

**PAGES**

**MISSING**

# The Railway and Marine World

December, 1911.

## INTERCOLONIAL RAILWAY ROUNDHOUSE PRACTICE.

By FREDERICK H. MOODY.

Every organization of importance is operated on a systematic basis, each of the many systems in use being the outcome of years of experience in the devising of ways and means of handling the routine work to the best advantage. At the same time, these systems are usually of sufficient flexibility to be capable of meeting all or any of the numerous exigencies that arise in the daily practice of any art. Railways in particular have developed systematic business methods, probably to a greater degree than have the majority of business organizations that are more or less centralized. The outlying character of railway systems makes this possible.

As a unit, the railway organization comprises a systematic arrangement of branches that work harmoniously as a whole. Segregated, these branches contain minor sections, or wheels within wheels, so to speak, each in itself an organized unity. In the mechanical department of a large railway system there are numerous minor branches, one of the most important of which is that pertaining to the roundhouse, for it is upon this pivot that the whole operation of the system centres. It is here that the care and attention necessary to preserving the motive power in good order, is taken; in other words, it is the focal point of actual movement on the railway lines.

As an example of railway system as applied to roundhouse practice, the Intercolonial Ry. roundhouse at Moncton, N.B., has been selected as a good sample of what is being done by the Government system. This particular roundhouse was not selected because of its being the best on that line, for such is not the case, but because of the fact that it is the centre of the system, and handles more locomotives than any other point. These considerations in themselves, however, are immaterial, as the same routine system applies to all the roundhouses from Montreal to Halifax, St. John and Sydney. The Moncton roundhouse is in charge of C. White, Day Roundhouse Foreman, to whom the writer is indebted for the material contained in this article.

The locomotive, on the completion of the run, after being disconnected from its train, is taken by the engineer to the ashpit to have the fires drawn. Here, the engineer releases his charge, turning it over to the roundhouse hostler for further care between that point and the roundhouse. The hostler, with the ashpit men, cleans the ashpan, draws the fire and coals the tender.

The coaling station and ash combined at the Moncton roundhouse, and are of such a unique design that the arrangement will be briefly described, although it is foreign to the subject under treatment. The arrangement consists essentially of an elevated

coal bin structure with a ground space about 20 ft. wide between the tracks. On each side of this coal tower there are two tracks, the inner one of each having an ashpit. Outside these double tracks are enclosed supports carrying a superstructure attached to the coal bin. Each of these outside supports carries an ash bin. Passing under the coal bin and four tracks, and running up through one of the outside enclosed supports, across the top of the superstructure and down the other outside support, there is a slowly moving chain of coal buckets, driven by a small engine in the tower. The ashes dropped from the locomotive ashpan into the

drawn and re-coaled, is run into the roundhouse by the hostler. Sufficient steam is left in the boiler for this purpose. The turner at the roundhouse table sets the table for the track decided upon, and, having had the hostler run it in, proceeds to a board where the section in which the locomotive has been placed is noted. This board is divided into three sections corresponding to the roundhouse sections, and under the required one the locomotive number is placed.

Meanwhile, the engineer, after leaving his locomotive on the ashpit, proceeds to the office, where an engineer's report book is kept. The engineer is responsible for all the paraphernalia and parts of the locomotive above the running board, and if any defects are noticed at any point it is his duty to make a report covering his observations in the report book. As illustrative of this, and the method followed, an example has been selected from the report book. This book has several columns covering the two opened pages.

The first three columns contain the date, locomotive number, and engineer's report, calling for repairs or examination, followed by h.s. signature. Thus:

"Oct. 19. 276. Pack air end of pump; examine left tender feed hose, as it doesn't appear to be getting sufficient water; grind left boiler check; make sand to work on right side; and blow out tubes.

"T. W. McBeath."

This report, as left by the engineer, is looked up by the machine foreman, who details the necessary mechanics to attend to this work. The next column is therefore left for the report of these workmen on the completion of their respective tasks. As for example:

"Air end of pump packed, Oct. 19.

"Millish and Anderson."

"Tender feed examined, Oct. 19.

"Hines and Parkinson."

"Sand box and traps cleaned, Oct. 19.

"Anderson and Millish."

While the repair work on the faults discovered by the engineer is being performed, the roundhouse inspector sets to work to thoroughly overhaul the locomotive for any detectable flaws. The engineer being responsible for all above running board, the inspector only examines the part below, going thoroughly over the wheel and outside parts, and finally working underneath to the running gear. Any defects are noted in the next column of the book, as, for example:

"Oct. 19. 276. Tighten left beading and trailing wedge bolts; overhaul and level grates; tighten tail-casting bolts in tender.

"J. McClintock."

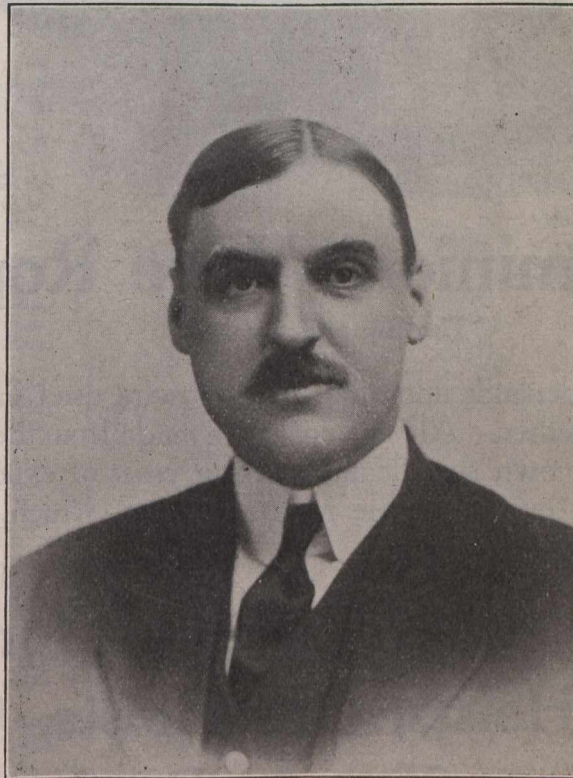
Following this there is a column for the reports of the mechanics set to do these tasks, different pairs being assigned to the locomotive and tender to specialize their duties:

"Work done, Oct. 19.

"McKenzie and Fram."

"Work done on tender, Oct. 19.

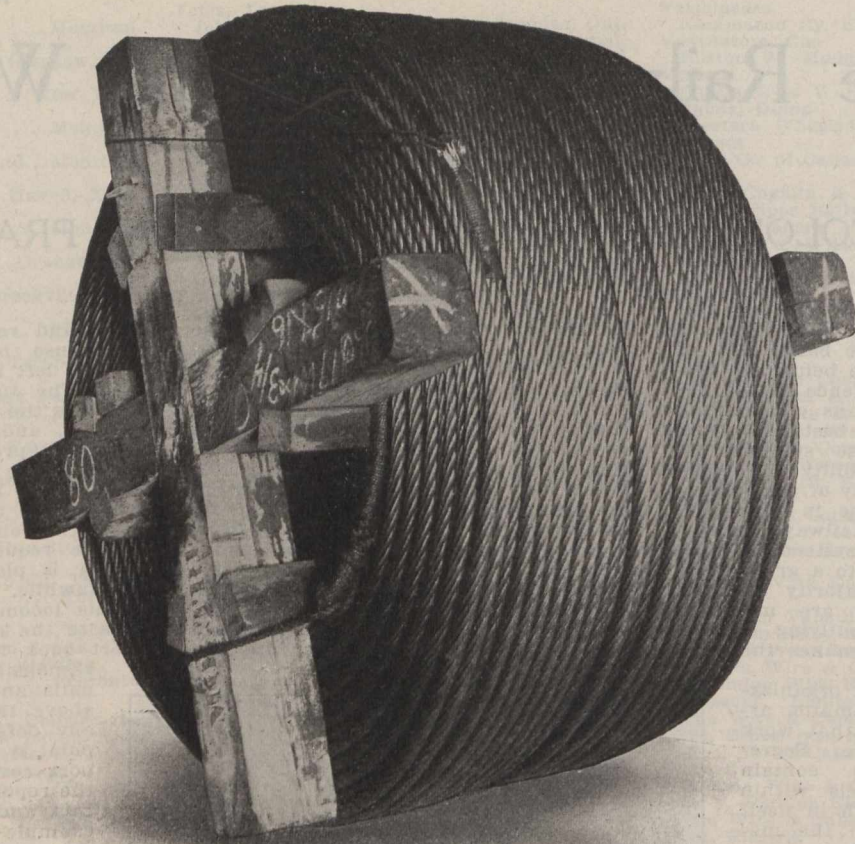
"Hines and Parkinson."



Grant Hall, Assistant General Manager, Canadian Pacific Railway Western Lines.

pit may be further dropped into the chain bucket tunnel and carried up into the ash bin by the travel of the buckets. The ash bin may be unloaded by a gate in its bottom. Coal is unloaded from drop-bottom cars into the same tunnel through openings under the outer of the two outside tracks. Of course, these operations do not occur at the same time. The coal, being raised in a like manner to the ashes into its bin, is drawn again from a chute on to the tender. The bucket mouth of the chute holds just one ton, by which the quantity of coal drawn off is roughly measured.

The locomotive with ashes and fire



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In addition to this inspection by the roundhouse inspector, a boilermaker looks over every boiler, both internally and externally, after each trip. Every

while the engineer does not use this particular coal, nevertheless, on account of that taken out at the beginning of the run, he is held for this amount, and

Formerly, another stub was attached for the engineer's own use, but now another more complete form, one of which is shown in fig. 3, is used for

**Intercolonial Railway of Canada**

Oct. 16, 1911

Storekeeper:—  
Please furnish for Locomotive No. 276

**SPRINGHILL JCT. 276**

OIL, PINTS							Waste
Headlight	Signal	Valve	Engine	Car	Cup	Journal	Cotton
8	2	1 1/2	3		2		2

(Signed) J. W. M. Beath  
Engineer.

Fig. 1. Locomotive Engineer's Requisition Blank on Storekeeper for Run Supply.

**Intercolonial Railway**

**LOCOMOTIVE FUEL TICKET**

Oct. 16 1911 Eng. No. 276

Received at Moncton

**BITUMINOUS.**

4 Tons

Name J. W. M. Beath  
Occupation Engineer

Correct H. H. Wry  
Foreman

Fig. 2. Fuel Ticket given by Locomotive Engineer to Coal Foreman.

14 days the boilers are thoroughly washed out and all the staybolts tightened. With the roundhouse attention given the locomotive as outlined in the above, Intercolonial freight locomotives will run 80,000 miles, and express locomotives 100,000 miles before requiring complete overhauling. About the time half these mileages are completed, however, the locomotives are called in to the shops for what are termed "specific" repairs, which include the replacing of such parts as tires, piston rods, and similar members that are subject to proportionately greater wear than are other parts of the locomotive.

The locomotive after this roundhouse attention is ready for its next run. Alongside of the board mentioned earlier, on which the locomotive locations are listed, there is another board containing three columns: locomotive, train and hour of departure. The engineer, knowing his particular train or run, when he reports for duty, ascertains the locomotive to be used by consulting this board, which is kept posted by the roundhouse foreman. The authority of the latter comes from the traffic department, which advises him of the number of cars to be hauled, giving him a means of selecting the locomotive most suited to the purpose.

The sundry stores required by the engineer have been computed for every run on the system, so that each engineer is kept within a certain allowance. This schedule of stores for the runs is posted in the foreman's office. The engineer, knowing his run, jots down the stipulated quantities on a form provided, as shown in fig. 1. This slip is handed over to the storekeeper in exchange for the supplies.

The locomotive is watered in the roundhouse, and being previously coal-ed, is ready for its run. Consider the same run as that previously dealt with—from Moncton to Springhill Jct. and return. When Springhill Jct. is reached, the coal supply will require replenishing, which is accomplished at the Springhill Jct. coal chutes. As a check on this, a slip such as that shown in fig. 2 (where two are illustrated) is made out and handed to the station agent. This slip (no. 1) the station agent signs and forwards to the fuel agent at Moncton for the latter's records. Similarly, on return to Moncton, the locomotive is re-coaled, and

slip no. 2, fig. 2, made out, and as there is a coal foreman there, it is given to

that purpose. Reference to this sheet will show that a very complete record

**ENGINEER'S REPORT**

**INTERCOLONIAL RAILWAY**

Form No. 2012  
17-7-11 30M

ENGINEER J. W. M. Beath FIREMAN Ed. Connors  
LOCOMOTIVE No. 276 CONDUCTOR M. Mannas  
From day the 16th day of October 1911

Train No.	Class of Service	STATIONS	Distance Between Stations	Tons of Coal Received	Advertised time of Departure	ACTUAL TIME		NO. OF CARS ON TRAIN	
						Departure	Arrived at Station	Passenger	Freight
<u>Ex</u>	<u>Freight</u>	<u>Moncton</u>			<u>23:30</u>	<u>23:30</u>			
		<u>Springhill</u>		<u>4</u>					
		<u>Moncton</u>	<u>130</u>	<u>4</u>		<u>16:40</u>		<u>24</u>	

**CLASSIFICATION OF LOCOMOTIVE MILEAGE**  
(See other side for Instructions)

PASSENGER				FREIGHT				MIXED			WORK	TOTAL
Train	Help	Light	Shunting	Train	Helping	With Ca-boose only	Light	Shunting	Train	HELP		
				<u>130</u>								<u>130</u>

TO BE FILLED IN BY FOREMAN						TO BE FILLED IN BY ENGINEER	
(1) Came on duty	(2) Advertised time of departure or time ordered	(3) Actual time loco. placed in hands of Hostler	TIME ALLOWANCE		TIME ALLOWANCE		
			Days	Hours	Days	Hours	
<u>23:30</u>	<u>23:30</u>				<u>1 1/4</u>	<u>5</u>	

Signature of Foreman at point of departure A. P. Metcalfe  
I hereby certify that this trip has been made and the above allowance of time is correct. Foreman at Pt. of Arrival C. White

REMARKS Freight and pick up between Moncton and Springhill set off cars at Amherst and Maccan going out. also picked up cars at Pannoe Jet set off cars at Amherst on return.

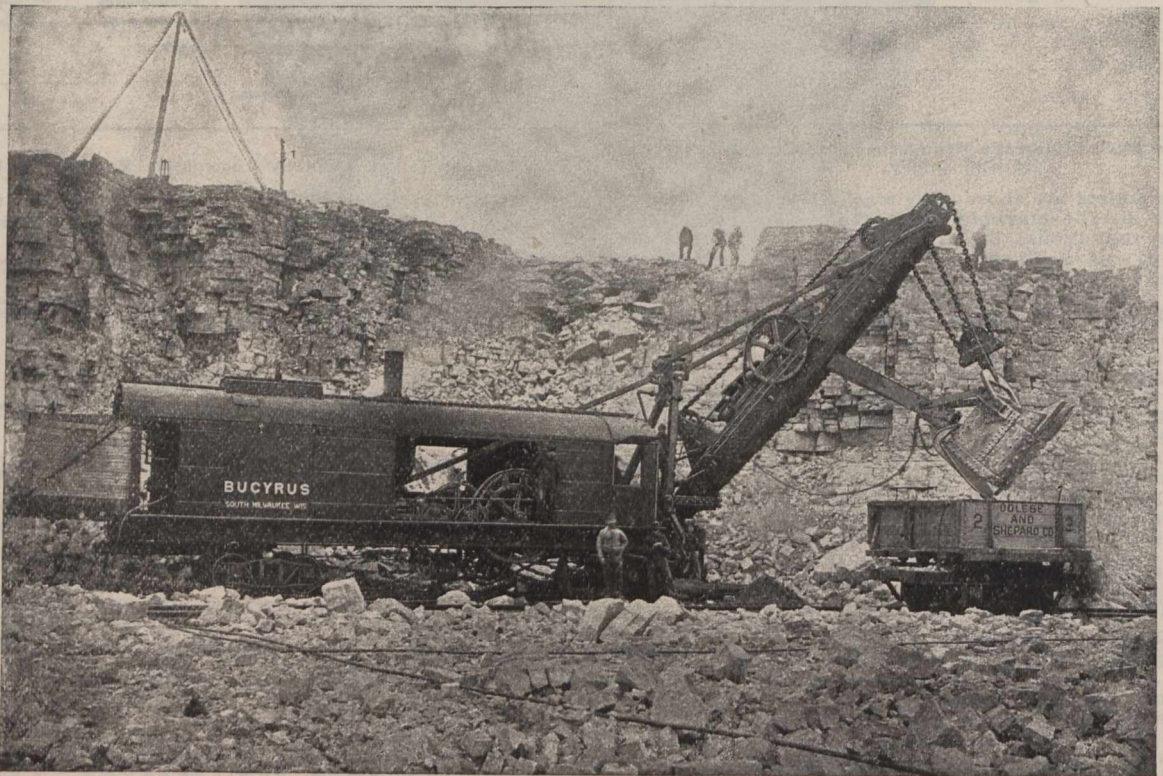
Fig. 3. Locomotive Engineer's Report Sheet containing Essential Features of the Run.

him to sign and forward to the fuel agent.

of the run is contained on this report. In this particular case it was not one

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of the regular passenger, mixed or freight trains designated by the numerals 1, 2, and 3, but an extra freight. It might also have been cab (caboose), work, push, help or light, according to conditions. The stations are filled in, also the mileage return, and the coal taken on at terminals. The advertised time and actual time (the same in this case) are next filled in, followed by time of arrival back at point of departure.

As the most important function of this engineer's report sheet is to furnish the motive power department with an accurate knowledge of the locomotive mileage, particular attention is paid to that part of the report. Spe-

"Shunting engines should be allowed mileage at the rate of six miles per hour, that is, a locomotive shunting for ten hours should be shown in column headed 'Shunting' as having run sixty miles, and specified as 'Passenger' or 'Freight,' as the case may be.

"No allowance shall be made for shunting of a road locomotive between terminals, that is, an engine running between Moncton and St. John should show no mileage for any time which may have been made at any way points shunting cars into or out of the train."

The above instructions thoroughly cover the I.R.C. classification of mileage. It is from this that the engineer knows the proper column to mark down the mileage.

The time allowance is based on the ruling that 100 miles constitute a 10-hour run for this class of traffic. This means 1 1/4 days allowance for the 130-mile run. The time allowance gives the engineer 1 1/4 days' pay, even if the run were made in less than this specified time; that is to say, there is a certain minimum pay for a given run. Should the time exceed that allowed, extra pay is given—in this case for 5 hours.

The Moncton roundhouse foreman (night, in this case) signs at time of departure, and also does likewise on return.

At the bottom of the forms, space is provided for sundry remarks concerning the trip. This form, filled in with actual operating information from a run, gives an idea of the operation of the system. This completed card is forwarded to the motive power department and there entered into the locomotive

is intended to meet a different kind of terminal delay. In this case, the train has been made up and is under orders, but has to wait four hours to let a train pass. In this case, four hours detention is allowed. The same slip is used when the engineer, after leaving his train, is blocked in the yard and prevented from reaching the ashpit, where he leaves the engine.

There is also a slip, corresponding to the shop overtime slip, shown in fig. 6. It is used when it is necessary to have the switching engine in operation during meal hour. All these three last described slips are handed in to the roundhouse foreman, as were the others.

This system would appear to be quite complete, and all that could be desired. As a means of exchanging ideas it

Form No. 58.  
10-15-10-20.

**INTERCOLONIAL RAILWAY.**

**TERMINAL DELAY.**

Awaiting return trip at Campbellton

Engineer W. Rushton

Fireman H. Donahue

Time left daily on Train, Engine No. 241

from \_\_\_\_\_ at \_\_\_\_\_ o'clock

on Sues day the 17th day of October 1911

Time ordered on Special Train, Engine No. 241

for Moncton at 21 o'clock

on Sues day the 17th day of October 1911

Time left daily to time ordered \_\_\_\_\_ hours

Less \_\_\_\_\_ hours specified at Terminal

Time allowed for terminal delay waiting orders 2 hours.

**CERTIFIED CORRECT.**

J. Duvrecaux Foreman

E. Price District Supt.

This form to be filled in by the Engineer or Fireman, and certified to by the Foreman, and attached to ticket form 2012.  
The Mechanical Accountant will forward this form to the district Superintendent for certificate.

Fig. 4. Terminal Delay Slip used when waiting over before Return Trip.

cial instructions relative to the proper classification of the mileage are printed on the back of the report sheet, and being instructive from the standpoint of just how this railway arrives at its locomotive mileage, these instructions are given in full as follows:

"When a train is handled by one locomotive only, the mileage of that locomotive between stations is classifiable as 'Train.' This train mileage represents the miles over which the traffic is hauled as distinguished from the locomotive.

"Mileage of a locomotive which starts on a trip with caboose, for the purpose of hauling traffic to the end of its run, is classified as 'Train'; if incidental to the run, the locomotive makes part of the run between as described, with caboose only, the mileage should be classified as 'Train' also.

"When a locomotive runs dead-head from one lay-over point to another, hauling caboose only, such mileage is to be classified as 'Freight with caboose only.'

"When a train is divided—the locomotive proceeding with a portion of the train and returning 'Light' for the remaining portion—the mileage while hauling first section is to be classed as 'Train'; while running without attachment to be classed as 'Light'; while hauling remainder to be classed as 'Helping.'

"The mileage of a 'Helping' locomotive while running 'Light' to be classed as 'Light' under 'Passenger,' 'Freight,' or 'Mixed,' according to the service necessitating the run.

"Work includes mileage of engines hauling of track construction material, picking up wrecks, running snow-plough, clearing and hauling snow; also service of engine and enginemen hauling pay train, and special non-revenue trains, etc.

"The classification should show the actual miles made by the locomotive without reference to the time for which the enginemen are to be paid.

