUVAL, 401 St. Nicholas Bldg., Montreal.
WESTERN LINES—MANAGER, H. R. Patriarche, 101 Bon Accord Building, Winnipeg.
BRITISH COLUMBIA LINES—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Freight Association.

PRESIDENT, J. J. Mossman, Buffalo, N.Y.; SEC. TREAS., T. Marshall, Toronto.
OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.
WESTERN LINES FREIGHT INSPECTION BUREAU—PRESIDENT, W. C. Bowles; MANAGER AND SEC. TREAS., H. R. Patriarche, Winnipeg.
BRITISH COLUMBIA LINES FREIGHT INSPECTION BUREAU—MANAGER, E. J. Travers, Vancouver, B.C.

Canadian Railway Club.

PRESIDENT, H. H. Vaughan, Montreal; SECRETARY, J. Powell, St. Lambert, Que. MEETINGS 1st Tuesday each month 8 p.m., except June, July and August.

Canadian Society of Civil Engineers.

PRESIDENT, G. A. Mountain, Ottawa; SECRETARY, C. H. McLeod, Montreal. MEETINGS at Montreal, alternate Thursdays, 8 p.m.

Canadian Ticket Agents' Association.

PRESIDENT, R. J. Craig, Cobourg, Ont.; SEC. TREAS., E. de la Hooke, London, Ont.
OFFICIAL ORGAN—THE RAILWAY AND MARINE WORLD, Toronto.

Central Railway and Engineering Club of Canada.

PRESIDENT, C. A. Jefferis; SECRETARY, C. L. Worth, 409 Union Station, Toronto. MEETINGS at Toronto, 3rd Tuesday each month, except June, July and August.

Eastern Canadian Passenger Association.

CHAIRMAN, J. W. Hanley, St. Albans, Vt.; SECRETARY, G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Toronto.

PRESIDENT, A. B. Barry, Toronto.
SECRETARY, R. B. Wolsey, C.E., Toronto.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, C. H. Nicholson, Sarnia, Ont.
SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, C. F. Bielman, Detroit, Mich.
SECRETARY, M. R. Nelson, New York.

Quebec Transportation Club.

PRESIDENT, F. S. Stocking.
SEC. TREAS., A. H. Davis, Box 350, Quebec.

Western Canada Railway Club.

PRESIDENT, G. Hall, Winnipeg; SECRETARY, W. H. Rosevear, Winnipeg. MEETINGS at Winnipeg, 2nd Monday each month, except June, July and August.

Alphabetical List of Advertisers

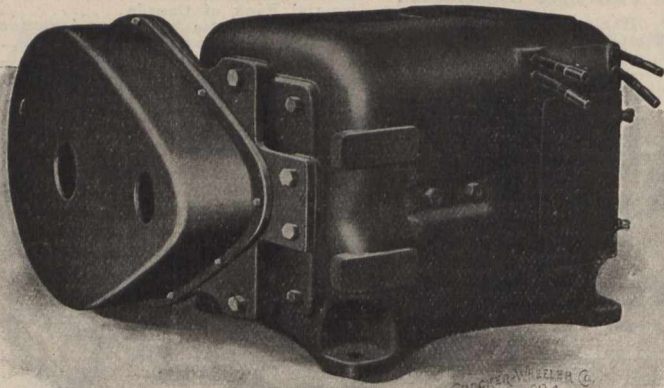
	PAGE
Abbott, W.	Cover 1
Alexander Car Replacer Mfg. Co.	768
American Brake Shoe & Foundry Co.	752
American Hoist & Derrick Co.	734
Babcock & Wilcox, Ltd.	788
Baldwin Locomotive Works	764
Banwell Hoxie Wire Fence Co., Limited	758
Beatty, M., & Sons, Ltd.	778
Bertram, John, & Sons Co., Ltd.	714
Boker, Hermann & Co.	778
Booth, L. M. Co.	Cover 1
Bowser, S. F. & Co., Limited	754
Bradstreet Company	772
Brevort Hotel, Chicago	754
Brown Hoisting Machinery Co.	718
Burns, R. M. & Co.	782
Burrows.—Acton Burrows, Limited	Cover 1
Butterfield & Co.	780
Canada Car Co., Ltd.	730
Canada Iron Corporation, Ltd.	744
Canadian Bridge Co., Ltd.	774
Canadian Bronze Co., Ltd.	784
Canadian Crocker-Wheeler Co.	750
Canadian Fairbanks Co., Ltd.	734
Canadian Gold Car Heat'g & Light'g Co., Ltd.	742
Canadian Locomotive Co., Ltd.	744
Canadian Northern Railway	758
Canadian Office & School Furniture Co., Ltd.	784
Canadian Pacific Railway Land Department.	770
Canadian Railway Accident Insurance Co.	780
Canadian Ramapo Iron Works, Ltd.	760
Canadian Rand Co., Ltd.	766
Canadian Westinghouse Co., Ltd.	Cover 2
Chicago Ry. Equipment Co.	772
Cleveland City Forge & Iron Co.	778
Clifton Hotel, Niagara Falls, Ont.	770
Coghlin, B. J., & Co.	780
Continental Iron Works	748
Crossen Car Mfg. Co., of Cobourg, Ltd.	746
Date, John	778
Delaware & Hudson Co.	784
Dominion Bridge Co., Ltd.	774
Dominion Car & Foundry Co., Ltd.	Cover 4
Dominion Iron & Steel Co., Ltd.	740
Dominion Wire Rope Co., Ltd.	—
Dougal Varnish Co., Ltd.	Cover 1
Drewry, E. L.	782
Drummond, McCall & Co.	752
Duner Co.	784
Engineering News Book Dept.	768
Falls Hollow Staybolt Co.	768
Farlow Draft Gear Co.	756
Flannery Bolt Co.	750
Fuce, Edw. O.	749
Galena Signal Oil	716
Galt Malleable Iron Co.	784
Gardner, J. T.	782
Gartshore, J. J.	772
Gartshore-Thomson Pipe & Foundry Co., Ltd.	772
General Railway Signal Co.	764
Goldschmidt Thermit Co.	764
Grand Trunk Railway	746
Greening, The B. Wire Co., Ltd.	782
H. & E. Lifting Jack Co.	742
Hamilton Pattern Works	780
Hamilton Steel and Iron Co., Ltd.	732
Harrison, John & Sons Co., Ltd.	754
Hart, John A. & Co.	Cover 1
Hart-Otis Car Co., Ltd.	712
Hayes Track Appliance Co.	746
Hicks Locomotive and Car Works	776
Holden Co., Ltd., The	750
Hopkins, F. H. & Co.	724
Hotel Cadillac, Detroit, Mich.	Cover 1
Hudson's Bay Company	742
Hunt, Robert W., & Co.	782
Hutton, James & Co.	784
Illinois Central Railroad	784
Imperial Bank of Canada	780
Imperial Guarantee & Accident Insurance Co.	784
Intercolonial Railway	740
International Marine Signal Co.	776
International Mercantile Marine Co.	764
Jardine, A. B., & Co.	748
Jessop, Wm. & Sons, Ltd.	774
Kerr Engine Co., Ltd.	772
Kingsmill, Saunders, Torrance & Kingsmill.	749
Legg Bros.	—
Lehigh Valley Rd.	780
Lewis, Rice, & Sons, Ltd.	752
Lufkin Rule Co.	Cover 1
Marsh Co.	778
McConway & Torley Co.	768
McCord & Co.	722
Meaford Wheelbarrow Co.	762
Metcalf, John S., Co.	766
Midland Towing & Wrecking Co., Ltd.	780
Montreal Locomotive Works	720
Montreal Rolling Mills Co.	760
Montreal Steel Works, Ltd.	728
Mussens Limited	Cover 1 and 710
National Malleable Castings Co.	Cover 1
Northern Electric and Mfg. Co., Ltd.	766
Norton, A. O.	724
Nova Scotia Steel & Coal Co., Ltd.	736
Ontario Wind Engine and Pump Co.	774
Orford Copper Co.	784
Ottawa Car Co., Ltd.	Cover 1
Otto Bros.	782
Owen Sound Wire Fence Co., Ltd.	770
Parry Sound Lumber Co., Ltd.	784
Phillips, Eugene F., Electrical Works, Ltd.	782
Piper, The Hiram L. Co., Ltd.	784
Piper, N. L., Railway Supply Co., Ltd.	762
Polson Iron Works, Ltd.	736
Positive Lock Washer Co.	780
Provincial Steel Co., Ltd.	776
Pyke, J. W., & Co.	740
Pyle National Electric Headlight Co.	732
Rail Joint Co. of Canada, Ltd.	Cover 1 and 726
Renouf Publishing Co.	770
Rhodes, Curry Co., Ltd.	738
Robb Engineering Co., Ltd.	722
Robertson Machinery Co.	784
Safety Car Heating & Lighting Co.	728
Saxby & Farmer, Ltd.	Cover 1
Sheriffs Mfg. Co.	782
Silliker Car Co., Ltd.	726
Smart, James Mfg. Co., Ltd.	—
Southam Press	784
Standard Coupler Co.	780
Standard Explosives, Limited	744
Standard Paint & Varnish Co., Ltd.	772
Standard Steel Works Co.	764
Stearnes Steel Range Co.	Cover 1
Taylor & Arnold	748
Toronto Bolt & Forging Co., Ltd.	738
Toronto Pressed Steel Co., Ltd.	756
Union Draft Gear Co.	778
United Typewriter Co.	774
Vulcan Iron Works	776
Warren, Wm.	776
Waugh Draft Gear Co.	Cover 1
Williams, A. R., Machinery Co.	730
Williams Mfg. Co., Ltd.	780
Wire & Cable Co.	Cover 1

EDW. O. FUCE
Hon. Grad., Univ. Tor. (S.P.S.)
A. M. CAN. SOC. C. E.
ONT. LAND SURVEYOR,
Consulting Civil Engineer
GALT, ONT.
Railway Location & Construction.
Reinforced Concrete Structures.

Kingsmill, Saunders, Torrance & Kingsmill,
Union Bank Chambers, 19 Wellington
St. West, Toronto
Nicol Kingsmill, K.C., Dyce W. Saunders,
K.C., W. P. Torrance, Walter B. Kingsmill.

It is said that 50% or over of the entire passenger movement from the middle and western states to Seattle during the time the special exhibition rates were in force, from the end of May to the end of Sept., went by the C.P.R. route in at least one direction.

The number of persons over 70 years of age on the C.P.R. pension roll at Jan. 1, 1909, was 105; between 60 and 70 years of age, 148; under 60 years of age, 23—total, 276 persons. The amount paid out for the year was \$50,694.79, and the balance to the credit of the fund was \$657,345.60.

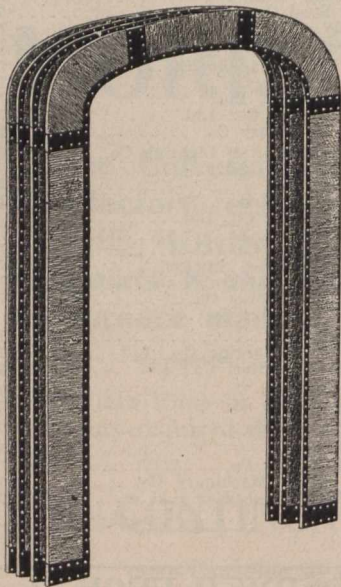


ENCLOSED TYPE MOTORS

FOR
Cranes, Industrial
Railways, Hoists, Etc.

✱ WRITE FOR PARTICULARS

CANADIAN CROCKER-WHEELER CO., Limited
Manufacturers and Electrical Engineers - 41 Street Railway Chambers, Montreal



The "Ajax" Diaphragm

is the standard Diaphragm on practically all of the leading roads in Canada and the United States. It is reinforced by a GALVANIZED STEEL ROD which runs entirely around the Diaphragm inside the inner folds, which supports and effectually prevents the Diaphragm from sagging at the corners or top, buckling or getting out of shape. Made to suit all the standard types of vestibules. Write us for catalogue 117 and price.

Watch for illustrations of our other well-known specialties.

THE HOLDEN COMPANY, Limited

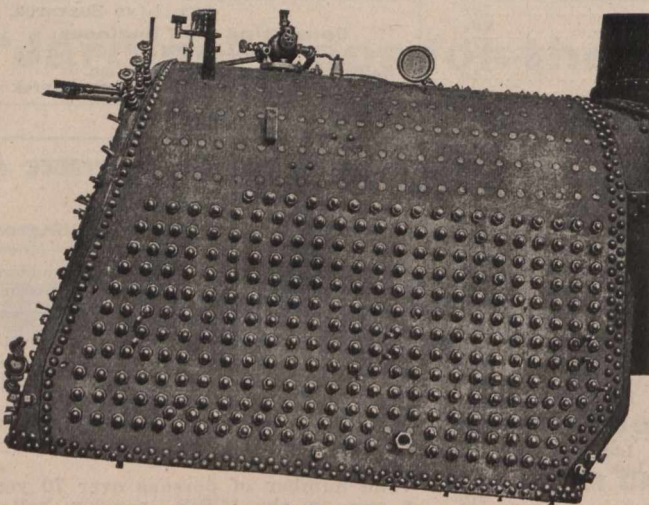
MONTREAL
302 St. James Street.

TORONTO
42 York Street.

WINNIPEG
291 1/2 Portage Ave.

ALSO AT COBALT, ONT.

Address Nearest Office.



An installation of the Tate Flexible Stay.

THE TATE FLEXIBLE STAYBOLT THE PERFECT STAY

For Locomotive Fire Boxes

Over a million and a half bolts in service on over 100 railroads throughout the United States

Manufactured and Sold in Canada by
CANADA FOUNDRY COMPANY, Limited
TORONTO, ONT.

AGENTS FOR THE

Flannery Bolt Company, = Pittsburgh, Penn., U.S.A.

Orders by the Railway Commissioners.

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

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

7733, 7734. Aug. 5.—Authorizing Bell Telephone Co. to carry its wires across C.P.R. at Arnprior and Listowel, Ont.

7735. Aug. 6.—Recommending to Governor in council for approval C.N.R. by-law re spitting and smoking in railway cars and premises.

7736, 7737. Aug. 6.—Authorizing C.N.Q.R. to construct railway across road between lot 624 and lots 622 and 623 and between lots 162 and 159, St. Timothee parish, Que.

7738. Aug. 6.—Authorizing Hazeldean Rural Telephone Co. to erect wires across C.P.R. at Stittsville station, Ont.

7739, 7740. Aug. 5.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Ouimet Ave., St. Laurent, Que., and at Daniel St., Arnprior, Ont.

7741. Aug. 5.—Authorizing Moosomin East Rural Telephone Co. to erect wires across C.P.R. between section 27 and 34, tp. 13, r. 31, w. 2 m., Saskatchewan.

7742. Aug. 5.—Authorizing Leeds and Grenville Independent Telephone Co. to erect wires across C.P.R. at Spencerville crossing, Prescott and Ottawa branch.

7743, 7744. Aug. 5.—Authorizing E. Blanchard, M.D., to erect telephone wires across G.T.R. at 11th concession, Brock tp., and at side line south of Laidlaw St., Cannington, Ont.

7745. Aug. 20.—Authorizing C.P.R. to construct its railway across Banff trail near Anthracite, Alta.

7746. Aug. 5.—Approving location of C.N.R., from sec. 2, tp. 15, r. 17, w. 6th m., to sec. 11, tp. 14, r. 17, w. 6th m., mileage 0 to 5, British Columbia.

7747. July 23.—Amending order 6538, of March 18, 1907, with respect to steel rolled tires on locomotive wheels.

7748. Aug. 3.—Authorizing Bell Telephone Co. to erect wires across C.P.R., at highway crossing west of Webbwood, Ont.

7749. Aug. 7.—Staying proceedings under order 7394 of June 28, 1909, with respect to G.T.R. station at Guelph, Ont., until question of subway at Neeve St. is disposed of.

7750. Aug. 10.—Authorizing Thedford, Arkona and East Lambton Telephone Co. to erect wires across G.T.R. at Thedford, Ont.

7751 to 7753. Aug. 10.—Authorizing the Bell Telephone Company to erect wires across C.P.R. and G.T.R. at three different points in Ontario.

7754 to 7756. Aug. 10.—Authorizing B.C. Telephone Co. to erect wires across Esquimalt & Nanaimo Ry. at three points near Duncans, B.C.

7757 to 7759. Aug. 6.—Authorizing Hazeldean Rural Telephone Co. to erect wires across C.P.R. at three points east of Stittsville station, Ont.

7760. Aug. 10.—Authorizing Claremont and Ashburn Telephone Co. to erect wires across G.T.R. at Brooklin, Ont.

7761. Aug. 10.—Authorizing C.P.R. to construct highway bridge carrying First St., Brandon, Man., over Assiniboine River and C.P.R. yard there.

7762. Aug. 10.—Authorizing G.T.P.R. to construct railway across highway between sections 10 and 11, tp. 36, r. 15, w. 3rd m., West Saskatchewan.

7763. Aug. 6.—Authorizing the C.N.Q.R. to construct railway across road between

lot 624 and lot 27-12, St. Timothee parish, Que., mileage 77.11 west from Quebec bridge.

7764. Aug. 10.—Authorizing G.T.R. to construct branch line to the Blaugas Co. of Canada's premises in Montreal parish.

7765. Aug. 10.—Authorizing Hamilton Cataract Power, Light & Traction Co. to erect wires across G.T.R. north of Desjardins canal, Hamilton, Ont.

7766. Aug. 10.—Authorizing Saskatchewan Government Telephones to erect wires across C.N.R. between secs. 24 and 25, tp. 25, range 29, west 2nd meridian.

7767. Aug. 7.—Ordering refund of switching charges at St. Thomas, Ont., by M.C. Rd. to the Canada Iron Corporation. This order is given in full on another page.

7768. Aug. 7.—Dismissing complaint of C. W. Stewart of St. John, N.B., that he is unable to market cornmeal in consequence of alleged discrimination by C.P.R. This order is given in full on another page.

7769 to 7775. Aug. 12.—Authorizing Alberta Government Telephones to erect wires across Alberta Ry. & Irrigation Co.'s track at two points, and across C.P.R. at five points.

7776. Aug. 12.—Authorizing Bell Telephone Co. to erect its wires across C.P.R. 1½ miles east of Durham station, Ont.

7777 to 7779. Aug. 12.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at two points and across G.T.R. at one point in Ontario and Quebec.

7780, 7781. Aug. 12.—Authorizing Ingersoll Telephone Co. to erect wires across C.P.R. at two points in West Zorra tp., Ont.

7782, 7783. Aug. 10.—Authorizing Saskatchewan Government Telephones to erect wires across C.N.R. at two points.

7784. Aug. 10.—Authorizing the C.P.R. to construct spur line to J. D. Clark & Co.'s premises, Winnipeg.

7785. Aug. 12.—Authorizing Pipestone municipality to erect wires across C.P.R. 3½ miles n.w. of Reston, Man.

7786. Aug. 7.—Authorizing G.T.R. to appeal to Supreme Court of Canada from order 7613, of July 22, 1909, directing that it provide station accommodation at or near where G.T.R. lines from Hamilton to Niagara Falls cross town line between Clinton and Louth tps., Ont.

7787. Aug. 7.—Directing Red Mountain Ry. to provide highway crossing over track a little south of Patterson's station, B.C.

7788. Aug. 7.—Authorizing village of Glencoe, Ont., to place electric light wires across G.T.R.

7789. July 26.—Authorizing C.N.Q.R. to construct spur to Warden, King & Sons' premises, Maisonneuve, Que.

7790. Aug. 16.—Amending order 6535, of March 18, 1909, by inserting the words "or steel-rolled" after the words "steel tire" in the fifth line of the operative part of order.

7791. Aug. 10.—Authorizing City of Vernon, B.C., to lay sewer pipes under C.P.R. where same crosses South Vernon, Schubert and Seventh Sts.

7792. Aug. 17.—Authorizing G.T.R. to construct spur line to Gull Lumber Co.'s premises, Bexley tp., Ont.

7793. Aug. 17.—Authorizing C.P.R. to construct spur line to Farmers' Grain & Supply Co.'s premises, Wauchope, Sask.

7794. Aug. 16.—Authorizing C.P.R. to construct two branch lines in St Boniface tp., Man.

7795. Aug. 17.—Authorizing C.P.R. to construct a second line between Bolton and Bolton Jct., Ont.

7796. Aug. 17.—Authorizing C.P.R. to construct spur line to J. Eveleigh & Co.'s premises, Montreal

7797. Aug. 17.—Authorizing C.P.R. to construct bridges at mileage 110.3 and 110.6, on its London section, Ont.

7798. Aug. 12.—Authorizing Manitoba Government Telephones to maintain wires across C.P.R. at ¼ mile west of Findlay.

7799. Aug. 13.—Authorizing Thamesville Telephone Co. to erect its wires across C.P.R. at North Thamesville, Ont.

7800 to 7805. Aug. 13.—Authorizing Alberta Government Telephones to erect wires across C.P.R. at five points.

7806, 7807. Aug. 13.—Authorizing Bell Telephone Company to erect wires across London & Port Stanley Ry. at White station, Ont., and across G.T.R. at Preston street, Ottawa, Ont.

7808. Aug. 13.—Authorizing Golden Flat Rural Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7809 to 7812. Aug. 13.—Authorizing Volcanic Oil and Gas Co. to lay and maintain natural gas pipe under Michigan Central and Pere Marquette railways at four points.

7813. Aug. 13.—Authorizing City of Toronto to construct bridge to carry the highway and Toronto Street Ry. tracks over C.P.R., G.T.R., and C.N.O.R. tracks where such tracks cross Queen St. east, Toronto, and apportioning the cost. This order was given in full in our last number.

7814. Aug. 16.—Authorizing G.T.R. to construct branch line from its line between Orillia and Midland at or near Tiffin, running southerly through Tiny and Tay tps. to road allowance between lots 91 and 92, in 2nd concession of Tiny tp., Ontario.

7815. Aug. 16.—Authorizing G.T.R. to construct branch line from its line near corner of Victoria and Fourth Streets, Midland, Ont., running westerly partly through town of Midland, Tay and Tiny tps., and town of Penetanguishene, to junction with G.T.R. Penetang branch at or near Queen St., Penetanguishene, Ont.

7816. Aug. 16.—Authorizing G.T.R. to construct branch extending from its line between Colwell and Penetanguishene, near Wyevale, Tiny, Ont., and running northerly to road allowance between lots 91 and 92, 2nd concession, Tiny tp., Ont.

7817. Aug. 20.—Extending until Nov. 1, 1909, time in which branch line authorized by order 6365, of Jan. 27, 1909, was to be constructed by the C.P.R. and C.N.O.R. in Parry Sound, Ont.

7818. Aug. 16.—Approving Alberta Ry. & Irrigation Co.'s local standard passenger tariff C.R.C. 7, superseding C.R.C. 5, providing for rate of 3c. a mile.

7819. Aug. 18.—Approving revised location of C.P.R. Crow's Nest Pass branch between Pincher and Coleman, Alta., from mileage 31.60 to 37.56, and from mileage 53.42 to 56.92.

7820. Aug. 17.—Authorizing Humberstone tp., Ont., to lay culvert under G.T.R.

7821. Aug. 17.—Authorizing Bee Line Rural Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7822. Aug. 17.—Authorizing the C.P.R. to construct spur to J. Y. Griffin & Co.'s premises, Winnipeg.

7823. Aug. 17.—Authorizing C.P.R. to construct spur to Tudhope, Anderson & Co.'s premises, Winnipeg.

7824. Aug. 17.—Authorizing C.P.R. to construct spur to Alpha Co.'s premises, Three Rivers, Que.

7825. Aug. 17.—Authorizing C.P.R. to close temporary crossing at Third Ave. and portion of First Avenue crossing C.P.R. right way, and to re-arrange its general yard at Moose Jaw, Sask., also to open up a temporary crossing at Fourth Ave.

7826. Aug. 20.—Authorizing the C.P.R. to construct spur to Imperial Oil Co.'s premises, Wetaskiwin, Alta.

7827. Aug. 20.—Authorizing C.P.R. to construct bridge over Dufferin and Lis-

ATTENTION, MASTER CAR BUILDERS!

The M. C. B. rules of interchange provide for the use of **THE STEEL BACK BRAKE SHOE** on your freight equipment.

The use of **OUR STEEL BACK SHOE** will mean a saving in brake shoe maintenance, brake heads and brake beams.

THE STEEL BACK BRAKE SHOE is an economy on all railway equipment.

LET US PROVE IT TO YOU

American Brake Shoe and Foundry Company

NEW YORK

MAHWAH, N.J.

CHICAGO, ILL.

THE HOLDEN CO., Limited, Agents, 302 St. James St., MONTREAL

We Carry the Largest and Most Extensive Assortment
of Supplies of all Kinds Handled by any House in Canada

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.

LET US HAVE YOUR ENQUIRIES, OUR PRICES WILL CONVINCING YOU

RICE LEWIS & SON, LTD., TORONTO

THE ALGOMA STEEL CO., LIMITED

SAULT STE. MARIE, ONTARIO

IS NOW BOOKING
ORDERS FOR

STEEL RAILS

FOR DELIVERY DURING
THE SEASON OF 1909

Parties intending purchasing will find it to their interest to let us have their specifications at an early date so as to insure desired deliveries.

Office:
CANADA LIFE BUILDING
MONTREAL

DRUMMOND, McCALL & CO.
GENERAL SALES AGENTS

gar Sts., at Chapeau, Ont.

7828. Aug. 16.—Amending order 7639, of July 27, 1909, by striking out words "Toronto Section," in item 5 of operative part of order, and substituting therefor the words "St. Maurice Valley branch."

7829. Aug. 18.—Amending order 6084, of Jan. 14, 1909, by not requiring C.P.R. train 68 to stop at C.N.Q.R. crossing at St. Jerome, Que., on Mondays.

7830. Aug. 20.—Authorizing Town of Listowel, Ont., to lay watermain under G.T.R. tracks.

7831. Aug. 20.—Authorizing Robitaille-Eureka Distillery to lay water pipe across Quebec Railway, Light & Power Co.'s tracks at Beauport, near Quebec.

7832. Aug. 20.—Authorizing the G.T.R. to reconstruct bridge 50 at mileage 136.94, over Holland Ave., 1.16 miles west of Chaudiere Jct., Ont.

7833. Aug. 19.—Approving location of the C.N.R. Greenway branch extension, Adelpha to Wassena, through tp. 2, ranges 19-21, west principal meridian, mileage 52.11 to 64.77.

7834 to 7836. Aug. 20.—Authorizing city of Revelstoke, B.C., to lay box drain under C.P.R. smelter tracks and old wharf siding on Second St. and Campbell Ave., and sewer one on Pearson and Wynn Sts., and sewer pipe across C.P.R. right of way.

7837 to 7839. Aug. 20.—Authorizing the City of Brantford to lay two sewers under G.T.R. and one under T.H. & B.R.

7840. Aug. 17.—Authorizing Woodstock Water & Light system to erect wires across G.T.R. at Butler St., Woodstock, Ont.

7841. Aug. 20.—Authorizing the City of Toronto to construct drain pipe on girders of bridge carrying G.T.R. rails at Lansdowne Avenue.

7842. Aug. 19.—Directing C.P.R. to permit Laird tp., Algoma, Ont., to install telephone instrument in Echo Bay station.

7843. Aug. 17.—Authorizing C.P.R. to construct railway across nine highways in Saskatchewan.

7844. Aug. 18.—Authorizing C.N.R. to cross C.P.R. Wolseley-Reston branch.

7845. Aug. 19.—Authorizing C.P.R. to construct spur line to D. Maxwell & Sons' premises, St. Marys, Ont.

7846, 7847. Aug. 19.—Authorizing Manitoba Government Telephones to erect wires across C.N.R. $\frac{3}{4}$ mile north of Rounthwaite, and at Elphinstone, Man.

7848. Aug. 19.—Authorizing Allan Rural Telephone Co. to erect wires across G.T.R. in Saskatchewan.

7849, 7850. Aug. 17.—Authorizing the Woodstock Water & Light system to erect wires across G.T.R. at two points, Woodstock, Ont.

7851. Aug. 20.—Authorizing C.P.R. to construct bridge 95.85 over Cross River, Lake Superior Division.

7852. Aug. 20.—Approving location of B.C. Southern Ry. Michel to Kananaskis branch, mileage 30 to 37.84, following east bank of Elk River.

7853. Aug. 24.—Approving location of C.N.R. up North Thompson River, B.C., mileage 24 to 46.

7854. Aug. 20.—Authorizing the Hazeldean Rural Telephone Co. to erect wires across G.T.R. 3 miles s.e. of South March station, Ont.

7855. Aug. 20.—Approving location of C.N.R. through unsurveyed territory in Sudbury mining division, Ont., from mileage 80 to 100, from Sudbury Jct.

7856. Aug. 23.—Approving location of G.T.R. Melville-Yorkton branch, sec. 28, tp. 22, range 6, to sec. 6, tp. 25, range 4, west 2nd meridian, Sask.

7857. Aug. 20.—Authorizing Bell Telephone Company to erect wires across G.T.R. tracks three miles south of Kin-cardine station, Ont.

7858. Aug. 24.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. tracks $2\frac{1}{2}$ miles east of Cypress River.

7859. Aug. 20.—Authorizing City of Revelstoke, B.C., to construct under-crossing across C.P.R. main line on extension of First St. W. to road to rural cemetery.

7860. Aug. 20.—Authorizing the Bell Telephone Company to erect wires across G.T.R. 3 miles north of Sarnia, Ont.

7861. Aug. 20.—Authorizing Saskatchewan Government Telephones to erect wires across C.P.R. at Alameda.

7862. Aug. 20.—Authorizing Golden Flat Rural Telephone Co. to erect wires across C.P.R. at Drinkwater, Sask.

7863. Aug. 20.—Authorizing Bell Telephone Company to erect wires across G.T.R. north of Pickering station, Ont.

7864. Aug. 20.—Authorizing C.P.R. to construct tracks across road allowance lying to east of sec. 14-11-12, west of principal meridian, Man.

7865. Aug. 20.—Approving location of C.P.R. station at McTaggart, Sask.

7866. Aug. 20.—Authorizing C.P.R. to construct extra track across road allowance between sec. 21 and 16, tp. 10, range 20, west principal meridian, Man.

7867. Aug. 20.—Authorizing C.P.R. to reconstruct bridge 113.9 over Illecillewaet River, B.C.

7868. Aug. 24.—Authorizing Town of Barrie, Ont., to lay sewer under G.T.R. at Essa St.

7869, 7870. Aug. 24.—Authorizing Bell Telephone Company to construct conduit under G.T.R. and M.C.R. at Waterloo St., London, Ont.

7871. Aug. 20.—Rescinding order 7749, of Aug. 7, 1909, re G.T.R. station at Guelph, Ont., and staying proceedings under order 7394, June 28, 1909, in same matter, until question of subway at Neeve St. is disposed of.

7872. Aug. 20.—Authorizing Pembroke Southern Railway to construct spur to Lee Manufacturing Co.'s premises, Pembroke, Ont.

7873. Aug. 20.—Directing the C.P.R. to construct two level highway crossings over gravel pit and Andrews road crossing, Matsqui district, B.C.

7874. Aug. 20.—Approving location of C.P.R. station at Gull Lake, Sask.

7875, 7876. Aug. 20.—Authorizing C.P.R. to construct branch to Rogers-Cunningham Lumber Co.'s and Citizens' Lumber Co.'s premises, Lethbridge, Alta.

7877. Aug. 20.—Authorizing the C.P.R. to construct spur to J. Wilson's premises, Vaudreuil parish, Que.

7878. Aug. 24.—Authorizing C.P.R. to construct spur to Alberta Lumber Co.'s premises, Vancouver, B.C.

7879. Aug. 24.—Authorizing C.P.R. to construct spur through blocks 21, 12 and 5, and across lanes and streets in Saskatoon, Sask.

7880. Aug. 19.—Dismissing application of C.P.R. for order to amend order 6856, April 17, 1909, by providing that wires at crossings of Seymour Power & Electric Co. shall be supported by a four-pole structure on each side of track.

7881. Aug. 27.—Covering regulation adopted by Board for carriage of explosives by railroads.

7882. Aug. 24.—Approving change of location of G.T.P.R. from east line, sec. 1, tp. 52, range 24, west 5th meridian, North Alberta, mileage 43.56 to 55.15.

7883. Aug. 24.—Approving location of G.T.P. Melville-Regina branch, sec. 31, tp. 22, range 6, to sec. 13, tp. 21, range 12, west 2nd meridian, mileage 0 to 33, Sask.

7884. Aug. 24.—Recommending to Governor in council for approval Oshawa Ry. Co.'s by-law re spitting and smoking on railway premises.

7885. Aug. 24.—Recommending to

Governor in council for approval Thousand Islands Railway Co.'s by-law re spitting and smoking on railway premises.

7886. Aug. 24.—Authorizing Alberta Government Telephones to erect wires across C.P.R. in Camrose.

7887. Aug. 25.—Authorizing City of Hamilton to lay water pipe under G.T.R. at Hillyard St.

7888. Aug. 27.—Authorizing C.N.O.R. to construct joint section of C.P.R. and C.N.O.R., Parry Sound spur, under C.P.R. tracks at Parry Sound, Ont.

7889. Aug. 27.—Approving New Brunswick Southern Ry. Co.'s by-law authorizing H. W. Newnham to prepare and issue tariffs of tolls for freight traffic.

7890. Aug. 27.—Approving New Brunswick Southern Ry. Co.'s by-law authorizing H. H. McLean to prepare and issue tariffs of tolls for passenger traffic.

7891. Aug. 27.—Authorizing Bell Telephone Company to erect wires across M.C.R. $1\frac{1}{4}$ miles west of Welland, Ont.

7892. Aug. 27.—Authorizing Condie Rural Telephone Company to erect wires across C.N.R. in Saskatchewan.

7893. Aug. 27.—Authorizing Alberta Government Telephones to erect wires across C.P.R. in Frank.

7894. Aug. 27.—Authorizing Pipestone municipality, Man., to erect wires across C.P.R. $\frac{1}{4}$ mile west of Sinclair.

