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## ELECTRIFICATION OF THE ST. CLAIR TUNNEL.

The St. Clair tunnel was opened for traffic in 1890, by the St. Clair Tunnel Co., organized as a subsidiary company to the G.T.R. Co. The tunnel, located under the St. Clair River, is the connecting link between the terminal of the Eastern Division at Sarnia, Ont., and the Western Division at Port Huron, Mich. The length of the tunnel from portal to portal is 6,032 ft. The open tunnel approaches are of considerable magnitude, that on the Port Huron side being slightly over 2,500 ft. long, while that on the Sarnia side is nearly 3,300 ft. long, the total distance between the Canadian and U.S. summits being 12,000 ft., or about  $2\frac{1}{4}$  miles. The grade on the tunnel approaches and the inclined sections of the tunnel is 2%, while the flat middle section of the tunnel, about 1,700 ft. long, has a grade of 0.1% downward toward the east, just enough to provide for the proper drainage of any seepage water.

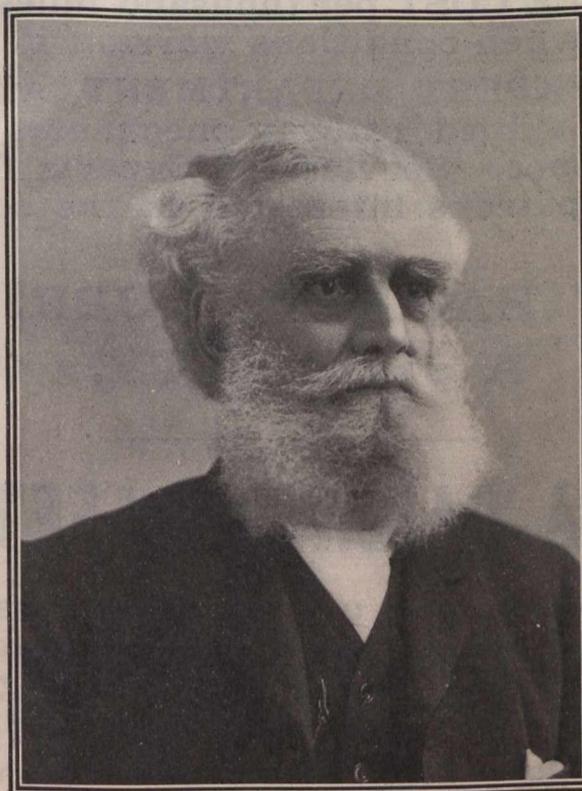
A single track extends through the tunnel, while a double track is laid in both of the approaches. The necessary tracks for handling the freight and passenger traffic are provided in the yards at Sarnia and Port Huron. The map and profile of the zone operated by the St. Clair Tunnel Co. is shown in an accompanying illustration. The tracks in the yards and on the tunnel approaches are shown on a larger scale in the same drawing.

The tunnel shell consists of cast iron rings built up in sections, the inside diameter being about 19 ft. The hydraulic shield was used in advancing the bore from each of the tunnel portals, by which means the entire work of construction was carried on with reasonable expedition. A vertical shaft was sunk near the bank of the river on both the Canadian and U.S. sides.

The disposal of the rainfall on the tunnel approaches required particular attention. The areas of the Port Huron and Sarnia approaches are approximately 11 and 13 acres respectively. Water precipitated on these areas during a rainfall is discharged into waste ditches on the bank above by means of pumps of large capacity. Retaining levees have been constructed, so arranged as to impound a large proportion of the water falling on the approaches. By this method the pumps have to handle only the water falling on the central portion of the approach during the rainstorm. Later the impounded water is discharged into the pump sump by valves provided for the purpose. As is evident, this pumping service is of great importance in the operation of the tunnel, as, should the tunnel become flooded with water, entire interruption of the traffic would ensue. For the operation of the steam drainage

pumps, boiler plants were provided at each portal, and attendants were constantly on duty, it being necessary to keep up steam during a large part of the year in order to take care at a moment's notice of any rainfall that might occur.

Four steam locomotives of special design had been in commission for handling the freight and passenger traffic since the construction of the tunnel. They were designed



JOSEPH HOBSON, M. INST. C.E.

Consulting Engineer G.T.R. and Chief Engineer St. Clair Tunnel Co. from its organization to the completion of the work.

to provide the necessary high tractive effort required to operate the trains over the grades in the tunnel and on the approaches, and arranged to burn anthracite coal, in order to minimize the inconvenience due to excessive smoke in the tunnel. These locomotives have given good account of themselves, and have handled the traffic in a satisfactory way throughout their service. Their maximum tractive effort limited the weight of the trains handled to about 760 tons, and even with this load the speed up the 2% grade was often very slow. With the constantly increasing traffic, at times the capacity of the tunnel with its steam equipment was taxed in handling the tonnage delivered to the tunnel company by the adjacent divisions of the G.T.R., and it was thought desirable to make such changes in the operation of the tunnel

as would increase its possible capacity for handling traffic, and at the same time obviate the danger and inconvenience due to the presence of the locomotive gases in the tunnel.

The advantage of the use of electric locomotives, on account of the freedom from smoke and the attendant discomfort, together with the possible greater economy in operation, led finally to the decision to provide an electrical equipment to handle the tunnel service, this equipment to provide for the operation of the trains through the tunnel by means of electric locomotives; the handling of the drainage and seepage water by means of electric pumps; the lighting of the passenger stations, the tunnel and the roundhouses by electricity, as well as furnishing a certain amount of power to the roundhouses; also, provision was made for a limited amount of outside lighting in the form of arc lamps. The different electrical systems available for such service were considered, and estimates as to the relative cost and efficiency of the various systems were prepared and submitted to the tunnel company. These estimates covered the direct current system both with and without battery, as well as estimates on the alternating current systems. Complete specifications were prepared, covering both the direct and alternating current systems, and propositions on these received and considered. The specifications stipulated, in addition to various guarantees regarding efficiencies of different parts of the system, and of the system as a whole, that the installation when completed should be capable of hauling a 1,000-ton train through the tunnel, from terminal to terminal, in 15 minutes, and that in so doing, the maximum speed should not exceed 25 miles per hour, and the minimum speed, when ascending a 2% grade, should not be less than 10 miles per hour. Tenders were submitted by the companies that were prepared to undertake the work as specified, and after careful analysis the decision was made to adopt the alternating current system, using a 3-phase system for distribution of power required for pumping and for shop motors, with single-phase distribution for locomotives and lighting, using an overhead working conductor, this being the first decision providing for the application of the single-phase system to heavy steam road service. The contract was awarded to the Westinghouse Electric and Manufacturing Co., and provided that it be responsible for the installation and successful operation of the entire equipment. The equipment has been in continuous operation since May 17, 1908, handling the entire train service of the tunnel company, this service being the heaviest railway service handled by electricity in the world.

The tunnel is operated as an independent division of the railway, the trains being de-

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livered by the Eastern Division in the yards at Sarnia, and taken by the tunnel locomotives through the tunnel, and delivered to the Western Division at the yards in Port Huron, the eastbound trains being handled in the reverse order. The steam locomotives operating on the divisions adjacent to the tunnel are never operated through the tunnel. In order to increase the capacity of the tunnel, it was desirable to provide for the maximum practicable tractive effort in the new locomotives. The capacity limit was determined by the maximum pull to which it was deemed wise to subject the drawbars on the mixed rolling stock that must be handled, without danger of breaking trains in two. For this reason the locomotives were specified of sufficient capacity to develop a drawbar pull of 50,000 lbs., when operating at a speed of 10 miles an hour. It was estimated that such a locomotive would be able to make the complete trip through the tunnel from terminal to terminal with a 1,000-ton train in 15 minutes, or four 1,000-ton trains per hour, which would provide a capacity for traffic about three times larger than the actual maximum demands up to the present time.

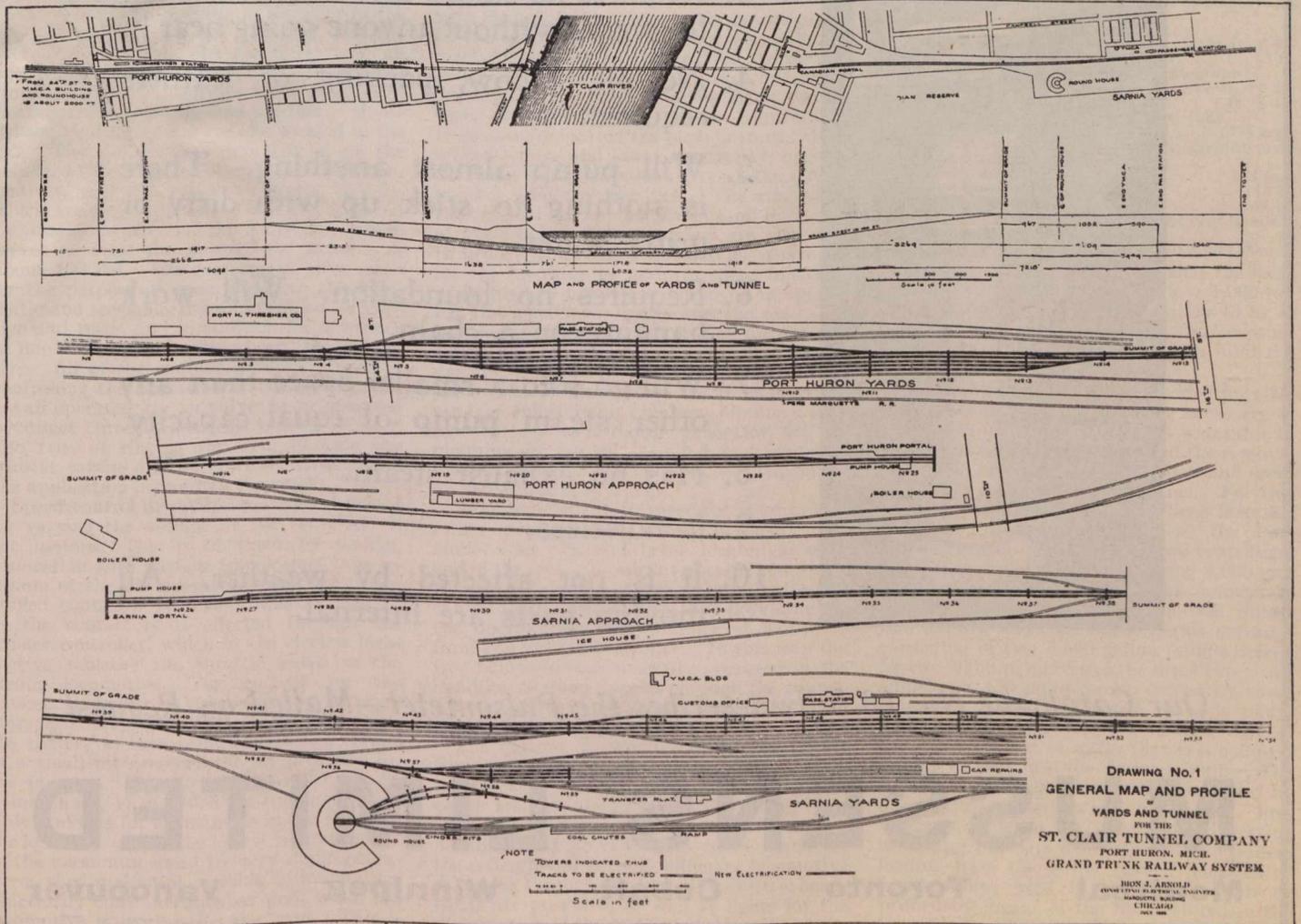
It was estimated that the pumping service, for which adequate provision must be made, would require the installation at the Sarnia portal of two pumps each of capacity of 5,500 gallons a minute, and at the Port Huron portal the installation of two pumps each with a capacity of 4,000 gallons a minute. To provide absolute continuity of service, duplicate pumping equipments were provided in each portal, as well as duplicate feeder lines leading from the power plant to the pump houses. As noted above, the pumps must always be in readiness for operation day and night throughout the entire year, which

in case of electrical pumps, simply necessitates the presence in the pump house of a pump operator and the continuous operation of the power plant. The lighting service to be provided for is of minor importance in so far as the amount of power required at both Sarnia and Port Huron is concerned, this being somewhat less than 100 kw. The power requirement for motors in the roundhouses at Sarnia and Port Huron is about 100 kw. for both shops. To furnish electrical energy for the service outlined above, provision must be made in the power plant for supplying single-phase current for the electrical locomotives, 3-phase current for the pumping service, and 3-phase and single-phase current both for the power and lighting service at various points throughout Sarnia and Port Huron, as well as for a small amount of arc lighting.

**ELECTRIFICATION EQUIPMENT.**—Three locomotives have been provided for this service, each consisting of two half-units, each half-unit mounted on three pairs of axles driven through gears by three single-phase motors with a nominal rating of 250 h.p. each, the nominal horse power of the complete locomotive unit being 1,500. In so far as the electric motors have a very liberal overload rating, it is easily possible to develop 2,000 h.p., and on occasion in excess of this, in one locomotive. The half-units are duplicate in every respect, and as the multiple unit system of control is used, they can be operated when coupled together with the same facility that a single-phase half-unit can be operated. The locomotives are designed to develop a drawbar pull of 50,000 lbs. at the comparatively low speed of 10 miles an hour. The locomotives are powerful enough to start a 1,000-ton train on a 2% grade in case this should be necessary. At a test made on a

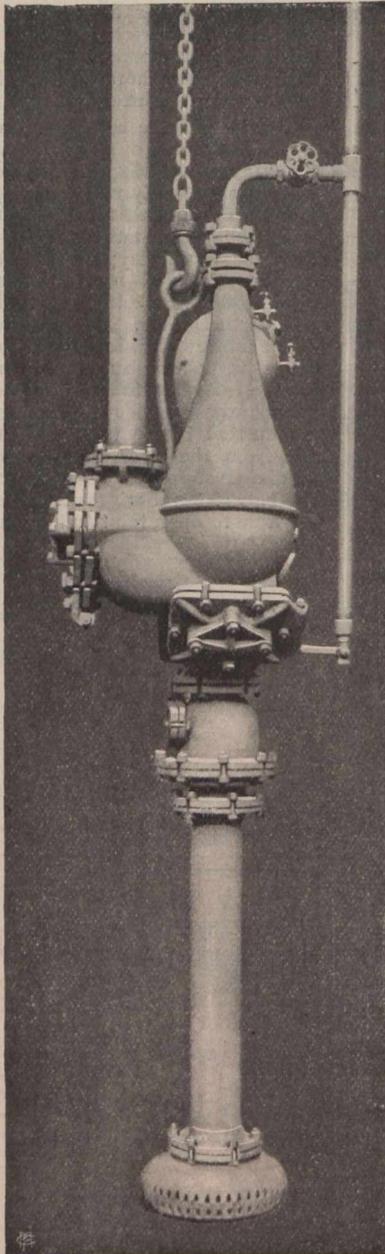
half-unit, using a dynamometer car, it was found that a single half-unit developed 43,000 lbs. drawbar pull before slipping the wheels. This was done on a comparatively dry rail, with a liberal use of sand. On this basis it would be possible to develop about 86,000 lbs. drawbar pull with a complete locomotive. The maximum speed of the locomotives is 35 miles an hour. However, it is not the intention of the tunnel company to operate the locomotives at a speed in excess of 30 miles an hour. Speed indicators are provided, which indicate on a large dial located in the locomotive cab near the engine driver's seat the speed at which the locomotive is running, and at the same time record the speed throughout the length of the run. This assists the driver in keeping the speed of trains within prescribed limits at all times, and furnishes records of the exact speed of the trains throughout all trips, for the inspection of the superintendent of the tunnel.

The locomotive cab is rectangular in section, constructed of sheet metal supported by structural steel shapes. Inside the cab are located practically all of the apparatus used in connection with the locomotive, with the exception of the motors and the brake rigging. Included in this apparatus is a single-phase transformer used for reducing the voltage from 3,300 to a voltage suitable for application to the motor. The transformer, as well as the motors, are air-cooled, the supply of air being furnished by an electrically driven blower, also located in the locomotive cab. The blower is driven by a single-phase motor, the current being supplied at 100 volts by a tap from the main transformer. With the moderate supply of cooling air furnished by the blower fan, both transformers and motors are able to operate at full capacity with com-



ST. CLAIR TUNNEL, MAPS OF YARDS AND PROFILE OF TUNNEL AND APPROACHES

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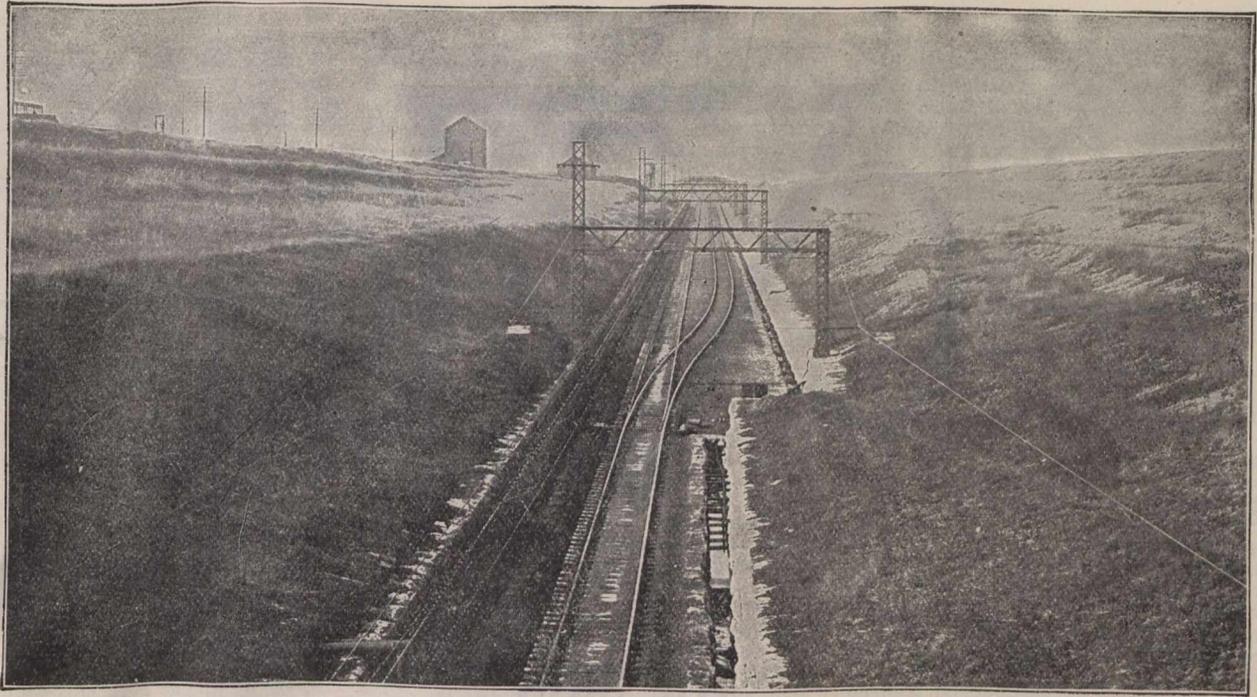
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APPROACH TO ST. CLAIR TUNNEL FROM SARNIA.

paratively little increase in temperature above that of the surrounding air. The air for the cooling is taken through a suitably designed shutter located in the side of the locomotive cab, and is distributed through sheet metal ducts installed under the cab floor to the three motors under the cab, and to the transformer. From the latter the air passes either through an opening in the floor of the cab into the open air, or, if desired, into the interior of the cab. In the latter case an appreciable amount of heat can be secured from the main transformer for utilization in heating the cab during cold weather. Motor driven air compressors are also located in the cab. The air brake equipment is of the standard type used for electric cars and locomotives, with the exception of the motors, which are single phase. They are operated by means of an electric controller, which serves to keep the normal air pressure at about 100 lbs. The compressed air is used for the purpose of operating both the automatic and straight air equipment on locomotive and train, and in addition for a variety of minor purposes in and about the locomotive. All of the contactor switches used in controlling the operation of the locomotives are air operated, the air valves being operated by direct current electrical control. This is also true of ringing the bell, blowing the whistle, raising and lowering the trolley, and the application of sand to the tracks.

Speed control of the locomotive is effected by varying the voltage at the terminals of the motors. This is obtained by making connection with various transformer taps by means of the air operated, electrically controlled contactor switches. Electric control of the contactors is effected through the master controller, which in the electric locomotive replaces the throttle valve in the steam locomotive. The current for the master controller is furnished by a small storage battery operating at about 20 volts, the battery in turn being charged by means of a small motor-generator set provided for the purpose. The electric controller has 21 points in all, 17 of which are running points. This provides for an increase in the speed of the locomotive from the lowest running speed to the maximum speed by very slight gradations, thus making it possible to maintain a practically constant drawbar pull, while the locomotive is accelerating the train. This is

very desirable, in so far as the minimum variation in the drawbar pull while handling the train through the tunnel, decreases the liability of breaking the train in two. Particular attention was given this phase of the train operation in designing the locomotive, and the resulting remarkable decrease in the number of breaks-in-two since the operation with electric locomotives has been inaugurated is a source of great satisfaction. On the master controller is also located the reverse lever, which controls through the electrically operated solenoids the air operated contactors used in reversing the motor connections. Here also are located the push buttons, which serve to raise and lower the trolley, operate the front and rear sanders, reset the circuit breaker, and ring the bell. The ringing of the bell and the application of sand by means of the front and rear sanders are also controlled by foot pedals, thus making it possible for the operator to perform these functions while his two hands are employed in operating the master controller and the air. The balance of the equipment of each locomotive, consisting of the sand boxes, the seats for the drivers, ammeters, voltmeters, wattmeters, the banks of contactors, the preventive resistance coils, circuit breakers, auxiliary storage battery and motor generator set for charging it, are all installed in a compact manner inside of the cab, and are supported on structural steel work.

Each half-unit is arranged for operation in either direction; air valves, a master controller and ammeter being located at each end of the cab. By means of cable couplings, the control system of two or more half-units can be thrown in parallel, thus providing for the operation of any number of half-units from any master controller. In this way the two half-units are generally operated in the handling of freight trains through the tunnel. The passenger traffic can ordinarily be taken care of by a single half-unit.

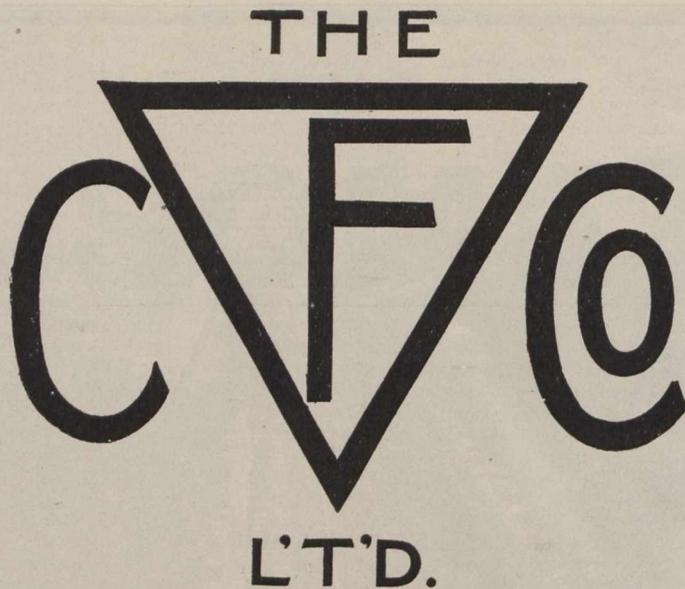
The current is collected from the trolley wires suspended at a distance of 22 ft. from the track by means of a sliding bow pantograph trolley. In so far as the trolley wire extends throughout the length of the tunnel, no additional provision has to be made for the collection of current while the locomotive is passing through the tunnel. Electric headlights are provided, as well as lights for the illumination of the interior of the cab and the

dials of the indicating instruments. The heating of the cabs is provided for by means of standard electric heaters. Heat is also available for drying the sand stored in sand boxes. In general, the M. C. B. standards have been conformed with in so far as couplers, wheel treads, etc., are concerned. The general dimensions of the half-units are as follows:

Length over all	23 ft. 6 in.
Height from top of rail to top of roof	13 ft.
Height from top of rail to top of pantograph bow when lowered	14 ft. 11 in.
Width of cab over all	9 ft. 8 in.
Total weight of locomotive half-unit, fully equipped	.67 1/2 tons
(This weight is practically evenly divided over three drivers.)	
Weight of complete locomotive unit	.135 tons
Length of rigid wheel base	16 ft.
Diameter of driving wheels	.62 in.
Normal speed of train, ascending 2 per cent. grade (miles per hour)	10
Normal speed on level tracks (miles per hour)	25 to 30

In service it has been found that the locomotives will very readily handle a 1,000-ton train at from 11 to 12, and possibly 13 to 14 miles an hour on a 2% grade, thus demonstrating their ability to more than fulfil the specified performance.

The second service to be provided for electrically, consists of the pumping necessary to free the tunnel approaches from water due to rain storms or melting snow, and the removal of a small amount of condensation and seepage water collecting in the tunnel. For this purpose pumping plants have been installed at both tunnel portals, that at the Port Huron entrance consisting of two centrifugal pumps, each capable of delivering 4,000 gallons a minute, driven by direct connected, 100 h.p., 3-phase, 25-cycle, 3,300-volt, induction motors, and that at the Sarnia entrance consisting of two 5,500 gallon pumps driven by two 200 h.p. motors of the same type. In addition a 150-gallon pump driven by small induction motor is located in each pump house, these pumps serving to take care of the small amount of water that is constantly finding its way into the drainage wells. The motors in the pump houses are controlled by oil switches located on suitable panels. Provision is made on the panels for connecting the motor bus bars with either of two feeders leading from the power plant. The centrifugal pumps used in this service can be primed by means of the water stored in the large discharge pipes. Valves controlling the



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flow of the water are all located so as to be conveniently accessible for the pump house operator. The equipment has been found to operate in an entirely satisfactory manner, and provides for the handling of water with a minimum amount of attendance and expense. Two 150-gallon, motor-operated, centrifugal pumps are located at the foot of the Sarnia grade, and serve to remove from the tunnel the condensation and seepage water, delivering it to the well at the Sarnia portal. The seepage pumps are similar to the small pumps installed at the portal pump houses, with the exception of motors, which for this service are entirely enclosed, suitable for continuous operation in the tunnel, where they are liable to be subjected to more moisture than are the motors located in the pump houses.

Incandescent lamps in the roundhouses, the passenger stations, the Y.M.C.A. buildings in both Sarnia and Port Huron, installed previous to the electrification of the tunnel, are being furnished with current from the electric power plant by means of step-down transformers, reducing the voltage from 3,300 to 110 volts. Motors operating at 3,300 volt have been installed in the roundhouses at Sarnia and Fort Huron, the current supply being taken from the power plant. In all, 480 lights have been installed throughout the tunnel on either side at a height of 10 ft. above the rail. The tunnel lamps are operated four in series from the 440-volt secondaries of the lighting transformers installed in the tunnel. Similar transformers furnish the current supply for the tunnel drainage pump motors. In addition about 30 arc lights have been provided and installed in the yards at either terminal. These arcs are used for general illumination around passenger stations, roundhouses, and coal chutes. The current for the arc lights is furnished at the power plant by means of a mercury arc rectifier. The total amount of lighting is somewhat under 100 kw., which, together with the motor requirements of 100 kw., makes a total of slightly over 200 kw. for small power and lighting outside of the plant.

For distribution of the single-phase current to the locomotive, substantial steel towers have been erected throughout the tunnel yards. The steel work used for supporting the working conductor consists of strong lattice columns supporting bridges of trussed

construction. The average spacing of the overhead bridges is 250 ft. They are designed to extend over all tracks that are to be electrified, and in case of those located at passenger station extend, in addition, over the platforms, thus in no way interfering with the access of passengers to and from the trains. This necessitates a length of about 141 ft. in case of some of the bridges located on the Port Huron side, in which case the bridge spans seven electrified tracks, in addition to the station platform. Single catenary construction is used throughout, a messenger cable of  $\frac{5}{8}$ -inch extra heavy galvanized steel being suspended on the insulators located on the overhead bridges immediately over the centre lines of the track to be equipped. The working conductor is attached to the messenger cable by means of fittings of varying lengths so arranged as to support it at a uniform height of 22 ft. above the top of the rail. Number 4/0 hard-drawn grooved copper is used throughout the yards, and at all places, excepting on the tunnel approaches and throughout the tunnel, on which sections two 300,000 cm. conductors have been installed. The messenger cables forming the catenary construction terminate at the tunnel portals, where they are securely anchored to eye bolts imbedded in the heavy masonry portal. At this point the messenger wires supporting the working conductor throughout the tunnel are anchored to special brackets located on the tunnel face. The working conductors in the tunnel are continuous with those on the tunnel approaches.

The method of supporting the trolley inside of the tunnel shell was conditioned by the requirement that complete overhead equipment should not encroach on the tunnel opening more than 9 inches. This has been accomplished by bolting to the tunnel shell special iron brackets, each of which supports two spool-shaped insulators. These insulators in turn support steel messenger cables, which are drawn taut throughout the length of the tunnel, and attached at the tunnel portal to special brackets. Special clamps are attached to these messenger cables at points between the insulator supports, and these in turn serve to support the two trolley wires. The insulating supports are attached to the tunnel shell at intervals of 12 ft., as also are the clamps connecting the messenger cable with the trolley. This method provides an

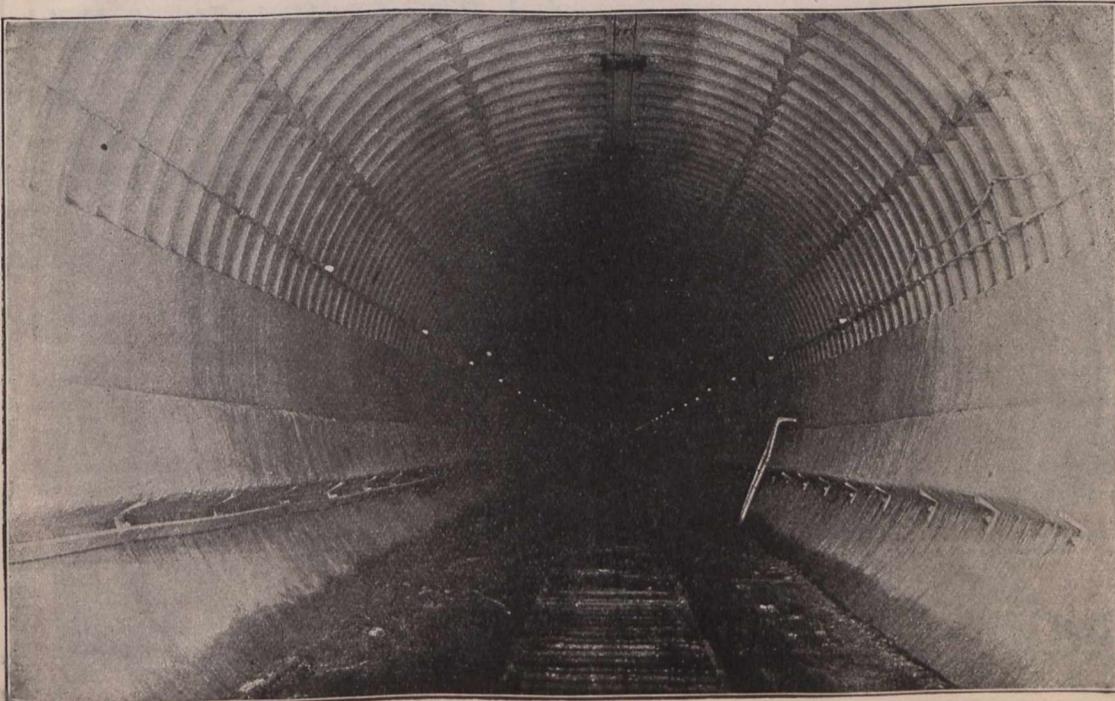
attachment at once sufficiently rigid to maintain the proper clearance between the trolley and the tunnel shell, and at the same time sufficiently flexible to provide for the proper operation of the trolley bow on the overhead conductor. Section switches have been provided where necessary to permit of disconnecting the working conductor over any switch track from the main line extending throughout the tunnel.

The columns at one end of the transmission bridges have been lengthened, for the purpose of supporting the transmission wires which supply current for the power and lighting service at the roundhouses and stations, as well as for the arc light circuits. Overhead lines terminate in the pump houses at either tunnel portal, where they are connected with the underground feeder system at the panel boards.

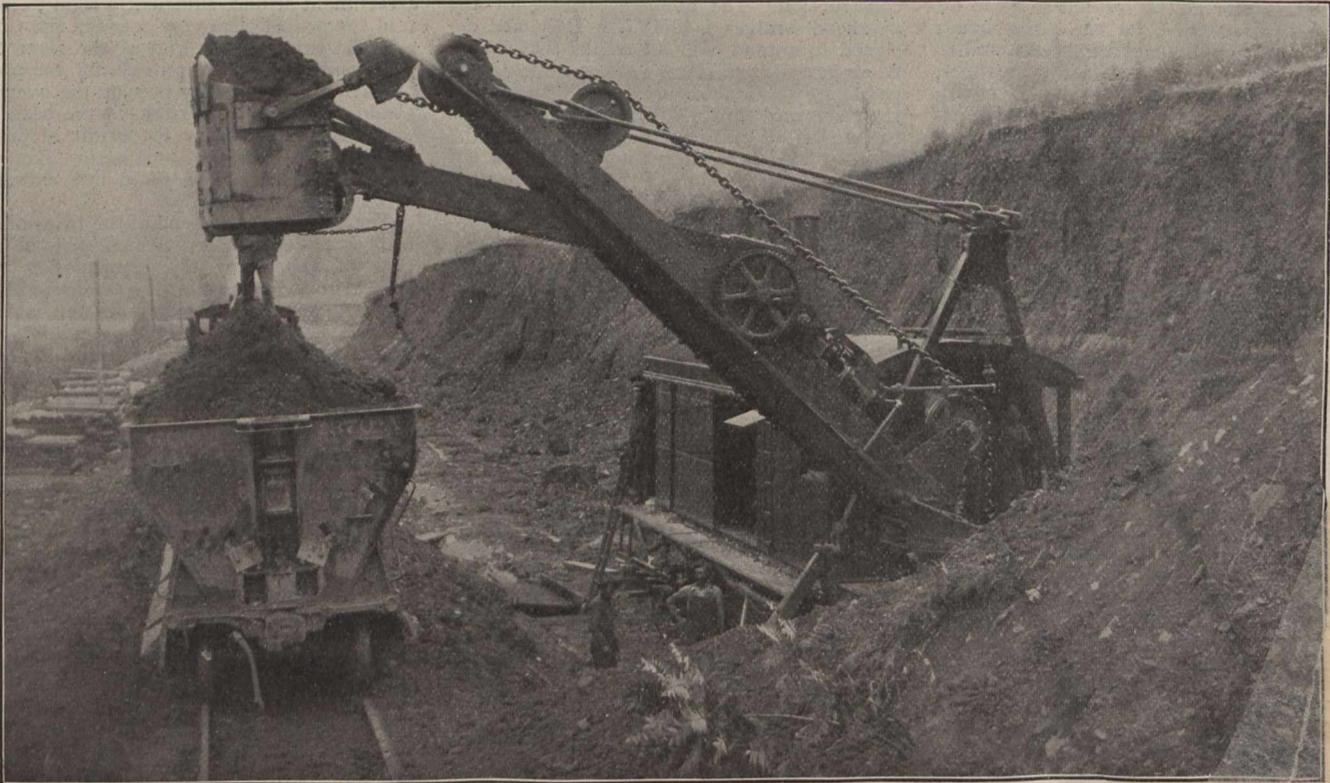
All feeder lines connecting the various parts of the equipment to be supplied from the power plant are carried in the tunnel conduits. For this purpose four conduit lines have been laid on either side of the tunnel throughout its length. Connection has been made with these conduit lines about 1,700 ft. from the Port Huron portal, with a vertical shaft extending from the top of the tunnel to the surface of the ground, terminating about 75 ft. from the power plant. The overhead feeders, terminating as above noted in the portal pump houses, are continued as underground feeders down through the tunnel and up the shaft, finally terminating in the switchboard at the power plant. For the pumping service, two independent feeders are laid from each portal pump house, one being installed on either side of the tunnel and both terminating at the power plant switchboard. The heavy feeders for supplying the locomotive current to the trolley extend from the tunnel through the vertical shaft to the power house. This arrangement provides for all feeders leaving the power plant underground. The cables are paper insulated, lead encased and are installed in tile ducts.

THE POWER PLANT is located on the Port Huron bank of the St. Clair River, about 100 ft. from the centre line of the tunnel. The building is 50 ft. from the street property line, which provides ample space for a lawn in front, while the back building line is about 50 ft. from the retaining wall, which serves as a dock line along the river. Sufficient space

is afforded between the building and the river front for a G.T.R. spur, which is used for bringing in coal and various supplies needed for the operation of the power plant, as well as the removal of ashes. The proximity of the river makes it possible for coal to be received and handled by boat in case this should be found desirable. The power plant building covers a ground area approximately 100 ft. square. The building is divided longitudinally by a fire wall separating the boiler from the turbine rooms. In the front elevation, the height of the brick work above the water table is about 36 ft., the water table being about  $2\frac{1}{2}$  ft. above the grade on the front side of the building. As the building is located on the side of a hill flanking the river, the ground line falls away rapidly alongside of the building until the grade line of the dock is reached, which is maintained for all entrances at the rear, this being 24 ft. below the street



INTERIOR OF ST. CLAIR TUNNEL.



## Extraordinary Work Accomplished by "MARION" Steam Shovels ON PANAMA CANAL

The Following is Taken from the Canal Record, August 26, 1908:

### Steam Shovel Records in July.

Steam Shovels Nos. 256 and 262 at work in Culebra cut surpassed all excavation records made since beginning of American control, by taking out respectively 54,927 cubic yards and 53,440 cubic yards of material during 26 days in July. Other high records made in July follow:

Tabernilla District, No. 254—	37,974 yds.
Gorgona " " 256—	54,927 "
Empire " " 262—	53,440 "
Culebra " " 263—	42,690 "
Pedro Migul " " 257—	33,035 "
Pacific " " 258—	32,480 "

The above six highest records, made in six separate divisions, were all made with MARION MODEL 91 Shovels.

### Canal Record of Sept. 9, 1908.

Steam Shovel No. 256, at work at Matachin, surpassed all excavation records made since the beginning of American control, by taking out 55,419 cubic yards of material in 25 days in August.

Shovel No. 263, working in Culebra cut, has the second high record for the month, having excavated 32,979 cubic yards in Culebra district in 16 days, and 12,786 cubic yards in Empire district in 10 days, a total of 45,765 cubic yds. of material in 26 days.

The above facts prove that the MARION Shovels are the best on the market for all classes of work.

### The New York Sun of Sept. 21, Contains the Following which Refers to Three of the Marion Shovels, Model 91, at Work on the Isthmus:

WASHINGTON, Sept. 20.—Steam Shovel No. 256, working on the Panama Canal at Matachin, according to advices received at the Washington offices of the Canal Commission, is the champion of the Isthmus. In making the dirt fly it recently surpassed all previous records since the American Government took charge of the canal work by excavating 55,419 cubic yards of earth and rock during the 25 working days in last month.

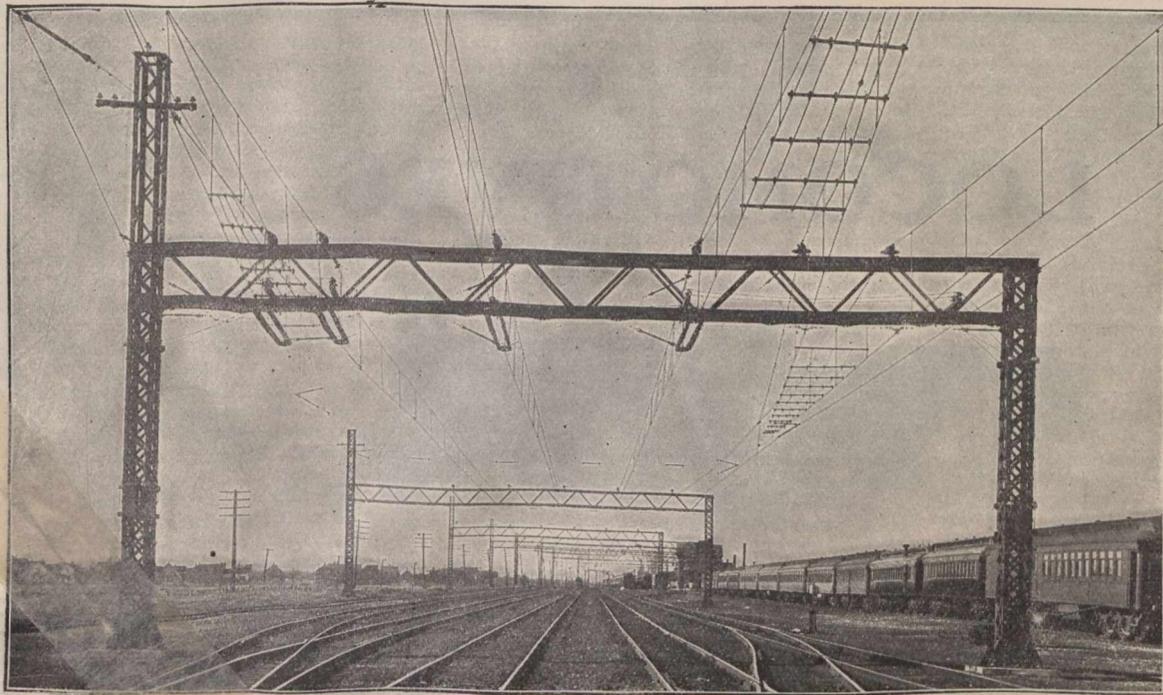
Shovel No. 263 in Culebra cut has the second high record for the month, having excavated 32,979 cubic yards in Culebra district in 16 days, and 12,786 cubic yards in the Empire district in 10 days, a total of 45,765 cubic yards of material in 26 days.

Shovel No. 255, at work at San Pablo, broke all records in that division, by excavating 22,028 cubic yards of earth, and 20,333 cubic yards of rock, a total of 42,361 cubic yards for the 26 days.

# F. H. Hopkins & Co

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# Montreal



OVERHEAD WORK, ST. CLAIR TUNNEL, TERMINALS.

level. The foundation up to the water table is constructed of mass concrete; the building superstructure is of steel and massive paving brick of dark brown color. The building trimmings are of cut stone and concrete. The general design of the building is along simple massive lines and presents, upon completion, a very attractive appearance.

The foundation footings for the building were carried down at all points into the clay, which is found underlying all of the surface soil in the vicinity. They were designed for bearing pressure of two tons per sq. ft. All of the column footings supporting the coal bunkers, as well as the footing underneath the stack, receive additional support in the way of piling, the location on the river bank making it advisable to take this additional precaution. The self-supporting steel structure is carried on concrete foundation walls

and footings. The steel work carries not only the reinforced cinder concrete roof, but in the turbine room the runway for the traveling crane, and in the boiler room the reinforced concrete coal bunkers. The brick building walls are also carried on the concrete foundations, and are built about the steel columns. The walls are finished at the top with a parapet capped with concrete coping. The wood work used in finishing the interior of the offices and turbine room is of mission oak.

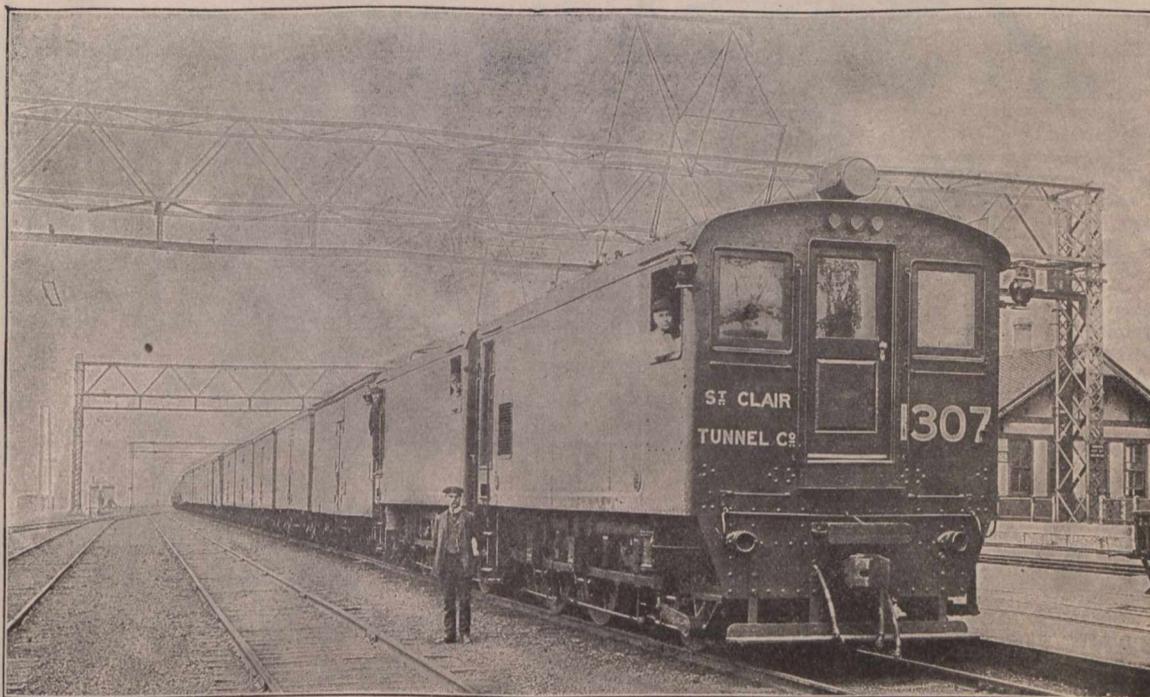
The roof is constructed of cinder concrete overlaid with composition roofing. Drainage downspouts are taken down through the interior of the building and discharge into the sewer system.

The interior of the engine and boiler rooms are lined with pressed brick of a light grey color. In the turbine room a wainscoting 8

ft. in height of white enamelled brick is carried around the room, in which the brick wall surface is exposed, the front side of the turbine room being given up entirely to the switchboard, the glazed partitions separating the officers' and employes' room, the turbine room and the entrance hallways. All floors are concrete, the building being practically fireproof throughout. The light color of the brick, together with the light grey paint applied to the roof trusses and ceilings, tends to materially enhance the ample natural lighting which is provided for the building by means of a large window area.

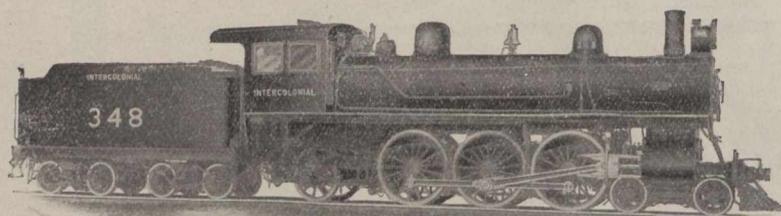
The general artificial illumination in the building is taken care of by means of Nernst lamps, eight of which are provided for the illumination of the turbine room, these being suspended from the lower chords of the roof trusses, and two for the boiler room. In addition, nearly 200 incandescent lamps are used for illumination in various parts of the plant. Wall brackets of design to harmonize with the interior finish are used in the turbine room. Chandeliers, wall brackets, and ceiling globes are provided for the lighting in the offices and hallways. Four incandescent lamp clusters are mounted on cast iron pedestals on either side of the two front entrances of the building. Hooded lamps are installed over all side entrances, as well as over the coal-receiving hopper at the rear of the building. All passageways behind and above the boilers, along the pipe lines, as well as those leading to and over the coal bunkers, are well lighted, the lights being controlled by switches located at convenient points.

The water supply for the power house use in the power plant is furnished by a service pump and drawn either from the city water mains or from the St. Clair River, as desired. Toilets and lavatories have been installed in connection with the engineer's office and in the turbine room on the basement floor, in the latter of which a shower bath with hot and cold water has been provided for the use of the employes. The necessary heating in the offices has been taken care of by radiators receiving their steam supply from auxiliary header of the power plant. A sewer system has been installed in connection with the building, and connections have been made to fittings in the toilet rooms and to traps installed at various points in the basement floors, as well as to the downspouts, this latter to take the run-off from the roof



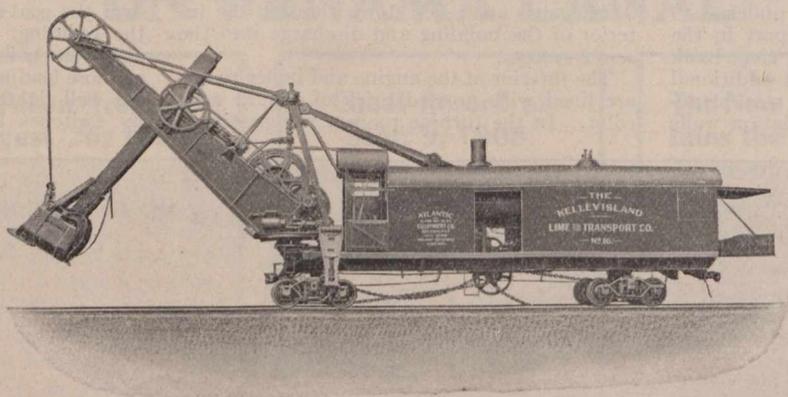
ST. CLAIR TUNNEL ELECTRIC LOCOMOTIVE IN TERMINAL YARDS.