Form No. 59.  
6/2/10/10m

**INTERCOLONIAL RAILWAY.**

**TERMINAL Detention Slip.**

This 19th day of October 1911

Engineer J. W. M. Beath

Fireman Ed. Conners

Engine No. 276 from Moncton

Arrived at Moncton Station at 19 o'clock

Engine placed in the hands of the Engine Turner at 23 o'clock

Time allowed for detention 4 hours.

Detained on account of waiting for train

**CERTIFIED CORRECT.**

Station or Yard Master C. D. Bobard

District Supt. J. S. Halliday

The Engineer claiming terminal detention will make out and attach this slip to his trip-ticket.  
The slip to be sent by the Mechanical Accountant to the District Superintendent, who will have it certified, if correct, by the Station or Yard Master, and then return it to the Mechanical Accountant.  
The District Superintendent to inquire into the cause of delay in each case where the claim is made.

Fig. 5. Terminal Detention Slip for use when Detained under Orders.

record book, which, of course, is out of the scope of this article.

The forms shown in figs. 4, 5 and 6 are others used by the engineers under different circumstances. That in fig. 6, the terminal delay form, is used when an engineer, having completed half of a return trip, is delayed for any considerable period before the train he is to take is made up. In fig. 4, Engineer Rushton should have left Campbellton on the return half of his run at 21 o'clock, but on account of delay, he was held at Campbellton for 2 hours before his train was ordered out. No allowance is made for such terminal delay unless the period of delay exceeds 10 hours.

The terminal detention slip in fig. 5

Form No. 67  
2-3-11-10

**INTERCOLONIAL RAILWAY**

**ORDER FOR SHUNTING DURING DINNER HOUR**

Where day, the 19 day of October 1911

Engineer J. W. M. Beath

Fireman Ed. Conners

Station Moncton

Time Allowed 1 hr.

By whom ordered yard master

and why required 15 train

C. D. Bobard Station Agent or Yardmaster

J. S. Halliday Superintendent

The Superintendent will enquire into each case and if he finds the service absolutely necessary and time correct he will certify to same.  
When necessary to use Switch Engine during meal hour, Agent or Yard-Master will supply Engineer with this order, properly filled out and signed.

Fig. 6. Order issued to Locomotive Engineers for Shunting during Meal Hour.

would be well if officials of other roads—or of this road—would make comments on the system in order that its good and bad features might be discovered. A description of other systems would likewise be appreciated, that a comparison might be drawn. The discussion that would ensue would doubtless prove of value to all. Any communications on the subject will be appreciated by The Railway and Marine World.

**Train Rule Examinations Made Easy** is the title of a 234 pg. book, 4 by 6 1/2 ins. by G. E. Collingwood. It is a complete treatise on train rule instructors, superintendents, trainmasters, conductors, enginemen, brakemen, switchmen, train dispatchers, operators and others, and deals with the American Railway Association's standard code of train rules. The text is divided into three parts, of which the first explains the meaning of the rules, being really a re-writing of the subject matter of the code in the form of a connected exposition. The second part presents a set or examination questions designed to completely cover the code. Answers to the questions are given separately in the pages following. The standard code is reprinted as the third part of the book. The text is followed by about 25 pages of diagrams showing hand, flag and lamp signals and train signals. The book is published by the Norman W. Henley Co., New York, at \$1.25 and can be obtained through the Railway and Marine World's book department.

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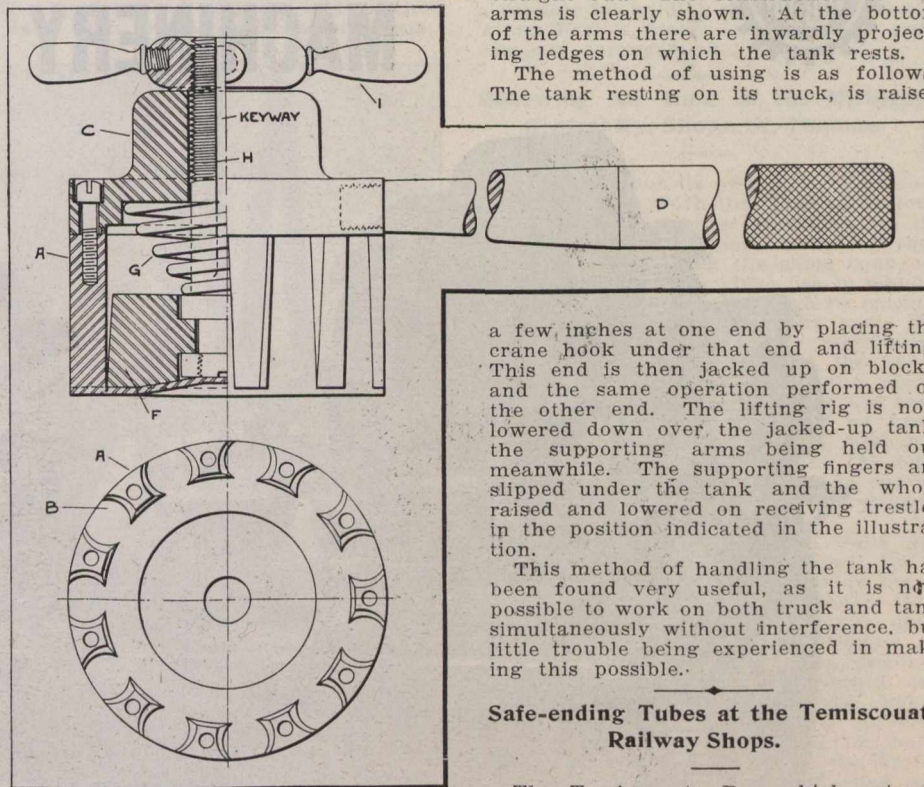
PRESIDENT

**Triple Valve Bushing Roller used by the Pere Marquette Rd.**

The accompanying illustration shows a triple valve bushing roller as used at the Pere Marquette Rd. shops at St. Thomas, Ont. A glance will show that it closely resembles the usual flue expander of the roll type, only in this case the roller is better designed, with the object in view of giving a more uniformly distributed radial pressure while rolling the bushing of the triple valve into place.

The main part of the roller is the body A, in which are 11 longitudinally converging tapered holes containing correspondingly tapered pins that fit loosely. The holes are made longitudinally converging in order that the outer surface of the rollers might be parallel with the centre line of the roller body. This body A is attached by cap screws to a top C, the latter having a handle D, by which the device is manipulated. Inside the body A, there is a tapered part F, up against which the rollers bear on the inside. This part F is kept normally in its lower position by the spring G. Bolt H with a loose connection in F, raises the latter by the hand-wheel I, thereby forcing out the rollers for rolling. A keyway in the bolt H keeps the latter from revolving with the wheel I. The size shown is for rolling 3 1/2-inch bushings.

of the supporting frame two old air cylinders are attached a distance apart equal to the distance between bends. On the table of the frame there are three knife edges, the outer located a little further apart than the distance between bends. The plungers in the air cylind-



Triple Valve Bushing Roller.

Pendant at each end of the cross beam there are two supporting arms built up of structural shapes. The connection between beam and supporting arms is through a pair of links at each end, thereby leaving the supporting arms free to be swung out or drawn straight out. The construction of the arms is clearly shown. At the bottom of the arms there are inwardly projecting ledges on which the tank rests.

The method of using is as follows: The tank resting on its truck, is raised

a few inches at one end by placing the crane hook under that end and lifting. This end is then jacked up on blocks, and the same operation performed on the other end. The lifting rig is now lowered down over the jacked-up tank, the supporting arms being held out meanwhile. The supporting fingers are slipped under the tank and the whole raised and lowered on receiving trestles in the position indicated in the illustration.

This method of handling the tank has been found very useful, as it is now possible to work on both truck and tank simultaneously without interference, but little trouble being experienced in making this possible.

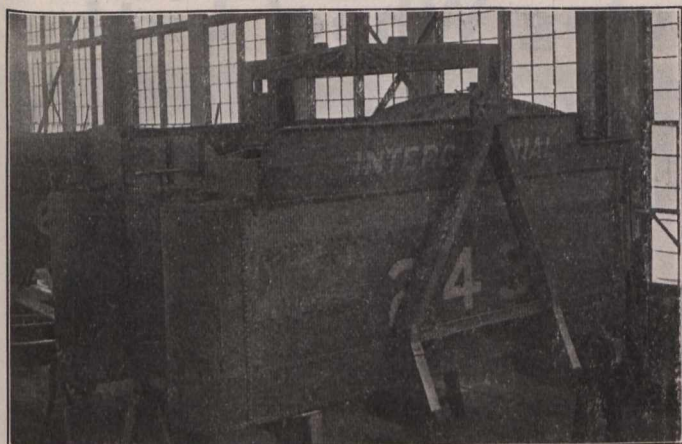
**Bending Truss Rods at C.P.R. Angus Shops.**

The truss rods commonly used under freight cars are formed from round bar stock, each having an end threaded right hand with the other ends which engage in the turnbuckle, threaded right and left hand respectively to give the draw. These truss rods have two bends of a few degrees—at the outer end, to pass horizontally through the end sill, and inner end, to pass horizontally toward the centre, where they are tightened up by the turnbuckle. The bends occur at the truss rod posts placed on top of the body bolster and under needle beams.

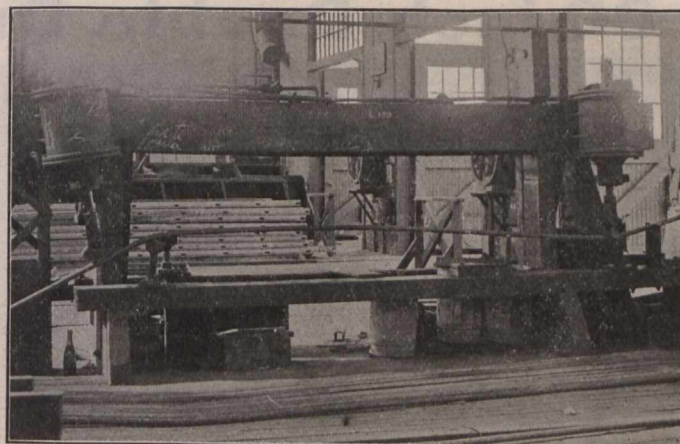
ders have formed ends to fit on the rod, so that when the air is turned on, a correctly bent truss rod results. Air is controlled by the valve on the top of the upper cross beam. A three-way connection leads to each end, so that both cylinders operate simultaneously.

**Safe-ending Tubes at the Temiscouata Railway Shops.**

The Temiscouata Ry., which extends 113 miles southerly from Riviere du Loup, Que., to Connors, N.B., near the Maine border, passing Temiscouata Lake and tapping a good portion of the big game district of New Brunswick, naturally has not a very heavy traffic, its freight for the most part consisting of lumber, which is plentiful along the line. The tractive rolling stock of the line



Crane Attachment for Raising Tanks.



Rig for Bending Freight Car Truss Rods.

Many ways have been employed for giving these bends to the rod, one of the principal of which, where but few rods are to be bent, is to use the bulldozer, with forms for the purpose, bending cold. Many other methods are familiar to those engaged in this work.

At the C.P.R. Angus shops, Montréal, in the freight car department, of which N. Pierson is foreman, a simple but effective device is employed for the purpose. Referring to the accompanying illustration, the device is mounted on heavy scantling located between two of the erecting tracks. To the upper beam

**Crane Attachment for Tanks at Intercolonial Ry. Shops.**

In the I.R.C. boiler and tank shop at Moncton, N.B., a very useful attachment is used for lifting tender tanks bodily from their trucks. As the illustration shows, the supporting cross member of the attachment is a heavily ribbed steel casting designed to support a much heavier load than that to which it will be subjected in practice. This cast cross beam has a straddling link at the centre which slips over the crane hook.

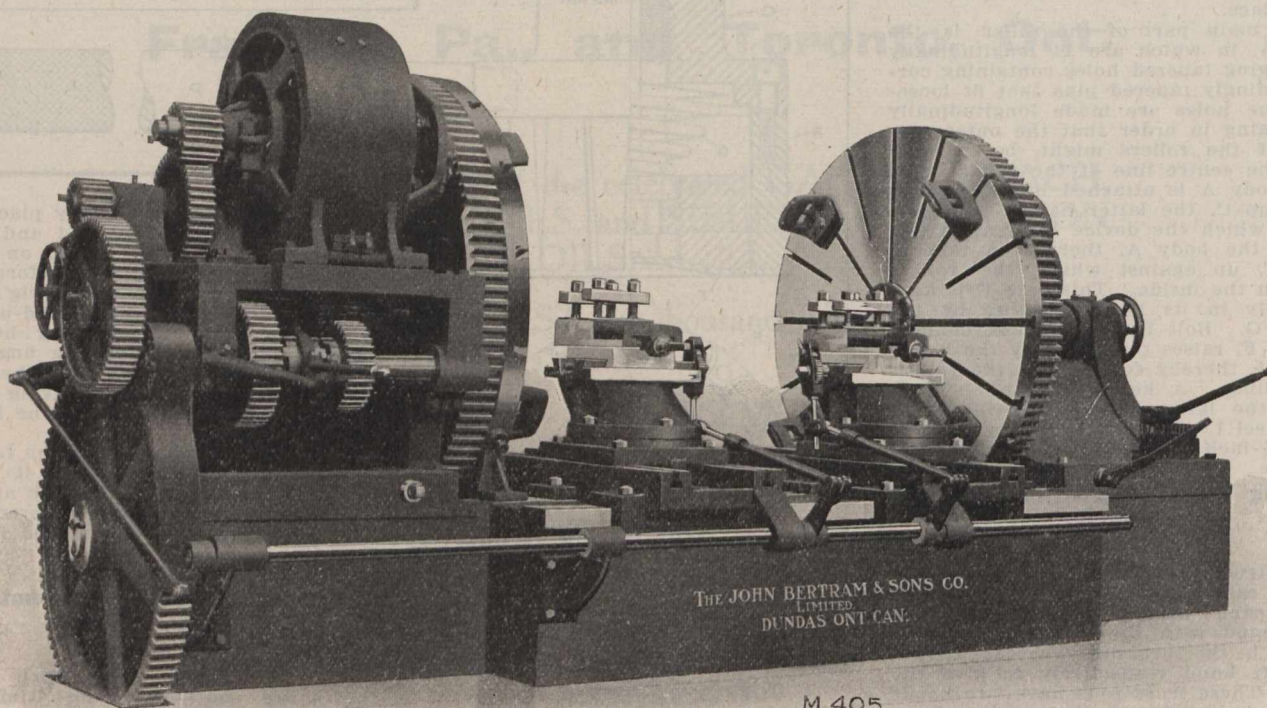
comprises nine locomotives, a sufficient number to handle all the traffic. The shop at Riviere du Loup, under W. J. Walsh, Master, Mechanic, usually has one of these locomotives dismantled for repairs, the locomotives successively undergoing this shopping.

Such conditions scarcely warrant much special machinery; this applies especially to the forge shop, where only one blacksmith and helper are employed. The few tubes to be safe-ended do not call for special semi-automatic machines such as are found in many shops. However, much ingenuity has





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been used in devising ways and means of doing the necessary work, and it may safely be said the work as done here is of a very superior character, even though not produced very expeditiously.

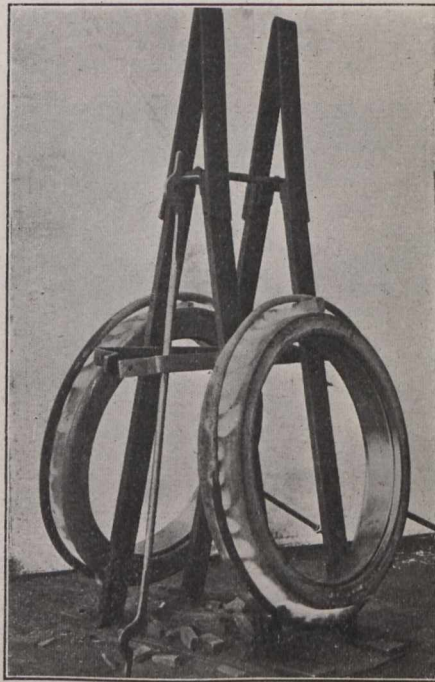
The tubes, as removed from the locomotive boiler, are carried to the blacksmith shop in an adjoining building. One of the bad ends of each tube is removed by the aid of the hand pipe cutters commonly found in small pipe shops. This squared end is then heated to a forging heat in an old-fashioned bellows forge fire, following which it is swaged to a taper end by forging on the horn of the anvil with a light blacksmith hammer. The safe ends are cut from a long tube in an engine lathe, and brought to the blacksmith shop. Mr. Walsh proposed flaring this safe end to create a better initial fit between tube and safe end, but the blacksmith claimed better results could be obtained by leaving the end of the safe end squared.

The safe end is next slipped on the taper end of the tube and the point of juncture placed in the forge fire; it is here that the welding takes place. When the two parts are heated to a welding heat, the helper gives the safe end a blow with his heavy hammer, driving the safe end up on to the tube, this operation uniting the parts into a good weld. The most interesting part of the operation follows. The blacksmith, with a light hammer of about 3/4 lb. weight, and having a handle about 2 ft. in length of 1/4 in. iron, strikes the protruding seam repeated light blows while the tube is still in the fire, turning it meanwhile so that all parts of the pipe may receive like treatment. This completes the weld, and when withdrawn from the fire the seam is barely perceptible. A sizing iron of the minimum inside diameter of the tube is next entered into the tube, and if tight, is driven in to give the tube the correct size; this is seldom required. At the same time the blacksmith scrapes away the scale, so that any flaws might be detected.

The tube thus treated is stood vertically on its bad end to cool. Following this, the bad end is removed to the required length by the hand pipe cutters, the same as the other bad end. The tube is then ready to be put back in the boiler.

**Stand for Heating Tires at Intercolonial Ry. Shops.**

A very convenient stand for heating locomotive and other tires which is used at the I.R.C. shops at Moncton, N.B., is shown in the accompanying illustration. The tires, instead of being laid on their edges, with an encircling heating hoop,



Stand for Heating Tires.

are stood on edge, as indicated, the construction of the supporting projections being such as not to interfere with the proper heating of the rim, the tire resting on its flange. In place of fuel oil, gasoline is used for the heating medium, this being found more satisfactory, producing no smoke, and leaving no dirt, as is customary with fuel oil. These considerations are necessary in this particular case, as all the heating

ing lifted on this point hook to the awaiting centres, no obstacle is presented to the free slipping on of the tire, the hook being withdrawn when the tire is started.

The stand is of sufficient size to accommodate all sizes of tires for drivers or truck wheels. The stand also forms a support for holding the distance gauge. Altogether, it makes a very neat and compact arrangement.

**Renewing Air Hose at the Michigan Central Ry. Shops, St. Thomas.**

Each shop has its own method of doing the routine work that falls to its lot. One of the commonest of these jobs is the renewing of old hose, removing the old section and using the same connections on a new piece. The use to which the hose has been put through its period of usefulness is such that the parts of the connections become very materially rusted. This is particularly the case with the clamps that secure the connection to the hose. So rusted are the holding bolts that they are of no further use for new hose. Thus, nothing would be gained by unscrewing the nut off the bolt, making it cheaper to cut it in two instead, and then simply spread the clamp to slip the hose out.

The device for cutting the bolts at the M.C.R. shops at St. Thomas, Ont., is shown in fig. 1, the idea having been taken from the Pere Marquette Rd. shops, where a similar device is in use. A vise-like structure has a knife-jaw A solid with the frame, and a similar knife-jaw B movable with respect to the other jaw, as in a bench vise. The movable jaw is actuated by a plunger in the air cylinder C. In use, the bolt to be cut is held up against the knife edge of jaw A. Air is then turned on full in cylinder C, which causes knife-edge of jaw B to give a heavy chisel blow on the bolt, which, if repeated a couple of times, severs the bolt, removing it from the clamp. The stationary jaw may then be used as an anvil on which to hammer the jaw for spreading the bolt-connecting surfaces to facilitate removal. On the completion of this, the hose connection may be held between the knife edges by bringing the two together gently on the connection in

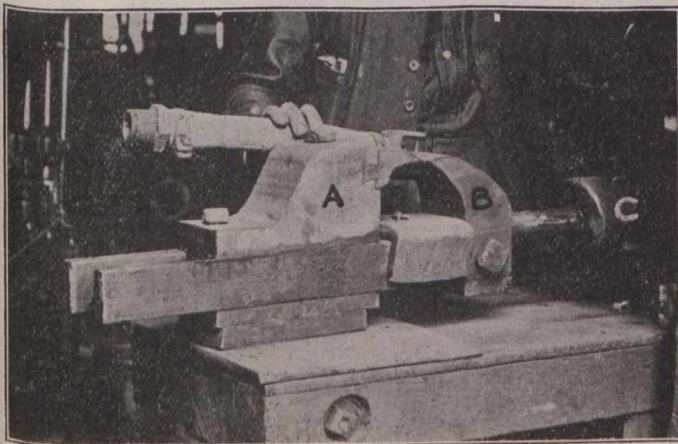


Fig. 1. Cutting off the Old Clamp Bolts.

This operation, while slow, gives excellent results, and should appeal to the master mechanics of small lines where the volume of repairs is light.

Press reports from Ottawa, Nov. 10, stated that the C.P.R. was in negotiation with the Government for the purchase of the Government peat plant at Alfred, Ont., with the view of continuing the industry on commercial lines, to supply Montreal, in particular, with peat fuel.

and mounting is performed in the locomotive shop and not in an outbuilding, as is frequently done.