7895. Aug. 27.—Authorizing Branda municipality, Man., to erect wires across C.P.R. northeast of Napinka station.

7896. Aug. 27.—Authorizing Manitoba Government Telephones to erect wires across C.P.R. at Strathclair.

7897. Aug. 10.—Respecting complaint of Plymouth Cordage Company re rates on binder twine. This order is given in full on another page.

7898. Aug. 27.—Approving proposed deviation of Hamilton, Waterloo & Guelph Ry. from Sheffield to Galt, Ont.

7899. Aug. 30.—Extending until Sept. 25, 1909, time in which City of Montreal shall put in proper repair steel viaduct carrying St. Catharine St. over C.P.R., and ordering that the city be liable to a penalty of \$25 a day for every day after Sept. 25 that work required to be done shall remain uncompleted.

7900. Aug. 27.—Authorizing Tilbury Telephone Co. to place wires across P.M.R., $\frac{3}{4}$ mile east of Glenwood station, Ont.

7901. Aug. 31.—Authorizing Princeton & Drumbo Telephone Co. to place wires across G.T.R. at 6th con., Blenheim tp., Ont.

7902. Aug. 31.—Authorizing Bell Telephone Co. to place wires across C.P.R. between Wallace Ave. and Dundas St., Toronto.

7903 to 7906. Aug. 31.—Authorizing Alberta Government Telephones to place wires across C.N.R. at four points.

7907. Aug. 31.—Authorizing City of Peterboro, Ont., to construct sewer under G.T.R.

7908. Aug. 31.—Authorizing C.P.R. to build spur line along lane between Eighth Ave. and Dewdney St., and between Toronto St. and St. John St., Regina, Sask.

7909 to 7913. Aug. 30.—Authorizing V.V. & E. Ry. to construct five bridges.

7914. Aug. 30.—Approving location of C.N.R. from mileage 0.00 to 51.50 in Saskatchewan.

7915. Aug. 30.—Approving location of Superior & Western Ont. Ry., mileage 0. to 6.415.

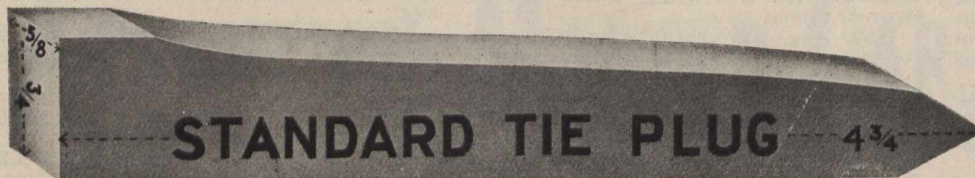
7916. Aug. 31.—Approving location of G.T.P.R. from mileage 100 to 150, British Columbia.

7917. Aug. 31.—Authorizing V.V. & E. Ry. to construct bridge 409, at mileage 24.1.

7918. Aug. 31.—Authorizing G.T.R. to reconstruct bridge across C.P.R. just west of Brockville, Ont.

7919. Aug. 27.—Approving location of C.P.R. station at Fort William, Ont.

"Note the Size and Shape"



In bags of 1000 each

Write for prices

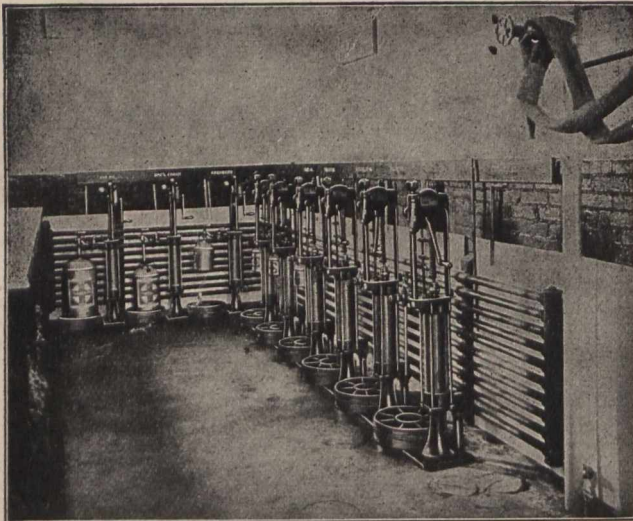
Better and Cheaper
than hand made

M'f'd by J. HARRISON & SONS CO., LIMITED

OWEN SOUND, ONT.

These plugs are giving good satisfaction. We are also large dealers in Ties, Posts, Timbers, Lumber, Sash, Doors, Interior Finish, and with the plant we have here should be able to supply you.

Our Specialty is Good Material Promptly. Try us once.



Bowser Pumps in a Railway Storehouse

FIRE-PROOF OIL STORAGE

When your oils are stored by the Bowser System, you know they can never be the source of a fire—

What is more, fire starting from some other source cannot get to the oils.

These are only two results of

THE BOWSER SYSTEM

The Bowser is constructed so as to secure the measure of safety prescribed by the National Board of Fire Underwriters.

Equipments for Railway Oil Houses described in Bulletin 18. Send for it.

S. F. BOWSER & CO., LIMITED
66-68 FRASER AVENUE - - TORONTO

THE NEW HOTEL BREVOORT CHICAGO



The Twentieth Century Hotel

Absolutely Fireproof

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG,
PROPRIETORS

ARTHUR M. GRANT,
MANAGER

7920. Sep. 1.—Authorizing C.P. Ry. to open for traffic the portion of its mountain section between Hector and Field, B.C.
7921. Aug. 31.—Authorizing C.P.R. to construct overhead crossing at 6th Ave., Moose Jaw, Sask.
- 7922 to 7926. Sep. 1.—Approving location and plans of C.P.R. stations at Upsala, Ont.; Molson, Man.; Welwyn, Sask.; Bulyea, Sask., and Glenboro, Man.
- 7927 to 7930. Sep. 1.—Authorizing Bell Telephone Co. to place wires across C.P.R. at four points in Ontario.
7931. Sep. 1.—Approving deviation of location of portion of C.P.R. from point on revision of Crow's Nest Pass branch to Calgary & Edmonton Ry., Alta.
7932. Aug. 31.—Extending until Oct. 15, time within which C.P.R. is required to complete the work on Richmond Road viaduct, Ottawa, Ont.
7933. Aug. 30.—Authorizing Superior & Western Ont. Ry. to open for freight traffic the portion of its line from the Junction on the G.T.P.R. Lake Superior branch near mileage 154 to the head of Sturgeon Lake, at O'Brien, seven miles.
7934. Aug. 24.—Authorizing G.T.P.R. to construct its railway across Norton St., Edmonton, Alta.
7935. Sep. 1.—Authorizing G.T.R. to construct six bridges on its Ottawa division.
- 7936 and 7937. Aug. 31.—Authorizing V.V. & E.R. to construct bridges 437 and 400 over Twenty Mile Creek and Similkameen River.
- 7938 to 7941. Sept. 1.—Approving plans and location of C.P.R. stations at Redvers, Sask., Little Qualicum River, Graydon, Sask., and Goodlands, Man.
7942. Sep. 1.—Authorizing C.P.R. to build spur to Rocky Mountain Cement Co.'s premises, Blairmore, Alta.
7943. Sep. 1.—Extending until Sep. 14, time within which C.N.Q.R. may operate trains for carriage of traffic on the portion of its line connecting with Quebec & Lake St. John Ry. in Quebec City to Garneau Jct., Que.
7944. Sep. 2.—Approving stress sheets of G.T.R. for Port Hope viaduct, Ont.
7945. Sept. 2.—Approving strain sheets for C.N.O.R. bridge over Rideau River, mileage 56.9, west from Hawkesbury.
7946. Sept. 1.—Extending for 30 days from Aug. 26, 1909, time within which C.P.R. may commence construction of subway at Iberville St., Montreal.
7947. Sep. 2.—Authorizing the N. St. C. & T.R. to construct spur from Font-hill station, Ont., to Railton's gravel pit.
7948. Sep. 2.—Authorizing T.H. & B.R. to construct spur to Easterbrook & Bryan's premises, Hamilton, Ont.
- 7949 and 7950. Sep. 1.—Authorizing Dundurn Rural Telephone Co. to place wires across C.N.R. at two points in Saskatchewan.
7951. Sep. 2.—Authorizing Alberta Gov't Telephones to place wires across C.P.R. between secs. 2 and 3, tp. 11, r. 8, west 4th mer.
- 7952 to 7955. Sep. 2.—Authorizing Bell Telephone Co. to place wires across G.T.R. at three points in Toronto, and across the C.P.R. at Westmount, Montreal.
- 7956 to 7958. Sep. 2.—Authorizing Manitoba Gov't Telephones to place wires across C.N.R. at two points and across C.P.R. at one point.
- 7959 and 7960. Sep. 1.—Authorizing Saskatchewan Gov't Telephones to place wires across C.N.R. and C.P.R. at one point each.
7961. Sep. 1.—Authorizing Elmwood Rural Telephone Co. to place wires across G.T.R. at Elmwood, Ont.
7962. Sep. 1.—Amending order 7698, Aug. 3, 1909, authorizing C.P.R. to construct spur to Wood-McNabb Lumber Co.'s premises, East Kootenay district, B.C.
7963. Sept. 1.—Authorizing the C.N.R. to alter level crossing on Pembina St., Winnipeg.
7964. Aug. 31.—Authorizing C.N.R. to use ticket and baggage forms in use on its lines west of Port Arthur, filed with the Board, until Board otherwise orders.
7965. Sep. 2.—Authorizing City of Brantford, Ont., to construct sewer under G.T.R. on Wilkinson St.
7966. Sep. 1.—Recommending to Governor in Council for sanction C.N.R. by-law respecting travelling upon and use of the railway, and rescinding order 7735, Aug. 6, 1909.
7967. Sep. 2.—Approving location of C.N.R. from five miles above Yale to 10 miles above Yale, B.C.
7968. Sep. 1.—Authorizing Georgian Bay & Seaboard Ry. to divert road allowance, Tay, tsp., Ont.
7969. Sep. 1.—Ordering C.P.R. to construct highway crossings at mileage 2.9 and 3.5 from Megantic, Que.
7970. Sep. 2.—Authorizing Town of Orillia, Ont., to lay sewer pipe under G.T.R.
7971. Aug. 31.—Authorizing C.P.R. to construct spur line to McColl Bros' premises, Winnipeg.
7972. Aug. 31.—Authorizing Pacific Coast Coal Mines, Ltd., to cross by an undercrossing, Esquimalt & Nanaimo Ry. tracks in Cranberry district, B.C.
7973. May 4.—Approving plans submitted by Cameron & Co., Ltd., Ottawa, Ont., for siding to connect with G.T.R. near Ayley Lake station, Ottawa division.
7974. Sept. 2.—Authorizing Town of Arnprior to lay sewer pipe under G.T.R. at Ida St.
7975. June 1.—Authorizing Montreal Park & Island Ry. Co. to appeal to the Supreme Court of Canada upon the following question:—"Whether it is right or proper for the Board in making the said order to overlook contract dated Nov. 7, 1907, between the M.P. & I.R. Co. and Notre Dame de Grace municipality."
- 7976.—June 8.—Authorizing Montreal St. Ry. Co. to appeal to the Supreme Court of Canada upon the following question:—"Whether upon a true construction of sec. 91 and 92 of the British North America Act and of sec. 8 of the Railway Act of Canada, the M.S.R. Co. is subject in respect of its through traffic with the Montreal Park & Island Ry. Co. to the jurisdiction of the Board of Railway Commissioners of Canada."
7977. Sep. 3.—Authorizing C.P.R. to deviate portion of its line as constructed, between mileage 38 and 39, west of Nelson, B.C.
7978. Sep. 3.—Authorizing C.P.R. to construct spur through lots 37 to 43 of lot 5, in parish lot 47, St. John, Winnipeg.
- 7979 and 7980. Aug. 31.—Authorizing City of Toronto to lay water pipe under the C.P.R. at Osler St. and Symington St.
7981. Sep. 3.—Authorizing C.P.R. to construct 12 spur lines, each crossing 7th Ave., Regina, Sask.
7982. Sep. 3.—Authorizing City of Toronto, to construct a sewer between Tiverton and Carlaw Aves. under the G.T.R.
7983. Sep. 3.—Approving C.P.R. plan for bridge 55.5, Sirdar section, Sask.
- 7984 and 7985. Sep. 7.—Approving C.N.R. location up North Thompson River, B.C.; mileage 46 to 55, and through tps. 34-35, and ranges 1-8, mileage 44.84 to 93.85, Sask.
7986. Sep. 7.—Authorizing East Oxford tsp., Ont., to place drain pipe under Port Dover & Lake Huron Ry. Co. near Woodstock, Ont.
7987. Sep. 3.—Authorizing Coldstream Telephone Co. to place its wires across C.P.R. at Komoka, Ont.
7988. Sep. 1.—Authorizing Yellow Grass Rural Telephone Co. to place its wires across C.P.R. between secs. 13 and 14, tp. 10, r. 17, west 2nd mer.
7989. Sep. 7.—Authorizing Markham & Pickering Telephone Co. to place its wires across G.T.R. between lots 10 and 11, 5th con., Markham tsp., Ont.
- 7990 to 7998. Sep. 3.—Authorizing Bell Telephone Co. to place its wires across G.T.R., M.C.R. and C.N.R. at eight points in Ontario and one in Quebec.
7999. Sep. 7.—Amending order 5956, Dec. 22, 1908, directing Quebec, Montreal & Southern Ry. to construct stations at Sorel and Pierreville, Que., within eight months from Dec. 22, 1908, by granting an extension of six months from Sep. 7, 1909, within which to construct station at Sorel.
- 8000 to 8002. Sep. 3.—Authorizing Manitoba Gov't. Telephones to cross C.N.R. and C.P.R. at three points.
- 8003 and 8004. Sep. 1.—Authorizing Alberta Gov't. Telephones to place wires across C.N.R. at two points.
- 8005 and 8006. Sep. 1.—Authorizing Saskatchewan Government Telephones to place wires across the C.N.R. at two points.
8007. Sep. 7.—Exempting British Yukon Ry. from provision of order 7473, May 4, as to construction and maintenance of fences on either side of its right of way, and of gates at farm crossings and of cattle guards.
- 8008 to 8010. Sept. 7.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at Lindsay and Burford, Ont.
- 8011 to 8014. Sep. 7.—Authorizing Village of Burlington, Ont., to lay water main under G.T.R. at four points.
8015. Sep. 7.—Approving deviation of Montreal road by C.N.R. in Cumberland tsp., Ont., mileage 41 west from Hawkesbury, subject to conditions that road as diverted, be put by the C.N.R. in as good order as existing road.
8016. Sept. 8.—Approving G.T.P.R. by-law appointing A. B. Smith Manager G.T.P.R. Telegraph Co. to prepare and issue tariffs of tolls to be charged for transmission of telegraph messages.
8017. Sep. 8.—Approving location of G.T.P.R. from east line of sec. 1, tsp. 53, r. 23, to south line of sec. 3, tsp. 52, r. 24, west 5th mer., North Alberta.
8018. Sept. 8.—Authorizing Bell Telephone Co. to place wires across M.C.R., half a mile east of Welland, Ont.
8019. Sep. 8.—Authorizing J. A. Coleman to lay gas pipe under G.T.R., two miles west of Marshville station, Ont.
8020. Aug. 26.—Authorizing Pembroke Lumber Co. to lay water pipe under C.P.R. at Pembroke, Ont.
8021. Sep. 8.—Authorizing Town of Barrie, Ont., to lay sewer pipe under G.T.R. at Bayfield St.
- 8022 and 8023. Sep. 8.—Authorizing Saskatchewan Gov't. Telephones to place wires across C.P.R. at two points.
- 8024 to 8026. Sep. 8.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at three streets in Lindsay, Ont.
8027. Sep. 8.—Authorizing Orford Mt. Ry. to construct bridge 6 over Fyfield Brook, Eastman, Que.
8028. Sep. 8.—Authorizing C.P.R. to construct bridge 125.2, Cascade section, over roadway near Vancouver, B.C.
8029. Sep. 8.—Authorizing Esquimalt Nanaimo Ry. to construct bridge 14.0 over Niagara ravine, B.C.
8030. Sep. 8.—Authorizing P.M.R. to move east derail and semaphore installed at Walkerville Jct., Ont., at junction with C.P.R. to a point 53 ft. further away from the crossing.
8031. Sep. 7.—Authorizing R. H. Edgar, of Bowling Green, Ont., to place telephone wires under C.P.R. at Waldemar, Ont.
8032. Sept. 9.—Authorizing Town of Gravenhurst, Ont., to lay water main under G.T.R.
- 8033 to 8035. Sep. 9.—Authorizing Saskatchewan Gov't. Telephones to place wires across C.P.R. at three points.
- 8036 to 8041. Sep. 9.—Authorizing Bell Telephone Co. to place wires across C.P.R. and G.T.R. at various points in Ontario.

THE GRAND TRUNK RAILWAY COMPANY OF CANADA.

Notice is hereby given that the Ordinary Half-Yearly General Meeting of the Grand Trunk Railway Company of Canada will be held at the City Terminus Hotel, Cannon Street, London, E.C., on Thursday, the 21st day of October, 1909, at twelve o'clock noon precisely, for the purpose of receiving a Report from the Directors, and for the transaction of other business of the Company.

Notice is also given that the Transfer Books of the Company in London and Montreal will be closed from Monday, the 20th September, to the day of meeting, both days inclusive.

By Order,

C. Rivers Wilson, President.
H. H. Norman, Secretary.

Dashwood House, 9 New Broad Street, London, E.C., September 10th, 1909.

NOTICE.—The South Ontario Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways and bridge which it has been authorized to construct by section 3 of chapter 85 of the Statutes of Canada 1887 as enacted by section 1 of chapter 92 of the Statutes of 1891, and for other purposes.

WALTER R. BAKER,
Acting Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

NOTICE.—The Campbellford, Lake Ontario and Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 8 of chapter 54 of the Statutes of Canada of 1904, and for other purposes.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal, the 15th Sept., 1909.

NOTICE.—The Walkerton & Lucknow Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it was authorized to construct by section 1, subsections (b) and (c) of chapter 175 of the Statutes of Canada of 1905, and for other purposes.

GEO. A. WALKER,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Toronto the 15th Sept., 1909.

NOTICE.—The West Ontario Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 1 of chapter 178 of the Statutes of Canada, 1906, and for other purposes.

WALTER R. BAKER,
Acting Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

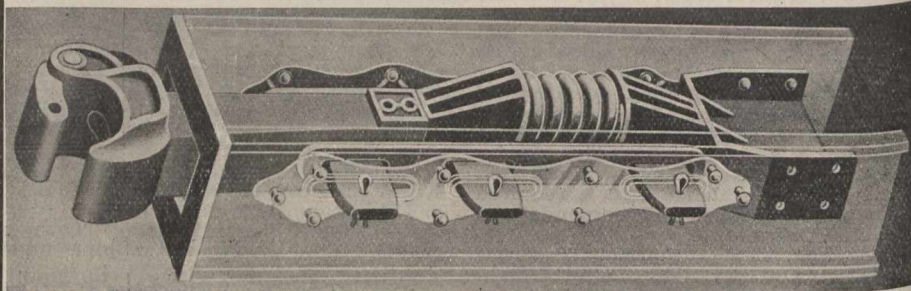
NOTICE.—The Ottawa Northern & Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railways which it has been authorized to construct by section 1, subsections (a) and (b) of chapter 84 of the Statutes of Canada, 1899, and by section 1 of chapter 72 of the Statutes of Canada of 1900, and for other purposes.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

Dated at Montreal the 15th Sept., 1909.

THE
Farlow Twin Spring Draft Gear



Designed for Wooden or Steel Cars and Engines.
Pulling Strains Distributed Equally on the Three Cross Keys.

Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

FARLOW DRAFT GEAR CO.

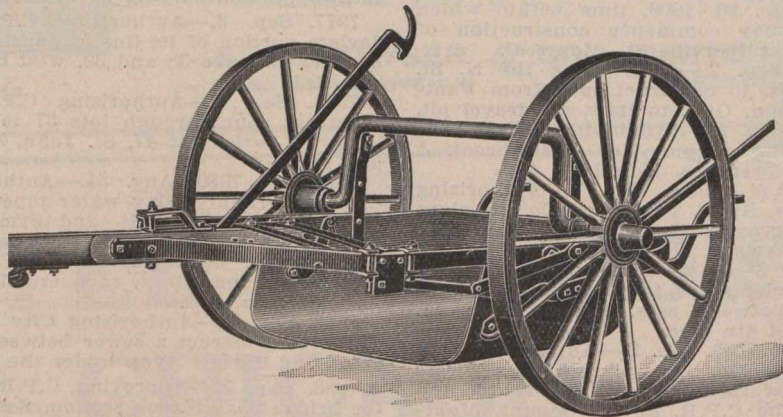
Baltimore, Md.

Chicago, Ill.

THE TORONTO PRESSED STEEL CO.

LIMITED

TORONTO, CANADA



Our **SOLID PRESSED BOWL DRAG** and **WHEEL SCRAPERS** are the most satisfactory in the market. They are pressed out of one solid sheet of steel and have no joints or seams.

We manufacture a complete line of Contractors' Supplies including

PLOUGHS

DUMP WAGONS

WHEELBARROWS

CEMENT MIXERS

DUMP CARS

DUMP CARTS

TRUCKS

WAGONS

etc., etc.

PROMPT SHIPMENTS

SEND FOR CATALOGUE

8042. Sep. 9.—Authorizing Canadian Machine Telephone Co. to place wires across G.T.R. at Burford, Ont.

8043. Sep. 9.—Approving location of G.T.R. station at Bluevale, Ont.

8044. Sep. 9.—Authorizing Centre Thorah Telephone Ass'n., to place wires across G.T.R., in the tp. of Thorah, Ont.

8045 and 8046. Sep. 9.—Authorizing Bell Telephone Co. to place wires across the track of the T.H. & B.R. near Grimsby, Ont.; and across M.C.R. at Bridgeburg, Ont.

8047. Sep. 9.—Authorizing V.V. & E.R. & Nav. Co. to construct bridge 439 over Similkameen River, B.C.

8048. Sep. 9.—Authorizing Village of Stirling, Ont., to erect electric power wires across G.T.R.

8049. Sep. 9.—Approving location of C.N.R. up North Thompson River from Nekaliston Creek to Coldwater River, B.C.

8050. Sep. 9.—Approving location of C.N.R. through tps. 9-5, ranges 33-34, west principal meridian, and ranges 1-6, west 2nd mer., mileage 16.09 to 65.16, Sask.

8051. Sep. 9.—Authorizing the Q.R.L. & P. Co. to construct branch line or Y at St. Joachim, Que.

8052. Sep. 9.—Authorizing C.P.R. to lay tracks across 18th St. Brandon, Man.

8053. Sep. 9.—Authorizing C.P.R. to construct spur to Brandon Gas & Coal Co.'s plant, Brandon, Man.

8054. Sep. 9.—Authorizing the C.P.R. to construct spur lines for Manitoba Rollings Mills, St. Boniface, Man.

8055. Sept. 13.—Authorizing G.T.R. to construct spur line to Davies & Doty's premises, Oakville, Ont.

8056. July 13.—Approving location of C.N.O.R. through Gloucester tp. and City of Ottawa, from mileage 53.91 to 57.42 west from Hawkesbury, Ont.

8057. Sept. 13.—Extending for two weeks from date of order time within which C.N.Q.R. may operate its trains from Quebec City to Garneau Jct.

8058. Sept. 13.—Authorizing C.P.R. to construct branch line in Saskatoon, Sask., to a point to be determined by City Engineer.

8059. Sept. 10.—Authorizing C.P.R. to operate spur line to G. Vrooman's premises, Lethbridge, Alta.

8060, 8061. Sept. 10.—Authorizing Village of Stirling, Ont., to place electric wires across G.T.R.

8062. Sept. 10.—Authorizing Laval Electric Co. to place wires across C.P.R. near Therese, Que.

8063 to 8065. Sept. 13.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Howick, Que.; Stevensville, Ont., and Bridgeburg, Ont.

8066. Sept. 14.—Amending order 7963, Sept. 1, 1909, authorizing C.N.R. to alter existing level crossing on Pembina St., Winnipeg.

8067. Sept. 14.—Authorizing G.T.R. to construct spur to H. Corby Distillery Co.'s premises, Thurlow tp., Ont.

8068. Sept. 10.—Approving masonry work to be constructed at bridge 27.3, Macleod section, C.P.R.

8069. Sept. 10.—Authorizing C.P.R. to construct branch line in blocks 3, 7, 12 and 14, plan Q 10, Saskatoon, Sask.

8070. Sept. 14.—Approving location of C.N.O.R. Udney-Orillia line through Mara tp., Ont.

8071. Sept. 10.—Authorizing Strathcona municipality to cross C.N.R. one mile east of Belmont, Man.

8072. Sept. 10.—Authorizing Macdonald municipality to place wires across C.N.R. 2 miles northeast of Brunkild, Man.

8073, 8074. Sept. 10.—Authorizing Bell Telephone Co. to place wires across M.C.R. near Bridgeburg and near Welland, Ont.

8075 to 8078. Sept. 14.—Authorizing Volcanic Oil & Gas Co. to lay pipe under M.C.R. at four points in Ontario.

8079. Sept. 14.—Authorizing G.T.R. to construct branch line in Oakville, Ont.

8080. Sept. 14.—Authorizing G.T.R. to construct branch line and two spurs to J. R. Eaton & Sons' planing mills, Ont.

8081. Sept. 14.—Authorizing C.P.R. to open for traffic the portion of its Nominating extension from Nominating to Rapide de l'Original, 34.6 miles.

8082. Sept. 14.—Approving tariff of parlor car rates C.R.C. no. S. 2 of Esquimalt & Nanaimo Ry.

8083. Sept. 14.—Authorizing C.P.R. to construct extra track across road allowance between secs. 14 and 23, tp. 11, range 12, west principal mer., Manitoba.

8084. Sept. 14.—Authorizing City of Toronto to construct additional bridge across G.T.R. and C.P.R. at Dundas St.

8085. Sept. 15.—Authorizing Winnipeg Electric Co. to operate cars over C.P.R. track on Logan Ave., Winnipeg.

8086, 8087. Sept. 15.—Authorizing Mt. McKay & Kakabeka Falls Ry. to cross C.P.R. and C.N.R. at Yonge St., Fort William, Ont.

8088. Sept. 14.—Dismissing application of Town of Leamington, Ont., to construct street over M.C.R. Leamington & St. Clair branch.

8089. Sept. 15.—Authorizing Mt. McKay & Kakabeka Falls Ry. to cross G.T.P.R. at Yonge St., Fort William, Ont.

8090. Sept. 13.—Authorizing Town of Listowel, Ont., to place wires across C.P.R. at Main St.

8091. Sept. 14.—Authorizing Village of Stirling, Ont., to place electric light wires across G.T.R. at William St.

8092. Sept. 14.—Authorizing Town of Listowel to place electric power wires across C.P.R. at Inkerman St.

8093. Sept. 15.—Authorizing C. Vandenberg to lay gas pipe under G.T.R. in North Cayuga tp., Ont.

8094. Sept. 15.—Authorizing Mt. Albert Telephone Co. to place wires across G.T.R. at lots near Mt. Albert station, Ont.

8095, 8096. Sept. 15.—Authorizing N.B. Telephone Co. to place wires across C.P.R. at two points in Carleton county, N.B.

8097. Sept. 15.—Authorizing Manitoba Government Telephones to place wires across C.P.R. west of Stonewall station.

8098. Sept. 15.—Authorizing Macdonald municipality to place wires across C.P.R. near La Salle station.

8099 to 8101. Sept. 15.—Authorizing Alberta Government Telephones to place wires across C.N.R. between mile posts 816 and 817, Alta., and the C.P.R. ¼ mile south of Parkdale, and at 11th Ave., Calgary.

8102 to 8106. Sept. 15.—Authorizing Bell Telephone Co. to place wires across G.T.R. at three points and the M.C.R. at two points in Ontario.

8107. Sept. 15.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. near Glen Ewen, Sask.

8108. Sept. 15.—Authorizing Volcanic Oil & Gas Co. to lay main under C.P.R. in Sandwich West tp., Ont.

8109. Sept. 15.—Authorizing C.P.R. to construct bridge 84.7 at Six Mile Creek, Mountain section Pacific Division.

8110. Sept. 14.—Authorizing Vancouver Power Co. to cross with its tracks New Westminster & So. Ry. at Cloverdale, B.C.

8111. Sept. 15.—Directing Brandon, Sask. & Hudson Bay Ry. to employ two men and a foreman on each of the sections known as the Boissevain and Min-ton sections, and if that number be not sufficient that the company employ such additional men as may be necessary for the purpose.

MAINLY ABOUT PEOPLE.

Hon. L. P. Brodeur, Minister of Marine, returned to Canada from England, early in Sept.

Lady Shaughnessy and the Misses Edith and Margaret Shaughnessy sailed for England, Sept. 24.

J. J. Hill, Chairman of the Board Great Northern Ry., celebrated his 71st birthday Sept. 17.

J. P. Mabee, Chairman Board of Railway Commissioners, returned to Canada from Europe, early in Sept.

F. Ree, General Manager London and North Western Ry. (Eng.), arrived in Canada on a visit, Sept. 16.

Mrs. Calderwood, wife of Hugh Calderwood, marine architect, has returned to Toronto from Scarborough Beach, Me.

R. L. Barwick, who died at Barrie Sept. 3, aged 52, was in the old Northern Ry. of Canada's service for many years.

Colin Gordon, who died suddenly at Toronto, Sept. 8, aged 50, was for many years C.P.R. agent at Arthur, Ont.

W. J. Cockburn, special agent and inspector G.T.R. General Baggage Department, Toronto, died at his residence, East Toronto, Sept. 15.

D. McNicoll, Vice President C.P.R., returned to Montreal, Sept. 10, after completing a tour of the company's western lines.

H. E. Suckling, Treasurer C.P.R., returned to Montreal, Sept. 13, after a tour over the company's lines to the Pacific coast.

Lady Reid has presented a complete ambulance to the General Hospital, St. John's, Nfld., in memory of the late Sir Robert G. Reid.

Rear-Admiral Kingsmill returned to Canada Sept. 3, from England, where he had been attending the Imperial Defence Conference in London.

Jas. Mills, member of the Board of Railway Commissioners, has returned to Ottawa and resumed his duties, his health having much improved.

Mrs. A. Piers, wife of the manager of the C.P.R. Atlantic Steamship Line, and Miss Isabel Piers, left Montreal in Sept. to join Mr. Piers in Liverpool, Eng.

A. R. Mosher was re-elected Grand President of the Canadian Brotherhood of Railway Employees, at the annual convention held at Moncton, N.B., recently.

C. R. W. Postlethwaite, who was appointed Inspector of Asylums for the Ontario Government, is a son of C. W. Postlethwaite, Harbor Master of Toronto.

A. McMillan was presented with a mahogany buffet by the C.P.R. passenger staff in Toronto Sept. 8, on the occasion of his marriage to Miss Silverthorne.

Frank E. P. Turner, C.E., of Bracondale Hill, Toronto, who died recently, left an estate valued at \$356,533, which he bequeathed to relatives and friends.

Lady Kirkpatrick, widow of the late Sir Geo. Kirkpatrick, C.P.R. director, will spend the winter in Egypt, where her son, Capt. E. Kirkpatrick, is stationed.

T. S. Acheson, C.P.R. General Grain Agent, Winnipeg, while feeding a pet bear at Winnipeg Beach recently, was attacked by it and rather badly mauled. We were advised Sept. 14, that though he had not recovered the use of the injured limb, he had been able to attend to his business as usual.

The directors of the newly-formed Canada Cement Co., Ltd., include the following: Sir Sandford Fleming, W. D. Matthews, Hon. R. Mackay, directors C.P.R.; J. R. Booth, Hon. G. A. Cox, directors G.T. Pacific Ry.; and G. E.

Drummond, director Canada Iron Corporation, Ltd.

J. Nelson, formerly Superintendent C.P.R., Toronto, is now connected with Robins, Ltd., a Toronto real estate firm, and is taking charge of its immigration business in the west.

T. C. Gregory, a well known civil and mining engineer, who was engaged on the construction of the Great Western Ry., now a part of the G.T.R., died in London, Eng., recently.

H. G. Dimsdale, of the G.T.P.R. engineering staff at Vancouver, B.C., while working near the camp, Sept. 13, sustained a broken arm and shoulder blade, caused by a falling tree.

J. Hendry, Vancouver, B.C., who has been elected President of the Canadian Manufacturers' Association, is President of the Vancouver, Westminster and Yukon Ry.

H. Larose, clerk in the C.P.R. ticket office at Place Viger station, Montreal, was sentenced to three years in the penitentiary, Sept. 13, for the theft of \$800 from the company.

Among the ticket agents who have joined the Canadian Ticket Agents' Association recently are: H. G. Elridge, G.T.R., Vanleek Hill, Ont.; S. Way Kent, C.P.R., Paris, Ont.

A. C. Burrows, New York Central Lines travelling passenger agent, who has been transferred from Kansas, Mo., to Denver, Colo., is a son of W. T. Burrows, of Charlottetown, P.E.I.

L. A. Hamilton, ex-Land Commissioner C.P.R., will spend the autumn and early winter at his fruit farm, Lorne Park, Ont., having rented his Toronto house to Col. S. Denison.

G. Brown, St. John, N.B., who has been engaged for some time in the Maritime Provinces in railway construction, has been appointed Assistant Chief Engineer of Public Works.

A. C. Disney, chief clerk C.P.R. Atlantic steamship department, Chicago, has resigned to enter the White Star Line's service in its cruise department at New York.

Mrs. Crangle, wife of Capt. S. Crangle, formerly Marine Superintendent St. Lawrence & Chicago Steam Navigation Co., died at Toronto Sept. 12, aged 71, after several months' illness.

Lord Mount Stephen has given \$1,000 to the fund being raised in Brantford, Ont., to purchase the old Bell homestead there, as a memorial to the telephone inventor.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, Montreal, spent a few days in the Ontario highlands early in Sept., and returned to Montreal, Sept. 18.

M. J. Haney, railway and general contractor, Toronto, was a passenger on board the steamboat Ohio when she ran on a rock on the Alaskan coast, Sept. 2, and became a total wreck.