# LOCOMOTIVES



Pacific Type Passenger Locomotive built for the Intercolonial Railway. Total weight of engine, 194,500 pounds. Weight on driving wheels, 132,000 pounds; diameter of driving wheels, 72 inches. Boiler pressure, 200 pounds. Maximum tractive power, 29,200 pounds.

# STEAM SHOVELS



A high-class and powerful machine, absolutely reliable under all conditions of service.

---

**MONTREAL LOCOMOTIVE WORKS, LTD.**

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Coal is delivered to the plant in hopper cars, which are run over a wooden trestle leading above the receiving hopper, into which it is dumped by gravity. The coal-receiving hopper feeds directly into the crusher, which has a capacity of about 30 tons an hour, and which acts at the same time as a feeder, delivering the coal at a uniform rate to the vertical bucket elevator extending to the top of the building. From the vertical elevator the coal is fed by chutes on to a conveyor belt, from which it is discharged by an automatic tripper arranged to deliver the coal at any point above the bunkers. Slow speed induction motors of the squirrel cage type drive the coal handling apparatus, a 20 h.p. motor being used in the crusher and a 10 h.p. motor installed in the pent house at the top of the building for the operation of the elevator and conveyor. The coal bunkers are constructed of reinforced concrete resting on the steel building columns. The space occupied by them, located in front of and above the boilers, is separated entirely from the boiler room by metal lath partition, thus practically insuring the exclusion of coal dust from the boiler room. In a similar way the coal crusher pit and the coal elevating mechanism are enclosed as completely as possible. Coal for firing purposes is drawn directly from the bunkers, through sheet metal chutes, into the stoker hoppers, which are located in front of the boilers. The ashes are drawn from the grates of the boiler furnaces on to the boiler room floor, where clinkers are broken and delivered through a coarse grating into the ash hoppers which are suspended underneath the floor. From the hoppers they fall by gravity through ash grates into the push cars, and are dumped into an ash chute connecting with the coal elevator. The elevator, when handling ashes, discharges into a spout leading to a small ash bunker at the end of the building. From this bunker they can be delivered by gravity into cars alongside the power plant.

Underfeed stokers are installed in the plant, six being used for each battery of two boilers, making a total equipment of twelve stokers. Forced draft is supplied for each battery by a steel plate fan 11 ft. in diameter and 3 ft. 5 ins. wide, driven by 10 x 10 x 10 type B enclosed vertical engine directly connected to the fan shaft. These fans are located in the pit of the turbine room. By means of a special blast grate in the galvan-

ized iron duct leading from the fans to the boilers, either battery of stokers may be supplied from either of the fans. Each battery of stokers is controlled by an automatic regulator, which is driven from the shaft belted to the fan engines. Friction clutches on this shaft supply cross connection for driving either of the regulators from either engine. This driving mechanism, together with the galvanized iron ducts and gates, is suspended from the ceiling of the boiler room basement. On account of the very great variation in the load on the power plant, special precautions were necessary for the control of the fires under the boilers, in order to keep the steam pressure fairly constant. This is accomplished by means of the stoker equipment, which controls the fire automatically, both by regulating the air forced through the stokers and the rate of feeding of coal into the boiler furnaces. This regulation is accomplished by means of a regulating valve, which acts as a throttling valve on the fan engines. The potential piping leading from the regulator is connected to the main steam header between the superheater and the turbine. In case the pressure in the steam lines tends to drop, the regulating valve increases the supply of steam to the fan engine, thus at the same time increasing the amount of air supplied to the boilers, and the frequency of operation of the stockers. In case the boiler pressure tends to rise, the valve decreases the supply of steam to the fan engine, thus decreasing the amount of air and coal supplied to the furnaces. This apparatus is entirely automatic, and has been found to control the steam pressure very closely.

The boiler equipment consists of four 400 h.p. Babcock & Wilcox sectional water tube boilers arranged in two batteries of two each, each boiler having three drums 42 ins. in diameter and 23 ft. 4 ins. in length. This results in an unusually wide boiler, the tubes being arranged nine high and 21 wide, in order to secure quick steaming. This requirement is a necessary complement to the automatic stoker control referred to above. In addition the three drums provide storage for a large quantity of heated water available for quick steaming on any decrease in pressure. The boilers are designed to carry 200 lbs. steam pressure, each unit being equipped with two tandem connected 2½-in. blow-off valves, the necessary pressure gauges, water columns, check valves, high and low water lines and other fittings.

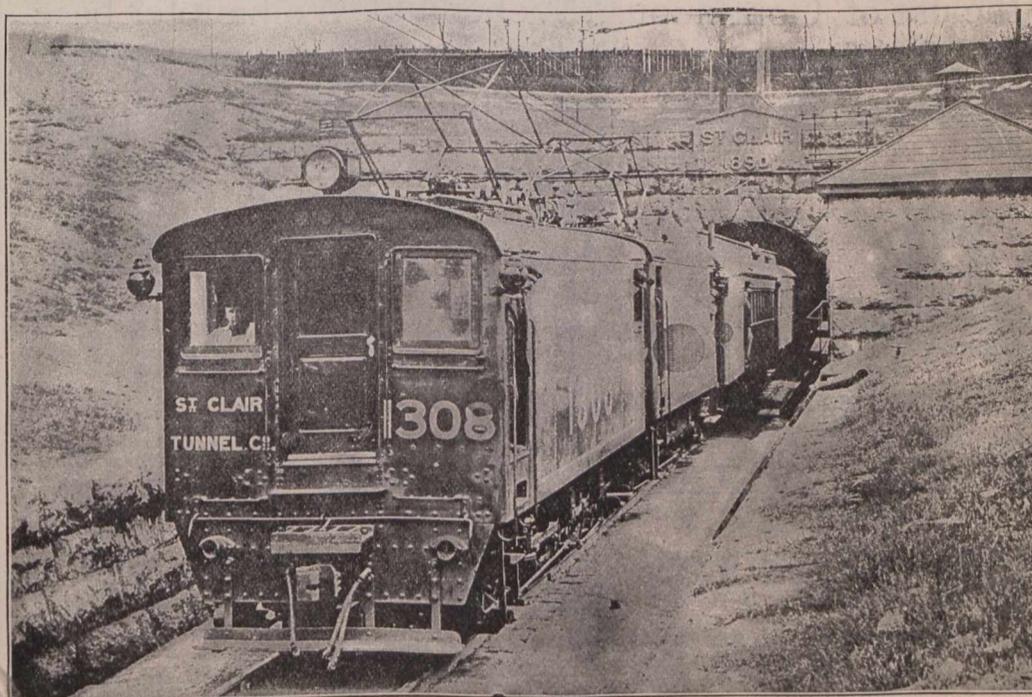
The smoke flue, located in the boiler room basement floor, is built of reinforced concrete. The boiler flues open directly down into the smoke flue, which in turn leads in a straight line through the south building wall to the reinforced concrete stack. The height of stack from the top of the smoke flue is 150 ft., or 162 ft. above the basement floor. The inner shell is of standard construction, and the outer shell, which is the same height as the building, has a square exterior, being faced with brick above the grade line to conform with the building construction. Lightning protection has been applied to the stack in the form of standard equipment.

The separately fired superheater is located between two batteries of boilers. The superheater has a capacity to add 200 degrees of superheat to 36,000 lbs. of steam per hour. The superheater is hand-fired, but requires very little additional attention, as it is provided with automatic temperature regulator, which, by admitting air either above or below the fires, serves to control the superheat within narrow limits, approximately 30°. The regulator consists of a thermal coupling installed in the superheater steam outlet, which in turn operates through a relay and solenoid on the by-pass valve of the hydraulic cylinder, the piston of which directly controls the dampers in the air ducts. The regulating device is so adjusted as to provide a superheat of about 100° under actual working conditions, and has been found in operation to very closely control the temperature of the steam, notwithstanding the great variation of load to which the power plant is subjected.

The steam is supplied by the boilers at 200 lbs. pressure, and is delivered through the system of high pressure piping either to the superheaters and thence to the turbines, or through by-pass connections directly to the turbines, steam separators being installed in the piping system adjacent to the latter. The long sweep bends connecting the boiler nozzles with the main header are of 6-in. extra heavy pipe. The short header connecting the two batteries of boilers, in which are located the valves leading to the superheater and turbines, is 8 ins. in diameter, while the lines from the header to the turbines are 7 ins. The fittings throughout are of mild steel, and designed for heavy pressure with superheated steam. All high pressure piping is provided with welded flanges. The necessary drips

have been supplied for the proper draining of the high pressure system. An auxiliary header 6 ins. in diameter, operated at 125 lbs., is installed along the boiler room wall at the rear of the boilers. From this header the steam supply is taken to all of the steam auxiliaries in the plant. The free exhaust piping from the back pressure relief valve is of 14-in. spiral riveted steel pipe, extending through the boiler room basement and thence up through the roof. The auxiliary exhaust is made of 8-in. pipe, supported in the boiler room along the fire wall, and receives the exhaust steam from the various auxiliaries in the plant. Steam is delivered by the header to either of the enclosed heaters installed in the boiler room just back of the superheater. A 12-in. oil separator is installed in the exhaust steam line just before it enters the feed water heater. Vertical water tube heaters, each of 700 h.p. capacity, are used. A 4-in. spiral riveted pipe for free exhaust leads from each heater up through the roof.

The condensing water is obtained from the St. Clair River, a concrete intake provided with structural steel grid and woven wire screen being installed along the dock line.



ELECTRIC LOCOMOTIVE AND PASSENGER TRAIN EMERGING FROM ST. CLAIR TUNNEL.

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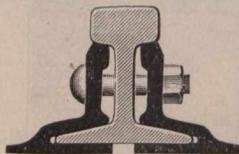
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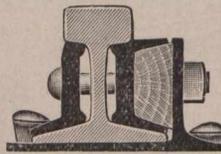
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Paris, 1900;  
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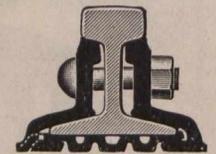
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Makers of Base-Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, and Insulating Rail Joints, protected by Patents in U.S., Canada and Mexico.

From the intake the water flows through an 18-in. tile to the cold wells located below the centrifugal circulating pumps in the pit of the turbine room basement. Water is delivered from each of these by the circulating pump through the condenser, and is discharged into the hot well below the condensers. From the hot wells the water flows through an 18-in. pipe into a sump under the boiler feed pumps. These pumps deliver the water through the feed water heater to the boilers. Excess water in the pumps is discharged through an 18-in. tile pipe emptying into the river. A 3-in. Worthington water meter is connected between each of the feed pumps and the heater. The city water supply is connected to each feed pump by a 3-in. tap. In addition, the suction of the feed pumps may be connected to the cold water intake, thus making three sources of supply for the boiler feed water.

Each battery of boilers is fed by a 12 x 6 x 10 duplex outside, end-packed Worthington boiler feed pump. In addition water is provided for various other purposes, such as cooling the lubricating oils in the turbines, supplying the glands of the turbines, for hose connections in and about the power plant, all of this being supplied by a small service pump, drawing supply from one of the cold wells. The discharge pressure on the water system supplied by this pump is maintained by a pressure-regulating valve at about 75 lbs. A connection containing a check valve is made from the city mains to this piping. In so far as the city pressure is carried at about 45 lbs., the entire water supply will be furnished normally by the service pump. In case, however, the service pump should fail to operate, the necessary water supply will be forced in from the city mains through the check valve.

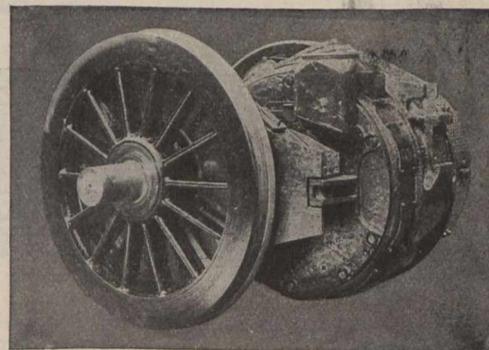
Two Westinghouse Parsons turbo-generators have been installed in the plant. The machines are designed to operate at a normal voltage of 3,300 volts, with a frequency of 25 cycles per second. They are 3-phase machines, but are further required by the specifications to furnish their full rated load of 1,250 kw. single-phase current. The turbines are approximately 37 ft. over all, 6 ft. wide, and

8 ft. high, and designed to operate at 1,500 r. p. m. The generators are cooled by means of air drawn through the coils by vanes installed on the rotor. A speed limit device is arranged to cut off the supply of steam in case the speed of the turbine exceeds a predetermined value.

Barometric jet condensers with 30-in. inlet have been installed in connection with each of the steam turbines. A 36-in. exhaust pipe connects the exhaust outlet of the turbine with reducing fitting attached to the condenser head. A 14-in. automatic relief valve is installed in connection with the exhaust fitting, and connected to the free exhaust piping. The cooling water for each condenser is furnished by a 10-in. volute pump driven by 7x9 vertical engine. The rotative straight line vacuum pumps, 8 x 6 x 12 in dimension, are supplied in connection with each condensing equipment. The dry vacuum pumps are located on the turbine room floor alongside the condensers, while the circulating pumps are located in the open pit in the turbine room basement, where they are in plain view from the turbine room floor.

Two steam-driven exciters have been installed in the plant, each of 25 kw. capacity, this being sufficient to provide excitation for a single turbine. In addition a motor-driven exciter of 40 kw. capacity is installed, and is ordinarily used in the operation of the plant, the two steam-driven exciters being for additional security so far as continuity of service is concerned. The generators of the steam-driven exciters are of the Westinghouse make, and are driven by Westinghouse vertical type engines. Both generator and motor of the motor-driven exciter are of Westinghouse manufacture, the motor being 3-phase, 3,300-volt, of the squirrel cage induction type.

The switchboard, also of Westinghouse make, contains 10 panels, and is made up as follows: One panel on which is mounted the regulator, the voltmeters, frequency meter, and synchroscope; two panels, one of which controls the two steam-driven exciters, the second of which controls the motor-driven exciter; one panel for the control of the current supply for power and light in the plant; two panels for the control of the two turbo-generators; one panel for the locomotive feeder; one for the pumping feeders; one for the power and light feeders; and one for the control of the arc light circuits. All of the high-voltage oil switches are located on structural steel frame work in the switch room directly behind the switchboard, no high-tension current being brought to the switchboard itself. Direct current at 125 volts is supplied for excitation, this being controlled from the main switchboard. The power plant lighting current is supplied as alternating current, through step-down transformers installed in a high tension compartment underneath the switchboard room, by means of which the 3,300-volt current is transformed to 110-volt for lighting distribution in the plant. By means of a special switch the lighting system can be transferred from the secondary of the transformer to the exciter bus bars. The switchboard panels are provided with standard apparatus, such as



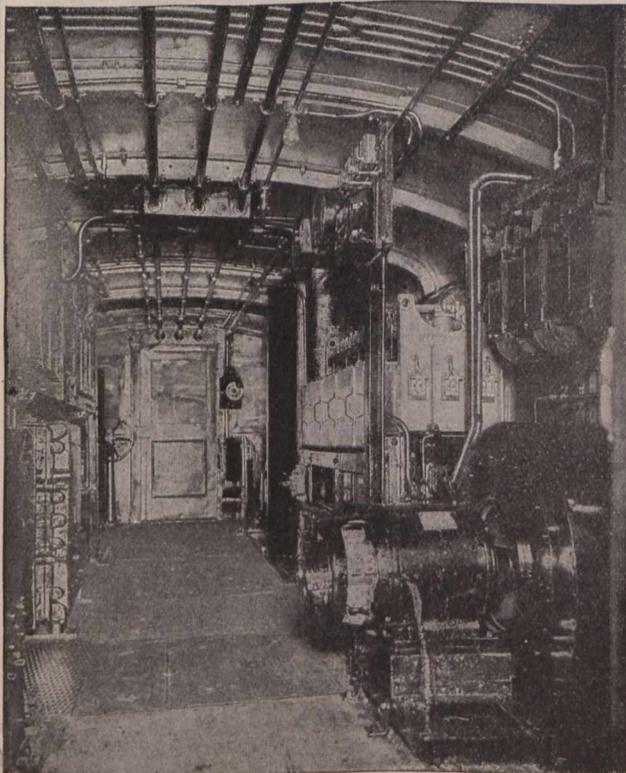
MOTOR AND DRIVING WHEELS, ELECTRIC LOCOMOTIVE, ST. CLAIR TUNNEL.

ammeters, voltmeters, and indicating wattmeters. Recording wattmeters have been installed as well, and so located as to measure the output of the plant required for the various kinds of service, namely, the locomotive service, pumping service, and lighting service. The voltage control of the generators is provided for by the installation of a Tirrill regulator, which controls the voltage of the locomotive phase. The lighting load is carried on this phase as well, and is thus free from the large voltage variations that are liable to occur on the other phases. The station for the operating engineer is directly in front of the switchboard, from which point all the electrical indicating instruments, as well as the switches used in the operation of the plant are accessible. On the opposite side of the turbine room, facing the switchboard, is a gauge board, on which are installed the various gauges, both indicating and recording, giving full information with regard to the operation of the boiler plant. This arrangement brings to the immediate view of the operating engineer all information necessary in actual running of the plant.

A hand-power travelling crane of 15 tons capacity is installed on runways in the turbine room, by means of which all parts of the equipment in the room can be conveniently handled.

**CONSTRUCTION AND OPERATION OF ELECTRIFIED SYSTEM.**—The entire electrical equipment has been in preliminary operation during the larger part of the year 1908. The work of construction was done without any material interference with the traffic through the tunnel. The greatest difficulty was experienced in carrying out that part of the installation located in the tunnel proper. For this purpose the tunnel was given over to the contractor for construction purposes for two 2-hour periods each day during the time that actual construction was in progress in the tunnel. The construction of the overhead work in the yards was carried out without any serious interference with the ordinary traffic of the road, and the power plant construction, being entirely removed from any of the properties operated by the tunnel company, was not subject to any interference on account of railway operation.

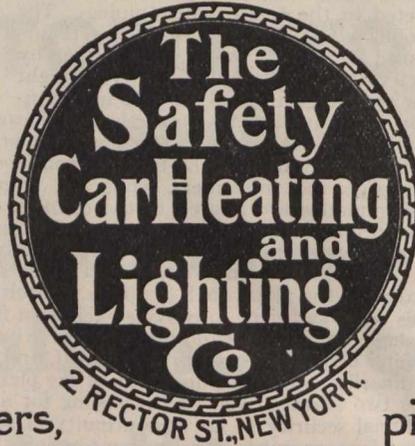
The problem of transferring the operation of the tunnel from steam to electricity gave rise to another problem which was successfully solved by the mutual co-operation of the representatives of the tunnel company and the contractor. No attempt was made to make a sudden transfer, but every precaution was taken, not only to thoroughly test out all electrical equipment before attempting to use it in regular service, but also to allow ample time in which to thoroughly familiarize all those connected with the operation of the equipment with their work. Steam locomotive engineers were trained in the use of the electric locomotives. The force required for maintenance of the locomotives and for maintenance and operation of the power plant were secured and assigned their



INTERIOR OF ELECTRIC LOCOMOTIVE, ST. CLAIR TUNNEL.

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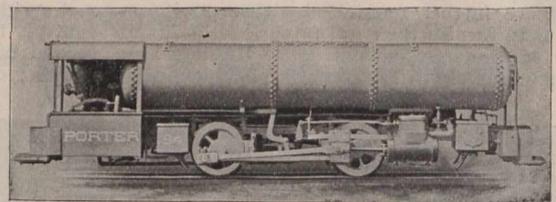
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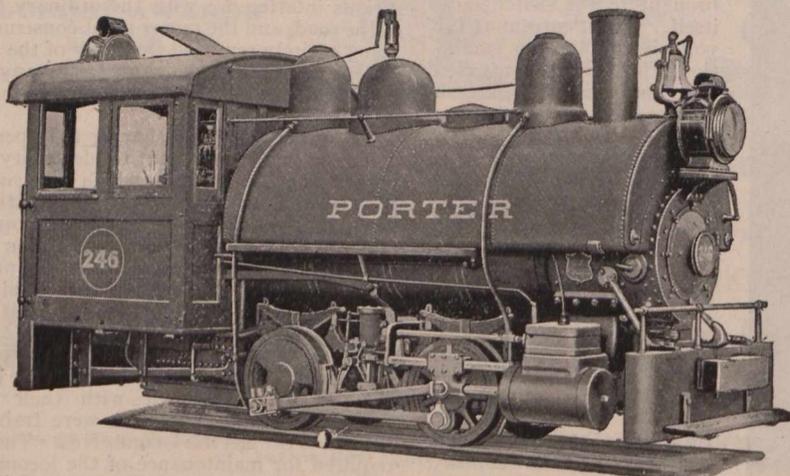
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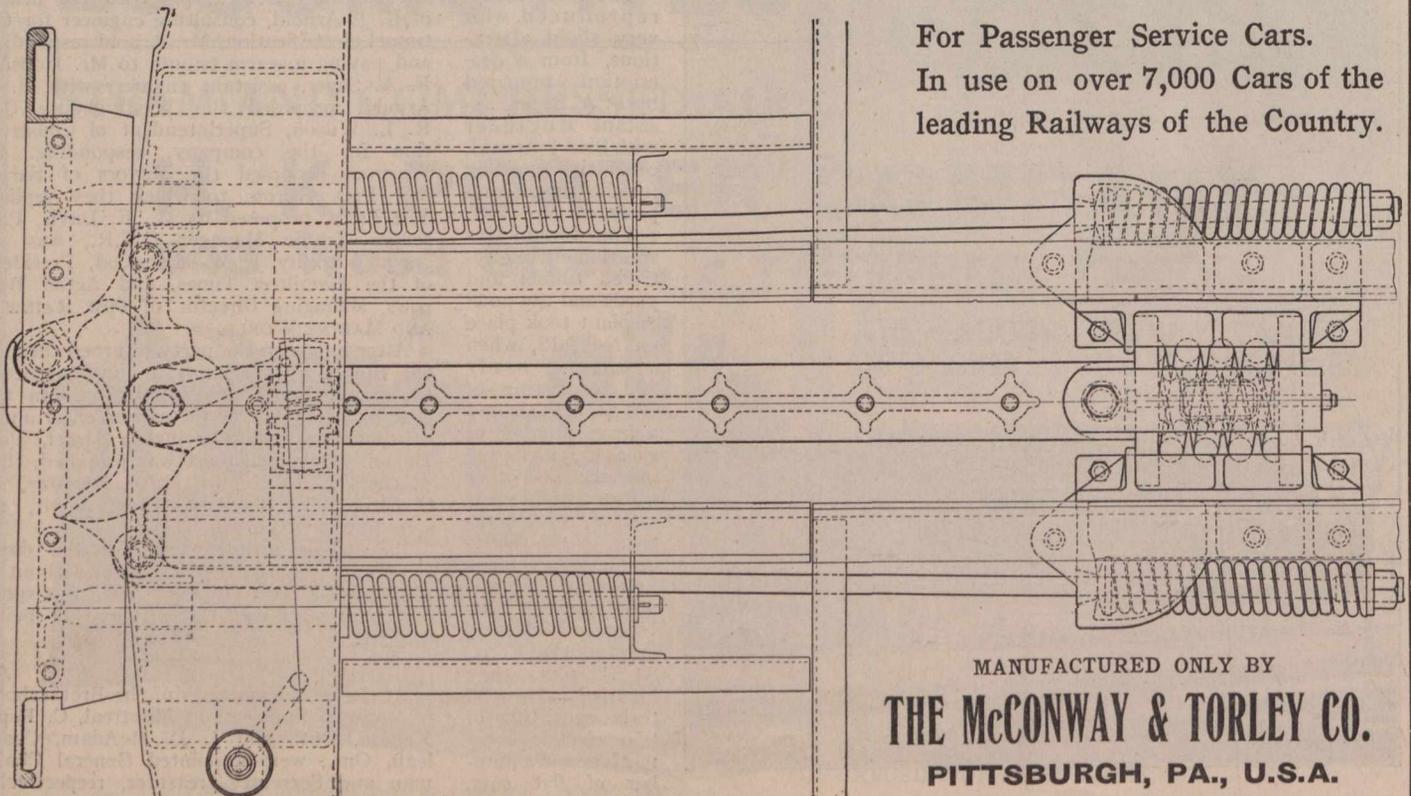
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### The Lord's Day Act in Ontario.

The Board of Railway Commissioners passed the following order 5492, Oct. 28:

"Upon the hearing of counsel for the G.T.R. Co., the Lord's Day Alliance, and the Rational Sunday League, the evidence adduced, and what was alleged; counsel for the C.P.R., the Canadian Northern, and the Pere Marquette Railway Companies, the Department of Railways and Canals, and the Attorney-General of Ontario being represented at the hearings—It is ordered that permission be, and it is hereby granted the Applicant Company, its servants, workmen, agents, or officers, in order to prevent undue delay, to unload grain from vessels at lake ports in Ontario and load grain into cars at such ports between Sept. 15 in any year and June 1 in the year following, upon the Lord's Day. Between the said dates do such work as may be necessary for the purpose of furnishing to and from such lake ports in Ontario a continuous railway service for carrying grain from elevators and vessels upon the Lord's Day. Perform all work necessary upon the Lord's Day for the delivery to their several destinations of freight cars that were in transit when the Lord's Day began. And it is further ordered that other railway companies subject to the jurisdiction of the Board, carrying grain from Ontario lake ports as aforesaid, be entitled to the same privileges as those granted herein to the G.T.R. Co."

Following is Chief Commissioner Mabec's judgment on which the order was based: This application is made by the Grand Trunk Railway Company under s.s. (x) of sec. 12 of the Act respecting the Lord's Day. Sec. 12 provides that notwithstanding the other provisions of the Act, any person may on the Lord's Day do any work of necessity or mercy. Then in following clauses a variety of matters are declared to be included in the expression "work of necessity or mercy." S.S. (h) is as follows:

"The continuance to their destination of trains and vessels in transit when the Lord's Day begins."

(k) "Work before six o'clock in the forenoon and after eight in the afternoon of yard crews in handling cars in railway yards."

(l) "... loading or unloading before 7 o'clock in the morning or after 8 o'clock in the afternoon "any grain, coal, or ore carrying vessel, after the "15th September."

(x) "Any work which the Board of Railway Commissioners for Canada, having regard to the "object of this Act and with the object of preventing undue delays, deems necessary to permit in "connection with the freight traffic of any railway."

What the railway company asks is as follows:

"The G.T.R. Co. hereby applies to the Board for an Order under sub-section (x) of section 3 of the Lord's Day Act, 6 Edward VII, Cap. 27th, as follows:

"1. Permitting the said Company, by its servants, workmen, and agents, in order to prevent undue delay to traffic, to do on any Sunday, in Ontario, work incidental to the continuance to their destination of cars in transit at the beginning of each Sunday, notwithstanding that the said cars forming part of any train so in transit may not have a common destination, but may require to be switched, shunted, or otherwise dealt with for the purpose of being sent on to their several destinations.

"2. Permitting the said Company to do, in Ontario, such work upon any Sunday as may be necessary for the purpose of furnishing to shippers of live stock, a continuous railway service, without which such persons would be unduly hampered and delayed in their said business.

"3. Permitting the said Company to do, in Ontario, such work upon any Sunday as may be necessary for the purpose of furnishing to and from lake ports, a continuous railway service for carrying grain from elevators and vessels, and without which service such traffic would be unduly delayed.

"4. Permitting, in the unloading of grain from vessels at lake ports, and the loading of grain into cars at such ports, and without which service such traffic would be unduly delayed."

This whole subject received most careful consideration by Parliament, and the Act as it stands is the result of compromises made by those holding divergent views upon the subject matter of the legislation, and any encroachment upon its prohibi-

tions can be permitted only for the gravest and plainest reasons. The Board's jurisdiction arises only in connection with the movement of freight traffic; and as to that it is limited to such classes of work as it deems necessary to permit with the object of preventing "undue delay"; and in exercising jurisdiction, the Board is bound to have regard to the object of the Act. Of course the object of the Act is well known, and with its general intention of providing for a day of rest in every week all must be in entire sympathy; and in dealing with this application, this must be kept steadily in view. Parliament dealt very exhaustively with this vexed subject, and the statute was the result of much discussion and contention; a very large section of the community looks with a jealous eye upon the Act, and will regard with much concern any order that may be made enlarging its provisions and extending exceptions to its prohibitions. However, in the view I take, the railway companies cannot, under the Act or any order this Board may make, be left in any way masters of the situation, and may be called upon to justify any movement of freight that the order I think them entitled to may cover. In other words, the burden will be upon them to satisfy the court that the particular movement was necessary to prevent "undue delay," which in each individual case must be a question for the tribunal before which a prosecution may be launched. So, although Parliament has conferred certain powers upon this Board, the result of the section is, I think, that those who interest themselves in the enforcement of the Act may call the companies to account for anything done by them as a result of this application, and so control may be retained and no abuse made of privileges granted by the Board, even if such should be attempted.

Perhaps the most serious feature of this application is that referring to the grain trade. The development of this traffic has likewise received the most careful attention in Parliament, and millions of public and private money have been invested in its development—in the deepening and improvement of harbors, the enlargement of ships, the construction of canals, elevators, and lighthouses, the enlargement and extension of railway terminals, eliminating curves and lowering gradients—much of which has been compulsory by reason of the keen competition of the U.S. carriers. Along the U.S. lines, there are no Lord's Day laws to interfere with or temporarily check the flow. A continual struggle for this carrying trade exists between the routes through Ontario and those through U.S. channels. There may be some extremists who would prefer that this trade through Ontario gateways should be crippled rather than permit it to continue upon the Lord's Day; but I am mistaken in my estimate of the Christian people of the Province if there is not a very large majority that would make reasonable concessions to avoid undue interference with this traffic, were they satisfied of the existence of the facts that made such course reasonable. Now, under the Act as it stands, trains and vessels in transit when the Lord's Day begins, carrying grain, may continue to their destination; and after Sept. 15 in each year grain vessels may be loaded or unloaded before 7 a.m. or after 8 p.m. upon the Lord's Day; but it is said that this carrying trade cannot be retained for Canadian carriers if these limitations are to be strictly observed.

Turning now to the evidence given upon the hearing—Mr. Tiffin, Superintendent of the G.T.R. Northern Division, has under his control the ports of Midland, Collingwood, and Meaford; he says that in order to take care of the grain and by prompt movement protect the Canadian route, it

is absolutely necessary to move empty cars upon the Lord's Day to release the vessels; that these latter must be loaded promptly, that they may return for other loads, and that if this is not done the vessel owners will carry to U.S. ports where they obtain a continuous service; that this would mean to the vessel owner a trip or two more in the season than to Canadian ports. The time of arrival of these vessels cannot be fixed, owing to weather and other conditions, and that he has seen on Sundays two vessels at Meaford, four at Collingwood, and six or eight at Midland—all waiting to be unloaded. This grain all passes through the elevators, and only one vessel can unload at a time at each elevator. The cars for this grain have to come to the ports empty; and when the elevator is full, the empties are required to receive the grain through the elevator from the ship, or unloading must stop. This grain comes from Port Arthur, Duluth, Chicago, and Fort William; and Mr. Tiffin says that at times they have been unable to handle this traffic even by working seven days a week; and that to prevent undue delay, after Sept. 15 and for two months after the opening of navigation in the spring, it is necessary to haul the empty cars in train load lots through to the lake ports on the Lord's Day, load from the elevator, and start them to their destination.

Mr. Donaldson, Superintendent in charge of Depot Harbor, states that in years of good crops the railway has more grain to handle through that port than can be cared for by working seven days a week; that there are "tramp" vessels bringing grain to Depot Harbor that would go to U.S. ports, if they were impeded in unloading; their arrival cannot be timed, owing to fog, congested condition in the Sault Canal, and stormy weather; and that 14,000,000 bush. have been handled through Depot Harbor in one season. This is booked from Chicago, Milwaukee, Duluth, Fort William, and Port Arthur for sailings from Montreal by various steamships, in which space has been taken; and during the rush season it is absolutely necessary, in order to handle this traffic and preserve it over that route, to make movements upon the Lord's Day that are prohibited by the Act. A large amount of package freight from the New England States, New York, and Boston, also from Chicago and Milwaukee, passes through Depot Harbor. This is on the upper deck of the vessels and the grain below. The package freight has to be removed before the grain can be got at, and all this increases the difficulty connected with the unloading of grain vessels arriving at the week end. Mr. Donaldson says the competitive routes with his are those that run to Galveston, rail and ocean to Europe, and the lake ports to Buffalo and Toledo and other elevator points; the grain going via Buffalo continues whether Sunday intervenes or not; if that coming via the Canadian ports is held up for a day, a very serious handicap is put upon the Canadian carrier as against his U.S. competitor.

Mr. W. G. Brownlee, General Transportation Manager of the G.T.R., says that if they are prevented from taking empty cars to the lake ports on Sunday this season, his road will lose the carrying of 5,000,000 bush. of grain. While the mere money loss to a corporation not allowed to work its employees on the Sabbath may be of no moment, it seems to me the pecuniary loss to the G.T.R. by not being able to carry this grain is not the only thing for consideration. If it were, I should regard the evidence as of little value. If this grain cannot be carried by Canadian lines it will go through U.S. channels, and others will benefit at the expense of the country whose every effort has been put forth to acquire and

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# "BROWNHOLST"

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## The Brown Hoisting Machinery Co.

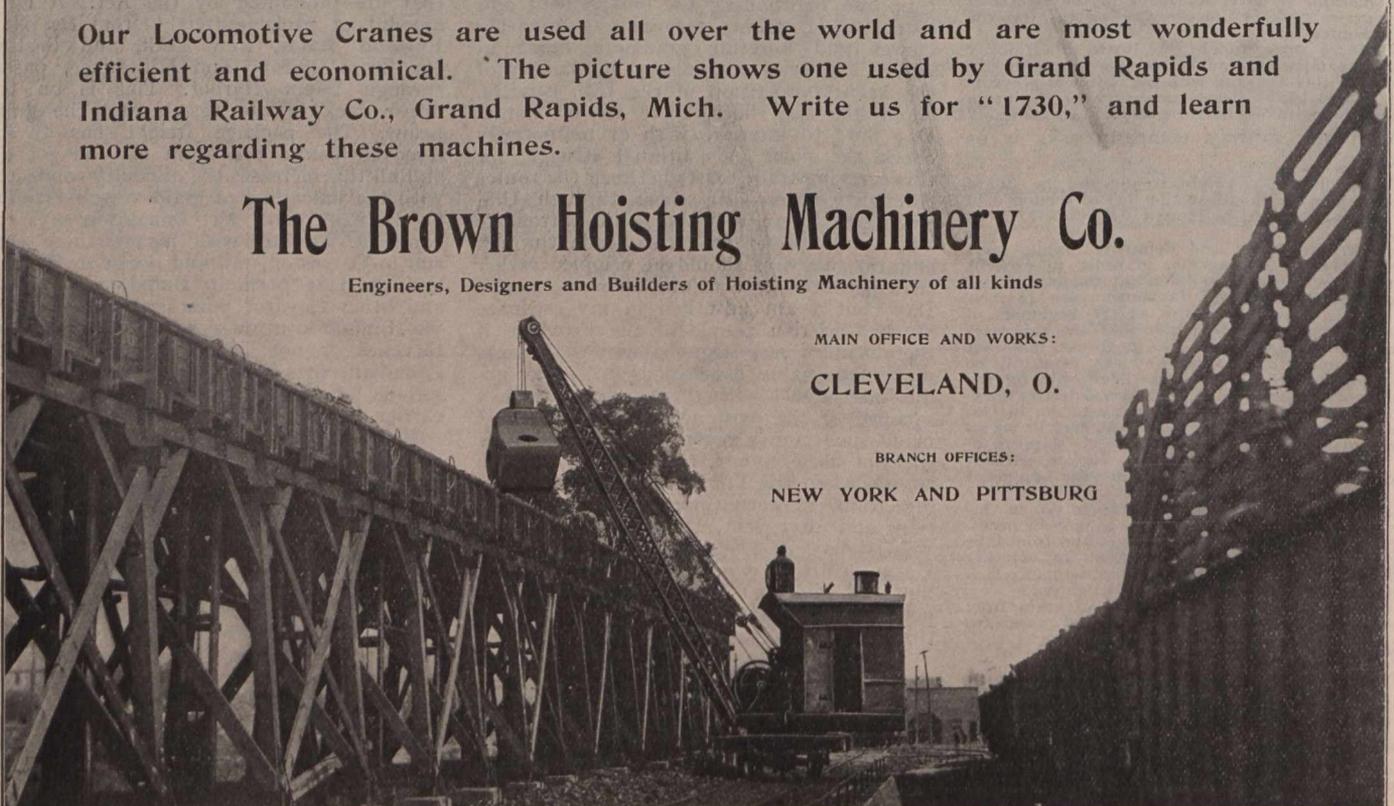
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CLEVELAND, O.

BRANCH OFFICES:

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hold this carrying trade; and so, instead of merely G.T.R. interests being involved, it is the larger question of the commerce of the country being at stake; and while I am not at all of the opinion that this is a reason for making a week-day of the Sabbath, I do think that some modification of the Act may be made so that this traffic may be retained, and yet that the minimum of Sunday work be permitted. The railways carrying grain from Georgian Bay ports are in competition not only with the U.S. railways, but also experience the keenest competition from the all-water routes, not only in the movement of eastbound grain, but in the westbound traffic. Depression in lake traffic has diverted many vessels from the upper lake carrying trade to the longer routes to St. Lawrence points or through to Montreal. The movement of this year's crop will tax to the utmost the capacity of the rail carriers from Georgian Bay points; and to place themselves in a position to compete with some degree of success with other routes, and obtain a share of this carrying trade, special tariffs were filed by them with the Board, becoming effective Sept. 4, reducing the wheat rate to 5c. per bushel from Georgian Bay points to Montreal. It is manifest from the conditions above indicated and others that exist, that some degree of freedom, consistent with reason, should be extended to the rail carrier from Georgian Bay points. Others beside those who stand for strict Sabbath observance in Ontario are concerned in this matter. Freight rates to ocean ports are of vital interest to the Western farmer, and any barrier along the route reflects upon the price obtainable by him for his wheat.

Again, Ontario is a mere link in the route to the seaboard, and under the Act, as it stands, vessels and trains in transit through Ontario, when the Lord's Day begins, may continue to their destination. Grain vessels may continue loading or unloading up to 7 a.m., and may again resume after 8 p.m., after Sept. 15, upon the Lord's Day. It is sworn and not contradicted that the grain carrying trade cannot be carried on if stopped between 7 a.m. and 8 p.m. (except where vessels and trains are in transit). It does not seem reasonable, in view of the vast interests involved both to the carrier and to the whole country, that this traffic should be destroyed by undue delay.

The railway company asks permission to furnish to shippers of live stock a continuous service, without which such persons would be unduly hampered in their business; but upon this branch no evidence was given by any live stock shippers; and the facts given upon the hearing do not justify the Board in interfering with existing conditions.

The next request is that in order to prevent undue delay to traffic certain shunting be permitted on the Lord's Day. Sub-section (h) of sec. 12 gives leave to continue to their destination "trains and vessels in transit when the Lord's Day begins, and work incidental thereto." The interpretation clause of the Act does not define the word "train." Sub-sec. 32 of sec. 2 of the Railway Act defines "train" as including any engine, locomotive, or other rolling stock. The applicants allege that great delay and loss will ensue if they are prohibited from continuing to their destination individual cars that may be in transit when the Lord's Day begins, and perform the work incidental thereto. Let a concrete case serve as an illustration: 20 cars of cattle leave Palmerston on Saturday evening, 15 for Montreal for export by steamer sailing on Monday, five cars for Toronto, where the train arrives at, say, 3 a.m. on Sunday. What was the destination of this "train?"

It is contended the railway employes cannot leave the five cars for Toronto when the train arrives there, and carry the other 15 to Montreal, but must either hold the whole train at that point or take the five Toronto cars on to Montreal. To leave the five cars, means breaking up the train, and this, it is said, cannot be done. It may be said that the Toronto cars should not have been attached to the train, and so the difficulty was caused by those responsible for making up the train. Perhaps had another freight train been leaving Palmerston for Toronto to which the five Toronto cattle cars might have been attached, "undue delay" in getting those cars to Toronto might have been avoided by not mixing the Toronto and Montreal cars; but suppose the Toronto cattle had to be there for Monday morning, and no other train that could carry them was leaving Palmerston on Saturday night, it is manifest these cattle must be taken by special train, making a prohibitive freight rate, or not reach Toronto for Monday morning. I do not think any harm will follow, or any encroachment be made upon the spirit or object of the Lord's Day Act by giving the company liberty to leave the five Toronto cars at their destination, and continue to Montreal with the other 15 cars. Suppose this case actually occurred, and the company was prosecuted, it would still have to establish that the whole movement was necessary in order to avoid "undue delay," not only dropping the Toronto cars at that point, but the making up of the train in this manner at the starting point. Illustrations might be multiplied, many of which would show how this privilege might be abused by the railways in bringing to, say, Mimico upon various trains from different points cars destined to Montreal, and there sorting out the latter and making up an entirely new train. If this is attempted, the courts must say whether it was necessary to prevent "undue delay"; and so I think full control is retained and prosecutions will be effective in preventing abuse of privileges granted by this Board, and care exercised by those responsible for the operation of railways will prevent the public sense from being offended by unnecessary movement of freight trains on the Lord's Day.

After outlining the order to be passed by the Board, the Chief Commissioner continued:

It may not be uninteresting to note that in a report made to the Board on June 9, 1908, by one of its officials in dealing with the question as to whether the G.T.R. had during the previous year furnished adequate and suitable accommodation for the carrying, unloading, and delivery of traffic offered for carriage upon its lines, the following paragraph appears:

"The effect upon the power of the Company to receive, carry, and deliver traffic without delay, in compliance with the provisions of the Lord's Day Act, will, in my opinion, mean a loss of 21% per week, or, in other words, the Company would move only 79% of its capacity during the week."

The I.C.R. employes have severed their connection with the International Brotherhood of Railway Employes, and have formed a Canadian organization on similar lines, with A. R. Mosher as President, and M. M. McLean Secretary-Treasurer, at Halifax, N.S.

At a recent meeting of the Quebec city council, on the question of introducing a by-law to prohibit the whistling by railway locomotives within the city limits, a letter was read from one of the Board of Railway Commissioners' solicitors, describing the protections at the various streets in the city crossed by the C.P.R., and informing the council that in the event of the passing of such a by-law, any further protections would be provided, but at the city's expense.

### Great Northern Ry. Lines in Canada.

The annual report of the President of the G.N.R. contains the following information relative to the lines in which the company is interested in Canada, and the lines in the U.S. connecting therewith:

**Brandon, Saskatchewan and Hudson's Bay Ry.**—During the year under review there was laid 0.43 mile of side track, or spurs.

**Midland Ry. of Manitoba.**—On Dec. 16, 1907, there was opened for traffic a line from Walhalla, N.D., to the International boundary near Haskett, Man., 5.34 miles; and from Haskett to Morden, Man., 15.25 miles. This latter line is a portion of the various lines authorized to be constructed in Manitoba by the Midland Ry. Co. of Manitoba.

**Crow's Nest Southern Ry.**—The extension of the line from Fernie to Michel, B.C., 20.98 miles, was substantially completed May 1, but had not been finally opened for operation when seriously damaged by the Fernie fire of Aug. 2, 1908.

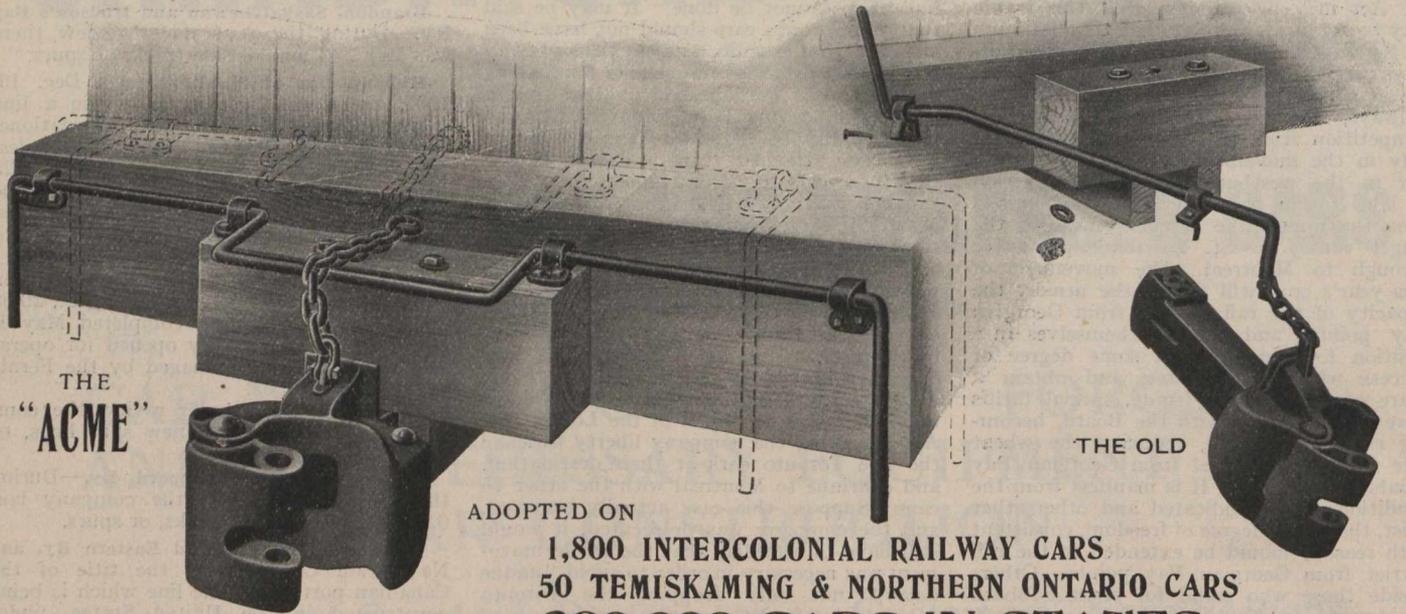
During the year under review the company laid 1.67 miles of new spur lines, or side tracks.