On being heated, the gasoline is turned off and the hoops removed. The tires, which, as noted, are heated in pairs, are lifted individually to the prepared axle and wheel centres on a trestle. A special lifting arrangement on a jib crane is used. This consists of a hook arrangement, with an upwardly projecting sharp point, which is placed inside the wheel on the shrinking surface. Be-

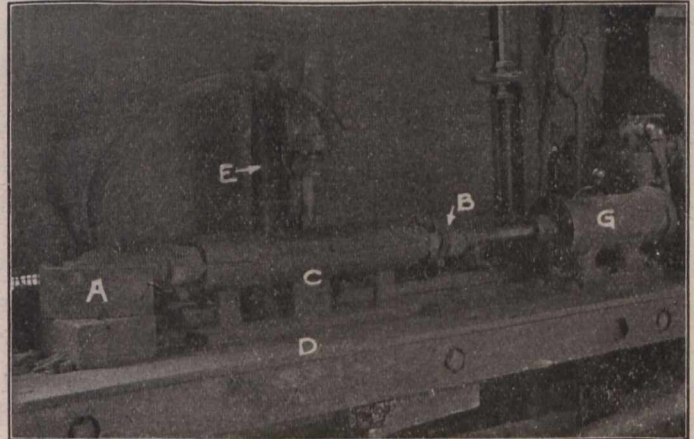
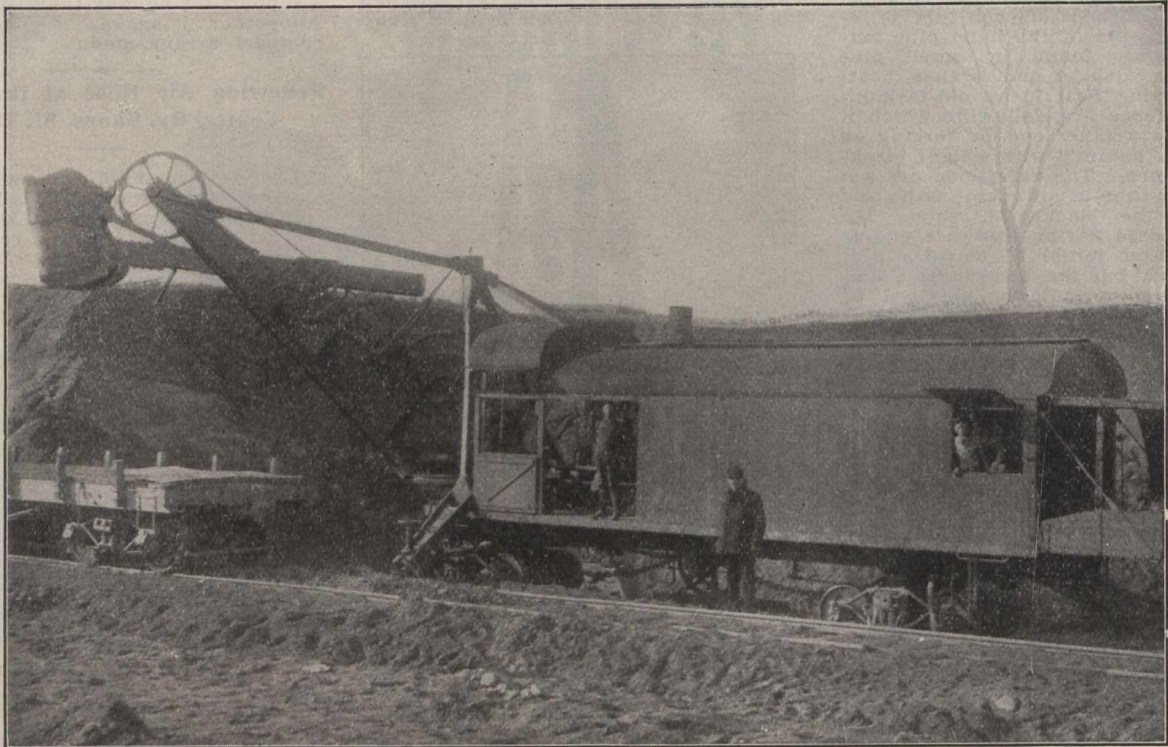


Fig. 2. Forcing on New Hose End Connections.

this position, twisting off the hose from the connection.

Both connections being removed, they are taken to a device of the form indicated in fig. 2. This mechanism is not a new one, for it is quite extensively used; but as there are some shops where its use is still unknown, a description of it is being included in this article. The coupler connection is laid in a stationary casting A, shaped to receive it, and holding it central with the rest of the device. The train-line connection is held

# ATLANTIC STEAM SHOVELS



CLASSY 45-16 $\frac{1}{2}$  ATLANTIC SHOVEL.

## ECONOMY IN OPERATION

Reduction in friction and boiler losses, with corresponding increase in pull at dipper, is the reason why the Atlantic shovel digs more at less cost than shovels of the chain type.

Wire rope hoist, found only in the Atlantic, exerts a direct pull on the dipper and substitutes friction of a rope with but one large sheave for that of a chain with from four to six additional small sheaves. The less power lost in the machine itself, the more you have left for digging.

Further economy in operation is secured by using a large boiler of the locomotive type, in which more of the heat is utilized and less is lost up the stack. This is possible only because of the removal of the hoisting engines from their usual position on the car body, to the boom.

The placing of the main hoisting engines at the foot of the boom reduces the power necessary for swinging the boom and removes the twist upon the car body when working on one side. With this construction the turntable centre and boom foot constitute the engine frame. One casting takes the place of four or more in the usual construction, reducing the total weight of the shovel, and the weight on the front trucks.

Spare parts are kept on hand at our Works at Longue Pointe, Montreal, Canada. Every part is made to gauges, and sure to fit.

## MONTREAL LOCOMOTIVE WORKS, LTD.

OTTAWA BANK BUILDING, MONTREAL, CANADA

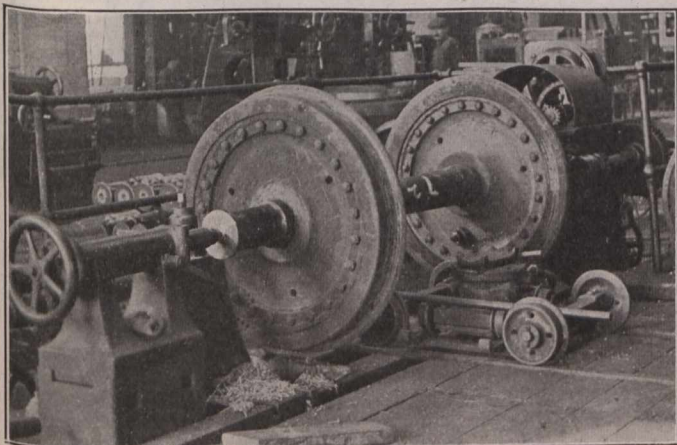
on the end of an air piston rod, as at B, in line with the other connection at A. The piece of hose is placed in the form C, and over the ends of the piece of hose the clamps are slipped. The lower section of C is free to slide lengthwise on the bed D. Integral with form C is the upright E, to which cylinder F is attached. The upper half of form C is held on the end of a plunger in F, and by releasing the valves shown, this upper half may be clamped down tightly on the piece of hose, holding it securely.

The hose being securely held in C, the plunger in cylinder G is set in motion, simultaneously pushing the connections held in A and B into the ends of the hose. C is made movable on base D to allow for this movement for introducing the end at A. In this position the clamps at each end are tightened up with bolts, leaving the hose ready for use when the two plungers are released.

**Arrangement of old Carwheel Lathe at C.P.R. Angus Shops.**

In the newly erected tender department at the C.P.R. Angus shops, Montreal, there is a tender wheel section where many ingenious methods of doing work are employed. Among these is one in particular—the excellent arrangement of an old carwheel lathe for finishing up the old carwheels. Different from modern wheel lathes, into which the assembled wheels and axle are easily rolled, this old machine is of the standard engine lathe type, elevated from the ground in the customary manner. This gave a very unhandy arrangement for setting up the wheels in the lathe.

To overcome this difficulty, when the new shop was built, a pit a little longer and about twice as wide as the lathe base was constructed of concrete in the desired location in the shop. This pit was made a depth equivalent to the height of the lathe ways, making these latter flush with the floor. This arrangement is indicated in the accompanying illustration, which is a rear view, not showing the space in front of the lathe for the operator. The side and the ends have a pipe railing for protection.



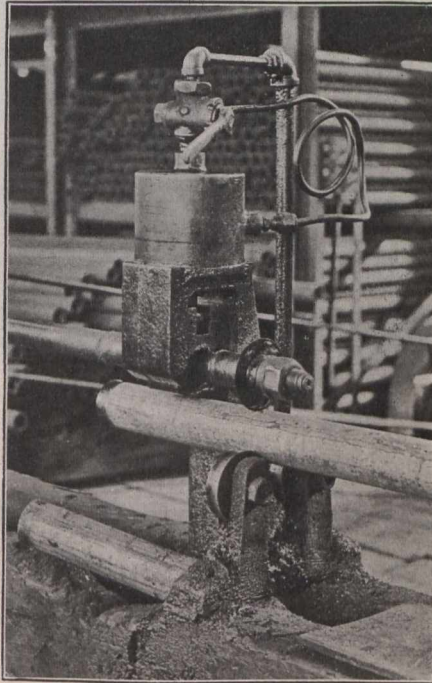
Arrangement of Old Carwheel Lathe.

From the rear, a couple of strips of iron running on to the lathe bed serve as tracks for the little car indicated. This car also has a smaller truck on it, giving an endwise adjustment. This smaller truck has attached to it a small air cylinder and plunger, connected by flexible hose to the air line. The wheels to be machined are run into location over this truck in the rear of the lathe, the plunger raised lifting the wheels, and the whole device is then run into location, quickly centring the axle

in the lathe. This gives an excellent arrangement for an old machine.

**Cutting off Safe Ends at the Intercolonial Ry. Shops.**

The equipment in use in most shops for cutting off safe ends for re-ending the boiler tubes, is pretty much standard in design, consisting of two pairs of rollers on which the tube is free to revolve, while over one pair of the rollers there is a cutting disc mounted on a long shaft, the shaft being driven by a



Air Attachment for Cutting off Safe Ends.

belt through a pulley on this shaft. The majority of such outfits have a screw feed for forcing the cutting disc down through the tube wall while revolving. It is in this particular that the device

employed at the I.R.C. shops at Moncton, N.B., is different from the standard machines. The cutter shaft, journalled in its loose bearing in vertical ways, instead of being screw-connected, is attached to an air plunger in the air cylinder indicated in the accompanying illustration. The operator, after shoving along the tube to the marked position, forces down the cutter disc by turning on the air through the top valve indicated. This relieves the operator of the work of feeding down. On releas-

ing the valve when the tube is cut, the plunger again resumes normal position, ready for the next operation. Much more rapid work is possible by the use of this arrangement.

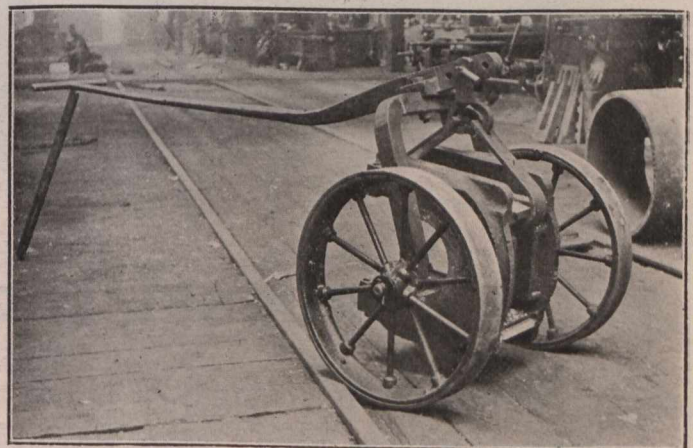
**Truck for Locomotive Brasses at C.P.R. West Toronto Shops.**

The accompanying illustration shows a very convenient shop truck used by A. Dixon, General Foreman, Locomotive Shops, C.P.R., West Toronto, for moving locomotive driving-wheel brasses about in the shop from point to point for the various necessary operations incidental to undergoing repairs. Previous to its use, it was necessary to raise them on to an ordinary truck by block and chain, and when removed to the new location, lift them off in a similar manner.

By the use of this truck, the necessary work is very much reduced. As will be noted, the truck is built on the canfilever principle. At the end opposite the handle, there are two attached hooks which, when the handle is raised, may be gripped over the ends of the brass. Depressing the handle clears the brass from the floor ready for moving. The construction of the upright from the wheels is such that its inclination is just sufficient to bring the centre of gravity of the brass directly in line with the wheel centre line. Thus, the brass is in equilibrium, in no way bearing down on the handle, and is therefore very easily moved. One man can operate much more easily than two could by chaining up and raising by block and chain as heretofore. It will be noted that the parts are of very simple design throughout.

**Railway Lands Patented.**—Letters patent were issued during September, in relation to railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Calgary and Edmonton Ry. ....	1,914.00
Canadian Northern Ry. ....	2,275.50
Canadian Pacific Ry. ....	1,093.29
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co. ....	961.00
<b>Total</b> .....	<b>6,243.79</b>



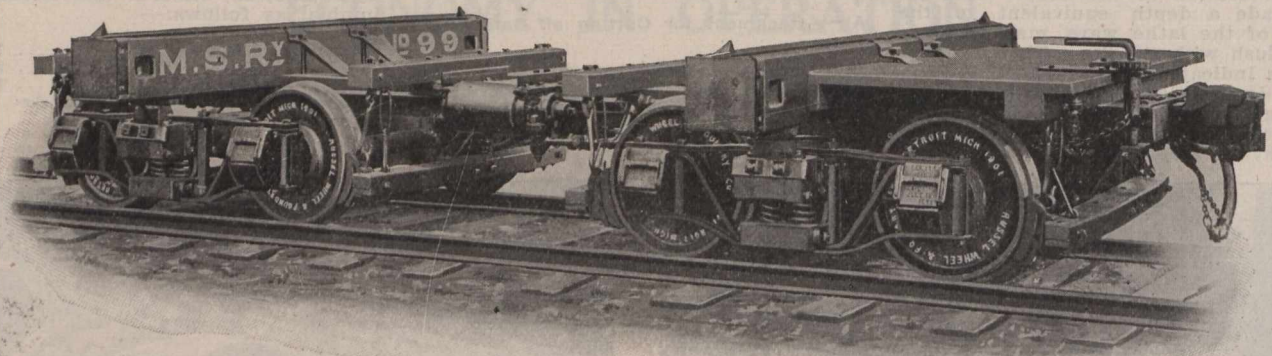
Truck for Locomotive Brasses.

**Running Rights over Temiskaming and Northern Ontario Ry.**—Sir James Whitney, Premier of Ontario, announced recently that arrangements had been made by which the G.T.R. will have running rights over the T. & N.O.R., the G.T.R. assuming an equitable share of the general maintenance of the road and paying \$300,000 a year as rental for such running rights, this sum representing one-half of the interest on the total cost of construction of the railway.

# Russel Heavy Duty Dump Cars



The only dump car built that will stand the severe service of the heaviest steam shovels. Acknowledged by the operator to be the best car on the Mesaba Range.



## RUSSEL LOGGING CARS

Superior in design. Built to accommodate any length of logs and of any capacity desired. ∴ ∴

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**RUSSEL WHEEL & FOUNDRY CO.**

**Detroit, Mich., U.S.A.**



# REAL PERSONAL SUPERVISION

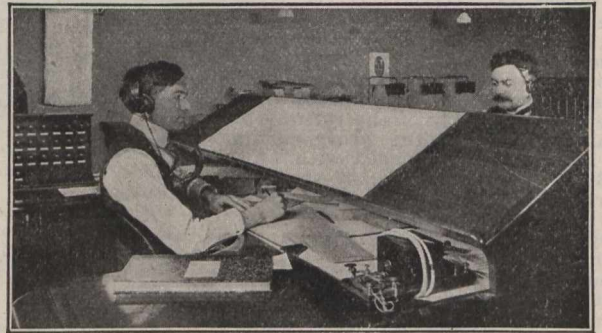
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**THE Northern-Electric**  
AND MANUFACTURING CO. LIMITED

## Telephone Train Dispatching System

The fact that the men talk directly to each other is one of the biggest reasons for the success of the telephone in the railroad field.

The personal element introduced produces a greater spirit of co-operation between the operators and the dispatchers with a resultant increase in discipline.

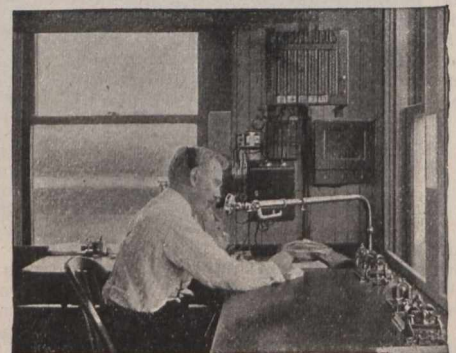


The nerve strain of handling a key is removed and the result shows in the high grade of work performed.

This advantage is shared by superintendents as well as all other officials, for with the use of Portable and Siding Sets every employee is in vital touch with the operating conditions of the road.

The Northern-Electric and Manufacturing Co., Ltd., maintains a department of specialists in this line. Their services are at your disposal, free of charge.

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AND MANUFACTURING CO. LIMITED

Manufacturer and Supplier of all apparatus and equipment used in the construction, operation and maintenance of Telephone, Fire Alarm and Electric Railway Plants. Address our nearest house

MONTREAL TORONTO WINNIPEG REGINA CALGARY VANCOUVER



Car trust obligations ...	12,472,192.92
Current liabilities—	
Unpaid pay rolls .....	\$ 929,455.10
Unpaid audited vouchers .....	1,238,083.08
Due to other companies .....	2,967,000.31
	5,134,538.49
Coupons and dividend warrants due July 1 (since paid) .....	\$1,733,664.16
Accrued interest on bonds and equipment securities .....	304,341.34
	2,038,005.50
Equipment replacement fund .....	230,541.23
Surplus—	
Land account .....	\$16,421,530.23
Railway account .....	5,565,905.32
	21,987,435.55
	\$221,437,999.54

**INCOME ACCOUNT.**

Operating expenses .....	\$11,163,644.16
Taxes, railway .....	111,255.01
Taxes on company's lands .....	90,466.40
Interest on Bonds, etc.—	
Consolidated debenture bonds, guaranteed by Manitoba .....	\$ 486,199.42
Ontario (Division debenture bonds, guaranteed by Manitoba) .....	230,701.88
Winnipeg Terminal bonds, guaranteed by Manitoba .....	120,000.00
3% debenture stock, guaranteed by the Dominion .....	280,799.87
3½% debenture stock, guaranteed by the Dominion .....	78,457.36
4% debenture stock, guaranteed by Manitoba .....	96,366.75
4% debenture stock, guaranteed by Saskatchewan .....	66,560.00
Consolidated debenture stock .....	1,388,410.28
Qu'Appelle, Long Lake and Saskatchewan Ry. 4% stock .....	202,055.99
Qu'Appelle, Long Lake and Saskatchewan Ry. 6% bonds .....	1,927.20
Land Grant 4% bonds .....	184,563.46
	3,136,042.21
Rental of Leased Lines—	
Northern Pacific & Manitoba Ry. .....	\$ 211,250.00
Minnesota & Manitoba Rd. .....	13,960.00
	225,210.00
Interest on equipment securities .....	621,398.81
Accrued interest to June 30 .....	\$ 304,341.34
Less accrued interest to June 30, 1910, paid during current year .....	224,562.92
	79,778.42
Interest at 5% paid on income charge convertible debenture stock outstanding .....	312,872.05
Balance of income account .....	5,565,905.32
	\$21,311,572.38

Balance of income account at June 30, 1910 .....	4,950,859.99
Gross earnings, viz.:	
Passenger earnings .....	\$ 2,869,677.05
Freight earnings .....	11,951,993.75
Express, mail and miscellaneous earnings .....	1,539,041.59
	16,360,712.39
	\$21,311,572.38

**GROSS EARNINGS.**

Class.	1911.	%
Passenger .....	\$ 2,869,677.05	17.54
Freight .....	11,951,993.75	73.05
Mails .....	88,008.53	00.54
Express .....	268,445.11	01.64
Miscellaneous .....	1,182,587.95	07.23
Total .....	\$16,360,712.39	100.00

**OPERATING EXPENSES.**

Class.	1911.	%
Maintenance of way and structures .....	\$ 2,362,004.23	20.77
Maintenance of equipment .....	2,216,841.91	19.50
Traffic expenses .....	263,542.95	02.32
Transportation expenses .....	5,879,357.71	51.71
General expenses .....	648,618.77	05.70
Total .....	\$11,370,365.57	100.00

**SUMMARY OF EARNINGS AND EXPENSES.**

Class.	1911.	%
Gross earnings .....	\$16,360,712.39	
Operating expenses .....	11,370,365.57	69.50
Net earnings .....	4,990,346.82	30.50
		100.00

**DESCRIPTION OF FREIGHT CARRIED.**

	For year ended June 30 1911.	1910.
Flour, sacks 100 lbs. ea. . . . .	2,215,094	1,789,768
Grain, bushels .....	40,249,939	37,355,010
Live stock, head .....	137,295	123,635
Logs and lumber, feet .....	324,221,000	294,647,000

Firewood, cords .....	210,625	189,535
Coal, tons .....	370,161	282,718
Immigrants' effects, cars .....	5,644	5,068
Building material, lime, stone, brick, sand, etc., cars .....	36,328	21,758
Miscellaneous, tons .....	1,170,964	989,783
	1910-11.	1909-10.