Miss Heloise Keating, third daughter of E. H. Keating, C.E., ex-City Engineer of Toronto, and formerly General Manager Toronto Ry., was married at Toronto, Sept. 11, to C. F. Macklem.

P. A. McDermott, a Canadian Northern Ry. employe at Saskatoon, Sask., who was killed in the Warman, Sask., yards, Aug. 30, was at one time C.P.R. baggage master at Carleton Place, Ont.

H. D. Lumsden, ex-Chief Engineer National Transcontinental Ry. Commission, returned to Canada by the Empress of Ireland, Sept. 16, after an absence in Great Britain of about six weeks.

A. H. Smith, Vice President and General Manager New York Central Lines, was a passenger on the C.P.R. s.s. Empress of Ireland, arriving in Canada Sept. 16 from England.

New Ways To The Woods

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

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

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

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

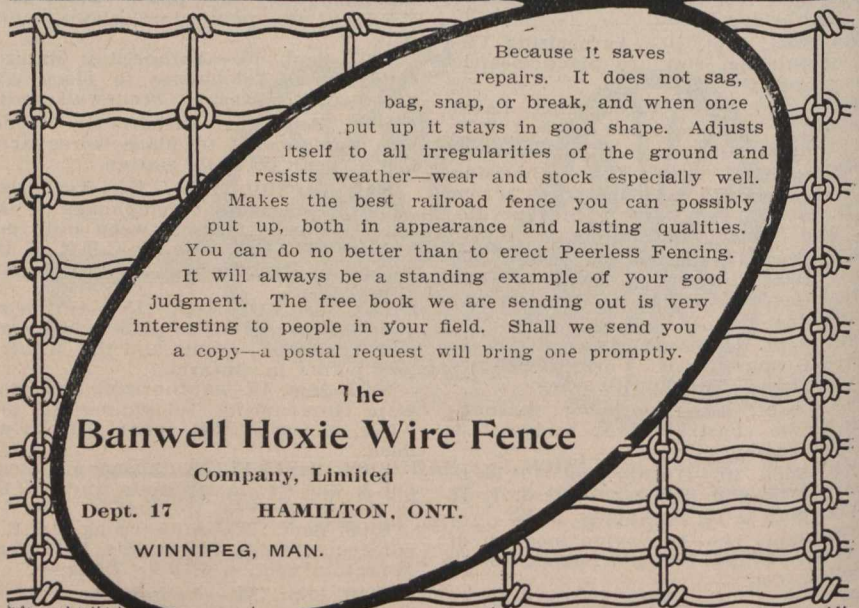
IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

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

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

PEERLESS

The Fence that saves Expense



Because it saves repairs. It does not sag, bag, snap, or break, and when once put up it stays in good shape. Adjusts itself to all irregularities of the ground and resists weather—wear and stock especially well. Makes the best railroad fence you can possibly put up, both in appearance and lasting qualities. You can do no better than to erect Peerless Fencing. It will always be a standing example of your good judgment. The free book we are sending out is very interesting to people in your field. Shall we send you a copy—a postal request will bring one promptly.

The
Banwell Hoxie Wire Fence
Company, Limited
Dept. 17 HAMILTON, ONT.
WINNIPEG, MAN.

STRONGER

Than Stock-Weather and Wear

P. Houston, heretofore Roadmaster Montreal and Ottawa section C.P.R., has been appointed Superintendent of Construction for Fauquier Bros., contractors for a portion of the National Transcontinental Ry.

M. J. Butler, Deputy Minister of Railways and Canals, returned to Ottawa, Sept. 4, from his trip of inspection over the lines being constructed in Western Canada in aid of which the government has granted subsidies.

D. B. Hanna, Third Vice President Canadian Northern Ry., and A. D. Davidson, Land Commissioner C.N.R., returned to Canada Sept. 4, from a brief business trip, during which they were in England, Scotland and France.

A number of championship, as well as individual prizes, were awarded by the judges at the Canadian National Exhibition, Toronto, recently to shorthorn cattle from Sir William Van Horne's farm at East Selkirk, Man.

W. W. Pope, K.C., assistant to W. H. Biggar, K.C., General Solicitor G.T.R., and Solicitor G.T.P.R., has been appointed Secretary to the Ontario Government Hydro-Electric Power Commission, with office at Toronto.

S. Spick, of the C.P.R. claims department, Winnipeg, was presented with a silver tea set by the clerks in the office, Sept. 1, on the occasion of his marriage and his removal to the company's service in Calgary, Alta.

Sir Thos. G. Shaughnessy, President C.P.R., has purchased the old Ross property on McGill St., Montreal, the price paid being, it is stated, \$95,000. It is said the property has been purchased as a personal investment.

F. Ebey, C.P.R. station agent at Winnipeg Beach, Man., was presented with a case of pipes and some other smokers' supplies by the Winnipeg Beach Club, on the occasion of the closing up of the summer traffic season there.

A C.P.R. shunting engine collided with Sir Thos. G. Shaughnessy's private car early on the morning of Sept. 1, at Ottawa station. The President was asleep at the time, and he, as well as the other occupants, though somewhat shaken up, escaped without injury.

A. J. Nixon, who has resigned his position as Assistant Superintendent of the G.T.R. at London, Ont., recently, to enter the Board of Railway Commissioners service, was presented with a case of silver by the Mystic Shriners of that city, prior to leaving to take up his new duties.

S. Fay, General Manager of the Great Central Ry of England, arrived in Montreal Sept. 8, and during his stay visited the C.P.R. shops there. He was accompanied by his son, who is entering on the transportation course at McGill University.

Capt. L. A. Demers, F.R.A.S., Chief Examiner of Masters and Mates, and acting Wreck Commissioner, Ottawa, has been elected a member of the Royal Society of Arts, Eng., of which the King is a patron and the Prince of Wales the President.

Mrs. Brennan, widow of P. Brennan, yardmaster at Ottawa, who was killed in the yards June 17, has issued a writ against the G.T.R. to recover \$10,000 damages, alleging that her husband's death was due to the company's negligence.

J. F. Stevens, formerly Chief Engineer of the Great Northern Ry., and latterly Chief Engineer of the Panama Canal Commission has been elected President of the Oregon Trunk Lines, the Hill railway to be constructed from the Columbia River to Central Oregon and San Francisco.

G. A. Beach, C.P.R. ticket agent at

Fredericton, N.B., was arrested Sept. 8 on a charge of stealing \$835 from the office there. The money was made up in a package to be sent to Montreal, and Beach claimed it disappeared during his temporary absence from the office. It is stated that an audit showed that there was a large shortage in the sale of tickets.

Mrs. Jas. Dobson, mother of C. A. Dobson, General Agent Dominion Express Co., Hamilton, Ont., died in Toronto Sept. 3, aged 93. She was a daughter of Capt. Wm. Moore, who was wounded in the battle at Queenston Heights, in which General Brock was killed. Her husband, who predeceased her by many years, was the first Reeve of Yorkville, now part of Toronto, and was a long time postmaster of Yorkville.

R. E. Perry, whose appointment as Assistant General Freight Agent Intercolonial Ry. at Montreal was announced in our last issue, was born at Drayton, Ont., July 5, 1876, and entered railway service Oct., 1891, since when he has been, to 1898, in various positions in local freight office, C.P.R., Toronto, and General Freight Agent's office, C.P.R., Toronto; 1898 to July 1, 1907, in general freight department, Intercolonial Ry., Montreal; July 1, 1907, to Aug. 1909, Chief of Tariff Bureau, I.C.R., Montreal.

Sir Thos. G. Shaughnessy, President C.P.R., accompanied by R. B. Angus, one of the directors, left Montreal on a special train Sept. 8 upon his annual inspection of the company's lines. At Toronto, W. D. Matthews and E. B. Osler, two other directors, joined the party, which went west on the Toronto-Sudbury branch, thence over the transcontinental line, intending to return via the Crow's Nest Pass route, the Minneapolis, St. Paul and Sault Ste. Marie Ry., and the Wisconsin Central Ry. Sir Thomas was expected to return to Montreal about Oct. 2.

F. H. Clendenning, who has been appointed Assistant General Freight Agent C.P.R. Pacific Division, Vancouver, B.C., was born at Montreal, Nov. 9, 1881, and entered C.P.R. service Aug. 1, 1898, since when he has been, to 1900, junior clerk; 1900 to 1902, register clerk, Traffic Manager's office, Montreal; to July, 1902, stenographer Fourth Vice President's office, Montreal; July 1, 1902, to Apr. 1, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Feb. 1, 1904, stenographer and subsequently tracing clerk, C.P.R. General Freight Agent's office, Vancouver, B.C.; Feb. 1, 1904, to Sept. 1, 1908, Contracting Freight Agent C.P.R., Victoria, B.C.; Sept. 1, 1908, to Aug. 17, 1909, City Freight Agent C.P.R., and District Freight Agent Esquimalt & Nanaimo Ry., Victoria.

A. A. Tisdale, who has been appointed Superintendent G.T.P.R. Lake Superior Division, Fort William, Ont., was born at Mount Vernon, Ont., Mar. 8, 1874, and entered railway service Sept., 1889, serving until July, 1892, in various capacities in the G.T.R. local freight office at Hamilton, Ont. In July, 1892, he was transferred to the Chief Engineer's office as secretary, and remained in the same capacity when the engineering offices were removed to Montreal, Feb., 1896. In May, 1899, he was appointed secretary to F. H. McGuigan, then General Superintendent G.T.R., Montreal, and remained with him in his successive positions of Manager and Fourth Vice President, as secretary, chief clerk and assistant, and after Mr. McGuigan's resignation, he was appointed assistant to the General Transportation Manager, which position he held until his appointment as Assistant to the Vice President and General Manager G.T.P.R., Nov., 1907.

Instruction of Railway Shop Apprentices.

S. J. Hungerford, Superintendent C.P.R. Shops, Winnipeg, contributed a very interesting article on this subject to our last issue. We have since been supplied with the following official information respecting the work at the company's Angus shops, Montreal.

The system, based on broad, common-sense lines, has become well established, and while probably much remains to be accomplished, the splendid progress made thus far and the strong organization which is being built up, promise well for the future. The management is not looking for immediate results, for it is far-sighted enough to look five, even 10 years ahead, feeling sure that its present efforts will be rewarded when that time elapses.

The young recruit, when seeking admission, has to satisfy the management as to his general intelligence and good health. When in the workshops, the future mechanic is put through a systematic and continuous training, which, upon completion of his apprenticeship, enables him to qualify for a mechanic's position, and then, by further instruction, advance to the highest position in the organization. Every facility is placed in the way of the ambitious and intelligent employe to receive instruction from qualified and experienced officials in shop and railway work. The trend of this preliminary training has the tendency to create a desire in the aspiring employe. The training is progressive—starting first with educational instruction for young employes, then advancing to shop and educational instruction for the apprentices, and finally the journeyman receives educational facilities which enable him to qualify for minor positions on the staff. The moral and physical side, as well as the mental, is covered by the training given, and it is interesting to see what this railway is doing towards the development of its employes.

The primary education for young employes consists of 1, reading and writing; 2, elementary arithmetic; 3, geography of the C.P.R. system; 4, Biographical sketches of past and present eminent Canadians; 5, freehand drawing; 6, punctuality and regularity; 7, thoroughness application and self-reliance; 8, cleanliness and thrift; 9, recreation. The young employe after he has received the above training, is put through courses of instruction in shop arithmetic, shop mechanics, shop practice and mechanical drawing, which enable him upon completion of his apprenticeship to qualify as a skilled mechanic. Then, if necessary, he may take advantage of the advanced classes in mechanics, electricity, locomotive and car construction, and workshop practice.

A very interesting feature of the training is the practical work of the boys in the workshops, which is carried on under the direction of skilled shop men who are termed shop instructors. These men are carefully selected, as they are held responsible for the moral as well as the practical training of the boys. The educational side of the training is carried on in a room set apart for the purpose, and well equipped with desks, tables, blackboards, cupboards, etc. The apprentices attend the instruction classes during working hours, and for the time thus spent the boys are paid their regular wages. The instruction classes are under the charge of practical and technical trained men who are termed educational instructors. The chief Educational Instructor, Henry Maxwell, is a man with a large heart, and kindly feeling for the boys.

In order to encourage the deserving apprentices, the company donates each year a scholarship to the ten best apprentices. These scholarships consist of complete courses in mechanical or elec-

trical engineering, following the courses of the correspondence schools, but taught by the company's own instructors. The company also awards two scholarships, tenable for four years at McGill University, Montreal, each year to sons of employes. The holders of these McGill University scholarships are employed by the company during vacation, and receive remuneration for their services. Last year several officials of the company awarded prizes to successful employes attending evening classes.

A glance at the syllabus of the evening classes shows that the education given is upon very practical lines. Over 250 employes take advantage of these classes, the upkeep of which is chiefly borne by the men themselves, but is assisted by the company and the Educational Department of the Province of Quebec. Following is the syllabus for the season 1909-1910:

Locomotive Shop Practice—Instructor, A. H. Kendall, foreman, locomotive erecting shop, C.P.R.

Electrical Engineering—Instructor, G. McDermot, construction foreman, electrical department, C.P.R.

Mechanical Drawing—Instructor, D. L. Davis, draftsman, C.P.R.; H. Tetlaw, assistant foreman, machine shop, C.P.R.

Car Drawing—H. Vezina, educational instructor.

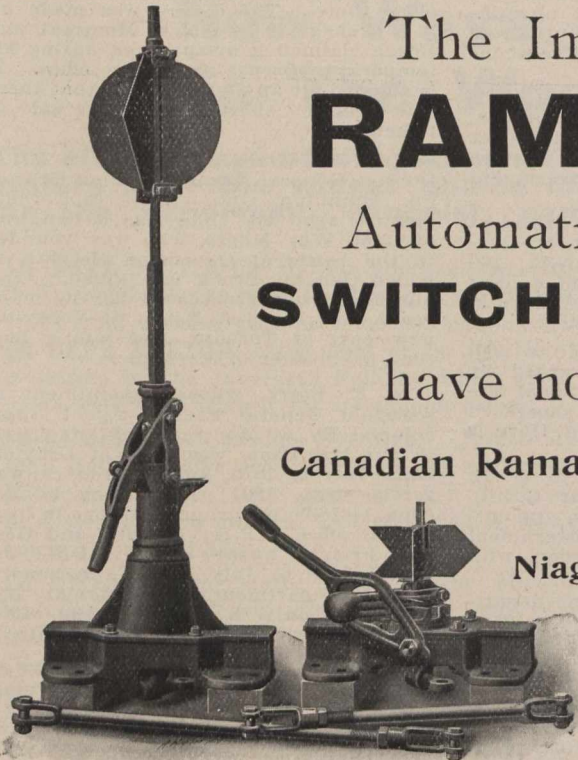
Mathematics—Instructor, H. Maxwell, educational instructor.

Iron and Steel—Instructor, E. B. Tilt, Assistant Engineer of Tests, C.P.R.

These instructors are all experienced officials, holding responsible positions in the company. With such a splendid system of training, the future of Canadian boys who enter upon railway work in the C.P.R. service will be assured. Inefficient and unskilled labor is always plentiful, but skilled labor is scarce. This interesting work is carried out under the supervision of H. H. Vaughan, Assistant to the Vice President; R. Johnson, Assistant Superintendent of Motive Power; and R. W. Burnett, Acting General Master Car Builder. These officials take a keen, personal interest in the welfare of the apprentices, and firmly believe that a properly organized apprenticeship system would do much to correct the scarcity of skilled labor. The supervisor of apprentices is Martin Gower, a graduate of London and Cambridge Universities, and a man who has had considerable practical engineering experience, as well as holding technical appointments. He has made a specialty of apprentice work for several years, both in the workshop and the school.

The young clerks in the general and other offices at Montreal have equal opportunities with the apprentices in the shops for equipping themselves for their life work. Schools of telegraphy and shorthand have been in operation for some time, and the advantages they offer are being eagerly seized by a number of ambitious youths. The schools are under competent teachers—L. W. Power being in charge of the telegraphic and C. A. Bennett in charge of the shorthand classes. The schools are located in the C.P.R. building, immediately west of Windsor St. station, Montreal. There are two terms each year, and the classes meet three evenings a week, when the students of telegraphy are instructed in the mysteries of the key, taught how to dispatch trains, etc., etc. In the shorthand school Isaac Pitman's system is used. To ensure a regular attendance a monthly fee of \$2 is charged each pupil, but this is refunded in full at the end of six months' term to the pupils who have attended 75% of the classes.

The G.T.P.R. has recently had executed a large painting in oils, depicting Mount Robson in the Rocky Mountains. It has been exhibited in Montreal and Toronto, and will be sent to London, Eng., for display in the G.T.R. offices there.



Style No. 17

Style No. 20

Ask for Information about Six Other Styles.

The Improved RAMAPO Automatic, Safety SWITCH STANDS have no equal.

Canadian Ramapo Iron Works
LIMITED

Manufacturers
Niagara Falls, Ont.

AGENCIES :

Dominion Equipment &
Supply Co.,
354 Main St. Winnipeg

C. L. Hackett.
605 Eastern Townships
Bank, Montreal



WROUGHT PIPE STANDARD WEIGHT for Steam, Water and Gas EXTRA HEAVY for Car Heating

Our Pipe is made by experienced workmen, from the best material we can procure. Every length tested under high pressure, and carefully inspected before leaving our Mill.

Our trade mark on every bundle is a guarantee of quality.

TRADE



MARK

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.

Alberta Central Ry.—J. G. Macgregor, of Goderich, Ont., is reported to have been appointed Chief Engineer of this projected railway, with office at Red Deer, Alta.

Board of Railway Commissioners.—It was announced in our last issue, on official advice from Ottawa, that A. J. Nixon, heretofore Assistant Superintendent G.T.R., London, Ont., had been appointed as the Board's Operating Officer, his duties to commence Oct. 1. We have since been advised, officially, that Mr. Nixon has been appointed, by order in council, Chief Operating Officer, at a salary of \$3,600 a year.

A. F. Dillinger, heretofore Operating Assistant Traffic Department, has been appointed Assistant Chief Operating Officer.

J. Ogilvie and W. S. Blyth, heretofore respectively Inspector and Assistant Inspector Railway Equipment and Safety Appliances; E. C. Lalonde, Inspector of Accidents, and J. Clarke and M. J. McCaul, Assistant Inspectors of Accidents, will be attached to the Operating Department.

Canadian Northern Ry.—G. R. Fairhead, heretofore chief clerk General Freight and Passenger Agent's office, Toronto, has been appointed City Freight Agent, Toronto, vice G. E. McCulloch, resigned.

C. H. Green, heretofore clerk, has been appointed chief clerk General Freight and Passenger Agent's office, Toronto, vice G. R. Fairhead, promoted.

Canadian Pacific Ry.—The operation and maintenance of the Company's Atlantic Steamship Line has been placed under the jurisdiction and supervision of G. M. Bosworth, Fourth Vice President. The Manager of the line reports to him and is governed by his instructions, instead of reporting to the President, as heretofore. Mr. Piers' jurisdiction is now confined to the Company's Atlantic Steamship Line.

G. A. G. Bartlett, heretofore locomotive engineer, running out of McAdam Jct., N.B., has been appointed Assistant Air Brake Instructor, and is Assistant to C. W. Carey on the air brake car.

J. R. Brennan, heretofore Roadmaster Maniwaki and Waltham branches, has been appointed Roadmaster Montreal and Ottawa section, vice P. Houston, resigned to enter the service of G. & F. E. Fauquier, railway contractors.

S. Jeffery, heretofore section foreman, Chalk River section, Ont., has been appointed Roadmaster Maniwaki and Waltham branches, Que., vice J. R. Brennan, transferred.

H. W. Dummert, heretofore fitter, has been appointed shop foreman, Carleton Jct., Ont., vice C. A. Stark, appointed Locomotive Foreman, Smith's Falls, Ont.

A. A. Sheppard, heretofore Locomotive Foreman, Schreiber, Ont., has been appointed Locomotive Foreman, Chapleau, Ont., vice G. P. Morton, transferred.

J. R. Gildea, heretofore Assistant Shop Foreman, North Bay, Ont., has been appointed Locomotive Foreman, Schreiber, Ont., vice A. A. Sheppard, transferred.

G. P. Morton, heretofore Locomotive Foreman, Chapleau, Ont., has been appointed assistant shop foreman, North Bay, Ont., vice J. R. Gildea, transferred.

W. J. Singleton has been appointed Trainmaster at North Bay, Ont.

S. C. Bushnell has been appointed Travelling Freight Agent for the C.P.R., Minneapolis, St. Paul and Sault Ste. Marie Ry., Duluth, South Shore and Atlantic Ry., C.P.R. Steamship Lines and the Canadian Pacific Dispatch, reporting

to the State Agent at Milwaukee, Wis.

E. W. Kolb, heretofore Assistant Superintendent Sleeping, Dining and Parlor Cars and News Service, Central Division, has been appointed Superintendent of that service, vice O. V. Dotts, resigned. Office, Winnipeg.

S. A. Simpson, heretofore chief clerk Superintendent Sleeping, Dining and Parlor Cars and News Service office, Winnipeg, has been appointed Assistant Superintendent that service, Central Division, vice E. W. Kolb, promoted. Office, Winnipeg.

J. G. Cameron, Trainmaster, Winnipeg, has had his jurisdiction extended over Second Division lines east of Brandon and east of Belmont, Man.

G. A. Cunliffe has been appointed Trainmaster at Brandon, Man., with jurisdiction over lines west of Brandon and west of Belmont, Man.

W. J. Renix, heretofore acting Locomotive Foreman, Brandon, Man., has been appointed shop foreman, Brandon, Man.

J. C. Robinson, heretofore night yardmaster, has been appointed General Yardmaster at Brandon, Man., vice D. Nicks, transferred.

F. Nicklin, heretofore in the train service, has been appointed night yardmaster at Brandon, Man., vice J. C. Robinson, promoted.

T. Bates, heretofore Locomotive Foreman at Moose Jaw, Sask., has been appointed General Foreman, Calgary, Alta.

D. Nicks, heretofore General Yardmaster at Brandon, Man., has been appointed General Yardmaster at Moose Jaw, Sask.

H. W. Craig has been appointed Divisional Car Foreman, Western Division. Office, Calgary, Alta.

J. A. Tobin has been appointed acting Trainmaster at Macleod, Alta., vice R. H. Foster.

W. R. Haldane, formerly General Freight Agent, Pacific Division, has been appointed General Freight Agent, Kootenay and Boundary Districts, vice R. E. Larmour, transferred. Office, Nelson, B.C.

E. Sterling, heretofore trainman, has been appointed acting Trainmaster, Nelson, B.C., vice J. M. Cameron, transferred.

F. H. Clendenning, heretofore City Freight Agent C.P.R., Victoria, and District Freight Agent Esquimalt and Nanaimo Ry., has been appointed Assistant General Freight Agent Pacific Division, vice W. H. Robertson, resigned. Office, Vancouver.

We are advised that it is expected that W. H. Gardiner, formerly Contracting Freight Agent, Vancouver, will succeed Mr. Clendenning at Victoria.

Chicago and Great Western Ry.—A. C. Gillespie, heretofore assistant ticket agent C.N.R., Edmonton, Alta., is reported to have been appointed City Freight and Passenger Agent, C. and G.W.R., Winnipeg.

Cincinnati, Hamilton and Dayton Rd.—W. L. Kellogg, heretofore Superintendent of Motive Power and Car Department, Detroit, Mich., has been appointed Superintendent of Motive Power, in charge of locomotive and car department. Office, Lima, O.

Grand Trunk Pacific Ry.—A. A. Tisdale, heretofore Assistant to Vice President and General Manager at Montreal, has been appointed Superintendent Lake Superior Division. Office, Fort William, Ont.

P. H. McFadden, at one time General Roadmaster G.T.R., Allandale, Ont., has been appointed General Roadmaster G.T.P.R. lines west of Winnipeg, reporting direct to General Superintendent. Roadmasters report to and receive instructions from the General Roadmaster. Office, Melville, Sask.

T. Young, heretofore Locomotive Foreman, Biggar, Sask., has been ap-

pointed Travelling Engineer. Headquarters, Biggar, Sask.

G. M. Carruthers has been appointed Locomotive Foreman at Biggar, Sask., vice T. Young, assigned to other duties.

Grand Trunk Ry.—J. D. Scott has been appointed Locomotive Foreman at Brockville, Ont., vice W. H. Walker, resigned.

J. H. Stortz, heretofore Locomotive Foreman, East Toronto, has been appointed Locomotive Foreman at Mimico, Ont., vice N. MacNicol, resigned.

W. J. Hallett has been appointed Car Foreman at Allandale, Ont., vice D. H. Sargent, deceased.

C. G. Bowker, heretofore Trainmaster at Stratford, Ont., has been appointed Assistant Superintendent, Middle Division, vice A. J. Nixon, resigned. Office, London, Ont.

J. A. McLardy, heretofore Trainmaster Wabash Rd., St. Thomas, Ont., has been appointed Trainmaster at Stratford, Ont., vice C. G. Bowker, promoted.

The following agents have been appointed:—Lacadie, Que., G. W. Kimball; River Beaudette, Que., J. Giroux; King, Ont., F. A. Tebo; Powassan, Ont., W. J. Buchanan; Thornton, Ont., T. Barlow; Burlington Jct., Ont., T. H. Sumner; Harley, Ont., N. A. Oxley; Aubrey, Que., F. O. Parent (temp.); Ste. Polycarpe Jct., Que., O. Clement (temp.); Arnprior, Ont., J. Boyd; Douglas, Ont., J. M. Joynt.

Grand Trunk Ry. and Wabash Rd.—G. F. Sullivan, heretofore night yardmaster, Fort Erie, Ont., has been appointed General Yardmaster at Black Rock, Buffalo, N.Y., vice J. W. Canasty.

Intercolonial Ry.—Press reports stated recently that N. L. Rand, Master Mechanic, Moncton, had been placed on the pension list. We were officially advised, Sept. 13, that the report was unfounded. We understand that Mr. Rand is desirous of retiring from service, and has asked to be placed on the pension list.

V. Saindon, heretofore fitter, has been appointed acting roundhouse foreman, Riviere du Loup, Que., vice T. Ryan, whose appointment as acting Division Master Mechanic there was announced in our last issue.

Northern Navigation Co.—R. Beaumont has been appointed, temporarily, General Agent at Port Arthur and Fort William, Ont., vice J. Bell, resigned.

Pere Marquette Rd.—W. Boughton, heretofore Master Mechanic at Saginaw, Mich., has been appointed General Master Mechanic in charge of locomotive and car departments, vice W. L. Kellogg, Superintendent of Motive Power and Car Department, resigned. Office, Detroit, Mich.

J. H. Anderson, heretofore Travelling Freight Agent, Buffalo, N.Y., has been appointed Commercial Agent, Cincinnati, O.

C. S. Stephens, heretofore Travelling Freight Agent, Chicago, Ill., has been appointed Travelling Freight Agent, Indianapolis, Ind., reporting to General Freight Agent, Detroit, Mich.

H. K. Patriarche, heretofore Travelling Freight Agent, Pittsburg, Pa., has been appointed Travelling Freight Agent, Boston, Mass., reporting to New England Freight Agent, Boston, Mass.

H. C. Dithridge has been appointed Travelling Freight Agent, Pittsburg, Pa., reporting to Commercial Agent, Pittsburg, Pa.

Quebec, Montreal and Southern Ry., Napierville Jct. Ry.—Press reports recently stated that G. H. Burgess had been appointed Chief Engineer Quebec, Montreal and Southern Ry., with office at Montreal. We are advised that he has been appointed Chief Engineer Delaware and Hudson Co.'s main and branch lines, not including those in Canada. The position of F. D. Anthony, as Chief Engineer Q.M. and S.R., and N.J.R., remains unchanged.

Wabash Rd.—J. W. Canatsy, heretofore General Yardmaster G.T.R. and W. Rd., Black Rock, Buffalo, N.Y., has been appointed Trainmaster at St. Thomas, Ont., vice J. A. McLardy, appointed G.T.R. Trainmaster at Stratford, Ont.

The Wabash Rd. has opened an agency for freight and passenger business at Seattle, Wash. This agency has jurisdiction over business in the State of Washington and in British Columbia. W. D. Stubbs, General Agent, has charge of the office.

F. H. Wegener, heretofore Station Passenger Agent at St. Louis, Mo., has been appointed Travelling Freight and Passenger Agent at Seattle, Wash., reporting to W. D. Stubbs, General Agent.

Wisconsin Central Ry.—C. F. Clement has been appointed Treasurer of the company, vice W. R. Hancock, resigned. Office, Minneapolis, Minn.

Meals at C.P.R. Angus Shops.

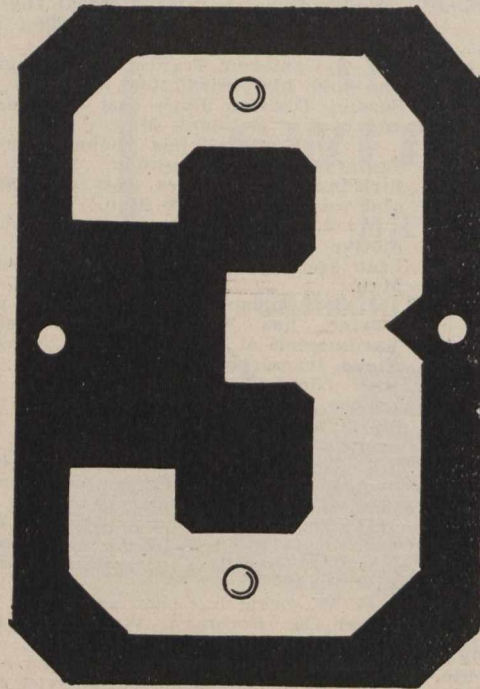
Napoleon said that an army travels on its stomach; a good comfortable meal for a workingman certainly means better work. Among the many special features at the C.P.R. Angus shops, Montreal, are the dining-rooms for the men, which are unique in Canada. Good, wholesome, well-cooked food is served in warm, comfortable surroundings at very low prices. This service is possible because the company furnishes free buildings, light, etc. The system used is known as the "help yourself"—the men come in at one door, take a tray and pass along a counter, where they help themselves to what they desire as they pass to their seats. A ticket or check is placed by one of the attendants upon each tray, showing the price of the food they have selected. A full meal costs 19c., and an average meal about 15c. One thousand men can be comfortably seated at once in the two large dining-rooms. The following reprint of the menu shows the prices paid for the various foods:

Soup	2	Iron brew, per bottle	5
Beef stew	3	Ginger ale, per bottle	5
Irish stew	3	Cream soda, per bottle	5
Hamburg steak	5	Apple nectar, bottle.	5
Roast beef	5	Lemon soda, bottle.	5
Roast pork	5	Dry toast	2
Corn beef	5	Buttered toast	3
Beefsteak (to order)	10	Eggs.	
Beefsteak pie	5	Fried—one	4
Fried liver	5	Scrambled—one	4
Boiled ham	5	Poached—one	4
Codfish cakes (fast days)	5	Poached—one, on toast	5
Creamed codfish on toast (fast days)	5	CEREALS.	
VEGETABLES.		Porce, with milk	5
Boiled potatoes	3	Shredded wheat, with milk	3
Mashed potatoes	3	Canada Flakes, with milk	5
French fried potatoes	3	Oatmeal, with milk.	5
German fried "	3	SANDWICHES.	
Green peas	3	Ham	5
Stewed corn	3	Beef	5
Stewed tomatoes	3	Egg	5
Mashed turnips	3	Cheese	5
Boiled onions	3	Stewed prunes	3
Pickled beets	3	Cakes	1 and 2
Boiled cabbage	3	Crullers	1
Coffee	3	Pies, per cut	3
Tea	3	Pudding	3
Milk, per glass	3		

The above bill of fare includes bread with all meats, soups, stews and fish, and milk and sugar with coffee and tea. There is a change of bill of fare daily—serving two kinds of meat, two vegetables and choice of pie, pudding or cake. The dining-rooms are open every working day from 6 a.m. to 7 p.m. To see the men when at their meals is sufficient evidence that these dining-rooms are appreciated and enjoyed.

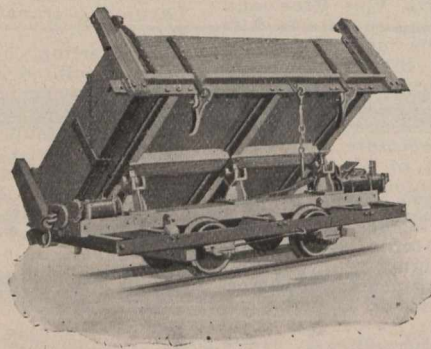
Conductor, on railway train—"This isn't the right ticket."
 Passenger, absent-mindedly—"What's the matter with it?"
 Conductor—"This ticket calls for a diamond ring."

THE N. L. PIPER RAILWAY SUPPLY CO. LIMITED
 314 FRONT ST. WEST
T O R O N T O



EMBOSSD ALUMINUM NUMBERS

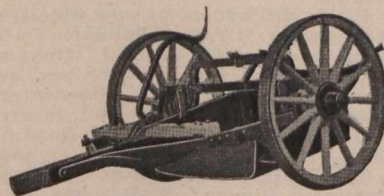
Our Signs and Numbers are made of ALUMINUM and riveted with ALUMINUM RIVETS to a BLACK JAPANNED STEEL PLATE. The great benefit of our Numbers and Signs is, that being made of Aluminum they will never CRACK, RUST or TARNISH, and can be seen much better both by day and night than any other manufactured. The Light, Glistening Aluminum Figure standing out on the Black Background makes a PERFECT CONTRAST between the Number and the Plate.



THE MEAFORD WHEELBARROW CO., LIMITED
 MEAFORD, ONTARIO

Manufacturers of Contractors' Supplies including:
WHEELBARROWS — both Wooden and Steel, also **STERLING** line of Roller Bearing Easy Pushing Wheelbarrows and Concrete Carts.
DUMP CARS, DUMP CARTS, GRADING PLOUGHS, WHEEL SCRAPERS both Square Box and Pressed Bowl.
DRAG SCRAPERS—Pressed Steel. **TRUCKS** of every description

Catalogue for the Asking



Canadian Northern Ry. Construction, Etc.

The Canadian Northern Quebec Ry. is preparing to erect a roundhouse and machine shop at Joliette, Que. Plans have been prepared, but the matter has not yet reached the construction stage. It is said that it will be built by the Imperial Construction Co., of Toronto.