**Nelson and Fort Sheppard Ry.**—During the year under review the company laid 0.30 mile of new side tracks, or spurs.

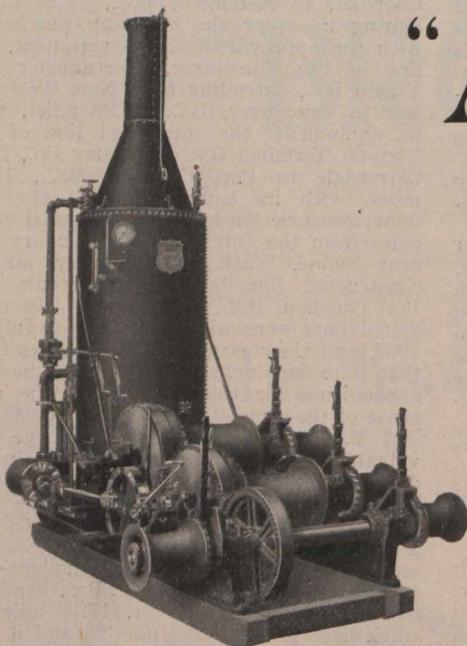
**Vancouver, Victoria and Eastern Ry. and Navigation Co.**—This is the title of the Canadian portion of the line which is being constructed in the United States, under the title of the Washington and Great Northern Rd., to give a direct connection between the G.N. Ry. and Vancouver. As the line crosses the International boundary at several points, the particulars respecting the two lines are included under the one heading: On Oct. 5, 1907, the line from Oroville, Wash., to the International boundary, 20.64 miles, was completed; as also was the line from the International boundary near Chopaka, to Keremeos, B.C., 18.20 miles. During the year the company purchased, with the approval of the Government, the line of the Vancouver, Westminster and Yukon Ry., extending from New Westminster to Vancouver, B.C., 17.28 miles, with its equipment; the completed line of the Victoria Terminal Ry. and Ferry Co., from Cloverdale to Port Guichon, B.C., 14.81 miles, with its equipment, and the line under construction by the last named company from the International boundary line near Blaine, Wash., to Mud Bay, on the constructed line between Cloverdale and Port Guichon, B.C., 11.32 miles. The completed lines were taken over as from July 1, 1907, and their earnings and expenses from that date are included in the income and expenditure for the past year. The purchase of the completed portion of the V., W. and Y. Ry. gives the company large and valuable terminals in Vancouver, including dockage on Burrard Inlet. The work of completing the line between Blaine and Mud Bay, and the line between Olivers and New Westminster, mentioned in the report for 1906-07 as being under construction by the V., W. and E. Ry., has been completed during the year, 17.13 miles of track having been laid June 30, and it was expected that the line would be completed by the time the report was issued. Work on the line between Cloverdale and Abbotsford, B.C., also mentioned in the previous report, has been continued, 5.75 miles of track having been laid to June 30, and the line was expected to be completed by Oct. 30. Grading on the extension from Keremeos to Princeton, B.C., 41 miles, is well along, and should be completed by the spring of 1909. This extension, when completed, will open up for development large coal fields and bodies of minerals. In order to properly use the V., W. and E. Ry.'s new

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**DOUBLE HANDLE CALLED FOR** "Where a coupler couples by impact, but cannot be uncoupled unless the brakeman or switchman goes between, or over, or under the cars, or around the end of the train, IN ORDER TO REACH THE APPLIANCE ON THE CONNECTING CAR, such a coupling is **DEFECTIVE AND PROHIBITED BY LAW.**"—*Judge McPherson, Des Moines, Iowa.*



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line between the International boundary and New Westminster, when completed, the Great Northern Ry. is constructing on a new location 2.96 miles of line between Blaine and the International boundary.

During the year under review the company laid 1.16 miles of new spur lines or side tracks. In connection with this the company's mileage will be decreased by 0.14 mile, owing to the difference between the New Westminster Southern Ry., which has been abandoned, and the new Blaine-Mud Bay line.

In connection with the work of construction in progress on this line, P. Welch, Spokane, Wash., one of the contractors, was quoted as saying Nov. 5: "The line has been completed as far as Keremeos, and late this fall trains will be running to Hedley, 25 miles further. As work will be continued all winter, we expect to reach Princeton in May. Then the task of building over the Hope Mountains into the Fraser River Valley will be undertaken, and rushed to completion with all possible speed. It is a task to get over the mountains, but I am informed that satisfactory gradients have been secured. Southern British Columbia will be the scene of unusual railway construction activity next spring. The President of the G.N.R. is desirous of rushing to a completion the through line between Vancouver and the Boundary district. There yet remains to be closed the gap between Similkameen and Sumas, where the line connects with the Northern Pacific Rd., but this will be finished within the coming year.

In connection with the above it may be mentioned that J. M. Gruber, General Manager G.N.R., was in Vancouver, B.C., recently, having arrived there from the interior of B.C. He stated that the company's line between Cloverdale and Sumas was practically completed, and that by the time the line through the Hope Mountains, which was the most difficult part of the construction work in hand, was completed, the construction of terminals in Vancouver would be also finished, so that everything would be ready for the handling of through traffic. The work of construction in the Boundary country was being steadily pushed, but it was expected that this would all be fully in hand in the spring. The section yet to be undertaken extends from Similkameen to Sumas.

On Nov. 7 J. J. Hill, Chairman of the Board of the G.N.R., was the principal guest at a dinner given by the Vancouver Board of Trade. In the course of a speech he said: "It is a real live question whether it would not be advisable for the G.N.R. to make the terminus of its Trans-Pacific traffic at Vancouver, B.C., rather than at present, at Seattle, Wash., in view of the adverse ruling of the Interstate Commerce Commission respecting advance publication of rates for railway haulage of export business, as well as in view of the unsatisfactory character of the U.S. navigation laws. If we should take action in the direction indicated, our big ocean liner, the Minnesota, would be given a British register. What I say respecting our own steamship applies to other U.S. vessels engaged in the Oriental trade. The present handicap is too great to allow us to compete on even terms with our rivals." (Nov., pg. 799.)

#### Telephones on the Canadian Pacific Ry.

The various large railway systems on this continent have found that the use of the telephone very largely facilitates the handling of traffic. The C.P.R. has adopted it considerably, and the following outline of that company's system will be of interest. For long distance service a combination is made by which the telephone is worked simultaneously on telegraph circuits—the

principal installation of this nature being the telephone circuit between Montreal and North Bay, Ont., 360 miles; one between North Bay and White River, Ont., 384 miles, and a third one to be installed next year between Fort William, Ont., and Winnipeg, 420 miles. These three circuits are operated on two through telegraph duplex circuits between Montreal and Winnipeg. Telephonic conversation can be carried on on each of the three circuits simultaneously with the exchange of four telegraph messages between Montreal and Winnipeg. Another installation of the same nature is between Medicine Hat and Calgary, Alta., 180 miles, which is worked on two telegraph duplex wires working between Calgary and Winnipeg. There are many shorter sections where the telephone is used in combination with the telegraph wires, for instance, between Montreal and Farnham, Que., Moose Jaw and Regina, Sask., and isolated points at which there is no telegraph operator located, and connecting such points with a nearby telegraph station. There are also a great many independent telephone circuits, for instance, one circuit connects together all the stations and general offices around the mountain at Montreal; independent telephone connection between the various ticket offices in Montreal and of the other cities. Practically the whole of the main line and a large part of the branches in British Columbia is traversed by independent telephone circuits connecting the various watchmen with each other and with telegraph stations. There is also a telephone circuit between Banff, Laggan, Lake Louise, Field and Emerald Lake. Last June the company put in operation a trial telephone circuit between Montreal and Farnham for the purpose of dispatching trains by telephone. This has proved such a complete success that the circuit has now been extended to Newport, Vt., and it is expected that various other circuits of this nature will be installed during the coming year, though we are advised that no arrangements have yet been made for telephony dispatching between Montreal and Fort William as reported in the daily press. On all the train dispatching circuits and long distance telephone circuits, whether composite with telegraph circuit or an independent telephone circuit, the company uses pairs of copper wires weighing 210 lbs. per mile each, these wires being transposed in their location on the poles every half mile.

As stated in a recent issue it is the intention to equip the trains between Montreal and Newport, Vt., with telephones.

#### December Birthdays.

Many happy returns of the day to—  
E. Alexander, Assistant Treasurer C.P.R., Montreal, born in Yorkshire, Eng., Dec. 8, 1862.

J. H. Barber, Engineering Department C.P.R., Montreal, Que., born at Cobourg, Ont., Dec. 20, 1856.

N. E. Brooks, C.P.R. Division Engineer, Calgary, Alta., born at Sherbrooke, Que., Dec. 25, 1866.

J. C. M. Buntzen, Director British Columbia Electric Ry. Co., Copenhagen, Denmark, born there Dec. 16, 1859.

T. C. Burpee, Engineer of Maintenance of Way, Intercolonial Ry., Moncton, N.B., born at Sheffield, N.B., Dec. 11, 1852.

W. W. Butler, 1st Vice-President Dominion Car and Foundry Co., Ltd., born at Danville, Ohio, Dec. 9, 1862.

M. M. Campbell, C.E., Inspector National Transcontinental Ry., St. Claire, Que., born in Scotland, Dec. 7, 1879.

Capt. G. C. Coles, of F. W. Churchill & Co., C.P.R. Ticket Agents, Collingwood, Ont.,

born at Biddlestone Rectory, Wiltshire, Eng., Dec. 15, 1859.

H. P. Dwight, President Great Northwestern Telegraph Co., Toronto, born at Belville, Jefferson Co., N.Y., Dec. 23, 1828.

R. Forget, M.P., President Richelieu and Ontario Navigation Co., Montreal, born at Terrebonne, Que., Dec. 10, 1861.

H. H. Gildersleeve, Manager Northern Navigation Co. of Ontario, Collingwood, born at Kingston, Ont., Dec. 15, 1865.

A. J. Gorrie, ex-General Superintendent Canadian Northern Quebec Ry., now Managing Director Geo. Hall Coal Co., Montreal, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

W. H. Grant, Manager of Construction, Mackenzie, Mann and Co.'s Eastern Lines, Toronto, born at Acton, Ont., Dec. 8, 1858.

F. P. Gutelius, General Superintendent Lake Superior Division, C.P.R., North Bay, Ont., born at Mifflinburg, Pa., Dec. 21, 1864.

D. B. Hanna, President Quebec and Lake St. John Ry., Third Vice-President Canadian Northern Ry., Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

S. P. Howard, General Freight Agent Eastern and Lake Superior Divisions C.P.R., Montreal, born there Dec. 30, 1865.

R. R. Jamieson, ex-General Superintendent Western Division, C.P.R., Calgary, Alta., born at Westover, Ont., Dec. 12, 1856.

B. B. Kelliher, Chief Engineer Grand Trunk Pacific Ry., Montreal, born in Ireland, Dec. 26, 1862.

W. Kennedy, Superintendent Motive Power Central Vermont Ry., St. Albans, Vt., born at Belleville, Ont., Dec. 23, 1869.

L. Macdonald, Division Freight Agent G.T.R., Toronto, born at Montreal, Dec. 10, 1871.

J. T. McGrath, Master Mechanic G.T.R., Battle Creek, Mich., born at Toronto, Dec. 6, 1869.

J. Niblock, Superintendent C.P.R., Calgary, Alta., born in York County, Ont., Dec. 21, 1849.

E. C. Oviatt, Travelling Passenger Agent C.P.R. and M., St. P. and S.S.M. Ry., Battle Creek, Mich., born at Hudson, Ohio, Dec. 3, 1852.

A. Price, General Superintendent Western Division, C.P.R., Calgary, Alta., born at Toronto, Dec. 6, 1861.

C. Schreiber, C.M.G., Consulting Engineer Department of Railways and Canals, Ottawa, Ont., born at Bradwell, Essex, Eng., Dec. 14, 1831.

F. P. Smith, Secretary Richelieu and Ontario Navigation Co., Montreal, born there, Dec. 23, 1873.

C. E. E. Ussher, Assistant Passenger Traffic Manager, C.P.R. Western Lines, Winnipeg, Man., born at Niagara Falls, Ont., Dec. 29, 1857.

H. H. Vaughan, Assistant to Vice-President C.P.R., Montreal, born at Forest Hill, Essex, Eng., Dec. 26, 1868.

W. Wood, locomotive foreman, C.P.R., Megantic, Que., born at Montreal, Dec. 6, 1863.

The Canadian Northern Quebec Ry. is being sued for \$22,140 damages, alleged to have been sustained by the Laurentide Paper Co. through the alleged wrongful damming of the St. Maurice River at Grand Mere, Que. In 1897 the railway company erected a bridge across the St. Maurice River at Grand Mere, a portion of which was subsequently destroyed, and rebuilt in 1904. It is claimed that in the re-erection, the space between the piers was not left open as before, and that the trellis work was extended across the river, on account of which the water was dammed and occasioned the closing of the Paper Co.'s works for several weeks in the spring. The plaintiffs also ask for the removal of the portion of the bridge not in accordance with the authorized plans.

# 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

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**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 —

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**G.T.R. Semi-Annual Meeting.**

At the half-yearly meeting of shareholders, held in London, Eng., Oct. 8, the President, Sir C. Rivers Wilson, in presenting the report for the half-year ended June 30, details of which were given in our Nov. issue, said: It has not often occurred during recent years that your directors have had to lay before you at the general meeting an unsatisfactory record, but we have lately been passing through a very trying period. Our company, like many other companies and many other industries, has been severely affected by the acute depression of trade and business of all descriptions which has prevailed throughout the continent of North America, and from which our own country and other European countries are also suffering such painful experiences. A retrospect of our operations during the last year must, therefore, be necessarily of a somewhat disappointing character. Disappointing, I say, but not discouraging, because I feel satisfied that the worst is over, and an examination of the accounts will show you the efforts which have been made, and I venture to think not unsuccessfully, to mitigate the evils from which we have been suffering.

The gross receipts for the half-year were £2,919,192, a decrease of 13.67%. The receipts from passenger traffic were £841,503, a decrease of £47,778, and the number of passengers carried was 4,800,036, a decrease of 135,980. The average fare received per passenger decreased from 43.24d. in 1907, to 42.07d. in 1908, per passenger. The receipts from mails and express traffic were £136,584, compared with £142,202 in 1907. The receipts from freight and live stock traffic were £1,854,408, a decrease of £417,540, and the tons of freight moved were 7,223,000, a decrease of 1,287,574, and the rate received per ton was 61.62d., a decrease of 2.45d. per ton. The miscellaneous receipts, on the other hand, were £86,697, compared with £77,828 in 1907. The decreases are, no doubt, very large, but it is some satisfaction to know that, at any rate, we have not suffered to such an extent as the majority of our neighbors. The receipts of the G.T.R. decreased to the extent of 13.67%, or, taking the whole system, to 13.52%, but I find that taking practically the whole of the railways in the U.S. and Canada—141 roads—the decrease in the receipts averaged 16.58%, and taking the 14 trunk lines, with which we more particularly come into competition, I find that the decrease was even greater, and amounted to no less than 18.16%.

The working expenses were £2,137,288, a decrease of £349,256, the proportion of the expenses to the receipts being 73.22%, a decrease of 0.32%. With regard to the proportion of expenses to the receipts, I find that the G.T.R. compares favorably with other railways, and whilst avoiding comparison with individual railways, it is only right to state that the ratio on the G.T.R. is less than the average rate on the whole of the railways on the North American continent, and considerably less than the average rate of the trunk lines, that is to say, the lines between Chicago and the seaboard, with which we are more particularly in competition. In most cases there was an increase in the percentage proportion, whereas in our case there was a slight decrease. I rather insist on these comparisons, because they afford a reasonable answer to the complaints which are frequently made as to the supposed extravagance of the management. The expenditure on maintenance of way and structures was £246,575, a decrease of £41,096. The decrease was practically spread over the whole of the items in the accounts, with the exception of the cost of clearing snow, which showed an increase of £4,370. The charge for maintenance of equipment was £387,520, a decrease of £265,-

765. Of this decrease, £109,838 was in respect of the maintenance of engines, and £155,927 in respect of the maintenance of cars. Owing to the considerable falling off in the traffic, and the consequent surplus of engines and cars, it had, of course, not been necessary to expend money on the maintenance of rolling stock not required, and the work in the shops has been materially reduced, not by discharging the men, but by placing them on short time, and, in addition, the charge in respect of the engines and car renewal account has been suspended, and in consequence, and owing to the deliveries of additional stock, that account has increased by £105,253, and is now £443,429, which is covered by the surplus of engines and cars shown. With the prospect of better times, owing to the good harvest and the improving condition of business generally, instructions have been given for the resumption of full time in the shops, so as to have the stock in efficient order to meet the requirements of the traffic. The expenditure under the head of conducting transportation was £1,368,954, showing a saving of £18,389. This reduction, which appears small in view of the reduction in the traffic, would have been greater but for the increased price of fuel used, which represented £21,000, and the increased rates of wages of practically all descriptions of employes, which came into operation at the close of the corresponding period of 1907. These alterations in wages are made in most cases for fixed periods, and recently, as the result of arbitrations under the Canadian labor law, and it is, therefore, impossible to make effective reductions immediately on any falling away of business; in fact, in this particular half-year the increased rates of pay have, to a considerable extent, neutralized the reductions we have been able to make in the number of employes and the reduction represented by the reduced train mileage. It must also be remembered that passenger trains must be run, although the number of passengers may be less, and that it is necessary to run additional trains in order to develop the business in various parts of the system. The general expenses showed a decrease of £24,359, and the taxes a slight increase of £353. The result of the working has been, therefore, that the decrease of £462,067 in the gross receipts has been reduced by the decrease of £349,256 in the working to a net decrease of £112,811, the net traffic receipts being £781,904, compared with £894,715 in 1907.

To sum up the question of expenditure. In the last half-year the management have been able to effect savings amounting to £350,000. This has not been done without great effort and much anxiety, and I think the shareholders will appreciate the work which has been done by the General Manager and his officers to meet the emergency. If we have been able to effect these large savings during this period of depression without in any way impairing the efficiency of the service, it has been owing to the large expenditure which has been incurred during the good times for putting the property into a thoroughly sound condition, an expenditure at which some of our shareholders have indulged in an occasional grumble, but of which we were convinced, when making it, we should feel the advantage when business became bad and traffics fell off, and this is what has actually happened. The net revenue credits were £123,767, which, added to the net traffic receipts of £781,904, make the total net revenue £905,671, of which £609,711 was absorbed in the payment of the interest on bonds and debenture stocks, leaving a surplus, as the result of the working of the G.T.R. proper, of £295,960; but from this there has to be deducted the deficiencies of £68,892 on the Canada Atlantic Ry., and £46,574 on the Detroit, Grand Haven and Milwaukee Ry., reducing the amount to £180,494, and adding to that

amount £6,754 brought forward from last year, we have £187,248 available for dividend. The actual expenditure on capital account was only £121,218. This is made up of £29,000 for new works, the most important being the reconstruction of our important works at Stratford; £89,000 on account of double track, almost all between St. Lambert, on the east end of the Victoria Bridge, and Ste. Rosalie, and a small balance representing a few land purchases.

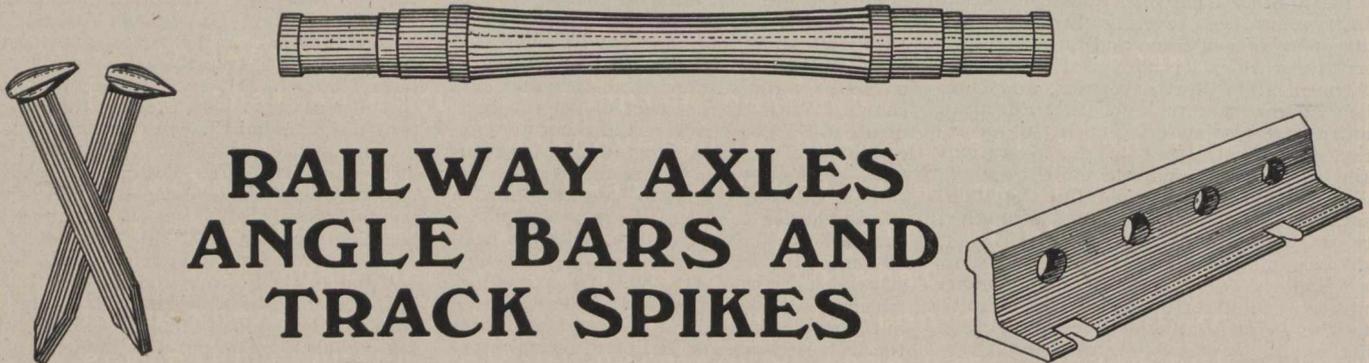
Our subsidiary companies naturally reflect the bad times upon which the parent company has fallen. The Canada Atlantic Ry., however, makes a rather better showing than last year. It is true that the gross revenue fell off by £15,791, but, on the other hand, the officers were able to reduce the expenditure £34,699, and the consequence is the net revenue deficiency about £19,000 less than last year. The G.T. Western Ry. shows a large falling off in revenue—the loss in gross revenue was £85,294, but the expenses have been reduced by £38,729; fortunately, we have received for excess rentals paid by the belt line to the Chicago and Western Indiana Rd.—one-fifth of which is held by the G.T. Western Ry.—something like £53,000, which has enabled us to put the finances of the G.T. Western for the year completely straight, enabling us to pay the full interest on the debentures and also on the income bonds. The Detroit, Grand Haven and Milwaukee Ry. shows a gross falling off of £22,000. The expenses have increased by £12,000, but that is owing to special circumstances, viz., the work of elevating the tracks in Detroit in common with other railways.

Of the G.T. Pacific Ry., I have to report that great progress has been made on our portion of the line, that is to say, between Winnipeg to the west and on the Lake Superior branch. The general conditions prevailing during the year have been much more favorable than during previous years since the actual starting of the work, owing to there being sufficient labor and its quality having improved. The general depression has also made it possible to secure more prompt delivery of the material which we require. The Lake Superior branch will be entirely completed next month, that is to say, the road which runs from Fort William up to Lake Superior Jct., where it joins the Government road, and when it is completed a great advantage will be gained immediately in the construction of the road from Winnipeg to Lake Superior Jct., by enabling the contractors to transport all their materials over this road. At Winnipeg, great progress has been made with the laying out of the yards and the preparation of the terminals. We occupy jointly with the C.N.R. 70 acres in the heart of Winnipeg. In the meantime, the road has been completed from Winnipeg west for 675 miles up to the Battle River, and trains are already running now between that point and Winnipeg. In the course of next month the bridge, it is expected, will be completed across the Battle River, and the road will be finished into Edmonton, another 118 miles, so that before the end of the year we anticipate that trains will be running regularly and carrying freight and passengers between Edmonton and Winnipeg. Westward of Edmonton there remain 123 miles to complete the Prairie section, which terminates at Wolf Creek. Progress is also being made upon the Mountain section to the town, I may call it at present, but it will some day be a great city, of Prince Rupert. Settlers are flocking into Prince Rupert. A large amount of equipment has been already supplied. Something like 7,000 freight cars have been delivered, and about 40 passenger cars, besides a large number of engines.

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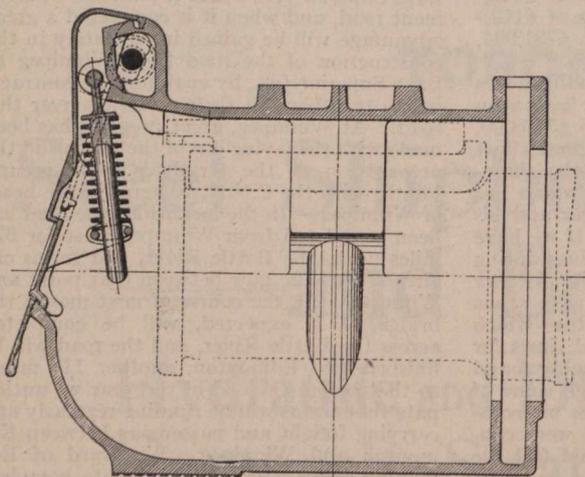


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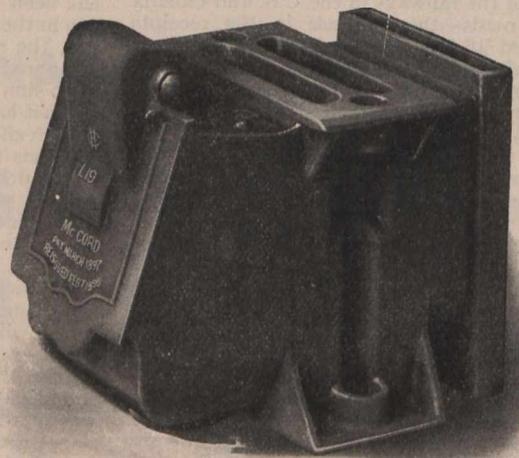
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most of you, I am equally sure, will appreciate the great difficulties they have to contend with; but, at the risk of being tedious—I for I have often spoken to you upon this subject before—I must again earnestly impress upon you that the conditions under which Canadian and U.S. railways are worked are becoming more onerous every year. The difficulties of combining with a due consideration for the requirements of the public a regard for the just claims of those who have provided the means by which these great undertakings have been created and maintained, are becoming more and more intense, and it is only proper that shareholders should understand and fairly weigh the various elements of the problem of handling a great railway in this and in other countries with efficiency and economy. Apart from the keen competition to which a railway is exposed—and which is wholesome alike in the interest of the railway and of the public it serves, but which, naturally, is in restraint of profit—apart also from the question of the continual increase in the price of materials, two great conflicting interests, hostile to the railways, are always at work. The manufacturers and shippers seek by every means in their power, and by the use of every influence they can command, to force down the rates for which the railway is to carry their goods and merchandise. On the other hand, the workers on the railway, of all classes, by means of their great labor combinations, bring tremendous pressure on the railway managers to increase their scale of remuneration. Each of these interests is in truth more powerful—as has been proved over and over again—than the greatest and most powerful of the railway companies. Nor, am I bound to say—and I speak alike of Canada and the U.S.—do the railways receive from Governments or municipalities the consideration and protection to which they are entitled, looking to the immense services which they render to the community. Whether it is a question of lowering the rate on a particular class of commodity, or yielding to the clamor of a particular class of employes, I do not hesitate to say that the sympathy of authorities is generally with the claimants and against the railway, and so concession after concession is extorted from the company, which, in the long run, renders the task of the management, in doing justice to the proprietors by earning for them only a moderate return on their capital, one of extreme and ever-increasing difficulty and anxiety. Of the two interests I have alluded to, I am inclined to think that it is the labor interest which is the less antagonistic, and the less injurious to the railways, and I am informed that there is actually a movement among the brotherhoods of railwaymen in the U.S. protesting against the tendency of the Interstate Commerce Commission to restrain the companies from increasing freight rates, even in times of distress such as those we have been lately encountering. Of course, their idea is to meet the objection of the companies that the lowness of rates renders it impossible for them to concede the demands of labor, but, anyhow, we should cordially welcome assistance from whatever quarter which would tend to relieve a portion of the burden now imposed upon us. An extremely small increase in the charge for transport rates, which would be hardly appreciable either to the producer or the consumer, would not only enormously facilitate the task of the railway managers and enable them to secure a more reasonable return on the capital invested, but would, I am convinced, tend to give an impetus and encouragement to business. There is no doubt that the disabilities under which U.S. and Canadian railways have been laboring have contributed to the recent disturbance of business. Crippled, as they have been, in their earning power, they have been obliged to suspend orders for rails, for ties, and general materials

of all sorts, the resumption of which—had they a freer hand as to the fixing of rates—would go far to relieve the present stagnation in some of the most important industries in the country. An interesting and instructive correspondence has recently been published between the Manufacturers' Association of New York, one of the most important corporations in America, and W. C. Brown, senior Vice-President of the New York Central Rd., in which these various considerations were urged with great force, remarkable ability, and abundant detail of illustration by Mr. Brown, whose excellent statement, however, was met by the Association with generalities, platitudes, and threats. His arguments were not answered, and his facts were not challenged. It is, however, satisfactory to know that the unfairness of the present state of things is attracting attention, and we can only hope that the efforts which are being made to obtain better treatment may meet with some success, alike in the interests of the railways and of the public in general.

I conclude, as I commenced, by asserting that our position is very far from being discouraging. There are already signs that the clouds are passing away, and that we have reason to anticipate an early resumption of good times and of good business. A fair indication of the progress and activity of railway business is afforded by an observation of the number of freight cars in active employment from time to time. At April 30 last, at the worst period of the depression, 8,336 freight cars were standing idle in G.T.R. yards. This number has now been gradually reduced, until at the last period of which I have notice—only a very few days ago—the number out of employment was reduced to 2,120. I think that is a satisfactory proof that business is reviving. Instead of an extremely deficient harvest, as was the case last year, the harvest of the present year is exceptionally abundant, with the result that not only will there be freight to be carried by the railways, but that money will come into the country to pay for the grain, which will give a stimulus to trade by increasing the spending power of the people. Then, as soon as the U.S. Presidential campaign is concluded—at the beginning of next month—one of the causes of the stagnation of business, which invariably accompanies these periodical political agitations, will cease; and finally, you will have observed that the decreases of our revenue returns have been sensibly diminishing for the last seven or eight weeks; and you will also remember, when you look at those returns, that they compare with the exceptionally high revenue returns of the very prosperous year of 1907. I think these various considerations will bring you to the conclusion, which I myself have arrived at, that there is every reason to be satisfied with our prospects.

The President then moved the adoption of the report, and that a dividend of 2% be paid on the 4% guaranteed stock. After a little criticism of the accounts, which was of a minor nature, the resolution was unanimously adopted.

The Court of Appeal has quashed the indictment against the C.P.R. and the G.T.R. in the reserve case stated by Judge Winchester from the September sessions at Toronto. The railway companies were indicted for negligence, which it was alleged resulted in the death of several people at the Bay St. crossing, May 24, 1907. The case was tried at the sessions, and the jury returned a verdict of guilty. A reserve case was stated, on the ground that the two corporations could not be jointly indicted, and because the matter was entirely within the jurisdiction of the Board of Railway Commissioners, whose consent had not been asked.

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

**Walkerton and Lucknow Ry.**—The Reeve of Tiverton, Ont., has received a letter from D. McNicoll, Vice-President C.P.R., stating that the Traffic Department's representatives would at once be sent over the route between Walkerton and Tiverton, to ascertain what business the country would provide. If the report was favorable, engineers would be sent out to locate a route.

**St. Mary's and Western Ontario Ry.**—Permission has been granted to the company to cross certain streets in St. Mary's, Ont., with a spur line to serve some industrial concerns.

**Komoka to Sarnia, Ont.**—D. McNicoll, Vice-President, denied, Nov. 9, the press reports that the company was about to construct a branch line from Komoka, on the Toronto-Windsor line, into Sarnia. This report has been in circulation in some form or other for the past five or six years.

The St. Mary's and Western Ontario Ry., which at present extends from St. Mary's to Embro, Ont., has been surveyed westerly through Parkhill and other points towards Sarnia, but at present nothing appears to have been decided in the way of construction.

**Fort William, Ont.**—W. Whyte, Second Vice-President, and several other officials, were in Fort William Nov. 4, in conference with the city council respecting a new agreement. The term of exemption from taxation under the existing agreement expires next year, and the object of the conference was to arrange terms for its removal. The city asks for the construction of a bridge across the Kaministikwia River; larger works, a new station, 300 ft. of river frontage easily accessible, in return for which a fixed taxation for a period of years would be given.

**Minneapolis, St. Paul and Sault Ste. Marie Ry.**—An officer of the company is quoted as saying that rapid progress is being made with construction on the branch line under construction from Brooten, Minn., north-easterly, via Superior, Wis., to Duluth, Minn., effecting a junction there with the Duluth, Lake Superior and Atlantic Ry. It is expected to have the grading completed to within 39 miles of Superior this season. Construction will be started, it is hoped, in the spring upon the yards and terminals. (Nov., pg. 781.)

**Winnipeg to the Coast Second Track, etc.**—With respect to the press despatch from Winnipeg, dated Oct. 16, quoted in our last issue, regarding the proposed double-tracking of the line westerly from Winnipeg, and the operation of trains in the Mountain section by electricity, it is understood that the company has not seriously contemplated the undertaking of the double-tracking of the line from Winnipeg through to the coast. The work is in the future, but it is not yet included in the company's programme of work to be immediately taken in hand. The question of the adoption of electricity as a motive power in the Mountain section is also in the future. In common with those of other railways on the continent, the C.P.R. officials are always on the lookout for new ideas which would reduce the cost of conducting transportation, but it is not yet considered that the development of electricity as a motive power on long stretches of line has reached such a stage as would warrant its adoption on such a line as the C.P.R. At any rate, we are advised, that the C.P.R. has not reached any decision as to the adoption of electricity as a motive power on its Mountain section.

**Central Division Betterments, etc.**—We are advised that during this year's construc-

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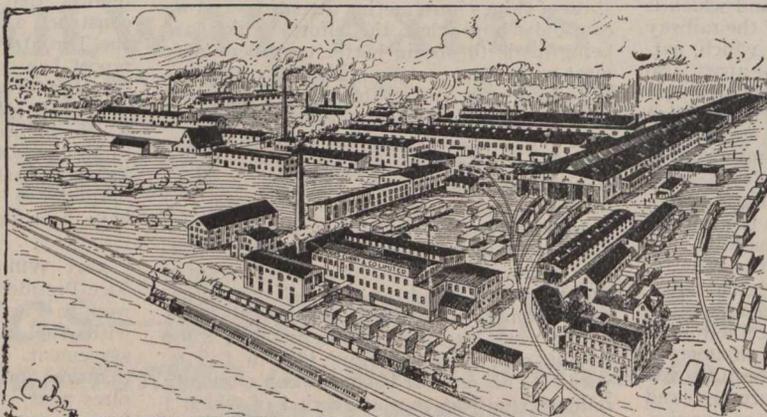
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tion season the following works have been started, progressed with, or completed:

Completion of double-track between Fort William and Winnipeg; completion of line from Strassburg, on the Kirkella branch, to Saskatoon; completion of grading from Saskatoon to Hardisty, and completion of tracklaying from Saskatoon to Wilkie; completion of Wolseley-Reston line; completion of line from Teulon to Komarno, 20 miles; construction of a line from Virden northerly for 10 miles; commencement of grading from a point 20 miles north of Teulon to the Icelandic River.

**BUILDINGS.**—New engine houses at Minnedosa and La Riviere, Man.

**ROADBED AND TRACK.**—Relaying Souris branch with 85-lb. steel.

**MISCELLANEOUS.**—Icehouse at Fort William, capacity 4,000 tons; installation of cable for operating coal cars at coal dock, Fort William; erection of Y.M.C.A. building at Kenora; experimental forestry farm at Springfield; new pumping station at Portage la Prairie; deep well to supply water to Winnipeg station and Royal Alexandra Hotel; new pipe line and water tank at Broadview; new stock yards at Neudorf; new pipe line for water supply at Reston; Hirsch and Oxbow; experimental tree planting at Wolseley.

**Kirkella Branch.**—The branch line which hitherto terminated at Strassburg, Sask., was opened for traffic to Lanigan Nov. 3, where connection is made with Saskatoon. The extension is 54.3 miles long, and is being operated on the Last Mountain section, which is now 148.7 miles long.

**Shops at Sutherland, Sask.**—Press reports state that the company proposes to lay out yards and build shops at Sutherland, Sask. Sutherland is a station on the line 3.6 miles easterly from Saskatoon.

**Western Division.**—We are advised that during this year's construction season works have been done on this division as follows:

Completion of line from Moose Jaw to Outlook; change of line between Lethbridge and Macleod; construction of steel viaduct over Belly River, 5,000 ft. long, 313 ft. high, and containing approximately 12,000 tons of metal; reducing grade from Swift Current to Pashley, on Medicine Hat section.

**TERMINALS.**—Enlarged Coleridge yard; new freight shed at Strathmore on the Calgary section; new station at Woodpecker; subways at First Street W., and Second Street E., Calgary; extension to terminal yards at Strathcona, Edmonton branch.

**BRIDGES.**—Replacing old bridges with steel spans on concrete abutments at the following points: 3.8, Moose Jaw section; 5.0, 11.8, 13.5, 98.2, 99.9, 102.2 and 105.5, Swift Current section; 30.1 (10 ft. concrete arch), 33.9, 35.8, 61.8, 61.5, 86.4, 118, Medicine Hat section. Substituting small pile bridge for concrete arch, and replacing cedar culverts with concrete pipes on the Calgary section.

**ROADBED AND TRACK.**—Ballasting and widening dump on the Calgary, Medicine Hat and Lethbridge sections; passing siding at Purple Springs; relaying Crow's Nest and Sirdar sections with 80-lb. steel.

**MISCELLANEOUS.**—New section houses on the Calgary section; drilling large well for water supply at Cummings; new pipe line and pumping station at Suffield; experimental tree planting at Gleichen and Herbert; new stock yards at Brooks; new icehouse at Strathcona; new bunk house at Red Deer; erection of cottages for employes on the Cranbrook section; new pipe line and tank for water supply at Frank.

**Moose Jaw to Conan.**—The branch line from Moose Jaw, Sask., which is under construction, to a junction with the Lacombe branch of the Calgary and Edmonton Ry.,

was opened for traffic Nov. 3, to Conan, 91 miles. The stations on the line are: Belbeck, mileage 8.1; Tuxford, 15.2; Marquis, 22; Keeler, 30.5; Eyebrow, 44.8; Tugaski, 52.8; Bridgeford, 60; Artkow, 67.5; Elbow, 76; Loneburn, 84; Conan, 91.

**Edmonton Northerly.**—We are advised that the reports from Edmonton, quoted in our last issue, that the C.P.R. was massing construction outfits and material north of that city to start construction upon a line to the Peace River, are erroneous.

**Electricity on the Mountain Section.**—A Montreal dispatch Nov. 13 says: "The revision of plans for the electrification of the C.P.R. lines in the mining districts of southern British Columbia will be completed in a few days, and it is anticipated that before very long the work of changing from steam to electricity as motive power will be inaugurated."

In reference to the foregoing we are officially advised that no change has been decided on in connection with the motive power on the company's Southern B.C. lines. Of course the management is always looking into these matters, but there is no foundation for the report that the company contemplates the electrification of its lines in the territory mentioned in the immediate future.

**Fernie Station.**—A contract is reported to have been let to C. J. Digby, Fernie, B.C., for the erection of a new station and freight sheds at Fernie, B.C. The freight sheds, it is said, will be completed during Dec., but the new station will not be completed until the spring of 1909.

**Pacific Division.**—We are advised that during this year's construction season work has been done on this division as follows:

Changing grade between Field and Hector, reducing the gradient from 4.5% to 2.2% compensated; completion of line from Wellington to Alberni (Esquimalt and Nanaimo Ry.)

**TERMINALS.**—New fire heating system for engine houses at Revelstoke and Field; building new fire hall at Vancouver; extensions to freight shed at Vancouver.

**BRIDGES.**—Replacing old bridges with steel spans at the following points: 65.6, 73.1, 108.4 on the Laggan section; 94.8, 107.83, 108.1, 115.4, 121.3, 132.5 and 144.4 on the Cranbrook section; 77.5 on the Sirdar section; 179.4, 108.4, and 137.3, on the Mountain section; 93.9 on the Shuswap section; 1.2 on the Revelstoke and Arrow Lake branch; 26.4 on the Slovan section; 41.8 on the Boundary section. Replacing the present Howe truss spans and wooden piers over the Fraser River with steel span costing \$250,000; replacing the present Howe truss spans and trestle approach at bridge 36.4, Boundary section, with steel viaduct, cost \$85,000. Also the following on the Esquimalt and Nanaimo Ry.: 29.8, 35.6, 39.3, 47.9, and 65.1, and replacing all wooden box culverts on the line.

**ROADBED AND TRACK.**—New outfit spur on the Cascade and Thompson sections; relining tunnel 104.4 Thompson section with concrete.

**MISCELLANEOUS.**—New pipe lines and pumping stations at Roger's Pass, Ross Peak, Illicillewaet, and Enderby.

**Nicola, Kamloops and Similkameen Ry.**—A survey has just been completed by H. E. Carrey, of a route for the extension of this line now in operation between Spences Bridge and Nicola, to Penticton, B.C. Mr. Carrey has been in the field since April, and he has located a line of 160 miles between the two points. It is stated that excellent gradients have been secured. The route lies through the Similkameen Valley and into the Okanagan Valley, where it skirts the town of Summerland and on to Penticton. The report and plans are being pre-

pared for submission to headquarters. It is reported to be the ultimate intention of the company to extend the line through to Midway, where connection will be made with the Columbia and Western Ry., so as to give a through route via the Crow's Nest Line, and several surveys have been made for the route between Midway and Penticton.

**Vancouver Station.**—We are advised with respect to the report as to proposed extensions at Vancouver station, referred to in our last issue, that no changes such as are mentioned are contemplated at present. The company is merely investigating to ascertain what should be done to meet future needs.

### Index to The Railway and Marine World.

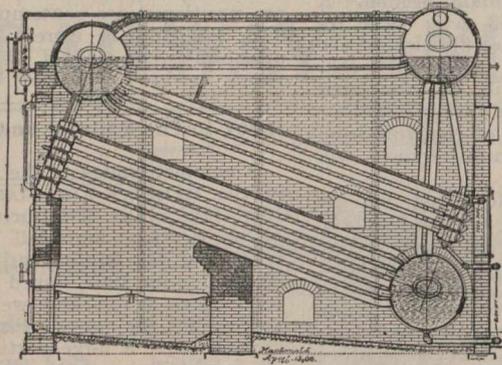
A complete index to the matter contained in the RAILWAY AND MARINE WORLD for 1908, Jan. to Dec. both inclusive, is in course of preparation, and will be printed and ready for distribution early in Jan., 1909. The index for 1907, issued in Jan. last, met with much favor, and we have no doubt the one for the current year will be equally appreciated. A large portion of the matter we publish from month to month is of great permanent value for reference, and of course this value is much enhanced by a complete classified index. We were much gratified when we issued our index for 1907 to find that a large number of subscribers file and bind the paper.

It is not the intention to make a general distribution of the current year's index, but a copy will be sent to each subscriber who desires one, and who will notify us to that effect. A letter or post card, simply stating that the index is desired, and giving the subscriber's name and address, will be sufficient. Early application is requested, and subscribers who wish a copy are asked to write us at once. "Do it now." The number of copies to be printed will be governed by the number of applications received.

**Car Surpluses and Shortages.**—The report of the committee on car efficiency of the American Railway Association for the period ended Oct. 28, shows that the total surplus available was 110,912, a decrease of only 4,124 since the last report. The shop cars, however, show a decrease of 14,000, making a net improvement of about 18,000 cars. Four companies reported in the Canadian group, the surpluses being: 534 box cars, 470 flat cars, 20 coal, gondola and hopper cars, and 559 other kinds, making a total of 1,583 cars of all kinds against 1,881 cars of all kinds at the date of the last report, Oct. 14. The shortages were: 5,349 box cars, 20 flat cars, 2,015 coal, gondola and hopper cars, a total of 7,384 cars of all kinds, against a total of 6,993 at the date of the last report.

Press reports state that the Board of Railway Commissioners is establishing inspecting divisions throughout the Dominion with a view to the more prompt and efficient inspection of railway equipment and enquiry into accidents, and that the following inspection divisions and appointments have been made: Maritime Provinces and Quebec, E. C. Lalonde; Ontario, J. Clark and J. Ogilvie, with headquarters at Ottawa; Manitoba and Saskatchewan, W. G. Blyth; Alberta and British Columbia, M. J. McCaul. We are officially advised that the reports are substantially correct. The headquarters of the various inspectors, however, have not as yet been fixed, and the matter is still under consideration by the Board. The division of the work as quoted is stated as not necessarily arbitrary, but to indicate the lines on which the Board proposes to act.

# Robb-Mumford Water Tube Boiler



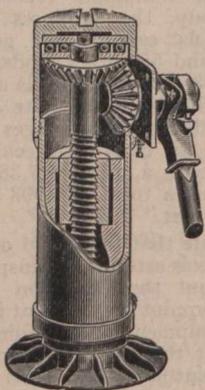
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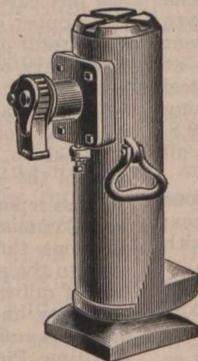
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# NORTON JACKS

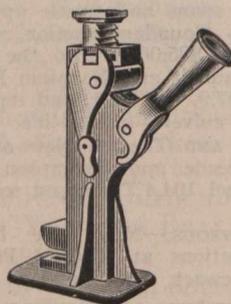
ARE MADE IN CANADA AND SAVE YOU DELAY AND DUTY ON  
AMERICAN MADE JACKS.



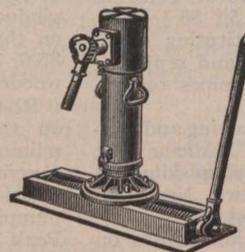
Sectional View



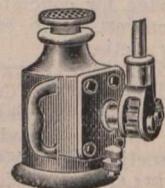
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## RAILWAY DEVELOPMENT.

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

**Alberta Central Ry.**—A press report states it is likely that construction will be started at an early date upon this projected railway from Red Deer, Alta., westerly to the Rocky Mountains, about 70 miles. At the last session of the Dominion Parliament a subsidy was voted to aid in the construction of this railway. (July, 1903, pg. 232.)

**British Columbia.**—Application will be made at the next session of the B.C. Legislature for an act to incorporate a company with power to construct and operate a railway of standard gauge, from or near Corbin, on the Eastern British Columbia Ry., southerly, following the east fork of the south fork of Michel Creek to the summit between that creek and a tributary of the Flathead River, thence southerly along the Flathead River, or by the most convenient route to the International boundary, about 40 miles. The proposed railway to be operated by steam or electric power, and power will also be sought to construct and operate telegraph and telephone lines, and to own water power, etc. Harvey, McCarter and Macdonald, Cranbrook, B.C., are solicitors for the applicants. In connection with this application it may be mentioned that the Corbin Coal and Coke Co., of Spokane, Wash., was recently licensed under the B.C. laws respecting extra-provincial companies, to exercise its powers in the province, with the exception of those relating to the construction and operation of railways, with J. A. Harvey, of Harvey, McCarter and Macdonald, Cranbrook, B.C., as its attorney. The company has already, under the charter of the Eastern British Columbia Ry., constructed a line from McGillivray station on the C.P.R. Crow's Nest branch, southerly along Michel Creek, to its coal properties there, a distance of 14 miles. The point on the International boundary to which the proposed line will be built will probably be in the neighborhood of Kingsgate-Eastport, where the Spokane International Ry. connects with the C.P.R. D. C. Corbin is President of the Spokane International Ry., the Eastern British Columbia Ry., and the Corbin Coal and Coke Co. (Nov., pg. 787, and Oct., pg. 711.)

**Calgary and Knee Hill Ry.**—Application will be made next session of the Alberta Legislature for an act authorizing an extension of the time within which the first 30 miles of this projected railway may be constructed until Mar. 15, 1911, and that the time for constructing each of the remaining sections of 30 miles be extended for two years from the date on which, by the act now in force, they have to be completed. Short, Cross & Biggar, Edmonton, Alta., are solicitors for the applicants. (Oct., pg. 711.)

**Canadian, Liverpool and Western Ry.**—Notice is given that application will be made next session of the Dominion Parliament for the incorporation of a company with this title, to construct a railway from the National Transcontinental Ry., near the junction of the Ribbon, Maunan and St. Maurice rivers, Que., northeasterly to the south shore of Lake St. John, thence easterly along the Saguenay River to its mouth; with a branch line from the mouth of the Saguenay southwesterly, following the River St. Lawrence to Quebec; thence along the western or upper shore of the river to Montreal. The company will also apply for power to carry on a general navigation business; to construct and acquire wharves, docks, warehouses, offices and other structures; to acquire and utilize water and steam power

for the purpose of compressing air or generating electricity for lighting, heating or motor purposes; to construct and operate telephone and telegraph lines and for other purposes connected therewith. It will also ask that the works to be constructed be declared to be for the general advantage of Canada. Smith & Johnston, Ottawa, are solicitors for the applicants.

**Edmonton to Peace River.**—A resolution was passed at a meeting of the Athabaska Landing, Alta., Board of Trade, Nov. 16, urging the Dominion and Provincial Governments to aid in the construction of a railway from Edmonton to Athabaska Landing, and thence to Peace River, by means of a guarantee of bonds.

**Essex Terminal Ry.**—In 1906 track was laid for about two miles from the Pere Marquette Rd., westerly to the C.P.R., at Walkerville, and grading has been done easterly from the Pere Marquette Rd. to the G.T.R., one mile. The intention is to extend the line so as to connect with the Michigan Central Rd. at Windsor, Ont. W. Woollatt, formerly Superintendent of the Lake Erie and Detroit River, is Manager; and O. McKay is Chief Engineer. (May, pg. 329.)

**Ingersoll to Embro, Ont.**—An Ingersoll paper says: "If Ingersoll is ever to have a railway running through the district to the north of us and connecting with the main line of the C.P.R. at Embro, she will have to build it herself. . . . That northern country is the only country not having good railway connection with Ingersoll. The only way we can get into close connection with the C.P.R. main line is by constructing a straight line to Embro. And the only way we will ever have such a road is to build it ourselves."

The C.P.R. has a branch line from Woodstock to St. Thomas, Ont., passing through Ingersoll, where the Tillsonburg, Lake Erie and Pacific Ry. from Port Burwell also comes in. Embro is a station on the C.P.R. main line between Toronto and Windsor, and is the point from which a line has been constructed under the T., L.E. and P.R. charter, to the town of Embro, about six miles northerly, connecting with the St. Mary's and Western Ontario Ry., which has been completed and is in operation from Embro to St. Mary's. What the Ingersoll people are therefore asking is for the construction of a line to connect their present lines with the C.P.R. main line and the extension of the T., L.E. and P.R. at Embro station.

**Intercolonial Ry.**—Recent reports state that a considerable amount of bridge and track repairing has been done on the I.C.R. of late. The operations in connection with the construction of the second track between Moncton and Painsec Junction, N.B., are reported to have made considerable progress. The bridges on the section have been reconstructed, so as to enable them to carry the second track, and the roadbed has been made ready for the ties for a considerable portion of the mileage.

On Nov. 10, a large proportion of the men employed at the car repair shops at Moncton were transferred from the temporary premises occupied since the fire to the new shops. (Nov., pg. 793.)