**PASSENGER TRAFFIC.**

Passengers carried (earning revenue) .....	1,394,361	1,268,296
Passengers carried one mile .....	113,506,430	106,217,424
Passengers carried one mile per mile of road .....	33.552	33.412
Average distance carried .....	81.40	83.75
Total passenger revenue .....	\$ 2,756,415.06	2,320,520.52
Average amount received per passenger .....	\$ 1.97.68	1.82.96
Average amount received per passenger per mile .....	.02428	.02184
Total passenger train earnings .....	\$ 3,226,130.69	2,638,943.81
Passenger train earnings per train mile .....	1.17.116	1.08.115

**FREIGHT TRAFFIC.**

Revenue tons carried .....	4,675,405	3,809,856
Revenue tons carried one mile .....	1,385,711,579	1,356,351,140
Revenue tons carried one mile per mile of road .....	409,610	426,659
Average distance haul of one ton .....	296.38	356.01
Total freight revenue .....	\$11,768,493.37	9,955,289.93
Average amount received for each ton of freight .....	\$ 2.51.711	2.61.303
Average revenue per ton per mile .....	.00849	.00734
Total freight train earnings .....	\$11,951,993.75	10,102,510.36
Freight train earnings per train mile .....	2.66.112	2.59.086

**PASSENGER AND FREIGHT, ETC.**

Gross earnings per mile of road .....	\$ 4,836.15	4,351.39
Operating expenses per mile of road .....	3,361.03	2,984.80
Net earnings per mile of road .....	\$ 1,475.12	1,366.59
Amount required per mile of road to pay fixed charges, including leased lines .....	\$ 993.57	868.03

**TRAIN MILEAGE.**

Mileage of passenger trains .....	2,754,634	2,440,870
Mileage of freight trains .....	4,491,345	3,899,280

**EXPENSES PER TRAFFIC TRAIN MILE.**

Maintenance of way and structures .....	cts. 32.60	32.30
Maintenance of equipment .....	cts. 30.59	29.02
Traffic expenses .....	cts. 03.64	02.42
Transportation expenses .....	cts. 81.14	76.96
General expenses .....	cts. 08.95	08.96
Total .....	\$ 1.56.92	1.49.66

**SUMMARY OF EQUIPMENT.**

	June 30, 1911.	June 30, 1910.
Locomotives .....	398	372
Sleeping and dining cars .....	50	43
Passenger coaches .....	226	203
Baggage, mail and express cars .....	90	79
Business cars .....	11	11
Freight, refrigerator and stock cars .....	14,778	11,735
Conductors' vans .....	231	184
Boarding, tool, auxiliary cars, steam shovels and snow equipment .....	481	416

The total mileage owned and operated, including leased lines, at June 30, was 3,731.40, located as follows:—Ontario, 356.60; Manitoba, 1,752.28; Saskatchewan, 1,312.90; Alberta, 221.42; Keewatin Territory, 44.50; Minnesota, 43.70. The average mileage operated during the year was 3,383.

The report was unanimously adopted, and the following officers and directors were re-elected for the current year: President, Sir William Mackenzie; Vice President, Sir Donald Mann; other directors, Z. A. Lash, K.C., F. Nicholls, Toronto, and R. M. Horne-Payne, London, Eng.

Under arrangements made between the Alberta Railway and Irrigation Co., and the Great Northern Ry., through passenger trains are now being run between Lethbridge, Alta., and Great Falls, Mont., instead of transferring passengers at Virden, Mont., as heretofore. Two sets of rolling stock are used in this run, being furnished by the two companies in proportion to the mileage of each.

**Birthdays of Transportation Men in December.**

Many happy returns of the day to,—  
 E. T. Agate, M. Can. Soc. C.E., District Engineer, Canadian Northern Ontario Ry. Sudbury-Port Arthur Line, Sudbury, born at Pittsford, N.Y., Dec. 7, 1874.  
 E. Alexander, Assistant Treasurer, C.P.R., Montreal, born in Yorkshire, Eng., Dec. 8, 1862.  
 J. H. Barber, Engineering Department, C.P.R., Montreal, born at Co-bourg, Ont., Dec. 20, 1856.  
 N. E. Brooks, Division Engineer, C.P.R., Calgary, Alta, born at Sherbrooke, Que., Dec. 25, 1866  
 Harold Browning, steamship agent, etc., Windsor, Ont., born at Stamford, Lincolnshire, Eng., Dec. 2, 1864.  
 T. C. Burpee, Engineer of Maintenance of Way, Intercolonial Ry., Moncton, N.B., born at Sheffield, N.B., Dec. 11, 1852.  
 W. W. Butler, Vice President, Canadian Car and Foundry Co., Montreal, born at Danville, Ohio, Dec. 9, 1862.  
 M. M. Campbell, C.E., Building Inspector, G.T.K., Montreal, born at Bridgeton, N.B., Dec. 17, 1879.  
 J. A. Carroll, Road Foreman of Locomotives, District 1, Canadian Northern Ry., Rainy River, Ont., born at Chilton, Wisc., Dec. 14, 1865.  
 A. H. Chave, Purchasing Agent and Assistant to First Vice President, Canadian Car and Foundry Co., Montreal, born at Williamsbridge, N.Y., Dec. 26, 1872.  
 H. P. Dwight, President, Great North Western Telegraph Co., Toronto, born at Belville, N.Y., Dec. 23, 1828.  
 W. H. Gardiner, City Freight Agent, C.P.R., and District Freight Agent, Esquimaux and Nanaimo Ry., Victoria, B.C., born there Dec. 6, 1859.  
 H. H. Gildersleeve, Manager, Northern Navigation Co., Sarnia, Ont., born at Kingston, Ont., Dec. 15, 1865.  
 A. J. Gorrie, ex-General Superintendent, Canadian Northern Quebec Ry., now Receiver, Quebec and Lake St. John Ry., Que., born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.  
 W. H. Grant, Manager of Construction, Mackenzie, Mann & Co., Ltd., Toronto, born at Acton, Ont., Dec. 8, 1858.  
 F. P. Gutelius, General Superintendent, Eastern Division, C.P.R., Montreal, born at Millifenburg, Pa., Dec. 21, 1864.  
 D. B. Hanna, Third Vice President, Canadian Northern Ry., Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.  
 S. P. Howard, ex-General Freight Agent, Eastern and Lake Superior Divisions, C.P.R., Montreal, born there, Dec. 30, 1865.  
 R. Johnson, Locomotive Foreman, C.P.R., White River, Ont., born at Quebec, Que., Dec. 24, 1863.  
 B. B. Kelliher, Chief Engineer, Grand Trunk Pacific Ry., Winnipeg, born in Ireland, Dec. 26, 1862.  
 J. T. McGrath, Superintendent of Motive Power and Equipment, Chicago and Alton Rd., Bloomington, Ill., born at Toronto, Dec. 6, 1869.  
 A. T. McKean, City Freight Agent, C.P.R., Winnipeg, born at St. John, N.B., Dec. 18, 1886.  
 L. Macdonald, Division Freight Agent, G.T.R., Toronto, born at Montreal, Dec. 10, 1871.  
 J. Niblock, ex-Superintendent, C.P.R., Victoria, B.C., born in York county, Ont., Dec. 21, 1849.  
 A. Price, General Superintendent, Alberta Division, Calgary, born at Toronto, Dec. 6, 1861.  
 G. D. Robinson, Assistant Export and Import Freight Agent, C.P.R., Toronto, born at St. John, N.B., Dec. 7, 1877.  
 C. Sc'reiber, C.M.G., Consulting Engineer, Department of Railways and Canals, Ottawa, Ont., born at Bradwell, Essex, Eng., Dec. 14, 1831.



# Canadian Steel Foundries, Limited

P. O. BOX 1630 MONTREAL

MANUFACTURERS OF

## STEEL CASTINGS

Acid Open Hearth System

Basic Open Hearth System

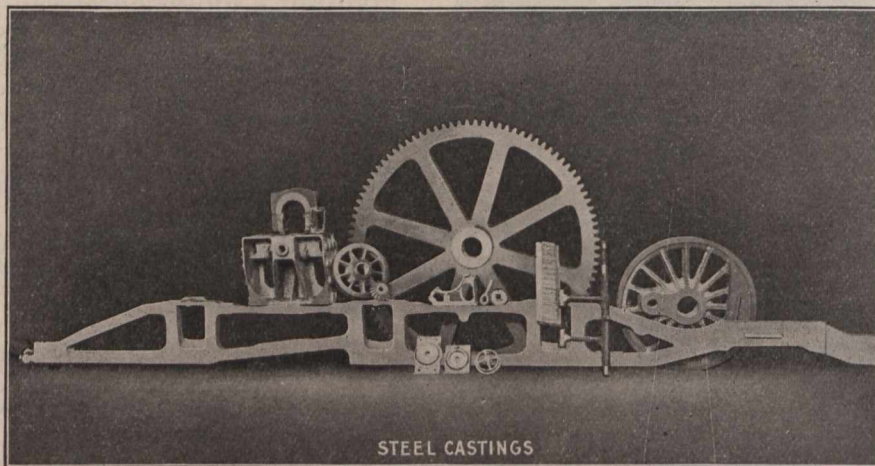
## SWITCHES AND TRACK WORK

For Steam and Electric Roads

## MANGANESE STEEL CASTINGS

For Wearing Parts, insuring Great Hardness and Durability

ELLIPTIC AND COIL SPRINGS OF ALL KINDS, BAR STEEL  
ANGLES, INTERLOCKING PLANTS, TRUCKS FOR ELECTRIC CARS



STEEL CASTINGS

Sole Agents and Manufacturers of the Following Types of Car Couplers :

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Melrose, Chicago, R. E. Janney,  
Simplex**

AGENTS FOR CANADA FOR

**Barrow Hæmatite Steel Co.,  
Barrow-in-Furness, England**

Manufacturers of Tee Rails, Fish Plates, Etc.

### WORKS

Point St. Charles, Montreal Welland, Ont. Longue Pointe, Montreal  
Under construction)

**Head Office : - MONTREAL, P.Q.**

**Western Office : 702 Temple Building, TORONTO, ONT.**

Representative for British Columbia : E. A. EARLE & CO., 532 Pender St., West, Vancouver, B.C.





# LINE MATERIAL

For Every Class of Service

Pole Brackets and Fittings  
 Suspensions of all types  
 Soldered, Clinch and Mechanical Ears  
 Splicing Sleeves  
 Strain Insulators  
 Feeder Wire Insulators  
 Trolley Frogs and Crossings  
 Rail Bonds

Designed to  
**meet** the  
 most Severe  
 Service.  
 Made of  
 the **Best**  
**Materials**  
 and subject to  
**Thorough**  
**Factory**  
**Inspection**

Our facilities are also excellent for handling orders for other miscellaneous construction and equipment supplies, such as the following lines :

<b>Bolts, Nuts and Washers</b>	<b>Guy Anchors</b>	<b>Galvanized Strand</b>
<b>Trolley Bases</b>	<b>Turnbuckles</b>	<b>Harps and Wheels</b>
<b>Iron and Wood Pole Brackets</b>	<b>Car Lighting Fixtures</b>	
<b>High Potential Insulators and Accessories</b>	<b>Luminous Headlights</b>	
<b>Circuit Breakers</b>	<b>Anchor Rods</b>	<b>Motor Repair Parts, etc.</b>

A Large Stock carried at each branch office

## Canadian General Electric Co.

Limited

Toronto	Montreal	Halifax	Ottawa	Cobalt
Winnipeg	Calgary	Vancouver	Nelson	Prince Rupert

tween its important points. The extra expense involved is practically nil.

Drop wires for the telephone equipment are quite generally of no. 14 B. & S. braided rubber cover, twisted pair wire. This makes a convenient and neat appearing method of looping into an office and can be carried on porcelain knobs. Where there are many circuits cable is used, for obvious reasons. The usual practice in this work is to tap from the main line with either wrapped soldered joints or by means of test connectors. In case testing equipment is installed in the office, the line must be looped through this and therefore it is generally dead ended in each direction and the office connections run in from both sides. Two-piece insulators are used for dead-ending the line, although, if poles are situated conveniently, it is better to terminate the line in each direction on separate poles.

The twisted-pair wire is carried to the under side of the cross-arm and mounted on porcelain knobs, or run in wooden or porcelain cleats to the end, where it terminates on a knob. On the building end this wire may either be terminated on a bracket-mounted insulator or a distributing ring. It is, of course, carried into the building in the usual way, but each wire should have its own porcelain bushing through the wall.

Many, practically all, of the above methods of construction are those in general use throughout the country in telephone work. They have been the result of years of experiment and years of experience to show what gives the best practical results. They are aimed in one direction—the construction of a good line, well insulated, without poor joints, slightly and economical both from a cost and a maintenance standpoint. The expense is, as in all such cases, a matter of compromise, but it has been very evident that in pole lines, as in other things, the attempt to save money by cheap, poorly built equipment results in a greater expense in the end. The portion of the country under consideration will obviously modify construction methods to a certain extent, but it is only a modification. Lines in the sleet districts will necessarily be more strongly erected, more firmly guyed than lines in the south. The effect of local influence is always felt, but the basic principles of line construction on which satisfactory telephony rests are always the same.

That the requirements in this newly developing railway field are more severe than have hitherto existed is an advantage to the roads in that it leads them by degrees into better, more stable construction and more permanent wire lines along their rights of way.

**White Pass and Yukon Ry. Rates.**—In connection with the question of the W.P. and Y.R. rates before the Board of Railway Commissioners, the Dawson Board of Trade is laying information before the Commission, charging the railway company with maintaining an "earnings reserve fund," from which rebates are made to certain shippers and passengers. It is alleged that during the past 11 years, a certain proportion of the freight and passenger receipts has been set aside for this purpose, and never included in the reports to the Government or shareholders, the amount in that period being quoted as over \$2,750,000.

The Board of Railway Commissioners had an application before it, Nov. 7, at Ottawa, regarding the remuneration to be paid railway companies for carrying mails. It is claimed that since 1895, the mails have increased about 18%, and the train service about 400%. The hearing of the matter was postponed to Jan. 23.

**Schemes of Erection Proposed for the Quebec Bridge.**

In our last three issues we gave the schemes of erection proposed by the St. Lawrence Bridge Co., the British Empire Bridge Co. and the Pennsylvania Steel Co. Following is the scheme proposed by Maschinenfabrik Augsburg-Nuernberg A.G., for the Board of Engineers' design:

In two forms of the Board's design, the entire bridge is to be erected by cantilevering. Erection would start from the main piers, both the anchor and the cantilever arms being erected without falsework. To insure stability the anchor arm is temporarily supported at panel-point AL10 by a steel temporary bent resting on concrete footings.

Before erecting the permanent truss members, a temporary framework spanning from the main pier to the temporary bent is erected by derricks (see plan). The floor members of the bridge being erected on this framework, the erecting cranes would be built on this floor.

It is proposed to erect the bridge by double-jib traveling cranes, two on each arm, having cross travel on a tower or trestle arranged to run longitudinally along the floor of the bridge. All movements are to be by electric power. Each crane has a lifting capacity of 200,000 lbs. Erection can therefore proceed

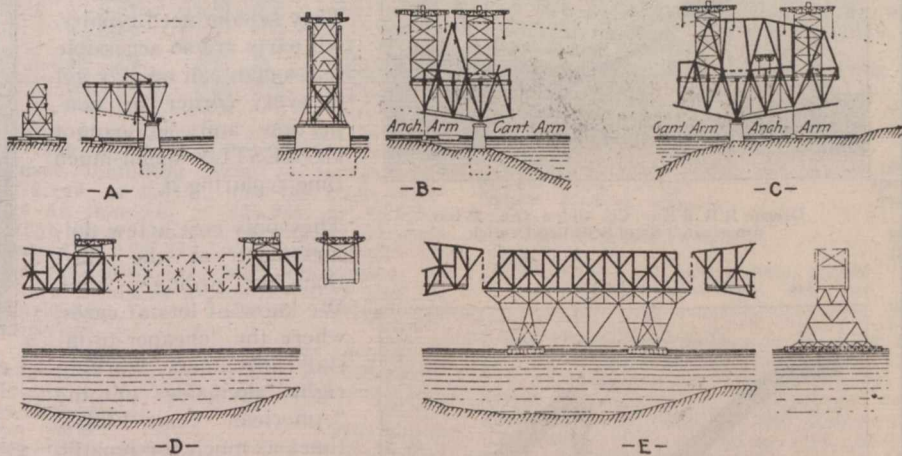
tween the two compression diagonals are put in place, by means of the crane operating from central position.

When cantilevering out the cantilever-arm, the intermediate chord points M3 and M1, as well as the upper chord points U2 and U0, are connected to the floorbeams of the bridge by special stiffeners in order to increase the lateral rigidity of the trusses.

**CANTILEVER ERECTION OF SUSPENDED Span.**—In cantilevering out the suspended span, the first two panels are erected in the same manner as the last panels of the cantilever arm by using the same traveling cranes. By lowering the working platforms both the traveling cranes are then changed into upper chord cranes, thus decreasing the weight and consequently the stress in the members of the bridge. These upper chord cranes then work in the usual manner, panel by panel, up to the centre of the bridge.

The operation of connecting up at the centre of the suspended span is facilitated by means of strong adjusting devices connected with the top and bottom chords at the end of the cantilever arms.

**SUSPENDED SPAN FLOATED IN.**—This scheme necessitates the erection of the suspended span on high steel falsework, this falsework being supported in turn on large pontoons, the whole being finally towed into position. The height of the falsework is such that at



Maschinenfabrik Augsburg-Nuernberg A.G. Board's design.

simultaneously at four different points. The rails on which the crane trestles are to run are to be laid on the regular stringers, which for this service could be shifted towards the main trusses of the bridge. The expense of providing four cranes on each side of the river was considered warranted on account of the amount of time saved for the completion of the work. Erection is to proceed on both sides of the river at the same time.

The cantilever-arm traveling crane will be built first and the work of erection will commence at panel A13 to C13 (panel-point 14 is the main post), including the erection of the temporary supporting bent and its adjoining members. While this work is progressing the anchor-arm crane will be erected in panel A11—A10 and work started on the erection of the first anchor-arm triangle L14—U12—L10. The diagonal members AU12—AL14 are temporarily strengthened, because they become compression members for a time. An auxiliary member is to be inserted between the points AM13—CM13 to serve for regulating the system during the first cantilevering out.

While the bridge construction below the floor is being cantilevered out panel by panel, assisted by auxiliary members, some of which are adjustable, the posts and upper-chord members be-

low tide the suspended span is about 2 ft. higher than corresponding points on the cantilever arms. The hanger or rocker U0—L0 is composed of wire cables, and thus is enabled to buckle under compression. On this account the connection between the suspended span and the cantilever arm (by means of the pin at L0) can be made at any time and the suspended span still remain on the falsework and move up and down with the tide. The connection need not be made simultaneously at all four corners, as would be the case if these members were composed of rigid eyebars.

The steel falsework is first erected on concrete pedestals, situated in some bay or cove adjacent to the bridge site. When the span has been completely erected over the falsework, scows are floated under the falsework between the piers, and the structure transferred to the scows by first partially filling the scows with water, and, when they are in place under the bearings provided, pumping the water out. Four scows each 275 ft. x 46 ft. are proposed for this operation.

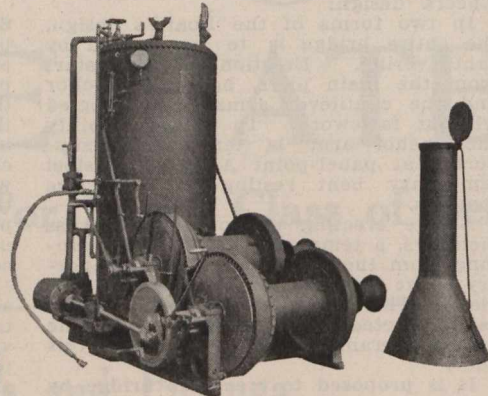
When the suspended span has been towed to the site and placed in position, water is again let into the scows, and the entire scaffolding is lowered to such an extent as to enable its being freely floated out from under the bridge.

# Freight Handling Machinery

For 28 years leading Railroads of the country have found

## "AMERICAN"

### HOISTING ENGINES



Standard "American" Engine

### DERRICKS,

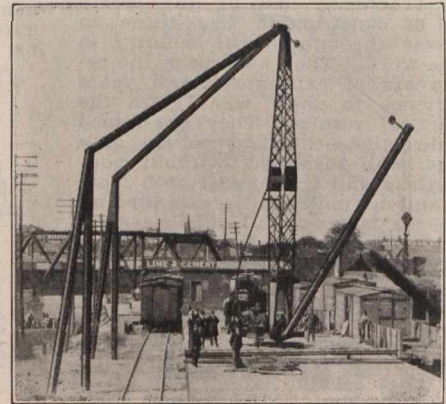
### LOCOMOTIVE CRANES, ETC.

Brim full of strength and reliability



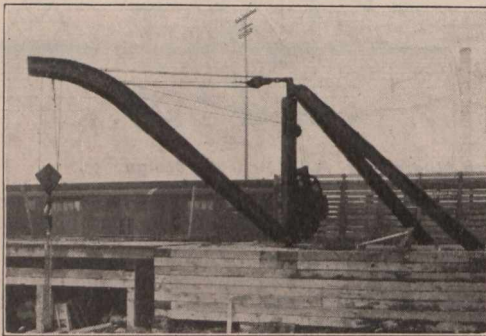
Oregon R.R. & Nav. Co. Albina, Ore., 35 ton "American" Steel Stiff Leg Derrick

They can be moved from place to place and never grow old or wear out. They seldom need repairs. All parts are so accessible that a man can quickly get to every corner or connection and he cannot HONESTLY spend much time repairing it.



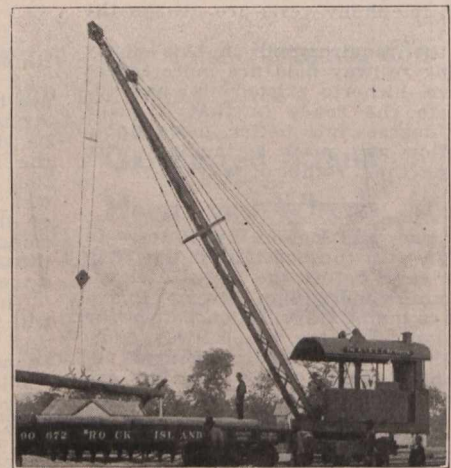
C. St. M. & O. Ry. Minneapolis, Minn., 15 ton Full Circle Stiff Leg "American" Derrick

They only cost a few dollars more at the start than the ordinary kind. We know of lots of cases, where the "cheaper-to-install" machinery, working right alongside of the "American" costs FOUR times as much for repairs.