Quebec and Lake St. John Ry.—We are advised that the only work to be done at present in Quebec is the remodeling of the yard and putting up an addition 50 by 100 ft. to the car repair shops.

Canadian Northern Ontario Ry.—Tracklaying has been completed on the extension from Hawkesbury to the vicinity of Ottawa, and ballasting and other work necessary to complete the line for operation is well advanced. It is expected that construction into Ottawa will be completed so as to permit of the opening of the line for traffic early in Oct. Work on a temporary bridge over the Rideau River was started Sept. 15, to be completed by the end of Sept.

Tenders were received to Sept. 18 for the grading, etc., of the first section of the line between Ottawa and Toronto, viz., from Toronto to Trenton, about 100 miles. The route adopted leaves the company's Toronto-Sudbury line in the Don Valley, about six miles from Toronto, and will strike the boundary of Scarborough tp. about midway between the G.T.R. and the C.P.R., and keeping about equi-distant from these two lines, strikes the boundary of Pickering tp. in the vicinity of Cherrywood, where the line will join the line formerly located. This line runs through the middle of Pickering and Whitby tps., crossing the G.T.R. branch line from Whitby near Brooklin. The line will then drop a little southerly to Orono, in Clarke tp., and thence will gradually run south east until it reaches Port Hope; from thence it will parallel the G.T.R. to Trenton, passing through Cobourg, Grafton, Colborne and Brighton. Beyond Brighton the line crosses the G.T.R. main line and follows along the Bay of Quinte shore to Trenton. The contract of the construction of the Toronto-Trenton section has been let to Angus Sinclair, C.E., Toronto, and work will be started immediately.

D. D. Mann stated in an interview Sept. 7 that the company's general locomotive and car repairing and construction shops would be located in Toronto. They will not be constructed until the line from Toronto to Ottawa and the line from Sudbury to Port Arthur have been completed. The matter has been brought before the city council by the Mayor. A suggestion has been made that the G.T.R. yards at East York, which have been closed, the work done there being transferred to Mimico, would be suitable for the C.N.O.R. It is stated that a C.N.O.R. official has made an inspection of the property.

Canadian Northern Ry.—The Mayor of Fort William, Ont., received a letter Sept. 3 from H. Sutherland, Executive Agent C.N.R., Winnipeg, to the effect that the company was willing to pay its share of the cost of the Yonge St. subway according to the understanding between the city and the C.P.R. The propositions which remain to be approved by the C.N.R. pertain to the abandonment of certain rights on Arthur and Vickers streets, and the terms offered by the C.P.R. for the lease of running rights over C.P.R. rails from West Fort William to Port Arthur. When carried out this agreement will bring about the concentration of the railway tracks on the river front.

Application is being made for the amalgamation of the Northern Extension Ry. with the C.N.R. The N.E.R. connects different portions of the C.N.R. system in and adjacent to Winnipeg, crossing at St. James bridge and Portage Ave.

A contract has been let for supplying a duplicate pumping plant to provide water for the Fort Rouge shops and yards, Winnipeg. Each unit of the plant will be capable of pumping 500,000 gallons in 24 hours.

The stables at the joint terminal at Fort Garry are in course of erection. The building is to be of two stories, 228 by 100 ft. wide, containing 144 stalls. The contractors are G. H. Archibald and Co.

Tenders were received to Sept. 22 by the city engineer of Saskatoon, Sask., for the construction of a subway under the C.N.R. there.

Surveys on the line from Yellowhead Pass to Vancouver, B.C., are being pushed vigorously. The latest reports were that parties were working in the vicinity of Cranberry Lake. The surveys are extending northwards along the valley of the North Thompson River. Another party is working westward through the foothills of the Rocky Mountains towards the Yellowhead Pass. Two other parties, it is reported, have practically completed the final location of a line through the Fraser River canyon between Lytton and Yale, 54 miles. The location of the line between Yale and Hope is also in hand. Between Hope and New Westminster no serious engineering difficulties are likely to be encountered, as the Fraser River valley widens out considerably and there is plenty of room for more than one railway. (Sept., pg. 683.)

American Association G. P. and T. A.

The 54th annual convention of the American Association of General Passenger and Ticket Agents was held at Toledo, Ohio, Sept. 14 and 15. The President, G. T. Bell, Assistant Passenger Traffic Manager G.T.R. and G.T.P.R., occupied the chair, and in replying to an address of welcome by the Mayor made a number of interesting references to the position of Toledo as a railway centre. In his closing address Mr. Bell urged co-operation between the Association and the baggage agents, travelling passenger agents and ticket agents associations, and expressed the hope that a new system of interline ticketing would be introduced that would immensely reduce the number of forms now used and reduce the ticket sellers' work, and suggested an attempt to secure at leading stations where the ticket business requires the exclusive attention of one or more ticket sellers, the most efficient and experienced men.

Following the annual custom, the retiring President was presented with a gavel, the presentation being made by E. J. Weeks, Chairman New England Passenger Association. The gavel, which is a very handsome one, is made partly of Canadian oak from the Northern Navigation Co.'s s.s. Hamonic, and of ebony from a Mexican railway tie. The handle is a portion of Wright Bros.' first successful aeroplane. The gavel is bound together with a steel strand from the old G.T.R. suspension bridge at Niagara Falls, embedded in the gavel is a rivet from the original Victoria bridge at Montreal, and on it is a silver hand made from ore from the Drummond mine at Cobalt. The case for the gavel is made of British Columbia fir, inlaid with Mexican ebony.

W. Bunton, G.T.R. ticket agent, Peterboro, Ont., who attended as the representative of the Canadian Ticket Agents Association, addressed the meeting at length and was given a very cordial reception.

The following officers were elected:—President, S. G. Hatch, G. P. A. Illinois Central Rd., Chicago; Vice President, S. Moody, G. P. A. Pennsylvania lines west, Pittsburg; Secretary, C. M. Burt, G. P. A. Boston & Maine Rd., Boston.

Canadian Northern Ry. Earnings, Etc.

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

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	\$ 843,500	\$613,900	\$229,600	\$26,700+
Aug.	807,100	602,700	204,400	18,300+
	\$1,650,600	\$1,216,600	\$434,000	\$45,000+
Inc.	\$ 174,700	\$129,700	45,000	.....
or Dec.	.....	.....	.....	.....

Approximate earnings for three weeks ended Sept. 21, \$700,900, against \$587,800 for same period 1908.

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

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

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+
Inc.	\$847,149.11	\$641,851.63	\$205,297.48	.....
or Dec.	.....	.....	.....	.....

Approximate gross earnings for Aug., \$7,152,000, and for 3 weeks ended Sept. 21, \$6,385,000; against \$6,254,000 and \$4,203,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross operating earnings for July, \$285,234.18; expenses, \$203,288.70; net operating earnings, \$81,945.4, against \$226,114.98 gross operating revenue; \$164,363.88 expenses; \$61,751.10 net operating earnings for July, 1908. Approximate gross earnings for Aug., \$308,376, and for two weeks ended Sept. 14, \$143,525, against \$234,773 and \$112,529 for same periods 1908.

MINERAL RANGE RD.—Operating revenue for July, \$73,665.33; expenses, \$62,850.00; net operating earnings, \$10,815.33, against \$73,826.80 operating revenue; \$60,898.17 expenses; \$12,928.63 net operating earnings, for July, 1908. Approximate gross earnings for Aug., \$74,015, and for two weeks ended Sept. 14, \$34,495, against \$70,437 and \$29,157 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for July, \$1,144,521.82; expenses, \$657,048.06; net earnings, \$487,473.76, against \$950,108.98 gross earnings; \$556,808.02 expenses; \$393,300.96 net earnings for July, 1908. Approximate earnings for Aug., \$1,066,830, and for two weeks ended Sept. 14, \$1,117,326, against \$994,983 and \$986,931 for same periods 1908.

CHICAGO DIVISION.—Gross earnings for July, \$718,412.08; expenses, \$435,376.11; net earnings, \$283,035.97, against \$659,261.94 gross earnings; \$412,110.92 expenses; \$27,151.02 net earnings for July, 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1;

	1909	1908	Inc.	Decr.
Grand Trunk	£1,163,035	£1,056,914	£106,120	.....
Canada Atlantic	69,779	76,916	.....	£7,137
G. T. Western	215,267	202,573	12,694	.....
D.G.H. & M.	66,425	61,656	4,769	.....
Total	£1,514,506	£1,398,060	£116,446	.....

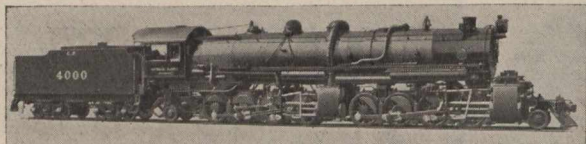
Approximate earnings for Aug., \$3,897,409, against \$3,483,778 for same period 1908.

Railway engineers are becoming increasingly alive to the importance of building both track and rolling stock with reference to the heavy centrifugal forces which are brought into play when heavy trains are run at express speed around curves. These stresses are particularly severe in the case of heavy electric locomotives built for use on steam railways. To prevent "nosing" or side oscillation, the New Haven electric locomotives have been provided with end pony trucks, and the New York Central locomotives with four-wheel trucks. In both cases the improvement in the running has been very marked.

BALDWIN LOCOMOTIVE WORKS

Manufacturers of

**BROAD AND NARROW GAUGE
SINGLE EXPANSION AND COMPOUND**



LOCOMOTIVES

Mine, Furnace and Industrial Locomotives

**Electric Locomotives with
Westinghouse Motors and Electric Trucks**

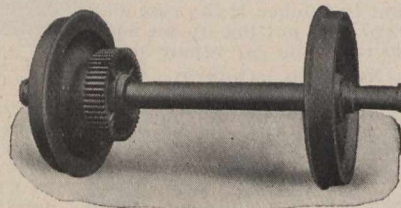
**Principal Offices and Works, 500 North Broad Street
PHILADELPHIA, PA., U.S.A.**

Cable Address:—"Baldwin," Philadelphia

STANDARD STEEL WORKS CO.

Harrison Building, Philadelphia, Pa., U.S.A.

**THE BRYDGES ENGINEERING AND SUPPLY CO.
WINNIPEG, MAN. Limited Representatives**



Wheels mounted on axles fitted with motor gear ready for application to equipment

STANDARD

**SOLID FORGED AND ROLLED STEEL WHEELS
STEEL TIRED WHEELS STEEL AND IRON AXLES
ELLIPTIC AND HELICAL SPRINGS**

**Weld
Frames
Without
Dismantling**

Why go to the bother and expense of taking down a locomotive frame to weld it? Thermit enables you to weld it in place and return your engine to service with the least possible delay. Some shops are making a regular practice of doing the entire job in twelve hours or less. The process is equally advantageous for repairing driving wheel spokes, connecting rods, mud rings, crank shafts and for general repair work.

Write for pamphlet No. 25 N and for "Reactions," the Thermit Quarterly which give full information.

GOLDSCHMIDT THERMIT CO.

103 Richmond St. West, Toronto, Ont.
General Offices: 90 West St., New York.
Pacific Coast Branch, 432-436 Folsom St., San Francisco

GENERAL RAILWAY SIGNAL COMPANY.

ROCHESTER, N.Y.

DESIGNERS AND MANUFACTURERS OF

SIGNALING APPLIANCES

FOR STEAM AND ELECTRIC RAILWAYS

ELECTRIC AND MANUAL INTERLOCKING SYSTEMS

**AUTOMATIC and CONTROLLED
MANUAL BLOCK SYSTEMS,
TELEPHONE SELECTORS,
RELAYS, INDICATORS,**



**CIRCUIT CONTROLLERS, LOCKS,
CROSSING GATES, DERAILS.
CATALOGUES, ESTIMATES AND
PLANS ON REQUEST.**

CHICAGO: 1339 Monadnock Bldg. NEW YORK: 708 Night and Day Bank MONTREAL: 605 Easterntownships Bank

OCEAN STEAMSHIP OFFICES

AMERICAN LINE

Plymouth—Cherbourg—Southampton
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—Dover—Antwerp
Sailing from New York Saturdays.

WHITE STAR LINE

N.Y.—Queenstown—Holyhead—Liverpool
Sailing from New York Saturdays.
N.Y.—Plymouth—Cherbourg—Southampton
Sailing from New York Wednesdays.

Boston—Queenstown—Liverpool
Regular Departures.

**NEW YORK AND BOSTON
MEDITERRANEAN SERVICE**

To Italy and Egypt

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

**H. G. THORLEY,
PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.**

ELECTRIC RAILWAYS.

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY TREASURER, Acton Burrows, Managing Director, Railway and Marine World.

ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dube, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

B. C. Electric Railway Locomotives.

The illustrations given herewith show one of three electric locomotives which have been built for the British Columbia Electric Ry. for its interurban line now under construction between New Westminster and Chilliwack, a distance of over 60 miles. The locomotives are of the articulated truck, four-axle type, with one motor mounted upon each axle. The maximum rated tractive effort is 16,000 lbs. drawbar pull, and the maximum instantaneous effort is 25,000 lbs.

A feature of special interest is that the body of the locomotive rests upon two four-wheeled trucks, coupled together by a massive hinge having lateral flexibility but vertical rigidity, thereby enabling the rear trucks to resist any tendency to tilt under the action of the forward truck, and vice-versa. The centre pins and cab platform framing are not subjected to any longitudinal stress, except that due to its own inertia when starting and stopping, the whole pull of the motors being transmitted direct from the motor through the trucks. Suitable arrangements are made to allow the trucks to radiate when passing round a curve. The spring suspension is of the



ELECTRIC LOCOMOTIVE FOR B.C. ELECTRIC RY. CO.'S FRASER VALLEY BRANCH.

locomotive type, the weight being carried by semi elliptic springs resting on the journal box saddles.

Fig. 1 shows the general appearance of the locomotives, and fig. 2 gives a view of the interior of the cab. Here can be seen the two master controllers, one at each end of the cab, the contactor boxes, circuit breakers, switches, etc. The control equipment is of the standard multiple unit type, with series magnets operating the various contactors. The resistances are placed in the sloping ends of the superstructure.

The motor equipment consists of 4 D.K. 12 A motors. When operating on a 600 volt circuit, each motor will give a tractive effort of 4,040 lbs. on the periphery of the 42-inch wheels and a speed of 15 m.p.h. at the one hour rat-

ing. Each motor is fitted with reduction gear having a ratio of 3.64 to 1. The armature bearings of the motor are lubricated by oil rings which are specially designed to prevent flooding when running at high speeds. The axle bearings are lubricated by a system of wicks which are immersed in oil wells. No grease is used as an emergency lubricator. The whole of the gearing of the motors is contained in a malleable iron oil tight gear box, which is provided with suitable stiffening ribs. It is supported by the axle bearing at one end, and by the pinion bearing and motor shell at the other end.

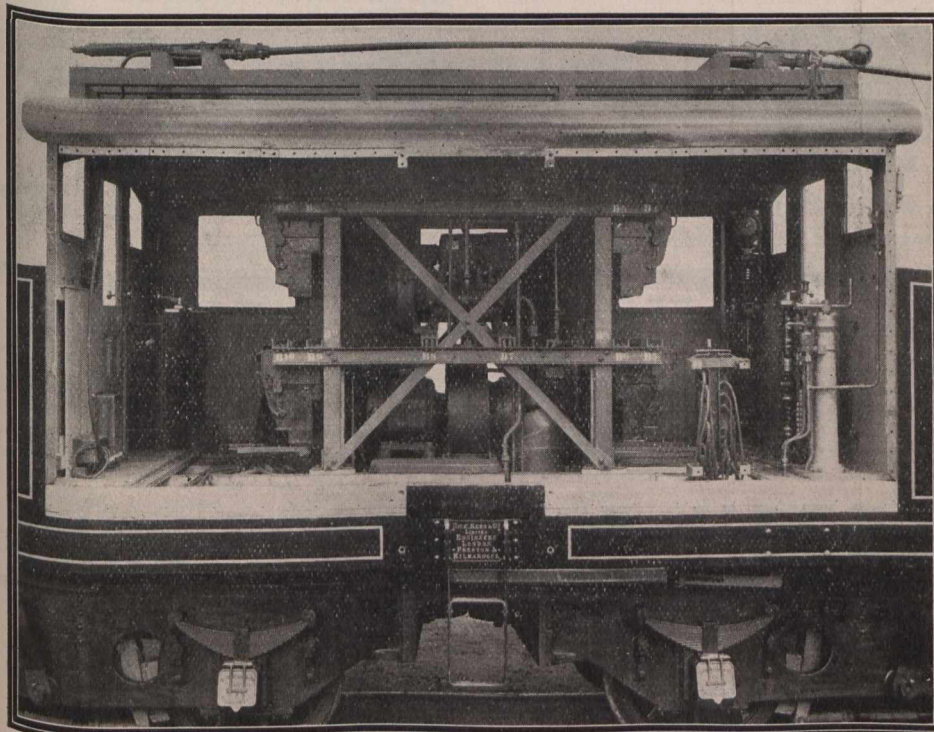
The motors are designed and arranged for forced ventilation, the air being blown into the motor shell at the end farther from the commutator, and passing out at suitable openings provided at the commutator end.

The air for the forced ventilation is obtained by means of a centrifugal blower situated in the centre of the cab and driven by a motor. The controller for operating this motor is situated near the right hand master controller seen in fig. 2. In addition to the blower for the motors, there is an electrically driven air compressor with suitable air reservoirs for the air brake equipment, the locomotive being fitted with combined straight and automatic air brake. The compressor for the brake equipment is mounted above the motor driven blower in the cab. Two current collectors are provided, these being of the straight under running trolley type, the current being collected from an overhead trolley line. The trolleys are equipped with retrievers.

Following are general dimensions, etc.

Number of motors	4
Gear ratio	3.64 to 1
Number of driving wheels	8
Diameter of driving wheels	42"
Total wheel base	24' 6"
Wheel base of each truck	8' 0"
Length over all	35' 7"
Length of main cab	16' 5"
Height of cab above rail level	14' 1 1/2"
Width of cab	9' 8"
Total weight of locomotive	50 tons

The locomotives were built by Dick, Kerr & Co., Ltd., the electrical equipment at Preston, Eng., and the trucks and mechanical portion generally at Kilmarnock, Scotland.

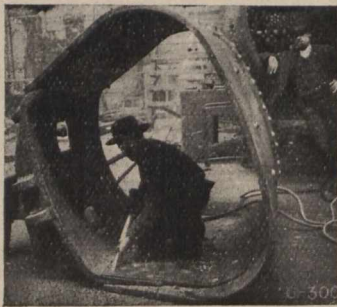


INTERIOR OF ELECTRIC LOCOMOTIVE CAB. B.C. ELECTRIC RY.

IMPERIAL PNEUMATIC TOOLS



Two Photos, showing "IMPERIAL" Air Tools at Works of Locomotive and Machine Company, Montreal.



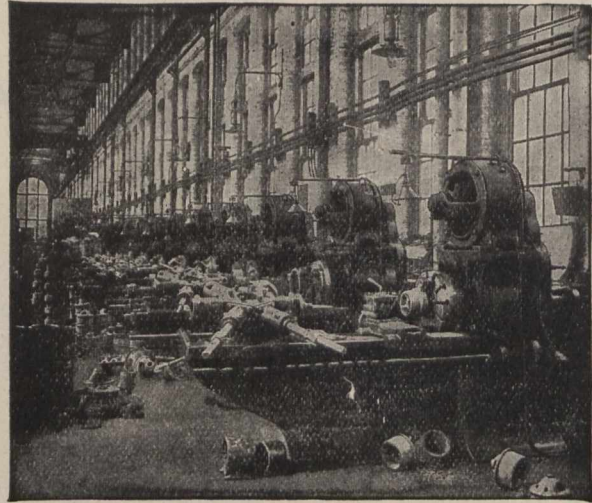
CHIPPERS RIVETERS AIR DRILLS MOTOR HOISTS

Built in all Standard Sizes. Efficiency Guaranteed.

A complete line of the above appliances and all sizes of Air Compressors for pneumatic work carried in stock for immediate shipment.

Canadian **RAND** Co. Limited
MONTREAL. QUE.

Branches at:
TORONTO, WINNIPEG, ROSSLAND,
COBALT, HALIFAX, MONTREAL.



This Shop's Power Cost is Probably 40% Lower than Your Shop's

—unless your shop, too, is equipped with Hawthorn Direct Drive Motors, you are actually wasting from 20 to 50 per cent. of the horsepower you spend good money for. The Individual Motor Drive is specially valuable in a railway machine shop. The Variable Speed Hawthorn Motor maintains any desired speed at the will of the operator—it greatly increases production. These Motors economise floor-space, and permit machinery to be placed where it can be used most advantageously. BULLETIN 714, mailed you on request, goes into details that will interest you. Please send for it.

Hawthorn Motors are built in types and sizes suitable for all uses, and can be mounted anywhere—on floor, ceiling or wall.



MONTREAL
TORONTO

**THE NORTHERN ELECTRIC
AND MANUFACTURING CO. LIMITED**

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants.

WINNIPEG
VANCOUVER

REGINA

JOHN S. METCALF CO.

ENGINEERS AND CONTRACTORS FOR

GRAIN ELEVATORS ONLY

CONCRETE — STEEL — WOOD

Plans and Specifications our Specialty

MIDLAND, ONTARIO

CHICAGO, ILL

Quebec Railway, Light and Power Co.

The 11th annual report submitted at the shareholders' meeting, Sept. 14, is signed by the new president, W. G. Ross, who is also Managing Director Montreal St. Ry. Following are extracts:

Gross earnings	\$724,648 32
Operating expenses	444,300 39
Net earnings	\$280,347 93
From which deduct:—	
Interest on bonds	\$125,000 00
City percentage on earnings	10,683 56
Interest, etc., paid and accrued	10,238 83
Dividends on preferred stock	44,123 95
Dividends on common stock	50,000 00
	\$240,046 34

Surplus \$40,301 59
Which has been transferred to surplus account, making a total to the credit of this account of \$462,947 74

The gross earnings increased during the year, \$68,815.27, or 10.49%; the operating expenses, \$26,381.23, or 6.31%, and the net earnings \$41,886.88, or 17.57%. The increase in gross earnings of 10.49% compares favorably with the increase of 1907-1908, which was 8.59%. The operating expenses were 61.31% of gross earnings, against 63.72% the previous year, decrease of 2.41%. The fixed charges, however, exclusive of dividends

on common stock, have increased \$38,651.72, or 25.53%. This increase is due to the dividend upon the additional preferred stock, which was issued last year for the new power developments. The additional issue of \$250,000 of preferred stock was made and allotted, making the total issue now \$750,000. The premium of \$7,760.00 derived from this issue was placed to credit of surplus account.

Following are extracts from General Manager E. A. Evans' report:—The total number of passengers carried upon the city division was 6,859,679, an increase of 810,476. The average fare per passenger was 4.19c. against 4.22c.; the income per capita of the population increased from \$3.55 to \$3.65 (the income per capita in 1899 being \$2.04). The operating expenses show an increase of \$12,652.58, principally due to increased wages, etc. The car mileage was 1,394,744, an increase of 62,434 miles. The continued increase of travel upon this division has necessitated the purchase of additional direct current machinery, and a contract was entered into for a 1500 k.w. motor generator set, which is now practically installed in the sub-station. The installation will enable the company to improve the car service during the coming winter. Further additions to the rolling stock and car shed accommodation are necessary; this expenditure will materially increase the revenue of the company.

The total number of passengers carried upon the Montmorency division was 1,442,327, an increase of 43,982; the average fare per passenger was 10.28c. Upon the elevator 266,814 passengers were carried, an increase of 26,904. The operating expenses have increased \$1,719.52, principally due to increase of wages. The business upon this division is increasing rapidly, and it will be necessary to purchase additional electrical machinery and rolling stock to effectually handle the traffic upon this division.

The earnings from the power division have increased 15.55%. The cost of generating and distribution has increased 14.19%; a large proportion of this can, however, be considered an extraordinary expenditure, consisting of the re-winding of the motor generators, in the sub-station, very considerable renewals to the pole and distribution lines, etc., all of which have been charged to operating for this year, instead of distributing the same over a number of years. The re-modelling and fire-proofing of the power

house has been completed, and it may now be considered as modern and fire-proof.

ASSETS.

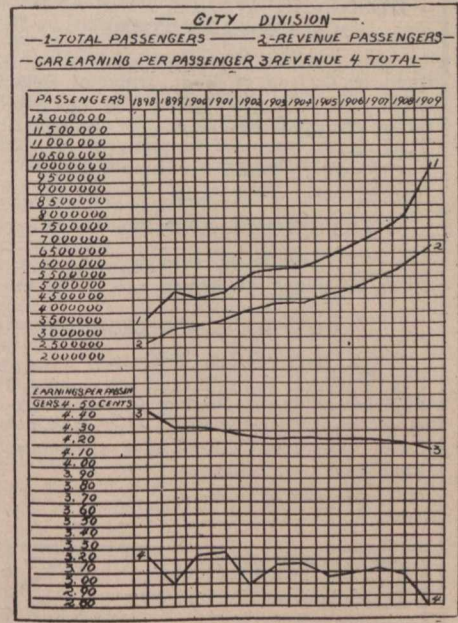
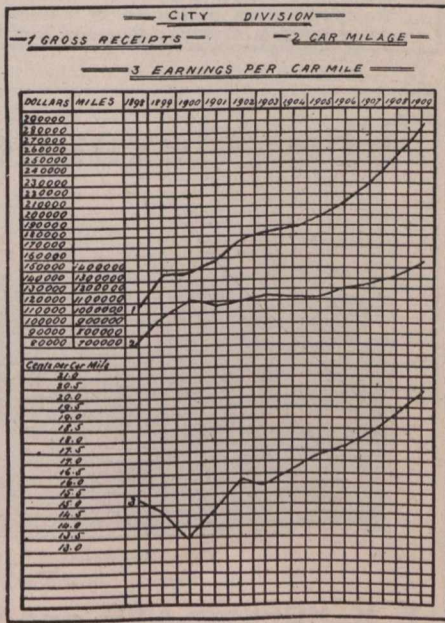
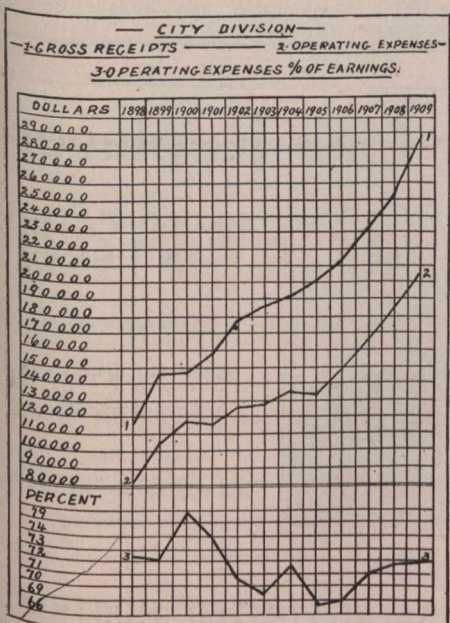
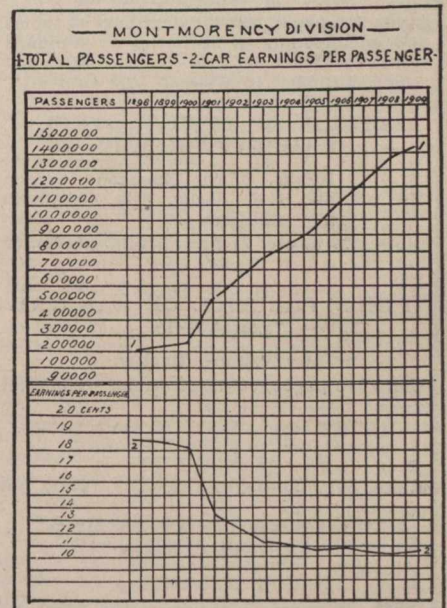
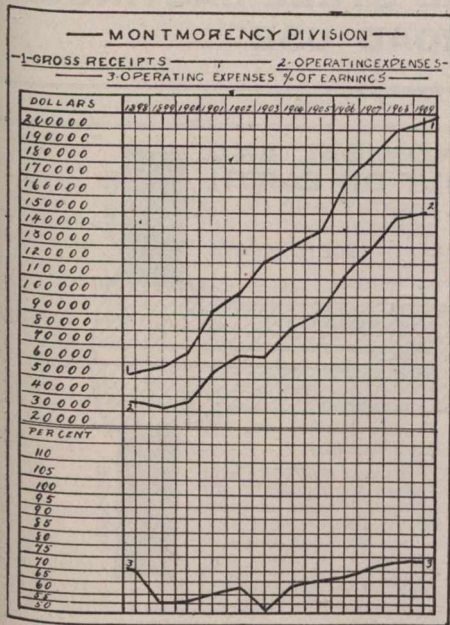
Road and equipment, real estate, buildings, etc., including Kent House	\$6,239,499 25
Cash on hand and in bank	14,428 85
Power division—operating account, accounts receivable, stores and equipments, etc.	68,031 54
Kent House—operating account	11,835 37
City Division—operating account, represented by stores on hand	16,253 34
Montmorency Division—operating account, stores on hand, cash assets, etc.	64,307 36
Accounts receivable	25,249 49
	\$6,439,605 20

LIABILITIES.

Capital stock	\$2,500,000 00
Bonds	2,500,000 00
Preferred capital stock	750,000 00
Dividend payable Sept. 15, 1909, common stock	25,000 00
Bills payable	23,899 14
Accrued interest account	29,542 47
Accounts payable and other liabilities	88,215 85
Contingent account	40,000 00
Accident insurance fund	20,000 00
Surplus account	462,947 74
	\$6,439,605 20

PROFIT AND LOSS ACCOUNT.

Net earnings year ended June 30, 1909	\$ 280,347 93
Interest on bonds	\$125,000 00
City percentage on earnings	10,683 56
Interest, etc., paid and accrued	10,238 83
Dividends on preferred stock	44,123 95



BOOKS

for

Railroad and Elevator Men and Contractors

ECONOMICS OF RAILWAY OPERA- TION.

By M. L. Byers.

C.E., Ch. Eng. M. of W., Mo. Pac. Ry.
Cloth, 672 pp., many diagrams and forms
illustrating the best modern practice, \$5
net.

The only publication explaining in de-
tail the operative systems of American
railways. Sir William Van Horne says
of it: "I regard it as a most useful and
valuable book."

TRACK AND TRACK WORK

(Third Edition, Revised and Enlarged)

By E. E. R. Tratman

Assoc. M. Am. Soc. C. E.

Cloth, 520 pages, 232 illustrations, 44 tables
and an appendix of statistics of standard
track construction - - - \$3.50 net
The standard treatise on this subject.

DESIGN OF TYPICAL STEEL RAILWAY BRIDGES

By W. Chase Thomson

M. Can. Soc. C.E. Assist. Eng. Dominion
Bridge Co.

Cloth, 178 pages, 21 figs., 5 fold. plates, \$2
net.

FIELD PRACTICE OF RAILWAY LOCATION

By Willard Beahan

Cloth 270 pages, 50 illustrations - \$3.00 net

RIGHT OF WAY SURVEYING

By A. I. Frye

Cloth 8vo, 50 pages - - - \$1.00 net

RAILWAY LOCATION AND CONSTRUCTION.

By E. N. McHenry

Cloth, 88 pages, 2 folding plates, \$1.00 net

DESIGN OF WALLS, BINS AND GRAIN ELEVATORS

By M. S. Ketchum

Dean of College of Eng., Univ. of Colo.
Cloth, 394 + XIV pages, 260 figs., 40
tables and 2 folding plates - - \$4.00 net.

Giving a systematical analysis of the
stresses in structures containing granular
materials.

EARTHWORK AND ITS COST

By H. P. Gillette

Cloth, 256 pages, illustrated - - \$2.00 net

CONCRETE SYSTEM

By Frank B. Gilbreth

Flex. Morocco; 8½ x 11 ins.; 200 pages 220
illustrations and 10 Folding Plates; Print-
ed on finest coated paper - - \$5.00 net

Full descriptive circulars of these and
other books on request.

(The Imprint of Authority.)

ENGINEERING NEWS
BOOK DEPARTMENT
220 Broadway. New York.

The McConway & Torley Co.

PITTSBURG, PA.

Manufacturers of the

JANNEY,

JANNEY "X"

AND

PITT FREIGHT COUPLERS

BUHOUP 3-STEM EQUIPMENT

BUHOUP VESTIBULE EQUIPMENT

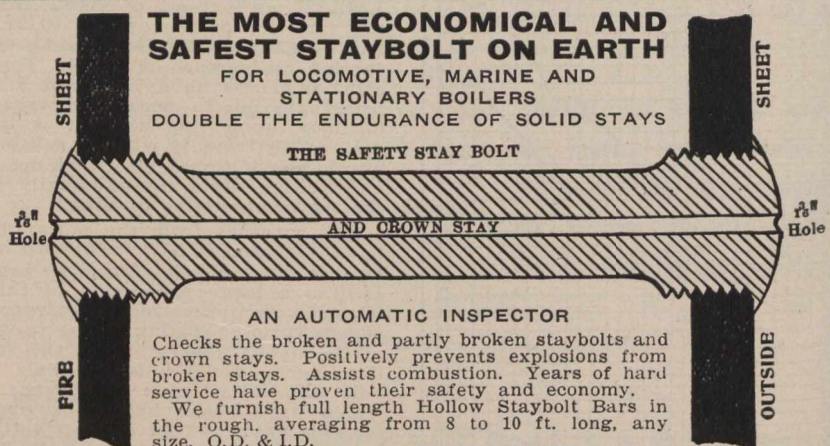
**MALLEABLE IRON AND STEEL CASTINGS
FOR RAILROAD USE**

THE MOST ECONOMICAL AND SAFEST STAYBOLT ON EARTH

FOR LOCOMOTIVE, MARINE AND
STATIONARY BOILERS

DOUBLE THE ENDURANCE OF SOLID STAYS

THE SAFETY STAY BOLT



AN AUTOMATIC INSPECTOR

Checks the broken and partly broken staybolts and
crown stays. Positively prevents explosions from
broken stays. Assists combustion. Years of hard
service have proven their safety and economy.