**Lake Temiskaming to Satika Lake.**—With reference to the reported projected line of railway between these points as mentioned in our Nov. issue, it is probable its construction, if undertaken, will be under the Raven Lake Mining and Development Co.'s charter. The company is incorporated under the Dominion Companies Act, with power to construct a railway.

In the report mentioned, the name of W. H. Rowley, Hull, Que., was given as a member of the company projecting the

railway. He advises us that he is in no way connected with the matter, except as a shareholder in the mining company. (Nov., pg. 793.)

**The Maritime Coal, Ry. and Power Co.** is carrying out a number of improvements at its mining property at Joggins, N.S. A new road is being constructed, and a contract has been let to Rhodes, Curry & Co., Amherst, N.S., for the erection of a number of houses for the men employed at Joggins.

A contract has been let for the sinking of a slope to the new measures which have been discovered. Shortly after the present company took over the mines of the old Joggins Co., the search for the main seam was renewed. This seam had been looked for by the previous owners of the property for many years, but without success. After several attempts the new company recently located the main coal bed about a mile to the westward of the slope now in operation. It is said that the new seam opens up for development millions of tons of coal, and ensures to the company practically an inexhaustible supply. It is expected to have the new slope ready so that coal may be shipped during the season of 1909.

Surveys have been started for the location of a railway from the company's mines at Chignecto, N.S., to Northumberland Strait, 26 miles. The construction of such a line would enable the company to engage in the trade of supplying the Montreal market by water. (Sept., pg. 617.)

**Matane and Gaspé Ry.**—The charter powers of the company authorize it to operate a line or lines of steamships between Montreal, Quebec, ports on the north shore of the St. Lawrence River, and various places on its main line of railway. In addition to the main line from near St. Flavie, Que., on the Intercolonial Ry., to Gaspé, about 240 miles, the company has power to construct a line from the junction with the Intercolonial Ry. to Rimouski, a branch southwest to a junction with the National Transcontinental Ry. near Glazier Lake, and an extension from Gaspé to Griffin Cove. The section now under construction extends to Matane, and as the line follows the highway for nearly the entire distance, the work of construction is comparatively light. Work is in progress at four different points, and it is expected to have the grading completed within a few months. The second section from Matane to Ste. Anne des Montes, about 60 miles, will be started immediately on the completion of the line to Matane. The work on this section will also be comparatively light. The route will be about a quarter of a mile from the shore. On the remaining portion of the line to Gaspé, 127 miles, the section between Ste. Anne des Montes and Mont Louis, about 38 miles, is all heavy work. It is expected to start the construction of the branch to the National Transcontinental Ry. as soon as the construction of the main line has been completed to Temiscouata Junction near Glazier Lake. The company proposes to use steam as a motive power for hauling its freight trains, and electric cars for its passenger service. (Nov., pg. 793.)

**Prince Edward Island Ry.**—We are advised that the branch line which it is proposed to construct, to be known as the Elmira Branch, will start from Harmony, a station on the P.E.I.R., about five miles west of Souris. It will run easterly for about 10 miles to Elmira at the eastern end of the province, passing through the districts of Harmony, Baltic and Elmira. The construction of the branch line will enable the agricultural and fishing interests of these districts to secure an outlet for their produce, etc. The construction will be of the usual character, and without any work

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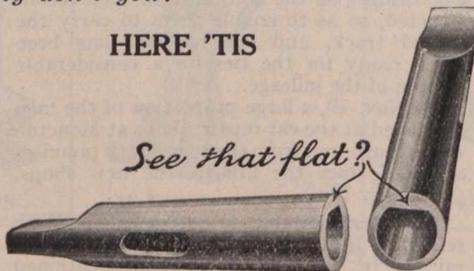
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SOLID  
PIECE

STANDARD  
EXCEPT  
THE FLAT

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MADE IN ALL SIZES



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of exceptional difficulty. Of the total length of the branch 23.6% will be on curves; the maximum curvature being 4°. The maximum gradient is 1.2%. There are several large cuttings on the line, but no bridges. (Nov., pg. 793.)

During his recent visit of inspection to Prince Edward Island, M. J. Butler, Deputy Minister of Railways, said the construction of an up-to-date roundhouse at Charlottetown, larger and better equipped than the present one, is being discussed, but the money for its construction had not been voted.

**Quebec Bridge and Ry. Co.**—The connection of the company bearing this title with the fallen bridge over the St. Lawrence River, near Quebec, with the connections, and all its franchises, etc., ceases on Dec. 1, when the Dominion Government takes possession. The preparation of plans for the reconstruction of the bridge is in the hands of a commission of engineers, and the bridge is to be built as an integral part of the National Transcontinental Ry. (Nov., pg. 793.)

It is reported that in the reconstruction of the Quebec bridge the commission of engineers appointed by the Dominion Government to carry out the work, will consider the advisability of providing at least 10 ft. more headroom for vessels than existed in the structure which collapsed. The former plans provided for a height of 150 ft. above high water. The masts of the Allan Line s.s. *Virginian* reach 141 ft. above the water line, and could pass under the floor of a bridge constructed under the old plans, but the C.P.R. Empress steamships have masts of 154 ft., and would be unable to pass except at low water. Shipping interests at Montreal are desirous that the new bridge should be constructed sufficiently high to permit of the free passage, at all stages of the tide, of the largest vessels trading to Canadian ports.

**Quebec Terminals.**—A sketch plan has been published showing proposed railway terminals and outline of docks at Quebec, between Champlain Market and Pointe à Pizeau. The plan practically provides for the construction of an entirely new series of docks, wharves, etc., by the erection of a line of cribwork extending from the proposed terminus at Champlain Market towards Pointe à Pizeau. The passenger station and yards will be at the Champlain Market end, and will extend along the shore and the reclaimed land between the present shore line and the crib work, to near Cape Diamond, where three basins will be constructed, with wharves, railway yard, etc. It is proposed to fill in the area now covered with water from the east of these basins, right to Pointe à Pizeau, and to utilize the land so reclaimed for freight yards. There will be a number of piers extending out from this yard, the end of the piers extending out to line with the crib work starting from Champlain Market. The basins between these piers are to be dredged to the proper depth for ocean and river craft of all sizes. No estimates have been given as to the probable cost of the work. Whether the plan is an official one or not is not stated.

**Salisbury and Harvey Rd.**—Application will be made next session of the Dominion Parliament for an act to incorporate a company with this title to take over the property and franchises of the S. and H. R. Co., now existing under a Dominion charter. The charter now applied for declares that the railway now extending from Salisbury to Shepody Bay, N.B., 45 miles, be declared to be a railway for the general advantage of Canada; authorizes the company to operate the line by means of steam, electricity or any other kind of motive power; to construct,

equip, maintain and operate in the same manner all branch lines referred to in Chap. 80 of the statutes of 1900. These branch lines are: (1) From Turtle Creek station southerly to Baltimore, in the parish of Hillsborough, Albert Co.; (2) From Baltimore Siding northeasterly to Moncton; (3) From Baltimore Siding southwesterly to near Walter's oil works in the parish of Hillsborough. (July, 1907, pg. 481.)

**Temiskaming and Northern Ontario Ry.**—The connection between the T. and N.O.R. from North Bay with the right-of-way of the National Transcontinental Ry. at Cochrane, Ont., was expected to be made by the end of Nov. The work of completing the ballasting of the line is in progress. There has been some difficulty at different portions of the line owing to track sinking through muskegs, and the upsetting of a construction train, Oct. 29, at one of these points somewhat delayed the completion of the line. The officials at Haileybury have taken possession of their new quarters. The buildings are 40 by 150 ft., and will be used for the general business of the railway. The old freight sheds will be used for express and baggage rooms, and the present express room will be added to the ladies' waiting room. (Nov., pg. 795.)

A deputation from the Charlton district waited on the Chairman of the Commission Nov. 13, and secured his promise that if the Charlton people could guarantee the Elk Lake trade, a service equal to that on the main line would be put in operation on the new branch to Charlton. At present the Elk Lake district traffic goes to Earlton, 28 miles distant, or 11 miles further than would be the case if Charlton were made the objective point.

#### Railway Commissioners' Various Orders.

5402. Oct. 15. In the matter of sec. 292 of the Railway Act, whereas, the Board, pursuant to the provisions of section 236 of the Railway Act, 1903, on Nov. 29, 1906, ordered that the report or reports of any person or persons appointed by the Board to inquire into and report upon any accident or casualty occurring on any railway, should be privileged and should only be made public or given out by order of the Board. And, whereas the Board has decided to make a further order pursuant to the powers conferred upon it by sec. 292 of the Railway Act, 3 Edward VII, chap. 58, declaring every accident report or information respecting the same furnished by any railway company under the Railway Act, to be privileged and only to be made public or given out by order of the Board. It is ordered that every report or information furnished to the Board, pursuant to the provisions of the Railway Act, be, and the same is hereby, declared to be privileged, and shall only be made public or given out by order of the Board.

#### INSPECTION OF ELECTRIC BELLS AT CROSSINGS.

5568. Nov. 3.—In pursuance of the powers conferred upon it by secs. 30, 268, and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that every electric bell upon the line of any railway company subject to the legislative authority of the Parliament of Canada, installed for the purposes of protection, be inspected every morning by the sectionman in whose division or section such bell is, and tested by placing a wire across the rail, upon each side of the crossing, and that if the bell fails to ring, or rings continuously, a flagman at once be placed at such crossing, whose duty it shall be properly to protect the same until such bell is repaired; and that notice of such non-repair be at once given to the station agent nearest to such bell, whose duty it shall be to report the matter at once to the department having charge of the

operation and repair of such bells. That failure to comply with the provisions of this order shall subject the defaulter to a fine of \$50, payment of which may be ordered by the Board upon proof of the offence.

#### OPENING OF LINES FOR TRAFFIC.

The Secretary of the Board issued the following circular Oct. 31: "I am directed by the Board to state that hereafter it will not make any orders authorizing the opening for traffic of any line or lines of railway unless the highway crossings and the fencing have received the approval of the Engineer of the Board."

#### RAILWAY ACT'S PROVISIONS TO BE COMPLIED WITH.

The Secretary of the Board issued the following circular Oct. 31: "The Board is constantly confronted with perplexing situations arising from railway companies proceeding with works of various kinds without first complying with the provisions of the Railway Act, and then asking for confirmation of what has been done, always alleging, among other things, that large sums of money have been expended, and that withholding confirmation would impose great hardship. The Board feels that it must lay down the rule that in all cases the clauses of the Railway Act must be complied with, and that hereafter ratification need not be expected if railway companies fail to observe the preliminaries that the law requires of them."

#### Railway Commissioners' Traffic Orders.

5453. Oct. 22.—In the matter of the application of the Winnipeg Board of Trade, The Winnipeg Jobbers' and Shippers' Association, and the Deloraine Board of Trade, under sec. 323 of the Railway Act, for an order disallowing the tariffs of freight rates issued by the Canadian Pacific and the Canadian Northern Railway Companies, in substitution for the "Traders' Tariffs," so-called, declared illegal by the Board as preferential and discriminatory in favor of Winnipeg. Upon the hearing of counsel for applicants and the railway companies, the evidence adduced, and what was alleged, the cities of Regina and Portage la Prairie being represented at the hearing: it is ordered that the said application be dismissed. And it is further ordered that the question of special commodity rates from Winnipeg, also the adoption of a modification of the Ontario "town tariffs" prescribed in order 3258, dated July 6, 1907 (Schedule A), as a basis for special "town tariffs" applicable to the Western Provinces, as suggested at the hearing, be reserved for future consideration.

#### INTERCHANGE OF TRAFFIC.

5491. Oct. 20.—In the matter of the application of the Windsor, Essex and Lake Shore Rapid Ry. Co., for an order directing the Pere Marquette Rd. Co. to interchange traffic with the applicant company at Kingsville, Ont., upon the hearing of counsel for applicant company, and the consent of the Pere Marquette Rd. Co., it is ordered that the P.M.R. Co. interchange with the applicant company, at Kingsville, all freight traffic in carloads, from points on the P.M.R. destined to points on the applicant company's railway, and from points on the applicant company's railway, destined to points on or via the P.M.R.

The revenue on account of the consolidated fund from Dominion public works, including railways, for Oct., was \$824,127.42, and to Oct. 31, \$5,721,534.56. The expenditure on capital account for Oct., on public works, including railways and canals, was \$3,599,152.92; and to Oct. 31, \$16,097,599.12; and on account of railway subsidies to Oct. 31, \$195,290.40.

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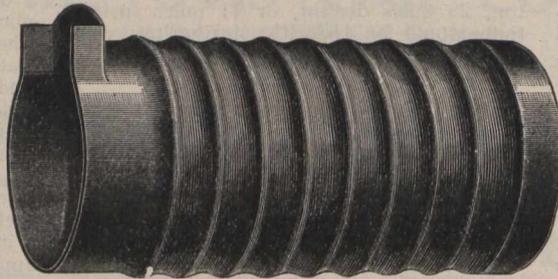
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**G.T.R. Betterments, Construction, Etc.**

**The Block System.**—In connection with the report that the company was about to instal a block system on the line between Montreal and Chicago, it was officially stated at Montreal Nov. 6 that as yet no move had been made in that direction. While this step is in prospect as a future development there was no intention of undertaking so expensive an improvement at any time in the immediate future. To instal a block system on this route would mean, it is estimated, an initial expenditure of about \$1,135,000, and would further involve the permanent employment of about 150 men, which would largely increase the expenses of operation. The line is at present worked on the station to station block system, which means that the stretch between each station constitutes a block, and the track is kept clear for each train that enters a block until it leaves it at the next station. The signalling is done by the station operators.

**Electricity in Shops.**—A press report states that the company has commenced the electrification of its shops at Point St. Charles, Montreal. The project will necessitate the expenditure of a very large sum, and will extend over a period of years. It was the original intention to go to St. Lambert and use water power to develop the electricity, but it has been found that there is no water power available. It has consequently been decided to make the installation at Point St. Charles, and use coal for the generation of current.

**Montreal Terminals.**—A recent press dispatch from Montreal stated that the G.T.R. had under consideration an entirely new terminal scheme for Montreal, the carrying out of which would involve the expenditure of some millions of dollars. One feature of the new plans, it was said, would be the construction of an air line from the Victoria Bridge to Bonaventure station, with an appropriate terminal structure there, and another would be the quadrupling of the track from beyond St. Henri, to give a double-track for both passenger and freight traffic from the West. We have been advised that while in times past consideration has been given toward obtaining an air line connection from Victoria Bridge to the Bonaventure station, without going around St. Henri, the company is satisfied that to secure such a line through the heart of Montreal would be too expensive. The report doubtless originated through the construction of the Montreal and Southern Counties Ry., an electric line, which is crossing the Victoria Bridge, and is constructing a line to Youville Square, near the G.T.R. offices. This line is to be operated through the city streets.

**Ottawa Station and Hotel.**—Engineers were at work during Nov. in the Ottawa yards in connection with the construction of the central station and hotel. Work is expected to be started on several new buildings shortly. A new icehouse, having double the capacity of the old one, is being built near the yards on Bronson Avenue, and material has been ordered for the building of a new freight shed to run along the extension of Little Sussex St. No contract has been let for the erection of the baggage annex, which is to be used as a temporary station during the construction period. The tenders received in response to the first call were not satisfactory, hence the second call.

**Kingston, Smith's Falls and Ottawa Ry.**—W. Wainwright, Fourth Vice-President G.T.R., stated in Ottawa recently that a direct route from Toronto to Ottawa was the policy of the company, and such a route would necessitate the construction of a

line from Kingston to Ottawa. The company has an agreement to take over an existing charter, the holders of which were making efforts to secure the reaffirmation of the bonuses originally granted for its construction. The charter referred to by Mr. Wainwright is that of the K., S.F. and O. Ry. Co.

**Toronto Union Station.**—Tenders were received, Nov. 30, for the purchase and removal of the brick and stone lying on the Eckhardt property, a portion of the site of the proposed new Union Station.

**Toronto Belt Line.**—New rails are being laid on that portion of the old Toronto Belt Line Ry. from the Don River to the Don Valley station, that being the portion used by the Canadian Northern Ry. to reach its own tracks from Toronto union station.

**London Improvements.**—The Mayor of London, Ont., had a conference with E. H. Fitzhugh, Third Vice-President G.T.R., and other officials of the company, Oct. 28, with respect to the improvement of the company's lines in the city. Negotiations have been in progress since 1904, and the Mayor now says that the company is desirous of having an agreement made, as if work at Toronto and Montreal has to be taken up first, it will be 15 or 20 years before the company will be ready to take up improvements at London again. If an agreement can be reached right away, work will be started in the spring and carried through to completion. Chief Engineer Kelly is looking over the whole situation, and as soon as he has acquainted himself with all the circumstances an interview will be arranged with a view to an agreement being reached. The general result of the interview of Oct. 28, the Mayor said, went to show that the original plans for track elevation would be carried out. That would mean subways on all the streets until William St. was reached, where only a footpath subway would be constructed. Adelaide St. would be level, although the tracks would be raised three feet; Egerton St. would have an overhead bridge, and the street railway tracks would be removed from Rectory to Egerton St.

The Mayor states that there is practically no doubt that nothing will be done in the way of arranging for the elevation of tracks, etc., in London this year, and that it is also more than probable that the company's Chief Engineer will not be able to get to the city to make an investigation until early in the new year.

**Stratford Station.**—At a dinner given to J. P. Mabee, Chief Railway Commissioner, at Stratford, Ont., Nov. 5, J. Pullen, Assistant Freight Traffic Manager G.T.R., stated that a new station would be built there within the next year.

**Port Huron Shops.**—Plans and specifications have been received at Port Huron, Mich., for the enlargement of the car plant. They provide for the extension of the blacksmith shop and wood mill north across Riverview St., providing an additional 15,000 ft. of floor space. Arrangements are reported completed for the taking over from the U.S. Government of a portion of the land south of the lighthouse for use as a lumber yard and the storage of other material. A press despatch, dated Nov. 14, says it is unofficially announced that cars are to be built at the shops, and that at least 1,000 men will be employed.

**Corinth, Ont., Station.**—The station at Corinth, Ont., jointly used by the G.T.R. and Wabash Rd., was destroyed by fire Nov. 1. The buildings destroyed included the freight shed and cattle pens. A temporary structure has been erected for use as a station pending the preparation of plans for a reconstruction.

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

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

	Earnings.	Expenses.	Net Earnings.	or Decrease.	Net Increase
July..	\$728,500	\$525,600	\$202,900	\$159,000—	
Aug..	747,400	561,300	186,100	30,400—	
Sept..	901,700	650,600	251,100	42,000+	
Oct..	1,172,700	752,600	420,100	110,200+	

	\$3,550,300	\$2,490,100	\$1,060,200	\$37,200—
Inc....	\$900	\$3,810	.....	.....
Dec..	.....	.....	\$37,200	.....

Approximate earnings for 3 weeks ended Nov. 21, \$779,000, against \$682,200 for same period 1907.

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

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

	Earnings.	Expenses.	Net Profits.	or Decrease.	Net Increase
July	\$6,292,880.82	\$4,018,307.57	\$2,274,573.25	\$232,279.41—	
Aug. 6	3,851,956.69	3,807,057.98	2,578,898.71	8,623.56+	
Sept. 6	6,391,672.48	4,277,064.71	2,114,607.77	36,745.58—	

	\$19,070,500.99	\$12,102,430.26	\$6,968,079.73	\$260,401.43—
Inc..	.....	.....	.....	.....
Dec. \$1,371,394.55	\$1,110,993.12	\$260,401.43	.....	.....

Approximate earnings for Oct., \$7,349,000, against \$7,036,000 for Oct., 1907; and for 3 weeks ended Nov. 21, \$5,015,000, against \$4,757,000 for same period 1907.

**DULUTH, SOUTH SHORE AND ATLANTIC RY.**—Gross earnings for Sept., \$237,717.27; expenses, \$167,468.77; net earnings, \$70,248.50; other income, \$12,805.46; standing charges, \$92,893.19; deficit, \$9,839.23; against, \$302,122.18 gross earnings; \$213,187.70 expenses; \$88,934.48 net earnings; \$92,925.05 standing charges; \$6,271.92 surplus for Sept., 1907. Gross earnings for 3 months ended Sept. 30, \$686,381.18; expenses, \$493,749.88; net earnings, \$192,631.30; other income, \$38,246.13; standing charges, \$278,023.23; deficit, \$47,145.80, against, \$214,925.00 gross earnings; \$66,664.48 expenses; \$209,507.74 net earnings; \$28,478.96 other income; \$285,182.51 standing charges; \$42,804.19 surplus for same period 1907. Approximate earnings for Oct., \$253,946, against \$296,007 for Oct., 1907; and for 2 weeks ended Nov. 14, \$113,392, against \$121,536 for same period 1907.

**MINERAL RANGE RD.**—Gross earnings for Sept., \$72,675.12; expenses, \$56,931.72; net earnings, \$15,743.40; other income, \$29.79; standing charges, \$13,066.96; surplus, \$2,706.23; against, \$67,860.95 gross earnings; \$54,111.27 expenses; \$13,758.68 net earnings; \$35.10 other income; \$11,817.16 standing charges; \$1,976.62 surplus for Sept., 1907. Gross earnings for 3 months ended Sept. 30, \$218,882.05; expenses, \$173,867.28; net earnings, \$45,014.77; other income, \$51.68; standing charges, \$38,654.19; surplus, \$6,412.26; against, \$16,503.02 gross earnings; \$65,942.55 expenses; \$50,560.47 net earnings; \$1,478.13 other income; \$26,407.84 standing charges; \$15,630.76 surplus for same period, 1907. Approximate earnings for Oct., \$76,332, against \$71,910 for Oct., 1907; and for 2 weeks ended Nov. 14, \$29,867, against \$30,535 for same period 1907.

**MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.**—Gross earnings for Sept., \$1,498,464.87; expenses, \$642,878.05; net earnings, \$855,586.82; against \$1,049,133.65 gross earnings; \$648,490.01 expenses; \$400,643.64 net earnings for Sept., 1907. Gross earnings for 3 months ended Sept. 30, \$3,409,934.12; expenses, \$1,776,723.51; net earnings, \$1,633,210.61; against \$3,165,958.72 gross earnings; \$1,990,623.20 expenses; \$1,175,335.52 net earnings for same period, 1907. Approximate earnings for Oct., \$1,470,124, against \$1,346,090 for Oct., 1907, and for 2 weeks ended Nov. 14, \$561,720, against \$498,990 for same period 1907.

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

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from July 1 to Oct. 31:				
	1908.	1907.	Increase. Decrease.	
Grand Trunk	£2,254,035	£2,570,812	.....	£316,777
Canada Atlantic	138,389	171,004	.....	33,515
G. T. Western	397,803	480,811	.....	83,008
D. G. H. & M.	122,475	138,576	.....	16,101
Total	£2,912,702	£3,362,103	.....	£449,401

Approximate earnings for Oct., \$3,819,628, and for 3 weeks ended Nov. 21, \$2,542,693, against \$4,168,500, and \$2,770,108 for similar periods 1907.

During Sept., 23 railway employees were killed and 12 injured in the course of their employment in operation and construction in Canada. Of the fatalities 12 were due to being run over, 3 to derailments, 2 each to falling material, to suffocation by gas and to falls, and one each to a collision and to machinery. Of the non-fatal accidents, 3 each were due to being struck by trains, and to collisions, 2 to falling material, and one each to being run over, to being caught between cars, to machinery and to a derailment.

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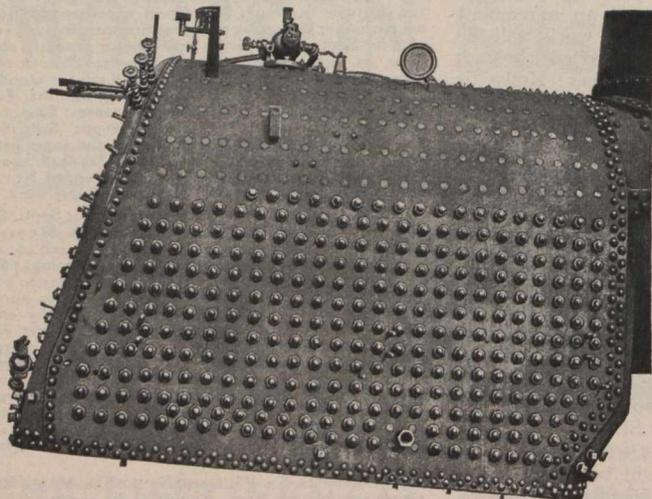
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**Orders by the Railway Commissioners.**

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings.

Complete copies of any of the orders summarized below, or of others previously passed by the Commission, will be furnished for 25 cents, cash to accompany requests for copies in all cases.

5470 and 5471. Oct. 27.—Authorizing the Bell Telephone Co. to erect wires across C.P.R. at two different places.

5472. Oct. 26.—Authorizing the C.P.R. to construct spur line to the Standard Lumber Co.'s premises, and the Cranbrook Estate, Kootenay district, B.C.

5473. Oct. 26.—Authorizing C.P.R. to construct spur line to McClure & Scott's premises, Balmoral, Man.

5474. Oct. 22.—Authorizing C.P.R. to divert public road between lots 5 and 6, con. 9, Tecumseth tp., Ont.

5475. Oct. 22.—Authorizing C.P.R. to construct spur branch line to the Canadian-America Oil Co.'s premises, Frank, Alta.

5476. Oct. 22.—Authorizing C.P.R. to use bridges on its Atlantic Division at various points.

5477. June 2.—Authorizing Canadian Northern Ontario Ry. to erect telegraph wires across G.T.R. near Gamebridge, Ont.

5478. Oct. 13.—Directing the T.H. and B.R. to supply adequate and suitable accommodation for receiving and loading of bricks, etc., at Hamilton, Ont.

5479. Oct. 6.—Dismissing complaint of residents of Barrington, Que., against closing and removing of G.T.R. office at that village to junction of G.T.R. with C.A.R.

5480. Oct. 22.—Approving fire extinguisher for use in G.T.R. passenger coaches.

5481. Oct. 6.—Granting leave to Bell Telephone Co. to erect wires across Schomberg and Aurora Ry. at Schomberg, Ont.

5482. Oct. 27.—Authorizing C.P.R. to open for traffic four portions of its Medicine Hat section; rescinding order 5451, Oct. 20, 1908.

5483. Oct. 28.—Approving C.N.O.R. line between counties of Carleton and Russell, mileage 48.3 to north line of lot 23, con. 2, Gloucester tp., Ont.

5484. Oct. 28.—Authorizing C.P.R. to reconstruct bridge over the Wanapitei River, Cartier section.

5485. Oct. 28.—Authorizing C.P.R. to construct two spur lines across highway at Cardigan, N.B.

5486. Oct. 22.—Authorizing city of Ottawa to lay sewer pipe under G.T.R. at Bayswater Ave.

5487. Oct. 28.—Authorizing the C.P.R. to open for traffic portion of its Pheasant Hills branch from Asquith to Wilkie, Sask.

5488. Oct. 22.—Temporarily approving tariff of telegraph tolls filed by G.T.P. Telegraph Co. in provinces of Manitoba, Saskatchewan and Alberta.

5489. Oct. 28.—Requiring the C.P.R. to stop its trains opposite C.N.R. platform at St. Jerome, Que.

5490. Oct. 28.—Directing C.N.O.R. to remove from service baggage car 154 in use on its Shawbridge branch.

5491. Oct. 20.—Directing P.M. Rd. to interchange traffic with W.E. and L.S.R. Ry. at Kingsville, Ont. See pg. 867.

5492. Oct. 28.—Authorizing G.T.R. to perform certain work on Sundays. See pg. 853.

5493. Oct. 22.—Temporarily approving Express Classification for Canada, C.R.C. 1, the Tables of Graduated Charges for packages weighing less than 100 lbs., C.R.C. 2, and Money Classification, C.R.C. 3.

5494. Oct. 27.—Rescinding order 4578, Dec. 26, 1907, authorizing V.V. and E.R. & N. Co. to take for the diversion of the River Road the additional land required for such purpose, in Delta municipality, B.C.

5495 to 5498. Oct. 28.—Authorizing Manitoba Government Telephone Commission to carry its wires across C.P.R. at four points.

5499. Oct. 22.—Authorizing C.P.R. to construct spur line to Hugh Cummings' premises, tp. 4, range 9, w. 6th mer., B.C.

5500. June 2.—Authorizing C.P.R. to cross by an overhead bridge G.T.P.R. at mileage 457.1, Pheasant Hills branch.

5501. Oct. 28.—Authorizing J. E. Pratte to place telephone wires under G.T.R. tracks at 8th range of Aston, Que.

5502 to 5505. Oct. 28.—Authorizing Manitoba Government Telephone Commission to place wires across C.P.R. at four different points.

5506 and 5507. Oct. 28.—Authorizing Noisy River Telephone Co. to cross G.T.R. in Nottawasaga tp., Ont.

5508. Oct. 28.—Authorizing the Claremont and Ashburn Telephone Association to place wires across G.T.R. at Myrtle, Ont.

5509. Oct. 28.—Authorizing Manitoba Government Telephone Commission to place wires across C.P.R. at St. Louis, Man.

5510 to 5512. July 14.—Authorizing Grand Valley Ry. to cross the G.T.R., the T.H. and B. Ry., and the Brantford and Hamilton Ry. at Brantford, Ont.

5513. Oct. 20.—Authorizing Dominion Natural Gas Co. to lay pipe under G.T.R. in Woodhouse tp., Norfolk County, Ont.

5514 and 5515. Oct. 29.—Authorizing Bell Telephone Co. to place wires across G.T.R. at Renton and Terra Cotta stations, Ont.

5516. Oct. 29.—Authorizing C.P.R. to use various bridges on its Mountain and Cascade sections.

5517. Oct. 20.—Dismissing application of the P.M.Rd. for order approving character of work for construction of bridge 52 ft. long over Whitebread tap drain, where it crosses P.M. Rd. land.

5518. Oct. 20.—Dismissing application of Bell Telephone Co. for order directing W.E. and L.S.R. Ry. to bear and pay cost of certain changes of B.I. Co.'s line.

5519 to 5522. Oct. 29.—Authorizing Manitoba Government Telephone Commission to place wires across C.P.R. at four points.

5523. Oct. 29.—Authorizing Bethesda and Stouffville Telephone Co. to place wires across G.T.R. in Whitechurch tp., Ont.

5524. Oct. 22.—Authorizing C.N.R. to open for traffic its railway from Brandon, Man., to Regina, Sask.

5525 and 5526. Oct. 30.—Authorizing B.C. Telephone Co. to place its wires across C.P.R. at Nanaimo, B.C.

5527 to 5535. Oct. 30.—Authorizing Manitoba Government Telephone Commission to place wires across C.N.R. at various points.

5536. Sept. 18.—Authorizing C.P.R. to carry freight over its Moose Jaw branch from mileage 14.5 to 63, provided trains are not run at a greater speed than 13 miles an hour.

5537. Oct. 16.—Authorizing the Manitoba Government Telephone Commission to place its wires across G.T.P.R. at Carberry, Man.

5538 and 5539. Oct. 29.—Authorizing Bell Telephone Co. to place wires across G.T.R. and C.P.R. at Strathmore station, Ont.

5540 to 5545. Oct. 30.—Authorizing Strathcona municipality to place telephone wires across C.N.R. at various points in the municipality.

5546. Oct. 29.—Approving fire extinguisher for use on the C.P.R. in British Columbia.

5547. Nov. 3.—Authorizing C.P.R. to use various bridges on its Ignace section.

5548. Nov. 3.—Approving location of V.V. and E. Ry. from New Westminster district line to the west line of tp. 26, New Westminster district, B.C.

5549. Nov. 3.—Authorizing C.P.R. to operate various bridges on its Kenora section.

5550. Nov. 3.—Authorizing City of Toronto to construct sewer under C.P.R. near Rosedale Creek.

5551. Nov. 3.—Authorizing C.P.R. to construct spur line to Gordon Pulp and Paper Co.'s premises, Rainy River district, Ont.

5552. Oct. 29.—Authorizing Town of Hespeler, Ont., to lay water pipe under G.T.R.

5553. Oct. 29.—Authorizing Peterboro Light and Power Co. to lay gas pipe under G.T.R. at Smith Street, Peterboro, Ont.

5554. Nov. 3.—Authorizing Bell Telephone Co. to place wires across T.H. and B.R. at Trolley St. and Barton St., Hamilton, Ont.

5555. Nov. 3.—Authorizing G.T.P. Telegraph Co. to place wires across C.P.R. at Nokomis, Sask.

5556. Nov. 3.—Authorizing G.T.R. to operate trains over crossing of Toronto Ry., Front St., Toronto.

5557 to 5563. Oct. 30.—Authorizing B.C. Telephone Co. to place wires across C.P.R. at various points on its Cascade section, B.C.

5564. Nov. 3.—Approving Standard Passenger Tariff of O. and N.Y. Ry., C.R.C. 131, covering rates over bridge section of St. Lawrence River bridge, Cornwall, Ont.

5565. Nov. 3.—Authorizing Town of Welland, Ont., to lay sewers under G.T.R. at various points.

5566. July 14.—Authorizing Walkerton and Lucknow Ry. to carry its railway across six streets in Durham, Ont.

5567. Oct. 30.—Authorizing B.C. Telephone Co. to place wires across C.P.R. at Haney, B.C.

5568. Nov. 3.—Ordering daily inspection of electric bells at railway crossings. See pg. 867.

5569. Nov. 3.—Authorizing C.N.O. Ry. to place its tracks across G.T.R. spur line to Edwards' mill, Rockland, Ont.

5570. Nov. 4.—Authorizing C.P.R. to instal drawbridge at Whittier Jct., Man., and to operate its trains over drawbridge and through the junction without being brought to a stop.

5571. Nov. 5.—Amending order of Railway Committee of Privy Council, so as to permit Sherbrooke St. Ry. Co. to move derailed from position approved by said order, on the west side of the G.T.R. where Sherbrooke St. Ry. crosses King St., Sherbrooke, to a point 114 ft. 4 in. from said crossing.

5572. Nov. 5.—Authorizing W. J. Curle, Superintendent Brockville, Westport and Northwestern Ry., to prepare and issue tariffs of tolls to be charged for all traffic carried by company.

5573. Nov. 5.—Authorizing G.T.P.R. to use temporarily for construction purposes crossing of C.P.R. tracks at Oak Point Jct., near Winnipeg.

5574 and 5575. Nov. 5.—Authorizing Manitoba Government Telephone Commission to place wires across C.N.R. at Dufresne siding, near Somerset.

5576. Nov. 5.—Authorizing the C.P.R. to construct spur line to Rocky Mountain Cement Co.'s premises, Blairmore, Alta.

5577 and 5578. Nov. 5.—Authorizing Manitoba Government Telephone Commission to place wires across C.P.R. at two points near Minnedosa.

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5579. Nov. 7.—Authorizing City of Ottawa to lay water main under G.T.R. where same crosses Laurel Ave. and Champagne Ave.

5580. Nov. 7.—Authorizing Caledon Telephone Co. to place wires across G.T.R. tracks near Caledon East station, Ont.

5581. Nov. 7.—Authorizing Bell Telephone Co. to cross Central Vermont Ry., Richelieu St., St. John's, Que.

5582. Nov. 10.—Authorizing G.T.P.R. to construct its railway across highways in Saskatchewan, from mileage 60 to 109.52.

5583. Nov. 10.—Ordering that the crossing at Aylmer St., Peterboro, Ont., have watchman at same daily from 6 a.m. to 7 p.m., cost of same to be divided between the C.P.R. and the City of Peterboro.

### National Transcontinental Railway.

C. M. Hays, President G.T. Pacific Ry., and Second Vice-President G.T.R., said recently, in Toronto, that any idea of the G.T.R. Co. withdrawing from the arrangement was out of the question and hardly worth consideration. He was more and more convinced of the wisdom of the G.T.R. going into the enterprise, and also more and more confident of the country's future. W. Wainwright, Fourth Vice-President G.T.R., has also emphatically denied the reports published to the effect that on account of the cost of construction of the eastern division of the railway, the G.T. Pacific Ry. Co. will seek legislation at next session of the Dominion Parliament, bettering its condition under the contract. He states that no such thing has ever been thought of.

C. O. Foss, District Engineer, returned to St. John, N.B., Nov. 12, from a trip of inspection over the section of the line under construction between Moncton and McGibney's. There were found to be 4,860 men, 1,203 horses and 12 steam shovels, with other plant in proportion, utilized by the six firms of contractors engaged in the 256.3 miles under his jurisdiction. The contractors have made good progress, the estimate as to the work done being as follows: Moncton to within six miles of Chipman, 50 miles, Corbett and Floesch Co., 44% completed. From the last named point to eight miles beyond Chipman, 14 miles, J. W. McManus Co., 29% completed. From the last named point to the crossing of the old Canada Eastern Ry., at a point 34 miles from Fredericton, 39.3 miles, Toronto Construction Co., 22% completed. From the last mentioned point to Plaster Rock, 66.3 miles, Toronto Construction Co., 7% completed. From Plaster Rock to Grand Falls, 31.9 miles, Willard Kitchen Co., 27% completed. From Grand Falls to the Quebec boundary about 25 miles west of Edmundston, 60.8 miles, Lyons and White, 52% completed. The first four of these contractors are working under the general contractors of the G.T. Pacific Ry., the other two having taken their contracts directly from the Transcontinental Ry. Commissioners. The work in progress covers grading, grubbing, etc., but does not include the construction of steel bridges, or the rails, both of which are supplied by the Commissioners.

At the Moncton end the roadbed has been all completed ready for the rails, and at the end of Oct., 10 miles of track had been laid. The construction of the telegraph line is in progress and it was expected that by Dec. 1, it would be ready for operation between Moncton and Canaan River. The bridge work on several sections of the first 50 miles was also reported to be making satisfactory progress.

S. R. Poulin, District Engineer at Winnipeg, on his return from a trip of inspection easterly to Superior Junction, Nov. 4, reported that track had been laid to about 12 miles beyond Rennie. Work, however, was

being concentrated on ballasting the track already laid. It was expected to resume tracklaying in a short time after he left, and to be able to lay the steel as far as the crossing of the Winnipeg River by Christmas. The grading of the whole distance to Superior Jct., to meet the branch to Fort William, under construction by the G.T. Pacific Ry., is expected to be completed by April, 1909.

### GRAND TRUNK PACIFIC RY.

C. M. Hays, President G.T.P.R., on his return to Montreal, Oct. 30, from a trip of inspection as far as Prince Rupert, B.C., said he felt quite safe in declaring that he did not apprehend any conditions would arise—engineering, financial or otherwise—that would prevent the line from being completed from end to end by Dec., 1911. Regular trains would be running next spring from Fort William to Edmonton. Within a short time contracts would be let for another 100 miles easterly from the coast section of 110 miles, and for 200 miles further westerly from Wolf Creek, B.C., leaving a gap of 400 miles yet to be placed under contract. Prince Rupert had perhaps the finest dock on the Pacific coast, and while in British Columbia, he had concluded arrangements with the Provincial Government for the spending of \$200,000 at the terminus.

On the line between Winnipeg and Edmonton, it was expected that the bridge over the Battle River would be completed Nov. 15, which would enable tracklaying to be resumed towards the crossing of the Saskatchewan River at Clover Bar. The laying of about another 100 miles of track will make a connection with the track laid easterly from Edmonton. At various points on the line to Battle River, works of betterment are in progress, station buildings, etc., are being put up, sidings laid down, etc. A contract has been let for the erection of a station at Wainwright, a divisional point, and ten smaller stations are to be built at intervening points.

Westerly from Edmonton the cold, rough weather has affected the progress of the work, and large numbers of men have been laid off. It was hoped that the weather would have remained sufficiently open to enable the grading to have been completed as far as the Pembina River before the close of the year, but this is now hardly to be expected.

In connection with the surveys through British Columbia, the parties working north and south met near Buckley Summit, about 70 miles north of Fraser Lake, Nov. 6.

On the contract easterly from the Pacific coast, J. W. Stewart stated in Vancouver, Nov. 10, that it was expected to be able to work all winter. There were about 2,500 men at work, but his firm would like to be able to get twice that number to go out to the job. Arrangements were being made for sending in four steam shovels for the work in the vicinity of Inverness. At this point there is some difficulty in deciding finally on the route. The original survey follows the eastern side of Porpoise harbor and through Kane and Port Edward townsites, while an alternative route across Porpoise Island is being considered. The adoption of this route would involve the construction of a swing bridge, estimated to cost \$1,000,000, over Porpoise channel. Even with the cost of this bridge the contractors state that the work can be done at less expense, and a better roadbed can be provided than by following the original survey.

A report from Edmonton, Alta., states that A. A. Parker, of Minneapolis, Minn., who arrived there from the Pine Pass country, Nov. 5, had completed a reconnaissance survey from Port Essington and Hazelmere to Edmonton, in the G.T.P.R. interests. Mr. Parker, in general terms, said the Pine Pass was suitable for the construction of a railway,

and that the country through which such a line would run was a valuable one.

### G.T. PACIFIC RY. BRANCH LINES.

At a meeting of the St. John, N.B., city council, Nov. 2, a letter was read from F. W. Morse, Vice-President G.T.P.R., asking the city to submit a proposition as to what would be done to assist the company to enter St. John, and what conveyance of property for terminals at Courtenay Bay would be made. It is generally thought that the railway will be able to enter the city and reach Courtenay Bay by the same route as the Intercolonial Ry., from either Moncton or Norton, by arrangement with the Dominion Government, in which case access to Courtenay Bay could be arranged for as well. The principal difficulty is as to arranging for room for sidings and yards. Although willing to do all that is possible to assist the railway entering the city and establishing terminals, there appears to be some unwillingness on the part of the city council in giving up its rights. The whole question is being considered by the council's board of public works.

The line under construction from Fort William to Superior Junction, Ont., was expected to be completed, so far as tracklaying was concerned, by Nov. 15. This was the report made by Division Engineer Knowlton, Nov. 3. At the end of Oct. the track had been laid to within six miles of the point of junction with the main line easterly from Winnipeg, and in that six miles there were two large wooden trestles to complete. The ballasting of the branch is well in hand, and the other work of completing the line for operation is forward. It was announced Nov. 27, that the line was open for traffic.

### Government Railways for Alberta.

An Edmonton dispatch of Nov. 24 says: Premier Rutherford to-day announced an advanced railway policy throughout all parts of the province, and that will open up the northern country. A department of railways is to be established in charge of himself. He has asked the Dominion Government to guarantee the bonds, but if Ottawa will not help "we will do it ourselves," he said. "I have now decided upon a policy of railway extension throughout all parts of the province. There are districts in Alberta where such extension is absolutely necessary to meet the increasing demands for transportation facilities, as well as to ensure a wholesome competition with existing lines. Then there is the opening of the north country, whose resources in agricultural possibilities are even now attracting the most profound attention in Europe and the eastern half of America. We will see to it that that country receives its share of attention. In the past two years in the south country the problem of grain and coal transportation has quite outgrown the facilities. If we do not soon build more railways in Alberta settlers will cease to come into the country in the numbers we require. To get homesteads to-day they have to go 40 to 60 miles from the railway, and that is much farther than the twentieth century settler is willing to go.

I. W. Gantt, Manager Lackawanna-Grand Trunk Line, gives notice that his office has been removed from 355 Dearborn St., Chicago, Ill., to Nasby Bldg., Toledo, Ohio.

J. Battle, T. Conlon and J. H. Armstrong, contractors for the construction of portions of the recently opened C.P.R. Toronto-Sudbury line, obtained permission at Osgoode Hall, Toronto, to amend their claim against the C.P.R., whereby they contend that they are entitled to be paid the same price for 12½ miles of construction work as was paid to other contractors, and alleging misrepresentation against the company.

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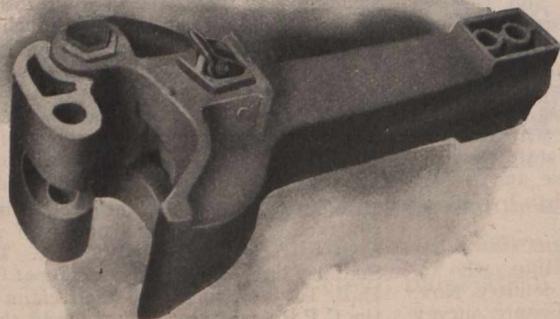
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**Railway Finance, Meetings, etc.**

**Alberta Ry. and Irrigation Co.**—Approximate net profits, exclusive of land sales for Sept., \$35,468, against \$24,414 for Sept., 1907. Approximate railway receipts for Oct., \$31,052, against \$26,802 for Oct., 1907. Approximate net profits, exclusive of land sales for Oct., \$31,000, against \$37,335 for Oct., 1907. Total net profits for 4 months ended Oct. 31, \$127,024.

We are advised that while the C.P.R. has acquired a controlling interest in the stock of this company, it will be continued as a separate corporation with its present officers.

**Burlington and Nelson Ry.**—See Kaslo and Slocan Ry.

**Burk's Falls and French River Ry.**—The annual meeting was held at Burk's Falls, Ont., Nov. 3. Following are the officers and directors for the current year: President, R. J. Watson, Burk's Falls; Vice-President, V. Ratz, Park Hill; Secretary-Treasurer, H. W. Cooper, Montreal; Solicitor, D. R. McLean, Burk's Falls; other directors, A. A. Agar and W. J. Ard.

**Canada Atlantic Ry.**—Following are the officers and directors for the current year: President, C. M. Hays; Vice-President, E. H. Fitzhugh; Secretary-Treasurer, F. Scott; other directors: W. H. Biggar, J. W. Loud, W. Wainwright, and R. S. Logan; General Auditor, W. H. Ardley.

**Canadian Northern Ry.**—The story telegraphed from Brockville, Ont., that the C.N.R. had made an arrangement with the G.T.R., to take over from it the control of the Canada Atlantic Ry., is officially denied. This line extends from Depot Harbor, via Ottawa, to a connection with the G.T.R. and other lines in Vermont. It is by this line that the G.T.R. secures an entrance into Ottawa, and gave the controlling voice in the erection of the new central station there. The acquiring of the line by the C.N.R. would give it at once a connection between its Toronto-Sudbury line, and its Quebec lines, which are now being connected with Ottawa by a line from Hawkesbury. Financially the C.A. Ry. has shown a loss since ever the G.T.R. took hold of it.

**Central Ontario Ry.**—A special general meeting of shareholders has been called to be held at Trenton, Ont., Dec. 7, for the purpose of authorizing the directors to issue bonds to the amount of £250,000, or such other amount as may be authorized to retire the outstanding bond issue and for other purposes of the railway.

**Dominion Atlantic Ry.**—Gross earnings for Sept., \$176,900, against \$182,571 for Sept., 1907. Total gross earnings for 9 months ended Sept. 30, \$940,800, against \$975,499 for same period 1907.

**Duluth, Rainy Lake and Winnipeg Ry.**—D. D. Mann, Vice-President Canadian Northern Ry., stated Nov. 20, that the report that the C.N.R. was about to pay \$16,000,000 for this line was ridiculous. "We have had an option on the line for a year," said Mr. Mann, "and we run our trains over it now. But there are only about \$2,000,000 in stock invested in the road and about the same amount in bonds. Our option expires in a month or two, but I cannot say whether or not we will take it up."

The D., R.L. and W.R. extends from Virginia, Minn., the terminus of the Duluth, Missabie and Northern Ry., 77.8 miles from Duluth, and extends to Ranier, at the point where the Rainy River leaves Rainy Lake, 90.9 miles. Here it connects with a bridge over the Rainy River, jointly owned with the Canadian Northern Ry. Through trains are operated over the line into Winnipeg, the service being given over the lines of the Duluth, Missabie and Northern Ry.,

the D., R.L. and W.R., and the Canadian Northern Ry. The D., R.L. and W.R. was constructed by the Cook and O'Brien interests, which controlled large areas of forest lands to be developed. Latterly there has been an amalgamation between the Cook and O'Brien interests and the Henes and Weyerhaeuser lumber interests. The two firms control, it is estimated, about two billion feet of lumber. The amalgamated concern, it is reported, will erect a large lumber mill at Fort Frances, Ont.

**Guelph Junction Ry.**—The receipts for the quarter ended June 30, show that the proportion payable to the city of Guelph, Ont., is \$5,741.74, against \$5,142.14 for the corresponding three months of 1907.

**Kaslo and Lardo-Duncan Ry.**—See Kaslo and Slocan Ry.

**Kaslo and Slocan Ry.**—Following are the officers, who are also directors, for the current year: President, E. L. Brown; Vice-President, A. H. MacNeill; Secretary-Treasurer and Auditor, W. H. Fortier; Manager, R. C. Morgan; Superintendent, P. H. Walsh. These are also directors and officers of the same standing of the Burlington and Nelson Ry., and the Kaslo and Lardo-Duncan Ry.