Gt. Northern Railway Local Yards, Vancouver, B.C. "American" R.R. Derr ck

There isn't a single day but what occasion demands the SAFE, QUICK AND ECONOMICAL HANDLING of expensive, heavy objects in railroad yards, and if you want more material handled in quicker time, minus accidents and a high maintenance cost, then let us come and talk it over with you. It will cost you nothing and put you under no obligations. Name the date when we may call, please.



"American" 5-10 ton Locomotive Crane, A. T. & S. F. Ry. Somerville, Texas.

CANADIAN BRANCHES :

GORMAN, CLANCY & GRINDLEY,  
Edmonton and Calgary, Alta. & Nelson, B.C.

VANCOUVER MACHINERY DEPOT,  
Vancouver, B.C.

STUART MACHINERY CO.,  
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Name .....  
Address .....  
Please send information on "American"  
Machinery for handling Freight  
American  
Hoist & Derrick Co.,  
St. Paul, Minn.  
11-11.

## AMERICAN HOIST & DERRICK CO.

ST. PAUL, MINN.

Grand Trunk Railway Company's Semi-Annual Meeting.

The semi-annual meeting was held in London, Eng., Oct. 26, when the report for the half year ended June 30, was presented. The following summary shows a comparison of revenue with the corresponding half-year, 1910:—

Table with 2 columns: 1910 and 1911. Rows include Gross receipts, Working expenses, Net traffic receipts, Balance of income from rentals, outside operations, and car mileage, and Total net revenue.

Following are net revenue charges compared with corresponding period 1910:

Table with 2 columns: 1910 and 1911. Rows include Rents, leased lines, Interest on debenture stocks and bonds, Canada Atlantic Ry. deficiency, Detroit, Grand Haven and Milwaukee Ry. deficiency, and Leaving a surplus of.

Adding balance of £9,105 5s. 5d. at credit of net revenue account, 1910, to above surplus of £362,997 2s. 7d., the total available for dividends is £372,102 8s. 0d., from which the directors recommend the payment of the following dividends:—

Table with 2 columns: 1910 and 1911. Rows include Half-year on 4% guaranteed stock, Half-year on first preference stock, and Half-year on second preference stock.

£360,441 17 3 leaving £11,660 10s. 9d. to be carried forward to next half-year's account.

Following is a comparison of receipts for the half-years ended June 30, 1911, and 1910:—

TRAFFIC STATISTICS. Table with 3 columns: Description, 1911, 1910, Increase. Rows include Passengers, Mails and express, Freight and live stock, Other receipts, Passengers carried, Average fare per passenger, Average rate per ton, Tons carried one mile, Earnings per train mile.

The average rate per ton per mile on the entire freight business was 0.69c., compared with 0.67. in corresponding half-year.

The working expenses, excluding taxes, were £2,580,641, or 72.47% of gross receipts, compared with £2,409,690, or 72.55%, an increase in amount of £170,951, but a decrease in proportion to gross receipts of 0.08%.

Following is a comparison of revenue expenditure, including taxes, for half-years ended June 30, 1911, and 1910:—

Table with 3 columns: 1911, 1910, Increase. Rows include Maintenance of way and structures, Maintenance of equipment, Traffic expenses, Conducting transportation, General expenses, Taxes, Total, Percentage of gross receipts, Expenditure per train mile.

The gross receipts show an increase of £239,546, or 7.21%; the working expenses, including taxes, an increase of £172,140, or 7.01%; and the train mileage an increase of 832,967, or 8.72%.

The total charges to capital account were £341,327 19s., of which £9,077 1s. 11d. was discount and commission on 4% consolidated debenture stock and 3% guaranteed stock issued during the half-year.

The expenditure on capital account in respect of new works, new rolling stock, double track and land purchased, was as follows:—

Table with 2 columns: 1910 and 1911. Rows include New works, New rolling stock, Double track, Land purchased.

During the half-year 18 Pacific type passenger locomotives, five first class cars, one steam motor car, and two road levellers have been built in the company's shops, and 12 freight locomotives and 840 box cars were purchased on revenue account. The equipment has also been increased during the half-year by the purchase of 1,000 steel coal cars, the cost of which, £205,682 19s. 7d., has been charged to capital account.

CANADA ATLANTIC RAILWAY. The following summary shows the results of the half-year's working, compared with the corresponding period of 1910:—

Table with 2 columns: 1910 and 1911. Rows include Gross receipts, Working expenses, Net traffic receipts, Balance of income from rentals, outside operations, and car mileage.

£28,063 Total net revenue. The interest charges were £65,753, against £63,029, so that there was a net revenue deficiency of £41,757, compared with £34,966 in 1910. The number of passengers carried was 254,062, against 253,594, an increase of 468, or 0.18%, and the passenger receipts, including mails and express, were £44,185, against

£42,560, an increase of £1,625, or 3.82%. The quantity of freight moved was 833,704 tons, against 749,476 in 1910, an increase of 11.24%, and the receipts from freight traffic were £144,928, against £133,583, an increase of 8.49%.

GRAND TRUNK WESTERN RAILWAY.

The following summary shows the results of the half-year's working, compared with the corresponding period of 1910:—

Table with 2 columns: 1910 and 1911. Rows include Gross receipts, Working expenses, Net traffic receipts, Balance of income from rentals, outside operations, and car mileage.

£78,014 Total net revenue. The net revenue charges were £92,187, so that there was a net revenue deficiency of £13,173, which with the deficiency of £3,225 for the half-year ended Dec. 31, 1910, makes a total deficiency for the year of £36,398, and deducting the credit balance at June 30, 1910, of £4,937, there remains a net revenue debit of £31,461 at June 30, which amount is carried forward to the current year. The number of passengers carried was 995,116, against 991,153, an increase of 0.40%, and the passenger train receipts, including mails and express, were £202,176, against £198,224, an increase of 1.99%. The quantity of freight moved was 1,941,374 tons, against 1,937,841, an increase of 0.18%, and the receipts from this traffic were £444,898, against £430,419 in 1910, an increase of 3.36%.

DETROIT, GRAND HAVEN & MILWAUKEE RY.

The following summary shows the results of the half-year's working, compared with the corresponding period of 1910:—

Table with 2 columns: 1910 and 1911. Rows include Gross receipts, Working expenses, Net traffic receipts, Balance of income from rentals, outside operations, and car mileage.

£2,433 Total net revenue. The net revenue charges were £36,981, in 1910, so that there was a net revenue deficiency of £39,685, as compared with £34,548 for the corresponding period. The number of passengers carried was 373,757, against 371,303, an increase of 0.66%, and the passenger receipts, including mails and express, were £55,511, against £54,685, an increase of 1.51%. The quantity of freight moved was 1,192,105 tons, against 1,140,815 in 1910, an increase of 4.49%, and the receipts from freight traffic were £129,825, against £127,616 in 1910, an increase of 1.73%.

GRAND TRUNK PACIFIC RAILWAY.

Track has been laid to Fitzhugh, 111 miles from Wolf Creek, the end of the prairie section, 1,027 miles from Winnipeg and nearly 1,500 miles from Fort William. Fitzhugh is within 18 miles of the summit in Yellowhead Pass, and considerable grading beyond has been done as far as Tete Jaune Cache. From Prince Rupert on the Pacific coast, grading has been practically completed to Hazelton, 185 miles, and considerable work has been done between that point and Aldermere, a further 60 miles. Tracklaying east of Van Arsdol, the present end of track from Prince Rupert, has been delayed owing to difficulties in the construction of the tunnels and the proposed bridge 16 miles below Hazelton, across the Skeena River. It is expected the tunnel work will be completed by November, and there is every probability that the bridge will be finished before June, 1912. The contract for the remaining portion of the main line between Aldermere and Tete

# THE STEEL COMPANY OF CANADA, LIMITED

PRODUCERS OF

**RAILROAD AXLES                      ANGLE BARS**

**TIE PLATES**

**TRACK SPIKES                      BOLTS & NUTS**

**Arm Braces**

**Wire Field Fencing**

**Wood Screws**

**Machine Screws**

**Copper Trolley Wire, Telephone and**

**Galvanized Wire**

**Bar Iron**

**Bar Steel**

**Nails**

**Tacks**

**Wrought Pipe**

DISTRICT SALES OFFICES :

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**W. A. MacLennan, Vancouver, B.C.**

**H. G. Rogers, St. John, N.B.**

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**Crossing  
Signals,**

**Crossing Gates,**

**Train Order  
Signals,**

**Corning Lenses,**

**Bonding Drills,**

**etc., etc.**

**The Dominion Board of Railway Commissioners**

have endorsed our illuminated highway signals  
as good protection for level crossings.

Regarding Motor Cars — The best pays in the long RUN — and  
that's the kind of a RUN a car is supposed to be built for —  
and that's the kind you get in a BUDA car.

We carry Standard Signal and Railway Supplies.

**THE WHYTE RAILWAY SIGNAL COMPANY**

**LIMITED**

2 MANNING ARCADE ANNEX, TORONTO.

**BUDA**

**Inspection**

**Hand Push Cars,**

**Velocipedes,**

**Jacks**

**for all purposes,**

**Switches,**

**Stands,**

**Frogs,**

**Track Drills,**

**etc., etc.**

Jaune Cache, 410 miles, has been let. The whole of the main line has, therefore, now been contracted for. The branch lines, Melville to Yorkton and Canora, and Melville to Regina, have been practically completed, and satisfactory progress has been made with the branches from Regina to the U.S. boundary, Regina to Moose Jaw, Biggar to Calgary, Tofield to Calgary, and the Prince Albert and Battleford branches. In all, over 1,000 miles of branch lines are under construction in Manitoba, Saskatchewan and Alberta.

RECEIPTS.

	£	s.	d.
Freight	2,445,735	7	6
Less—			
Cartage, etc.	53,554	16	7
International Bridge tolls	17,980	14	4
St. Clair Tunnel tolls	26,245	17	10
Passenger	97,781	8	9
Less—			
International Bridge tolls	951,926	8	7
St. Clair Tunnel tolls	7,356	16	2
Mail and express	866	10	8
Other revenue from transportation	6,490	5	6
Revenue from operations, other than transportation	944,569	12	5
	156,656	3	2
	74,416	14	9
	37,585	6	4
	8,561,181	15	5

EXPENDITURE.

	£	s.	d.
On account of			
Maintenance of way and structures	11.11%	395,713	12 5
Maintenance of equipment	16.86%	600,414	16 9
Traffic expenses	3.23%	114,947	1 8
Conducting transportation	38.56%	1,373,041	15 11
General expenses	2.71%	96,524	1 4
Total operating expenses	72.47%	2,580,641	8 1
Taxes	1.34%	47,563	16 10
	73.81%	2,628,205	4 11
Net income from rentals	Cr.	75,812	15 4
Dining car service balance	Dr.	2,552,392	9 7
Hire of equipment balance	Dr.	414	19 11
		2,552,807	9 6
		52,966	12 8
		2,605,774	2 2
Balance to net income account		955,407	13 3
		3,561,181	15 5

REPORTS OF OFFICIALS.

The Chief Engineer, H. G. Kelley, states that the expenditure for maintenance of property during the half-year was \$147,100.71 less than during the corresponding period of 1910.

W. D. Robb, Superintendent of Motive Power, reports expenditure, mileage, etc., as follows:—

Half-year ended	Total expenditure	Train mileage	Rate of expense per mile		
			Train	Engine	Car
June, 1911	\$4,894,198	10,132,184	48.30	36.99	3.04
" 1910	4,944,322	9,548,039	51.78	39.68	3.25

A decrease in expenditure of 1.01%, compared with an increase in train mileage of 6.12%.

	Pass'ger trains.	Freight trains.	Mixed trains.
The average number of cars moved per train was	4.7	24.6	6.9
And for the corresponding period	4.6	25.5	7.0

During the half-year one locomotive was sold and nine were scrapped, leaving 11 old light capacity locomotives set aside to be scrapped. Eighteen Pacific type passenger locomotives were built at the company's works, Point St. Charles, and 12 compound consolidation freight locomotives were purchased, delivered and put into service.

The actual stock at June 30, 1911, was 958 locomotives, against the official figure of 803 locomotives.

The comparative cost of repairs per train, engine and car mile was:—

Cost per mile.	Repairs and renewals of locomotives		All repairing charges, including shop, machinery, tools and marine equipment, etc.	
	1911	1910	1911	1910
Train	Cents. 11.48	Cents. 16.89	Cents. 13.11	Cents. 19.00
Engine	8.79	13.02	10.04	14.56
Car	0.72	1.07	0.83	1.19

J. Coleman, Superintendent, Car Department, reports expenditure, mileage, etc., as follows:

Half-year ended	Total cost of repairs and renewals.		Total miles run by cars		Cost per mile	
	Passenger	Freight	Passenger	Freight	Car	Train
June, 1911	\$1,632,423	140,623,630	160,971,088	16.11	16.11	16.11
" 1910	1,844,558	132,637,532	153,236,748	0.883	14.08	14.08

An increase in expenditure of 21.41%, with an increase in car miles of 5.74%.

A. W. Smithers, Chairman, in moving the adoption of the report, went in detail through the various items, and also dealt with his annual inspection of the system in company with the President. The report was unanimously adopted, as was also a resolution to exercise the powers conferred by the Grand Trunk Act, 1911, as amended by the Grand Trunk Amendment Act, to guarantee the principal and interest of the first mortgage bonds of the G.T. Western Ry.

Quebec Central Railway Co's. Annual Meeting.

Following are extracts from the report for the year ended June 30, 1911, presented at the annual meeting in London, Eng., Oct. 18:—

The following summary shows a comparison of the year's revenue with that of the previous year:—

	1910-1911.	1909-1010.
Gross Earnings	\$1,208,949	\$1,105,867
Working Expenses	820,803	759,553
Net Operating Revenue	388,146	346,311
Interest earned	7,911	5,675
Net Income	\$ 396,057	\$ 351,986
Brought forward from June 30, 1910.	46,593	
Total Revenue	\$ 442,650	

Amount as shown above \$442,650  
Interest on 4% debenture stock \$117,742  
Interest on 3% debenture stock 49,348 167,090

Balance	\$275,560
Interest on 7% income bonds (coupon 11)	115,145
Surplus	\$160,415

Out of the surplus shown, the directors recommend the payment of a dividend on the share capital at the rate of

3% per annum (15s. per share) as follows:—

Surplus as shown above	\$160,415
3% on share capital	\$101,448
Less proportion on shares held in the treasury, \$601,277	18,038
	83,410
Balance to carry forward	\$ 77,005

The directors regret to report the death of the Vice President, Frank Grundy, which took place in November, 1910. The invaluable services he rendered to the company as General Manager, during the days of its adversity, and until the time that his health failed him, contributed in no small measure to its present satisfactory position.

Your directors, having been approached by the Canadian Pacific Ry. Co., entered, in August last, after protracted negotiations—into a provisional agreement to lease (subject to your approval) your railway and all its assets to that company for 999 years. Bills will be presented to the Dominion Parliament and Quebec Legislature, and if passed, special meetings of the various classes of security holders will be summoned to consider, and, if thought fit, sanction the lease. Matters may be sufficiently advanced to enable the special meetings to be summoned early next year, but the date of such meetings cannot, of course, be fixed until the necessary parliamentary sanction has been obtained in Canada.

RECEIPTS.

	1911.
Passenger	\$ 361,957.27
Freight	788,439.98
Mails	19,721.12
Express	17,871.91
Miscellaneous	20,958.60
	\$1,208,948.88

EXPENDITURE.

Maintenance of Way and Structures	\$ 161,480.51
Maintenance of Equipment	123,372.57
Traffic Expenses	26,225.21
Transportation Expenses	444,128.65
General Expenses	65,596.18

*Total Working Expenses	\$ 820,803.12
Balance carried to net revenue account	388,145.76
	\$1,208,948.88

\*Per cent. of Gross Earnings . . . . . 67.89  
Maintenance of way and structures cost 13.36% of gross earnings; maintenance of equipment, 10.20%; traffic expenses, 2.17%; transportation expenses, 36.74%; general expenses, 5.42%.

The gross receipts per mile of road operated were \$4,797, the expenses and taxes, \$3,257 and the net from operation \$1,540.

The classification of freight tonnage carried was: products of fruit, 56.92%; agricultural and dairy products, 4.24%; minerals, 14.90%; manufactured goods and merchandise, 23.94%.

The mileage owned, main line and branches, is 253.44, yard tracks, sidings and spur tracks, 46.85, total 300.29; and there are five miles of trackage rights on the Intercolonial Ry., Harlaka Jct. to Levis.

Number of passengers carried, 384,689½; average earnings per passenger \$0.941; tons of freight handled, 780,798; average earnings per ton, \$1.01; total train miles run, 874,003.

After the chairman, Edward Dent, had moved the adoption of the report, Langham Reed said he wished, on behalf of a large body of the security holders whom he represented, to state that he did not approve of the proposed leasing arrangement to the C.P.R. He thought the security holders ought to be paid more than 3%. The report was adopted and the directors were re-elected.

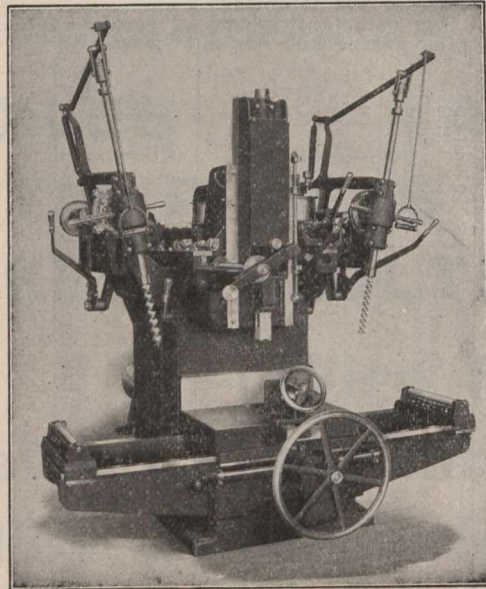
A recent Ottawa report states that Mackenzie, Mann & Co. are likely to submit a proposition to the Dominion Government in regard to leasing the Intercolonial Ry.



# Greenlee Bros. & Co.

ROCKFORD, ILL.



SPECIALISTS  
IN  
CAR  
SHOP  
MACHINERY



NO. 238 MORTISER

Maximum  
Economy  
OF  
Production  
Guaranteed

MODERN DESIGNS FOR MOTOR CONNECTION


*a burning hour*  
**100**  
 candle power
 

## Pintsch Mantle Light

THE SAFETY CAR HEATING AND LIGHTING COMPANY  
2 RECTOR STREET, NEW YORK

**The Piling of Treated Ties.**

At the Roadmasters' and Maintenance of Way Associations annual meeting at St. Louis, Mo., recently, J. H. Lynch presented the report of the committee on this subject, from which the following is abstracted.

Ties treated with creosote are, as a rule, just in their infancy when received from the treating plant. Owing to the different kinds of lumber, and other causes, the amount of oil admitted into the tie varies considerably, and the amount of oil not absorbed when the tie is received from the treating plant is unquestionably noticeable.

We are of opinion that when creosoted ties are received from the plant, particularly for a road bed of gravel, rock ballast, burnt gumbo, of such nature that the track gets a box dressing and the tie is practically covered up and surrounded with material to prevent air and climatic conditions to any great extent, would be the most economical and opportune time to put them in the track and that the ties would then practically absorb all the creosote.

In many cases it is impossible to get ties in track immediately after receiving.

When ties are treated with creosote, the closer they are piled, to prevent air, rain, etc., getting between them, the better. As soon as they are unloaded they should be piled on suitable high ground, and on single track care should be used not to unload on the same side as tele-

ed to the outside of pile with one strand.

Ties treated with zinc chloride, should be piled so as to be exposed as much as possible, to bring about rapid evaporation, and be practically free from moisture before being placed in the track. The drier the wood becomes after treating, the more securely it becomes impregnated with the zinc chloride, and the tie suffers less from climatic conditions, particularly if the ties are put in a soft roadbed, or in a wet season, or in a damp country. This has a tendency to wash away and cause the chemicals to evaporate very materially, and in a short time shows a general decay from

**Lake Superior Corporation's Annual Report.**

Following are extracts from the report presented at the annual meeting at Camden, N.J., Oct. 4.

The steel plant has had its full share of orders for rails. The mill has been in steady operation with the exception of a shutdown for necessary repairs. The output as compared with the previous year is as follows:—

	1909-10	1910-11
Pig Iron .....	153,528	170,359
Steel rails .....	201,615	208,283

The production is the highest yet attained, and has been obtained in the face of difficulties consequent upon new construction work, particularly in bring-

THE ALGOMA EASTERN RY., (FORMERLY the Manitoulin and North Shore Ry.). As indicated in our last report, the entire construction of this railway to Manitoulin Island was contemplated. Satisfactory arrangements having been made with the Ontario Government, for extension of time for earning the land grant, and for financing the line, contracts were let in February last for its completion and the work is being rapidly pressed forward. It is hoped that the railway will be completed and in operation early next year. A valuable land grant will, on its completion, be secured. Satisfactory arrangements are being made with connecting railroads for interchange of traffic.

INTERNATIONAL TRANSIT CO., TRANS ST. MARY'S TRACTION CO. The International Transit Company has to report satisfactory progress. It commenced the year with a debit balance at profit and loss. This has been entirely wiped out, and a small profit carried forward. The Trans St. Mary's Traction Co., has maintained its earnings, and with extra service now given it is expected that increased earnings will be obtained. The ferry connecting both street railways shows very satisfactory results from its operation.