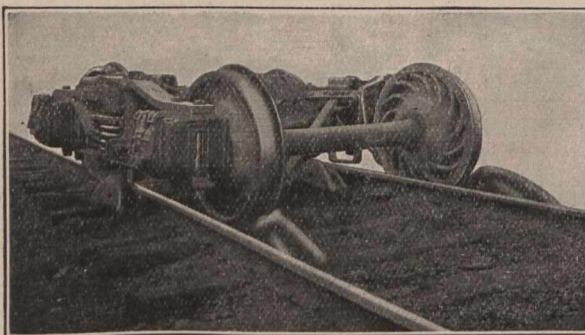
We furnish full length Hollow Staybolt Bars in
the rough, averaging from 8 to 10 ft. long, any
size, O.D. & I.D.

We also make solid staybolt bars of the best double
refined charcoal iron. Average length, 16 to 20 ft.

FALLS HOLLOW STAYBOLT CO., GUYAHOGA FALLS, OHIO

Representatives Dominion of Canada: Brydges Engineering and Supply Co.,
Winnipeg, Canada; Mussens Limited, Montreal, Canada.

The Alexander Car Replacer



**60,000 PAIRS
IN USE.**

Manufactured at

Montreal, Que., and

Scranton, Pa.,

of Pressed Steel Plate,
and guaranteed to re-rail
heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

Dividends on common stock. 50,000 00 240,046 34

Surplus transferred to surplus account. \$ 40,301 59

Following are the directors for the current year:—President, W. G. Ross, Montreal; Vice President, F. Ross, Quebec.; R. Forget, J. N. Greenshields, Hon. R. Mackay, W. Price, F W Ross, L. C. Marcoux and N. Belleau.

Winding up of the Von Echa Company.

An order was made in Toronto by Chief Justice Mulock for the winding up of the Von Echa Company, of Erie, Pennsylvania, and subsequently of Brantford, Ont. The company was incorporated under the laws of West Virginia, Oct. 2, 1900, for the object of mining, but its charter was wide enough to cover other purposes. The authorized capital was \$250,000. The incorporators were H. W. Surtees, E. L. Wood, J. E. Scraggs, J. E. Chilton and T. J. Paxton, all of Charleston, W. Va. The Ontario Government granted on April 2, 1903, a license to construct railways, bridges, etc., in Ontario, allowing the company to use not more than \$40,000 capital in Ontario. S. Ritter Ickes was president of the company, and J. H. Armstrong secretary. In Oct., 1900, the company commenced to operate in Ontario under a contract for the construction and operation of the Woodstock and Thames Valley and Ingersoll Electric Ry. The Provincial Secretary was notified on May 15, 1906, by J. G. Wallace, of Woodstock, solicitor, that the company was practically out of business; that the railway between Woodstock and Ingersoll had been built several years before, and that between Brantford and Galt was completed about February, 1904; that Ickes was practically the company, the other shareholders being merely nominal; that in 1905 Ickes had sold out his interest in the railway, and, so far as Wallace knew, paid up all the Von Echa liabilities, then went to Seattle, where he died in April, 1906. His whereabouts had not been known till his death was announced. On May 20, 1902, the Von Echa Co. entered into an agreement with the Grand Valley Railway Company to build a railway from Brantford to Paris, thence to Blue Lake, thence to St. George, and thence to Galt, for \$28,000 cash, 6,750 shares of G.V.R. stock and \$560,000 G.V.R. bonds. The company also constructed, owned and operated the Brantford St. Ry. The winding up is on the petition of C. Mickle of Gravenhurst and S. Dymont of Barrie, who claim that the Von Echa Co. became insolvent owing to Ickes in 1905 taking away and retaining its assets. Their claim is for \$562.28, due since Dec. 21, 1905. Ickes' estate is said to amount to \$54,834. A writ for \$611.10 and \$40.52 costs was issued, and judgment obtained against the company by the petitioners on Jan. 21, 1907, but the Trusts & Guarantee Co. refused to pay the claim without proof that Ickes was personally liable to pay the debts. The petitioners, therefore, asked for an investigation of the company's affairs. The Local Master at Brantford is appointed provisional liquidator.—Globe.

Electric Railway Position Wanted.

WANTED.—Position with Canadian Electric Railway to take charge of traffic transportation or employment and inspection department. Capable of organizing and installing modern system in either. Fifteen years experience. At present employed by one of the largest American Electric Railway properties. References from present and past employers. Canadian citizen. Box 4325, care The Railway and Marine World.

Projects, Construction, Betterments, Etc.

Barrie, Ont.—It is reported that a proposal has been submitted to the council for the construction of an electric railway connecting the C.P.R. and C.N.R. at Atherley with the C.P.R. at 13th concession, Essa tsp. It is stated that the right of way over certain streets in Barrie and some financial assistance for the project will be asked from the town shortly. J. W. Moyes, Toronto, is interested in the scheme.

Berlin and Bridgeport Electric St. Ry.—We are advised that the company is considering the extension of its line through Bloomingdale, Winterbourne and west Montrose, where it will cross the Guelph and Goderich line of the C.P.R., to Elora and Fergus. J. H. Wuest is Superintendent of the company.

Berlin and Waterloo St. Ry.—A by-law has been passed to raise \$19,000 by debentures for the construction of a second track along a portion of the line between Berlin and Waterloo, Ont. (Mar., 1908, pg. 202.)

British Columbia Electric Ry.—The new capital which is being provided, by an issue of stock on the London, Eng., market, will be utilized for the purpose of carrying out a number of improvements on the company's lines, and for constructing a new terminal station in Vancouver.

A contract has been let for the construction of about four miles of second track in South Vancouver to Christian, Hartney and Christian, Vancouver.

Steel on the first 12 miles of the line from New Westminster to Chilliwack was expected to be laid by Sept. 15. This will carry the line to Cloverdale. It is expected that this section will be opened for traffic about Nov. 1. We are advised that the grading has been practically completed as far as Abbotsford, a further distance of 26 miles. Immediately the line is opened to Cloverdale the work of track laying and electrifying this additional portion of the line will be started. It is expected that the line into Abbotsford will be completed ready for operation by July, 1910. A contract has been let to the Puget Sound Bridge and Dredging Co., Vancouver, for the clearing and grading of 12 miles, from Abbotsford to Sumas Lake, and another contract has been let to Palmer Bros. and Henning, Vancouver, for the grading of a further distance of 12 miles from Sumas Lake to Chilliwack. It is expected that the line from Abbotsford to Chilliwack will be completed by Dec. 31, 1910.

The extension of the Vancouver and Lulu Island Ry., owned by the C.P.R., but operated as an electric railway by the B.C.E.R., from Eburne to New Westminster was opened for traffic Sept. 15. The line follows the north arm of the Fraser River, and is now open from Steveston to New Westminster.

Victoria ratepayers have passed a by-law under which the city agrees not to enter the power business without first offering to buy the company's plant. The company in return agrees to spend \$1,500,000 in installing a power plant at Jordan River.

A contract has been let to Malcolm and Dimsdale for an addition to the power plant on Store St., Victoria.

A proposition has been made to the company with a view of the construction of a street car line in Nanaimo with branches to Wellington, Ladysmith and other contiguous points. (Sept., pg. 683.)

Edmonton Radial Ry.—The electric railway in Edmonton, Alta., is owned by the corporation, which also owns the lines to and in Strathcona, constructed under the Strathcona Radial Ry's charter. Out of the 10.5 miles of track laid up to the end of 1908, about 0.75 mile

was laid in 1907; all the Strathcona portion of the system was laid in 1908, and about 6.5 miles have been laid this year. Power is obtained from the city power house, which is owned by a separate department, and is located on the bank of the river about half a mile above the Saskatchewan bridge. The track is laid with 64 lb. steel. The rolling stock at present consists of seven semi-convertible cars, purchased from the Ottawa Car Co., and four pay-as-you-enter cars, purchased from the Preston Car and Coach Co. The officers of the line are: Superintendent, C. E. Taylor; Road Master, W. J. Fountain; Barn Foreman, A. Is-seling; Accountant, J. Carr. (July, pg. 522.)

Elk Lake City, Ont.—J. Garvin, speaking at a dinner to the members of the Ontario Legislature and the Commissioners of the Temiskaming and Northern Ontario Ry. recently said: "Give us a charter for an electric railway and we will finance it ourselves." It was suggested on the part of the Government that a proposition should be submitted by those interested.

Fort William, Ont.—The city council decided Sept. 9 to consider the desirability of constructing a spur line to connect the industrial quarter in the vicinity of the Canada Iron Corporation's foundry with existing lines within Fort William's municipal boundaries. (Sept., pg. 684.)

Guelph Radial Ry.—The Mayor of Guelph announced Sept. 13 that, with the delivery of power from Niagara Falls in the city next year, the G.R.R. commission will take up the question of the extension of the railway to Puslinch Lake. (April, pg. 283.)

Hamilton Radial Electric Ry.—We are advised that the company has no present intention of extending its line from Oakville to Toronto. (Sept., pg. 684.)

International Power Co.—The New Brunswick Legislature at its last session incorporated a company with this title for the purpose, among other things, of constructing an electric railway from Milltown to Sprague's Falls, so called, in the county of Charlotte. The company is also authorized to construct a bridge across the St. Croix River at Sprague's Falls to connect the railway with the opposite side of the river. The provisional directors are: I. R. Todd, G. J. Clarke, C. F. Todd, G. A. Curran, C. F. Pray, B. Y. Curran.

Moncton Electric Tramway Co.—The New Brunswick Legislature at its last session amended the act of incorporation of this company in a number of particulars. The provisional directors are: J. L. Harris, J. Starr, C. P. Harris, E. H. Keating, M. Carney, W. F. Humphrey, M. Lodge, instead of those formerly acting. The company is authorized to construct an electric railway along the city streets, subject to the approval of the city council, and also along any of the streets or highways of Moncton parish, subject to the approval of the county council. The act also contains general paragraphs as to the city's rights and the matters upon which the city and company have to agree. The privileges, powers, etc., granted to the Moncton Electric St. Ry., Heat and Power Co. under sec. 3, chap. 76 of the statutes of 1894 are revived and confirmed for 40 years from the passing of the act, provided that the lines authorized be completed and in operation within a year. (June, pg. 447.)

Montreal and Southern Counties Ry.—Construction along the first section of this line is rapidly nearing completion, and it is expected that cars will be running between Montreal and St. Lambert, Que., by Oct. 20. The city section has been completed to the west end of the Victoria bridge, with the exception of about 400 ft. of concrete wall which is

RENOUF Publishing Co. 61 Union Avenue Montreal

BAKER—A Treatise on Masonry Construction. 8vo, xvi+746 pages, over 100 tables, and 244 illustrations. Tenth edition, entirely rewritten and enlarged. Total issue, 26,000. Compared with the ninth edition, the number of pages has been increased from 619 to 762, and the illustrations from 160 to 244. Cloth, \$5.00.

TRAUTWINE—The Civil Engineer's Pocket-Book. New (19th) edition, 100th thousand, 1909. 200 pages. Cloth, \$5.00 net.

FLANDERS—Gear-Cutting Machinery. Comprising a Complete Review of Contemporary American and European Practice, together with a Logical Classification and Explanation of the Principles Involved. Large 12mo, vii+319 pages, 219 figures. Cloth, \$3.00.

TRAUTWINE—Concrete (Plain and Reinforced). Indexed. Full contents. Cloth, \$2.00 net.

TAYLOR AND THOMPSON—Concrete, Plain and Reinforced. Eleventh thousand, second edition, thoroughly revised and enlarged by the addition of over two hundred pages. 8vo. Cloth, \$5.00.

COLLINS—Manual of Wireless Telegraphy and Telephony. Second edition, enlarged. 12mo, xii+250 pages, 104 figures, and 1 communication chart. Cloth, \$1.50 net.

BOVEY—Theory of Structures and Strength of Materials. Fourth edition, rewritten and enlarged. 8vo, xlii+968 pages, 943 figures. Cloth, \$7.50 net.

KIMBALL—BARR—Elements of Machine Design. 8vo, viii+444 pages, 196 figures. Cloth, \$3.00 net.

THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates \$4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

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 to per acre.
Map No. 5 South-Western Alberta.....	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian.....	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians.....	10.00 to 25.00 per acre.

All prices are subject to change without notice.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at \$ 8.00 per acre, cash payment \$191.70 first year's interest \$ 65.28 and nine instalments of \$160.00	
" " " 9.00 " " " 213.70 " " " 73.46 " " " 180.00	
" " " 10.00 " " " 239.70 " " " 81.62 " " " 200.00	
" " " 11.00 " " " 263.60 " " " 89.78 " " " 220.00	
" " " 12.00 " " " 287.60 " " " 97.96 " " " 240.00	
" " " 13.00 " " " 311.55 " " " 106.10 " " " 260.00	
" " " 14.00 " " " 335.60 " " " 114.32 " " " 280.00	
" " " 15.00 " " " 359.50 " " " 122.44 " " " 300.00	

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

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-selected 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.

WOVEN RAILROAD FENCING

We are in the best possible position to supply anything in this line. We make both a "wrapped" stay—the "Safe Lock," a rigid fence, and a "straight" stay of the usual type, our "Monarch," therefore we can take care of any kind of an enquiry, to your liking. Both fences are made of No. 9 wire throughout and are made in the most up-to-date style.

We solicit your enquiries for catalogue, further information, samples and prices.

The Owen Sound Wire Fence Co.

OWEN SOUND, ONTARIO

LIMITED

being erected on Riverside St. The overhead work on Victoria bridge has been completed, and the flooring and track-laying is being gone on with. Tenders are under consideration for the grading of the section of 4.5 miles through St. Lambert, Brooklin Park, Montreal South and Longueuil. The steam plant for the generation of electricity to be used on the line is being installed near the Victoria bridge by the Canadian Westinghouse Co. (Sept., pg. 684.)

Niagara, St. Catharines and Toronto Ry.—We are advised that the projected extension to Port Colborne, Ont., will pass through Welland, Welland Junction and Humberstone. Trestle bridges will be used for crossing the Welland canal feeder at Welland. The construction will be done by the company's own staff. Work is to be commenced immediately and it is expected that the line will be in operation by the beginning of 1910. The company is in the market for the necessary material for the construction of this extension. (July, pg. 523.)

Ottawa and St. Lawrence Electric Ry.—It is reported that at a meeting of directors at Ottawa Sept. 3 an offer was submitted from a syndicate of British capitalists to take over the charter and to provide the funds needed to construct the line, and that the directors have given the syndicate an option on the charter until Nov. 30. The route is said to have been decided upon between Ottawa and Morrisburg, although the exact location of the entrance into Ottawa has not been arranged, and it is stated that grading will be started at the beginning of Oct. The line will be 55 miles long, and will pass through the towns and villages of Williamsburg, Bouck's Hill, Elma, Dunbar, Winchester Springs, Chesterville, Winchester, Morewood, St. Therese, Ormond, Kenmore, Vernon, Metcalfe and Greeley. (July, pg. 523.)

Ottawa Electric Ry.—The question of the extension to the cemeteries is still before the city council. The street railway's committee has held several meetings, and at one held Sept. 3 a letter from the company was submitted showing the relative cost of several lines to the cemeteries. In connection with this matter it should be noted that it is the council of Eastview village, and not of Eastwood, as previously stated, that is interested. (Aug., pg. 609.)

Quebec Ry. Light and Power Co.—After a meeting of directors held Aug. 30 an inspection was made along St. Valier St. as far as the cemetery on which it is proposed to construct an extension of the line, as soon as arrangements are made with the C.P.R. regarding the crossing on St. Valier St.

Plans have been deposited in the registry offices of Montmorency county, showing the proposed location of a branch or Y in the parish of St. Joachim. Application will be made to the Board of Railway Commissioners for authority to construct it. (Aug., pg. 609.)

Toronto Ry.—The Board of Railway Commissioners has refused to allow the company to appeal against the order for the construction of a high level bridge on Queen St. east. The company objects to paying 15% of the cost of the construction. The bridge is to provide accommodation for the street railway over the railway tracks on Queen St. east at the Don.

The company is erecting a large block of car barns on Lansdowne Ave. The contractors are the Imperial Construction Co., Toronto.

The Winnipeg Electric Ry. is operating cars over the new loop line at the north barns down Athole St. and up Inkster Ave. A large force started work Sept. 9 on the excavation for new barns at the corner of Athole and Main streets.

Electric Ry., Finance, Meetings, Etc.

Berlin, Waterloo, Wellesley and Lake Huron Ry.—In the C.P.R. annual report for the year ended June 30, the list of acquired securities shows that the C.P.R. owns the entire issue of \$426,000 of 4% first mortgage bonds of the

Berlin and Bridgeport Electric St. Ry.—The adjourned annual meeting was held Sept. 20. Following are the officers and directors for the current year:—President, W. H. Breithaupt; Vice President, J. S. Anthes; Secretary, A. Millar; other directors: L. J. Breithaupt, Berlin; G. M. Shirk, Bridgeport.

British Columbia Electric Ry.—Gross earnings for July, \$220,665; working expenses, \$123,063; net operating earnings, \$97,602; renewal funds, \$16,084; net earnings, \$81,518; approximate income from investments, \$16,500; net income, \$98,018; against \$174,410 gross earnings, \$92,172 working expenses, \$82,238 net operating earnings, \$13,816 renewal funds, \$68,422 net earnings, \$13,550 approximate income from investment, \$81,972 net income, for July, 1908.

The company is placing on the London, Eng., market an issue of £500,000 of new debentures, to provide capital for improvements to the line, and the construction of terminals in Vancouver.

Edmonton Radial Electric Ry.—Net earnings for Aug., \$8,161.87. Passengers carried during month, 193,704, and from the inauguration of the railway, Nov. 9, 1908, 1,347,600.

Halifax Electric Tramway.—Railway receipts for Aug., \$21,366.12, against \$20,052.81 for Aug., 1908. Receipts for 3 weeks ended Sept. 21, \$13,156.97, against 16,144.77 for same period 1908.

Hull Electric Co.—Following are the officers and directors for the current year: President, A. R. Creelman; Vice President and General Manager, W. R. Baker; other directors, D. McNicoll, I. G. Ogden, E. W. Beatty, J. Osborne, E. Hanson. The company is owned by the C.P.R. and no separate statement of its earnings, etc., is issued.

Montreal Park and Island Ry.—The annual meeting was held at Montreal, Sept. 16. Following are the officers and directors for the current year:—President, Hon. L. J. Forget; Vice President, K. W. Blackwell; other directors: W. G. Ross, Sir H. Montagu Allan, F. L. Wanklyn, D. McDonald and T. A. Trenholme.

Montreal St. Ry.—Passenger earnings for Aug., \$344,513.84; miscellaneous earnings, \$10,715.88; total earnings, \$355,229.72; operating expenses, \$183,582.60; net earnings, \$171,647.12; city percentage on earnings, \$44,083.70; interest on bonds and loans, \$14,444.55; rent leased lines, \$498.67; total charges, \$59,026.92; surplus, \$112,620.20; against \$319,300.07 passenger earnings; \$10,471.98 miscellaneous earnings; \$329,772.05 total earnings; \$164,261.92 operating expenses; \$165,510.13 net earnings; \$36,137.89 city percentage on earnings; \$17,530.22 interest on bonds and loans; \$444.43 rent leased lines; \$54,112.54 total charges; \$111,397.59 surplus for Aug., 1908. Aggregate passenger earnings for 11 months ended Aug. 31, \$3,408,784.01; miscellaneous earnings, \$83,992.54; total earnings, \$3,492,776.55; operating expenses, \$2,078,393.01; net earnings, \$1,414,378.54; city percentage on earnings, \$248,270.70; interest on bonds and loans, \$165,208.25; rent leased lines, \$5,322.68; total charges, \$418,801.63; surplus, \$995,576.91; against \$3,258,784.01 aggregate passenger earnings; \$70,158.90 miscellaneous earnings; \$3,329,059.97 total earnings, \$1,978,659.18 operating expenses; \$1,350,400.79 net earnings; \$225,130.54 city percentage on earnings; \$193,315.27 interest on bonds and loans; \$4,575.29 rent leased lines;

\$423,021.10 total charges; \$927,379.69 surplus for same period 1907-08.

Montreal Terminal Ry.—The annual meeting was held at Montreal, Sept. 16. Following are the officers and directors for the current year:—President, F. L. Wanklyn; Vice President, G. S. Campbell; other directors: J. G. Ross, C. H. Catelli, R. Forget, C. Archer, F. E. Meredith; Secretary, L. G. Morin.

Montreal Terminal Ry.—Montreal press reports Sept. 14 stated that the Canadian Northern Quebec Ry. was about to secure control of the Montreal Terminal Ry. The Chateaugay and Northern Ry., now a part of the C.N.Q.R., was originally in the same hands as the M.T.R., and the entrance of the C.N.Q.R. into Montreal was arranged in connection with the M.T.R. C.N.Q.R. officials at Toronto state that the rumor probably originated in the fact that the two companies recently had to close out an agreement regarding an overlapping track. The M.T.R. is owned by the Montreal Street Ry.

The Quebec Ry. Light and Power Co. has declared a dividend of 1% on its common stock for the six months ended June 30.

South Western Traction Co.—The Master in Chancery, London, Ont., has made an order in the action of the London and Western Trusts Co. against the S.W.T. Co., directing the sale on Oct. 20 of the latter company's electric railway, property, franchises, etc. The railway is described as 28 miles long, connecting London with Port Stanley, passing through St. Thomas. About 14 miles is constructed on private right of way, including the entrance into London, the remaining mileage being on the public highways. The power house is situated adjacent to London, and is fitted with engines, boilers and generators having a capacity of 275 h.p. The rolling stock consists of 15 passenger cars, 2 freight cars, 1 combination construction car and snow-plough, 5 flat cars and 2 steam road box cars.

At a special meeting of St. Thomas city council, Sept. 9, it was decided to accept the offer of the liquidators of the company to pay the amount due for rental of the St. Thomas St. Ry. tracks less \$700, amount of rental for the seven months during which the company did not use the tracks prior to the completion of its line to Port Stanley. The offer was accepted without prejudice on the condition that the amount due be paid by Sept. 13.

Toronto Ry.—Gross earnings for July, \$329,804; operating expenses, \$168,201; net earnings, \$161,603; against \$299,646 gross earnings; \$152,896 operating expenses; \$146,750 net earnings, for July,

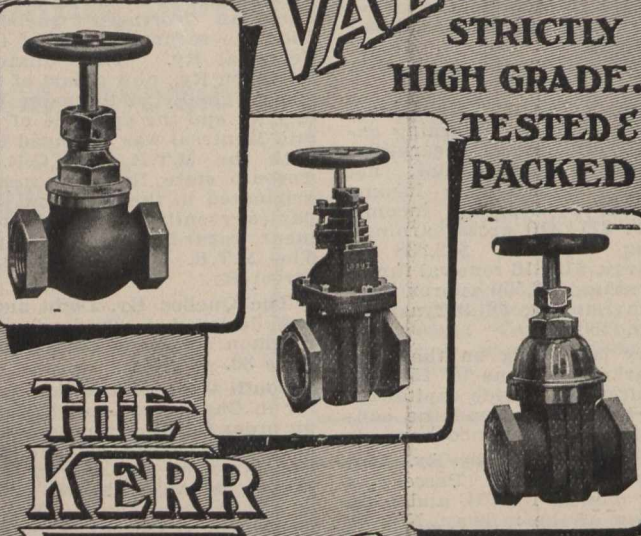
Gross earnings for Aug., \$333,223.09; expenses, \$166,056.55; net earnings, \$167,166.54; against \$299,932.97 gross earnings; \$149,626.08 expenses; \$150,306.89 net earnings for Aug., 1908. Aggregate gross earnings for eight months ended Aug. 31, \$2,477,310.22; expenses, \$1,266,064.33; net earnings, \$1,211,245.89; against \$2,275,126.62 gross earnings; \$1,252,519.44 expenses; \$1,022,607.18 net earnings for same period 1908.

Winnipeg Electric Ry.—Gross earnings for July, \$214,000; operating expenses, \$100,900; net earnings, \$113,100; against \$178,600 gross earnings; \$89,700 operating expenses; \$88,900 net earnings; for July, 1908. Aggregate gross earnings for 7 months ended July 31, \$1,424,800; net earnings, \$715,300; against \$1,197,700 gross earnings, and \$598,800 net earnings for same period 1908.

The usual quarterly dividend of 2½% was declared at a meeting of directors Sept. 13, making the second successive year that a 10% dividend has been declared.

KERR'S GLOBE AND GATE VALVES

STRICTLY HIGH GRADE. TESTED & PACKED



THE KERR ENGINE CO. LIMITED

VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

ESTABLISHED 1849

BRADSTREET'S

Capital and Surplus \$1,500,000
Offices throughout the Civilized World
Executive Offices:
NOS. 346 and 348 BROADWAY, N. Y.
CITY, U. S. A.

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

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

Correspondence Invited.

OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Winnipeg, Man.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

NEW AND RELAYING RAILS

FOR RAILWAYS, TRAMWAYS, GIRDERS, ETC.

LOCOMOTIVES, CARS AND OTHER EQUIPMENT.


John J. Gartshore
83 Front Street West - TORONTO

Standard Paint & Varnish Co. Limited
Makers of High Grade Varnishes, Japans, Paints, Colors & Enamels.
Windsor Ont.

JAMES THOMSON, Pres. and Mang. Director. J. G. ALLAN, Vice-President. JAMES A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED

MANUFACTURERS OF



CAST IRON PIPE

3 inches to 60 inches diameter
FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS

FOR WATER, GAS, CULVERT AND SEWER
HAMILTON, ONT.

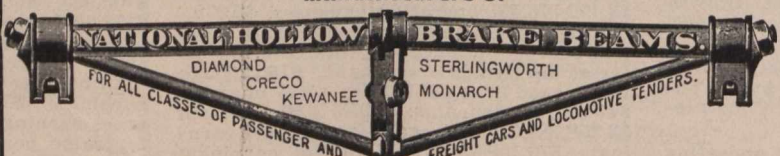
E. B. LEIGH,
Pres. & Gen. Mgr.

GENERAL OFFICES
46th, Robey and Lincoln Streets.

General Sales Office,
Fisher Building,
CHICAGO, - - ILLINOIS

CHICAGO RAILWAY EQUIPMENT CO.

Manufacturers of



NATIONAL HOLLOW BRAKE BEAMS.

DIAMOND STERLINGWORTH
CRECO KEWANEE MONARCH

FOR ALL CLASSES OF PASSENGER AND FREIGHT CARS AND LOCOMOTIVE TENDERS.

DIAMOND, CRECO, KEWANEE and all types of solid brake beams
More than 5,000,000 now in use
MONITOR BOLSTERS AND "CRECO" ROLLER SIDE BEARINGS
"CRECO SLACK ADJUSTERS"

CANADIAN OFFICE:

22 St. John Street
MONTREAL, QUEBEC

I. A. YOUNG,
AGENT

Electric Railway Notes.

The British Columbia Electric Ry. is reported to be planning to construct 25 pay-as-you-enter cars at its Vancouver shops.

F. L. Wilson, who died at Centre Island, Toronto, Sept. 16, was father of C. L. Wilson, Assistant Manager Toronto and York Radial Ry.

The Windsor, Essex and Lake Shore Rapid Ry., is in the market for six new or second hand flat cars and three box cars, standard type, equipped with air brakes.

E. Richards, Assistant Treasurer and General Freight Agent, Chatham, Wallaceburg and Lake Erie Ry., was married Sept. 11 in Wallaceburg, Ont., to Miss D. Colville.

The Quebec Ry., Light and Power Co.'s employes' annual picnic was held at Cap Tourmente, Sept. 16 and 23, half of the employes forming the party on each occasion.

R. H. Sperling, General Manager British Columbia Electric Ry., was presented with a tea and coffee service by the company's Vancouver staff, on the occasion of his recent marriage.

In accordance with the Public Utilities Act passed last session of the Nova Scotia Legislature, the electric railway companies operating in the province have filed in the Attorney General's office schedules showing rates in force on their lines.

The General Manager of the Quebec Ry., Light and Power Co., states, in his annual report, that owing to the rapid increase of business on the Montmorency Division, it will be necessary to purchase additional electrical machinery and rolling stock.

The cars for the Montreal and Southern Counties Ry. are being manufactured by the Ottawa Car Co., and the first delivery will be made Oct. 1. They are of the vestibule type, with smoking compartment in the rear. Each car has a seating capacity for 65.

As a result of a complaint, the Calgary, Alta., city council has increased the pay of its conductors and motormen to 25c. an hour, the increase to date from Oct. 1. The men demand that the increase date from Aug. 15, and threaten to strike if the demand is not complied with.

R. Forget, M.P., is reported to have said in an interview, Sept. 15, that the outlook for the proposed merger of street railway, electric and water power interests in the Quebec district was most assuring, and in his opinion such a merger would be a good thing for Quebec.

D. McDonald, Manager Montreal St. Ry., and President Canadian Street Railway Association, whose portrait appears on the first page of this issue, returned to Montreal, Sept. 13, after spending a little over three months in Europe. Biographical data respecting him were published in our July issue.

By reference to summaries of orders 7975 and 7976, passed by the Board of Railway Commissioners, as given on an earlier page of this issue, it will be seen that the Montreal St. Ry. Co. and the Montreal Park and Island Ry. Co., have been authorized to appeal to the Supreme Court against two of the Board's decisions.

The Winnipeg city council which recently took up the question of heating the street cars operating in the city during the winter, about which there appears to have been some complaint, has received a letter from the Manager of the Winnipeg Electric Ry., stating that steps have been taken to ensure that the cars will be properly heated.

The Winnipeg city council is seeking to obtain an injunction against the Win-

nipeg Electric Ry., to restrain it from erecting light and power poles on the streets without permission. Pending the hearing of the original action the council inserted a clause in the permits, without prejudice, to which the railway company took exception and is taking further action.

A committee of the Halifax city council discussed Sept. 9, a complaint relating to the noise alleged to be made by street cars on Sundays while passing places of worship. A sub-committee was appointed to further discuss the matter with the Halifax Electric Tramway Co., to see what steps could be taken. The company, some time ago, issued instructions to motormen and conductors to avoid all possible noise in the vicinity of churches.

Following are the chief particulars of the "pay-as-you-enter" cars, which the Silliker Car Co., Halifax, is building for the Halifax Electric Tramway Co.:

Length over end sills	.....21' 0"
Length of rear vestibule	.....5' 0"
Length of front vestibule	.....4' 0"
Length over all	.....30' 0"
Width over side sills	.....7' 7 $\frac{1}{2}$ "
Width at belt rail	.....8' 2 $\frac{1}{2}$ "
Height from sills to under sides of plate	.....6' 0 $\frac{1}{2}$ "
Stationary seats	.....15
Upholstering	.....Rattan.
Inside finish	.....Cherry
Wheels, diam.	.....33"
Fenders	.....H. E. T. Co.'s standard.
Seating capacity	.....30

Recently the Mayor of Hamilton notified the Hamilton Radial Electric Ry. that it must cease operating freight cars on King St. The company has the right to operate freight cars to the corner of Sanford Avenue and Wilson St. On receipt of this notice the company gave notice that it would cease the handling of freight altogether. As a result there was a meeting between the members of the council and officers of the company Sept. 14, when an arrangement was made by which such freight as may be carried in a combination passenger car to be approved of by the council can be carried along King St. to the terminal, but the right of running through freight cars is not conceded. The Manager stated that the carrying of freight would be resumed now that the difference of opinion as to what constituted a freight car had been removed.

Regina.—A plan has been submitted to the Works Committee of the Regina, Sask., city council for the construction of an electric railway in the city. The plan provides for the construction of a system covering the old town plan no. 33. In this area the line would run on Fourth Ave., from Winnipeg St. westward to Government Road, south to Thirteenth Ave., east to Elphinstone, south again to Sixteenth, extending easterly to Winnipeg St. and north on to the starting point. It also provides for a line on Dewdney St. from Government Road to Winnipeg St., and one on Thirteenth Ave. from Elphinstone to Winnipeg, with intersections on a number of other streets. An outer belt line is also proposed, taking in all the present annexes. The matter is under consideration.

A lady passenger riding on a street car recently said to the conductor: "Can you tell me, please, on which cars these transfers are good? I am from another town and am rather mixed up." "It's very simple, madam," replied the polite conductor. "East of the junction by a westbound car a transfer from an eastbound car is good only if the westbound car is west of the junction formed by the eastbound car. South of the junction formed by a northbound car a transfer from a southbound car is good south of the junction at the time of issue, but only south of the junction going south if the southbound car was going north at the time it was south of the junction. That's all there is to it."

Pere Marquette-Lehigh Valley Line.—G. H. Anthony, heretofore General Agent, Chicago, Durham, M. St. P. and S.S.M.R., Winnipeg, Man., has been appointed General Agent P.M.-L.V. Line, with offices at St Paul and Minneapolis, Minn. He has charge of Northwestern Territory, covering Minnesota, the Dakotas and the Canadian Northwest, also Superior and Ashland, Wis.

The Canadian Westinghouse Co., Ltd., has declared a quarterly dividend of 1 $\frac{1}{2}$ % payable Oct. 11.

The Dominion Iron and Steel Co., Ltd., has declared a 7% dividend on its preferred stock, payable Oct. 1.

R. J. Mackenzie, of Mackenzie, Mann & Co., Winnipeg, is reported, from New York, to have purchased four horses, to add to his stable.

The various companies operating sleeping, dining and parlor cars in Canada have filed with the Board of Railway Commissioners standard tariffs of maximum tolls charged on their lines.

W. Gell, formerly Master Mechanic Grand Trunk Pacific Ry., Rivers, Man., died at Stratford, Ont., Sept. 9. He was appointed Master Mechanic G.T.P.R. in Feb., 1908, having previously, for some years, been Master Mechanic G.T.R., Ottawa, and resigned the position, on account of ill health, June, 1909.

E. Dunsmore, who has occupied the position of secretary to A. J. Nixon, heretofore Assistant Superintendent G.T.R., London, Ont., who has been appointed Chief Operating Officer of the Board of Railway Commissioners, is reported to have been appointed private secretary to the Vice President St. Louis and West-

The Imperial Government has included in its Irish Land Bill a provision whereby mortgage bonds and debentures of railways in Canada, the U.S., Mexico and the Argentine are included in the list of securities in which the trustees of estates purchased from life tenants under the bill may hereafter invest this purchase money.