**Minneapolis, St. Paul and Sault Ste. Marie Ry.**—With reference to the offering of \$700,000 of 7% preferred stock, being made in London, Eng., as mentioned in our last issue, we are advised that it is evidently a balance from a previous issue remaining in the hands of the brokers concerned, and is not, either in whole or in part, connected with a new issue by the company.

**Quebec and Lake St. John Ry.**—Gross receipts for Sept., \$67,639.94, against \$65,603.63 for Sept., 1907. Total receipts for 9 months ended Sept. 30, \$465,497.48, against \$471,219.73 for same period 1907. The mileage operated during Sept. was 285.5, against 240 in Sept., 1907.

**Quebec Central Ry.**—Gross earnings for Sept., \$94,664.19; expenses, \$62,776.67; net earnings, \$31,887.52; against \$100,046.93 gross earnings; \$62,680.01 expenses; \$37,366.92 net earnings for Sept., 1907. Total earnings for 3 months ended Sept. 30, \$335,525.19; expenses, \$214,091.23; net earnings, \$121,433.96; against \$324,022.02 gross earnings; \$200,635.48 expenses; \$123,386.54 net earnings for same period 1907.

**Salisbury and Harvey Rd.**—At the next session of the Dominion Parliament, application will be made for the passing of an act incorporating a company with this title, for the purpose of acquiring and taking over all the old property rights and franchises of the Salisbury and Harvey Ry. The existing company was incorporated by chap. 100 of the acts of the Dominion Parliament of 1891, and amended by chap. 80 of the acts of 1900. The railway constructed by the existing company extends from Salisbury, in the county of Westmoreland, and to or near Shepody Bay or river in Albert county, 45 miles, with 5 miles of spur or branch lines. The Albert Southern Ry. and Harvey Branch Ry., together 19 miles in extent, extend from Alma to Harvey, connecting with the S. and H.R., but trains have not been operated over them for some years. The S. and H.R. has outstanding \$150,000 of common stock. It received \$29,665.45 by way of bonus from the Dominion Government, of which \$14,665.45 was the value of used iron rails; \$455,000 from the New Brunswick Government, and \$70,000 from municipalities.

**Temiscouata Ry.**—Total traffic receipts for Oct., \$21,812.35. Aggregate receipts for 10 months ended Oct. 31, \$192,286.04.

**Temiskaming and Northern Ontario Ry.**—Gross earnings for Sept., \$87,712.42; expenses, \$53,867.20, net earnings, \$33,845.22; ore royalties, \$2,195.96; total net receipts,

\$36,041.18. Approximate gross receipts for Oct., \$97,678.31.

**White Pass and Yukon Ry.**—Gross earnings for Sept., \$223,000. Total for 3 months ended Sept. 30, \$709,051.

**Railway Rolling Stock Notes.**

The G.T.R. has ordered 1,000 steel hopper coal cars in the U.S.

The C.N.R. between Oct. 15 and Nov. 15 received 3 consolidation locomotives from the Canadian Locomotive Co., Kingston, Ont.

The Canada Foundry Co., Toronto, between Oct. 14 and Nov. 23, delivered 4 eight-wheeled locomotives to the G.T. Pacific Ry. A description of these has already appeared in our columns.

The Montreal Locomotive Works has recently delivered one locomotive to the Johns-Manville Co., for use on its short line between Asbestos and Danville, Que. Details were given in our Aug. issue.

The G.T. Pacific Ry. between Oct. 15 and Nov. 15 received the following additions to rolling stock: 2 baggage and second-class smoker cars, nos. 904 and 905; 6 mail and express cars, nos. 100 to 105; 295 box cars, nos. 305, 284 to 305, 299 and 307, 146 to 307, 424; and 4 locomotives, nos. 97 to 100.

The Intercolonial Ry. between Oct. 16 and Nov. 16 received the following additions to rolling stock: 2 auxiliary cars and one milk car from its Moncton shops; 20 box cars, 60,000 lbs. capacity, from the Canada Car Co., Montreal, and one switching locomotive from the Canadian Locomotive Co., Kingston, Ont.

The Preston Car and Coach Co. is rebuilding 4 first-class coaches and equipping them with the Safety Car Heating and Lighting Co.'s superheater and Pintsch gas, for the Temiskaming and Northern Ontario Ry. It has also recently delivered a carload each of platform trucks and sleighs to the Dominion Express Co.

The C.P.R. between Oct. 13 and Nov. 19 received the following additions to rolling stock: 1 sleeping car, 6 dining cars, 2 colonist cars, 6 straight mail cars, 1 baggage and mail car, 1 mail and express car, 216 box cars, 137 flat cars, and 2 flangers, from its Angus, Montreal, shops; and 15 locomotives from the Montreal Locomotive Works.

The G.T. Pacific Ry. between Oct. 15 and Nov. 19 ordered the following rolling stock: 2,200 box cars, 100 stock cars, 50 refrigerator cars, and 50 cabooses, from the Canada Car Co., Montreal; 500 box cars from Rhodes, Curry & Co., Amherst, N.S., and 25 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont., particulars of which are given on page 879.

The C.N.R. between Oct. 15 and Nov. 15 placed orders for 20 cabooses with the Crossen Car Mfg. Co., Cobourg, Ont., and 6 baggage cars with Rhodes, Curry & Co., Amherst, N.S. Since the date mentioned, the company has also ordered 1,000 box cars from Rhodes, Curry & Co., and 750 box cars from the Canada Car Co., Montreal, all of 60,000 lbs. capacity. Delivery to commence May 1, and be completed Aug., 1909.

By a fire which occurred at Rhodes, Curry & Co.'s car building shops at Amherst, N.S., Nov. 24, 4 colonist cars and 12 baggage cars, under construction for the Intercolonial Ry., and the G.T. Pacific Ry., respectively, were destroyed, in addition to a large quantity of car building material and equipment. The shops are reported to be destroyed, the damage being estimated at about \$150,000, which is said to be only partially covered by insurance.

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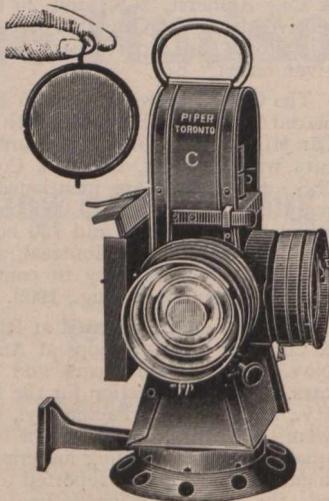
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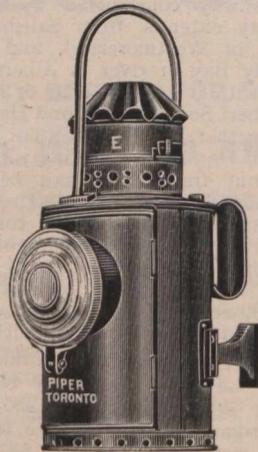
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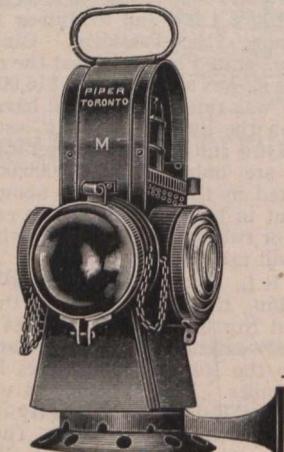
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Following are some particulars of the 500 steel frame box cars which the C.P.R. has ordered from the Dominion Car and Foundry Co., Montreal, as mentioned in our last issue.

Length, inside.....	36 ft.
Width, inside.....	8 ft. 6 in.
Height, inside.....	8 ft. 0 in.
Couplers.....	Simplex
Truck bolsters.....	Simplex
Brake beams.....	Simplex
Side bearings.....	Susemihl Frictionless
Journals.....	5 in. by 9 in.
Journal boxes.....	McCord
Wheels.....	cast iron, C.P.R. standard

The Temiskaming and Northern Ontario Ry. recently received 50 steel underframe box cars. Following are chief dimensions:

Length, inside.....	36 ft. 0 in.
Width, inside.....	8 ft. 6 in.
Height, inside.....	8 ft. 0 in.
Length, outside.....	36 ft. 11½ in.
Width at eaves.....	9 ft. 10¾ in.
Height to eaves.....	12 ft. 0 in.
Height to top of running board.....	12 ft. 6.11/16 in.
Side doors.....	7 ft. 7¾ in. by 6 ft. 0 in. wide
End doors.....	2 ft. 5¾ in. by 2 ft. 0 in. wide
Capacity.....	2,448 c. ft., 80,000 lbs.
Numbers (even nos.).....	80,000 to 80,098

The C.P.R. between Oct. 13 and Nov. 19 ordered the following rolling stock: 13 dining cars, 15 second-class cars, 10 first-class cars, 10 coaches (half ordinary passenger, half smoker), 6 baggage and smoking cars, 20 baggage and express cars, 10 mail and express cars, 22 first-class observation cars, 6 sleeping cars, 651 box cars, 29 flat cars, 11 stock cars, 4 steel coal cars, 1 snowplow, 10 consolidation locomotives, and 1 articulated compound locomotive, at its Angus, Montreal, shops; and 9 vans at its Farnham, Que., shops.

The G.T. Pacific Ry. has ordered from the Canadian Locomotive Co., Kingston, Ont., 25 mogul locomotives, for delivery on or before July 1, 1909. Following are chief dimensions, etc.:

Total weight on drivers.....	138,176 lbs.
Total weight, engine, loaded.....	161,976 lbs.
Total weight, tender, loaded.....	143,300 lbs.
Total weight, engine and tender.....	305,276 lbs.
Total wheel base of engine.....	24 ft. 3 in.
Total wheel base of tender.....	19 ft. 3½ in.
Total wheel base of engine and tender.....	53 ft. 10 in.
Total length of engine and tender.....	64 ft. 11½ in.
Cylinders.....	20 by 26 in.
Driving wheels, diam.....	63 in.
Working pressure.....	200 lbs.
Capacity—water.....	7,000 U.S. galls.
Capacity—coal.....	20,000 lbs.

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

**Canadian Northern Quebec Ry.**—It was announced in Montreal Nov. 11 that the company expects to have its new line between Garneau Jet. and Quebec ready for operation in the spring. The contractors have been pushing the work at a rapid pace, and very little now remains to be done before the track can be declared ready for traffic. This will give the company a shorter and more direct route between Montreal and Quebec than the one it has hitherto used via Rivière à Pierre and thence over the Quebec and Lake St. John Ry.

**Canadian Northern Ontario Ry.**—The work of making the rock cuts on the section of the company's line to Ottawa has been completed from St. Joseph's into the city. The grading has been completed to the west side of Green's Creek, and is ready for the rails. This line extends from Ottawa to Hawkesbury, Ont., where connection is made with the C.N. Quebec Ry. to Montreal and Quebec. With respect to the entrance into Ottawa, the final arrangements have not yet been completed with the city council, and no further construction work will be undertaken until this has been settled. Amended plans have been filed for the location of the line from the boundary between Russell and Carleton counties, 48.27 miles from Hawkesbury, to Hurdman's bridge, 57 miles from the same point. The route lies between the Montreal road and the Ottawa River for a considerable

distance, and then crosses to the south of the road. At Besserer's grove it passes through J. O'Connor's farms, and then closer to the city through the Grey Nun's property at Cyrville village, then to Hurdman's bridge, crossing the C.P.R. and the Rideau River to J. Thompson's property. The plan shows a strip of land 100 ft. wide. The company expects to have the line fully completed for operation in the spring.

**Canadian Northern Ry.**—D. D. Mann, Vice-President, who arrived in Winnipeg, Nov. 12, from Edmonton, Alta., having completed an inspection of the company's lines, said in an interview that excellent progress was being made with the new lines, and added it was possible that in some cases grading would be continued during the whole winter. With regard to work for 1909, he said it had been decided that large sums would be expended in improving the line from Winnipeg to Lake Superior. Heavier steel would be laid; heavy bridges would be put in, and the line made equal in all respects to any trunk line on the continent. Faster and much heavier trains could then be carried, and the general service would be very much improved. This expenditure would be made solely for the reason that the demands of business required it.

In reference to the general policy of the company in the West, Mr. Mann said: "Our policy as to railroading in the West has been criticized, but we have found that it is of undoubted advantage in the settlement of a new country that the introduction of what might be called the pioneering system of railroading, the quick construction and the utilization of light rails, meet the immediate demands of districts, encourages settlement and creates a market, and then when the situation demands its grades may be improved and the weight of the rails increased in response to the necessities of the traffic. That policy has been followed on the C.N.R., and we are now engaged in carrying out the second installment of that policy on our lines. The roadbed between Winnipeg and Port Arthur is being perfected and the best grade of heavy rails laid. The pioneering system, you can see, has its decided advantages, as it creates a market, settles the direction of highways and builds up towns and villages. Then follows in natural sequence the perfectly equipped road and other lines are at the back door. When a road is thus built, the fixed charges are less, allowing more percentage to the stockholders."

C. W. Cooper, Assistant General Passenger Agent, is reported to have said, Nov. 2, the company has constructed more than 350 miles of road this season. There are more than 3,000 miles of extensions surveyed, and on some of these construction will be proceeded with next year.

The company's new line into Regina, Sask., was opened for traffic Nov. 5. A tri-weekly service is being operated from Brandon, Man., to Regina, 225 miles.

Steel had been laid on Nov. 12 as far as Thunder Creek, on the Thunderhill branch, a distance of 11 miles from Thunderhill Junction. At this point a bridge 850 ft. long, and 85 ft. high, is being erected. It will take about a month to complete the bridge, and it is expected to resume track-laying shortly after the bridge is finished. There is steel enough on hand to lay an additional 15 miles of track, and it is understood that the company hopes to be able to complete the line to the provincial boundary this year.

The company's tracklaying gang started out Nov. 11 for the line under construction to Hudson Bay, on which track has already been laid to Pas Mission. It is hoped to be

able to lay an additional 25 miles of track this season.

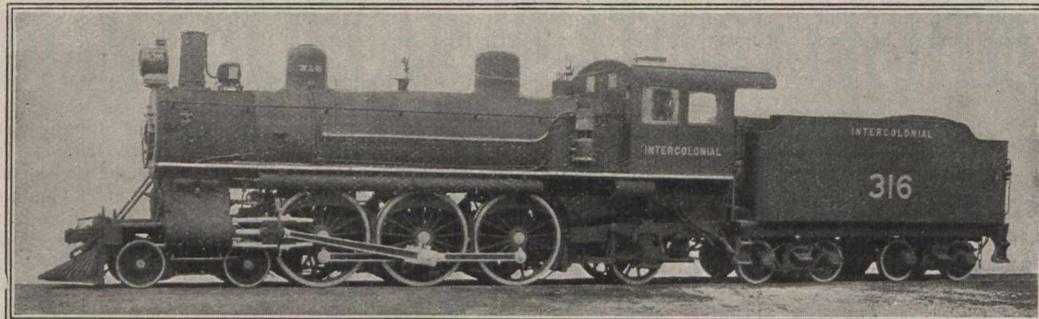
It was reported early in Nov. that 60 miles of track had been laid on the Goose Lake branch, and that the grading had been completed for a further distance of 20 miles. It is hoped to get track completed on this distance during the present season, and to have a further distance of 20 miles graded by the end of the year.

M. H. McLeod, General Manager, went over the line Nov. 2, and it was subsequently reported that grading had been abandoned for the winter, owing to the frost. D. C. Campbell, of the construction department, stated that 30 miles of the branch was ready for service, the tracklaying gang had the steel laid for about 60 miles, and would continue at work through the winter. The surfacing gang would resume work in the spring. While in Saskatoon, Mr. McLeod looked into the condition of the station and yards. He said plans for the new station had been completed, and everything would be in readiness for calling for tenders in the spring. There would also have to be some rearrangement of the yards, so as to give better facilities for handling trains.

The freight offices and sheds which the company is erecting at Saskatoon, Sask., are expected to be completed by Dec. 31. The situation of the buildings is between Twentieth and Twenty-first Sts., facing on First Ave. As shown by the plans the sheds will be 240 ft. long by 40 ft. wide. On the street side there will be a team approach, while on the other side will be the tracks. The structures are to be of frame, metal clad, with hardwood floors. A special room will be provided for bonded freight. The existing station will be remodelled as soon as the freight officials are transferred to the new buildings, and will be utilized until the work of erecting a complete new structure is undertaken, which it is hoped will be arranged for by the end of 1909.

**Railways and the Lord's Day Act.**—The annual report of the Lord's Day Alliance of Ontario for 1907-08 expresses satisfaction with the manner in which the existing legislation is enforced. The only real complaint that the organization has to make is in regard to the operation of electric railways on Sundays. The report says there seemed to be an increasing tendency on the part of electric railways to operate their cars on Sundays. The Alliance had not had much success in putting a stop to the practice. The recent decision of the Ontario Railway and Municipal Board in the Port Arthur Sunday car case, which for the present prevents the Province from prosecuting the town for a violation of the law, has created a new situation, and since its deliverance several companies have started Sunday operation. The enforcement of the law against steam railways has been accompanied with great difficulty owing to persistent endeavors of the companies to be exempted from the general law by special legislation.

Judgment has been delivered in the Supreme Court, dismissing the appeal of the Great Northern Ry. of Canada against the decision of the lower court, in its case against the Furness-Withy Steamship Line, and maintaining the cross appeal of the latter company, as to the construction of a contract between the two companies respecting the running of a line of steamships between Quebec and Manchester, Eng., during the navigation seasons of 1902 and 1903, and the supplying of cargoes for them. By the appeal the amount payable by the G.N.R. of Canada was increased from \$1,708 to \$3,992.



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## MAINLY ABOUT PEOPLE.

Sir Thos. Shaughnessy has given \$6,000 to the Students' Home of Laval University, Montreal.

D. McNicoll, Vice-President C.P.R., left Montreal Nov. 16 on a tour of inspection of the company's Atlantic Division.

D'Arcy Scott, who was recently appointed Assistant Chief Railway Commissioner, has resigned his position as Mayor of Ottawa.

The engagement is announced of Miss M. Angus, daughter of R. B. Angus, director C.P.R., to Dr. H. W. Chipman, of Montreal.

J. D. Oppe, formerly General Manager Marconi Wireless Telegraph Co. of Canada, returned to Canada, recently, from Great Britain.

C. R. Hosmer, director C.P.R., presided at a dinner at the Mount Royal Club, Montreal, Nov. 1, at which Viscount Milner was the principal guest.

F. H. Wilson, formerly locomotive foreman G.T. Pacific Ry. at Melville, Sask., has entered the Canadian Northern Ry.'s employ as a machinist.

A. H. Collinson, Chief Engineer of the Shanghai and Nankin Ry., was in Montreal, Oct. 30, on his way to Great Britain to spend a short vacation.

J. McKee, at one time in the I.C.R. service, and since 1875 in the employ of the Prince Edward Island Ry., died at Charlottetown, P.E.I., Oct. 30, aged 62.

The Canadian Railway Club's scholarship in McGill University, Montreal, has been won by Bruce Robb, son of W. D. Robb, Superintendent of Motive Power G.T.R.

Sir William Van Horne left Montreal recently to pay a visit to his model farm at Selkirk, Man., after which he intended making a tour of C.P.R. western lines.

F. C. Salter, European Traffic Manager, G.T.R., returned to Liverpool, Eng., recently, after an extensive trip through the European Continent in the interests of the G.T.R.

L. O. Armstrong, C.P.R. Industrial Agent, and H. R. Charlton, G.T.R. Advertising Agent, attended the annual dinner of the Canadian Camp Club at New York, Nov. 13.

Lord Strathcona, who is president of the Royal Caledonia Curling Club of Scotland, has subscribed \$1,000 towards the expense of sending a Canadian curling team to Scotland.

The engagement is announced of Miss P. E. Kingsmill, sister of Rear-Admiral Kingsmill, Commander of the Canadian cruiser fleet, to Capt. J. M. Young, of Darjeeling, India.

Dr. J. W. Fletcher, who died in Montreal, Nov. 8, was a son-in-law of Collingwood Schreiber, C.M.G., Consulting Engineer of the Dominion Department of Railways and Canals.

Mrs. Robt. Kerr, wife of the Passenger Traffic Manager C.P.R., returned to Canada by the C.P.R. Empress of Britain Nov. 19, after having spent some time in Great Britain.

Col. Sir Henry M. Pellatt, a director of various transportation and industrial companies left Toronto Nov. 3, and sailed from New York on the following day for Great Britain.

H. M. Clark was sentenced to imprisonment in London, Eng., recently, for obtaining money by false pretence. He used cards bearing the name of E. B. Osler, one of the C.P.R. directors.

J. R. Nelson, Superintendent district 2, Ontario Division, C.P.R., was acting as General Superintendent Ontario Division, recently, during the absence of J. Osborne on his wedding trip.

C. M. Hays, President G.T. Pacific Ry., has sent \$50 to Mrs. O'Rourke, wife of a train dispatcher, in commemoration of the birth of the first child born in Melville, Sask., to a G.T.P.R. employe.

Lord Northcote, who recently returned to England, via Canada, from Australia, where he has completed his term as Governor-General of the Commonwealth, is a son-in-law of Lord Mount Stephen.

Lord Mount Stephen has contributed securities to the amount of \$73,000 to the presentation fund for the pastor of St. Paul's Presbyterian Church, Montreal, with which he was at one time associated.

F. Wilson, formerly Locomotive Foreman G.T.P. shops, Melville, Sask., was presented with a diamond ring by the employes there, recently, on his leaving for Winnipeg to take service with the C.N.R.

T. E. Kenny, President of the Royal Bank of Canada, who died at Halifax, N.S., Oct. 25, aged 75, was a member of the Royal Commission on Railways appointed by the Dominion Government in 1886.

The London, Eng., County Council has granted permission to its Chief Engineer, Maurice Fitzmaurice, C.M.G., to join the board of engineers formed to deal with the rebuilding of the Quebec Bridge.

Sir George and Lady Drummond entertained Viscount Milner at dinner, in Montreal, Nov. 2, at which were also present Sir Montagu and Lady Allan, Lady Shaughnessy and Senator L. J. and Madame Forget.

R. R. Jamieson, who recently resigned the position of General Superintendent Central Division, C.P.R., is reported to have accepted the invitation to run as a candidate for the Mayoralty of Calgary, Alta., where he is now residing.

G. M. Bosworth, Fourth Vice-President C.P.R., sailed from Quebec Oct. 31 for England, on the Empress of Britain, and returned to Canada accompanied by Mrs. and the Miss Bosworth, on the same vessel, Nov. 19.

D. B. Hanna, Third Vice-President Canadian Northern Ry., sailed from New York, Nov. 21, on the s.s. Celtic, for England, where he will join the President, W. Mackenzie. They are both expected to return to Toronto before Christmas.

H. E. Carry, C.E., who has for some time been engaged in business in Merritt, B.C., has removed his office to Vancouver. During the past summer he has had charge of a survey party operating for the C.P.R. between Nicola and Penticton, B.C.

G. H. Pelletier, son of H. A. Pelletier, employed in the Richelieu and Ontario Navigation Co.'s supply department at Montreal, has been presented with the Royal Canadian Humane Society's medal for bravery in a rescue of an infant from drowning.

In an action against Mrs. Mackenzie, wife of W. Mackenzie, President Canadian Northern Ry., for damages for trespass on some ground situated next to some of her property at Balsam Lake, Ont., the Court found for the plaintiff, and assessed the damages at \$150.

C. M. Hays, Second Vice-President and General Manager G.T.R., returned to Montreal, Oct. 30, from his trip of inspection over the G.T. Pacific Ry., and points in British Columbia. He left Montreal again Nov. 16 for Quebec, whence he sailed for England.

H. N. Kitson, member of the Ontario Railway and Municipal Board, while driving on Main St., Hamilton, Nov. 22, was thrown from the vehicle through the horse slipping, and sustained a rather severe shaking, which necessitated his absence from duty for a few days.

David Hobbs, at one time in charge of the C.P.R. Customs Department, Montreal, and who was sentenced, in 1904, to 5 years in the penitentiary, for fraud on the company, and recently released, died Nov. 1, in the Western Hospital, where he had been removed after having been run over by a C.P.R. train.

Rev. Father Burke, who has taken up his residence in Toronto in connection with the newly established Catholic Church Extension Society, was, while living in Prince Edward Island, a most active and enthusiastic advocate of the project for the construction of a tunnel to connect the island with the mainland.

Sir Edward Stracey, partner in Sperling & Co., the British financial firm interested in the Canadian Northern Ry., and other Canadian transportation undertakings, arrived in Montreal Nov. 21, in connection with the meetings of some of the Mexican electrical concerns in which the firm is interested.

C. W. Morse, at one time head of the Consolidated Steamship Co., of which the Eastern Steamship Co., operating vessels between Halifax, St. John and Boston, forms a part, was recently convicted of fraudulently dealing with the funds of a bank in which he occupied a leading position, and sentenced to 15 years in the penitentiary.

R. H. Ingram, who was recently appointed General Manager of the Cananea, Yaqui River and Pacific Rd., is a native of Montreal, and was for a number of years in G.T.R. service, severing the connection at the time that C. M. Hays, now Second Vice-President and General Manager G.T.R., left that company for the Southern Pacific Rd. service.

C. B. Foster, Assistant General Passenger Agent C.P.R., Vancouver, B.C., was presented recently with a grandfather's clock in mahogany with matched silver dial, by the staff of the District Passenger Agent's Office, Toronto, and ticket agents in Ontario, of which he was the head, before being promoted to his present position.

A portrait of J. A. Galbraith, D.Sc., Dean of the Faculty of Applied Science in the University of Toronto, was unveiled in the Convocation Hall Nov. 4. The portrait was presented to the University by the graduates and undergraduates of the School of Practical Science, with which Dr. Galbraith had been connected, as Principal, since its foundation in 1881.

J. R. Bowles, City Freight Agent, G.T.R., Montreal, was born in 1874, and entered G.T.R. service in 1893 as messenger at Petrolea, Ont., since when he was successively billing clerk, stenographer, cashier, relieving agent, and chief clerk, Local Freight Department, Montreal Terminals, to May 1, 1908, at which date he was appointed to his present position.

Lieut. C. W. W. McLean, son of Col. H. H. McLean, Vice-President St. John, N.B., Ry., and one of the Counsel for the Canadian Street Railway Association, has been promoted to be Captain in the Royal Horse Artillery, and sailed for England recently to take up his duties. Capt. McLean saw service in South Africa, where he was A.D.C. to General Colville, and has latterly been stationed in India.

R. A. Burford, Cashier C.P.R., New York, was born at Brooklyn, N.Y., Oct. 4, 1878, and entered railway service July, 1901, since when he has been, to Jan., 1902, clerk in C.P.R. Immigration Office, New York; Jan. to Nov., 1902, ticket agent C.P.R., New York; Nov., 1902, to Feb., 1906, City Passenger and Freight Agent C.P.R., Buffalo, N.Y.; Feb., 1906, to Sept., 1908, City Passenger Agent C.P.R., Buffalo, N.Y.

Frank C. Foy, son of the late John Foy, President Niagara Navigation Co., and who

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was recently appointed Canadian Passenger Agent, New York Central Lines, Toronto, was born there, July 5, 1881, and entered transportation service Oct. 10, 1899, with the Niagara Navigation Co. He was appointed city ticket agent, New York Central Lines, Toronto, Sept. 15, 1902, which position he held until Oct. 7, 1908, the date of his present appointment.

H. Gates Reid, whose appointment as Master Mechanic, C.P.R. Lake Superior Division, North Bay, Ont., was announced in our Nov. issue, entered C.P.R. service Mar., 1884, and was, to Nov., 1884, wiper; Nov., 1884, to Nov., 1887, fireman; Nov., 1887, to Dec., 1904, engineer; Dec., 1904, to June, 1905, relieving road foreman of locomotives; June, 1905, to Mar., 1907, engineer; Mar. to April, 1907, general foreman, Chapleau, Ont.; April, 1907, to Oct., 1908, District Master Mechanic, Lake Superior Division, district 1, North Bay, Ont., all service with C.P.R.

Gordon Ross, a student at Bishops' College, Lennoxville, Que., and son of W. G. Ross, Managing Director Montreal Street Ry., was accidentally shot on Nov. 8 near Woodlands, his father's summer home, about 20 miles from Montreal up the St. Lawrence River. He was in a boat with the caretaker of the house when his gun was discharged. The charge entering his right arm and badly shattering it. As quickly as possible a special C.P.R. train was procured from Montreal, and he was rushed to the Royal Victoria Hospital. At first it was thought he would lose his arm, but this danger is now apparently over, though it is very doubtful if he will be able to use it to any extent.

Paragraphs have appeared in various daily newspapers recently purporting to record an interview between the Emperor of Germany and Archer Baker, European Manager C.P.R., London, Eng., at Kiel, in which it is said that arrangements were considered for an early visit of the Emperor to Canada. The origin of the story can be traced to an incident which took place about four years ago at Kiel, when M. Baker, on his introduction to the Emperor, was reported to have suggested a visit, and to which the reply was given that when the C.P.R. ran vessels across the Atlantic in four days, it might be considered. In the press reports Mr. Baker is described as "M.P.," an honor for which we feel sure he has no desire.

The following retired employes of the Intercolonial Ry., not being employes of the administrative or clerical branches of the civil service, have been awarded the Imperial Service Medal, in recognition of long and meritorious service: A. Belanger, section foreman; E. Boak, freight agent; S. Buchanan, section foreman; G. Cameron, stores issuer; L. Collet, pumpman; M. Doyle, carpenter; A. Duquemin, station master; D. Fraser, section foreman; E. Guay, station master; R. Harrison, section man; J. Johnson, engine man; W. Kelly, track master; A. Leger, track man; J. Lockhart, section foreman; R. McDonald, engine man; D. S. McKay, section foreman; G. Malcolm, foreman shunter; M. Pelletier, locomotive cleaner; J. Simmons, blacksmith; R. Wallace, fitter; and G. Wilson, section foreman.

E. V. Skinner, Assistant Traffic Manager C.P.R., New York, who died there, Nov. 7, as the result of an apoplectic seizure, was born in London, Eng., Apr. 22, 1849, and entered railway service in 1879, as Passenger Agent, New York, Lake Erie and Western Rd., since when he was consecutively: 1881 to 1882, Passenger Agent, Pennsylvania Rd.; 1882 to 1885, Passenger Agent, New York, Lake Erie and Western Rd.; and from 1885 until the road was purchased by the Vanderbilt interests, he was General Eastern Agent, West Shore Rd., after which he was appointed General Eastern Agent, C.P.R., at New York,

and from Mar. 1, 1904, to the date of his death he was Assistant Traffic Manager, same road. The funeral, which took place at Yonkers, N.Y., Nov. 9, was attended by R. Kerr, Passenger Traffic Manager, and S. P. Howard, General Freight Agent, Eastern and Lake Superior Divisions, C.P.R.

N. J. Power, who has retired from the position of General Auditor, G.T.R., under the provisions of the company's pension rules, was born at Rochester, N.Y., May 19, 1843, and entered railway service 1859, since when his record has been: 1859 to 1867, clerk Freight Department, Great Western Ry., Hamilton, Ont.; 1867 to 1873, chief book-keeper Accountant's office, same road; 1873 to 1878, Accountant, same road; 1878 to 1882, General Auditor, same road; 1882 to 1886, Assistant Accountant G.T.R., which in 1882 took over the G.W.R.; 1886 to April, 1892, Secretary of Audit Board G.T.R., Montreal; April, 1892, to April, 1896, General Passenger Agent G.T.R.; April, 1896, to Jan. 1, 1907, Auditor of Disbursements, G.T.R.; and Jan. 1, 1907, to Oct. 31, 1908, General Auditor, G.T.R., Montreal. Mr. Power left Montreal with his family, Oct. 30, for Pasadena, Cal., where he will in future reside.

Joseph Hobson, Consulting Engineer, G.T.R., whose portrait appears on the first page of this issue, was born at Guelph, Ont., 1834, and entered railway service in 1858, since when he has been consecutively to June, 1860, assistant engineer G.T.R. construction west of Toronto, and subsequently assistant engineer on various lines in Nova Scotia, Ontario, and Michigan; June, 1869, to April, 1870, engineer construction Wellington, Grey and Bruce Ry.; April, 1870, to Nov., 1873, resident engineer International Bridge, Buffalo, N.Y.; Nov., 1873, to June, 1875, chief assistant engineer Great Western Ry.; June, 1875, to Feb., 1896, Chief Engineer same road; (during this period the G.W.R. was absorbed by the G.T.R.); Feb., 1896, to Aug. 1907, Chief Engineer G.T.R. System. He was the Chief Engineer of the St. Clair Tunnel Co. from its organization to the completion of the work, and is still a director of the company; is a member of the Institute of Civil Engineers, London, Eng.; of the American Society of Civil Engineers; of the Canadian Society of Civil Engineers, and is an Ontario and Dominion Land Surveyor.

The lists of officers for the current year of the various International railway associations, contain a fair percentage of Canadian railway officials. A feature, however, is that a larger proportion than in any previous year almost, are either presidents or vice-presidents. The names on the lists include: J. E. Quick, General Baggage Agent G.T.R., Toronto, Secretary-Treasurer American Association of General Baggage Agents; G. T. Bell, General Passenger Agent, G.T.R., Montreal, President American Association of General Passenger and Ticket Agents; W. McNab, Principal Assistant Engineer, G.T.R., Montreal, President American Railway Engineering and Maintenance of Way Association; H. H. Vaughan, Assistant to Vice-President, C.P.R., Montreal, First Vice-President American Railway Master Mechanics' Association; W. A. Cooper, Superintendent C.P.R. Dining and Sleeping Car service, Montreal, Vice-President American Association of Dining Car Superintendents; W. J. Camp, Electrical Engineer C.P.R. Telegraphs, Montreal, President American Association of Railway Telegraph Superintendents; J. H. Callaghan, General Storekeeper C.P.R., Montreal, President Railway Storekeepers' Association; F. Scott, Treasurer G.T.R., Montreal, First Vice-President Society of Railway Financial Officers. There may be added to these the name of C. A. Jaques, Montreal, who is President of the International Water Lines Association.

## TRADE AND SUPPLY NOTES.

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

Canadian Westinghouse Co. has issued circular 1126, dealing with Westinghouse types C and CL transformers.

John L. Walker, heretofore Auditor for The Buda Foundry and Mfg. Co., has resigned to become Manager of the "Use-Em-Up" socket department of the American Specialty Company, Chicago, Ill.

The Goldschmidt Thermit Co. has issued an illustrated pamphlet, "Applications of Thermit in foundry practice," describing the uses to which Thermit may be put, with details of instructions to be followed.

The Brown Hoisting Machinery Co., Cleveland, O., issues catalogue E relating to grab buckets for ore, and general excavating work; automatic tubs and buckets, etc., with illustrations of several of the plants installed. A special catalogue is also issued, describing the ferro-inclave steel sheeting for roofing, etc.

The Alexander Milburn Co., Baltimore, Md., has recently shipped a number of its 5,000 candle power lights to Vancouver, B.C.; to Mexico; The California Reclamation Co., San Francisco, Cal.; Lane Bros. & Jones, who are constructing the large Forest Park reservoir; The Nevada Consolidated Copper Mines, and to the Great Lakes Construction Co., Buffalo, N.Y.

Canadian Rand Co., Montreal, has issued an air and gas compressor catalogue of over 100 pages, in which the details of construction are fully dealt with and the proper design of compressors for various kinds of work are pointed out. The catalogue is beautifully printed and illustrated, and will be of great value not only to buyers of compressors but also to men in charge of compressors.

Warren L. Boyer, formerly with the Peckham Truck Co., and later on with the New York Car and Truck Co. at Kingston, N.Y., has become associated with the American Brake Shoe and Foundry Co. as assistant in the Engineering Department. His duties will be to look after the standardization of brake heads and brake shoes on the lines of the American Street and Interurban Railway Association's standards.

R. W. Hunt & Co., Consulting and Inspecting Engineers, Chicago, Ill., and Montreal, have been awarded by the Chicago and Northwestern Rd. the inspection of the structural materials entering into the new terminal station, of which the steel will amount to about 24,000 tons. The same firm has been given the inspection of the steel to be used in the Blackstone Hotel now being erected at the corner of Michigan Ave. and Hubbard Court, Chicago.

The Canadian Society of Civil Engineers will hold its annual meeting in Toronto, Jan. 28, 29 and 30, 1909.

The fuel agents of the various railway companies on the continent, at a meeting in Chicago recently, decided to form an association of those engaged in the purchasing, distributing, handling and accounting of fuel on the railways throughout America. An organization committee was formed, of which T. Britt, General Fuel Agent C.P.R., Montreal, was elected a member.

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, General Passenger and Ticket Agent, MONTREAL. QUE.

# EDWARDS

TRADE  
"PAOWNYC"  
MARK

## SASH LOCKS

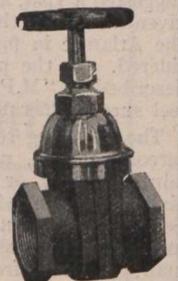
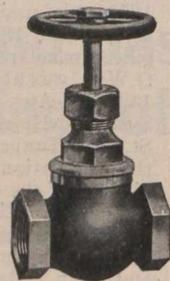
Our No. 13 combined Sash Lock and Lift in use on your windows is an absolute protection to the passenger. It prevents the sash from falling. Write for sample.

## STEEL TRAP DOORS

Designed for either vestibuled platforms or observation end. They embody strength and simplicity of application. Blue prints and information promptly furnished.

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SYRACUSE, N.Y., U.S.A.

# KERR'S GLOBE AND GATE VALVES



STRICTLY  
HIGH GRADE.  
TESTED &  
PACKED

**THE KERR ENGINE CO. LIMITED**  
VALVE AND HYDRANT MANUFACTURERS  
WALKERVILLE, ONT.

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Manufacturers of



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 :  
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**I. A. YOUNG,**  
AGENT

## 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. Any of our readers who may notice any error in our announcements will confer a favor by advising us.

**Boston and Albany Rd.**—J. F. Fairlamb, General Passenger Agent, New York Central and Hudson River Rd., has also been appointed General Passenger Agent, B. and A.R., vice A. S. Hanson, transferred. Office, Grand Central Station, New York.

A. S. Hanson, heretofore General Passenger Agent, has been appointed General Agent. Office, South Station, Boston, Mass.

**Canadian Northern Ry.**—A. A. McDonald, Contracting Freight Agent, Montreal, having resigned, the work will in future be done by W. Dixon, heretofore in the District Freight and Passenger Agent's office, Great Northern Ry. (U.S.), Montreal, who has been appointed Soliciting Freight Agent, C.N.R., Montreal.

**Canadian Pacific Ry.**—J. M. Burke, heretofore road foreman of locomotives, has been appointed District Master Mechanic Atlantic Division. Office, Brownville Jct., Me.

M. J. Buckley, heretofore locomotive foreman Three Rivers, Que., has been transferred to a similar position at the city of Quebec, vice A. Fortin, resigned.

J. Gregoire has been appointed locomotive foreman at Three Rivers, Que., vice M. J. Buckley, transferred to the city of Quebec.

G. S. Cantlie, heretofore Superintendent Car Service Department, Montreal, is reported to have been appointed General Superintendent Car Service Department. Office, Montreal.

Norman Ham, heretofore in the Board of Railway Commissioners' offices, Ottawa, has been appointed in charge of the percentage division, C.P.R. Freight Tariff Bureau, Montreal.

G. T. Fulton has been appointed District Master Mechanic district 2, Lake Superior Division and Chalk River section of district 4, including Brockville branch. Office, Carleton Jct., Ont.

C. A. Stark, heretofore Division Master Mechanic North Bay, Ont., has been appointed general foreman, Carleton Jct., Ont.

John Burns, heretofore general foreman, North Bay, Ont., has been appointed District Master Mechanic, district 1, Lake Superior Division, vice H. Gates Reid, promoted. Office, North Bay, Ont.

W. H. Fletcher has been appointed general foreman at North Bay, Ont., vice J. Burns, promoted.

Jno. McCallum, heretofore Bridge and Building Master, district 2, Lake Superior Division, has been appointed Assistant Superintendent same district, in charge of maintenance of way and structures, and such other duties as may be assigned. Office, White River, Ont. Transportation matters in this district remain as heretofore in charge of W. B. Way, Assistant Superintendent.

On account of the resignation of F. E. Quinn, Assistant General Baggage Agent, Pacific Division, and B.C. and Pacific Coast Steamship Service, the jurisdiction of J. Sparks, Assistant General Baggage Agent, Western Lines, Winnipeg, has been extended to include Pacific Division and the B.C. and Pacific Coast Steamship Service. He reports to the General Baggage Agent, Montreal.

D. C. Coleman, heretofore Superintendent district 3, Pacific Division, Nelson, B.C., has been appointed Superintendent Car Service Department, Western Lines. Office, Winnipeg.

J. A. Macgregor, heretofore Assistant Superintendent Car Service Department, Winnipeg, has been appointed Superintendent dis-

trict 4, Central Division, vice Allan Purvis, transferred. Office, Souris, Man.

M. Tolan has been appointed agent Sleeping, Dining and Parlor Department, Moose Jaw, Sask., vice H. M. Peacock, resigned.

R. D. Smith, heretofore road foreman of locomotives Medicine Hat, Alta., has been appointed District Master Mechanic district 2, Western Division. Office, Medicine Hat, Alta. The position of road foreman of locomotives has been abolished.

J. F. Kane, heretofore chief clerk Second Vice-President's office, Winnipeg, has been appointed Fuel Agent Western Division, vice W. B. Harris, transferred. Office, Calgary, Alta.

R. L. Pickell has been appointed city ticket agent Edmonton, Alta. Office, 145 Jasper Ave. East.

A. D. Ayer has been appointed agent Sleeping, Dining and Parlor Car Department, Cranbrook, B.C., vice W. T. Murray, transferred to Winnipeg.

Allan Purvis, heretofore Superintendent district 4, Central Division, Souris, Man., has been appointed Superintendent district 3, Pacific Division, vice D. C. Coleman, promoted. Office, Nelson, B.C.

H. J. Maguire, heretofore Travelling Baggage Agent, Winnipeg, has been appointed District Baggage Agent for the Pacific Division and the B.C. and Pacific Coast Steamship Service, vice F. E. Quinn, resigned. Office, Vancouver, B.C.

F. L. Hay has been appointed acting Superintendent Sleeping, Dining and Parlor Car Service, district 5, Vancouver, vice H. R. Bain, resigned.

Lincoln Smith, formerly Superintendent C.P.R. Upper Lakes Service, Owen Sound, Ont., and latterly in the Steamship Department's office, Montreal, has been transferred to the office of Capt. J. W. Troup, General Superintendent C.P.R. British Columbia Coast Service, Victoria, B.C., as chief clerk.

No appointment has been made of a successor to the late E. V. Skinner, as Assistant Traffic Manager, New York. F. W. Dudley, Eastern Passenger Agent, and W. F. Stevenson, Eastern Freight Agent, are carrying on the work under these titles, which they have held for some time past.

A. E. Disney, heretofore chief clerk, has been appointed City Passenger Agent, C.P.R. Atlantic Steamship Lines, Chicago, Ill.

W. F. Bloomquist has been appointed Travelling Passenger Agent C.P.R. Atlantic Steamship Lines, vice T. J. Burns, promoted. Headquarters, Chicago, Ill.

J. J. Forster has been appointed Travelling Passenger Agent C.P.R. Atlantic Steamship Lines, vice T. J. Barnes, promoted to City Passenger Agent C.P.R., St. Louis, Mo. Headquarters, Chicago, Ill.

T. J. Burns has been appointed North-Western Passenger Agent C.P.R. Atlantic Steamship Lines. Office, Minneapolis, Minn.

H. Debenham ceased to act as the company's representative in Antwerp, Belgium, on Oct. 31. S. W. Cruse has been appointed as his successor, the appointment to take effect Jan. 1, 1909, until which date W. R. Crighton will have charge of the company's business at Antwerp.

**Grand Trunk Pacific Ry.**—A. Watt, heretofore acting locomotive foreman Melville, Sask., has been transferred to Wainwright, Alta., with charge of all matters pertaining to the Motive Power and Car Departments there.

C. D. Fisher, heretofore trainmaster at Melville, Sask., has been granted extended leave of absence, and the position has been abolished.

D. L. Jones has been appointed locomotive foreman Melville, Sask., with charge of all matters pertaining to the Motive Power and Car Departments there, vice A. Watt, transferred.

**Grand Trunk Ry.**—The following agents have been appointed: Lennoxville, Que., E. J. Astell; Sherbrooke, Que., Wm. Harrison; St. Michel (Passenger), Que., Mrs. H. Roy; St. Annes, Que., W. J. James; Kirkfield, Ont., W. R. Dickson; Kinmount, Ont., R. A. Levia; Powassan, Ont., J. J. Carey (temporary); Thornton, Ont., T. Barlow; Colwell, Ont., J. Mitchell; Forest, Ont., W. Middleton; Copetown, Ont., W. G. Baker; Bright, Ont., H. C. Baird; Burgessville, Ont., D. W. Walton; Tara, Ont., C. H. Smith.

**Hull Electric Co.**—W. R. Baker, Secretary C.P.R., who is also Vice-President and General Manager Hull Electric Co., has issued a circular announcing that W. R. Taylor having resigned from the latter company's service, C. C. Pangman has been appointed Secretary-Treasurer, with office in Montreal; and C. G. Gale, heretofore Superintendent Power Section, has been appointed acting General Superintendent with office at Deschenes, Que. This company operates the electric railway between Ottawa, Ont., and Aylmer, Que.

**Intercolonial Ry.**—J. T. Hallisey, acting Superintendent Halifax and St. John District, has been appointed Superintendent, vice G. M. Jarvis, deceased.

**National Transcontinental Ry.**—A. Frohoefer, who was formerly engaged on the C.P.R. second track work between Montreal and Smith's Falls, Ont., has been appointed Division Engineer, division 4, District D, National Transcontinental Ry.

**New York Central and Hudson River Rd.**—In announcing the resignation of E. J. Richards, Chief Assistant General Passenger Agent, in our Nov. issue, the name, by an error, appeared as E. J. Richard.

**New York Central Lines.**—F. A. Linderman, heretofore foreman boiler maker, Michigan Central Rd., Jackson, Mich., has been appointed Supervisor of Boilers, vice G. Wagstaff, resigned. Office, West Albany, N.Y.

**Toronto, Hamilton and Buffalo Ry.**—J. Millard has been appointed Roadmaster, vice R. G. Gray, resigned. Office, Hamilton, Ont.

**The Central Vermont Ry. and the Standard Oil Co.**—In the action brought by the U.S. Government to secure the dissolution of the Standard Oil Co., G. B. Ferguson, a clerk in the Central Vermont Ry. Co.'s offices, gave evidence Oct. 29. After enumerating various tariffs in force on the line, none of which he declared had been secret, he was specially examined by the Government attorney, who elicited the information that a special rate had been issued to the Standard Oil Co. Pressed as to what other shippers had benefited from this special tariff the witness said that as far as he knew the rate applied only to the Standard Oil Co. The extent of the preference accorded to the Standard Oil Company by the C.V.R. was shown in two letters quoting freight rates per carload. In one instance the rate was given as \$33 a carload, while in the other case the rate quoted was \$23. The witness admitted that the \$23 rate was the one under which the C.V.R. carried the Standard Oil Co.'s shipments.

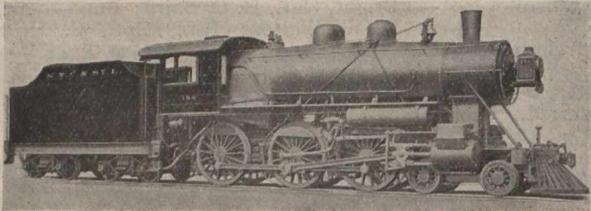
The Quebec Court of Appeal has reversed the judgment of the court below, in the action of the C.P.R. against the Hochelaga Bank, to recover \$500 for five cheques previously cashed by the C.P.R. agent at St. Jerome, who subsequently became an embezzler.

The Port Stanley, Ont., magistrates have, in view of the decision of the Board of Railway Commissioners, decided to dismiss the case against the Pere Marquette Rd. for violating the Lord's Day Act, by doing alleged unnecessary shunting from the ferry boats there on Sundays.

## 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

**BURNHAM, WILLIAMS & COMPANY**

PHILADELPHIA, PA., U.S.A.

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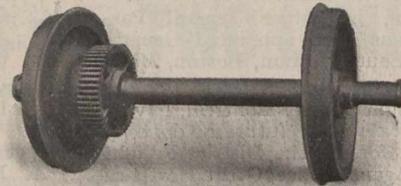
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WINNIPEG, MAN.