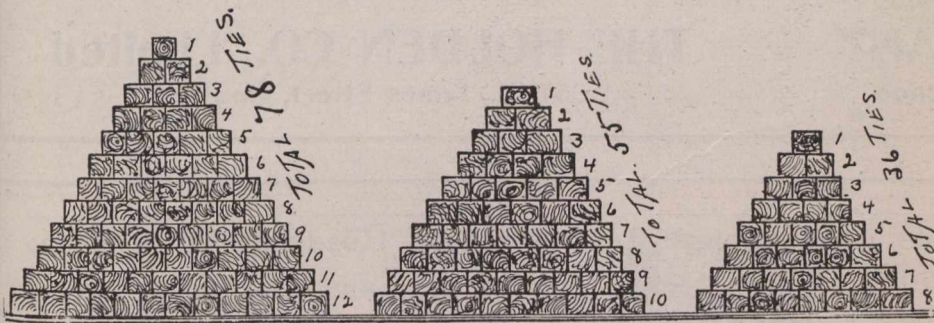
The following directors were elected for the current year: T. J. Drummond, D. C. Newton, Montreal; H. M. Price, Quebec.; T. Gibson, Toronto; J. F. Taylor, Sault Ste. Marie, Ont.; W. K. Whigham, London, Eng.; J. S. Dale, H. Coppell, J. T. Terry Jr., New York City; J. T. Lea, R. L. Austin and F. McOwen, Philadelphia, Pa.

**The Crossen Car Company, Ltd.**

In connection with the refinancing of this company a prospectus has been issued of the 6% first mortgage gold bonds. The Crossen Car Co., Ltd., has taken over the properties and business of the Crossen Car Manufacturing Co., of Cobourg, Ont., the properties being free from debt and unincumbered. The capitalization is 6% first mortgage bonds authorized £200,000, issued £115,600; capital stock ordinary, authorized \$1,000,000, issued \$600,000. The Crossen Car Manufacturing Co., of Cobourg, was formed about 20 years ago by W. J. Crossen and his associates to continue the business founded by the late James Crossen. The arrangements for refinancing this year in connection with the new company were made by the Royal Securities Corporation.

The old company's net earnings for 1910 were \$124,443 and the average net earnings for the last eight years were equal to over two and a half times the present interest charges. The reproductive value of the company's property is about \$780,000. Against this there is the bond issue of £115,600 (\$565,000), but the company's great strength lies in its earning power. The net earnings of the company over and above the amount required to pay bond interest and sinking fund, which will retire all the bonds by yearly drawings, commencing Jan., 1912, at 105 and accrued interest are to be used in the purchase of new property or in development and reconstruction of the present plant, until an amount equal to the present outstanding bond issue has been expended in this manner.

W. Harrison, Agent, G.T.R., Sherbrooke, Que., writes: "With pleasure I enclose renewal subscription to The Railway and Marine World. I have had 32 years service in various capacities with the G.T.R. and consider your paper most accurate and instructive. I wonder how you can gather and compile such a volume of information and news for the price."



Proposed Way of Piling Creosoted Ties.

graph wires, and if so, not closer than 50 ft. to telegraph poles or crossing or station signs, to eliminate danger in case of fire.

Unlike the untreated or zinc chloride treated tie, we do not consider it necessary to place old ties on the ground under creosoted ties. The sod should be removed from around the ties for at least 15 ft., to prevent fire. The number of ties unloaded along the section depends on the number of ties, per mile to be placed in the track, and that to some extent should govern the size of the piles. But most railroads have a standard of piling creosoted ties by placing two ties as sleepers and then piling them in close layers cross box style, with about 77 or 88 ties in each pile.

We wish to have considered the method of piling them all one way, either lengthwise or crosswise the track, first placing two ties for sleepers and then all other ties piled the opposite way in layers, each row one tie less, from the bottom, and tapering to the top, with one tie, as shown in the accompanying illustration. Put 78 ties in the pile with 12 ties on bottom, on the two sleepers, and if smaller piles are desired, place eleven, ten, nine or any number desired at the bottom, owing to the size of pile wanted.

Another consideration about piling them this way is that they are easier discovered if taken away or stolen; or if it is desired to protect them, all the outside ties can be bound with wire, fasten-

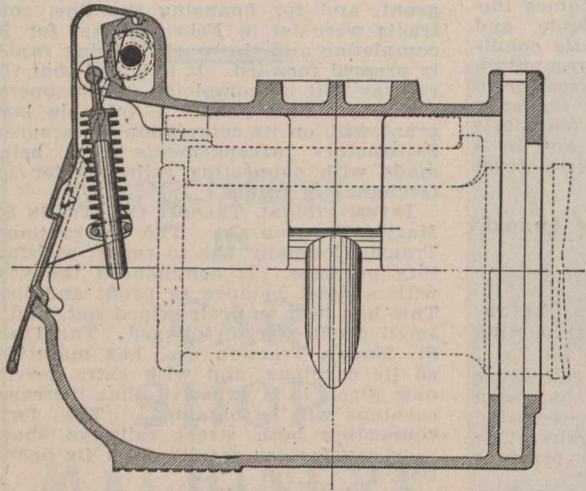
ing certain of the new operations into line with the old.

THE ALGOMA CENTRAL AND HUDSON BAY Ry. Co.'s earnings for the year have increased and show a very satisfactory excess over those for the previous year. The operation of the railway has been conducted under similar conditions to those prevailing during the preceding year. Rapid progress is being made with the construction of the railway to a junction with the C.P.R., some 220 miles from Sault Ste. Marie, northwards. It is expected that the Hawke Lake section will be completed and in operation by October, and this will provide an immediate route from the C.P.R. to Lake Superior, via Michipicoten. The main line is being pushed on with. The viaduct at Montreal River will be completed next month, and it is hoped that the whole of this line will be finished early next year.

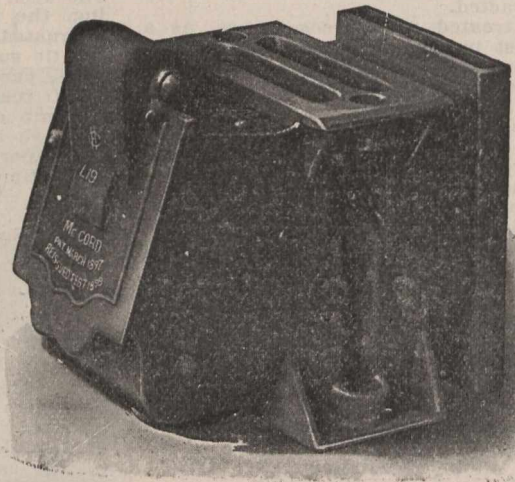
In view of the traffic possibilities and of your directors' desire that a complete proposition should be made of the railway, a contract has been let for its extension from the C.P.R. to a junction with the National Transcontinental Ry., 100 miles further north. The A.C. & H.B. Ry. will be, when completed to this point, the first great Canadian railway running to the north, and it will have the advantage of intersecting the three great transcontinental lines, the C.P.R., the C.N.R. and the N.T.R., from all of which satisfactory interchange of traffic is expected.

# THE McCORD MALLEABLE IRON JOURNAL BOX

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Strongest,  
Lightest,  
Tightest  
Box Made



The McCORD Draft Gear  
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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.

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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.

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## THE "INTERNATIONAL LIMITED"

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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, Asst. Pass. Traffic Manager, MONTREAL.

H. G. ELLIOTT, Gen. Passenger Agent, MONTREAL.

**Alberta Railway and Irrigation Co's Annual Meeting.**

For the first time the A.R. & I. Co.'s annual meeting was held at the C.P.R. general offices, Montreal, Nov. 1, previous meetings having been held in London, Eng. Following are extracts from the report of the year ended June 30, 1911:

REVENUE:—	
Balance from July 1, 1910.....	\$106,566.20
Revenue from colliery, railways, canals, profit on land sales, etc. (after providing for depreciation) .....	340,494.29
	\$447,060.49
Deduct interest on prior lien debenture stock (now redeemed) .....	\$ 2,243.09
Deduct London expenses (including directors' fees, London and Canada) .....	18,807.79
Deduct interim payment of 2% on the 5% debenture stock made July 1, 1911 .....	65,000.00
Deduct final payment of 3% on the 5% debenture stock made Oct. 20, 1911 .....	97,500.00
	183,550.88
Surplus .....	\$263,509.61
The directors recommend a dividend of 5% upon the share capital, which will absorb .....	162,500.00
And leave .....	\$101,009.61

to be carried forward to next account.

with sales of C.P.R. lands \$48,187.96, a total of \$1,753,560.11. On June 30 last the company had 215,848 acres remaining unsold, in addition to many lots in Lethbridge, Raymond, Milk River, New Dayton and Chin. The receipts from water rentals were \$31,002.05, compared with \$48,018.84 for the previous year.

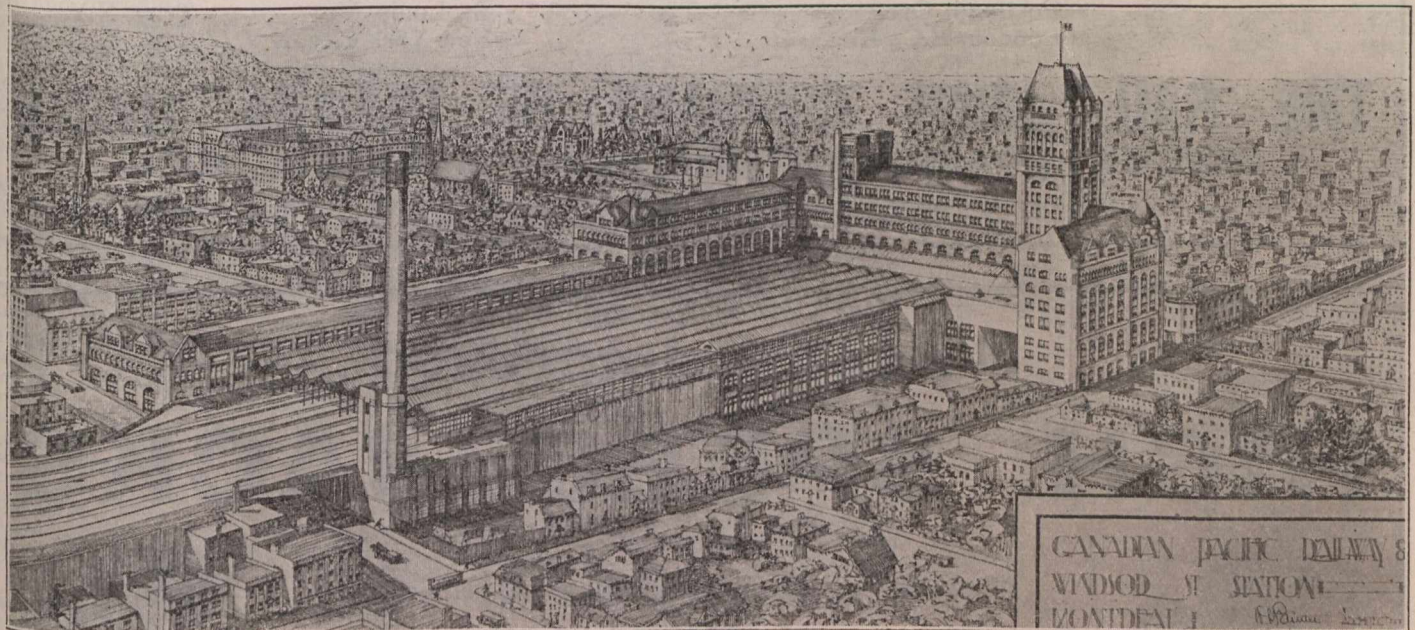
At a special general meeting of shareholders on Feb. 22 last, approval was given to the disposal of all the company's railways and other properties to the C.P.R. Co., partly by conveyance and partly by lease, which arrangement has been confirmed by the latter company. The lease is for 999 years, commencing from Jan. 1, 1912, and comprises this company's existing railways and any railways which the company is or may be authorized to construct, together with the stations, shops, rolling stock and equipment, and generally everything which has been or may be acquired in connection with the railways and the franchise. By the agreement this company sells to the C.P.R. Co. all the lands, irrigation works and generally all assets of this company, except the railway and property which is leased. As on and from Jan. 1, 1912, the C.P.R. Co. assumes liability for all outstanding obligations, including the debenture stock, both as to principle and interest. In view of the arrangements made with the C.P.R. Co.

directors for the current year:—President, E. T. Galt; Vice President, A. M. Nanton; other directors, Sir Edward Clouston, W. M. Ramsay, and John Galt.

**C.P.R. Windsor St. Station, Montreal**

Work on the extensive additions which the C.P.R. is building at the Windsor St. Station, Montreal, is progressing very favorably. It is expected that the new structure will be ready for occupancy by May next. Many changes will be made in the arrangement of the present departments, many of them contemplating removal to the newer portion. It is also stated that a number of officials in other parts of the city will be brought to these headquarters. The staffs that will be transferred first will be those located at the southern end of the present structure, which will permit the workmen to tear down the end wall and proceed with the extension of the new building to join the present structure.

The building is now entirely sheathed with its stone veneer, which covers the reinforced concrete shell. In the interior, the partitions are being rapidly put in place, and outside a start has been made in enclosing the part of the



Perspective View of Canadian Pacific Railway Windsor St. Station, Montreal, as enlarged.

The coal sales for the year were 271,950 tons, compared with 239,623 for the previous year. The gross earnings of the railway were \$346,573.48, compared with \$378,128.02 for the previous year. The land sales aggregated 5,658 acres and realized \$229,199.60, the average price being about \$64.33 per acre for irrigable land, and \$5.28 for non-irrigable land. These sales comprised 2,228 acres covered by the trust deed for the debenture stockholders and 3,430 acres free from the trust. The profit from sale of town lots was \$45,046. The estimated net profit from all the above sales was \$211,000. The profit received during the year in cash from lands free from the trust sold during that and previous years (after deducting the commissions and land expenses for the year) viz., a net sum of \$217,300, is included in the present revenue account, the balance remaining in reserve pending the realization of the outstanding instalments and the lands still unsold. The total amount in reserve in connection with sales of the company's lands is now \$1,705,372.15, and in connection

it was found convenient to transfer the head office of this company from London to Montreal.

Under the agreement with the C.P.R. Co., provision was made for the shareholders of this company receiving a dividend of 5% per annum from July, 1910, to Dec. 31, 1911. In accordance therewith, a dividend of 5% for the year ended June 30, 1911, will be payable after the annual general meeting, and notice will be given when the dividend of 2½% for the half year ending Dec. 31, 1911, will be payable. The share certificates will, on and after Jan. 1, 1912, be endorsed with the obligation of the C.P.R. Co. to pay 3% half-yearly, commencing with a payment on July 1, 1912, in respect of the preceding six months. By arrangement with the C.P.R. Co. notice has been given for the redemption on Jan. 1, 1912, of the outstanding 5% debenture stock of this company.

A bylaw was submitted for adoption decreasing the number of directors to five and, in accordance with the Railway Act of Canada, the directors retire from office. Following are the officers and

concourse not fronted by tracks. The boiler house is practically completed and the boilers installed. The big stack has reached a height of 200 ft. A large force of men is at work on the viaduct. On the top of the viaduct, a big steam shovel is levelling off the ground to the rear of the new station.

When completed, this building will be the largest and best equipped station in Canada. The accompanying illustration from a photograph of the architect's perspective drawing gives a comprehensive and realistic view of the station as it will finally appear. Nearly all the portion to the right of the two short towers in the centre of the building is the new section being built.

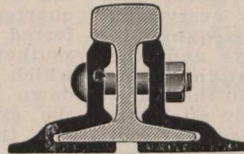
The Anglo-Canadian Contractors (Limited) has been incorporated under the Dominion Companies Act, with a capital of \$250,000 and offices at Toronto, to carry on general contracting and other businesses incidental thereto. The company has tendered for the construction of the tube railway system for Toronto.

# ADDITIONAL SAFETY AND ECONOMY IN TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fifteen (15) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence. Made in Canada.

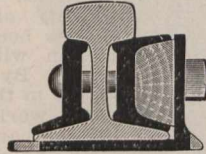
**HIGHEST AWARDS.**

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



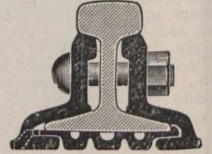
Continuous Joint.

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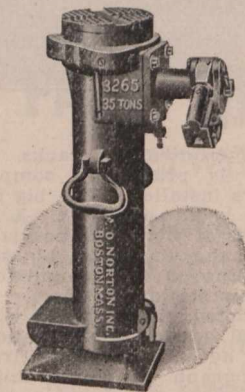
New York City, N.Y.

## THE RAIL JOINT COMPANY OF CANADA, LIMITED

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

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

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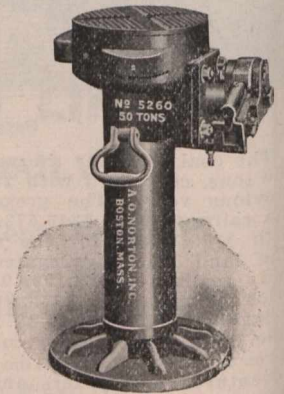


They lift and lower their full rated capacity  
**Four Times** as fast as other Ball Bearing Jacks of  
equal capacity.

All Crucible Steel, light and strong.

Send for complete catalogue and Discount

**35 and 50 Tons capacity. Plain and foot lift.**



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**Grand Trunk Railway Construction, Betterments, Etc.**

**Montreal Yards.**—The Board of Railway Commissioners has authorized the company to expropriate certain lands in Ste. Ann's Ward, Montreal, in connection with the enlargement of its yards, and to maintain the ship fever monument. While this order was made in Jan. last, it has just been issued, as certain details had to be adjusted.

**Kingston Freight Sheds.**—Property owners on Place d'Armes St., Kingston, Ont., have been notified by the G.T.R. that possession is to be taken at once of their properties. The properties acquired by the company lie between Wellington and King streets, and from Place d'Armes to Anglin's lumber yards, and on the site of the present buildings a large new freight shed is to be built.

**Granite for Ballast.**—Application is being made to the Kingston, Ont., city council by the G.T.R. for the supply of 750 h.p. electrical energy, to be delivered at a quarry near Kingston Mills. It is stated that the quarry will be opened in the spring, and that a large crushing plant will be installed to provide crushed granite for ballast. It is said that this ballast will first be laid between Montreal and Toronto.

**Tay Jct. to Birch Jct.**—The Board of Railway Commissioners has authorized the opening for traffic of the line between Tay Jct., on the Orillia-Midland line, and Birch Jct., on the Penetanguishene line. This order rescinds the previous order under which the line was opened for traffic, as mentioned in our last issue.

**Nipissing Jct., Ont.**—The Board of Railway Commissioners has authorized the building of a branch line crossing the C.P.R. at Nipissing Jct., Ont., to the Temiskaming and Northern Ontario Ry., and the installation of an interlocking plant.

**Toronto Belt Line.**—While in Toronto recently C. M. Hays, President, went over the old Belt Line, and it is said that as a result of his inspection the remaining portion of the line will be put in order for traffic. The company is at present using the section from its West Toronto yards to Yonge St.

**Hamilton, Ont.**—C. M. Hays, President, and other officials met the Hamilton city council and representatives of the business interests of the city, Oct. 28, and discussed the railway situation. The claims of the city for a new passenger station and other improvements were presented, and Mr. Hays said that while a new station would be built, the company had to consider it in connection with the claims of other places, where improvements were necessary. The question of a site had to be settled, together with a number of other incidental matters, before any definite work could be undertaken. The company had expended a large amount of money upon improvements during the past 15 years; money was still being spent upon improvements, and there were demands from towns all along the line for equally large expenditures upon necessary improvements. While the company was desirous of doing all it could to meet these demands it could not go further than its financial resources, or other circumstances which had to be considered, would permit.

**Guelph, Ont.**—The old station building at Guelph, Ont., is to be demolished and the site is to be utilized for laying an additional siding for yard accommodation.

**Chatham, Ont.**—The Board of Railway Commissioners has authorized the building of a spur and interchange track connecting with the Lake Erie and Detroit River Ry. tracks (operated by the

Pere Marquette Rd.), and an interchange track with the Chatham, Wallaceburg and Lake Erie Ry. in Chatham, Ont.

**Detroit Station, etc.**—On the occasion of a recent visit to Detroit, Mich., C. M. Hays, President, intimated that the G.T.R. might use the tunnel under the Detroit River, and the station which the Michigan Central Rd. proposes to build. Nothing, however, will be done for some time. If the arrangement cannot be made it is expected that the present station at Brush St. will be considerably enlarged. (Nov., pg. 1039.)

**Transportation Conventions in 1912.**

Mar. 17.—American Association of Railroad Superintendents, Chicago, Ill.

Mar. 19-21.—American Railway Engineering Association, Chicago, Ill.

May 12.—Railway Industrial Association, Kansas City, Mo.

May 14-17.—Master Boiler Makers Association, Pittsburgh, Pa.

May 15.—Freight Claim Association, Buffalo, N.Y.

May 22.—Association of Railway Claim Agents, Los Angeles, Cal.

June 12-14.—American Railway Master Mechanics' Association, Atlantic City, N.J.

June 16-18.—Wood Preservers' Association, Chicago, Ill.

June 17-19.—Master Car Builders' Association, Atlantic City, N.J.

June 18.—Train Dispatchers Association of America, Louisville, Ky.

June 18-21.—American Association of Freight Agents, Chicago, Ill.

June 24.—Association of Railway Telegraph Superintendents, New York City.

June 26.—Association of American Railway Accounting Officers, Quebec, Que.

Aug.—Travelling Engineers Association.

Sept.—Master Car and Locomotive Painters' Association of United States and Canada.

Sept. 10.—Roadmasters' and Maintenance of Way Association, Buffalo, N.Y.

Oct.—American Railway Bridge and Building Association, Baltimore, Md.

Nov. 6-10.—Association of Railway Electrical Engineers, Chicago, Ill.

Nov. 15.—American Railway Association, Chicago, Ill.

Dec. 12-13.—Association of Transportation and Car Accounting Officers, Louisville, Ky.

**Grand Trunk Railway Subsidiary Companies.**

Following are the officers for the current year:—

**BAY CITY TERMINAL RY.**—President, C. M. Hays; Vice President, A. B. Atwater; Secretary and Treasurer, G. W. Alexander.

**CANADA ATLANTIC RY.**—President, C. M. Hays; Vice President, E. H. Fitzhugh; Secretary and Treasurer, Frank Scott; General Auditor, W. H. Ardley.