G. J. Ellis, a former employe of the company, has entered action against the Atlantic, Quebec and Western Ry., claiming \$5,399.50 for false arrest. Some time ago, \$1,200 disappeared from the company's office at New Carlisle, Que., and he was arrested on a charge of theft, and being kept under arrest for some time, was acquitted.

Grace Henderson, cashier Thousand Islands Ry., Gananoque, Ont., who was recently charged with the theft of a considerable sum from her employers, was acquitted at Brockville, Ont., Sept. 21. It was proved by the evidence that whatever discrepancies existed, were made to cover loans to her superior employes. The jury expressed the opinion that she should be recompensed by the company.

A recent press report stated that W. H. Walker, G.T.R. Locomotive Foreman at Brockville, had been appointed as Master Mechanic of the Northern Railway of Costa Rica in charge of shops and road. We are officially advised that Mr. Walker is not entering the Northern Railway's service, and that A. Curotte, who has been acting Master Mechanic for some time, has been appointed Master Mechanic.

The reorganization of Rhodes, Curry & Co., Ltd., under the title of Rhodes, Curry Co., Ltd., has been completed, and the properties of the first named have been transferred to the new company. Following are the officers and directors for the current year:—President, N. Curry; Vice President, N. A. Rhodes; other directors, T. J. Drummond, W. M. Aitken, C. H. Cahar, Montreal; V. G. Curry, H. S. Dupuy, Amherst; and J. M. Robinson, St. John; Secretary Treasurer, J. M. Curry, Amherst; Assistant Secretary, O. B. MacCallum, Montreal.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

BRIDGES

**TURNTABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC and HAND POWER CRANES
Structural METAL WORK of all kinds**

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK

THE CANADIAN BRIDGE CO., LIMITED

WALKERVILLE, ONTARIO

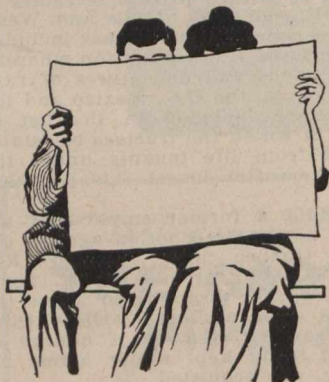
Manufacturers of

Railway and Highway

BRIDGES

**LOCOMOTIVE
TURNTABLES
ROOFS
STEEL BUILDINGS**

**STRUCTURAL
IRON WORK
OF ALL
DESCRIPTIONS**



INTERESTING

TO RAILROAD PURCHASING AGENTS

To Know that We are in the

FOUNDRY EQUIPMENT LINE

Molding Machines "The Gravity" and "PARKS" Jar Ram Machines.

HOISTS, CUPOLAS, LADLES mfgd. by Calumet Engineering Works, Harvey, Ill.

HAUCK BURNERS, for Foundries, Machine and Boiler Shops.

CYCLONE HOISTS, from 1-2 ton to 30 tons.

GET OUR PRICES BEFORE PURCHASING. (Will Pay)

ONTARIO WIND ENGINE & PUMP CO., Ltd., TORONTO and WINNIPEG



UNDERWOOD

In buying a typewriter, it is well to know something of the mechanical facilities of the firm handling the machine.

We have a staff of twenty-seven expert typewriter mechanics who repair and re-build typewriters of different makes.

It may be noted that only two of them repair Underwoods. The Underwood has but a speaking acquaintance with repair-men.

**UNITED
TYPEWRITER COMPANY LIMITED**
TORONTO
and all other Canadian Cities

CRUCIBLE SAW AND SHEET STEEL

MADE BY

JESSOP STEEL CO.
Washington Pa., U.S.A.

TOOL STEEL

The old reliable Jessop Steel. The very best for making all kinds of Tools.

Jessop's "Ark" High Speed Air Hardening Steel

is unexcelled for turning Locomotive Tires, Shafting and Car Wheels, or for planing castings.

WILLIAM JESSOP & SONS, Limited, SHEFFIELD, ENG.
CHAS. L. BAILEY, Agent, 80 BAY STREET, TORONTO, ONTARIO

MARINE DEPARTMENT.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Lake Shippers' Clearance Association.

In our last issue we gave some particulars respecting the establishment of a grain clearing house at Fort William and Port Arthur, Ont., since when the following information has been supplied. The Lake Shippers' Clearance Association has been organized as an agency for the purposes of facilitating dispatch in loading grain cargoes at the terminal ports of Fort William and Port Arthur, and as a general headquarters for marine interests at the head of the lakes. For a number of years it has been apparent that organized effort was necessary to obviate the delay due to cargo being taken from three to seven or more elevators. At the same time some general depot where vessel captains on arrival might report for orders, and to which the owners might address instructions, has seemed particularly desirable. The Lake Shippers' Clearance Association is designed to meet these various requirements, and to operate in general to the advancement of all shipping interests. It has already received the unanimous endorsement of the exporting and lake shipping interests in the Winnipeg Grain Exchange, and the support of many U.S. shipping firms has already been promised. The Grain section of the Dominion Marine Association has also given its hearty approval, and sanctioned a graduated scale of charges for the services of same for 1,000 bushels as under:

For loading at one elevator	30c.
" two elevators	20c.
" three or more elevators	10c.

The balance of the necessarily heavy expense is guaranteed by the members of the Association, who will also, by a process of clearing warehouse receipts facilitate as much as possible the general dispatch of vessels. Commodious quarters have been secured and will be fitted up at Fort William. The services of a very competent authority on marine and financial matters have been secured for the management, and a strong staff selected to further the interests of the Association in every particular. The cooperation of every grain vessel owner is anticipated. Orders in general will be given by grain exporters through the Association's office, and vessels not complying with its regulations and tariffs will lose the advantage of the quick dispatch which the Association will be enabled to give, and will be subject to the annoying delay that has been experienced in the past. To prevent any misunderstanding on arrival of vessels, captains and pursers should be invariably instructed to apply for orders to the Lake Shippers' Clearance Association, where telegrams or letters may be directed, and prompt delivery assured. Instructions should also be issued for the payment of Association charges before clearing.

The Association's officers are:—President, Jno. Fleming, of A. McFee & Co.; Vice President, C. Tilt, of Jas. Carruthers

& Co., Ltd.; H. N. Baird, of Norris & Co.; Treasurer, A. K. Godfrey, of the Canadian Elevator Co.; Secretary, A. C. Ruttan, of Jas. Richardson & Sons, all of Winnipeg; General Manager, F. W. Young, Fort William; Assistant Manager, A. H. Bevan, Winnipeg. F. W. Young has been a bank manager at Fort William for some years, and is a brother of C. A. Young, one of the National Transcontinental Railway Commissioners.

Dominion Lighthouse Service Steamboat.

The twin screw steel steamboat, no. 21, which is being built at the Dominion Government shipyard, Sorel, Que., was launched there Sept. 4, and named Montmagny. She will be used in the lighthouse service below Quebec for carrying material and men for lighthouse construction, in distributing supplies for the various stations and for inspection work. Following are her principal dimensions, etc.:

Length between perpendiculars	212 ft. 8 in.
Length over all	222 " 0 "
Beam moulded	34 " 8 "
Depth moulded to upper deck	22 " 0 "
Draught of water (loaded)	15 " 0 "
Displacement to l.w.l.	2,064 tons.
Cargo at load draught	600 " "
Coal at load draught	230 " "
Reserve feed tank at load draught	25 " "
Fresh water tank at load draught	10 " "
Capacity of fore peak tank	13 " "
Capacity of after peak tank	45 " "
Capacity of double bottom	120 " "
Capacity of trimming tank	85 " "
Estimated speed (loaded)	11½ knots.

The vessel is built of steel and is of the flush deck type, with two pole masts. There are three steel decks: the upper one sheathed with wood throughout, the main and lower ones are sheathed with wood only in the way of accommodation. There is a double bottom 3 ft. deep extending through machinery space, and bunker divided, into three watertight compartments, that under the boilers forming the reserve feed tank. There are 6 watertight bulkheads. The whole of the steel scantlings are not less than required for Lloyd's highest class. The accommodation for the officials is placed aft and consists of two staterooms, an office and bath-room in a deck house, and a dining saloon, 2 two berth cabins, 2 four berth cabins, pantry and bath-room, also baggage and linen rooms on the main deck. Accommodation for captain, chief mate, chief engineer, 2nd and 3rd mates and wireless operator, with mess-room and bath-room, also the galley is placed in the

deck house amidships. Accommodation for the 2nd and 3rd engineers, two cooks and three spare two berth cabins are on the main deck amidships, where are also placed the ice house, 2 provision store rooms, boatswain's store, paint locker, lamp room, and workshop, which is proposed to be fitted up with lathe, shaper, drilling machine, etc., driven by an electric motor. The accommodation for 4 oilers, 4 quarter-masters, boatswain, carpenter, mess-room, bath-room and carpenter's store is arranged on main deck forward. Accommodation for 12 sailors and 12 firemen is arranged on lower deck forward. Temporary accommodation for 20 men with pantry and lavatories is arranged at the after end of forehold on the main deck. The two lower masts are of steel to the hounds, with pitch pine top masts. The steam winch for the forehold is arranged with suitable derrick and gear for lifting 12 tons with a purchase of two double blocks or 3½ tons direct from the barrel. The after winch will lift 2 tons direct from the barrel. There is a steam and hand windlass for lifting the anchors (30½ cwt. each, with 1½" cable), also a steam warping capstan aft. The boats include 2 life-boats, 3 surf boats, 1 gasoline launch and 1 dinghy. On the boat deck, which extends the length of the mid-ship deck house is a wheel house and chart room, with a navigating bridge on top. The steam steering engine is placed in the engine casing, with one wheel on the bridge and one in the wheel house, there is also screw hand gear aft. The vessel is lighted throughout with electric light including signal lanterns, and is fitted with wireless telegraph apparatus. The machinery consists of twin screw triple expansion engines, having cylinders 15", 24" and 39" diameter by 24" stroke, supplied with steam from 2 boilers of the marine return tube type, 14' dia. by 10' long each, having three furnaces 3' 3" diameter and 27 3" tubes. The working pressure is 180 lbs. per sq. in. There is a donkey boiler of the vertical type, 5' diameter by 9' 2" high; working pressure, 125 lbs. The auxiliaries include a feed pump, ballast pump, general service and fire pump, feed heater, sanitary and fresh water pumps, also ash ejector. A "navy" type hand pump is placed in the casing and connected to the general service pump for use when steam is not available.

Pickford and Black, Ltd., Halifax, N.S., has chartered the Furness Line s.s. Almeriana, to replace the s.s. Dahomey, on the West Indies route.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during August :

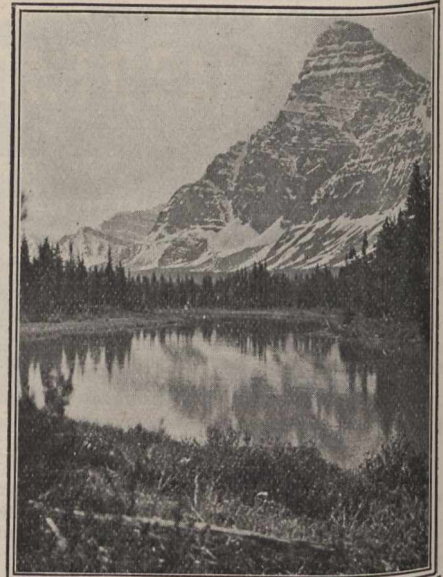
ARTICLES.	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper..... Eastbound..... Net tons	578	12,976	13,554
Grain..... "..... Bushels	1,878,016	628,605	2,506,621
Building stone..... "..... Net tons		145	145
Flour..... "..... Barrels	153,364	422,610	575,974
Iron ore..... "..... Net tons	4,373,678	2,405,707	6,779,385
Pig iron..... "..... " "		6,175	6,175
Lumber..... "..... M. ft. B. M.	9,623	82,384	92,007
Wheat..... "..... Bushels	952,898	455,836	1,408,734
General merchandise .. "..... Net tons	7,741	11,391	19,132
Passengers..... "..... Number	4,841	4,978	9,819
Coal, hard..... Westbound..... Net tons	57,400	111,164	168,564
Coal, soft..... "..... " "	287,088	1,099,844	1,486,932
Flour..... "..... Barrels	220	35	255
Grain..... "..... Bushels		500	500
Manufactured iron..... "..... Net tons	23,104	51,438	74,542
Iron ore..... "..... " "	2,387		2,387
Salt..... "..... Barrels	21,309	58,953	80,262
General merchandise..... "..... Net tons	56,756	59,207	115,963
Passengers..... "..... Number	6,122	4,672	10,794
Vessel passages..... Number	1,008	1,893	2,901
Registered tonnage..... Net	2,942,614	4,128,687	7,071,301
Freight—Eastbound..... Net tons	4,479,664	2,648,246	7,127,910
" —Westbound..... " "	529,804	1,330,509	1,860,313
Total Freight..... " "	5,009,468	3,978,755	8,988,223

THE INTERNATIONAL MARINE SIGNAL CO.

OTTAWA, CANADA

Manufacturers of
**Automatic Acetylene Gas Buoys,
 Beacons and Fog Signals**

Mariners describe our lighted buoys as
 "floating lighthouses."



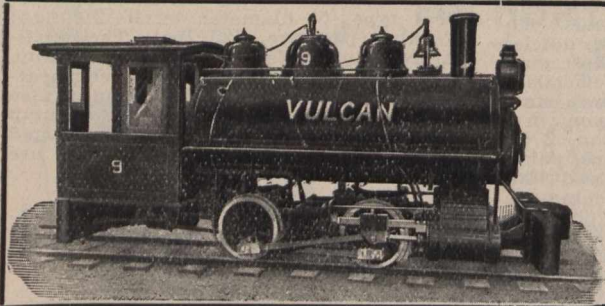
WILLIAM WARREN

Laggan, Alta. and Field, B. C.

**Guide and Outfitter to all
 points in Canadian Rockies**

FISHING AND HUNTING PARTIES
 (fully equipped) a specialty
 Seven years' experience on some of the
 most extensive private trips ever made
 since this greatest hunting and recreation
 ground has been opened.

References Furnished



Now is the time to place your order for Contractors'
 Locomotives. Why not buy the best?

VULCAN IRON WORKS

WILKES-BARRE, PA., U.S.A.

Canadian Representatives - MUSSENS LIMITED, MONTREAL

Largest Dealers Rebuilt Equipment in United States

TWO SEPARATE PLANTS

EAST PLANT

Capacity, 25 New Freight Cars per day
 10 New Coaches per month

WEST PLANT

Capacity, 10 Heavy Repairs Locomotives per month
 Besides Coach and Freight Car Repairs

PROMPT DELIVERY—New Passenger and Freight Equipment—Rebuilt Locomotives, Passenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = = Chicago, Ill.

PROVINCIAL STEEL CO., LTD.

COBOURG, ONT.

Notices to Mariners

The Department of Marine has issued the following:

No. 77. Aug. 31. 199.—British Columbia, Chatham Sound, approach to Prince Rupert, Ridley Island range day beacons discontinued. 200.—British Columbia, Chatham Sound, Metlakatla harbor, Shrub beacon replaced by buoy. 201.—British Columbia, Vancouver Island, east coast, Stuart channel, chart of Boat harbor issued. 202.—British Columbia, Chatham Sound, chart of middle passage, Skeena River, issued.

No. 78. Sept. 1. 203.—New Brunswick, south coast, Bay of Fundy, Cape Spencer, change in character of light. 204.—Nova Scotia, Bay of Fundy, Digby Gut, Point Prim, change in character of light. 205.—Nova Scotia, west coast, Cape St. Mary, change in character of light. 206.—Nova Scotia, south coast, Country Harbor approach, Green Island, change in character of light. 207.—Prince Edward Island, northeast coast, east point, change in light. 208.—Prince Edward Island, southeast coast, Cape Bear, change in color of light. 209.—Prince Edward Island, south coast, Hillsborough Bay, Charlottetown harbor, Blockhouse Point, light improved. 210. Prince Edward Island, northwest coast, North Point, change in light.

No. 79. Sept. 3. 211.—Ontario, Lake Ontario, Simcoe Island, Nine Mile Point, change in character of light. 212.—Ontario, Detroit River, Limekiln Crossing, Texas Dock range, additional lights established. 213.—Ontario, River St. Clair, east of St. Clair middle ground, characteristic of gas buoy light. 214.—United States of America, Detroit River, wreck removed.

No. 80. Sept. 8. 215.—Ontario, Lake Ontario, east end, Pigeon Island, new lighthouse, change in character of light. 216.—Ontario, Lake Erie, Port Maitland, hand fog horn at light station. 217.—Ontario, Georgian Bay, Parry Sound, wreck.

No. 81. Sept. 9. 218.—Nova Scotia, Cape Breton Island, east coast, Bras

d'Or, Boularderie Island, McNeil Beach, light mast replaced by tower. 219.—Quebec, Chaleur Bay, Port Daniel, color of light on wharf. 220.—Newfoundland, Strait of Belle Isle, Flower Island, change in light. 221.—Newfoundland, east coast, White Bay, Seal Cove, new tower, change in color of light. 222.—Newfoundland, east coast, Canada Bay, Aiguillettes or Inglee harbor, new tower, change in color of light. 223.—Ireland, east coast, Rosslare harbor, shoals in. 224.—Wales, Cardigan Bay, alterations in lights and buoys.

No. 83. Sept. 29. 230.—Nova Scotia, southeast coast, Cranberry Island, intended change in character of light. 231.—Newfoundland, southwest coast, Port Basque, Channel head, change in character of light.

No. 84. Sept. 22. 232.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, above Portneuf, gas buoy established. 233.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, eastern end of Lake St. Peter, changes in buoyage.

No. 85. Sept. 24. 234.—Quebec, River St. Lawrence below Quebec, temporary change in position of Beaujeu Bank west end gas buoys. 235.—Quebec, River St. Lawrence, Lake St. Peter, St. Francis River, description of range lights.

tonnage tax exemption law of 1886 is repealed.

Under the existing law vessels from Ontario ports have been exempt from taxation in the U. S. as the sick mariner's charges are not levied by the Province on U. S. vessels entering Ontario ports. Such taxes are levied in Quebec and the Maritime Provinces, and have been met by a corresponding tax on vessels entering U. S. ports from Quebec and the Maritime Provinces. Several attempts have been made in the U. S. to place a tax on all Canadian vessels entering U. S. ports, but have hitherto been defeated. This year it was hoped that the opposition offered to the passing of the new law would have secured the exemption of the Great Lakes therefrom. The avowed object of the advocates of the law was to prevent the foreigner from saving \$10 where the U. S. vessel owners only saved \$1. This was not unreasonable in respect of ocean tonnage, where the preponderance is against the U. S.

The new law applies impartially to U. S. as well as to foreign vessels, so that all vessels, Canadian or U. S., entering U. S. ports from Canadian ports will be liable to pay a tax not to exceed 10 cents a ton in any one year, for the privilege of trading between ports not in their own country.

Under the new International Waterways Treaty, approved by Congress, and awaiting the approval of the Dominion Parliament, it is agreed that the navigation of all boundary waters shall for ever continue free and open for the purposes of commerce to the vessels of both countries, equally, subject to any laws or regulations of either country, within its own territory, not inconsistent with the privilege of free navigation, and applying equally to the inhabitants and vessels of both countries. It is a question whether, under this treaty, either country could tax the vessels of the other country without taxing its own.

Under these circumstances it would appear that vessel owners at the Canadian ports on the Great Lakes where U. S. vessels are free from sick mariner's

Tax on Vessels Entering U. S. Ports.

Section 36 of the new United States tariff bill imposes a duty of two cents a ton at each entry on all vessels which shall be entered at any port in the U. S. from any foreign port or place in North America, and various other countries on the American continent; and a duty of six cents a ton on all vessels entering from any other foreign port. The tonnage duty will not be levied on vessels in distress or not engaged in trade; and in the first case is not to exceed 10 cents a year, and in the second case 30 cents a year. The new tax comes into force Oct. 5. In connection, the so-called reciprocal

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING AUGUST, 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Analine	126,275	New Westminster, B.C., 1909	Screw 15 n. h. p.	31.1	8.0	2.9	9	5	New Westminster, B.C.	J. B. Wilson, New Westminster, B.C.
Blaney	126,504	Ladysmith, B.C., 1909	" 5 "	35.0	9.4	3.4	7	4	Victoria	C. A. Ryan, Ladysmith, B.C.
Colay	126,249	Vancouver, B.C., 1909	" 7 "	49.6	10.5	6.0	23	13	"	F. S. Barnard, Victoria, B.C.
Conveyor	126,250	Victoria, B.C., 1909	Paddle 15 "	137.5	31.4	5.4	583	380	"	G. T. P. Ry. Co., Montreal.
Etraesenga	126,559	Vancouver, B.C., 1909	Screw 1 "	31.6	8.1	4.4	8	6	Vancouver, B. C.	W. E. Damer, Vancouver, B.C.
Granville	122,587	Shelburne, N.S., 1909	" 25 "	90.0	22.0	9.0	140	49	Yarmouth, N.S.	Valley Steamship Co., Ltd., Granville Ferry, N.S.
L. Paul	126,453	Sorel, Que., 1909	" 1 "	55.2	14.0	7.2	23	16	Sorel, Que.	J. Paul, Sorel, Que.
Let Me Pass	126,558	Vancouver, B.C., 1909	" 2 "	26.0	7.5	3.2	6	4	Vancouver, B. C.	P. Seelis, Vancouver, B.C.
Maagen	126,557	"	" 13 "	53.5	16.2	6.8	45	31	"	A. Pederson, M.O., Vancouver, B.C.
Maud Allen	126,543	Long Lake, B.C., 1909	" 8 "	39.0	8.1	3.2	10	7	Victoria	Johnston & Carswell, Ltd., Long Lake, B.C.
Operator	126,501	Victoria, 1909	Paddle 15 "	137.5	31.4	5.4	583	380	"	G. T. P. Ry. Co., Montreal.
Shutka	126,556	Vancouver, B.C., 1908	Screw 1 "	28.3	8.0	2.7	7	5	Vancouver, B. C.	C. G. Stuart, Vancouver, B.C.
Simcoe	125,456	Newcastle, Eng., 1909	" 217 "	180.0	35.2	15.5	913	438	Ottawa	Minister of Marine and Fisheries, Ottawa.
Sokum	126,502	Sechart, B.C., 1909	" 16 "	27.6	8.8	4.4	8	5	Victoria	A. Lane, Cowichan Bay, B. C.
Tokolo	126,462	Kingston, Ont., 1909	" 8 "	49.2	9.2	4.5	12	8	Kingston, Ont.	J. H. Davis, Kingston, Ont.
Winnitoba	122,274	St. Boniface, Man., 1909	Paddle 21 "	170.0	28.5	7.0	883	556	Winnipeg	Hyland Navigation and Trading Co., Ltd., Winnipeg.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING AUGUST, 1909.

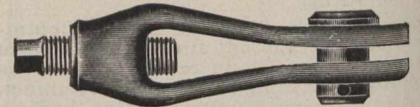
Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Annie Hilton	126,380	Owls Head, N.S., 1909	Schr...	37.0	10.8	4.8	10	Halifax	J. R. May, Owls Head, N.S.
Babette	126,471	Halifax, N.S., 1909	Sloop ..	31.0	8.4	4.0	5	"	F. H. Bell, Halifax, N.S.
H. C. 3	126,256	United States	Scow ..	93.0	35.0	7.0	—	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
H. C. 4	126,257	"	"	93.0	35.0	7.0	—	"	"
Hayward 5	126,258	"	"	76.0	23.0	7.6	115	"	Eastern Dredging Co., Ltd., Loggieville, N.B.
Hayward 6	126,259	"	"	76.0	23.0	8.0	123	"	"
R. M. Co., Dredge No. 8	122,566	Hastings, Ont., 1909	Dredge.	79.0	28.6	6.7	103	Peterboro, Ont.	Randolph McDonald Co., Ltd., Toronto.
Rock King	122,418	Welland, Ont., 1909	" ..	101.0	30.0	8.0	401	Midland, Ont.	Canadian Dredge and Construction Co., Ltd., Midland, Ont.
Z. Lebrun	126,496	St. Michel, Que., 1908	Sloop ..	93.7	22.3	6.9	94	Montreal	Z. Lebrun, St. Aimie, Que.

TURNBUCKLES



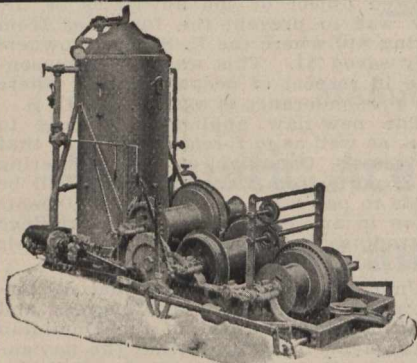
FORGINGS
OF ALL KINDS

CLEVIS NUTS



CLEVELAND CITY FORGE & IRON CO.

CLEVELAND, OHIO, U.S.A.



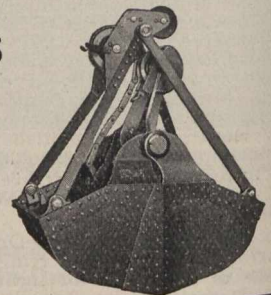
M. Beatty & Sons, Limited

Welland, Ont.

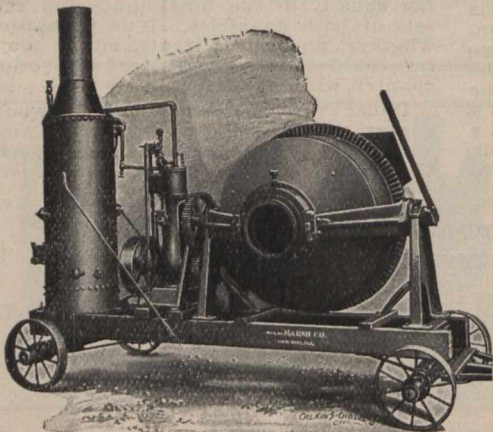
Dredges - Ditchers - Derricks
Steam Shovels

Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.



Marsh Concrete Mixers



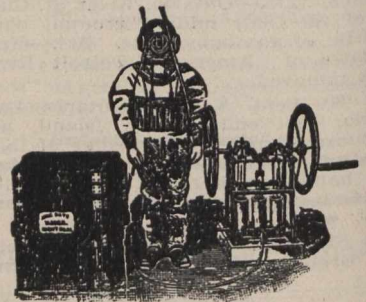
Simplest, Lightest, Most Durable and sold at Popular Prices.

Especially adapted to Canadian business.

Write for catalogues.

Marsh Co.

Old Colony Bldg.,
Chicago, Ill.



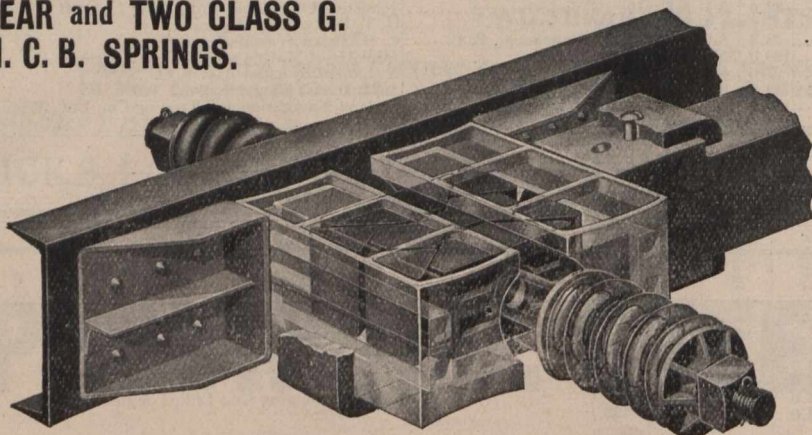
JOHN DATE
MANUFACTURER OF

DIVING APPARATUS

FOR SALE OR HIRE

Brass Founder & Coppersmith
152 Craig St. West, Montreal

35 to 1 is the relative amount of work done by **ONE CARDWELL FRICTION DRAFT GEAR** and **TWO CLASS G. M. C. B. SPRINGS.**



CARDWELL FRICTION DRAFT GEAR—MADE BY
UNION DRAFT GEAR CO., CHICAGO, ILL.

METEOR WIRE

FOR

Make and Break
Contact Points

AND

Spark Points

IN

Gas & Gasoline Engines
Automobiles

DURABLE NON-CORROSIVE
ABSOLUTE SUBSTITUTE FOR PLATINUM
WRITE FOR CATALOGUE

Hermann Boker & Co.

332 ST. JAMES ST. - - MONTREAL

charges, should direct their effort to inducing the U. S. Congress to exclude the Great Lakes from the programme of taxation, rather than to ask the Dominion Parliament to pass a measure imposing a retaliatory tax, which Canadian vessels might also have to pay.

Hydrographic Survey Steamship.

The Dominion Government is having constructed in England a steamship for hydrographic survey work on the Pacific coast. She will be built of steel, with straight stem, elliptical stern, and fitted with two pole masts. Her dimensions will be: length, over all, 173½ ft.; length between perpendiculars, 163 ft.; beam, moulded, 29 ft.; depth, 15 ft. 7 in. Displacement, on a mean draught of 11 ft. above bottom of keel angles amidships, with 150 tons of coal and 80 tons of stores and water, 850 tons. She is to class 100 A1 at Lloyds. The hull will have a double bottom extending from aft the engine-room to the forward bulkhead, and a watertight flat forward and aft of same. It will be divided into seven complete watertight bulkheads extending to the main deck, and, in addition, there will be four watertight bulkheads extending to the water tight flats. The rudder will be of the single plate type, controlled by a 2-cylinder 4 by 5 in. steering gear. There will be on the main deck, one steam winch for handling boats and warping ship; one steam winch for handling anchors, etc.; and on the shade deck, two gasolene launches, each fitted with a 15 h.p. 4-cycle engine, two 27 ft. cutters, and one 18 ft. light gig or dinghy.

There will be four decks—Orloop, main, fore-castle, and shade. On the shade deck will be deck-house, pilot house and bridge. The accommodation to be provided on the different decks will be as follows, from aft forward:—Orloop deck—Store-room, saloon, state-room for officer in charge of hydrographic work, and staterooms for the staff of four; forward of the engine-room space will be quarters for the petty officers and seamen. Main deck—Saloon and staff mess-room aft; and forward of the engine-room space, officers' mess-room, cabins for the chief, second and third engineers, and cabin for the mate, lavatories, carpenter's shop, etc. Shade deck—Pilot house, chart-room, sailing master's stateroom.

The machinery is to consist of two vertical, inverted three cylinder, triple expansion engines, cylinders 11½, 18 and 31 inches diameter, by 24 inch stroke, driving a 3-bladed septre, bronze propeller 8 ft. diameter, and 9 ft. 6 in. pitch. Steam will be supplied to the engines by two Scotch boilers, each 10¼ ft. long and 1½ ft. mean diameter, each with two or three corrugated iron furnaces as large as can be got into the shell. The combined grate surface to be about 90 sq. ft., and the collective heating surface about 3,000 sq. ft. The boilers to be tested for a working pressure of 185 lbs. to the square inch. The two main boilers will be placed in the middle of the ship, with a common fire room. The bunker capacity to be 150 tons. The auxiliary machinery in the engine-room will consist of a steam turbine dynamo, an independent bilge pump, fire pump, auxiliary pump, a 10-ton evaporator, and a distiller with a capacity of 1,600 gallons of potable water per 24 hours. There will be two feed and filter tanks of 150 gallons each located in the aft end of the engine-room.

When completed, the builders have to give the vessel a sea test, during which she is to steam for six consecutive hours at the rate of not less than 11½ knots an hour. The vessel was designed and the specifications prepared by R. L. Newman, Victoria, B.C.

R. & O. Navigation Co.'s s.s. Rochester.

The vessel which is being built for the Richelieu and Ontario Navigation Co., at Detroit, Mich., was launched Sept. 4, and christened Rochester. When completed, she will be a thoroughly modern, twin screw passenger steamer of the lake and river type. Her dimensions are: length, over all, 256 ft.; beam, 43 ft. 8 ins.; depth of hull, molded, 14 ft. 9 ins.; draft, 9 ft. 6 ins. Her engines will be of the triple expansion, inverted surface condensing type, with four cylinders working on four cranks, with a stroke of 22 ins., developing about 2,000 i.h.p. at 180 revolutions a minute. The boilers will be of the round return tubular type with induced draught. She will be equipped with six water tight bulkheads, two of which are provided with water tight doors, the remainder being without openings, and will be supplied with stockless anchors, with flukes recessed inside the line of hull plating, steam windlass and capstan, and six lifeboats. Her propellers are of the sectional type with semi-steel hub and manganese bronze blades. The most modern type of steam steering gear will be supplied. Her stipulated speed is about 18 miles an hour.

The dining-room and pantry will occupy about one-third of the after portion of the main deck, and immediately forward of the dining-room will be the engine-room and entrance hall, in which will be situated the purser's office and check-room. Forward of this the main deck is clear and will be used for the carriage of motor cars and express freight, with the exception of the bow, which will be taken up with sleeping-rooms for the engineers, stewards, etc. The main staircase situated in the entrance hall leads up to the first saloon deck, which is taken up entirely with staterooms and toilet-rooms. A new feature is the making of all staterooms of the outside type. There are also several parlor staterooms with bath-rooms connecting on this deck. Forward and aft on this deck there is comfortable saloon space for passengers desiring to sit indoors, and forward and aft there are also observation decks. The same general arrangement of the main saloon deck is carried out on the gallery deck, and above which is the hurricane deck on which will be found the smoking-room, ladies' room, buffet and news stand, and forward of the smoking-room are the rooms of the captain and navigating officers, as well as the pilot house.

The main entrance hall will be panelled in mahogany with rubber tile floor, and the dining-room in oak. The main saloon deck and gallery deck will be painted to give a light and cheerful effect, while the smoking-room will be panelled in polished hard wood. The main saloon and gallery deck will be carpeted in colors harmonizing with the decorations.