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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

## New Trails to the Canadian Game Lands

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

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

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

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

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

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

## 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.**

FOR STREET PAVING MATERIAL

**SCORIA  
BLOCKS** are the cleanest,  
most noiseless  
and, durability  
considered, the  
cheapest yet  
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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 Canada Iron Corporation, Limited.**

Parr's Bank, Ltd., London, Eng., under authority of the Western Canada Trust, Ltd., also of London, contractors for the loan, offered for subscription at the end of October, £360,000 six per cent. 1st mortgage bonds of the Canada Iron Corporation, Ltd., at £99, 10s. per cent., out of an issue of £500,000, part of a total authorized issue of £600,000, of which £100,000 is held in reserve and £136,000 is taken in exchange bond for bond, by holders of bonds in the companies consolidated in the Canada Iron Corporation. The prospectus states that the whole of the amount offered had been underwritten, £100,000 having been underwritten in Canada. £120,000 were taken firm. The capital stock of the corporation is \$8,000,000, divided into \$3,000,000 six per cent. preferred and \$5,000,000 common, of which \$2,759,000 preferred and \$4,687,000 common will be issued as fully paid to the vendors of the properties consolidated.

The corporation has been formed to acquire and consolidate under one management the Canada Iron and Foundry Co., Ltd.; The Canada Iron Furnace Co., Ltd.; Jno. McDougall & Co.; The Annapolis Iron Co., Ltd.; and the majority of the stock of the Londonderry Iron and Mining Co., Ltd. These companies own the following properties: Blast furnaces at Midland, Ont.; Radnor Forges at Drummondville, Que., and Londonderry, N.S.; foundries and works at Hamilton, St. Thomas, Midland and Fort William, Ont.; Three Rivers and Montreal, Que., and Londonderry, N.S. The iron mines are: Mayo mine, Hastings County, and one in Renfrew County, Ont.; Radnor Forges and Drummondville, Que.; and near Bathurst, N.B.; Annapolis and Londonderry, N.S. The furnaces have a combined capacity of about 87,000 tons of pig iron per year. The foundries, which have a capacity of from 125,000 to 150,000 tons of castings per year, are principally engaged in the manufacture of cast iron pipes and chilled iron car wheels. They have contracts with municipalities, etc., throughout the Dominion for pipes, and regularly supply car wheels to a large number of railway companies. It is intended to use part of the proceeds of the bond issue in doubling the capacity of the furnaces and adding to the foundry plants.

The profits of the companies being consolidated are given as follows:

Canadian Iron & Foundry Co., Ltd., year ended May 31, 1908.....	\$154,720.88
Canada Iron Furnace Co., Ltd., year ended April 30, 1908.....	58,759.53
John McDougall & Co., average for two years.....	8,500.00
	<b>\$221,980.41</b>

The financial crisis in the U.S. caused some falling off in Canadian trade last winter, but the earnings of these companies were well maintained under the circumstances. For the previous year their combined profits were \$257,951.

The directors of the Corporation are: T. J. Drummond, Montreal, President; G. E. Drummond, E. McDougall, Montreal; C. C. Chipman, Winnipeg; H. Cockshutt, Brantford; and G. Gudewill, Bremen. The London committee of directors are: Sir Jas. Heath, Bart.; I. H. Benn, R. W. Cooper and J. R. Tennant.

**Canadian Railway Club.**—At the monthly meeting Nov. 3, W. V. Turner, Mechanical Engineer of the Westinghouse Air Brake Co., read an elaborate paper on brakes for freight cars, both from an economic and operative point of view, prepared by himself and his assistant, S. W. Dudley. The paper is most complete in every way and forms a treatise of great value to all interested in air brake work.

**Central Railway and Engineering Club.**—At the monthly meeting, Nov. 17, a paper on the electrification of the St. Clair tunnel by W. D. Hall, Superintendent of the tunnel, was read. The main points in the paper are covered in the article on this subject which appears on the first pages of this issue. Following the reading of the paper, Acton Burrows, Vice-President of the C.R. and E. Club, gave some detailed information about the operation of the tunnel, showing the decreased cost owing to the electrification, the increased capacity for handling traffic, etc., the data having been prepared by H. L. Kirker, Resident Engineer of the Westinghouse Co.

The I.C.R. employes, resident in Moncton, N.B., are petitioning the Minister of Railways for permission to allow them to enter into civic politics.

The National Transcontinental Railway Commissioners have issued to contractors engaged on the line, a circular dealing with the handling of explosives, with information respecting rock excavations, etc. The circular was compiled by W. A. James, who acted as engineer in charge of C.P.R. double track between Fort William and Winnipeg.

The Central Vermont Transportation Co. has been organized at Portland, Me., to carry on a steamship service between New London, Conn., and New York, in connection with the Central Vermont Ry. The directors named are: C. M. Hays, Second Vice-President and General Manager G.T. R., Montreal; G. C. Jones, General Manager Central Vermont Ry., St. Albans, Vt.; and C. A. Hight, Solicitor G. T. R., Portland, Me.

**Repairing Railway Picks.**

By I. C. Bayley.

The body of a pick is generally made of a low-grade steel, but the points are either of cast steel or high-grade tool steel. On account of the body being of a low grade, it is no unusual thing for an energetic laborer, when hammering the pick down upon the helve or handle, to split the eye or even burst it open. For this reason, in one of the railway shops, where many of these picks are repaired, the blacksmith conceived the idea of drilling two holes near either side of the eye, as shown in fig. 1, and inserting a couple of countersunk rivets, after which he declared that very few picks came to him for repairs in that particular spot. But to my mind the best wrinkle he gave to me was in welding the steel points on the ends.

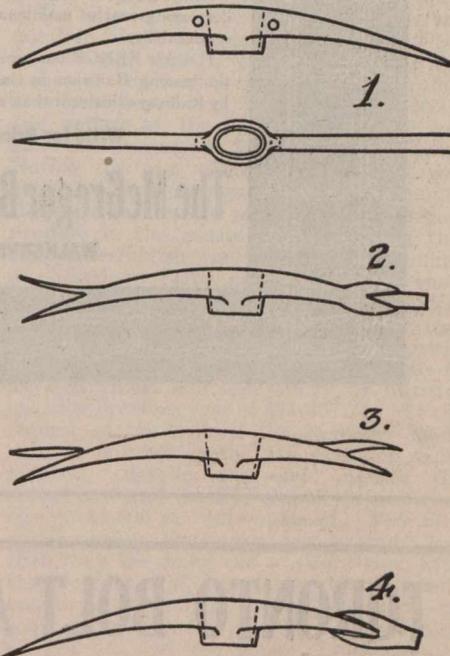


Fig. 2, at the right-hand side, shows one of the usual manners of doing this. The ends of the pick are split open for a little way, to take the point, which is made wedge shape at one end, and the whole welded together and brought to a point, as in fig. 1. But it was noticed that when these same energetic laborers used their picks for levers, they came back to the shop with the points missing, and wide open jaws, as shown to the left of fig. 2.

Another method, called the German, I believe, is to weld a piece of steel on one side the point, as shown to the right of fig. 3. When any of these came back, they were worse than the first, for they came back not only minus the point, but the half-welded jaw.

It will also be seen that in both of the cases mentioned, the wear and tear of the pick is on the low-grade steel jaws as much as the high-grade steel points. So, instead of splitting open the ends of the pick, the blacksmith split the steel point as shown to the right of fig. 4. When those came back to the shop for repairs, they were generally as seen to the left of fig. 4, and only needed the points put to the emery wheels.

The C.P.R. agreement, under which it could not mine coal in the Crow's Nest district, expires Dec. 31, and the company will put on the market in the new year the produce from its Elk Valley mines. A large coking plant has been erected at Hosmer, B.C., and coke will also be manufactured and sold.

**C.P.R. Western Lines Construction.**

Following is a statement showing track laid on C.P.R. Western lines from Jan. 1 to the end of the current construction year, also the mileage under construction at the end of the year and the names and addresses of the contractors:

Location.	Miles	Miles	Contractor.
	Track Laid 1908	Under Construction Dec., 1908	
<b>MANITOBA—</b>			
Teulon North.....	2.0	26.5	C.P.R.
Mowbray Extension.....	4.0	2.5	P. R. Lamb, Winnipeg.
Virdeon North.....	.....	10.0	P. R. Lamb, Winnipeg.
	6.0	39.0	
<b>SASKATCHEWAN—</b>			
Bredenbury-Esterhazy.....	.....	20.0	
Stoughton-Weyburn.....	25.0	.....	
Wolseley-Reston.....	24.0	.....	
Regina-Bulyea.....	.....	43.0	J. Bradley, Brandon.
Sheho-Lanigan.....	46.1	42.6	J. G. Hargrave, Winnipeg.
Pheasant Hills branch.....	74.6	66.1	J. D. McArthur, Winnipeg.
Moose Jaw northwesterly.....	101.6	.....	
	271.3	171.7	
<b>ALBERTA—</b>			
Lethbridge-McLeod.....	12.0	19.0	J. McDonald, Lethbridge.
Pheasant Hills branch.....	.....	65.5	J. D. McArthur, Winnipeg.
	12.0	84.5	
<b>BRITISH COLUMBIA—</b>			
Kootenay Central.....	.....	15.0	C.P.R.
Esquimalt & Nanaimo Ry.....	.....	12.0	J. B. Bright, Vancouver.
Vancouver & Lulu Island Ry.....	.....	9.65	J. B. Bright, Vancouver.
	.....	36.65	

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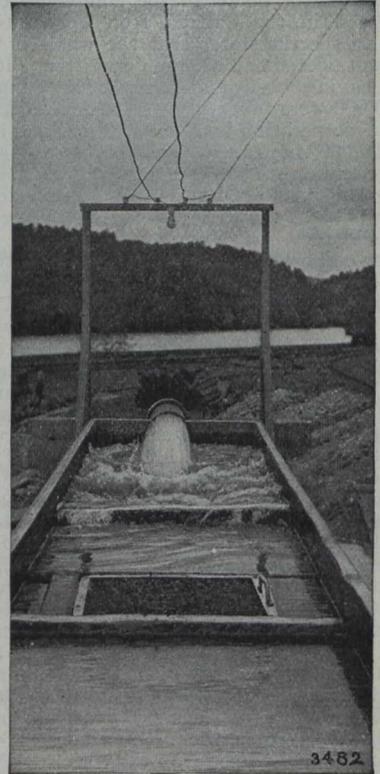
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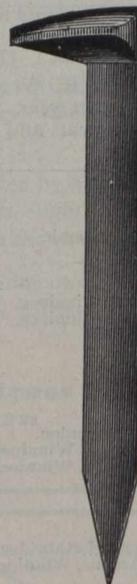
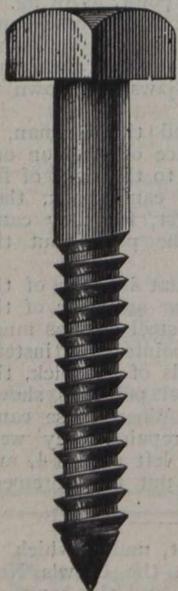
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**TORONTO**

**CANADA**

**Government Railways Employees' Provident Fund.**

The official report for the first fiscal year ended Mar. 31, 1908, shows there were 157 applications for allowances by the board, of which 142 received the approval of the Minister of Railways. The number of retired employees who died during the year was 11. The contributions made by employees were \$82,707.74, the railways contributing a like amount, which with interest on monthly balances added, makes total income for the year, \$167,009.84. The expenditures for the year were:

Retiring allowances.....	\$23,913.04
Contributions refunded in cases of deceased employees.....	13.82
Medical examinations, employees retiring.....	26.00
Election expenses, 1907-08.....	787.33
Election expenses, 1908-09.....	166.85
Salaries and travelling expenses, Secretary's office.....	1,546.75
Wages and travelling expenses, board members.....	178.48
Stationery, etc.....	1,128.36

Total.....\$27,760.63 leaving a credit balance of \$139,249.21. It is expected that the expenditure in the first few years will be much below the receipts, but that in subsequent years, it will increase considerably.

Following are the members of the executive board for the current year: Chairman, D. Pottinger, General Manager Government Rys.; W. A. Dube, Superintendent I.C.R., Levis, Que.; T. C. Burpee, Engineer of Maintenance I.C.R., Moncton, N.B., appointed by the Minister of Railways; and J. W. Nairn, engineman, I.C.R., Truro, N.S., and W. M. Thompson, conductor I.C.R., Moncton, N.B., elected by the employees.

The Canadian Northern Ry. Co. has been assessed in \$1,569 damages for the loss of a quantity of tools in transit. The tools, it is claimed, were consigned by all-rail route, but were shipped on the s.s. Monarch, which was wrecked in Lake Superior in Dec., 1907.

**ELECTRIC RAILWAYS.**

**Montreal Street Railway Co. Report.**

The report for the year ended Sept. 30, 1908, was presented at the annual meeting, Nov. 4, as follows:

Gross earnings.....	\$3,677,432.45
Operating expenses.....	2,158,394.09
Net earnings.....	\$1,519,038.36
Interest from M.P. & I. Ry.....	72,011.00
Total income.....	\$1,591,049.36

From which deduct:	
City per cent. on earnings.....	\$242,431.15
Interest on bonds and loans.....	207,187.17
Rental leased lines.....	5,019.72
	454,638.04
Net income.....	\$1,136,411.32
Dividend, 10%.....	900,724.51
Surplus.....	\$ 235,686.81
From which has been appropriated for:	
Contingent account.....	\$175,000.00
Fire insurance fund.....	25,000.00
	200,000.00
Transferred to general surplus.....	\$ 35,686.81

The gross earnings increased during the year \$173,789.02, or 4.96%, the operating expenses \$53,740.67, or 2.55%, the net earnings \$120,048.35, or 8.58%. The gross earnings show satisfactory increases considering the general depression in business, and while the operating expenses have increased, the percentage of expenses to gross earnings has decreased, being 58.69 against 60.07% for the previous year. These satisfactory results are attributed, to some extent, to the fact that the principal main lines of the company are now equipped with modern cars of the pay-as-you-enter type, which not only have induced travel but enables the conductor to properly collect his fares. The principal increase in fixed charges is due to the increased payment to the city for the percentage on earnings, the amount due the city being \$242,431.15, an increase of \$27,590.79 over the previous year.

Your directors appropriated during the year from surplus earnings \$175,000 for renewals to property. This amount, added to the balance of \$11,637.86 carried forward from previous years, made a total credit to the account of \$186,637.86. Against this there has been charged during the year \$157,285.14. Your directors appropriated \$25,000 from surplus earnings as a credit to the fire insurance fund. The interest on the investments for the year amounted to \$17,950. The amount now at the credit of this fund is \$423,959.

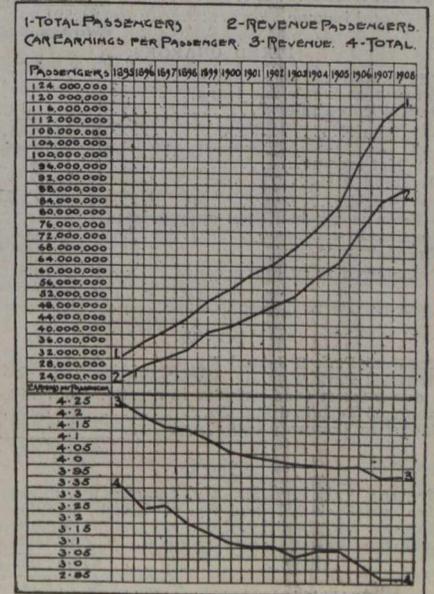
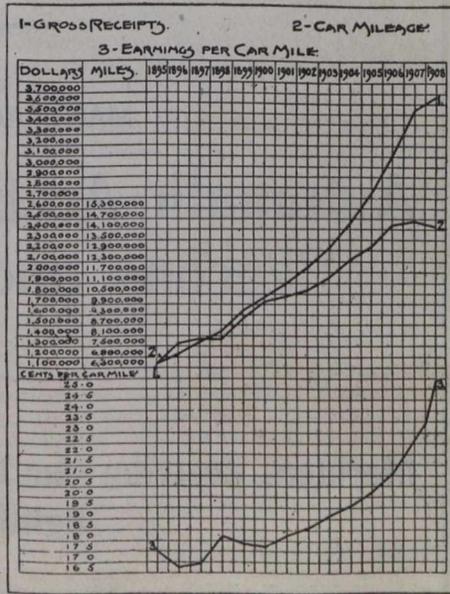
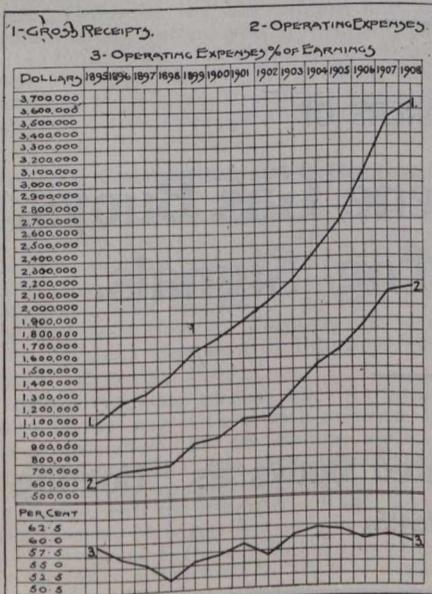
In accordance with the authority conferred on the directors at the special meeting of the shareholders held Feb. 1, 1908, your directors issued and sold in England £460,000 of debenture bonds, and also acting on the same authority, issued to the shareholders in July last \$1,000,000 new stock at 125, the first call becoming due in August last. The discount on the bonds sold has been charged to the surplus account and the premium on the new stock credited to that account, leaving at the credit of general surplus account of \$2,042,216.34, an increase of \$69,513.01 over last year. The proceeds of the bonds, and the calls which have been

paid in, have been used to pay off the \$292,000 of bonds which matured on Feb. 1, the £208,000 of the company's notes in England which matured on June 29, and to pay off floating liabilities as well as providing for the usual capital and construction requirements for the year. The company has a substantial balance at its credit, and is in a good financial position to carry out extensions and improvements to its system as opportunity arises.

The new power house at Hochelaga was completed and put in operation in Feb., providing timely assistance during the heavy snow storms of last winter. The operation of the plant has been most satisfactory in every respect. The storage battery at Maisonneuve was completed in Nov. In April your directors entered into a 10-year contract with the Montreal Light, Heat and Power Co., on satisfactory terms, for the supply of 1,000 h.p. for use in summer only.

The city council has not taken up the question of granting further facilities in the way of new streets, in order to assist the company to handle the increasing traffic. It is to be hoped that, in the general interest and welfare of the public, the council will give the matter the attention it deserves. During the past winter the company was obliged to refuse payment of a portion of the city's account for snow, and a suit is now pending in the courts. The result of this suit will establish whether or not the council is obliged to carry on the work of snow removal in a legitimate and economical manner. The snow fall was over one foot less than the previous year, but notwithstanding this the amount the city claims to have expended was \$202,639.79, an increase over the previous year of \$71,897.71. At the request of the council the company made them a proposition to take over the snow removal, charging the city one-half the actual cost and limiting the city's contribution to \$1,500 per mile of street. This proportion would limit their cost to much less than they are doing the work for now, with the prospect of a large saving to the public treasury. Although pressed to come to some decision in the matter, none has been arrived at, and the matter is apparently in abeyance. The company has paid to the city the usual property taxes and percentages on earnings amounting to \$258,817.33, and on account of snow removal \$81,714.40, making a total of \$340,531.73, an increase over last year of \$44,212.01.

The Montreal Park and Island Ry. Co. continues to show satisfactory progress, the net surplus for the year turned over to the



MONTREAL STREET RAILWAY GRAPHIC STATISTICS.



**MONTREAL PARK AND ISLAND RY. BALANCE SHEET, AUGUST 31, 1908.**

ASSETS.	
Cost of road and equipment.....	\$2,512,969.16
Office change fund.....	2,000.00
Accounts receivable.....	807.53
Profit and loss.....	921,005.26
	\$3,436,781.95
LIABILITIES	
Capital stock—preferred.....	\$ 315,000.00
Capital stock—common.....	720,900.00
Bonds.....	1,025,000.00
Mortgages.....	10,925.00
Unredeemed tickets.....	13,238.68
Suspense account.....	32,267.78
Contingent account.....	34,629.09
Montreal St. Ry. Co.'s loan.....	331,598.74
Accrued interest on bonds.....	752,591.38
Cumulative dividend on pref. stock....	200,631.28
	\$3,436,781.95

**MONTREAL PARK AND ISLAND RY. CO. INCOME ACCOUNT.**

Gross earnings.....	\$ 277,634.08
Operating expenses.....	181,488.34
Net earnings.....	\$ 96,145.74
Contingent for renewals.....	25,000.00
Net income.....	\$ 71,145.74
Fixed charges—bonds and loans.....	\$110,324.54
Cumulative pref. shares.....	18,900.00
	129,224.54
Deficit.....	\$ 58,078.80

**MONTREAL TERMINAL RY. CO. BALANCE SHEET, JUNE 30, 1908.**

ASSETS.	
Real estate construction equipment..	\$1,667,963.25
Office change fund.....	400.00
Accounts receivable.....	13,439.09
Profit and loss.....	36,087.66
	\$1,717,890.00
LIABILITIES.	
Capital stock.....	\$1,000,000.00
Bonds.....	613,000.00
Unredeemed tickets.....	2,905.08
Suspense account.....	498.35
Montreal Street Ry. Co.'s loan.....	36,129.88
Accrued interest on bonds.....	64,432.80
Accrued tax on earnings.....	923.89
	\$1,717,890.00

**MONTREAL TERMINAL RY. CO. INCOME ACCOUNT.**

Gross earnings.....	\$ 97,354.84
Operating expenses.....	101,540.72
Debit balance.....	\$ 4,185.88
Tax on earnings.....	976.24
Net deficit.....	\$ 5,162.12
Interest on bonds.....	32,220.39
Total deficit.....	\$ 37,382.51

At the annual meeting at Montreal Nov. 3, Hon. L. J. Forget, President, said that during the past three years the number of shareholders had increased from 910 to 1,526, the average number of shares per member being about 65. The directors were voted \$7,400 for services during the year. Following are the officers and directors for the current year: President, Hon. L. J. Forget; Vice-President, K. W. Blackwell; Managing Director, W. G. Ross; other directors: R. Meighen, P. Galibert, G. Caverhill, and Sir H. Montagu Allan.

**Projects, Construction and Betterments.**

**Brantford and Hamilton Ry.**—The Board of Railway Commissioners having granted the company permission to cross the G.T.R. Tillsonburg branch in Brantford, Ont., the cars have been enabled to go right into the city since Nov. 3. Formerly the cars only ran from Hamilton to Brantford city limits. (Nov., pg. 816.)

**British Columbia Electric Ry.**—A further stage in the negotiations with reference to the construction of an electric railway to Port Grey, B.C., has been reached, and it is hoped that an agreement will be arrived at shortly with the company. R. H. Sperling, General Manager, has written a letter to the people at Port Grey, to the effect that the company is prepared to start construction within 30 days after a satisfactory

agreement has been executed, and to prosecute the work with due diligence until completion. (Nov., pg. 816.)

**The Buffalo, Lockport and Rochester Ry.,** which has been in operation for some weeks between Lockport and Albion, N.Y., was opened for its entire distance between Lockport and Rochester, N.Y., Nov. 17. It is expected that connection will be made in the course of a few weeks which will enable the company to run its cars into Buffalo, N.Y.

**Calgary, Alta.**—The Calgary, Alta., city council has apparently practically decided to construct its own street railway lines, but the negotiations with the company desiring a franchise have not yet been broken off. (Nov., pg. 816.)

**Cape Breton Electric Co.**—Among the improvements being undertaken by the company are the alterations to the North Sydney car barn. The construction of the blacksmith and car repair shops at Sydney has been completed.

**Desjardins Inter-Urban Ry.**—Application will be made next session of the Ontario Legislature for an Act incorporating a company with this title for the purpose of constructing and operating by electricity or other motive power a system of railways from some point in or near Hamilton, Ont.: (1) By way of Dundas, Webster Falls, Bullock's Corners, and the Spencer or Lindsay Creek to Galt; (2) From the same point by way of the Desjardins canal through Burlington Heights, along or near the Grandstone Creek, through Waterdown by Lake Medad, between Carlisle and Kilbride, and west of Campbellville to Guelph; and (3) From the proposed Hamilton and Guelph line, near where it crosses the Hamilton and Burlington plains roadway, to Burlington; with power to construct and operate similar lines of railway to connect the said lines with each other, and contiguous centres of business. Power will also be asked to issue bonds or other securities to the extent of \$25,000 per mile of railway, and to grant running rights over its tracks to other railway companies. C. and H. D. Gamble, and E. Brown, Toronto, are solicitors for the applicants.

**Edmonton, Alta.**—The first car went over the Jasper Ave. line Oct. 29, and the Mayor announced that a passenger service would be started Nov. 2, and that within two weeks thereafter the full service would be given in the city. Work is being pushed on the line on the Strathcona side, and ballasting cars are being run on portions of the line.

In connection with the construction of the line between Edmonton and Strathcona, the Edmonton city council finds it necessary to apply to the Board of Railway Commissioners to obtain permission to carry its line across the railway bridge over the Saskatchewan River. (Nov., pg. 816.)

**Fort William, Ont.**—The new tracks recently laid on Simpson St. and Victoria Ave., Fort William, Ont., were used for the first time Oct. 24. A few days later it was shown that there was a slight difference between the gauge of the new tracks and the old ones, and that the cars had some difficulty in getting along. The difficulty has been got over by altering the gauge of the cars. (Nov., pg. 817.)

**Hamilton Street Ry.**—The city council has notified the city council that it proposes to go ahead with the work of constructing a connection with its Bartonville and Hamilton lines at the corner of Main St. and Sherman Ave. This connection is one of the points covered by the agreement recently approved.

We are officially advised that the reports of new track construction about to be undertaken on this and other lines con-

trolled by the Dominion Power and Transmission Co. are premature. No definite decision has been reached as to what will be done or when work will be undertaken. (Nov., pg. 817.)

**Montreal and Southern Counties Ry.**—Construction in Montreal on this projected railway started on Oct. 27, and tracklaying was begun Nov. 12. The bed made for the track consists of an arched bed of concrete six inches thick at the centre and 18 inches thick under the rails. The rails are tied with steel rods embedded in concrete and granite blocks are to be put down between the rails in the spring. The rails are 7½ inches high, with a six-inch base, and run from 87 to 92 lbs. It was expected to complete the track as far as Black's bridge by Nov. 30. The concrete work on Mill St. has been completed, but it is not intended to lay tracks on it, or on the approaches to the Victoria bridge until the spring. Track will, however, it is said, be laid on the bridge during the winter. Substations for the distribution of power are to be erected on the south side of the river, and it is hoped to put a service in operation by June 1. A by-law for a franchise in St. Lambert will be voted on early in Dec., and franchise by-laws are nearly ready for submission to the ratepayers in Montreal South and Longueuil. It is hoped to have construction on the south shore section of the line well advanced to Chambly and Richelieu by the summer or early fall of 1909.

Construction was started Oct. 29 on Grey Nun St., upon the first section of this electric railway, which is to connect the city with St. Lambert, Que., via the G.T.R. Victoria Jubilee bridge. The concrete work is being done by J. Quinlan & Co., Montreal, and the company is laying the track. (Nov., pg. 817.)

**Montreal Park and Island Ry.**—Track is being laid from the end of the company's line at Back River to St. Vincent de Paul, about four miles. The route follows the Rivière des Prairies to a point opposite St. Vincent de Paul Church. It is considered quite likely that a bridge will be constructed across the river, and a further extension of the line be made in the near future. It is expected that the line will be completed and opened for traffic by June 1, 1908.

In connection with the proposed extension to connect Ahuntsic and Cartierville, Que., the negotiations with respect to the right-of-way have not been concluded, and nothing in the way of construction has been done. (Sept., pg. 665.)

**Ottawa Electric Ry.**—The extension to the Dominion Experimental Farm has been completed, and a regular service has been operated since Nov. 12. (Nov., pg. 817.)

**Ottawa to Morrisburg, Ont.**—A press report stated, Nov. 5, that a project is under consideration to construct an electric railway from Morrisburg to the Ottawa and New York Ry., and to utilize 20 miles of that railway between Russell village and Ottawa, so as to give a complete route between Morrisburg and Ottawa. We have been advised by J. W. Allison, of Morrisburg, who was stated to be the head of the enterprise, that he has nothing to do with it. (See Morrisburg Electric Ry., Aug., pg. 583.)

**St. Thomas St. Ry.**—The city council has not yet reached a decision with reference to the construction of a line to Port Stanley. The argument put forward in support of the project is that with a line to Port Stanley, the line in the city, owned by the corporation, could be put on a paying basis. There is at present an electric line running from London to Port Stanley through St. Thomas, operated by the Southwestern Traction Co. The charter held by the city

gives permission to operate cars to Port Stanley during the summer only. (Sept., pg. 665.)

**Toronto Ry.**—The question of new street car routes in Toronto came before the Ontario Railway and Municipal Board, Nov. 2 and 14. Evidence as to a number of routes which the company desired to have adopted was given, and the case was adjourned, the arguments of counsel being heard Nov. 26. The new routes are: Bay St., Front St. to Queen St.; University Avenue, Queen St. to College St.; Richmond St., Victoria St. to Church St.; Wellington St., York St. to Yonge St. The city opposes these projected lines and asks approval of a line commencing at King and Jarvis streets, to Adelaide, Bathurst, McDonnell Square, Dafoe, Niagara, Tecumseth, Queen, Claremont, Mansfield, Clinton, Bloor and Christie streets. (Nov., pg. 817.)

**The Winnipeg Electric Ry.** will shortly complete the construction of its new belt line at Fort Rouge, which is to connect with the line running south and east from Maryland bridge. The rails are laid in concrete from Pembina to Lilac Street, along Corydon Ave., and a gang was at work north on Lilac St. The line was expected to be completed by Nov. 30. With the completion of Higgins Ave. Subway, there will be some rearrangement of the car routes. (Nov., pg. 817.)

#### Electric Ry. Finance, Meetings, Etc.

**British Columbia Electric Ry.**—Gross earnings for Sept., \$182,226; operating expenses, \$93,698; net operating earnings, \$88,528; renewal funds, \$14,550; net earnings, \$73,978; income from investments, \$13,550; net income, \$87,528, against \$152,568 gross earnings; \$79,227 operating expenses; \$73,341 net operating earnings; \$10,750 renewal funds; \$62,591 net earnings; \$11,036 income from investments; \$73,627 net income for Sept., 1907. Total gross earnings for 3 months ended Sept. 30, \$537,581; net earnings, including income from investments, \$255,548; against \$456,334 gross, and \$219,569 net, for same period 1907.

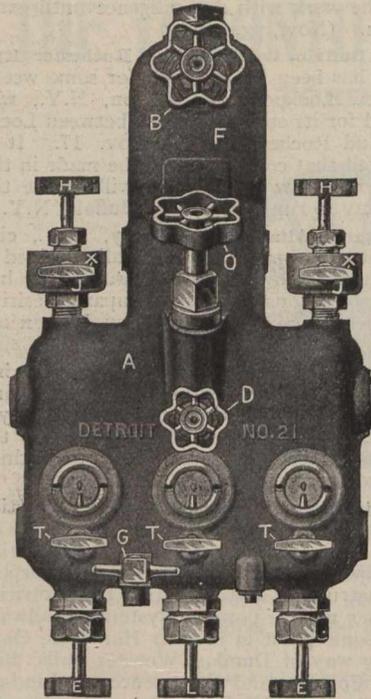
**Hamilton Street Ry.**—A cheque for \$9,340 has been paid to the City Treasurer, being the city's share of the receipts and for mileage for the three months ended Sept. 30. This is \$421 less than for the same period 1907.

**Halifax Electric Tramway.**—Receipts for Oct., \$20,988.88, against \$15,251.77 for Oct., 1907. Total for 10 months ended Oct. 30, \$161,891.78, against \$148,639.46 for same period 1907. Receipts for 3 weeks ended Nov. 21, \$9,238.76 against \$8,096.72 for same period 1907.

**Montreal Street Ry.**—Gross earnings for Oct., \$328,608.12; expenses, \$168,124.02; net earnings, \$160,484.10; city percentage on earnings, \$11,266.42; interest on bonds and loans, \$15,769.43; rent leased lines, \$444.43; total charges, \$27,480.28; surplus, \$133,003.82; against \$311,898.38 gross earnings; \$164,575.14 expenses; \$147,323.24 net earnings; \$10,822.02 city percentage on earnings; \$16,706.31 interest on bonds and loans; \$339.96 rent leased lines; \$27,868.29 total charges, and \$119,454.95 surplus for Oct., 1907.

**St. Thomas St. Ry.**—It has been decided to hold an investigation into the expenditures of the Street Ry. Commissioners at an early date. The railway is owned by the city of St. Thomas, Ont., and is operated by a commission appointed by the council.

The report of the operations for Oct. showed that 32,724 passengers had been carried against 36,847 in Oct., 1907, while the total receipts were \$1,218.64, against \$1,307.22 in Oct., 1907. The commissioners



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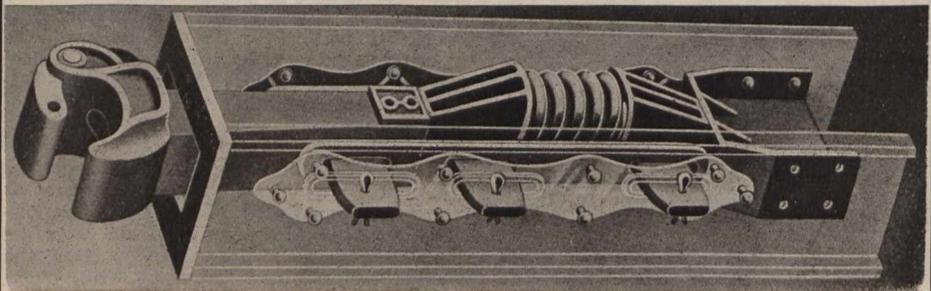
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Buffing Shocks Distributed on End Sill, Three Cross Keys, Filler Block and Body Bolster. Cannot be Pulled Out or Driven Back and Will Not Spread Sills.

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decided to ask the council for a further grant of \$1,000 to enable current expenses to be met.

**Toronto Ry.**—Car earnings for Oct., \$306,457.10, against \$290,443.49 for Oct., 1907. Total earnings for 10 months ended Oct. 31, \$2,932,079.10, against \$2,818,607.90 for same period 1907.

**Windsor, Essex and Lake Shore Rapid Ry.**—An action has been brought by T. Elliott, of Brantford, Ont., against the company for \$100,000 for alleged breach of contract. Mr. Elliott claims that he was given a contract to construct the railway, provision being made for the payment of \$100,000 before the work commenced and subsequent payments after the construction had begun. The company subsequently gave the contract to a U.S. firm. Between the time when the contract was given to Elliott, and to the U.S. firm, W. Newman and A. J. Nelles, who controlled the company, are said to have sold out their interests.

### Electric Railway Notes.

The Sarnia, Ont., Street Ry. Co. is arranging for the laying out of an amusement park on the shore of Lake Huron.

The report that G. B. Blanchard, Vice-President Dominion Power and Transmission Co., has resigned, has been officially denied.

The Sydney, N.S., city council has asked the Cape Breton Electric Co., and the Sydney and Glace Bay Ry., to submit plans of the fenders which it is proposed to use on these lines.

The B.C. Electric Ry. Co. has forwarded a cheque for \$2,740 to the Vancouver city treasurer, in payment of the percentage due on the earnings in that city for Oct. This is the highest amount yet paid.

R. Howes, who has been connected with several similar enterprises in the U.S., has been appointed Superintendent of the electrification of the B.C. Electric Ry. Co.'s New Westminster-Chilliwack line.

The Board of Railway Commissioners has directed the Pere Marquette Rd. to interchange traffic with the Windsor, Essex and Lake Shore Rapid Ry. at Kingsville, Ont. The order is given in full on pg. 867.

The cases against N. M. Cantin, promoter of the St. Joseph and Stratford Radial Ry., for alleged false pretences and perjury at Toronto, were adjourned Nov. 4, pending the result of a civil case in which he is also involved.

The Montreal Street Ry. Co. has put in force a regulation to the effect that passengers desiring transfers must ask for them when paying their fares. This regulation has been rendered necessary by the abuse of the transfer system.

G. W. Lang, heretofore Inspector, Ottawa Electric Ry., has been appointed Assistant Superintendent. He has been with the company since within a few years of its inception, entering its service as a conductor, and being promoted to Inspector about thirteen years ago.

The Sarnia, Ont., St. Ry. has purchased one double-truck car body from the Ottawa Car Co. The motor equipment is being supplied by the Canadian Westinghouse Co., Hamilton, Ont., and the overhead appliance by the Canadian General Electric Co., Toronto.

The Toronto Board of Control has recommended that the city council apply next session of the Ontario Legislature for an amendment to the Ontario Railway Act, whereby upon motion of the municipality the Ontario Railway and Municipal Board may compel radial railway companies to

operate their lines to a central point within the city to be determined by the Board.

H. M. Hopper, Secretary-Treasurer St. John Ry., is reported to have entered an action for libel against the editor of a *Fredericton, N.B., journal*, for statements published in connection with the recent election of Col. H. H. McLean, Vice-President St. John Ry., as a member of the Dominion Parliament for the Queens-Sunbury division.

A press report states that the Post Office Department is negotiating with the Montreal St. Ry., with a view to arranging a contract for the conveyance of mail bags within the city. Special closed cars would have to be provided, having capacity for about 400 full bags, the intention being to collect all mail matter from sub-offices in the city by this means.

C. C. Pangman, who has been appointed Secretary-Treasurer Hull Electric Co., was born Aug. 23, 1876, at Grace Hall, Lachenaie, Mascouche, Que., and entered C.P.R. service Aug., 1892, in the Comptroller's office, remaining there until Jan., 1906, when he was appointed chief clerk to the Assistant to the President, now also Secretary C.P.R., which position he still retains.

A proposal to organize a motor bus company in Toronto is, according to press reports, being discussed, and it is stated that about 50 such vehicles may be in operation by May 1, 1909. Should the venture be carried through, it is stated that it will be followed up by the introduction of taxicabs, etc. It is proposed to organize a company with a capital of \$2,000,000.

W. R. Baker, Secretary C.P.R., also Vice-President and General Manager Hull Electric Co., has issued a circular announcing that W. R. Taylor having resigned from the latter company's service, C. C. Pangman has been appointed Secretary-Treasurer, and C. G. Gale acting General Superintendent. The Hull Electric Co. operates the electric railway between Ottawa, Ont., and Aylmer, Que.

J. C. M. Buntzen, of London, Eng., has retired from the position of Managing Director of the British Columbia Electric Ry. Co., and will in future reside in Copenhagen, Denmark. He will, however, continue to act as a director of the company at the urgent request of his confreres, who desire that he be in a position to maintain a supervision of the general policy of the board, and to act in an advisory capacity.

The Board of Railway Commissioners decided Nov. 16, that it had no jurisdiction to deal with the matter of the application of the Boards of Trade of Galt, Preston, Hespeler, Waterloo, and Berlin for the right of interswitching between the G.T.R. and the C.P.R., owing to the fact that the electric railways, over which the switching would be done, were constructed under provincial charters, and when they were taken over in the C.P.R. interests, they were not declared to be for the general advantage of Canada.

### Canadian Street Railway Association.

The half-yearly meeting of the Association was held in Ottawa, Ont., Nov. 11 and 12, a good number of representatives of member companies being present. The President, J. E. Hutcheson, Superintendent Ottawa Electric Ry., occupied the chair.

The Windsor, Essex and Lake Shore Rapid Ry. Co. was admitted to membership. The Secretary-Treasurer, Acton Burrows, presented a report on the Association's work during the previous six months, dealing with the following subjects among others: Carrying passengers on front seats of open cars; height of car steps; the Liverpool plow lifeguard; zone system of fares; responsibility

for interlocking crossing accidents; standardization of the high tee rail; boiler insurance; B.C. Electric Ry. profit sharing scheme; taxation of track; representation by counsel; car fenders. The various sections of the report were discussed as read.

W. R. McRae, Master Mechanic Toronto Ry., read a paper on overhauling electric railway rolling stock.

The Secretary-Treasurer read a paper on the electrification of the St. Clair Tunnel, by H. L. Kirker, Resident Engineer of the Westinghouse Co.

J. Murphy, Electrical Engineer Department of Railways and Canals and Board of Railway Commissioners, read a very full illustrated paper on ice troubles in hydraulic power work and methods of overcoming them.

J. L. Payne, Comptroller of Railway Statistics, spoke on electric railway statistics, pointing out the changes proposed to be made in the schedules for the annual returns.

There were interesting topical discussions on the transfer question; detailed operating expenses and the carrying of mails and postmen. Special committees were appointed to consider the questions of transfers, the carrying of mails and postmen, and zone system of fares.

The Ontario Railway and Municipal Board, J. Leitch, A. B. Ingram, and H. N. Kitson, were present during a portion of the meetings on the Association's invitation.

The representatives attending the meeting were entertained at luncheon by the Ottawa Ry. Co., J. E. Hutcheson presiding, and W. Y. Soper representing the directorate. They were also the company's guests at a theatre party, and were taken over the new line to Britannia-on-the-Bay, and then over the extension of the line recently built to the Experimental Farm.

The next meeting of the Association will be held in Winnipeg in May, 1909.

### Height of Car Steps

The question of the height of electric car steps in Toronto, West Toronto and London, came before the Ontario Railway and Municipal Board again on Oct. 28. The Chairman said at the opening that the Board was in favor of limiting the height of the lower steps to 12 inches, but that they understood there were structural difficulties in the way. W. R. McRae, Master Mechanic, and M. Power, Master Car Builder, Toronto Railway, testified that with the wheel base required on the double truck cars, with the narrow devil strip, and the radius of the curves, the car bodies could not be lowered, and the Chairman remarked that the Board would not think of passing an order to compel the company to change its existing equipment. Counsel for the applicant, Dr. Helen McMurchy, suggested that a third step should be added, when the point was raised on behalf of the Toronto Ry. that if this was done and a greater portion of the street was occupied by the cars in consequence the company might be indicted for maintaining a common nuisance. On behalf of the London St. Ry. it was contended that a third step could not be added, as it would prevent the crossing of certain bridges and also the passing of some poles. The Toronto Ry. Co. expressed its willingness to experiment with a third step, and the further hearing was indefinitely adjourned.

### Grain Elevator Notes.

The British American Elevator Co. has arranged to build an elevator at Laird, Sask.

W. Stead, of W. Stead and Co., owners and operators of a line of elevators near Winnipeg, died there recently.

The Empire Elevator Co. is erecting an

elevator, with 1,000,000 bush. capacity, at Fort William, Ont.

The Consolidated Elevator Co. is reported to be arranging to erect elevators to double its present plant at Fort William, Ont.

The Farmers' Elevator Co., Cartwright, Man., has declared a dividend of 12½% for the financial year recently concluded.

The Walkerville Grain Co. is reported to be organizing in Walkerville, Ont., and it is stated that several elevators will be erected.

Muirhead, Black & Co. have sold their elevator on Hardisty St., Fort William, Ont., to J. L. Davidson. The price is stated as \$50,000.

The Port Arthur Elevator Co.'s elevator A was inoperative for a time during Nov., on account of the blowing out of a cylinder in the engine room, Nov. 4.

J. Wilson, C.P.R. agent at Claresholm, Alta., was fined \$10 and costs, Nov. 22, under the provisions of the Manitoba Grain Act, for failing to place cars when ordered. It is said that an appeal may be entered.

Senator Jones, on his recent return to Toronto after a trip along the G.T.P.R. route, said that he counted 45 elevators in operation between Wainwright and Winnipeg, in addition to a number in course of erection.

A scene consisting of the loading of a vessel from an elevator, photographed at Fort William, Ont., has been reproduced in glass and erected as a scenic window in the Canadian Emigration Department office in London, Eng.

The grain growers of Mather, Man., and district, at a recent meeting, endorsed the action of the Grain Growers' Association regarding the Government ownership of all grain storage and handling facilities, both interior and terminal.

The H. D. Metcalfe Grain Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$50,000 and office at Winnipeg, to carry on a general grain business, and to acquire and operate grain elevators in connection therewith.

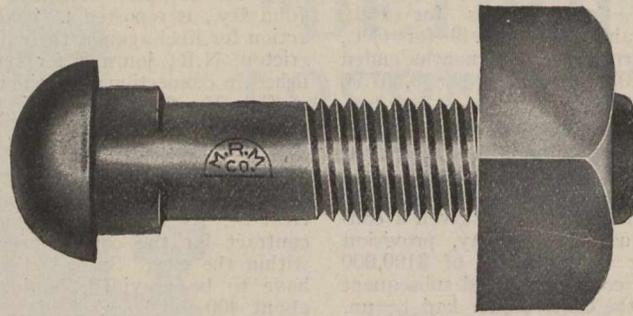
The Provincial Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$50,000 and office at Winnipeg, to own and operate grain elevators and warehouses, etc. The provisional directors are: G. D. Minty, C. S. Tupper, H. W. Hollis, C. A. Allen, and W. F. L. Edwards, Winnipeg.

The Pembina Farmers' Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$10,000 and office at Manitou, Man., to build, acquire and operate elevators, grain warehouses, etc. The provisional directors are: J. S. Miller, J. Crane, J. Tait, M. Young and L. Armstrong, Manitou, Man.

Representatives of the Scottish Co-operative Wholesale Society recently made a trip over the G.T. Pacific Ry., for the purpose, it is said, of selecting sites for the construction of elevators. It was also reported that prior to leaving for Great Britain, they let contracts for the construction of six elevators along the G.T.P.R. in Manitoba.

The conference of the Premiers of Manitoba, Saskatchewan and Alberta, and representatives of the various farmers' institutions in the three provinces, which was to have been held Nov. 9, for the purpose of discussing the question of Government ownership of elevators, and other matters incidental thereto, was postponed to Nov. 24.

The Notre Dame de Lourdes Farmers' Elevator Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$7,500, and office at Notre Dame de Lourdes, Man., to construct and operate elevators, etc., in Manitoba. The provisional directors are: J. Bodin, P. Bozin, C. Domp-



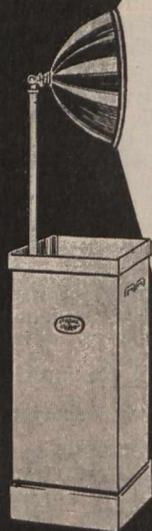
## TRACK BOLTS

Our Track Bolts will stand the closest inspection. They are made with the greatest care, particular attention being given to the rolling of the material, to having the head and neck made right, and the threading accurate, so that the nuts will fit properly.

WE CAN SUPPLY PROMPTLY ALL SIZES FOR ANY WEIGHT OF RAIL.

### THE MONTREAL ROLLING MILLS CO.

NO VALVES  
NO PUMPS  
NO GAUGES



REQUIRES NO  
ATTENTION  
DURING USE.

50,000,000 CANDLE POWER SUPPLIED

## THE MILBURN LIGHT

FOR CONSTRUCTION  
AND RAILROAD WORK

*Unaffected by Wind or Water.  
Lights Instantly.*

GIVES 5,000 CANDLE POWER  
FOR 6c. AN HOUR.

LIGHTS OVER 1,000 FEET.  
FITTED TO DREDGES AND STEAM  
SHOVELS.

**THE ALEXANDER MILBURN CO.**  
BALTIMORE, MD., U.S.A.

nier, J. Comte, N. Weicher, Notre Dame de Lourdes, Man.

The Thunder Bay Elevator Co., recently organized at Winnipeg, is reported to have entered into an agreement with Port Arthur, Ont., to erect an elevator there with a capacity of 1,500,000 bush., at a cost of about \$500,000. Those mentioned as interested in the matter are: W. McWilliams, N. Bawlf and C. B. Piper, the principal stockholders in the Empire Elevator Co., which operates at Fort William.

The Hartney Flour Milling Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$40,000 and office at Hartney, Man., with power, among other things, to acquire, build and operate grain elevators, warehouses, etc. The provisional directors are: W. H. B. Hill, R. Shore, J. Hunter, W. C. Robinson, A. H. Sutherland, J. R. Scharf, Hartney; W. Robson and J. E. Marples, Delau, Man.

The Central Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$199,000, and office at Winnipeg, Man., to carry on a general grain business, and in connection therewith to build and deal in elevators, warehouses, etc., and to acquire and operate steam and other vessels, and all means of transportation incidental to such business. The provisional directors are: E. E. Hall, D. Morrison, C. J. McFall, C. S. Blanchard, and S. M. Battram, Winnipeg.