**CHICAGO AND KALAMAZOO TERMINAL RD.**—President, A. B. Atwater; Vice President, F. M. Hodge; Secretary and Treasurer, G. W. Alexander.

**DETROIT AND TOLEDO SHORE LINE RD.**—President, T. P. Shonts; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**CHICAGO, DETROIT AND CANADA GRAND TRUNK Jct. Rd.**—President, C. M. Hays; Vice President, H. G. Kelley; Treasurer, Frank Scott; Secretary, G. W. Alexander.

**DETROIT, GRAND HAVEN AND MILWAUKEE RY.**—President, C. M. Hays; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**GRAND RAPIDS TERMINAL RD.**—President, A. B. Atwater; Secretary and Treasurer, G. W. Alexander.

**GRAND TRUNK JCT. RY.**—President, C.

M. Hays; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**GRAND TRUNK MILWAUKEE CAR FERRY CO.**—President, C. M. Hays; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**GRAND TRUNK WESTERN RY.**—President, C. M. Hays; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**INTERNATIONAL BRIDGE CO.**—President, C. M. Hays; Vice President, H. G. Kelley; Treasurer, Frank Scott; Secretary, G. W. Alexander.

**MICHIGAN AIR LINE RY.**—President, C. M. Hays; Vice President, H. G. Kelley; Treasurer, Frank Scott; Secretary, G. W. Alexander.

**PONTIAC, OXFORD AND NORTHERN RD.**—President, C. M. Hays; Vice President, H. G. Kelley; Secretary and Treasurer, G. W. Alexander.

**ST. CLAIR TUNNEL CO.**—President, C. M. Hays; Vice President, H. G. Kelley; Treasurer, Frank Scott; Secretary, G. W. Alexander.

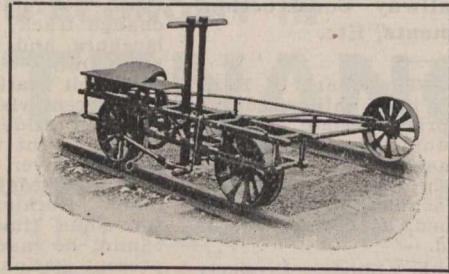
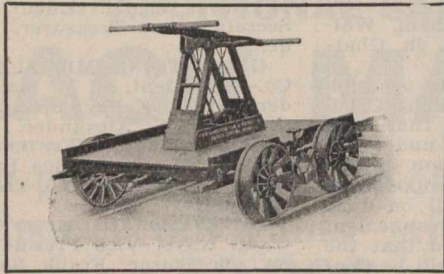
**Minneapolis, St. Paul and Sault Ste Marie Ry. Co's Annual Report.**

The report for the year ended June 30, of this subsidiary C.P.R. company, includes the Wisconsin Central Ry., now operated as the Chicago Division of the line. Following are the figures for the year:—

	Chicago Division.	Sault Line.	Entire System.
Gross earnings	\$8,836,669.98	\$13,135,907.80	\$21,972,577.78
Operating expenses	6,622,343.25	8,375,995.03	14,998,338.28
Net earnings	\$2,214,326.73	\$4,759,912.77	\$6,974,239.50
Income from other sources	50,878.34	913,204.23	964,082.57
Total income	\$2,265,205.07	\$5,673,117.00	\$7,938,322.07
Fixed charges, taxes, etc.	2,496,484.10	3,841,690.35	6,338,174.45
Surplus	\$768,720.97	\$1,831,426.65	\$2,600,147.62
Deficit	\$231,279.03		

Compared with the previous year, the Sault line gross earnings show a reduction of \$2,271,271.60; this is accounted for by the fact that last season's grain crop in North Dakota and portions of Minnesota was almost a total failure and resulted not only in a large loss of grain tonnage but also, on account of the reduced purchasing power of rural districts in a considerable reduction in general business. Two thousand miles of the company's lines are located in what may be termed the grain district of the Northwest and crop conditions are naturally very promptly reflected in its districts, in a considerable reduction of earnings.

The C.P.R. has awarded the grand prize for the best floral display at its stations to the station agent at Agassiz, B.C. Other prizes have been awarded to the station agents at Woodstock, N.B., Sherbrooke, Que., and Portage la Prairie, Man.



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of all descriptions

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Picks, Shovels, Etc.

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JAMES J. RILEY, Jr., General Manager:

GEORGE RILEY, Sales Representative.

### Orders by the Board of Railway Commissioners.

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

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

15044. Oct. 10.—Authorizing G.T.R. to open for traffic portion of its line from Tay Jct. between Orillia and Midland to Birn Jct., between Collwell and Penetanguishene, Ont., and rescinding order 14910, Oct. 3.

15045. Oct. 11.—Extending to Nov. 30, time for completion by G.T.R., of overhead bridge at Queen St., Palmerston, Ont., as authorized by order 14164, June 24.

15046. Oct. 10.—Authorizing G.T.R. to rebuild four bridges on its Northern Division and rescinding order 14896, Sept. 29.

15047. Oct. 10.—Authorizing Ottawa Electric Ry. to maintain wires across C.P.R. at Victoria St. Westboro, Ont.

15048. Oct. 11.—Authorizing Vancouver Victoria and Eastern Ry. to divert Yale Road, Yale District, B.C.

15049. Oct. 10.—Authorizing Point Anne Ry. to connect with C.N.R. siding on lot 20, near Pointe Anne.

15050 to 15052. Oct. 5.—Authorizing C.N.R. to cross La Salle Ave., Desjardins St. and Piux IX Avenue, Maisonneuve.

15053. Oct. 11.—Authorizing C.N.R. to operate trains with C.P.R. over Soo Line crossing near Midale, Sask., without stopping, interlocker having been installed.

15054. Oct. 11.—Amending order 14047, June 23, by removing speed limit over portion of C.N.R. Maryfield to Luxton, Sask.

15055, 15056. Oct. 10.—Authorizing C.N.R. to open for traffic its line from Luxton to Radville, Sask., 72 miles, and for freight traffic from Radville to end of track on Moose Jaw extension, 83 miles.

15057. Oct. 11.—Authorizing C.N.R. to cross with its Deslisle extension, 33 highways in Saskatchewan.

15058. Oct. 14.—Substituting Maisonneuve for Montreal in order 14925, Oct. 5.

15059. Oct. 13.—Authorizing Ottawa Electric Ry. to erect wires across C.P.R. on Carling ave., Ottawa.

15060. Oct. 12.—Authorizing Alberta Central Ry. to build two bridges between Red Deer and Rocky Mountain House, over Flemings Creek, mileage 60.1, and over south branch of Horseguard River, at mileage 50.

15061. Oct. 13.—Authorizing T. H. & B. R. to build two spurs for Diamond Flint Glass Co., Hamilton, Ont.

15062. Oct. 14.—Authorizing C.P.R. to build bridge 85.1 on its Brandon subdivision, Manitoba Division.

15063 to 15065. Oct. 13.—Authorizing C.P.R. to build spurs for city of Regina, Sask., city of Medicine Hat, and O. Ludwig, near Dunmore, Alta.

15066. Oct. 13.—Authorizing C.P.R. to rebuild bridge 102.6 on its Cascade subdivision, B.C. Division.

15067, 15068. Oct. 10.—Approving location C.P.R. stations at Blackie and Brant, Alta.

15069, 15070. Oct. 12.—Authorizing C.N.R. to cross with its Rossburn line 22 highways, and with its Maryfield branch, 12 highways in Saskatchewan.

15071, 15072. Oct. 13.—Approving C.N.O.R. revised location through unsurveyed territory, Algoma District, mileage 124.2/ to 127.32 and 92.37 to 93.27, from Sudbury Jct.

15073, 15074. Oct. 13, 11.—Authorizing C.N.R. to cross with its Maryfield branch one public road and 17 highways in Saskatchewan.

15075. Oct. 12.—Authorizing C.N.Q.R. to cross Main and Union Sts., Hawkesbury, Ont.

15076. Oct. 13.—Authorizing Saskatchewan Government to build Christopher St. across C.P.R., in Theodore.

15077. Oct. 14.—Amending order 14924, Oct. 5, by substituting town of Maisonneuve for city of Montreal.

15078. Oct. 13.—Authorizing C.N.R. to cross public road on its Maryfield branch, Sask.

15079. Oct. 13.—Dismissing Powell Door & Lumber Co.'s application re G.T.R. level crossing over Front St., Toronto.

15080. Oct. 12.—Postponing effective date of tariffs on hay and straw between eastern points and U.S. points until Jan. 1, 1912, matter to be heard at Board's sittings at

Ottawa on Nov. 21, on application of Montreal Board of Trade Transportation Bureau. This order is given in full on another page.

15081. Oct. 11.—Ordering Grand Valley Ry. to maintain suitable fence in front of property in lot 9, con. 3, South Dumfries tp., Ont., within 30 days, under penalty \$10 for every day in default.

15082, 15083. Sept. 8.—Naming express collection and delivery limits for Lethbridge and Medicine Hat, Alta.

15084. Sept. 11.—Dismissing Board of Trade's application, with leave to renew if railways fail to take care of traffic at transfer track between C.P.R. and C.N.R., near Stettler, Alta.

15085. Sept. 14.—Authorizing Qu'Appelle, Long Lake & Saskatchewan Rd. and Steamboat Co. to take possession of C.P.R. lands for building spur near Saskatoon, Sask.

15086, 15087. Oct. 11.—Authorizing T.H. & B.R. to build spurs into premises of Steel Co. of Canada and thence to J. W. Marsh's lands, near Sherman Inlet, to Standard Underground Cable Co., and E. C. Atkins and Co., Hamilton, Ont.

15088. Oct. 13.—Amending order 14636, Aug. 1, re interlocking plant between G.T.P. Branch Lines Co. and C.P.R., Langdon Branch, Alta.

15089. Oct. 12.—Amending order 14696, Sept. 5, re G.T.R. spur for Houedry & Sons, Peterboro, Ont.

15090. Oct. 11.—Authorizing city of Hamilton, Ont., to build subway under T.H. & B.R. spur at proposed intersection of Birch Ave., near Sherman Inlet.

15091. Sept. 14.—Authorizing C.P.R. to complete spurs for A. Bowerman, Saskatoon, Sask., as provided in order 14466, July 17, subject to council's approval.

15092. Oct. 13.—Amending order 13608, May 8, re G.T.R. Humber River Bridge compensation.

15093. Oct. 16.—Authorizing V.V. & E. Ry. and Navigation Co. to build dock and warehouse on Burrard Inlet, B.C.

15094. Oct. 17.—Authorizing Algoma Central and Hudson Bay Ry. to open for traffic its line from mileage 65 to 85 from Sault Ste Marie and from Hawk Lake Jct. mileage 164 to Josephine Jct., mileage 170, Michipicoten Branch.

15095. Oct. 17.—Authorizing C.N.R. to cross and divert public road and highway on its Prince Albert-Battleford line, Sask.

15096, 15097. Oct. 12.—Approving C.N.O.R. location through Trafalgar and Nelson tps., mileage 19.68 to 34.84 from Yonge St., Toronto; and through Toronto tp., mileage 10.97 to 19.68 from Yonge St., Toronto.

15098. Oct. 16.—Authorizing C.P.R. to build two spurs for city of Medicine Hat and Alberta Rolling Mills Co., Medicine Hat, Alta.

15099. Oct. 16.—Approving location of new C.P.R. station building at McKee, on its Waltham Subdivision, Eastern Division.

15100. Oct. 10.—Authorizing C.P.R. to cross and divert 16 highways on its Swift Current southwesterly Branch in Swift Current, Sask.

15101. Oct. 11.—Ordering M.C.R. to protect crossing at Queen St., Tilbury, Ont., by gates within 90 days, bell at Queen St. to be moved to Tilbury St., 20% from railway grade crossing fund, 20%, not to exceed \$100, by town of Tilbury.

15102. Oct. 18.—Ordering C.P.R. and G.T.P.R. to build transfer track for interchange of traffic at Balcarres, Sask., by Nov. 15.

15103. Oct. 12.—Authorizing town of Berlin, Ont., to build Tuerk St. across G.T.R., watchman to be employed between 7 a.m. and 6 p.m.

15104. Oct. 12.—Authorizing G.T.R. to build spur for Steel Co. of Canada, Ltd., Toronto.

15105. Oct. 17.—Authorizing G.T.P. Branch Lines Co. to cross with its Calgary Branch, 10 highways in Alberta.

15106. July 4.—Dismissing application of town of Sudbury, Ont., to build highway across C.P.R. and Algoma Eastern Ry., to connect Pine and Beech Sts.

15107. Oct. 20.—Ordering G.T.R. to provide suitable crossing on Gagnon's farm, Alexandria, Ont.

15108. Oct. 20.—Authorizing C.P.R. to open for traffic its Kipp-Aldersyde Branch, mileage 28.2 to 84.2.

15109. Oct. 21.—Approving shift in C.P.R. main line of 21 ft. south at mileage 93.5, in vicinity of Stave River, B.C.

15110. Oct. 16.—Authorizing C.P.R. to build its Wilkie Northwesterly line across six highways in Saskatchewan.

15111. Oct. 17.—Authorizing C.P.R. to cross with its Moose Jaw Northwesterly Branch, 20 highways in Saskatchewan.

15112, 15113. Oct. 19, 16.—Authorizing

C.P.R. to build spur for Adolph Lumber Co. at Baynes Lake, B.C., and re-arrange sidings and operate new ones for Superior Portland Cement Co., Orangeville, Ont.

15114. Oct. 19.—Rescinding order 13475, Apr. 19, re diversion of highways near Lindsay, Ont.

15115. Oct. 16.—Authorizing C.P.R. to build spurs for city of Moose Jaw, Sask.

15116. Oct. 11.—Authorizing C.P.R. to rebuild Bull River Bridge, Kootenay Central, Ry., B.C.

15117. Oct. 19.—Adding "work to be completed by Jan. 1, 1912" to order 14870, Sept. 2, re C.P.R. station at Mountain, B.C.

15118 to 15120. Oct. 20.—Approving C.P.R. station buildings to be built at Eldon, Bethany, and Orillia, Ont.

15121. Oct. 18.—Authorizing British Columbia Southern Ry. (C.P.R.) to build its Waldo Branch to Baynes Lake across two highways and road diversions, mileage 0 to 1.6.

15122. Oct. 18.—Authorizing C.P.R. to rebuild bridge 45.8 on its Pleasant Hills subdivision, Manitoba Division.

15123. Oct. 17.—Authorizing C.N.R. to open for traffic its Thunderhill extension from Pelly to Preeceville, mileage 36.6 to 72.6, 37 miles.

15124, 15125. Oct. 20.—Amending orders 14304, July 24, and 14221, July 19, by striking out word freight.

15126. Oct. 18.—Authorizing C.N.R. to cross with its Prince Albert-Battleford line, 23 highways in Saskatchewan.

15127. Oct. 20.—Amending order 14978, Oct. 3, re C.N.O.R. bridge over Rouge River, Que.

15128. Oct. 18.—Approving revised location of James Bay and Eastern Ry. (C.N.R.) mileage 18.2 to 19.6, Ashuapmouchouan tp., Que.

15129. Oct. 18.—Approving revised location of Algoma Central and Hudson Bay Ry. between mileage 30.08 and 53 from Hawk Lake Jct., Ont.

15130. Oct. 20.—Authorizing Dominion Atlantic Ry. to rebuild Bear River Bridge.

15131. Oct. 20.—Authorizing city of Windsor, Ont., to renew and build outlet of Parent Ave. sewer under G.T.R.

15132. Oct. 20.—Authorizing Springfield municipality, Man., to build highway over C.P.R. at Hazelridge, Man.

15133. Oct. 16.—Authorizing G.T.R. to rebuild bridge 44 at mileage 87.82, Lindsay, Ont.

15134, 15135. Oct. 18, 20.—Authorizing G.T.R. to build spur into premises of Rex Spray Co., Brighton tp., and Yale & Towne Mfg. Co., St. Catharines, Ont.

15136. Oct. 17.—Authorizing G.T.P.R. to cross highway at mileage 121.4, St. Francois Xavier parish, Man.

15137. Oct. 18.—Authorizing G.T.P.R. to build spur into premises of Edmonton Exhibition Association, Edmonton, Alta.

15138. Oct. 17.—Authorizing G.T.P.R. to cross highway at mileage 38.4, Saskatoon District, Sask.

15139. Sept. 15.—Dismissing application J. H. Ashdown Co. for revision to Canadian Car Service rules to permit additional time for unloading bar iron, steel and long pipe.

15140. Oct. 19.—Extending for two months, time for completion of C.P.R. spur for R. D. Lindsay, Vancouver, B.C.

15141. Sept. 15.—Dismissing application of Canadian Freight Claims Bureau of Winnipeg re delay of C.P.R. and C.N.R. in settling claims for overcharges caused by referring same to Montreal. This order is given in full on another page.

15142. Oct. 11.—Authorizing T.H. & B.R. to build spur for H. W. Farr, Hamilton, Ont.

15143. Oct. 19.—Authorizing Saskatchewan Government to build highway over C.P.R. at Nokomis, Sask.

15144. Oct. 18.—Approving V.V. & E. Ry. & Nav. Co.'s bylaw authorizing H. A. Noble, G.P.A., to prepare and issue tariffs of passenger tolls.

15145. Oct. 12.—Approving relocation of G.T.R. station at Bradford, Ont., and ordering road crossing to be provided by company.

15146.—Authorizing G.T.R. to build bridge at highway diversion in Esquesing tp., District 15, Middle Division, 20% from railway grade crossing fund, 15% by Esquesing tp., and 65% by G.T.R., work to be completed by Dec. 31.

15147. Oct. 19.—Authorizing C.N.O.R. to cross public road in St. Benoit parish, Que.

15148. Oct. 15.—Ordering C.N.R. to fence its right of way on southeast of sec. 2, tp. 18, r. 20, w. 2 m., Sask., by June 15, 1912, subject to penalty of \$10 a day.

15149. Sept. 8.—Naming express collection and delivery limits for Calgary, Alta.

15150. Sept. 12.—Ordering Edmonton, Yukon & Pacific Ry. (C.N.R.) to show cause why order should not issue authorizing



# Electric Headlight Saves Train

(From Daily Papers)

"Wednesday night B—— forgot to deliver an order to hold Eastbound Passenger Train No. 6, and only the fact that the Electric Headlight of the oncoming Passenger train was seen at a great distance by the Engineer of the Westbound Freight prevented a head end collision in the —— Canyon near ——, The warning light was seen in time to enable the freight to get back on to the siding at ——."