The steward's department will be equipped with a refrigerating plant of five tons ice capacity.

The Rochester will have 133 staterooms and eight parlors with baths attached.

Vessels Removed from the Register.

During Aug. the following vessels were removed from the register for the reasons assigned:—Steam: Daisy, Victoria, 41 tons, wrecked; Sweet Mary, Collingwood, Ont., 9 tons, burned. Sailing: Ancenis, Yarmouth, N.S., 1,700 tons, sold to foreigners; F. Richard, Weymouth, N.S., 94 tons, broken up; Ladysmith, Parrsboro, N.S., 597 tons, transferred to Barbadoes; Phenix, Parrsboro, N.S., 397 tons, wrecked; Ste. Anne, Quebec, 44 tons, broken up; Ste. Anne, Quebec, 18 tons, lost; Semidas, Quebec, 41 tons, broken up.

Atlantic and Pacific Ocean Marine.

In connection with the recent grounding of the s.s. Jeanara, J. B. McGillivray, pilot, was fined \$50 and suspended for one month by the Pilot Commissioners at Sydney, N.S., recently.

The s.s. Belle of Spain, chartered by the Dominion Iron and Steel Co., sailed from Sydney, N.S., Aug. 30, with steel rails and fittings for Prince Rupert, B.C. It is anticipated that she will complete the voyage round the Horn, in 65 days.

A dispatch from Rome, Italy, states that, at the request of the Italian Government, the General Italian Navigation Co. has decided to extend its New York service to Boston, with the probability that such service will be extended to Canada, commencing in Nov.

Furness, Withy & Co., operating the Furness Steamship Line, have added two vessels to their fleet running between Halifax, N.S., and Great Britain, making 10 vessels now running out of that port, under the company's management. Five of these run to London and the remainder to Liverpool.

The Donaldson Steamship Line has ordered a twin screw steamer, to be ready for service by May, 1910, for the Montreal-Glasgow route. She is to have a speed of 15 knots, accommodation for 300 cabin and 1,000 third-class passengers, and to be equipped with all the latest devices, including wireless telegraph.

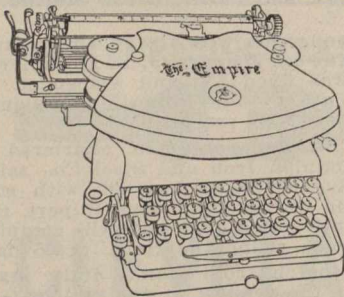
It was recently announced that F. Waterhouse & Co., had established an agency in Vancouver, B.C., with Greer, Coyle & Co., with the intention of inaugurating a passenger and freight service between Vancouver and New Zealand and Australia, during Sept. A monthly service, it is said, is to be maintained, with three vessels.

A press report states that the Shipping Federation of Canada has received advice from Liverpool, Eng., to the effect that the Cunard Steamship Co.'s steamships Etruria and Umbria, which were recently withdrawn from service and offered for sale, may be placed on the St. Lawrence route shortly. The prices offered for the vessels were not considered sufficient, and it is stated that the company may retain them and enter the Canadian trade.

The Ulster Steamship Co.'s annual report states that the net earnings of the company's vessels, for the year, are £17,321. The net balance to credit of profit and loss after paying interest on deposits, income tax, etc., is £9,584, from which an interim dividend of 2% has been paid, leaving a balance of £5,684, from which a further dividend of 2% has been declared, and £1,784 carried forward. The company owns the Head Line operating between Montreal and Ireland.

A feeling is reported to be current in London, Eng., amongst Anglo-Canadians, that after the conclusion of Lord Strathcona's present visit to Canada, or very shortly after his return to England, an announcement will be made regarding an agreement between the British and Canadian Governments, as to the subsidy to be paid for a fast trans-Atlantic service, to be followed by full particulars as to the route decided upon and the service to be given, with the name of the successful tenderer.

The Allan Line s.s. Laurentian, running between Boston and Glasgow, went ashore, Sept. 6, at Mistaken Point, five miles from Cape Race, Nfld., and was considered to be a total loss. She carried 50 passengers and 40 of a crew, all of whom were taken ashore and sent to St. John's. The divers who examined the wreck are reported to have said that the keel was severely damaged and firmly embedded in the rocks, while the plates are crooked and badly torn in



THE EMPIRE TYPEWRITER

PRICE \$60.00 ONLY

- Perfect in Construction
- Permanent Alignment
- Hardened Steel Type
- Visible Writing

Made in Canada

BUILT FOR HARD WORK

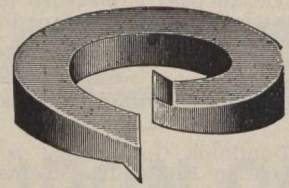
Will Outlast any Standard Machine made, irrespective of price.

Agents Wanted in every part of Ontario
Communicate Direct with us.

THE WILLIAMS MANUFACTURING CO., LIMITED
P. O. Box 2424 - MONTREAL, P. Q.

THE POSITIVE LOCK WASHER

Is the BEST Nut LOCK for all purposes



We also make plain coils and tail nut locks.
The Positive Lock Washer Co.
Sole Mfrs., Newark, N.J.
F.H. HOPKINS & CO., Agts., Montreal

IMPERIAL BANK OF CANADA

Capital Authorized - - \$10,000,000.00
 Capital Paid Up - - - 5,000,000.00
 Reserve Fund - - - - 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.

A general Banking business transacted. Branches throughout the Dominion of Canada.

SAVINGS DEPARTMENT—Interest allowed on deposits from date of deposit.

RAILWAY SPRINGS

- Locomotive, Tender and Passenger Car Springs of every description
- Equalizing, Draw-bar, Buffer and Spiral Springs of all kinds
- Street Railway Springs from the largest to the smallest

Manufactured by

B. J. COGHLIN & CO., 432 St. Paul St., Montreal, Can.

REAMERS ALL KINDS OF REAMERS FOR RAILROAD SHOPS AND BRIDGE BUILDING



BUTTERFIELD & CO., ROCK ISLAND, QUE.

HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

LEHIGH VALLEY RAILROAD

BEST LINE FROM TORONTO AND ONTARIO POINTS - TO - NEW YORK, PHILADELPHIA AND SOUTH

For particulars, write to or call on
MR. ROBERT S. LEWIS
Canadian Passenger Agent
54 King St. East - - - - Toronto

WOOD PATTERNS - ALL KINDS -

High Grade. Right Prices. Prompt Delivery.
THE HAMILTON PATTERN WORKS
HAMILTON, ONT.

SESSIONS-STANDARD

Friction Draft Gear
Simplest and Best

Both Made by
Standard Coupler Co.
2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS

Used by all Canadian Railways

THE CANADIAN RAILWAY ACCIDENT INSURANCE COMPANY, OTTAWA, CANADA

A PURELY CANADIAN COMPANY

JOHN EMO, General Manager H. W. PEARSON, Secretary-Treasurer D. MURPHY, President

AUTHORIZED CAPITAL - \$500,000. SUBSCRIBED CAPITAL - \$200,000.

Issues all classes of Accident and Sickness Insurance at lowest rates as is consistent with safety. Agents wanted in unrepresented districts. Railroad Employees and Collective Insurance a specialty.

JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

MIDLAND TOWING & WRECKING CO., LIMITED, MIDLAND, ONT., CANADA

FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, ETC.
STEAM PUMPS, DIVERS, JACKS, HAWSERS AND LIGHTERS

places. The greater proportion of the cargo has been salvaged, and it is considered probable that the vessel may be refloated, should the weather continue favorable. The Laurentian was built at Greenock, Scotland, in 1872, and was formerly known as the Polynesian. Her dimensions are: length, 400 ft.; breadth, 42.2 ft.; depth, 35.5 ft.; tonnage, 4,522 gross, 2,838 register. She was originally on the St. Lawrence route, in the Montreal-Liverpool mail service, but for several years has been on the Boston-Glasgow route. During the Boer war she was chartered by the British Government as a troop ship, and carried troops and horses from Halifax to South Africa.

For several weeks past rumors have been current on both sides of the Atlantic as to changes which were taking place in the management and control of the Allan Line Steamship Co. The general trend of these rumors was that the company was to be absorbed by the G.T.R. The facts are, that J. and A. Allan, of Glasgow, Scotland, have retired from business as managers and agents of the company, which will be still carried on there under the management of Allan Bros. & Co., Ltd., which company will continue the agencies of the Allan Line Steamship Co., in Liverpool and London, Eng., as heretofore. For the present, the head office will remain in Glasgow, but it is expected that the vessels will, in the near future, be transferred to the Canadian Register, and when this has been effected, the head office will be transferred to Montreal. The importance of such a change to Canada will be appreciated, when it is remembered that the fleet consists of 30 vessels, aggregating 160,000 tons. The following board of directors has been elected for the current year, replacing the previous one:—President, H. A. Allan; Vice President, Sir H. Montagu Allan; other directors, A. A. Allan, B. J. Allan and J. S. Park.

As mentioned in our Aug. issue, the Thomson Steamship Lines are increasing their trans-Atlantic service, by the inauguration of a direct service between Canada and Italy, during the approaching winter season. The s.s. Tortona, which is under construction at Wallsend-on-Tyne, Eng., was launched there recently, and it is anticipated that she will be ready for service early in Nov. She is a four-masted twin screw steamer with complete shelter deck. Her length is 464 ft., beam 54 ft., and depth, 40 ft. to shelter deck. She has been built to the highest class at Lloyds and in accordance with the regulations of the British Board of Trade, and the U.S. and Italian emigration laws, with accommodation for 37 first class and 1,082 third class passengers. There is a dining saloon, with ladies' cabin and smoking room situated forward of the bridge, while the shelter deck is allotted to the sleeping quarters of the third class passengers, fitted with galvanized iron beds and spring mattresses. There are three dining rooms for the third class, situated amidships on the shelter deck, and additional dining accommodation has been provided 'tween decks whenever required. Two kitchens have been provided, one forward and the other aft for the third class passengers, and a separate kitchen supplies the needs of the first class passengers. The machinery includes 14 derricks with capacities of from 5 to 20 tons, with 12 powerful steam winches. The steering gear is on the latest principle, and is actuated by telemotor gearing from the wheel house amidships. Steam heat is supplied throughout the vessel and fire extinguishing pipes are laid to all holds, and the vessel is lighted throughout with electricity. The propelling machinery consists of two sets of triple expansion, surface condensing engines with cylinders 25½", 41" and 88" diam. by 46" stroke, supplied with steam

by four single-ended boilers, having 16 furnaces and a total heating surface of about 13,200 sq. ft. Amongst the latest appliances with which this vessel is equipped, is a wireless telegraph installation. The vessels of this line are managed in Canada by Robert Reford Co., Montreal.

Maritime Provinces and Newfoundland.

The s.s. Margaret, which recently went aground on Thrum Cap Shoal, left the Halifax marine slip, Sept. 9, after having received a new foremast and other repairs necessitated by the accident.

The Newfoundland Legislature last session voted the following sums for marine services: Ocean services, Allan Line, \$9,734; service from Port aux Basques and Sydney, N.S., \$20,280; occasional ocean services, \$1,000; for 15 coastal services, \$186,200.

It is reported that when the icebreaking steamer Earl Grey reaches Canada, she will be placed in charge of Capt. Finlayson, who will be succeeded on the s.s. Minto by Capt. Brown of the s.s. Stanley. The Stanley will, it is said, be used as a lighthouse supply vessel on the Bay of Fundy, under the charge of Capt. C. Fraser.

The New Brunswick Legislature has confirmed an agreement made with the Maritime Steamship Co., by the council of Charlotte county, N.B., whereby the company is exempted from taxes, except those for educational purposes, for 15 years, in return for a steamship service between ports in that county and St. John.

The city of St. John has been authorized, by the New Brunswick Legislature, to transfer certain property and privileges to a body which may be constituted as a commission for the harbor of St. John, upon such terms as may be agreed upon by the city council, after the question of the transfer has been submitted to a vote of the ratepayers.

The construction of the breakwater at Summerside, P.E.I., having been completed, it was handed over to the Dominion Government by the contractor, H. McDonald, Sydney, N.S., early in Sept. It extends from the lighthouse to Indian Head, and is 51 ft. wide, and 5 ft. above water. The construction has extended over two years.

The s.s. Turret Bell, which was recently floated off Cable Head, P.E.I., after

having lain there since she stranded in Nov., 1906, was originally insured on a valuation of £18,000, and the loss was paid by the underwriters in 1907. She was offered for sale by private tender Aug. 31, but it is reported that none of the offers received were considered sufficiently high, and that she has been withdrawn, for the present, and berthed for the winter, at Quebec.

The icebreaking steamboat, Earl Grey, which is illustrated on this page, and which arrived in Canada recently, met with some difficulties on her first voyage from England. She ran short of coal, and had to put into Newfoundland for supplies. Regarding press reports as to the transfers of the vessels Minto and Stanley, when the Earl Grey is put into service, we are officially advised that it has not yet been decided what changes, if any, will be made in the work which these vessels are now doing, nor is the question of their command finally settled.

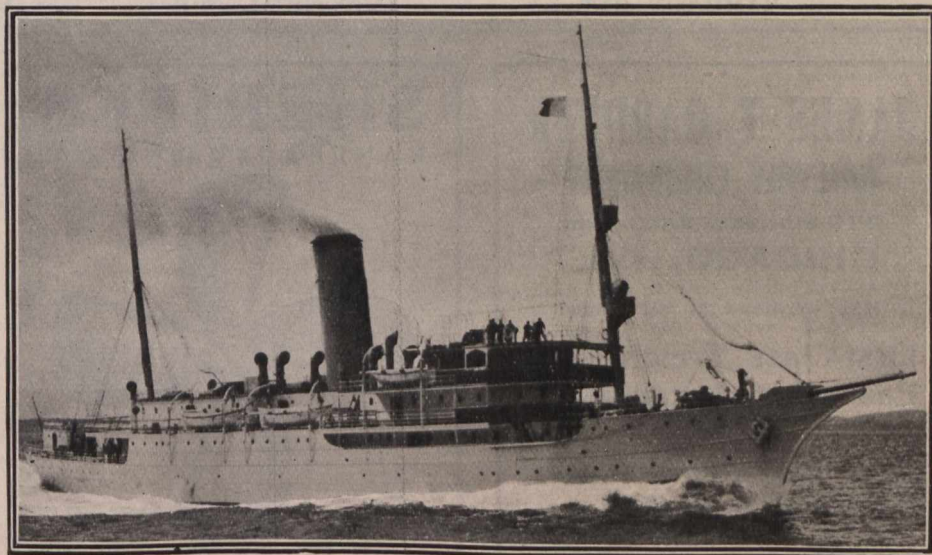
Tenders were recently received by the Newfoundland Postmaster General for a steamship service for the conveyance of passengers and mails between Kelligrews and Belle Isle, calling at Portugal Cove and Broad Cove, making train connections at Kelligrews twice daily, that is, with the outgoing train from St. John's in the morning and with the incoming train to St. John's in the evening. The contract is for five years dating from Sept. 1, 1909, and may be terminated at any time by either side giving one month's notice.

The Valley Steamship Co.'s s.s. Granville, recently built at Yarmouth, N.S., in her trial trip developed a speed of 10 knots an hour. Her dimensions are: length, 90 ft.; breadth, 22 ft.; depth, 9 ft.; tonnage, 140 gross, 49 register. Her machinery consists of an engine of 25 n.h.p. driving a screw, steam steering apparatus, etc., and she has accommodation for 43 regular passengers, and has been passed to carry 250 passengers on Annapolis Basin. She will operate between St. John, N.B., and Annapolis, N.S., under the charge of Capt. C. W. Collins, Granville Ferry, N.S.

Province of Quebec Marine

E. Laplante, an old pilot on the St. Lawrence route, died suddenly at Quebec, Aug. 31.

J. Chalifour, Gaspé, Que., first officer of the Government cruiser Princess, has



DOMINION GOVERNMENT ICEBREAKING STEAMSHIP EARL GREY. Photographed on trial trip, when making 18 knots an hour.

DOMINION BUREAU
ROBERT W. HUNT & CO.
ENGINEERS

BUREAU OF INSPECTION
TESTS AND CONSULTATION

Chemical and Cement Laboratories, Montreal
 NORFOLK HOUSE, CANNON ST., LONDON
 CHICAGO ST. LOUIS NEW YORK SAN FRANCISCO PITTSBURGH

E. L. DREWRY
REDWOOD BREWERY
WINNIPEG, MANITOBA

MANUFACTURER OF THE
 CELEBRATED

REFINED ALE,
EXTRA STOUT AND
REDWOOD LAGER

Also the GOLDEN KEY BRAND
AERATED WATERS

EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited
MONTREAL, CANADA

BARE AND INSULATED ELECTRIC WIRE
 Electric Light Line Wire, Incandescent and Flexible Cords,
RAILWAY FEEDER AND TROLLEY WIRE
 Americanite, Magnet, Office and Annunciator Wires,
 Cables for Aerial and Underground Use.

Otto Brothers
FIELD, B.C. LAGGAN, ALTA.

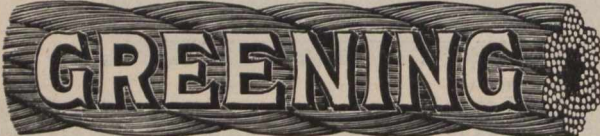
GUIDES and OUTFITTERS

for the greatest scenic
 spot of the world,

The Canadian Rockies

Mountain climbing, exploring, hunt-
 ing and fishing parties arranged on
 short notice. Reliable men and
 horses. References.

WIRE ROPE



All Kinds and Sizes and
 for All Purposes.
 Standard and Lang's
 Patent Lay.

PRICES RIGHT.
 PROMPT SHIPMENTS.

Rope Fittings—Rope Grease.

THE B. GREENING WIRE CO., Limited
 HAMILTON, ONT. MONTREAL, QUE.

CARS
NEW and REBUILT
 Box, Flat, Gondola and Tank
 Steam Shovels, Rails, Locomotives
 and Contractors' Equipment
 Immediate and Prompt Deliveries
 Correspondence Solicited
ROBT. M. BURNS & CO.
 Railway Exchange
CHICAGO

JAMES T. GARDNER
RAILWAY EQUIPMENT
 615 Railway Exchange
CHICAGO, ILL.

Has on hand at all times

**First-Class Freight and
 Passenger Locomotives**
 Also
**Contractors' Locomotives
 Cars, Rails, Etc.**

**Specifications with Prices
 on Application**

SHERIFFS
 MANUFACTURING CO.



MILWAUKEE, WIS., U.S.A.
 ESTABLISHED 1854

NOTICE

The Consolidated Car-Heating Com-
 pany is the owner of Canadian patent
 No. 113,350 to James F. McElroy, for
 Regulating Devices for Steam Heating
 Systems. This patent covers the system
 of vapor heat for railway trains. Ar-
 rangements have been made for manu-
 facturing this device at Coaticook, Can-
 ada, and it is prepared to fill Canadian
 orders from such manufacture.

(Signed),
 CONSOLIDATED CAR-HEATING
 COMPANY.

been appointed to the Fisheries Protection Service.

G. W. Stephens, Chairman Montreal Harbor Commission, visited New York in the middle of Sept. to study the conditions of the grain traffic.

The Parks and Ferries Committee of the Montreal city council, recently promised that an investigation would be made regarding the management of the ferry service between Montreal and St. Helen's Island. Complaints have been made that the service has been made an hourly one, instead of half-hourly, as called for by the contract.

The Montreal Harbor revenue for Aug. was \$48,769 as compared with \$43,482 for Aug., 1908. The aggregate receipts for the period of navigation to Aug. 31, were \$190,897, an increase of \$6,054 over those for the same period, 1908. Imports and exports at the port show a decrease, but local traffic, especially that from the lakes, shows a considerable increase over the returns for the previous year.

Ontario and the Great Lakes.

The Dominion Bessemer Mines Co. is constructing docks in connection with its iron mining properties, about 22 miles from Port Arthur, on Thunder Bay.

The port of Key Harbor, Ont., has been established as an outpost of Customs and warehousing port under the survey of the port of Parry Sound.

R. Beaumont has been appointed, temporarily, General Agent Northern Navigation Co. at Port Arthur and Port William, vice John Bell, resigned.

A press report from Halifax, N.S., states that the Government cruiser Canada, which has been in the coast service for some time, is to be transferred to the Great Lakes.

The Keystone Fish Co.'s steam tug Ogle, of Erie, Pa., was caught in Canadian waters recently, and it is reported that she will be offered for sale to the highest bidder, at Port Dover.

The Canadian Locomotive Co., is making considerable extensions to its docks at Kingston, and at the same time reclaiming some of the land from the water, thus extending its premises.

The steam tug, Charles F., registered at Port Stanley, Ont., was offered for sale at Detroit recently on instructions from the Ontario Government. She was seized some time ago for fishing without a license.

A. McVittie, President Toledo Shipbuilding Co., who died at Detroit, Mich., Sept. 15, aged 67, was born in Scotland, and came to Montreal at an early age, and later lived at Bothwell, Ont., before going to the U.S.

Montreal rumors credit the Richelieu and Ontario Navigation Co., with the intention of increasing its capital in the near future, and pursuing a more progressive policy. Among other things said to be included in the proposed policy, are, the construction of several large and modern steamers, and the reconstruction or refitting of the day-boats running between Montreal and Quebec.

The name of the steamboat Dortha, no. 100397, registered at Brockville, has been changed by order in council to Ramona, and the name of the steamboat Florence Main, registered at Toronto, no. 111920, has been changed to Mohawk Belle.

A Collingwood press dispatch recently stated that there is every possibility of the C.P.R. steamboats, Alberta and Athabasca, being lengthened there during the approaching winter. We have been officially advised that there is no truth in the report.

The Thousand Islands Steamboat Co.'s steamboat, Islander, was destroyed by fire at Alexandria Bay, N.Y., Sept. 15. She was built at Rochester in 1871, her dimensions being: length, 425 ft.; breadth, 20 ft.; tonnage, 118 gross, 59 net. The loss has been estimated at \$25,000. The boat was not on the Canadian register.

A Port Arthur press dispatch states that preliminary steps are being taken for the formation of a company for the operation of a line of lake vessels in the package freight trade. It is said that the company will be closely allied with the Western Drydock and Shipbuilding Co.

The International Waterways Commission met at Toronto, Sept. 3, when after a brief discussion relating to proposed improvements on Lakes Erie and Huron and connecting rivers, and the conduct of ordinary routine business, the meeting was adjourned until Oct. 15, at Buffalo, N.Y.

The U. S. steamboat, Arthur H. Hawgood, ran into the stone pier at the upper entrance of the Canadian canal at Sault Ste. Marie, Sept. 5, and sank with a large hole in her port side, just aft of the bow. It is said that the accident was due to mistaken signals. The position in which the vessel lies does not seriously impede navigation.

A Vancouver press dispatch dated Sept. 15, states that the Mayor has received a letter from a Calgary official, to the effect that on account of the lack of terminal facilities at Vancouver, the operation of the grain route by way of the Pacific coast has been abandoned for this season, and that grain will be shipped via Fort William.

The Farrar Transportation Co., has entered a protest against the decision of the underwriters who have awarded the contract for the raising of the steamboat Collingwood, which was sunk in the Detroit River, Aug. 24, to a U.S. company, after it was practically understood that it was to go to a Canadian concern, whose tender of \$13,800 was the lowest one received.

The Department of Public Works will, it is announced, lease the graving dock at Kingston, for 21 years. For some time past, complaints have been received that the dock is not provided with necessary facilities for repairing vessels, thus causing considerable delay. It is rumored that interests closely connected with the Canadian Locomotive Co., will acquire the lease.

The Superintendent of the Canadian Canal at Sault Ste. Marie, notified the Lake Carriers' Association, Sept. 8, that the draught of the canal had been reduced to 19 ft. 3 ins., for both up and down vessels. It is surmised that the canal officials have the idea that the greater depth on the Canadian side causes overloading of vessels and possible trouble in getting them through.

The Richelieu and Ontario Navigation Co.'s steamboat, Prescott, was destroyed by fire recently. This vessel, formerly named Bohemian, was built at Montreal in 1873, and rebuilt at Sorel, Que., in 1900. Her dimensions were: length 195.1 ft.; breadth, 27.8 ft.; depth, 9 ft.; tonnage, 1,107 gross, 648 register, with engine of 53 n.h.p., driving paddle wheels. She was valued at £8,250, and was insured in London, Eng., against fire risk alone.

The U. S. Lake Survey reports the levels of the great lakes for Aug., in feet above tide water, as follows:—Superior, 602.42; Michigan and Huron, 581.04; Erie, 572.79; Ontario, 246.82. During Sept., it was anticipated that Superior would be 1¼" higher, Michigan and Huron, 2" lower, Erie 3¼" lower, and Ontario 5" lower. Compared with the Aug. average for the past 10 years, Superior was 7½" lower, Michigan and Huron 1¾" lower,

Erie 1½" higher, and Ontario 4½" higher.

The Fort William Coal Dock Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$50,000 and office at Fort William, to purchase, lease, construct and operate coal and ore docks, derricks, hoists, lighters, vessels, barges and dredges, tracks and tramways, and all plant and machinery for loading and unloading coal, ore and fuel, and for other purposes. The provisional directors are, H. J. Cuaig, F. W. Grant, B. Chew, F. P. Nesbitt and J. S. Montgomery, Midland, Ont.

Regarding a report from Collingwood to the effect that the Northern Navigation Co. proposes to undertake some extensive alterations and repairs to the Huronic during the winter, we are advised, that the management has been considering the advisability of remodelling the Huronic, so as to make her equal to the Hamonic, but that it has been practically decided that nothing in this direction will be undertaken next winter, beyond the preparation of plans and estimates for the directors' consideration.

The steamboat Kathleen, owned by Elliot and Moynes, Lindsay, was struck by lightning and burnt to the water's edge, at Sturgeon Point, Sept. 2. She was rebuilt at Lindsay in 1905, her dimensions being: length, 66 ft.; breadth, 14 ft.; depth, 4 ft.; tonnage, 37 gross, 26 register. She was equipped with an engine of 6 n.h.p. driving a screw. This vessel was formerly known as the Greyhound, and before its reconstruction, plied between Fenelon Falls and Bobcaygeon, and subsequently was utilized as a tugboat.

The Great Lakes and St. Lawrence Navigation Improvement Association was organized at Toronto Sept. 9, for the purpose urging on the Government the advisability of improving the navigation route from the Great Lakes to Montreal. It was decided to send a delegation to the Dominion Government in connection with the proposed deepening of the Welland Canal, and in the meantime, all municipalities along the route are being circularized with information as to the necessity for such improvements. H. W. Richardson, Kingston, was elected President, and the following were elected Vice Presidents:—A. A. MacKay, H. Champ, Hamilton; T. Conlan, Thorold; T. L. Church, A. E. Kemp, J. B. Miller, Toronto; T. King, Kingston; J. S. Campbell, St. Catharines; Col. Ponton, Belleville; L. L. Henderson, Montreal, and L. H. Daniels, Prescott.

A press report states that H. L. Timms, of Chicago, Ill., has been appointed Superintendent of the Western Drydock and Shipbuilding Co., Port Arthur. By an agreement with the city, the company agrees to build, equip and operate in the city, first a drydock capable of receiving and handling the largest vessels plying on the great lakes, and second, a shipbuilding plant adequate for the construction and equipment of such vessels. The work is to be commenced within two months of the ratification by the ratepayers, or of the date of the passing by the Ontario Legislature of an act empowering the municipality to enter into the agreement, should the authority of such an act be found necessary. Both the drydock and shipbuilding plant are to be ready for operation by Sept. 1, 1911, and at least 300 hands are to be kept in steady employment in the works. The city has provided a site of 100 acres, free of cost, with water frontage on Thunder Bay. The company's property is exempt from taxation, except for school purposes, fixed at \$2,000 a year, for 20 years. For the first ten years the company receives an annual cash subsidy of \$25,000, but if fewer



HEADLIGHTS-WE MAKE THEM

For OIL, for Pyle ELECTRIC equipment or SPECIAL to Blue Print, and carry a large stock of standard headlight reflectors, burners, burner parts, felt wicks and chimneys.

The HIRAM L. PIPER CO., Limited

17 to 23 Normand Street, Montreal.

Get our No. 30 Catalogue. (Between St. Peter and McGill Sts.)

MALLEABLE IRON CASTINGS of Superior Quality

GALT MALLEABLE IRON CO., LIMITED, - GALT, ONT.

NICKEL

THE CANADIAN COPPER COMPANY

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY

WRITE US FOR PARTICULARS AND PRICES

General Offices: 43 Exchange Place, NEW YORK

Delaware & Hudson

"The Leading Tourists' Line"

Shortest, Quickest and Best Line between

MONTREAL AND NEW YORK

Through Pullmans

Trains leave Montreal 7.00 p.m. daily, 8.01 p.m. daily, 7.16 a.m. daily, and 10.05 a.m. Sunday.

Perfectly equipped trains. Handsome, large steamers on Lake Champlain and Lake George connect with trains for Saratoga Springs, Albany and New York.

A. A. HEARD, G.P.A., Albany, N.Y.

Ticket Agents



Please Note

Where ILLINOIS CENTRAL RAILROAD COMPANY has through car service both Coach and Sleeper and Free Chair Cars.

Chicago to Hot Springs, Ark., St. Louis, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California.

NEW ORLEANS ROUTE TO THE PACIFIC COAST.

Special low rates to Canadian Northwest and Yukon-Alaska Exhibition at Seattle, all summer, via St. Paul or Omaha.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent.
305 Ellcott Square, Buffalo, N.Y.
Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

THE CANADIAN BRONZE COMPANY, LTD.

Brass Wearing Parts for Locomotives.

Journal Bearings for Freight and Passenger Service.

BABBITTS. Miscellaneous Brass Castings for Railroads.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

The Parry Sound Lumber Co.

Limited

1315 Traders Bank Bldg., Toronto.

Manufacturers of

PINE, HEMLOCK, LUMBER, BRIDGE TIMBER, RAILWAY TIES, TELEGRAPH POLES, LATH, SHINGLES, BOX SHOOKS.

For STEAM HOISTING ENGINES and DERRICKS and CONTRACTORS MACHINERY, address

THE ROBERTSON MACHINERY CO.

WELLAND, ONT. Limited

Schools of the Sisters of the Church (ANGLICAN)

36 Walmer Road, Toronto
330 Kent St., Ottawa

VISITORS: The Lord Bishop of Toronto and the Lord Bishop of Ottawa.

Boarding and Day School for Girls. Kindergarten, Primary, Secondary and Collegiate Departments. Preparation for Matriculation. Next School year will begin Thursday Sept. 9th. Apply to

Sister in Charge.

THE IMPERIAL GUARANTEE AND ACCIDENT INSURANCE CO.

46 King St. West, TORONTO

Capital Subscribed \$1,000,000

ACCIDENT AND SICKNESS Insurance protects your income in case of disablement.

GUARANTEE BONDS protect you against loss from dishonest employees.

Write us if you need a Bond or want an Accident Policy.



RAILWAY AND STEAMSHIP PRINTING

STEEL, PEECH & TOZER

Limited,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL

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

Sole Agents:

James Hutton & Co., Montreal

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock or special design, apply to

The Canadian Office & School Furniture Co. Limited
Preston Ontario

DUNER CAR CLOSET

ENAMELED IRON WET OR DRY CLOSET

DUNER CO.
116 SO. CLINTON ST., CHICAGO

than 300 hands are kept employed in any one year, the amount of subsidy is to be decreased in proportion, but the company may, in subsequent years, by employing more than that number, earn the portion of subsidy withheld. The city, also undertakes to construct, or to procure the construction, by the Government, of adequate breakwater protection.

Manitoba, Saskatchewan and Alberta

J. G. Hargrave and Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$150,000 and office at Winnipeg, to carry on a general grocery, contracting and commission business, and in connection therewith to own and operate vessels of all kinds, and to carry passengers and freight and conduct a general transportation business.

The Moore Lumber Co. is building a steamboat at Icelandic River, which, it is stated, will be the largest steam vessel yet launched on Lake Winnipeg. It is expected to have it completed early in 1910, in time for the opening of the St. Andrews lock, when it will ply in the passenger service between Winnipeg and Lake Winnipeg points.

B.C. and Pacific Coast Marine.

The Victoria city council has given notice of application for a grant or lease of the foreshore on the inner harbor of Victoria harbor, at the termination of Discovery St., and has deposited plans as required by the statute.

The Sechelt Steamship Co. will, it is announced, inaugurate a steamship service between Vancouver and Ladysmith, using for the present two vessels of the company's fleet, and substituting, later, a larger and more modern vessel, negotiation for the purchase of which are reported to be proceeding in England.

Rogers' Bros.' steamboat Westham was launched at New Westminster recently. Her dimensions are: length, 95 ft.; beam, 22 ft.; draught, 7 ft., with a carrying capacity of 150 tons of freight. She has been built specially for the coasting freight trade, and is equipped with the steam engines taken from the steamboat Lapwing.

The Westminster Towing and Fish Co. has added a tug to its fleet. This vessel, which was launched at Lulu Island recently, has been named Wireless. Her dimensions are: length, 90 ft.; breadth, 18' 6"; depth, 9' 4". She is equipped with engine of 100 h.p., and when completed will be used on the Fraser River and the Pacific coast.

The contract for the material for the construction of a 1,000 ton floating pon-

Lake Grain Shipments, 1908 Crop.

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the bushels of grain shipped from the different elevators at Fort William and Port Arthur, of the crop of 1908, Sept. 1, 1908, to Aug. 31, 1909, inclusive, with ports of destination. The last two figures in each column, after the period represent lbs.