Elevators are reported to be in course of erection at Moose Jaw, Sask., for the Rex Fruit Co.; at Beatty, Sask., for A. McMichael; at Elstow, for the Canadian Elevator Co., and the Winnipeg Elevator Co.; at Grassy Lake, Sask., for the Medicine Hat Milling Co.; at Estevan, Sask., for the Estevan Farmers' Elevator and Trading Co.; one each at Taber, Gleichen and Killam, Alta., for the Alberta Pacific Elevator Co.; near Lethbridge, Alta., for the Sunny Belt Grain Co., and one at Vermillion, Alta.

The Grand Trunk Pacific Elevator Co.'s elevator at Tiffin, Ont., was recently opened for business, and received its first cargo of grain, of 220,000 bush., from the Farrar Transportation Co.'s ss. Collingwood, Nov. 5. The construction of this elevator, which has a capacity of 2,000,000 bush., was commenced

in 1907. It is located on Sturgeon Bay, about a mile east of Midland, and is constructed of steel and concrete. There are 72 cylindrical storage bins, covering a space of 288 by 144 ft. There are two marine legs operated through movable towers. The scale on the weighing floor has a capacity of 400 bush. The entire plant is operated by electricity supplied by alternating current generators of 1,200 h.p.

The contract for the erection of an elevator, with a capacity of 4,000,000 bush., at Fort William Ont., for the G.T. Pacific Ry., was awarded recently to the Canadian Stewart Co., Montreal, and it is said that construction preparations will be undertaken immediately. This elevator will be the first of a series of similar ones to be erected at Fort William for the G.T.P.R., and was designed by the John S. Metcalf Co., Chicago, Ill., who will superintend the construction. The total plant when completed will have a maximum storage capacity of 40,000,000 bush.; an intake capacity of 1,000 cars in 10 hours, and an output to vessels of 400,000 bush. an hour. The elevator system of the G.T.P.R. is operated by the Grand Trunk Pacific Terminal Elevator Co.

#### Grand Trunk Pacific Elevator at Tiffin.

The 2,000,000 bushel fireproof elevator which has recently been opened for operation at the new harbor of Tiffin, near Midland, Ont., is the property of the Grand Trunk Pacific Terminal Elevator Co., Ltd., a subsidiary corporation of the G.T. Pacific Ry. Co., and will be operated as a railway elevator, following the policy of the G.T.R. in the operation of its elevators at Montreal, Depot Harbor, Ont., and Portland, Me.

The elevator consists of four interworking parts—the marine towers for unloading of lake vessels, the storage house for storage of grain, the working house for loading it into railway cars, and the power plant for the supply of electric power to the various portions of the equipment. The two marine towers are of the movable type, built of structural steel, with concrete floors and roofs. Each is equipped with a marine leg with an elevating capacity of 20,000 bush. an hour on the dip, a 400 bush. scale, and

a lofter leg for elevation of the grain from the scale to the distributing belts above the storage house. We are informed that this is the only Canadian elevator with two movable marine towers, and it will be able to unload, with both legs simultaneously, any lake vessel, regardless of the spacing of her hatches, whether of the modern type with all hatches spaced in multiples of 12 ft., or of the older type, with irregular spacing. The large capacity of the marine legs, the fact that they can operate in any freight vessel, and that the moving towers do not necessitate delay to either leg by the shifting of the boat in accordance with the requirements of the other, will, it is claimed, make the elevator superior to any in Canada in its ability to unload quickly.

The storage house covers about an acre of ground, and has a storage capacity of 2,000,000 bush. The bins are of reinforced concrete, there being 32 cylindrical bins, 33 ft. inside diameter, and 31 interspace bins. A unique system of spouting from the moving marine towers enables the streams of grain from the towers to be diverted from belt to belt or from bin to bin without stopping the flow.

The working house is built of reinforced concrete, with a structural steel cupola. It has small storage capacity—about 150,000 bush.—as its principal use is for loading of railway cars. There are two loading tracks, one on either side of the working house, each equipped with four car-loading spouts. These car-loading spouts receive from four 2,000 bush. scale hoppers, on 120,000 lbs. hopper scales, located in the cupola, the scales being of large size so that they will be able to take a maximum carload of wheat under any probable requirements for as far in the future as railway prophets are at present willing to foretell. Each shipping scale is filled, through a garner above it, by a shipping leg with a capacity of 15,000 bush. an hour. The working house will be able to load from 250 to 300 cars in a working day of 10 hours. A car puller, capable of handling 25 loaded cars, is provided. Particular attention has been paid to the arrangement of the tracks for empty and loaded cars, and the facilities in this respect will be unexcelled.

The power plant is equipped with one 500 k.w. and one 300 k.w. Westinghouse-Parsons steam turbine with electric generator, and all of the machinery throughout the elevator is driven by electric motors, of which there are 17. Four 250 h.p. vertical tubular boilers, operating at 160 lbs. pressure, furnish the steam supply for these turbines.

A concrete wharf 730 ft long, and of such depth as to provide for the possibility of 25 ft. of water in the slip at some future date, is an important portion of the work.

The elevator is designed for future extensions, to include a third marine tower, and 8,000,000 bush. of storage capacity, making the maximum total capacity of the elevator 10,000,000 bush. One marine tower has been in operation since the first week in November when the ss. Collingwood was the first vessel to be unloaded. It is anticipated that both towers will be ready to operate before the close of navigation of this year. All parts of the structures are absolutely fireproof, and exceedingly low insurance rates have been granted by the underwriters, so that shippers may be assured of rapidity in handling and safety in storage. A large amount of work was done by the Dominion Government in dredging a 21 ft. channel to the new slip from the deeper portion of Midland Harbor. The cost of the elevator plan is said to be in the neighborhood of \$1,000,000.00. The elevator was designed and constructed throughout by John S. Metcalf Co., of Midland, Ont., and Chicago, Ill., under directions from F. W. Morse, Vice-President and General Manager G.T.P. Ry.



LAUNCH OF THE NORTHERN NAVIGATION CO.'S S.S. HAMONIC, NOV. 26.

**MARINE DEPARTMENT.**

**Prince Rupert Harbor Entrance.**

Regarding the recent press reports as to the alleged dangerous condition of the proposed entrance via Brown Passage to Prince Rupert harbor, referred to in our Nov. issue, the Prince Rupert Empire says: "Strange, is it not, that steamships daily arrive at and depart from Prince Rupert by sea without having passed through Brown Passage at all? Will it not be equally strange if steamships should have to do so in the future? Brown Passage separates Dundas Islands from Stephens Island; the latter lies southwest of Digby Island which forms the western shelter of Prince, Rupert harbor, and the former lies west of Port Simpson. Port Simpson is 37 miles from Prince Rupert by the route taken by ocean-going steamships, so if Brown Passage is dangerous for ocean-going vessels going west through Dixon entrance, they need only go north to Port Simpson before taking their westerly course. All of which seems simple to mariners, seeing that the course is well known to them to be wholly free from obstructions of any kind. Even if this 37 miles were wholly lost in going from Prince Rupert to Chinese or Japanese ports, the distance would yet be shorter by over 400 miles than is the distance between Vancouver and the same ports."

The press reports above referred to are emphatically contradicted by Lt.-Col. W. P. Anderson, Chief Engineer of the Department of Marine, etc., who was on board the Egeria in October, and saw the Captain's plans of the survey of the passage. There are reefs on each side of the passage, but the passage itself is clear for a width of between two and three miles. Stenhouse shoal and Hamner rocks mark the northern limit of clear water and the north breaker, which shows well above the water, is the southern boundary of the clear passage. It is said that when these points have been marked by lights, there will not be the slightest difficulty or danger in entering through that approach. A gas buoy has already been moored on Stenhouse shoal, just outside of the passage; with that aid alone and with the north breaker showing, the largest sized vessel can go through in perfect safety, day or night. It is the Chief Engineer's opinion that Brown passage presents as clear an approach as any vessel need desire.

**Notices to Mariners.**

The Dominion Department of Marine has issued the following notices:

No. 100. Oct. 24.—252. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap à la Roche, change in position of gas buoy. 253. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Lake St. Peter, gas buoys established. 254. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Pouillier des Trois Bonées, gas buoy established. 255. Quebec, River St. Lawrence, chart, Ste. Croix to St. Antoine, issued.

No. 101. Oct. 30.—255. Ontario, Great and River St. Lawrence, dates to which Lakes lights will be kept in operation.

No. 102. Oct. 30.—256. New Brunswick, south coast, Bay of Fundy, Lepreau Bay, Cranberry Point, bell buoy established. 257. New Brunswick, St. John River, Grand Lake, McMann Point, light improved. 258. Nova Scotia, St. Mary River, dredging. 259. Nova Scotia, Cape Breton Island, east coast, Sydney harbor, Lloyd Cove, telegraph cables, caution. 260. Prince Ed-

# 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 " "
Map No. 5—South-Western Alberta.....	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta—Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian.....	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians...	10.00 to 25.00 per acre.

All prices are subject to change without notice.

### TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at \$ 8.00 per acre, cash payment	\$191.70	first year's interest	\$65.28	and nine instalments of	\$160.00
" " 9.00 " " "	215.70	" " " "	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.

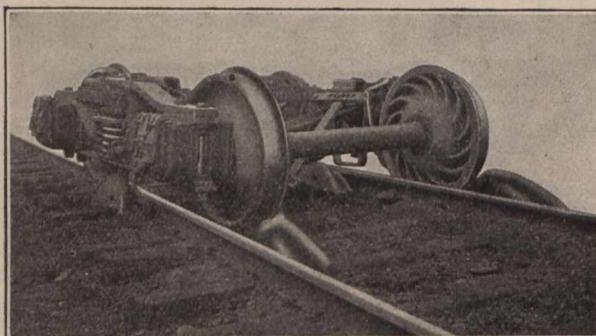
F. T. GRIFFIN, Land Commissioner, Winnipeg.

### 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-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

# 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**

ward Island, south coast, Hillsborough Bay, Hazard Point, daymark on front range lighthouse.

No. 103. Oct. 31.—261. Ontario Light-house Division, Quebec, Ottawa River, north shore, Way channel and Besserer crossing ranges, sheds at bases of light poles. 262. Ontario, Georgian Bay, east coast, Point au Baril, new back range light tower. 263. United States of America, River St. Mary, middle Neebish Channel partly closed, south half available.

No. 104. Nov. 5.—264. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, change in position of Batiscan range lights.

No. 105. Nov. 6.—265. Quebec, River St. Lawrence, Bicquette Island, change in fog alarm.

No. 106. Nov. 7.—266. Nova Scotia, Cape Breton Island, Cape North, fog alarm established.

No. 107. Nov. 10.—267. Ontario, Lake Ontario, Salmon Point, light improved. 268. St. Clair River, new aids for up and down channels in St. Clair River at St. Clair. 269. Ontario, Lake Huron, north channel, Blind River, color of Eddy wharves range lights. 270. United States of America, St. Lawrence River, Cape Vincent, rock located.

No. 108. Nov. 12.—271. Nova Scotia, south coast, off Musquodoboit shoal, whistling buoy established, off Harbor Island, buoy established. 272. Nova Scotia, south coast, Spry Bay, buoys established. 273. Nova Scotia, south coast, off Fishery Point shoal, bell buoy established. 274. Nova Scotia, south coast, Lockwood rock, whistling buoy established.

No. 109. Nov. 13.—275. Nova Scotia, west coast, off Cape Fouchu, change in position of submarine fog bell. 276. England, south coast, the Lizard, fog signal altered. 277. England, east coast, east Goodwin and Gull light vessels, alteration in lights, fog signal. 278. Scotland, north coast, Pentland Firth, Dunnet Head light, altered in character.

No. 110. Nov. 16.—279. British Columbia, Vancouver Island, south coast, Juan de Fuca Strait, Trial Island, permanent light. 280. British Columbia, Strait of Georgia, sand heads of Fraser River, gas buoy changed. 281. British Columbia, Burrard Inlet, First Narrows, west entrance, gas-lighted beacon established. 282. British Columbia, Prince Rupert entrance, Coast Island, arc of visibility of front light increased, dark sector over Kitson bank.

No. 111. Nov. 18.—283. British Columbia, Burrard Inlet, Vancouver, storm signal. 284. British Columbia, Vancouver Island, east coast, Nanaimo harbor, Gallows Point beacon, change in color of light. 285. British Columbia, Seaforth channel, Dall Patch, gas and whistling buoy established. 286. British Columbia, Dixon entrance, Brown passage, description of Stenhouse shoal, rock off Connell Islands. 287. Japan, province of Nemoro, Hokkaido, Noshappu-Zaki light station, fog siren established.

No. 112. Nov. 20.—288. Lake Superior, north shore, local magnetic disturbance. 289. Lake Winnipeg, north end, Nelson River mouth, Warren Landing, range lights established.

No. 113. Nov. 23.—290. Ontario, Lake Huron, Goderich, back range light temporarily extinguished, caution.

The following notices have been issued by the U.S. Hydrographic Department:

No. 45. Nov. 7.—2001. Lake Ontario, southern shore, Charlotte harbor, wreck removed. 2002. St. Lawrence River, Cape Vincent, rock located.

### Atlantic and Pacific Ocean Marine.

Capt. Vipond, of the Allan Line s.s. Virginian, and commodore of the Allan fleet, will, it is reported, retire from the service shortly.

The Allan Line s.s. Ionian, outward bound, Nov. 2, could not land her pilot at Father Point, as is customary, on account of the rough weather, so he was taken across to Scotland.

Capt. W. Jennings, R.N.R., who was for a number of years in the service of the White Star Line as commander of some of its principal vessels, died recently at Tunbridge Wells, Eng., aged 92.

Sir Joseph Ward, Premier of New Zealand, is urging the New Zealand Government to subsidize a steamship line with Canada, principally to prevent the frozen mutton trade being monopolized by the Argentine vessels.

R. M. Coulter, Deputy Postmaster-General of Canada, arrived in Sydney, N.S.W., early in Nov., for the purpose of negotiating with the Commonwealth Government as to the position Australia will assume towards the proposed "all-red" service. It is said that prior to returning to Canada, Mr. Coulter will visit New Zealand, South Africa and Great Britain, in connection with the same matter.

The berths at West St. John, N.B., have been allotted for the winter season as follows: Nos. 1, 2 and 3 to the C.P.R., 4 to the Donaldson Line, and 6 to the Allan Line. It was stipulated that the companies bind themselves to pay \$10 a day for each vessel lying at the wharf, in addition to the usual tariff fees. This was objected to by the companies concerned, and the matter was referred back to the city council.

Capt. Riley, Superintendent of Pilots, held a preliminary enquiry into the causes of the stranding of the Elder-Dempster Co.'s s.s. Ashanti on Madam's Reef, near Quebec, on Oct. 26, in the Wreck Commissioner's Court, Montreal, Nov. 1. It will be decided later whether any further enquiry is necessary. The evidence showed that at the time she struck; the Ashanti was on half speed, i.e., about 5 knots an hour.

The fogs overhanging the St. Lawrence Gulf and River during the early part of Nov. caused considerable disorganization amongst the vessels, both outward and inward. The Allan Line s.s. Hesperian is reported to have taken 7 days to steam from Quebec to Montreal. The only vessels which do not seem to have been hindered to any extent were the C.P.R. Empresses, and it was hinted that special arrangements were made for the lifting of the fog merely to let these boats make records.

The International Mercantile Marine Co., which includes the White Star Line, will, it is reported, expend in new construction, during the next three years, about \$23,000,000, all of which is to come out of earnings. The Laurentic and Megantic, intended for the Canadian trade, are the first of a series of new vessels of the most modern type. The first-named will make her maiden trip to New York shortly, and the second has been launched. The Olympic and Titanic are to follow these two, and are intended for the Southampton-New York route.

G. M. Bosworth, Fourth Vice-President, C.P.R., on his return to Canada from Great Britain recently, announced that arrangements had been made with the Hamburg-American Steamship Co. to operate jointly with the C.P.R. a first-class steamship line between Canadian ports and Hamburg, Rotterdam and Bremen. The first sailing will probably take place at the commencement of the St. Lawrence navigation season in 1909, and continue weekly during April, May and June, and fortnightly for the remainder of the season.

Judgment was delivered recently in the

Board of Trade enquiry, at Liverpool, Eng., into the stranding of the Dominion Line s.s. Southwark, during a fog, on the Labrador coast, Aug. 11. The Court found that the stranding and consequent damage were caused by the master, J. O. Williams, not having ascertained that the vessel had overrun her distance, and in attempting to turn her round with a broad sweep of about three miles towards the shore, when she was much nearer the land than he supposed her to be. The Court, however, did not deal with Capt. Williams' certificate. With the above exception the Court found that the steamer was properly navigated and equipped. It was further found that the fog signals at Greenly Island and Point Amour were not sounded before the Southwark struck. In the course of the evidence, as to the lights and fog signals, the death of the lighthouse keeper at Greenly Island, who, it has been presumed, committed suicide, was commented on.

### Maritime Provinces and Newfoundland.

D. Jenkins has been appointed U.S. Consul at St. Pierre, Miquelon.

The St. John, N.B., Seamen's Association has opened its recently erected seamen's home there.

Capt. T. Douglas, of Halifax, N.S., owner of the barque Osberga, died in New York, Nov. 15, aged 57.

Capt. J. R. Birkland, harbor-master at Barbados, W.I., and formerly of Halifax, died at Barbados recently.

The steam tugs Calluna and Lord Wolsley, of St. John, N.B., ran ashore at Seal Rocks, on the west of Pictou Island, Nov. 10.

The municipality of Richmond, N.S., will receive tenders Jan. 1, 1909, for the operating of a steam ferry service across Lennox Passage, Richmond county.

Two sealing steamers for A. J. Harvey, St. John's, Nfld., were launched in Great Britain during Nov., and it is expected they will sail for St. John's Dec. 27.

J. McGill, Shelburne, N.S., is constructing a schooner of 100 tons register for the West Indies trade. Her dimensions are: Length, 100 ft.; breadth, 24 ft.; depth, 9.8 ft.

A schooner named Watanga was launched at Lunenburg, N.S., recently, her dimensions being: Length, 116 ft.; breadth, 25.8 ft.; depth, 10.8 ft.; tonnage, 99 register.

The U.S. Consul at St. John, N.B., reports the value of exports from St. John to the U.S., for the quarter ended Sept. 30, as \$589,137.83, against \$849,938.36 for the same period 1907.

The schooner Lorna Doone, which arrived at North Sydney, N.S., Nov. 4, reported that Capt. Roberts, of Twillingate, Nfld., had been washed overboard near Cape Sable, Nov. 1, during a gale.

T. E. Kenney, President of the Royal Bank of Canada, who died recently, was interested in the shipping and shipbuilding business, at one time carried on in various parts of Nova Scotia by Putnam Bros.

The British Admiralty surveying ship Ellinor, which has been engaged during the summer on survey work on the north-east coast of Newfoundland, has arrived at Halifax, N.S., where she has been berthed for the winter.

The Windsor, N.S., schooner Calabria was driven ashore at Summerside, P.E.I., Nov. 1. She was built at Parrsboro, N.S., in 1881, her dimensions being: Length, 154.4 ft.; breadth, 36.5 ft.; depth, 16.2 ft.; tonnage, 451 register.

The salvage operations on the s.s. Turret Bell near St. Peters, P.E.I., are proceeding slowly, the wreckers having been seriously interfered with by bad weather. The vessel has been removed seaward about 100 ft.,

and is reported to be lying in a good position.

The St. John schooner Eric was wrecked near Cape Nanset, Oct. 31, during a storm. The crew was taken off by the steam trawler Conqueror. The Eric was built at St. John in 1890, her dimensions being: Length, 94.1 ft.; breadth, 27.1 ft.; depth, 7.5 ft.; tonnage, 119 register.

The Dominion Department of Marine will receive tenders to Dec. 10 for the construction of a twin screw steel steamer for hydrographic service on the Atlantic coast. The dimensions of the required vessel are to be: Length, over all, 173½ ft.; breadth of beam, moulded, 29 ft.; depth, 15½ ft.

The schooner Regina B., registered at Port Hawkesbury, N.S., was run down by the s.s. John Irwin recently. She sank almost immediately, the crew being saved. She was built at Summerside, N.S., in 1881, her dimensions being: Length, 77.8 ft.; breadth, 22.4 ft.; depth, 8.6 ft.; tonnage, 81 register.

The hull of the s.s. Hugh D., which has been constructed at J. McGill's yard at Shelburne, N.S., was launched Nov. 5, and towed to Halifax, where her machinery will be installed. Her dimensions are: Length, 88.6 ft.; breadth, 18 ft.; depth of hold, 8 ft. She is owned by H. Cann & Son, Yarmouth, N.S., and will be used for towing and general freighting business.

Judgment has been delivered in the matter of the Halifax Graving Dock Co. against the owners of the Italian barque Aflezione, under garnishee proceedings, by which it was declared that there was \$2,596.81 in the hands of S. Cunard & Co., who garnisheed, and awards \$100 to J. Strachan, average adjuster, and \$2,000 with interest to E. F. Williams. The Aflezione, which was docked at Halifax for repairs Nov. 9, 1907, has been taken over by G. E. M. Lewis, Truro, N.S., and placed on the Canadian register, under the name of Shanks.

The Plant Steamship Line is reported to have chartered the s.s. Lady Sybil from the Magdalen Islands Steamship Co., for which she was built in 1907. She has been operated during the summer by the Interprovincial Navigation Co. between Campbellton, N.B., and Gaspé ports, on the Government mail service, and replaced the s.s. Lady Eileen, which was wrecked in the Baie des Chaleurs, June 7. The Lady Sybil will be placed on the Halifax-Boston route for the winter, the Halifax and A. W. Perry being transferred to the West Indies service.

The Cape Breton Dredging Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$100,000 and office at Toronto, to carry on a general dredging, construction and towing business; to purchase the plant of the Canada Construction and Dredging Co., consisting of the dredge Edmund Hall No. 1, the tug Argyle, and two scows; to purchase or acquire the dredge Degnon and two scows; and to purchase or acquire the tug Acadia. The provisional directors are: J. B. Bartram, Toronto; D. Murphy, Ottawa; and V. T. Bartram, Purchasing Agent, Temiskaming and Northern Ontario Ry. North Bay, Ont.

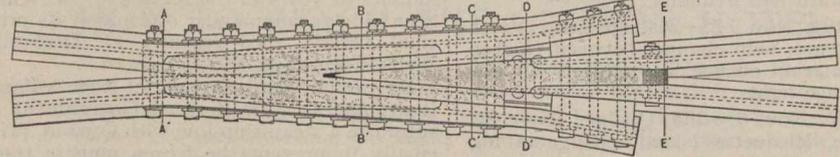
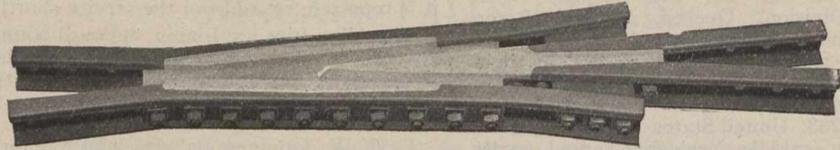
**Province of Quebec Marine.**

The Quebec Steamship Co. paid its 61st half-yearly dividend Nov. 2, at the rate of 6% per annum.

The name of the barge Indiana, no 74,254, registered at Quebec, has been changed by order-in-council to I.P.

The Quebec Harbor Commissioners are urging the Government to undertake the construction of a dry dock there.

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NIAGARA FALLS, ONT.

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Mince Meat put up in 75-lb. tubs, half barrels and barrels. Sauce and Catsup in 5-gallon pails. All goods guaranteed.

Special Attention given to Mail Orders.

**The Capstan Manufacturing Co.**  
TORONTO, CANADA

The Leyland Steamship Line has instructed its agent at Montreal to dispose of its sheds, situated near the Victoria pier.

The sheathing of the Quebec and Levis Ferry Co.'s s.s. Henry R. James having been completed, she was recently taken to Levis to be fitted up for service.

The second foundation crib work section for the west side of the breakwater extension in Quebec harbor was sunk there recently; no further work of this nature will be undertaken this season.

The steamboat Vigilant, J. M. Cornwall, master, was seized Nov. 2 at Cote St. Paul, Que., at the instance of D. Paquette, on a claim for pilotage dues. Bail was subsequently given and the vessel released.

The Crystal Ice Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$100,000 and office at Montreal, with power, among other things, to own and operate warehouses, wharves, tugs, boats, etc., in connection with its business.

The s.s. King Edward, operating between Quebec and north shore ports, ran aground at English Bay, Anticosti Island, during a heavy gale, Nov. 16. The passengers and crew were taken ashore in lifeboats. The vessel, which is owned by Holliday Bros., Quebec, is probably a total loss.

The floating crane barge, which, while being towed to Montreal from Barrow, Eng., broke loose during a storm, and drifted to Stornoway, Scotland, has been taken back to Barrow, where it will be kept for the winter. Another attempt will be made to tow it across the Atlantic in the spring.

The Quebec schooner Blanche Alma was driven ashore at Point des Monts, Que., recently during a storm, and was broken up; very little of the cargo was saved. She was built at Ste. Anne, Que., in 1890, her dimensions being: Length, 78.2 ft.; breadth, 22.8 ft.; depth, 8.3 ft.; tonnage, 87 register.

The C.P.R. third annual trip, to which were invited a number of Quebec officials, etc., with whom the steamship department is brought into contact during the summer season, took place Nov. 6. The party travelled from Quebec to Montreal in special cars, and returned to Quebec on the C.P.R. s.s. Lake Manitoba.

The Department of Marine announces that all Canadian lights in the St. Lawrence River will be kept in operation as long as navigation is open, and all gas buoys kept at their stations as long as ice conditions permit. When it is necessary to remove the buoys before the close of navigation, spar markers will be laid where possible.

Bouchard Bros., Quebec, have recently purchased the s.s. Restigouche, formerly known as Rathlin. She was built at Glasgow, Scotland, in 1877, her dimensions being: Length, 229 ft.; breadth, 31 ft.; depth, 16 ft.; tonnage, 945 gross. She has engines with cylinders 26 and 52 ins. diam., by 57 ins. stroke, and was fitted with a new main boiler in 1888.

The Dominion Department of Marine has prepared specifications for a vessel to be constructed for the purpose of attending to the buoying system of the St. Lawrence ship channel, to replace the Shamrock, now in use for that purpose. It is stated that immediately an appropriation is made, the work of construction will be commenced at the Sorel yard.

The plans for the further improvement of the harbor facilities at Montreal include the erection of an electric power plant for the production and distribution of power for all purposes in the harbor; the construction of a dry dock of suitable capacity for any vessels which may arrive in Montreal; and the erection of two cranes at each of

the newly erected sheds. It is said that the Harbor Commissioners' jurisdiction is to be extended to cover the whole front from near Lachine to Bout de l'Île.

Following is a comparison of the chief commodities exported from Montreal during Oct., 1908 and 1907:

	1908.	1907.
Wheat, bush.....	22,580,412	17,631,735
Corn, bush.....	242,703	4,131,574
Peas, bush.....	150,270	122,482
Oats, bush.....	101,687	3,847,839
Barley, bush.....	917,625	789,720
Rye, bush.....	112,312	72,460
Buckwheat, bush.....	16,683	1,955
Flaxseed, bush.....	621,022	1,183,029
Flour, brls.....	513,946	689,109
Meal, brls.....	26,508	54,244
Eggs, cases.....	1,465	11,522
Butter, kegs.....	87,683	64,362
Lard, brls.....	332,200	129,328
Meats, pkgs.....	99,363	129,238
Cattle.....	62,917	76,488

**Ontario and the Great Lakes.**

T. W. Trotter has been appointed Government wharfinger at Echo Bay, Ont.

Capt. A. J. Young, a well-known mariner on the lakes, and a native of Kingston, died at Detroit, Mich., Nov. 4, aged 61.

G. Murray, a well-known lake captain, who retired about 10 years ago, died at Kingston recently, aged 86.

The Midland Navigation Co.'s s.s. Midland King ran aground near Detour, Mich., Nov. 1, and was subsequently released by the tug General.

The light station on the southeastern side of Grand Island, Lake Superior, at the entrance to the harbor, has been discontinued for the winter season.

It is reported that the first masonry repairs, since their construction in 1834, will shortly be made to the Rideau Canal locks at Ottawa, at a cost of \$19,000.

The schooner Kingston had to put back to Kingston Nov. 5, having had her foremast and rigging carried away. She has been laid up there for the winter.

The name of the O'Connor Steamboat and Hotel Co., Ltd., has been changed by an order under the provisions of the Ontario Companies Act to Temagami Steamboat and Hotel Co., Ltd.

Speaking on the Georgian Bay canal project recently, Sir Wilfrid Laurier said that construction work would probably be commenced immediately on the completion of the National Transcontinental Ry.

The Canadian Lakes Transportation Co.'s steamboat Corunna sailed from Toronto, Nov. 14, on her last trip of the season to the head of the lakes. On her return to Toronto from Kingston, she will be berthed for the winter.

During Oct. it was reported that 3,707,219 bush. of grain had been transhipped at Kingston, making 10,500,000 for the season to that date. It was estimated that about 13,000,000 bush. would be the total for the season, against 15,000,000 in 1907.

The Montreal Transportation Co.'s steamboat Rosemount ran aground in making the entrance to the new West Neebish channel, Sault Ste. Marie, Nov. 10. After lightering about 100,000 bush. of grain, she was released apparently uninjured, Nov. 11.

The Mutual Steamship Co.'s steamboat Canadian, which ran ashore near Detour, Mich., Oct. 31, was taken to Sault Ste. Marie, Ont., where temporary repairs were made, and her cargo lightered. She is in such a condition that she will not be in service again this season.

The following Government canal employes have been awarded the Imperial service medal, on their retirement, for long and meritorious service: J. Denny, foreman, Welland Canal; R. McCreary, lock

master, Rideau Canal; and J. E. Scott, foreman, Welland Canal.

The Toronto Board of Control has approved of the Works Committee's recommendation to build a dredge at a cost of \$76,000. A recommendation to purchase another tug for \$10,000, and the question of repairs to the city's sand pump no. 1, were also discussed recently.

At a recent discussion at the Engineers' Club of Toronto, W. J. Fuller, assistant to J. G. Sing, Dominion Government Engineer, Toronto, advocated the extension of Toronto harbor to include Ashbridge's Bay, and the construction of additional dockage facilities, covering the whole of the bay.

The U.S. lake survey reports for Oct. give the levels of the Great Lakes in feet above tidewater as follows: Superior, 602.69; Michigan and Huron, 580.86; Erie, 572.31; Ontario, 246.44. Since the previous month, Superior has fallen 1 1/4 ins.; Michigan and Huron, 4 3/4 ins.; Erie, 5 ins.; and Ontario, 8 1/2 ins.

The Dominion Department of Marine has issued a notice that the lighthouse in course of construction about 80 ft. southwest of the Pigeon Island lighthouse obscures the southwest light of that structure. The new tower will be in full operation at the opening of navigation in 1909 and the present light discontinued.

The Western Steamship Co.'s steamboat Wexford, while down bound, struck the south pier at the entrance to the Sault Ste. Marie Canadian canal, Nov. 6, cutting a hole in her starboard side above the water line. Temporary repairs were undertaken and part of her cargo of grain lightered to enable her to proceed on her trip.

The Dominion Transportation Co.'s steamboat Telegram was destroyed by fire near Fitzwilliam Island, Georgian Bay, Nov. 1. She was built at Collingwood in 1885, and was a screw steamer with engine of 35 n.h.p. Her dimensions were: Length, 108 ft.; breadth, 21 ft.; depth, 9 ft.; tonnage, 198 gross, 134 register. The vessel was valued at \$20,000.

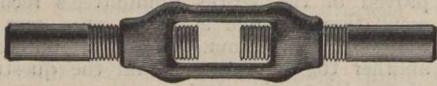
The Temiskaming Navigation Co.'s steamboat Temiscamingue was destroyed by the explosion of the boiler, near Mattawa, Nov. 10, five persons being killed and several injured. She was built at Temiscamingue, Que., in 1898, and was a screw-driven vessel with engine of 21 n.h.p. Her dimensions were: Length, 133 ft.; breadth, 22.5 ft.; depth, 6.5 ft.; tonnage, 295 gross, 213 register.

The Lemcke Tug Co.'s steam tug W. E. Gladstone, with a scow, broke from its moorings at Lion's Head, Nov. 5, during a storm, and was dashed to pieces. She was built at Collingwood in 1882, and was a screw-driven vessel with engine of 25 n.h.p. Her dimensions were: Length, 72 ft.; breadth, 16 ft.; depth, 6.8 ft.; tonnage, 45 gross, 30 register. She was valued at \$4,000, and the scow at \$1,500.

The Lake Ontario and Bay of Quinte Steamboat Co., Kingston, it is reported, has awarded a contract for the construction of an additional vessel for its fleet to a Kingston firm. The vessel, it is said, will be mostly of steel, 120 ft. long, with capacity for 520 on the bay and 390 on the lake, and with an average speed of 15 miles an hour. It is intended to have her ready for service early in 1910.

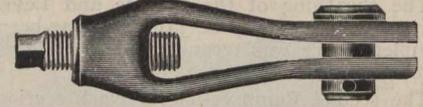
Considerable complaint is being made by U.S. vessel owners and others regarding the delay which frequently occurs at Canadian grain ports at the head of the lakes. It is reported that one of the largest grain carrying vessels on the lakes was detained a full week at Fort William, and had to go to seven elevators to make up her cargo.

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Sailing from New York Saturdays.  
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Sailing from Philadelphia Saturdays.

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Sailing from New York Saturdays.

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Portland to Liverpool—Winter  
Montreal—Quebec—Liverpool  
Montreal to Avonmouth Docks  
(Bristol and Antwerp)

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Sailing from Boston Wednesdays.

**RED STAR LINE**

New York—Antwerp—Paris  
Sailing from New York Wednesdays.

**WHITE STAR LINE**

New York—Liverpool—Queenstown—  
Sailing from New York Saturdays.  
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OWEN SOUND, ONTARIO LIMITED

Several vessels are reported to have sailed with short cargoes on this account.

Grain receipts at Fort William by C.P.R., Sept. 1 to Oct 31, wheat, 11,552,883.10 bush.; oats, 1,589,200.03; barley, 397,182.05; flax, 195,568.09. Total, 13,734,833.54; at Port Arthur by C.N.R., wheat, 7,113,712.00; oats, 828,184.14; barley, 597,739.19; flax, 14,349.50. Total, 8,553,984.83. Shipments from Port Arthur for same period, wheat, 13,649,084.40; oats, 1,670,044.00; barley, 388,687.20; flax, 86,323.00.

The C.P.R., in preparation for the close of navigation on the Great Lakes, discontinued, for the winter season, the acceptance of package freight, and flour, west of Moose Jaw, Sask., Nov. 12 and 13 respectively; and east of Moose Jaw, Sask., Nov. 18 and 20 respectively; and from Ontario points westerly, Nov. 24, for shipment by lake and rail. The last sailing from Owen Sound was scheduled for Nov. 30, and from Fort William, Dec. 1.

The Huntsville, Lake of Bays and Lake Simcoe Navigation Co.'s steamboat Iroquois ran aground recently near Spanish Mills, and taking fire was destroyed. The passengers and crew were saved, but everything on board, with the exception of three bags of mail, was lost. The Iroquois was built at Huntsville in 1907, and was a screw-driven vessel with engine of 28 n.h.p. Her dimensions were: Length, 118.5 ft.; breadth, 23 ft.; depth, 7.5 ft.; tonnage, 307 gross, 198 register.

The Quinte Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Picton, Ont., to own, construct and operate steam vessels for the purpose of trade in Ontario, and to own, build or acquire docks, wharves, warehouses, etc., and to carry on a general forwarding and passenger business. The provisional directors are: D. B. Christie, A. Leslie, Picton; M. J. McFaul, F. Brennan, Deseronto; and H. Dempsey, Ameliasburgh, Ont.

The repairs to the Cornwall Canal above lock 18, where the bank was carried away June 23, causing the collapse of the Ottawa and New York Ry. bridge, are practically completed. A solid concrete wall has been constructed, 260 ft. long by 20 ft. wide at the bottom, and 3 ft. at the top, and 39 ft. from bottom to top. It is to be reinforced on the outside by a bank of heavy ballast. A concrete pier, 23 ft. diameter, and rising 24 ft. above the canal, has been constructed to carry the railway and swing bridge.

The Northern Navigation Co.'s new steamship was launched at the company's headquarters, Collingwood, Ont., Nov. 26, being christened Hamonic, by Mrs. H. H. Gildersleeve, the manager's wife, in the presence of a large assemblage, including several G.T.R. officials and visitors from Toronto and elsewhere. Great regret was expressed at H. C. Hammond, President of the N.N. Co., after whom the boat is named, being unable to be present, owing to his serious illness. The Hamonic has been fully described in previous issues.

The Department of Marine announces that all Canadian lights and fog alarms in Lake Superior will be kept in operation until Dec. 10, with the exception of that at Caribou Island, which may be discontinued Dec. 5, subject to weather conditions, or the early closing of navigation. The Canadian lights and fog alarms in Lake Huron, Georgian Bay, Lakes St. Clair, Erie and Ontario, will be kept in operation until Dec. 15, excepting those at Lonely Island, Western Island, and the Red Rock lights in Georgian Bay, which may be discontinued Dec. 10, should navigation close early.

The Dominion Department of Marine has given notice of the provision of an

acetylene gas buoy for the most northerly and easterly 18 ft. spot of the detached shoals in the Canadian channel east of the middle ground of the St. Clair River. The U.S. Lighthouse Board has moved the gas buoy from the south point of the main middle ground, at the mouth of Pine River, to 2,900 ft. southward, to indicate the southern point of division of the upward and downward channels. A red spar buoy takes the place of the gas buoy removed. The striped buoy 500 ft. north of the newly located gas buoy has been discontinued. The St. Clair middle shoal buoy no. 3, a black spar at the east side of the shoals in the Canadian upbound channel, near Court-right, Ont., has been moved southeasterly, about 250 ft., to mark the extreme easterly edge of the shoal. The northerly division of the two channels is indicated by a striped gas buoy.

Judgment has been delivered in the Kingston Admiralty Court in the cases of the Montreal Transportation Co. against the barge Buck Eye State, and the Atlantic Coast Steamship Co., as owners, and the barge Buck Eye State, against the Montreal Transportation Co., the tug Mary Ellen and its captain, J. Jesmer, in favor of the plaintiffs in the first case, and of the defendants in the second. The Transportation Co. engaged to tow the Buck Eye State from Lachine Point to Port Dalhousie, accidents occurring in the Cornwall Canal at Cornwall, and at Morrisburg, the barge finally being sunk at Iroquois; and it receives \$2,458 for salvage work thereon, and was absolved from all liability. The accident was attributed entirely to the tug Mary Ellen, against the owners of which the Atlantic Coast Steamship Co. obtained judgment. F. King, Secretary-Treasurer Dominion Marine Association, Kingston, appeared for the Montreal Transportation Co.

#### Manitoba, Saskatchewan, Alberta, Etc.

The steamboat Mikado ran aground on a sandbank at Grand Marais, Lake Winnipeg, recently.

The Department of Marine has given notice of the establishment of range lights at Warren Landing, at the mouth of the Nelson River, north end of Lake Winnipeg.

The proposal to reorganize A. Booth & Co. has been rejected by the creditor bankers' committee. It is stated that the banks concerned hold the company's paper for nearly \$6,000,000 and that their decision was affected by the statement that in the event of a reorganization, a prosecution under the Anti-Trust laws would be instituted. It is reported that they are willing to accept 35c. on the dollar.

The Canadian Lakes Fishing Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$20,000 and offices at Dauphin, to carry on a general fishery business, and with power to own and operate steam and other vessels in connection with such business, and to carry passengers and freight. The provisional directors are: W. J. Walker, W. W. Aitchison, J. B. Jessop, Chicago, Ill.; E. D. Coffey, Dauphin, Man.; and F. L. Merritt, Winnipegosis, Man.

The Winnipeg and Lake of the Woods Development Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$100,000 and office at Winnipeg, with power, among other things, to build, or otherwise acquire and operate steam and other vessels, and to carry on the general business of transportation of passengers and freight. The provisional directors are: L. J. Murphy, R. J. Gourlay, G. Williamson, Winnipeg; D. L. Mather, Kenora, Ont.; and H. W. Echlin, Keewatin, Ont.

#### B.C. and Pacific Coast Marine.

The G.T. Pacific Ry. is reported to be considering the possibility of building another steamer to operate on the Skeena River in connection with its steamboat Distributor.

Capt. J. G. Cox, who died at Victoria Nov. 10, was born at Maitland, N.S., and went to Victoria in 1884. He acted as Lloyds' agent in Victoria for a number of years, and was interested in the sealing industry.

The Vancouver city council has instructed its solicitor to proceed with a claim against the C.P.R. for services rendered and salvage, when the company's s.s. Empress of China sank in the dock there last year.

The C.P.R. s.s. Princess Royal collided with the Japanese s.s. Fluki Maru in Seattle harbor, Wash., during a fog Nov. 9. The Princess Royal was badly damaged and had to transfer her passengers and go into dry dock.

The large dredge purchased by the Dominion Government in Germany is on its way to British Columbia via Cape Horn, and is expected to reach the Fraser River shortly. It will be used on the work of cutting a 30-ft. channel from Millside to the Gulf.

The Vancouver Cruising Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$20,000, to carry on a lumber business, to maintain and operate steam and other vessels, wharves, warehouses, etc., and to conduct a general transportation business.

Commander O. G. V. Spain, Dominion Wreck Commissioner, was in conference with the pilotage committee of the Board of Trade and the agents of the various steamship companies at Victoria recently, in the course of his investigations into the pilotage rates and arrangements on the B.C. coast.

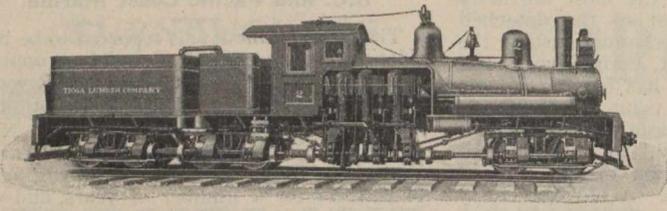
The Newton and Greer Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, to take over the general ships chandlery business carried on at Victoria by S. R. Newton and J. H. Greer, with power among other things to own and operate steam and other vessels, and to conduct a general transportation business.

The Prince Rupert Construction Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, with power to carry on the business of contractors for the construction of railways, tramways, etc., and acquire and operate steam and other vessels, wharves, docks, piers, marine railways, etc., and to carry on a general transportation business.

The Western Steamboat Co.'s steamboat Ramona, operating between New Westminster and Chilliwack, was sunk in the Fraser River, Nov. 11. There was no loss of life. The vessel was built at Portland, Ore., in 1896, and was a paddle-wheel steamer, with engine of 9 n.h.p. Her dimensions were: Length 178.2 ft., breadth 25 ft., depth 4.4 ft.; tonnage, 251 gross, 209 register.

The Vancouver Machinery Depot, Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$50,000, to take over the business of G. A. Walkem & Co., Vancouver, and to carry on the business of carriers by land and water, ship owners, wharfingers, shipping agents, etc., and to own and operate steam and other vessels for the purposes of the company.

The s.s. Iroquois, operating between Sydney and Nanaimo in connection with the railway service, ran ashore at Sharp's Point, near Nanaimo recently. She was released by the tug William Joliffe and taken to Victoria for examination. The damages were found to be less than anticipated, and the necessary repairs were completed and the route resumed Nov. 7.



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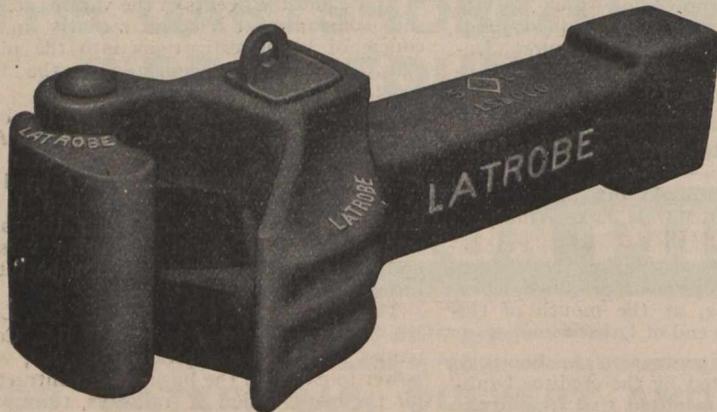
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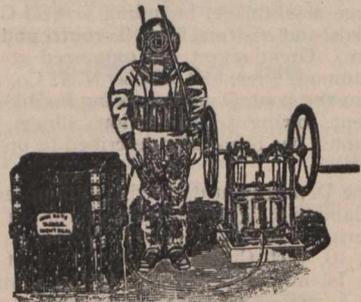
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The steamboats plying on the Skeena River are being berthed for the winter season at various points. The Hudson Bay Co.'s vessels, Port Simpson and Hazleton are at Port Simpson and Port Essington respectively; the G.T. Pacific Ry.'s Distributor will winter at Victoria, and the Skeena, owned by Foley, Welch and Stewart, G.T.P.R. contractors, at Prince Rupert.

Following are the officers of the International Navigation and Trading Co. (Kootenay Ry. and Navigation Co.), Spokane, Wash., for the current year: President, E. L. Brown; Vice-President, A. H. MacNeill; Superintendent, P. H. Walsh; Secretary, W. H. Fortier; Treasurer and Auditor, R. C. Morgan. The first three are also directors.

The Department of Marine is asking for tenders for the construction of a twin-screw steel cruiser for the fisheries protection service in B.C. waters. The following dimensions are quoted: Length over all, 250 ft.; breadth of beam, moulded, 32 ft.; depth from top of keel to top of beams at side, 17 ft. The vessel is required to be delivered at Victoria, B.C., and tenders will be received up to Jan. 15, 1909.

The Mackenzie Steamship Co is reported to have purchased the British s.s. Powhatan, recently lying at Hong Kong. The vessel is described as a steel screw steamer of 4,262 tons gross, 2,789 tons register; length, 354.1 ft.; breadth, 50.3 ft.; depth, 20.3 ft. It is stated that passenger accommodation, etc., has been added at Hong Kong, at a cost of \$20,000, and that the vessel will arrive at Victoria early in December.

The C.P.R. s.s. Princess Royal has had her repairs completed at Esquimalt, and is again in service. Her place in the dock was taken by the Japanese s.s. Fukui Maru, with which she was in collision recently. It is estimated that the repairs to the latter vessel will amount to \$10,000. New shell plates will be fitted, as well as four beams, three

deckplates and two side stringers. An investigation into the causes of the collision has been held in private.

The Boyden Tug Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$20,000, to purchase from S. F. Mackenzie, Vancouver, the steam tug J. E. Boyden, and with power among other things to own and operate steam and other vessels, wharves, warehouses, etc., and to carry on a general transportation business. The tug J. H. Boyden was built at Seattle, Wash., in 1888, and is a screw-driven vessel with engine of 37 n.h.p. Her dimensions are: length, 84.4 ft.; breadth, 19 ft.; depth, 9.7 ft.; tonnage, 122 gross, 83 register.

The C.P.R. s.s. Princess Charlotte, recently built at Govan, Scotland, for the Vancouver-Seattle route, sailed from the Clyde Nov. 2, and it is anticipated will arrive at Victoria towards the end of December. One of our U.S. contemporaries recently, in giving an abridged description of the vessel, remarked that it was the "first authentic description of her appearing in an American journal." If the term "United States" were used instead of "American," it would possibly be more correct. A very full description of this vessel was given in our Aug. issue.

Various rumors are current on the Pacific coast as to the intentions of the G.T. Pacific Ry. in regard to the provision of a coastwise steamship service. One report states that Foley, Welch & Stewart, G.T.P.R. contractors, are about to acquire two vessels to inaugurate a service between Vancouver and Prince Rupert, and that they would be handed over to the railway company next summer. Other reports are to the effect that the G.T.P.R. was having plans prepared in Great Britain for the construction of two vessels similar to the C.P.R. Princesses, to be ready for the spring of 1910; and reports that the railway company is about to acquire the fleet of the Union Steamship Co. of Vancouver, have also been freely circulated recently. While it is likely in the natural

course that the G.T.P.R. will desire to engage in the coastwise trade when the railway is in full operation, there is no official information obtainable as to the correctness or otherwise of these reports.

**Proposed Grain Clearing House.**

Delays in the loading of grain cargoes at Port Arthur and Fort William, and continued discrepancies in the out-turns of cargoes have led to intense dissatisfaction. Under the present system a vessel is often forced to travel all around one or both of these harbors picking up her load in small lots from various elevators. A large part of a week is sometimes occupied in this way in getting a load. The grain clearing house proposed is intended to obviate this difficulty by substituting a system of accounting between the various elevators in place of the present method. This clearing house, working possibly under Government supervision, would be able to direct a vessel to one, or at most two elevators, and these elevators would receive credit for the grain loaded, the other elevators in question being charged up with the various grades and quantities delivered. When the scheme was first mooted, it had the approval of all parties, except certain elevator owners, by whom objections were raised regarding questions of responsibility and accounting.

The Dominion Marine Association has succeeded in enlisting the cordial support and approval of the Department of Trade and Commerce, and it is understood that all the officials of the Inspection Department are also strongly in favor of the scheme. The Western Grain Standard Board has also endorsed it, and a number of the elevator owners are in line. With all the parties interested agreeing upon the scheme it is expected that the few objections which have been raised will be readily met, and it is quite possible that before next navigation season opens a clearing house may be in operation.

**LIST OF STEAM VESSELS REGISTERED IN CANADA DURING OCT., 1908.**

Name.	No.	Where and When Built.	Engines, etc.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Port of Registry.	Owners.
Ch'y M. Scott	122,450	Victoria Mills, N.B., 1908.	Screw 6 N H.P.	44.2	10.0	4.6	17	11	St. John, N.B.	Scott Lumber Co., Fredericton, N.B.
Don-de-Dieu	126,147	Sorel, Que., 1907.	" 1 "	31.0	6.8	2.2	3	2	Sorel, Que.	J. A. Chapdelaine, Sorel, Que.
Going	126,191	Detroit, Mich., U.S., 1881.	" 4 "	63.7	18.0	8.4	45	31	Windsor, Ont.	G. E. Brooks, Windsor, Ont.
J. B. Paine	125,980	Toronto, Ont., 1906.	" 4 "	39.6	8.0	5.0	11	8	Toronto	J. B. Paine, Toronto, Ont.
Nezko	126,215	North Vancouver, B.C., '08	" 3 "	37.1	9.8	4.0	12	8	Vancouver, B.C.	W. H. Braim, North Vancouver, B.C.
St. Williams	100,629	St. Williams, Ont., 1908.	" 2 "	26.0	9.8	3.0	11	8	Port Dover, Ont.	C. C. Bates, St. Williams, Ont.
Stra-Gwi-Agh	125,979	Hamilton, Ont., 1905.	" 5 "	49.5	8.5	3.0	16	11	Toronto	H. H. Lang, Cobalt, Ont.
Tartar	124,355	Bowling, G.B., 1906.	" 60 "	90.2	17.1	9.2	95	7	Vancouver, B.C.	Sechelt Towing Co., Vancouver, B.C.
Telkwa	126,217	Vancouver, B.C., 1908.	" 3 "	31.8	7.6	4.0	8	6	"	F. J. Ewing, Prince Rupert, B.C.
Tim Healy	117,180	Sandwich, Ont., 1908.	" 6 "	41.2	12.0	6.8	34	26	Windsor, Ont.	Windsor Dredging Co., Windsor, Ont.
Tuladi	126,216	Vancouver, B.C., 1908.	" 4 "	49.3	14.3	6.0	32	21	Vancouver, B.C.	Letson & Burpee, Vancouver, B.C.

**LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING OCT., 1908.**

Name.	No.	Where and When Built.	Rig.	Length	B'dth.	Depth.	Gross Tons	Reg. tons.	Port of Registry.	Owners.
A. V. Conrad	126,111	LaHave, N.S., 1908.	Schr.	101.6	27.2	10.0	147	147	Lunenburg, N.S.	A. V. Conrad, M.O., LaHave, N.S.
Allans No. 1.	*126,165	Montreal, Que., 1908.	Barge	139.0	32.9	9.2	250	250	Montreal	H. M., H. A. and A. A. Allan, Montreal, and B. J. Allan, Boston, U.S., J.O.
Allans No. 2.	*126,166	"	"	159.6	30.7	8.9	279	279	"	"
Allans No. 3.	*126,167	"	"	121.0	30.7	7.6	170	170	"	"
Archie Crowell	126,186	Shelburne, N.S., 1908.	Schr.	106.0	27.0	10.0	175	175	Shelburne, N.S.	Z. Nickerson, Port Clude, N.S.
Clifford May	122,187	West Arichat, N.S., 1908.	"	56.6	18.1	8.0	43	43	Arichat, N.S.	I. Poirier, West Arichat, N.S.
Dorothy G.	126,112	Tancook, N.S., 1908.	"	46.4	12.7	6.6	17	17	Lunenburg, N.S.	P. George, Whitehead, N.S.
E. C. E. No. 15	126,216	Vancouver, B.C., 1906.	Scow	77.0	29.0	7.7	150	150	Vancouver, B.C.	G. Coleman, Vancouver, B.C.
Emma Burke	126,024	Ingonish, N.S., 1908.	Schr.	37.0	12.4	5.6	12	12	Sydney, N.S.	S. S. Burke, Ingonish, N.S.
Ingonish	126,023	" 1907.	"	41.0	12.7	5.0	16	16	"	W. C. M. I. and J. L. Williams, Ingonish, N.S.
K. W. No. 10.	126,219	Vancouver, B.C., 1908.	Scow	59.5	23.1	6.9	89	89	Vancouver, B.C.	G. C. McKeen, and L. Wilson, Vancouver, B.C.
Mur'l B. Walters	126,113	Lunenburg, N.S., 1908.	Schr.	97.6	25.8	10.2	98	98	Lunenburg, N.S.	J. E. Backman, M.O., Lunenburg, N.S.
N. G.	126,164	St. Michel, Que., 1908.	Sloop	110.3	23.1	7.9	143	143	Montreal	N. Gervais, St. Michel d'Yamaska, Que.
Organ	126,064	Port Elgin, N.B., 1908.	Schr.	60.8	19.6	7.0	46	46	Charlottetown, P.E.I.	A. Grant, Port Elgin, N.B.
Revenue	126,114	Lunenburg, N.S., 1908.	"	102.6	26.0	10.5	99	99	Lunenburg, N.S.	B. Cook, M.O., Rose Bay, N.S.
Sandy Hook	126,094	"	Barge	138.7	32.0	9.8	214	214	St. Catharines, Ont.	F. J. Battle, Thorold, Ont.
Tobatic	126,036	Liverpool, N.S., 1908.	Schr.	102.5	25.5	10.6	99	99	Liverpool, N.S.	A. W. Hendry, Liverpool, N.S.
Wm. Davidson	126,253	Chatham, N.B., 1908.	"	67.8	20.4	8.0	61	61	Chatham, N.B.	W. S. Loggie Co., Chatham, N.B.

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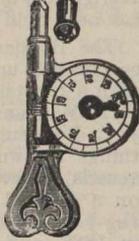
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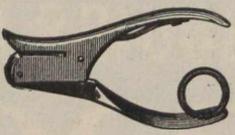
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**Registration of Ships' Names.**

The Governor-General in Council has approved the regulations relating to ships' names as follows:

Any person who proposes to make application for the registry of a British ship, in Canada, shall give notice in writing of the proposed name of the ship to the Registrar of Shipping at the intended port of registry at least 14 days before the date on which it is contemplated to effect the registry.

The Registrar at that port shall transmit the notice to the Deputy Minister of Marine.

If the proposed name does not appear already as the name of a registered British ship, or if it is not a name so similar to that of a registered British ship as to be calculated to deceive, the Deputy Minister of Marine shall issue a certificate to that effect to the registrar at the port at which the ship is to be registered, and the ship shall be registered under that name provided all requirements for registry have been duly complied with.

If the proposed name is found to be already the name of a registered British ship, or so similar as to be calculated to deceive, the Deputy Minister of Marine may refuse the registry of the ship by that name, and shall intimate his decision to the Registrar at the intended port of registry and to the applicant for registry.

**Vessels Removed from the Register.**

The following vessels were removed from the Canadian register in Oct. for the reasons assigned: Steam—Angler, Winnipeg, 11 tons, broken up; Beaver, Winnipeg, 23 tons, broken up; Caro, Winnipeg, 10 tons, broken up; D. I. Mather, Winnipeg, 70 tons, broken up; Defender, New Westminster, B.C., 137 tons, broken up; Flying Cloud, Winnipeg, 4 tons, broken up; Gordon, M., Winnipeg, 2 tons, broken up; Harry Montgomery, 2 tons, broken up; Herbert M., Toronto, 18 tons, dismantled; Ida, Winnipeg, 13 tons, broken up; Irlene, Winnipeg, 6 tons, dismantled; Millie Howell, Winnipeg, 16 tons, broken up; Pontiac, Ottawa, 97 tons, burnt; Richmond, Winnipeg, 10 tons, broken up;

Rover, Owen Sound, Ont., 35 tons, broken up; Sultana, Winnipeg, 243 tons, broken up; Zuleika, Sydney, N.S., 8 tons, foundered. Sailing—Annie B., Winnipeg, 14 tons, broken up; Arequipa, Richat, N.S., 36 tons, broken up; Berens River, Winnipeg, 335 tons, wrecked; C. E. Robertson, Winnipeg, 28 tons, broken up; City of Alberton, Winnipeg, 39 tons, broken up; Gimli, Winnipeg, 30 tons, broken up; Gentile, Guysborough, N.S., 34 tons, broken up; Golden Rule, Shelburne, N.S., 149 tons, wrecked; Grenada, Windsor, N.S., 635 tons, abandoned at sea; Katie, Liverpool, N.S., 14 tons, broken up; Landskrona, Windsor, N.S., 1,330 tons, sold to foreigners; Lois, Charlottetown, P.E.I., 67 tons, broken up; Lulu, Winnipeg, 23 tons, broken up; Max, Winnipeg, 26 tons, broken up; Nora Wiggins, Yarmouth, N.S., 470 tons, abandoned at sea; Ogema, Winnipeg, 44 tons, broken up; Piper, Winnipeg, 17 tons, broken up; Rose, Winnipeg, 77 tons, broken up; Rozzie, Sydney, N.S., transferred to Newfoundland; Sabaskong, Winnipeg, 17 tons, broken up; Sunbeam, Winnipeg, 2 tons, broken up; Thistle, Winnipeg, 23 tons, dismantled; Utopia, Charlottetown, P.E.I., 98 tons, wrecked; Vesta, Pictou, N.S., 64 tons, broken up; W. P. Andrews, Winnipeg, 28 tons, broken up.

**Montreal Harbor Facilities and the St. Lawrence Route.**

The completion of the construction of a series of 14 two-storey steel structural sheds at the Montreal harbor was signalized, recently, by the ceremonial driving of the last rivet by the Dominion Minister of Marine. At a subsequent luncheon, in shed 11, Hon. L. P. Brodeur said: We have spent upwards of \$150,000,000 in improving the St. Lawrence route, or considerably more than we have given in the form of subsidies to all the existing railways in the Dominion, omitting those built by the Government. This immense sum, which comprises the capital outlay on canals, harbors and dredged channels, together with the excess of cost of maintenance over revenue from the beginning, has been laid out by two or more generations of Canadians, for the purpose of keeping Canadian traffic as far as possible in Canadian hands, and of enabling us to participate in the conveyance, by this great natural waterway, of the products of the American west to the Atlantic, in competition with the railways and the more or less artificial waterways of the U.S. It has long been apparent, how-

ever, that in proportion to the quantity of export grain raised in the western and north-western States then and now, the Canadian route is not carrying anything like so large a share as it should. The truth is that, like the Erie Canal, it has never been physically capable, in recent times at any rate, of meeting the requirements of the enormous traffic created by the rapid development of the west. When the Welland canal, the key of the route, was projected 90 years ago, the west, as then comprehended, did not extend beyond Lake Erie. The wheat belt of the U.S. was in northern New York and Ohio, while that of Canada was slowly advancing up the peninsula between Toronto and Windsor, but, in an incredibly short space, the whole face of things was altered by the onward march of civilization, and, though it was enlarged more than once, the Welland soon fell so far behind the procession of events that, as is now the case with the Erie Canal, the transportation interests began to prize it more on account of its usefulness as a regulator of rates in the navigation season than for its services as a carrier. The last enlargement was completed in 1887 and the canal is now 14 ft. deep, as are the canals between Prescott and Montreal. On the other hand, the natural channels in the Upper Lakes have been dredged to a depth of 20 ft. or more, and the Canadian and U.S. canals at Sault Ste. Marie, which connect Lakes Superior and Huron, are of like capacity. Hence it has come about that most of the steam freighters on the Upper Lakes, the more recently built of which are capable of carrying nearly 15,000 tons in a single cargo, are excluded from the Welland, and consequently from Lake Ontario and Montreal, almost as effectually as though they belonged to another planet. They convey Canadian and U.S. grain to Buffalo, from which point it is portaged, so to say, by rail to New York, Boston and other U.S. ports. No vessel carrying over 75,000 bush. can navigate the Welland canal without first lightering at Port Colborne, whereas the big vessels on Lake Superior regularly take cargoes of 250,000 or 300,000 bush. to Buffalo. Moreover, within the last decade or two the U.S. railways, by improving their roadbeds and rolling stock, have put themselves in a position to transport wheat at a low rate from Chicago to New York, while our Canadian railways have established a lake-and-rail route via Lake Huron and Georgian Bay ports to Montreal. The grain, both Canadian and U.S., is carried by vessels from Fort William, Duluth or Chicago to Midland, Depot Harbor, Collingwood, Owen Sound or Goderich, and conveyed thence by rail to the ocean steamer at Montreal, or, when the St. Lawrence navigation closes, to the ocean steamer at St. John or Portland.

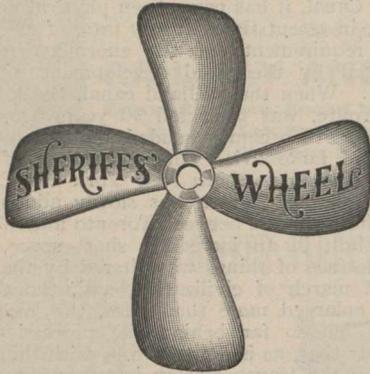
An enormous population has flocked to the region bordering the Upper Lakes, and industries have arisen which supply an immense vessel traffic, such as the iron ores and copper deposits and the coal and lumber trades, to say nothing of the progress of grain-growing in the northwestern States. On the Canadian side of the Upper Lakes we are making very satisfactory progress in mining and other lines of industry; whilst the wheat belt of North America is now centering in our prairie provinces. Beyond them lie the harvest fields of Alberta, which have begun to export wheat and flour to the Orient. The stream of population from Europe, which till lately emptied itself almost exclusively into the U.S., is now turning to the Canadian West, which is likewise profiting by a wonderful inrush of U.S. labor and capital, attracted by our cheap lands as well as by our good laws. There is authority for saying that in the last ten years, or since what is termed the American invasion of the Canadian West began, U.S. immigrants have brought into western Canada and spent in the purchase and exploitation of farms,

**SAULT STE. MARIE CANALS TRAFFIC.**

The following commerce passed through the Sault Ste. Marie canals in October:

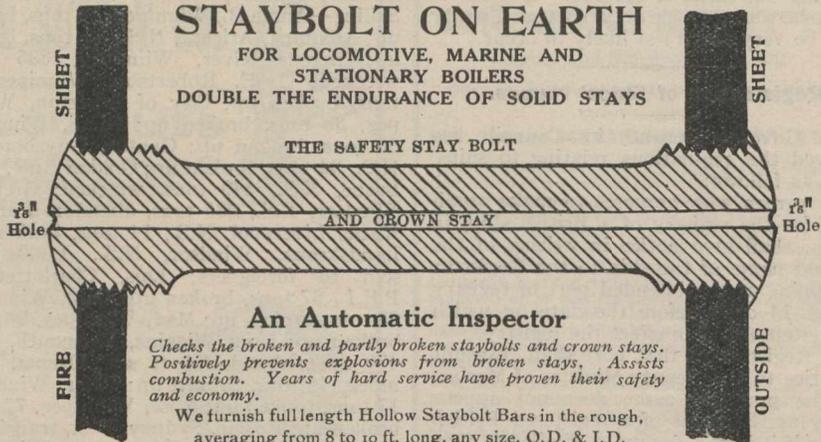
ARTICLES.	CANADIAN CANAL	U.S. CANAL	TOTAL
Copper.....Eastbound.....Net tons	1,794	9,073	10,867
Grain.....".....Bushels	3,749,649	3,491,532	7,241,181
Building stone.....".....Net tons	.....	.....	.....
Flour.....".....Barrels	419,225	811,560	1,230,785
Iron ore.....".....Net tons	1,605,716	3,220,817	4,826,533
Pig iron.....".....".....	.....	1,014	1,014
Lumber.....".....M. ft. B.M.	4,460	50,988	55,448
Wheat.....".....Bushels	12,879,522	7,228,076	20,107,598
General merchandise.....".....Net tons	4,959	15,624	20,583
Passengers.....".....Number	583	825	1,408
Coal, hard.....Westbound.....Net tons	46,980	105,951	152,931
Coal, soft.....".....".....	289,774	878,326	1,168,100
Flour.....".....Barrels	105	.....	105
Grain.....".....Bushels	4,700	.....	4,700
Manufactured iron.....".....Net tons	24,692	18,016	42,708
Iron ore.....".....".....	.....	.....	.....
Salt.....".....Barrels	5,138	56,135	61,273
General merchandise.....".....Net tons	61,752	65,882	127,634
Passengers.....".....Number	565	321	886
Vessel passages.....Number	774	1,568	2,342
Registered tonnage.....Net	1,797,833	3,883,246	5,631,079
Freight—Eastbound.....Net tons	2,133,237	3,717,227	5,850,464
" Westbound....."....."	424,023	1,076,595	1,500,618
Total freight....."	2,557,260	4,793,822	7,351,082

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DOUBLE THE ENDURANCE OF SOLID STAYS



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*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.

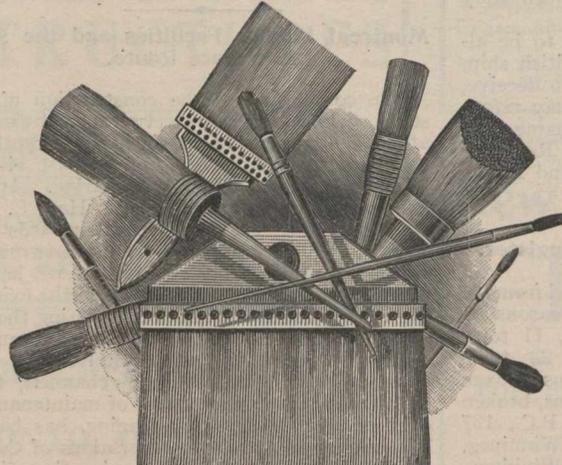
**FALLS HOLLOW STAYBOLT CO., CUYAHOGA FALLS, OHIO**

**Ticket Agts. Please Note**



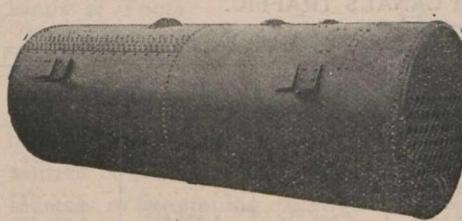
Where **ILLINOIS CENTRAL RAILROAD COMPANY** has through car service both Coach and Sleeper and Free Chair Cars, Chicago to Hot Springs, Ark., St. Louis, Nashville, Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio, Texas and all California, On first and third Tuesdays each month until further notice through tourist sleeping car without change, Chicago to Houston, Texas, leaving 6 p.m., on above Tuesdays. Very low abnormal rates, "Homeseekers," as for instance, Chicago to Houston and return, \$25.00; New Orleans the same, good 30 days. Special homeseekers' round trip rates to the South and Southwest. Tourist rates to Arizona, Mexico, and California, liberal stopover privileges. Rates via New Orleans as low as via any other route. Look the Illinois Central map over and consult **G. B. WYLLIE**, Canadian Passenger Agent 305 ELLICOTT SQUARE, BUFFALO, N.Y. Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

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**THE VICTORIA ROLLING STOCK CO. OF ONTARIO, LIMITED**  
NOTICE is hereby given that a dividend of six per cent, on the paid-up capital stock of the Company for the half-year ended Nov. 30th, 1908, has been declared payable Dec. 1st, 1908, to the shareholders on record as of the 30th of Nov., 1908.  
By order of the Board,  
R. A. SMITH, Secretary.  
Toronto, Nov. 19th, 1908

An award of \$2,000 as damages was made recently against the C.P.R., at Brantford, Ont., in favor of a man who lost an arm while being put off a train, on which he was taking a free ride.

**THE CANADIAN BRONZE COMPANY, LTD.**  
BRASS WEARING PARTS FOR LOCOMOTIVES.  
JOURNAL BEARINGS FOR FREIGHT AND PASSENGER SERVICE.  
BABBITTS MISCELLANEOUS BRASS CASTINGS FOR RAILROADS.  
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timber limits, elevators, mines, stores and what not, not less than \$400,000,000, or far more than our net federal debt and the net debts of all the individual provinces combined.

I am obliged to acknowledge, however, that, owing to the various causes just mentioned, the St. Lawrence route is not participating to the extent we once thought it would in the gigantic traffic moving every year between the west and the east. To be sure, whenever Upper Lake rates are abnormally low, it asserts its natural supremacy. This season wheat has been carried from Fort William and Duluth, through the Welland to Montreal, for from 3¼ to 4c. per bushel, with corresponding quotations for other grains. These figures, which the lake-and-rail route by Buffalo to New York cannot approach, account for the recent large increase in the export grain trade of Montreal, which has created such consternation in New York. I need scarcely tell you that the Government has given and will continue to give the closest study to a matter of such grave national moment. At present about 15,000,000 bush. of wheat from the Canadian Northwest are shipped every year to Buffalo for export to Europe by New York, Boston, Philadelphia and Baltimore. Over and above this, some 5,000,000 bush. of Canadian wheat are carried to Portland for export. A considerable quantity of Canadian flour is also shipped to Europe from U.S. seaports.

I do not suppose that, by the construction of the Georgian Bay canal and the reconstruction of the Welland, we could entirely stop the exports of Canadian produce from the U.S. seaboard. The Canadian Northwest wheat, which goes from Fort William and Duluth to Buffalo, is carried there mostly by U.S. vessels at the tail end of the season, when Canadian vessels have all they can do on the Canadian routes. The Buffalo route, in short, is a second string to our bow, which on occasions is quite useful. But with these two new Canadian waterways we could certainly carry to Montreal in summer and to St. John in winter a vastly greater quantity of Canadian-grown wheat, together with a vastly greater quantity of U.S. grain from Upper Lake points. In other words, the St. Lawrence would then become a truly important outlet for the produce of the U.S. Northwest, besides receiving the great bulk of the constantly increasing yield of the Canadian West.

The improvement of the St. Lawrence between Montreal and Quebec was undertaken 60 years ago, and the other day we succeeded in establishing a uniform depth of 30 ft., with a wider channel and with acetylene buoys that at night make it look like a well-lighted street. The result is that insurance rates on hulls and cargoes have been reduced, whilst by the improvements of the Montreal harbor, the Harbor Board has cut the cost of handling freight from the car to the vessel in two. Montreal, in fact, is now for the first time taking a proper place among the great seaports of the American continent. There has been a large increase in the ocean tonnage frequenting the St. Lawrence, and, in consequence, ocean rates have fallen to the advantage of the Canadian farmer, who exports, and of the Canadian consumer, who buys goods from abroad. You can form some idea of all that this means when I recall that Montreal is nearly 1,000 miles inland from the open Atlantic at the Strait of Belle Isle, and not long ago the channel between it and Quebec was only 10 or 11 ft. deep. No work of the kind in any other country—not even the conversion of Glasgow into a seaport by the deepening of the Clyde or that of Manchester through the construction of a ship canal—is more wonderful or more interesting from a transportation point of view. We cannot abolish the Canadian winter, which breaks the continuity of business on the St. Lawrence, obliging vessels to go elsewhere for

five months of the year; but we have done everything that human ingenuity can suggest to minimize the natural drawbacks. Further, we have begun certain much-needed improvements in the river below Quebec, and shall devote attention to others, with the object of making that splendid port more efficient and more splendid still. To maintain Canada's rapid commercial development, its needs must be supplied as soon as possible. Montreal being at the head of 1,000 miles of inland navigation, it is essential that the largest ocean vessels come to this port. This can only be made possible by deepening the channel, by improving the lighting system, by establishing more and better buoys, and by placing fog signals.

#### Among the Express Companies.

F. Norman, heretofore route agent, has been appointed agent Canadian Ex. Co., Winnipeg.

The Canadian Ex. Co. has opened offices at Cedar Springs and Charing Cross, Ont., and Lakeside, Que.

The Canadian Ex. Co. is being proceeded against at Sussex, N.B., under the Scott Act, for shipping intoxicating liquors.

The Canadian Ex. Co. has closed its offices at various points on Muskoka Lakes, at Norway Point and Port Arthur, Ont., for the winter season.

The Canadian Northern Ex. Co. has opened offices at Zephyr, Ont.; Underhill, Grays, Hilton, Rossendale and Rounthwaite, Man.; and Dalmeny, Sask.

The Dominion Ex. Co. recently sued A. Krigbaum, Toronto, for \$470 due as proceeds of money orders delivered by the company to him as agent, and for which he accepted responsibility of due issue and sale.

The Canadian Northern Ex. Co. has recently made the following appointments: J. W. Murray, Route Agent, Battleford, Sask.; T. H. Tebo, Agent, Portage la Prairie, Man.; G. W. Stevens, Agent, Edmonton, Alta.

The following requisition, which at first sight may be taken for a schoolboy's exercise in Esperanto, was received by a Dominion Ex. Co.'s agent at Winnipeg:

"Der Sir: Please sent me Domean Ekospress entlopes please sent me those Received Ekospress Received Ekospress Co. Please sent me a few dozant. One dozant Ekospress Co. seale up. Please sent me the Domean Ekospress entlopes and them Received and sent one doz of fer sealed the Ekospress entlopes."

The Fruit Growers' Association of Ontario at its annual convention in Toronto, Nov. 10 made its annual complaint as to alleged high rates charged by the express companies, and contended that if the Manitoba trade was to be held by these companies it would be necessary to reduce the express rates, or in the alternative, press for a revision of the tariff on Californian fruit.

W. H. Burr, heretofore Auditor Dominion Express Co. and Western Express Co., has been appointed Traffic Manager of both companies, and in addition to his duties as such will have general supervision over the accounting, money order and tariff departments. On matters of detail, address, for the Audit or Accounting Department, W. H. Plant, Toronto; Money Order Department, W. H. Blackhall, Toronto; Tariff Department, H. L. Meyer, Superintendent, Toronto.

The Canadian Ex. Co.'s C.R.C. tariff 4, C.R.C. 1033, which provides that the rates contained therein apply between all points, has been altered to read "from offices in the fruit district to all other offices." The company has also changed the estimated weights of fruit baskets, covered by the Fruit Tariffs, C.R.C. 1033 and 1174, to read as follows: 12—6-qt. baskets (8½ lbs. each) as 100 lbs. 7—9-qt. " (15 lbs. each) as 100 lbs. 6—11-qt. " (16½ lbs. each) as 100 lbs.

The Board of Railway Commissioners issued the following order, 5493, Oct. 22. "In the matter of the application of the Express Traffic Association of Canada, acting on behalf of the express companies carrying on business in Canada, which are members of the Association, for an order temporarily approving The Express Classification for Canada, Tables of Graduated Charges, and Money Classification C.R.C. 1, 2, and 3 respectively; and granting permission to the applicants to use the same pending the formal approval by the Board of the tolls of express companies, filed on July 2, 1908: Upon what was alleged by counsel in support of the application, and the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the Express Classification for Canada, C.R.C. 1, the Tables of Graduated Charges for packages weighing less than 100 lbs., C.R.C. 2, and Money Classification, C.R.C. 3, filed by the applicants, be temporarily approved, and the applicants be permitted to use the same pending the formal approval by the Board of the classification and tolls of express companies. And it is further ordered that this order be not construed as in any way affecting or prejudicing the consideration and determination by the Board of the tolls filed by the express companies for approval."

#### Telegraph and Cable Matters.

The G.T. Pacific Ry. telegraphers have petitioned for an increase in wages from \$60 to \$67.50 a month, which latter they claim is paid by other railways.

H. V. Meredith, of Montreal, has been elected one of the trustees of the Mackay Companies, the other Canadian trustee being R. A. Smith, of Toronto.

F. B. Rose, formerly telegraph operator and station agent, C.P.R., Bordeaux, Que., was arrested recently at Fallsburg, N.Y., on a charge of having embezzled \$980 from the company.

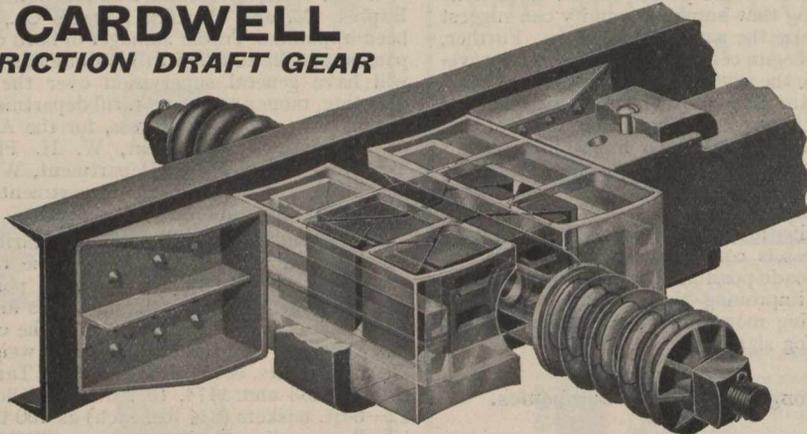
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HAND, MACHINE AND TAPPER TAPS, STAY BOLT TAPS, BOILER AND PATCH BOLT TAPS. QUALITY UNSURPASSED.

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Shortest, Quickest and  
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Trains leave Montreal 7.20, 10.05 a.m.,  
7.00 and 8.00 p.m. Steamers through Lake  
Champlain the Magnificent and Lake  
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CAPITAL AUTHORIZED - - - \$10,000,000.00.  
CAPITAL PAID UP - - - 4,990,000.00.  
REST - - - 4,990,000.00.

AGENTS—London, Eng., Lloyds Bank Limited;  
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Sterling exchange bought and sold. Letters of  
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**Belle City Malleable Iron Co.**  
RACINE, WIS.

**FOR TICKET CASES AND COMMERCIAL  
FURNITURE**

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Apply to

**The Canadian Office and School Furniture Co.**  
Preston, Ontario Limited

**EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited**  
MONTREAL, CANADA.

**BARE AND INSULATED ELECTRIC WIRE**

Electric Light Line Wire, Incandescent and Flexible Cords,

**RAILWAY FEEDER AND TROLLEY WIRE**

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

J. Mitchell, manager of the New York Herald telegraph department, who died Nov. 3, was born at St. John's, Nfld., and was in the service of the Anglo-American Telegraph Co. there, prior to going to the U.S. in 1878.

The Canadian Northern Telegraph Co. has opened an office at Regina, Sask., for the purposes of general business, following the opening of the telegraph line between Winnipeg and Regina, Oct. 12, mentioned in our last issue.

The British Postmaster-General is offering a prize for the most artistic design of a telegraph pole, suitable for urban use, and it has been suggested that the Canadian Government adopt a similar course and thus help to rid Canadian cities of one of their greatest eyesores.

G. Marconi is reported to have said, regarding the proposal to cheapen cable rates across the Atlantic, that he would be prepared to transmit messages at a penny a word, provided the cost of operating the stations on each side be paid in addition to a reasonable subsidy.

J. Milward, General Manager in Australia of the Pacific Cable Board, who has been visiting in Canada, was for a number of years connected with the Eastern Telegraph Co., and on the laying of the Pacific cable, was

appointed Chief Electrician, and subsequently General Manager, on the death of G. M. Reynolds.

In the case of the North American Telegraph Co. vs. the Bay of Quinte Ry. Co., at the Toronto Assizes, Nov. 6, Sir Wm. Mulock advised the companies to discuss the question involved and try to agree on a working basis for the future. The dispute relates to the free transportation of the Telegraph Co.'s employes on the Railway Co.'s trains, which, it is claimed, is according to agreement. Should no decision be arrived at privately by the parties, the arguments will be submitted in writing to the court for consideration and judgment.

The Board of Railway Commissioners issued order 5488, Oct. 22, as follows: In the matter of the application of the Grand Trunk Pacific Telegraph Co. for the approval of the tolls to be charged by it for messages to be transmitted over the portions of its line in Manitoba, Saskatchewan and Alberta. Upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that the Tariff of Telegraph Tolls filed Sept. 29, 1908, applying to messages transmitted between the offices of the company in Manitoba, Saskatchewan and Alberta, be temporarily approved, with the exception of the special press rate of 1/4c. a word, day and night, between Winnipeg and Edmonton; and that

the company be authorized to charge and collect the tolls hereby approved until, unless otherwise ordered, the Board shall dispose of the question of telegraph tolls generally.

Hon. R. Lemieux, Canadian Postmaster-General, at a meeting held in London, Eng., Nov. 10, to consider the question of cheapening the cable service generally, is reported to have said that he believed cheap cabling was the key to all the really momentous problems which confronted statesmen and merchants. Speaking for himself, he looked upon penny-a-word cables as an ideal and as a blessing which some day, sooner or later, should be attained and secured. Having referred to the effect of laying the Pacific cable in a great reduction of rates to Australia, he thought still more hopeful results could be achieved on the Atlantic side, where there must be a large increase of business within a short time, for after 50 years the companies' rates were still prohibitive to the great majority of people. Politically and commercially, everyone admitted that penny-a-word cables was a step in the right direction. He hoped the idea would be pressed, and an unbiased inquiry be made into its feasibility. It was suggested by Lord Strathcona, that the Governments concerned should join in laying a cable between Great Britain and Canada, and reduce the rates to begin with to 2 1/2d. a word.

# The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

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Canadian Ry. Accident Ins. Co. . . . . Ottawa, Ont.

## Aerated Waters

E. L. Drewry . . . . . Winnipeg.

## Air Brakes and Fittings

Canada Foundry Co. . . . . Toronto.  
Canadian Westinghouse Co. . . . . Hamilton, Ont.

## Ales

E. L. Drewry . . . . . Winnipeg.

## Alloys

Goldschmidt Thermit Co. . . . . Toronto.

## Angle Bars

Hamilton Steel & Iron Co. . . . . Hamilton, Ont.  
Montreal Rolling Mills Co. . . . . Montreal.

## Anti Rail Creepers

Belle City Malleable Iron Co. . . . . Racine, Wis.

## Automobiles

Polson Iron Works, Ltd. . . . . Toronto.

## Axes

James Smart Mfg. Co. . . . . Brockville, Ont.

## Axe Steel

Montreal Steel Works. . . . . Montreal.

## Axles

James Hutton & Co. . . . . Montreal.  
Jas. W. Pyke & Co. . . . . Montreal.  
Rhodes, Curry & Co. . . . . Amherst, N.S.

## Badges

R. Woodman Mfg. & Supply Co. . . . . Boston, Mass.

## Baggage Checks

R. Woodman Mfg. & Supply Co. . . . . Boston, Mass.

## Beacons

International Marine Signal Co. . . . . Ottawa.

## Bearings, Side

Cardwell Mfg. Co. . . . . Chicago, Ill.  
Chicago Railway Equipment Co. . . . . Chicago, Ill.  
Dominion Car and Foundry Co. . . . . Montreal.

## Blankets and Bedding

The Hudson's Bay Co. . . . .

## Blasting Powder

Standard Explosives Limited. . . . . Montreal.

## Boilers

Babcock & Wilcox (Ltd.) . . . . . Montreal.  
Canada Foundry Co. . . . . Toronto.  
Jno. McDougall, Caledonian Iron Works Co. Montreal  
Polson Iron Works. . . . . Toronto.  
Robb Engineering Co., Ltd. . . . . Amherst, N.S.

## Boilers, Portable

Canada Foundry Co. . . . . Toronto.  
Robb Engineering Co., Ltd. . . . . Amherst, N.S.

## Boilers, Stationary and Marine

Babcock & Wilcox (Ltd.) . . . . . Montreal.  
Robb Engineering Co., Ltd. . . . . Amherst, N.S.

## Boiler Staybolt Iron or Steel Bars

Falls Hollow Staybolt Co. . . . . Cuyahoga Falls, Ohio.

## Boilers, Steam

Babcock & Wilcox (Ltd.) . . . . . Montreal.  
Robb Engineering Co., Ltd. . . . . Amherst, N.S.

## Boilers, Water Tube

Babcock & Wilcox (Ltd.) . . . . . Montreal.  
Jno. McDougall, Caledonian Iron Works Co. Montreal  
Robb Engineering Co., Ltd. . . . . Amherst, N.S.

## Boilers, Tubes

Jas. W. Pyke & Co. . . . . Montreal.

## Bolsters

Dominion Car and Foundry Co. . . . . Montreal.

## Bolts, Bridge

Montreal Rolling Mills Co. . . . . Montreal.  
Toronto Bolt and Forging Co. . . . . Toronto.

## Bolts, Carriage and Machine

Toronto Bolt and Forging Co. . . . . Toronto.

## Bolts, Track

Montreal Rolling Mills Co. . . . . Montreal.  
Toronto Bolt and Forging Co. . . . . Toronto.

## Box Car Loaders

Mussens Limited. . . . . Montreal.

## Brake Beams

Chicago Railway Equipment Co. . . . . Chicago, Ill.  
Dominion Car and Foundry Co. . . . . Montreal.

## Brake Shoes

American Brake Shoe & F'dry Co. Mahwah, N.J.  
Canadian Iron and Foundry Co. . . . . Montreal.  
N. J. Holden Co., Ltd. . . . . Montreal.  
Railway Materials Co. . . . . New York City.

## Brass and Copper Cloth

The B. Greening Co. . . . . Hamilton, Ont.

## Bridge Numbers

Acton Burrows Limited. . . . . Toronto.

## Bridges

Canada Foundry Co. . . . . Toronto.  
Canadian Bridge Co. . . . . Walkerville, Ont.  
Dominion Bridge Co. . . . . Montreal.

## Buckets, Coal, Ore and Concrete

Canadian Fairbanks Co., Ltd. . . . . Montreal.

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McCord & Co. . . . . Chicago, Ill.

## Buoy Lighting

Safety Car Heating and Lighting Co. . . . . New York.

## Buoys

International Marine Signal Co. . . . . Ottawa.

## Cables, Electric and Feeder

E. F. Phillips Electrical Works, Ltd. . . . . Montreal.  
The Wire and Cable Co. . . . . Montreal.

## Caps

W. H. Coddington. . . . . Hamilton, Ont.

## Car Castings

American Brake Shoe & F'dry Co. Mahwah, N.J.  
Canadian Iron and Foundry Co. . . . . Montreal.

## Car Cleaner

Modoc Soap Co. . . . . Philadelphia, Pa.

## Car Closets

Duner Co. . . . . Chicago, Ill.

## Car Curtains and Fixtures

N. J. Holten Co., Ltd. . . . . Montreal.

## Car Heating

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Safety Car Heating and Lighting Co. . . . . New York.

## Car Lighting

Canadian Cold Car Heating & Light'g Co. Montreal.  
Safety Car Heating and Lighting Co. . . . . New York.

## Car Movers

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F. H. Hopkins & Co. . . . . Montreal.  
Mussens Limited. . . . . Montreal.  
R. Woodman Mfg. & Supply Co. . . . . Boston, Mass.

## Car Replacers

Alexander Car Replacer Mfg. Co. . . . . Scranton, Pa.  
N. J. Holden Co., Ltd. . . . . Montreal.  
F. H. Hopkins & Co. . . . . Montreal.

## Car Seals

R. Woodman Mfg. & Supply Co. . . . . Boston, Mass.

## Car Wash Brushes

Wolfe Brush Co. . . . . Pittsburg, Pa.

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Canada Car Co. (Ltd.) . . . . . Montreal.  
Canadian Fairbanks Co. Ltd. . . . . Montreal.  
Crosen Car Mfg. Co. . . . . Cobourg, Ont.  
Dominion Car and Foundry Co. . . . . Montreal.  
J. T. Gardner. . . . . Chicago, Ill.  
Hart-Otis Car Co. (Ltd.) . . . . . Montreal.  
Hotchkiss, Blue & Co. . . . . Chicago, Ill.  
Ottawa Car Co., Ltd. . . . . Ottawa.  
Preston Car and Coach Co., Ltd. . . . . Preston, Ont.  
Rhodes, Curry & Co. . . . . Amherst, N.S.

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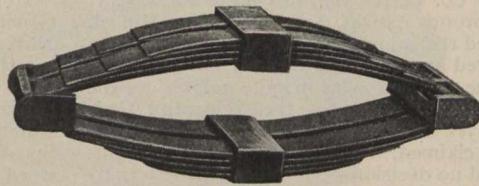
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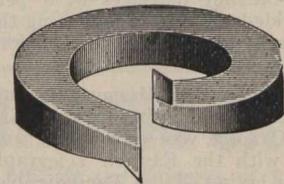
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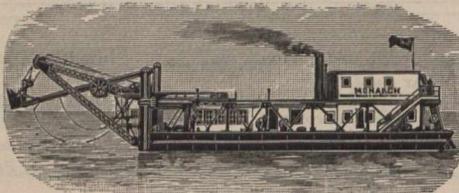
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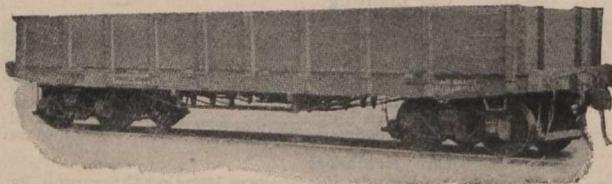
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Montreal Locomotive Works (Ltd.)..... Montreal.

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Burnham, Williams & Co..... Philadelphia, Pa.  
Canada Foundry Co..... Toronto.  
Canadian Fairbanks Co., Ltd..... Montreal.  
Canadian Locomotive Co..... Kingston, Ont.  
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**Machinery, Transmission**  
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Lufkin Rule Co..... Saginaw, Mich.

**Metals**  
Goldschmidt Thermit Co..... Toronto.

**Milepost Numbers**  
Acton Burrows Limited..... Toronto.

**Milling Cutters**  
W. Abbott..... Montreal.

**Motors**  
Canadian Fairbanks Co., Ltd..... Montreal.  
McCord & Co..... Chicago, Ill.

**Nickel**  
The Orford Copper Co..... New York.

**Nickel for Nickel Steel**  
The Orford Copper Co..... New York.

**Numbers**  
Acton Burrows Limited..... Toronto.

**Nut Locks**  
Positive Lock Washer Co..... Newark, N.J.

**ts, Square and Hexagon**  
Canada Foundry Co..... Toronto.  
Montreal Rolling Mills Co..... Montreal.  
Toronto Bolt and Forging Co..... Toronto.

**Oakum**  
The Hudson's Bay Company.....

**Office Fittings**  
Canadian Office & School Furniture Co. Preston, Ont.

**Office Signs**  
Acton Burrows Limited..... Toronto.

**Oil Furnaces**  
Railway Materials Co..... New York City.

**Oil Tanks**  
S. F. Bowser & Co., Limited..... Toronto.

**Oils**  
Canadian Oil Co..... Toronto.  
Galena Signal Oil Co. Franklin, Pa., and Toronto.

**Packing**  
Canadian Fairbanks Co., Ltd..... Montreal.  
The N. L. Piper Railway Supply Co..... Toronto.

**Paint Brushes**  
Wolfe Brush Co..... Pittsburgh, Pa.

**Painters' Dusters**  
Wolfe Brush Co..... Pittsburgh, Pa.

**Painters' Scrubs**  
Wolfe Brush Co..... Pittsburgh, Pa.

**Painters' Wall Brushes**  
Wolfe Brush Co..... Pittsburgh, Pa.

**Paints**  
Canadian Oil Co..... Toronto.

**Patterns**  
Hamilton Pattern Works..... Hamilton, Ont.

**Pinch Bars**  
The N. L. Piper Railway Supply Co..... Toronto.

**Pipe Stocks**  
Butterfield & Co..... Rock Island, Que.

**Platforms, Steel**  
Standard Coupler Co..... New York City.

**Ploughs, Contractors'**  
Mussens Limited..... Montreal.  
Toronto Pressed Steel Co..... Toronto.

**Pneumatic Tools**  
N. J. Holden Co., Ltd..... Montreal.

**Porter**  
E. L. Drewry..... Winnipeg.

**Portable Boilers**  
Babcock & Wilcox (Ltd.)..... Montreal.

**Printing**  
The Hunter-Rose Co..... Toronto.  
The Mail Job Printing Company..... Toronto.

**Propeller Wheels**  
Sheriffs Mfg. Co..... Milwaukee, Wis.

**Pumps**  
S. F. Bowser & Co., Limited..... Toronto.  
Canadian Fairbanks Co..... Montreal.  
Canada Foundry Co..... Toronto.  
Ontario Wind Engine and Pump Co..... Toronto.  
James Smart Mfg. Co..... Brockville, Ont.

**Pumps (Centrifugal)**  
M. Beatty & Sons..... Welland, Ont.

**Rail Benders, Roller**  
F. H. Hopkins & Co..... Montreal.  
Montreal Steel Works..... Montreal.

**Rails (new)**  
Dominion Iron & Steel Co..... Sydney, N.S.  
Drummond, McCall & Co..... Montreal.  
J. T. Gardner..... Chicago, Ill.  
J. J. Gartshore..... Toronto.  
F. H. Hopkins & Co..... Montreal.

**Rails (for relaying)**  
F. H. Hopkins & Co..... Montreal.  
J. J. Gartshore..... Toronto.  
Mussens Limited..... Montreal.  
Jas. W. Pyke & Co..... Montreal.

**Rail Joints**  
Goldschmidt Thermit Co..... Toronto.  
The Rail Joint Co. of Canada..... Montreal.

**Railway Pile Drivers**  
F. H. Hopkins & Co..... Montreal.  
Mussens Limited..... Montreal.

**Railway Supplies**  
Canadian Fairbanks Co..... Montreal.  
The Hiram L. Piper Co..... Montreal.  
The N. L. Piper Railway Supply Co..... Toronto.  
Rice Lewis & Son..... Toronto.

**Reamers**  
W. Abbott..... Montreal.  
Butterfield & Co..... Rock Island, Que.

**Rivets, Boiler, Bridge and Structural**  
Montreal Rolling Mills Co..... Montreal.  
Toronto Bolt and Forging Co..... Toronto.

**Rolled Wheels**  
Standard Steel Works Co..... Philadelphia, Pa.

**Roof Trusses**  
Canadian Bridge Co..... Walkerville, Ont.  
Dominion Bridge Co..... Montreal.

**Rope**  
F. H. Hopkins & Co..... Montreal.  
The Hudson's Bay Co.....

**Rotary Snow Ploughs**  
Crossen Car Mfg. Co..... Cobourg, Ont.

**Sash Balances**  
O. M. Edwards..... Syracuse, N.Y.

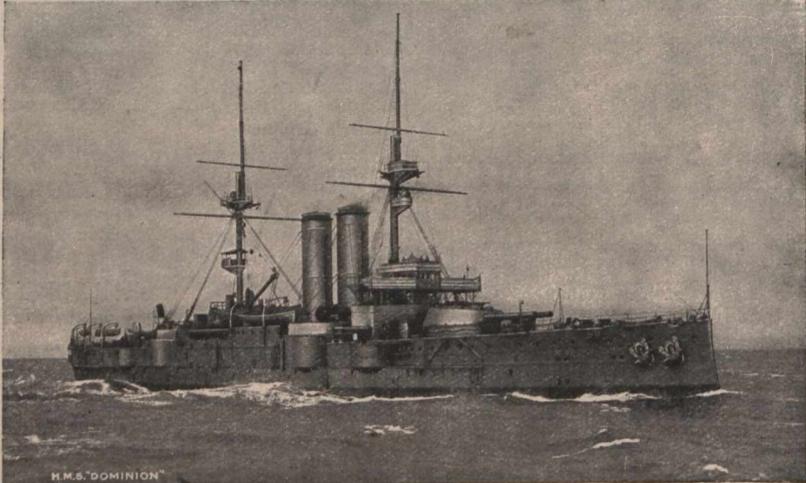
**Sash Locks**  
O. M. Edwards..... Syracuse, N.Y.

**Saw Steel**  
Montreal Steel Works..... Montreal.

**Scales**  
Canadian Fairbanks Co., Ltd..... Montreal.

**Scoria Blocks**  
W. H. Knowlton..... Toronto.

**Scrapers (Wheel and Drag)**  
F. H. Hopkins & Co..... Montreal.  
Mussens Limited..... Montreal.  
Toronto Pressed Steel Co..... Toronto.



**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  
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