	Wheat		Oats		Barley		Flax	
	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels	Canadian Vessels	Foreign Vessels
Canadian Ports								
Collingwood ..	824,624.20		97,453.08					
Depot Harbor ..	1,497,966.00		315,096.30		36,165.43			
Midland ..	533,374.10		190,633.32					
Tiffin ..	7,528,188.40		1,783,512.31		224,381.20			
Meaford ..	494,630.50		66,046.26		67,838.42			
Owen Sound ..	896,997.00		1,401,949.06		73,180.37			
Goderich ..	5,636,005.10		2,079,840.05		30,859.14		274,860.34	
Point Edward ..	1,431,555.50		228,745.14		222,580.16		74,197.51	
Sault Ste. Marie ..			1,764.24					
Thorold ..	353,018.40							
Port Colborne ..	301,689.50							
Kingston ..	7,311,187.40		1,035,081.03		104,671.29		146,273.53	
Prescott ..	6,113.10						103,001.17	
Montreal ..	6,450,083.10		2,425,845.24		358,645.10		449,309.29	
Totals....	33,295,434.30		9,625,969.33		1,418,323.15		1,047,743.16	
Foreign Ports								
Port Huron....		1,609,724.20						
Chicago ..		122,793.50						
Erie ..		531,287.30						
Cleveland ..								155,899.05
Buffalo ..	1,401,052.50	12,420,593.30	328,147.32	2,346,902.08		539,665.34	192,936.09	198,832.15
Canadian Vessels ..	34,696,487.20	14,693,399.10	9,954,117.31	2,346,902.08	1,418,323.19	539,665.34	1,240,679.25	354,731.20
Foreign Vessels ..	14,693,399.10		2,346,902.08		539,665.34		354,731.20	
Crop, 1908 ..	49,389,886.30		12,301,020.05		1,957,989.05		1,595,410.45	
" 1907 ..	37,925,096.20		7,297,810.00		1,235,363.47		1,234,165.54	
" 1906 ..	51,719,952.40		10,904,417.22		1,164,654.20		535,111.32	

In addition to the grain mentioned above, the following shipments of rye were made in Canadian vessels to Owen Sound, 2,567-36 bush.; to Point Edward, 430-20 bush.; to Montreal, 17-38 bush.; a total of 3,015-38 bush

toon drydock is reported to have been awarded to an English firm, and instructions have been received in Vancouver for the preparation of a site which the dock is to occupy there. The dock's dimensions are given as: length, 510 ft.; width, 70 ft.; over sills, 30 ft., with a lift capacity of 11,000 tons.

The question of the construction of a breakwater at English Bay was before the Point Grey council, Aug. 30, and was adjourned for further information as to what amount would be spent at the beginning, and for each succeeding year until completion. The syndicate, which is prepared to undertake construction, has applied to Government for a lease of the foreshore, and proposes to construct a breakwater at a cost of \$1,500,000, work to be started within two years, and completed within seven years.

Mackenzie Bros. are reported to have purchased the s.s. Puri of Bombay, which they intend to place on the run between Vancouver and Seattle. She is a steel vessel, built at Dundee, Scotland,

in 1895, her dimensions being: length, 260 ft.; breadth, 34 ft.; depth, 15 ft. 3 in.; tonnage, 1,330 gross, 643 register. She is equipped with triple expansion engines with cylinders 21", 33" and 52" diam., by 30" stroke, driving twin screws. She has a capacity for about 1,500 passengers and 600 tons of freight, with a speed of 17½ knots.

The power lifeboat for the Canadian life saving service, to take the place of the one which was wrecked last year at Bamfield Creek, has been completed and shipped to Bamfield Creek station, Vancouver Island. She is 26 ft. long overall, with beam 8 ft. 1½ ins., and is built of mahogany fastened with gunmetal and copper. She is diagonally planked on two layers with canvas between and is self baling and self righting with the crew lashed to the thwarts. There are eight water tight compartments below the deck, each compartment filled with copper cases, 82 in all. The boat is lug-rigged with foresail, mainsail and jib, with hollow masts, gun metal centre

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

- Aerated Waters**
E. L. Drewry Winnipeg.
- Air Brakes and Fittings**
Allis-Chalmers-Bullock Ltd. Montreal.
Canadian Westinghouse Co. Hamilton, Ont.
- Ales**
E. L. Drewry Winnipeg.
- anchors, Ground**
Ground Anchor Co. Montreal.
- Angle Bars**
Hamilton Steel & Iron Co. Hamilton, Ont.
Montreal Rolling Mills Co. Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
..... New Glasgow, N.S.

- Anti Rail Creepers**
The Holden Co., Ltd. Montreal.
- Automobiles**
Polson Iron Works, Ltd. Toronto
- Axes**
Hamilton Steel & Iron Co. Hamilton, Ont.
James Smart Mfg. Co. Brockville, Ont.
- Axles**
James Hutton & Co. Montreal.
Nova Scotia Steel & Coal Co., Ltd.,
..... New Glasgow, N.S.
Jas. W. Pyke & Co. Montreal.
Rhodes, Curry & Co. Amherst, N.S.

- Beacons**
International Marine Signal Co. Ottawa.
- Bearings, Side**
Chicago Railway Equipment Co. Chicago.
Dominion Car and Foundry Co. Montreal.
Union Draft Gear Co. Chicago, Ill.
- Blankets and Bedding**
The Hudson Bay Co.
- Boilers**
Babcock & Wilcox, Ltd. Montreal.
Polson Iron Works, Ltd. Toronto.
Robb Engineering Co., Ltd. Amherst, N.S.
- Boilers, Portable**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.

- Bollers, Stationary and Marine**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N. S.
- Boller Staybolt Iron or Steel Bars**
Falls Hollow Staybolt Co. Cuyahoga Falls.
- Bollers, Steam**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.
- Bollers, Water Tube**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.
- 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.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Toronto Bolt and Forging Co. Toronto.
- Books**
Engineering News Book Dept. New York.
Renouf Publishing Co. Montreal.
- Borers, Car Wheel**
John Bertram & Sons Co. Dundas, Ont.
- Braces, Cross Arm**
Montreal Rolling Mills Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Brake Beams**
Chicago Railway Equipment Co. Chicago.
Dominion Car and Foundry Co. Montreal.
- Brake Shoes**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
The Holden Co., Ltd. Montreal.
- Brake Shoes, Electric Ry.**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
- Brake Shoes, Locomotive Driver**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
- Brass and Copper Cloth**
The B. Greening Wire Co. Hamilton, Ont.
- Bridge Numbers**
Acton Burrows, Limited Toronto.
- Bridges**
Canadian Bridge Co. Walkerville, Ont.
Dominion Bridge Co. Montreal.
- Buckets, Coal, Ore and Concrete**
M. Beatty & Sons, Ltd. Welland, Ont.
Brown Hoisting Machinery Co. Cleveland.
- Buildings, Steel**
Canadian Bridge Co. Walkerville, Ont.
Dominion Bridge Co. Montreal.
- Bumping Posts**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Buoy Lighting**
Safety Car Heat. & Light Co. New York.
- Buoys**
International Marine Signal Co. Ottawa.
- Cables Electric and Feeder**
E. F. Phillips Electrical Works. Montreal.
The Wire and Cable Co. Montreal.
- Car Loaders, Box**
Mussens, Ltd. Montreal.
- Car Movers**
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
- Cars**
American Car & Equipment Co. Chicago.
R. M. Burns & Co. Chicago, Ill.
Canada Car Co., Ltd. Montreal.
Crossen Car Mfg. Co. Cobourg, Ont.
Dominion Car and Foundry Co. Montreal.
J. T. Gardner. Chicago, Ill.
Hart-Otis Car Co., Ltd. Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co. Ltd. Ottawa.
Preston Car and Coach Co., Ltd. Preston.
Rhodes, Curry & Co. Amherst, N.S.
Silliker Car Co., Ltd. Halifax, N.S.
- Castings**
Crossen 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.
Tallman Brass & Metal Co., Ltd. Hamilton.
- Castings, Car**
American Brake Shoe & F'dry Co. Mahwah.
Canada Iron Corporation, Ltd. Montreal.
- Castings, Iron**
Allis-Chalmers-Bullock Ltd. Montreal.
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.
- Castings, Malleable**
Galt Malleable Iron Co. Galt, Ont.
Taylor & Arnold. Montreal.
- Castings, Manganese Steel**
Montreal Steel Works, Ltd. Montreal.
- Castings, Steel**
Canada Iron Corporation, Ltd. Montreal.
Montreal Steel Works. Montreal.
Rhodes, Curry & Co. Amherst, N.S.
- Chains**
B. J. Coghlin & Co. Montreal.
- Closets, Car**
Duner Co. Chicago, Ill.
- Coal**
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
- Compressors, Air**
Allis-Chalmers-Bullock Ltd. Montreal.
Canadian Rand Co. Montreal.
- Concrete Mixers and Rock Crushers**
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
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**
Babcock & Wilcox, Ltd. Montreal.
- Copying Presses**
James Smart Mfg. Co. Brockville, Ont.
- Couplers, Car and Locomotive**
Dominion Car and Foundry Co. Montreal.
McConway & Torley Co. Pittsburgh, Pa.
National Malleable Castings Co. Cleveland.
Taylor & Arnold. Montreal.
- Cranes**
Brown Hoisting Machinery Co. Cleveland.
- Cranes, Electric**
Babcock & Wilcox. Montreal.
Dominion Bridge Co. Montreal.
Mussens Limited. Montreal.
- Cranes, Locomotive**
American Hoist and Derrick Co. St. Paul.
- Cranes, Wrecking**
Mussens Limited. Montreal.
- Crowbars**
B. J. Coghlin & Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Curtains and Fixtures, Car**
The Holden Co., Ltd. Montreal.
- Cuts**
Acton Burrows, Limited Toronto.
- Derailing Devices**
Hayes Track Appliance Co. Geneva, N.Y.
- Derricks**
American Hoist and Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
Mussens Limited. Montreal.
- Dies**
Butterfield & Co. Rock Island, Que.
A. B. Jardine & Co. Hespeler, Ont.
- Ditchers**
M. Beatty & Sons. Welland, Ont.
- Diving Outfits**
John Date. Montreal.
Mussens Limited. Montreal.
- Doors, Steel Rolling**
Mussens Limited. Montreal.
- Door Signs**
Acton Burrows Limited Toronto.
- Draft Gear**
Farlow Draft Gear Co. Baltimore, Md.
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
Standard Coupler Co. New York City.
Union Draft Gear Co. Chicago, Ill.
Waugh Draft Gear Co. Chicago, Ill.
- Draughtsmen's Supplies**
John A. Hart & Co. Winnipeg.
- Dredges**
M. Beatty & Sons. Welland, Ont.
- Drills, Air**
Canadian Rand Co. Montreal.
- Dry Goods**
The Hudson's Bay Co.
- Dump Cars (Contractors')**
F. H. Hopkins & Co. Montreal.
Toronto Pressed Steel Co. Toronto.
- Dump Cars, Hand**
Meaford Wheelbarrow Co., Ltd. Meaford.
- Dynamos**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Dynamo and Electric Castings**
American Brake Shoe & F'dry Co. Mahwah.
- Economizers**
Babcock & Wilcox (Ltd.) Montreal.
- Electric Car Route Signs**
Acton Burrows Limited Toronto.
- Electric Apparatus**
Allis-Chalmers-Bullock Ltd. Montreal.
Northern Electric & Mfg. Co., Ltd. Montreal.
- Electric Light Plant**
Allis-Chalmers-Bullock Ltd. Montreal.
- Elevators, Grain**
John S. Metcalfe Co. Chicago, Ill.
- Enameled Iron Signs**
Acton Burrows Limited Toronto.
- Engines, Automatic**
Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Corliss**
Robb Engineering Co., Ltd. Amherst, N.S.
Allis-Chalmers-Bullock Ltd. Montreal.
- Engines, Gas**
Allis-Chalmers-Bullock Ltd. Montreal.
- Engines, Gasoline**
Canadian Fairbanks Co., Ltd. Montreal.
Ontario Wind Engine & Pump Co. Toronto.
- Engines, Hoisting**
Allis-Chalmers-Bullock Ltd. Montreal.
American Hoist and Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
Robertson Mfg. Co. Welland, Ont.
- Engines, Stationary and Marine**
Polson Iron Works, Ltd. Toronto.
Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Steam**
Allis-Chalmers-Bullock Ltd. Montreal.
- Engines, Steam Steering, for Tugs**
Sheriffs Mfg. Co. Milwaukee, Wis.
- Explosives**
Standard Explosives Limited. Montreal.
- Express Office Signs**
Acton Burrows Limited Toronto.
- Fencing**
Owen Sound Wire Fence Co. Owen Sound.
- Fire Brick**
Mussens Limited. Montreal.
- Flags**
The Hudson's Bay Co.
- Flour**
The Hudson's Bay Co.
- Forgings**
Canada Car Co., Limited. Montreal.
Cleveland City Forge & Iron Co. Cleveland.
Crossen Car Mfg. Co. Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd. Hamilton.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
Standard Steel Works Co. Philadelphia, Pa.
- Foundry Appliances**
Goldschmidt Thermit Co. Toronto.
Ontario Wind Engine & Pump Co., Ltd.,
.....
- Frogs**
Canadian Ramapo Iron Wks. Niagara Falls.
- Furnaces, Corrugated**
Continental Iron Works. Brooklyn, N.Y.
- Fuse Batteries**
Standard Explosives Limited. Montreal.
- Fuse Detonators**
Standard Explosives Limited. Montreal.
- Fuses, Electric**
Standard Explosives Limited. Montreal.
- Gaskets**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Gates**
Owen Sound Wire Fence Co. Owen Sound.
- Gates, Crossing**
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co. Toronto.
- Gauges, Locomotive**
Taylor & Arnold. Montreal.
- Generators, Electric**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Grates, Shaking**
Babcock & Wilcox, Ltd. Montreal.
- Groceries**
The Hudson's Bay Company.
- Guides and Outfitters**
Otto Bros. Field, B.C.
- Hammers, Cast Steel**
American Brake Shoe & F'dry Co. Mahwah.
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 Co. Toronto.
- Hardware**
The Hudson's Bay Co. Toronto.
Rice Lewis & Son. Toronto.
- Headlights**
The N. L. Piper Ry. Supply Co. Toronto.
Pyle National Elec. Headlight Co. Chicago.
- Headlinings**
Crossen Car Mfg. Co. Cobourg, Ont.
- Heaters, Feedwater**
Robb Engineering Co., Ltd. Amherst, N.S.
- Heating, Car**
Canadian Gold Car H'g & L'g Co. Montreal.
Safety Car Heating & L'ting Co. New York.
- Hoists, Electric**
American Hoist & Derrick Co. St. Paul.
- Hoists (Pneumatic)**
Taylor & Arnold. Montreal.
- Hollow Staybolt Iron and Steel Bars**
Falls Hollow Staybolt Co. Cuyahoga Falls.
- Hoppers, Car (Wet or Dry)**
Duner Co. Chicago, Ill.
- Hydrants**
Canadian Fairbanks Co., Ltd. Montreal.
Kerr Engine Co. Walkerville, Ont.
- Illustrations**
Acton Burrows Limited Toronto.
- Inspections**
R. W. Hunt & Co. Montreal.
- Insurance, Accident**
Canadian Ry. Accident Ins. Co. Ottawa.
Imperial Guarantee & Ac. Ins. Co. Toronto.
- Insurance, Boiler**
Canadian Casualty & Boil. Ins. Co. Toronto.
- Interlocking Plant and Signals**
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works. Montreal.
Saxby and Farmer, Ltd. Montreal.
- Iron and Steel Bars**
Hamilton Steel & Iron Co., Ltd. Hamilton.
- Iron, Pig**
Hamilton Steel & Iron Co., Ltd. Hamilton.
Nova Scotia Steel & Coal Co., Ltd.,
.....New Glasgow, N.S.
- Iron Signs**
Acton Burrows Limited Toronto.
- Iron Staybolt Bars**
Falls Hollow Staybolt Co. Cuyahoga Falls.

board, and is also fitted with 10 oars. An auto-marine, six cylinder, four cycle gasolene motor of 35-40 h.p. is installed in the after end compartment, giving a speed of about 10 miles an hour, with 650 revs. Tests as to the stability, self-righting, sailing and speed were undertaken in the United States under the supervision of Lt.-Col. Anderson, Chief Engineer, Department of Marine.

Grain Elevator Notes.

The Pasqua Farmers' Elevator Co., Ltd., Pasqua, Sask., has been dissolved and the name removed from the register.

The name of Caron Farmers' Elevator Co. has been changed to the Caron Farmers' Elevator and Trading Co., with office at Caron, Sask.

The Bulyea Farmers' Elevator Co., Ltd., has been incorporated under the Northwest Territories Ordinance respecting companies, with office at Bulyea, Sask.

John Richardson & Sons' elevator at Wainwright, Alta., was completed towards the end of Sept., in readiness for the new crop. Its capacity is about 35,000 bush.

The Ogilvie Flour Mills Co., has erected 16 additional elevators during this year, bringing the total of country elevators operated by the company, in the prairie provinces, to 116.

The Taylor Milling and Elevator Co., has completed an addition to its elevator at Lethbridge, Alta., and is now building an elevator at Diamond City, of 55,000 bush capacity. It is also reported to be considering the question of erecting one at Nanton.

Tenders were received during Sept. for the brick work on the power house of the C.P.R. elevator under construction at Victoria Harbor, Ont. The contractor will supply the labor only, all materials being supplied by the company. The elevator is being built by the John S. Metcalf Co.

The Norris Grain and Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$150,000, and office at Winnipeg, to carry on a general elevator and warehouse business. The provisional directors are J. S. Norris, Montreal; H. N. Baird, R. D. Stratton, Winnipeg; F. Heap, Selkirk, Man.

The North Star Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$500,000 and office at Winnipeg, to deal in grain and to own and operate grain elevators, warehouses and other conveniences. The provisional directors are:—W. A. Anderson, H. R. Soot, J. A. Machray, F. J. Sharp, H. Dunk, Winnipeg.

The Montreal Harbor Commissioners' elevator was closed for all local grain, Sept. 2, and from that date, only grain for export was received there. It is reported that the question of building another elevator at Montreal, under the Commissioners' control, at a cost of \$2,000,000, is to be brought under the Dominion Government's consideration.

The Globe Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$600,000, and office at Calgary, Alta., to acquire and operate country, terminal and all classes of elevators, storehouses, cleaning plants, etc. The provisional directors are R. B. Bedford, J. E. A. MacLeod, J. B. Roberts, J. W. Hugill, Calgary, Alta.

The Burrard Grain Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$50,000, to carry on, in British Columbia, throughout Canada and elsewhere, the business of manufacturers, millers and warehousemen of flour and other grain products, and in

connection therewith to own and operate elevators, wharves, warehouses, etc.

The Lyleton Grain Growers' Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$15,000 and office at Lyleton, for the purpose of carrying on a general milling warehouse and elevator business. The provisional directors are:—A. M. Lyle, A. E. Venton, G. Campbell, R. A. Stinson, R. J. Tooke, J. Harkness, W. A. Sawyer and C. A. Chalmers, Lyleton.

At a meeting of the Dominion Millers' Association, at Toronto, Sept. 2, the following resolution was adopted and forwarded to the Dominion Government: "Whereas, the terminal elevators at Port William and Port Arthur are under the control of persons engaged in the grain trade of Canada, and whereas such control enables them to manipulate the different grades of grain and tends to create dissatisfaction in the minds of shippers, millers and receivers of grain; therefore be it resolved that we respectfully request and urge that immediate action be taken on the recommendation of the Royal Grain Commission appointed by your Government for the investigation and betterment of these conditions, and the joint request of northwest farmers and the Dominion Millers' Association for effective control of these elevators."

Telegraph and Cable Matters.

The stringing of the Government lines from Athabasca Landing to Lesser Slave Lake, Alta., is proceeding rapidly. The right of way has been cleared and the poles erected, and it is expected that the work will be completed this fall.

G. E. Eccles, the wireless telegraph operator on board the s.s. Ohio, who died at his post, while signalling for assistance when the vessel was wrecked on the Pacific Coast recently, was buried at Almonte, Ont., Sept. 7.

The Newfoundland Legislature last session voted the following sums for telegraph service:—Marconi royalties, \$2,500; for construction, \$10,000; for St. Johns staff, \$15,162; for operators outside St. Johns, \$35,738; for contingencies, \$15,000; and for shares of tolls Commercial Cable Co., \$6,000.

The Grand Trunk Pacific telegraph line has been completed to Edmonton, Alta., and the construction is being continued westerly concurrently with the laying of steel for the railway. A telegraph office has been opened at Edmonton, and a special commercial wire is being used for business purposes, between Winnipeg and Edmonton.

So successful have been the experiments with the new Telefunken system of wireless transmission at the new 20-kilowatt station of the Austrian government at Pola on the Adriatic, that signals strong enough to be automatically printed on tape by the coherers were received at Norddeich on the North Sea, Copenhagen, and Berlin.

W. Marconi, is at present at Glace Bay, N.S., for the purpose of superintending the reconstruction of the wireless telegraph power station which was recently destroyed by fire. He is reported to have said that the new station would be equipped with the most powerful appliances for the despatch of messages across the ocean, and he hoped that the work would be completed by Jan. 1, 1910.

The U. S. press is complaining of the scarcity of telegraph operators, and states that in a very short time this will prove a very serious problem for the railways in Canada and the U. S. The telegraph branch of transportation has grown more than any other, and remarking on the installation of the telephone, to take the place of the tele-

graph for train dispatching, says: "The telephone on the railway is a very convenient means of verbal intercourse between officials, but for practicable and expeditious handling of a large volume of business, of which records must be kept, and in which errors must not occur, the telephone thus far has been a failure."

"How Telegraphs and Telephones Work," is the title of a volume just issued by Seeley & Co., 38 Great Russell St., London, E.C. The book is written by C. H. Gibson, author of several works dealing in a non-technical and popular way with electricity and its application to modern uses. He has succeeded in telling in simple language all about telegraphs and telephones in a way that will interest and instruct the general reader, as well as the operator who desires to know something about these inventions. There are added chapters on Wireless Telephony, one Concerning Lightning, and a short discussion of the Electron Theory. The volume is illustrated by five full page illustrations and

Among the Express Companies.

A. H. Irwin has been appointed agent Dominion Ex. Co., Lethbridge, Alta.

The Canadian Northern Ex. Co., has opened offices at Bonito and Durban, Man.

L. McBean has been appointed Agent Canadian Ex. Co., Port Huron, Mich., vice W. H. Timmonds transferred.

The Canadian Ex. Co., has opened offices at Avondale, N.S., Becancourt, Bequets, Fortierville, Gently, La Baie, St. Gregoire, Valois, Que., and Findley, Ont.

Express companies operating in the U. S., put into effect, Sept. 5, an order requiring that all cinematograph films be packed in heavy metal cases enclosed in wooden boxes bearing a warning against the storing of the package near a radiator, stove or other source of heat.

The Canadian Northern Ex. Co., which has extended its service over the Canadian Northern Quebec Ry., between Garneau Jct., and Quebec, as advised in our last issue, has opened offices at Cap Rouge, Dombourg, Portneuf, St. Augustine, St. Casimir, Prospere and St. Stanislas.

S. Coates, who was recently convicted of forging money orders of the Dominion Ex. Co., while in its employ, was sentenced to 3 years in the penitentiary, at Montreal, Sept. 3. He had previously been sentenced to a 5 year term, in Aug., on other similar charges. Presumably the sentences will run concurrently.

The Canadian Northern Ex. Co. has reopened its offices at Belleview, Grays, Hilton, Kelwood, Myrtle, Rounthwaite, Man., and Kenaston, Sask., has opened offices at Zephyr, Ont., and Bruno, Sask., and has closed its offices at Footes Bay, Royal Muskoka, Sparrow Lake, Ont., and Harris, Sask. The name of Monck Road, Ont., has been changed to Rathburn.

Hendrie and Co's stables at Front and Peter streets, Toronto, were partially destroyed by fire, Sept. 15. The cause is said to be lightning. The damage has been estimated at \$10,000.

"Yes," said Clarence. "I proposed to her on hipboard while the steamer was going twenty knots an hour."

"What was her answer?"

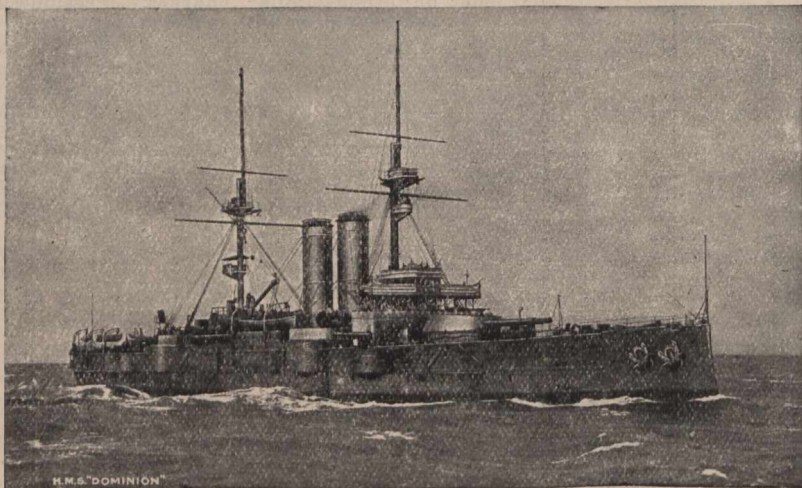
"Well, it was brief, but it was—er—at the rate of about sixty 'nots' a minute."

They were on the St. Joe boat.

"Percy," asked Claribel, snuggling closer, "what's making that rasping, cracking noise?"

"It's the wireless telegraphic apparatus, dear," said Percy. "It's sparking, too."

- Jacks**
 Canadian Fairbanks Co., Ltd. Montreal.
 H and E Lifting Jack Co. Waterville, Que.
 F. H. Hopkins & Co., Ltd. Montreal.
 Montreal Steel Works, Ltd. Montreal.
 Mussels Limited. Montreal.
 A. O. Norton. Coaticook, Que.
 James Smart Mfg. Co. Brockville, Ont.
 A. R. Williams Mch. Co., Ltd. Toronto.
- Japans**
 The Dougal Varnish Co. Ltd. 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**
 The Holden Co., Ltd. Montreal.
 McCord & Co. Chicago, Ill.
- Journal Jacks**
 A. R. Williams Mch. Co., Ltd. Toronto.
- Lager Beer, &c.**
 E. L. Drewry. Winnipeg.
- Lagging and Covering, Locomotive**
 Taylor & Arnold. Montreal.
- Lamps, Arc**
 Northern Electric & Mfg. Co., Ltd. Montreal.
- Lamps, Incandescent**
 Canadian Westinghouse Co. Hamilton, Ont.
- Lamps and Lanterns**
 The Hudson's Bay Company.
 The Hiram L. Piper Co. Montreal.
 The N. L. Piper Ry. Supply Co. Toronto.
- Lamps, Switch**
 The N. L. Piper Ry. Supply Co. Toronto.
- Lathes**
 John Bertram & Sons Co. Dundas, Ont.
- Laths**
 J. Harrison & Sons Co. Owen Sound, Ont.
- Launches**
 Polson Iron Works, Ltd. Toronto.
- Lighting, Car**
 Canadian Gold Car H'g & L'g Co. Montreal.
 Safety Car H't'g & L't'g Co. New York.
- Lights, Contractors' and Wrecking**
 F. H. Hopkins & Co. Montreal.
 Mussels Limited. Montreal.
- Locomotives (Compressed Air)**
 Burnham, Williams & Co. Philadelphia, Pa.
 Canadian Locomotive Co. Kingston, Ont.
 Montreal Locomotive W'ks (Ltd.) Montreal.
- Locomotives (Electric)**
 Burnham, Williams & Co. Philadelphia, Pa.
 Montreal Locomotive W'ks (Ltd.) Montreal.
- Locomotives (Logging)**
 Burnham, Williams & Co. Philadelphia, Pa.
 Canadian Locomotive Co. Kingston, Ont.
- Locomotives (Rack)**
 Burnham, Williams & Co. Philadelphia, Pa.
 Canadian Locomotive Co. Kingston, Ont.
 Montreal Locomotive Works. Montreal.
- Locomotives (Steam)**
 American Car & Equip. Co. Chicago, Ill.
 Burnham, Williams & Co. Philadelphia, Pa.
 R. M. Burns & Co. Chicago, Ill.
 Canadian Fairbanks Co., Ltd. Montreal.
 Canadian Locomotive Co. Kingston, Ont.
 J. T. Gardner. Chicago, Ill.
 Hicks Locomotive & Car Works. Chicago.
 Montreal Locomotive W'ks. Montreal.
 Vulcan Iron Works. Wilkesbarre, Pa.
- Lorries, Tracklaying**
 Crossen Car Mfg. Co. Cobourg, Ont.
 F. H. Hopkins & Co. Montreal.
- Lubricators**
 The Holden Co., Ltd. Montreal.
 McCord & Co. Chicago, Ill.
 Taylor & Arnold. Montreal.
- Lumber**
 Parry Sound Lumber Co. Toronto.
 J. Harrison & Sons Co., Owen Sound, Ont.
- Machinery, Cement**
 Jas. W. Pyke & Co. Montreal.
- Machinery and Plant, Contractors'**
 American Hoist & Derrick Co. St. Paul.
 M. Beatty & Sons. Welland, Ont.
 R. M. Burns & Co. Chicago, Ill.
 Canadian Fairbanks Co., Ltd. Montreal.
 J. T. Gardner. Chicago, Ill.
 F. H. Hopkins & Co. Montreal.
 Mussels Limited. Montreal.
 Robertson Mfg. Co. Welland, Ont.
 Toronto Pressed Steel Co. Toronto.
- Machinery, Hoisting**
 American Hoist & Derrick Co. St. Paul.
 Brown Hoisting Machinery Co. Cleveland.
- Machinery, Marine**
 Sheriffs Mfg. Co. Milwaukee, Wis.
- Machinery, Tracklaying**
 F. H. Hopkins & Co. Montreal.
- Machinery, Wood and Iron Working**
 Canadian Fairbanks Co., Ltd. Montreal.
- Machines, Boring and Turning**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Drilling**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Milling**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Planing and Shaping**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Radial Drilling**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Shaping**
 John Bertram & Sons Co. Dundas, Ont.
- Machines, Slotting**
 John Bertram & Sons Co. Dundas, Ont.
- Machine Tools**
 John Bertram & Sons Co. Dundas, Ont.
- Manhole Frames and Covers**
 American Brake Shoe & F'dry Co. Mahwah.
 Canada Iron Corporation, Ltd. Montreal.
- Marine Repairs**
 Goldschmidt Thermit Co. Toronto.
- Marine Supplies**
 Rice Lewis & Son. Toronto.
- Metal, Anti-friction**
 W. Abbott. Montreal.
- Metal, Babbit**
 Tallman Brass & Metal Mfg. Co. Hamilton.
- Metals**
 Goldschmidt Thermit Co. Toronto.
- Metal Work, Structural**
 Canadian Bridge Co. Walkerville, Ont.
 Dominion Bridge Co. Montreal.
 Montreal Locomotive W'ks (Ltd.) Montreal.
 Jas. W. Pyke & Co. Montreal.
- Milepost Numbers**
 Acton Burrows Limited. Toronto.
- Motors**
 Canadian Fairbanks Co., Ltd. Montreal.
 McCord & Co. Chicago, Ill.
- Motors, Electric**
 Allis-Chalmers-Bullock Ltd. Montreal.
 Northern Electric & Mfg. Co. Ld. Montreal.
- Motor Generator Sets**
 Allis-Chalmers-Bullock Ltd. Montreal.
- Motors, Turntable**
 Taylor & Arnold. Montreal.
- Nickel**
 The Orford Copper Co. New York.
- Nickel for Nickel Steel**
 The Orford Copper Co. New York.
- Numbers**
 Acton Burrows Limited. Toronto.
- Nut Locks**
 Positive Lock Washer Co. Newark, N.J.
- Nuts, Clevis**
 Cleland City Forge & Iron Co. Cleveland.
- Nuts, Square and Hexagon**
 Montreal Rolling Mills Co. Montreal.
 Toronto Bolt and Forging Co. Toronto.
- Oakum**
 The Hudson's Bay Company.
- Office Fittings**
 Can. Office & Sch'l Furniture Co. Preston.
- Office Signs**
 Acton Burrows Limited. Toronto.
- Oils**
 Galena Signal Oil Co. Franklin & Toronto.
- Packing**
 The N. L. Piper Ry. Supply Co. Toronto.
- Paints**
 Standard Paint & Varnish Co., Ltd.
 Windsor, Ont.
- Patterns**
 Hamilton Pattern Works. Hamilton, Ont.
- Pile Drivers, Railway**
 F. H. Hopkins & Co. Montreal.
 Mussels Limited. Montreal.
- Pinch Bars**
 The N. L. Piper Ry. Supply Co. Toronto.
- Pipe, Culvert (Cast Iron)**
 Gartshore-Thompson Pipe Co. Hamilton.
- Pipe, Gas (Cast Iron)**
 Gartshore-Thompson Pipe Co. Hamilton.
- Pipe, Sewer (Cast Iron)**
 Gartshore-Thompson Pipe Co. Hamilton.
- Pipe Stocks**
 Butterfield & Co. Rock Island, Que.
 A. B. Jardine & Co. Hespeler, Ont.
- Pipe, Water (Cast Iron)**
 Gartshore-Thompson Pipe Co. Hamilton.
- Planers**
 John Bertram & Sons Co. Dundas, Ont.
- Platforms, Steel**
 Standard Coupler Co. New York City.
- Ploughs, Contractors'**
 Mussels Limited. Montreal.
 Toronto Pressed Steel Co. Toronto.
- Ploughs, Grading**
 Meaford Wheelbarrow Co., Ltd. Meaford.
- Poles**
 J. Harrison & Sons Co., Owen Sound, Ont.
- Porter**
 E. L. Drewry. Winnipeg.
- Posts**
 J. Harrison & Sons Co., Owen Sound, Ont.
- Powder, Blasting**
 Standard Explosives Limited. Montreal.
- Printing**
 Southam Press. Toronto.
- Propeller Wheels**
 Sheriffs Mfg. Co. Milwaukee, Wis.
- Pumps**
 Canadian Fairbanks Co., Ltd. Montreal.
 S. F. Bowser & Co., Limited. Toronto.
 Ontario Wind Engine & 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.



HEAD OFFICE FOR CANADA, 11 Place d'Armes = MONTREAL
 BRANCH—TRADERS BANK BUILDING, TORONTO

BABCOCK & WILCOX LIMITED

Patent Water-Tube Boilers

(Over 7,000,000 H.P. in use)

FOR MARINE AND STATIONARY PURPOSES

This cut shews H.M.S. "Dominion," in which are installed sixteen "B. & W." boilers—these are the standard adopted by the British Admiralty.