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- building of subway at crossing of Edmonton Radial Ry., Edmonton, Alta.
- 15151, 15152. Oct. 12.—Ordering G.T.R. to erect gates at Royce Ave., Toronto, within 90 days, 20% from railway grade crossing fund, and authorizing it to build subway to carry Coxwell Ave. under tracks, Toronto.
15153. Oct. 21.—Ordering C.N.R. and C.P.R. to build transfer track at Carberry, man., work to be completed by June 15, 1912.
- 15154 to 15158. Oct. 23.—Approving location of C.P.R. stations at Imperial, Hoiatast, Renown, Brora and Liberty, Sask.
15159. Jan. 23.—Authorizing G.T.R. to appropriate certain land in St. Ann's Ward, Montreal, in connection with enlargement of yard, and to maintain Ship River Monument.
15160. Oct. 24.—Authorizing G.T.R. to build spur for city of Montreal filtration plant under construction.
15161. Oct. 23.—Authorizing C.P.R. to rebuild bridge 95.3 on its Cascade subdivision, B.C. Division.
15162. Oct. 24.—Authorizing C.P.R. to build spur for B. F. Ackerman, Winnipeg, Man.
15163. Oct. 24.—Authorizing C.P.R. to build St. Rose Bridge, at mileage 11.4, Ottawa subdivision, Eastern Division.
15164. Oct. 21.—Authorizing C.P.R. to build its Bulyea South Branch across highway at mileage 15.08, Sask.
15165. Oct. 20.—Approving location of Georgian Bay and Seaboard Ry. (C.P.R.) station at Brechin, mileage 40, Ont.
15166. Oct. 24.—Approving revised location of Dominion Atlantic Ry. North Mountain Branch from Centreville to Lakeville, 5.1 miles.
15167. Oct. 23.—Authorizing C.N.R. to build spur line to roundhouse in Atwood tp., Rainy River District, Ont.
- 15168, 15169. Oct. 21, 23. — Authorizing G.T.P. Branch Lines Co. to cross highway with its Regina-Boundary Branch, at mileage 26.8, and to divert highway on its Biggar-Calgary Branch, Sask., at mileage 99.7.
15170. Oct. 23.—Authorizing C.P.R. to rebuild bridge 95.2 on its Cascade subdivision, B.C. Division.
15171. Oct. 23.—Ordering C.P.R. to open original drain blocked by tracks built east of Vaudreuil, Que.
- 15172 15173. Oct. 23.—Approving location of C.P.R. stations at Young and Druid, Sask.
15174. Oct. 20.—Authorizing C.P.R. to build spur for Sandstone Brick & Sewer Pipe Co., at Sandstone, Alta.
15175. Oct. 23.—Authorizing G.T.R. to build branch and interchange track to a connection with Pere Marquette Rd., in Chatham, Ont.
15176. Oct. 21.—Authorizing Welland County Telephone Co. to erect wires across G.T.R. in Bertie tp., Ont.
15177. Oct. 20.—Authorizing C.P.R. to rebuild bridge 26.7 on its Shuswap Subdivision, B.C. Division.
15178. Oct. 17.—Authorizing C.P.R. to serve H. Brown with notice of application by advertisement, in connection with taking lands in West Toronto, Ont.
15179. Oct. 25.—Authorizing G.T.R. to build spurs for Firstbrook Box Co., Penetanguishene, Ont.
15180. Oct. 25.—Authorizing G.T.P.R. to cross highway in Coast District, B.C.
15181. Oct. 25.—Authorizing Cumberland tp., Ont., to cross G.T.R. with highway at lot 28, con. 4.
15182. Oct. 21.—Authorizing C.P.R. and G.T.P.R. to operate trains over interlocker at mileage 118 from Regina, without bringing trains to a stop.
- 15183, 15184. Oct. 25, 24. — Authorizing C.P.R. to rebuild bridge 25.7 on its Laggan subdivision, Alberta Division, and open for traffic its second track between Fort William and Port Arthur, Ont., 4.2 miles.
15185. Oct. 20.—Authorizing C.P.R. to build two spurs for Oliver & Webster, in Sydenham tp., Ont.
15186. Oct. 25.—Approving G.T.P.R. bylaw authorizing J. E. Dalrymple, Fourth Vice President, and C. E. Dewey, G.F.A., to prepare and issue tariffs of freight tolls.
15187. Oct. 20.—Authorizing C.N.O.R. to build bridge over Rideau river and canal at Smiths Falls.
15188. Oct. 21.—Authorizing G.T.P. Branch Lines Co. to cross with its Biggar-Calgary branch, four highways in Saskatchewan.
15189. Oct. 25.—Authorizing city of St. Boniface, Man., to lay main sewer under C.P.R.
- 15190 to 15192. Oct. 25.—Authorizing C.P.R. to build bridges 96.6, 90.2 and 60.0 over irrigation canal, on its Calgary subdivision, Alta.
- 15193, 15194. Oct. 26, 24. — Authorizing G.T.P.R. to divert highway in s.w. ¼ sec. 26, tp. 37, r. 18, w. 3 m., Sask., and on main line at mileage 69.6, Alta.
15195. Oct. 24.—Approving G.T.P. Branch Lines Co.'s revised location from sec. 33, tp. 23, r. 29, w. 4 m., to north line of sec. 1, tp. 24, r. 1, w. 3 m., mileage 196.81 to 193.14, South Alberta District.
- 15196, 15197. Oct. 25.—Approving location of Georgian Bay and Seaboard Ry. (C.P.R.) stations at Grasshill and Uthoff, Ont.
15198. Oct. 26.—Authorizing Saskatchewan Government to build highway across C.N.R. along north of sec. 29 and 30, tp. 32, r. 8, w. 3 m.
15199. Oct. 25.—Authorizing Algoma Central and Hudson Bay Ry. to build bridge over Batchewana River at mileage 79.68.
15200. Oct. 24.—Authorizing G.T.P.R. and C.P.R. to operate crossing on east ½ sec. 23, tp. 17, r. 20, w. 2 m., Sask., trains to be nagged by watchmen, and amending order 11420, July 26, that G.T.P.R. be at expense of raising C.P.R. grade.
15201. Oct. 11.—Ordering that G.T.R. crossing at Queen St., Tisbury, Ont., be protected by gates within 90 days, 20% to be paid from railway grade crossing fund; electric bell at Queen St. to be moved to Tisbury St., and order 15101 rescinded.
15202. Oct. 12.—Amending order 14868, Sept. 23, re C.N.O.R. location through part of Toronto and York and Etobicoke tps., mileage 6, in line 4, to be changed to mileage 3.
- 15203, 15204. Oct. 27, 28. — Approving C.N.O.R. revised location in South Crosby tp., mileage 186.77 to 188.78, east from Toronto, and authorizing it to cross Russell Road, at Junction Gore.
15205. Oct. 26.—Authorizing G.T.P. Branch Lines Co. to divert highway on its Regina-Boundary branch at mileage 63.1, Sask.
15206. Oct. 27.—Approving G.T.R. plans for bridges over Mill, Peter, Ontario and Barrett Sts., Port Hope, Ont., the subway at Barrett St. to be 25 ft., and that at Ontario St. to be increased 5 ft.
15207. Oct. 26.—Authorizing G.T.R. to build bridges at mileage 13.07 from Montreal, St. Jacques River; at mileage 36.85, English River, and at mileage 43.82, Chateaugay River, Que.
15208. Oct. 26.—Authorizing G.T.R. to build interchange track with Chatham, Wallaceburg and Lake Erie Ry., in Chatham, Ont.
15209. Oct. 26.—Authorizing C.N.R. to cross with its Prince Albert-Battleford line highway between sec. 1, tp. 43, and sec. 35, tp. 42, r. 13, w. 3 m.
- 15210, 15211. Oct. 26, 28. — Authorizing C.N.O.R. to divert Bay St. to join Foster Ave. north of its right of way, Belleville, and authorizing it to open for freight traffic its line from Trenton to Belleville, 15.5 miles.
15212. Oct. 26.—Extending for six months from Nov. 1, time for filing revised Standard Tariffs of Maximum Freight Tolls by Esquimalt and Nanaimo Ry.
15213. Oct. 2.—Authorizing Essex Terminal Ry. to open for traffic its line in Walkerville to a point just east of Giles Ave., between Windsor Ave. and Macdougall St., Windsor, Ont.
- 15214, 15215. Oct. 27.—Approving revised location of C.N.O.R. (Toronto-Ottawa) at Perth Road, Loughborough tp., mileage 170.35 to 171.40 from Toronto, and authorizing it to cross public road between lots 3 and 4, con. 15, Bedford tp.
15216. Oct. 27.—Authorizing C.N.R. to cross with its Prince Albert-Battleford line, public road between sec. 32, tp. 42, and sec. 4, tp. 43, r. 13, w. 3 m., Sask.
15217. Oct. 26.—Ordering T.H. and B.R. to install new diamond at crossing on South Market St., Brantford, Ont., question of cost reserved for consideration at Board's next sittings in Toronto.
15218. Oct. 27.—Authorizing G.T.P. Branch Lines Co. to cross with its Biggar-Calgary branch five highways in Saskatchewan.
15219. Oct. 26.—Authorizing C.P.R. to operate trains under Queen St. bridge, Toronto, on condition that men shall not be allowed on top of cars when passing.
15220. Oct. 20.—Authorizing C.P.R. to build spur for city of Regina and Sawyer-Massey Co., Regina, Sask.
15221. Oct. 27.—Approving plan of proposed interlocking appliances to be installed at Pages, Ont., by C.P.R., where it crosses G.T.R., mileage 37.2.
15222. Oct. 26.—Relieving M.C.R. from further protection of highway crossing just north of Stamford, Ont., and removing speed limitation of 10 miles an hour.
15223. Oct. 27.—Approving C.N.R. revised location through south ½ sec. 1, tp. 11, r. 5, w. 3 m., mileage 77.28 to 78.288, Sask.
15224. Oct. 31.—Approving location of C.P.R. station at Kipp, Alta.
- 15225, 15226. Oct. 31.—Authorizing C.P.R. to rebuild bridges 3.7 and 3.9 on its Swift Current subdivision, Sask.
15227. Oct. 31.—Approving location of C.P.R. Boissevain to Lauder branch from sec. 22, tp. 3, r. 20, w. p.m. near Boissevain, on its Napinka subdivision, northwesterly for 39.29 miles to sec. 17, tp. 5, r. 24, w. p.m., on its Estevan subdivision, near Lauder, Man.
15228. Oct. 28.—Authorizing C.P.R. to build two spurs for Royal Collieries, Ltd., at Royal View, near Lethbridge, Alta.
- 15229 to 15231. Oct. 19, 28.—Authorizing C.N.O.R. to cross public road in South Elmsley and Storrington tps., and to cross and divert public road between lots 10 and 11, Cote St. Jean concession, St. Benoit parish, Que.
15232. Oct. 31.—Authorizing Niagara, St. Catharines and Toronto Ry. to open for traffic its revised lines across ponds 1, 2, and 3, opposite locks 12, 13 and 14, old Welland canal, Merritt, Ont.
15233. Oct. 24.—Enjoining Bell Telephone Co. from removing telephones from Union Stock Yards, Toronto, until further order.
15234. Oct. 21.—Authorizing G.T.P. Branch Lines Co. to cross and divert highways on its Prince Albert branch, Sask.
15235. Oct. 27.—Authorizing G.T.P.R. to build its main line across four highways in Manitoba.
15236. Oct. 27.—Approving Montreal and Southern Counties Ry. freight tariff applying between Montreal and Longueuil.
15237. Oct. 24.—Dismissing application of J. Bowman, Elmwood, Ont., re Bell Telephone connection.
15238. Oct. 11.—Authorizing T.H. and B.R. to build spur west of Sherman Ave. north, Hamilton, Ont.
- 15239, 15240. Oct. 11.—Authorizing city of Hamilton, Ont., to build Cumberland Ave. across T.H. and B.R. at grade, and to lay sewer under it on Main St.
15241. Oct. 11.—Ordering city of Hamilton, Ont., to build Birch Ave. extension from present terminus to Gilkinson St., and to fill in to a grade level portions of Sherman Inlet, for transfer of tracks to be relocated by T.H. and B.R., etc.
15242. Oct. 28.—Approving Quebec Ry., Light and Power Co.'s Standard Tariff of Maximum Passenger Tolls between Quebec and Montmorency Falls Park and intermediate points via Beauport Jct.
15243. Oct. 23.—Dismissing application of M. Doyle Fish Co., Toronto, re carload rate for fish from Vancouver to Toronto.
15244. Oct. 23.—Dismissing application to eliminate sec. D of Classification C.R.C. 2 (Express) by increasing weight to be carried from 5 lbs. to any weight shippers might choose to forward as under former section.
15245. Oct. 23.—Amending order 13381, Mar. 21, removing clause 3 and substituting "Charges must be prepaid unless an agreement has been made with the owner of empties whereby they may be returned with charges to collect," and dismissing application to rescind clause 4.
15246. Oct. 13.—Authorizing G.T.R. to build spur for Imperial Varnish and Color Co., A. R. Clarke and Co., and Canada Paint Co. near Leslie St., Toronto.
15247. Oct. 11.—Approving G.T.R. plans of overhead bridge carrying James St. and Hamilton St. Ry., Hamilton, Ont.
15248. Oct. 31.—Ordering G.T.R. to provide farm crossing at Alexandria, Ont., according to order 15107, Oct. 20, within 30 days.
15249. Oct. 21.—Relieving M.C.R. from further protection of crossing, one mile east of Shedden, Ont.
15250. Oct. 11.—Adding Hamilton, Grimsby and Beamsville Electric Ry. to G.T.R. application re protection of crossing just east of Grimsby Beach, Ont.
15251. Sept. 14.—Ordering C.P.R. to make Moosomin, Sask., a flag stop for through train no. 2.
15252. Sept. 11.—Dismissing application of Ribstone, Alta., farmers for order directing G.T.P.R. to install siding accommodation for two elevators.
15253. Oct. 31.—Authorizing V.V. and E.R. to build spur to B.C. Cement Co.'s works, Princeton, B.C.
15254. Oct. 11.—Authorizing G.T.R. to build spur into Waterous engine works, Brantford, Ont.
15255. Oct. 11.—Authorizing T.H. and B.R. to operate across G.T.R. on Newport St., Brantford, Ont.
15256. Oct. 12.—Authorizing G.T.R. to rearrange team tracks across Norwich St., Guelph, Ont., protection to be considered later.
15257. Oct. 31.—Authorizing Alberta Central Ry. to cross highways between Red Deer and 40 miles west.
15258. Nov. 2.—Authorizing C.P.R. to open for traffic its Moose Jaw northwesterly branch from mileage 221.28 to 128.21, between Kerrobert and Conquest, Sask.
- 15259 to 15261. Nov. 2.—Authorizing C.P.R. to build its Moose Jaw southwesterly branch across six highways, its Weyburn-

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Lethbridge branch across 16 highways in Saskatchewan, and to use subway over First St. East, Calgary, Alta.

15262. Nov. 2.—Authorizing C.P.R. to open for traffic its Swift Current northwesterly branch.

15263. Nov. 2.—Authorizing Dominion Atlantic Ry. to rebuild bridge over Little Joggins River, N.S.

15264. Nov. 2.—Ordering C.P.R. within seven months to install improved type of electric bell at crossing just south of Flesherton station, Ont.

15265. Nov. 2.—Authorizing city of Winnipeg to extend Inkster Ave. across C.P.R. Winnipeg Beach line.

15266, 15267. Oct. 31, Nov. 2.—Authorizing C.P.R. to build spurs for Metals, Ltd., Calgary, and Castor Coal Co., Castor, Alta.

15268. Oct. 23.—Adding Canadian Manufacturers Association, Montreal, Toronto, Winnipeg, Saskatoon, Calgary, Regina, Edmonton, Nelson and Vancouver Boards of Trade to application of Eureka Planter Co., Woodstock, Ont., re classification on agricultural implements west of Port Arthur, as compared with shipments east of Port Arthur.

15269. Nov. 2.—Approving Pere Marquette Rd. bylaw authorizing G. C. Conn, F.T.M., and H. F. Moeller, G.P.A., to prepare and issue tariffs of tolls.

15270. Nov. 3.—Ordering G.T.R. within two months to erect gates at John St., Toronto.

15271. Oct. 31.—Approving location of C.N.O.R. station grounds at Lombardy, South Elmsley tp.

15272. Nov. 2.—Ordering C.N.R. to fence its right of way from McCreary Jct., on main line from mileage 139 to 143, from crossing west of mileage 144 to 15 poles west of mileage 145, and from crossing west of mileage 147 to Laurier, mileage 148.6, to be completed by July, 1912, under penalty of \$25 a day.

15273. Sept. 14.—Ordering C.P.R. to build sidewalk across its main line by June 15, 1912, to Belle Plaine station, Sask.

15274. Nov. 3.—Authorizing E. A. Murphy to prepare and issue tariffs of tolls for Klondyke Mines Ry.

15275. Nov. 2.—Authorizing C.P.R. to take for construction of proposed roundhouse, machine shops and tracks for extension of yards at certain lands at West Toronto, Ont.

15276. Nov. 4.—Authorizing C.N.O.R. to open for freight traffic its Sudbury-Port Arthur line from Gowganda Jct., at mileage 315, to one mile west of Ruel station, mileage 329, 14 miles.

15277. Oct. 31.—Authorizing C.P.R. to cross with its Weyburn-Lethbridge branch 15 highways, mileage 66.64 to 78.22.

15278. Nov. 3.—Approving revised location of G.T.R. crossover switch on Edward St., Berlin, Ont.

15279. Nov. 3.—Authorizing C.P.R. to open for traffic its Regina, Saskatoon and North Saskatchewan branch from mileage 0 to 83.00, between Regina and Imperial, Sask.

15280. Sept. 11.—Authorizing C.N.R. to build branch through block 4, of Hudson's Bay Co.'s reserve, Edmonton, Alta., crossing Mackenzie, Peace and Athabasca Aves.

15281. Nov. 3.—Approving G.T.R. amended plan showing 50 ft. span over Front St., St. Lambert, Que.

15282. Oct. 12.—Ordering E. and B. Baxter to notify Board, within two months, as to plan desired re G.T.R. spur to stone quarry.

15283. Nov. 7.—Authorizing G.T.P.R. to build spur for Great West Coal Co. in s.e. ¼ sec. 17, tp. 53, to s. ½ sec. 6, tp. 53, r. 23, w. 4 m. mileage 0 to 2.3.

15284, 15285. Nov. 7.—Authorizing C.P.R. to open for traffic its Bulyea South branch from mileage 0 to 18.31, between Bulyea and a junction with the Regina, Saskatoon and North Saskatchewan branch at mileage 24.38, and that portion of its Brandon subdivision between Carberry and Douglas, Man. 16 miles.

15286. Mar. 15.—Fixing rates on binder twine from Welland, Ont., to be charged by G.T.R., M.C.R. and Wabash Rd.

15287. Sept. 1.—Naming express delivery and collection limits for Nanaimo, B.C.

15288. Nov. 8.—Ordering express companies under Board's jurisdiction, pending disposition of question of joint tariffs, to make certain charges on shipments of express freight subject to graduate charges. This order is given in full on another page under heading of Among the Express Companies.

15289. Sept. 22.—Approving location of Campbellford, Lake Ontario and Western Ry. (C.P.R.) Cobourg to Glen Tay line from mileage 0 to westerly limit of Belleville, across city, at mileage 2.3.

15290. Nov. 7.—Approving location of G.T.R. station at Brule, Ont.

15291. Oct. 31.—Authorizing G.T.P. Branch Lines Co. to cross with its Melville-Regina branch five highways in Saskatchewan.

15292. Nov. 9.—Approving Kingston and Pembroke Ry. bylaw authorizing W. R. Baker, V.P. and G.M., and F. Conway, G.F. and P.A., to prepare and issue tariffs of tolls.

15293. Nov. 7.—Authorizing G.T.R. to build spur for J. R. Booth, west of Whitney station, Ont.

15294. Nov. 7.—Authorizing T.H. and B.R. to operate spur jointly with G.T.R. into lands of L. C. Gage and Grasselli Chemical Co., Hamilton, Ont.

15295. Nov. 9.—Ordering C.P.R. within 90 days to install improved type of electric bell at crossing 2½ miles east of St. Basile, Que., 20% to be paid from railway grade crossing fund.

15296. Nov. 9.—Authorizing C.P.R. to build spur for J. B. Bonhomme and Co. and Wm. Rutherford and Sons Co., Montreal.

15297. Nov. 9.—Authorizing G.T.P.R. to appeal to Supreme Court re application of British American Oil Co., concerning rates on crude oil from Stoy, Ill., to Toronto, Ont., on a question of law.

15298, 15299.—Nov. 8.—Authorizing city of Toronto to maintain relay telephone and 2,200 volt line in connection with its hydro-electric system across C.P.R. and G.T.R., and across C.P.R. and G.N.W. Telegraph Co.'s wires at Strachan Ave., and rescinding order 14918, Oct. 3.

15300. Nov. 10.—Authorizing C.N.O.R. to open for traffic its Sudbury-Port Arthur line from Gowganda Jct. at mileage 315, to 1 mile west of Ruel station, mileage 329, 14 miles, and rescinding order 15276, Nov. 4.

15301. Sept. 14.—Ordering G.T.P.R. to grant to E. A. Purcell equal privileges with any other cab or hack drivers or transportation agency at Saskatoon station, for receiving and delivery of traffic to platforms, and restraining it from discriminating in favor of Saskatoon Forwarding Co.

15302. Nov. 7.—Rescinding order 14120, June 30, in so far as it authorizes erection of G.T.P.R. station at Cana, Sask.

15303. Nov. 7.—Authorizing G.T.P.R. to cross two highways in secs. 17 and 5, tp. 53, r. 23, w. 4 m.

15304. Nov. 11.—Authorizing C.P.R. to open for traffic its double track from Smiths Falls to Glen Tay, Ont., 16 miles.

15305. Nov. 9.—Approving C.N.R. plans for crossing one mile south of Camrose, Alta.

15306. Nov. 10.—Authorizing C.N.R. to build spur for J. Harty and L. J. Marsh, Port Frances, Ont.

15307. Nov. 10.—Ordering C.P.R. to carry out terms of order 14769, Sept. 11, re extension of crossing at Henderson St., Grayson, Sask., within 20 days, subject to a penalty of \$25 each day in default.

15308. Nov. 10.—Authorizing city of Calgary, Alta., to cross with its municipal street railway the C.P.R. at Eleventh St., half-interlocking plant to be installed.

15309. Nov. 9.—Authorizing C.P.R. and G.T.R. to appeal to Supreme Court re application of Canadian Oil Co. on question of law.

15310. Nov. 10.—Authorizing C.P.R. to build bridge 9.6 on its Swift Current subdivision, Sask.

15311. Nov. 10.—Authorizing C.P.R. to cross C.N.R. with its second track near corner of Sixth Ave. and Algoma St., Port Arthur.

15312. Nov. 10.—Authorizing C.P.R. to cross G.T.P.R. with its Wilkie-Anglia branch, at mileage 6.1, Sask., interlocker to be installed.

15313. Nov. 9.—Authorizing C.P.R. to operate passing track across road allowance, and approving location of station building at Woods, Man.

15314. Nov. 9.—Authorizing C.P.R. to rebuild bridge 8.4 on its Swift Current subdivision, Sask.

15315. Nov. 9.—Approving slight deviation in C.P.R. main line at mileage 95.16, near Graham station, Ont.

15316. Nov. 10.—Authorizing G.T.P.R. to divert road at mileage 113, Winnipeg district, Man.

15317, 15318. Nov. 10.—Authorizing G.T.R. to build spurs for National Land, Fruit and Packing Co., Mimico, and Robson and Precious, Hamilton, Ont.

15319 to 15322. Nov. 10.—Authorizing C.P.R. to cross 17 highways and diversions with its Moose Jaw Southwesterly branch; 18 highways with its Swift Current Southeasterly branch; highway and diversion with its Moose Jaw Southwesterly branch, and highway with its Moose Jaw Northwesterly branch at mileage 167.93, Sask.

15323. Nov. 10.—Authorizing South Ontario Pacific Ry. (C.P.R.) to divert road between East Flamboro and West Flamboro tps. at mileage 14.43.

15324. Nov. 10.—Approving revised location of C.N.O.R. Sudbury-Port Arthur line, mileage 182.03 to 183.73 from Sudbury Jct.

15325. Nov. 10.—Amending order 15247, Oct.

11, re G.T.R. bridge carrying James St. and street railway, Hamilton, Ont., by striking out last part of order beginning with words "Subject to," in 7th line.

15326. Nov. 10.—Ordering C.N.R. within 30 days, under penalty of \$25 in default, to remove stones from W. J. Elliott's land, Makaroff, Man.

15327. Nov. 10.—Authorizing British Columbia Public Works Department to build highway crossing over Shuswap and Okanagan Ry. at Okanagan Landing.

15328. Nov. 10.—Authorizing G.T.R. to operate trains under Queen St. bridge, Toronto until viaduct plans are finally settled, men not to be allowed on top of cars.

15329. Nov. 11.—Relieving Quebec Ry., Light and Power Co. from further protection of crossing at Limoilou, Que.

15330, 15331. Nov. 11.—Authorizing C.N.O.R. to build bridge on its Sudbury-Port Arthur line over Mackenzie River, mileage 14.67 from Port Arthur, and over Coldwater Creek, mileage 49 east of Port Arthur.

15332. Sept. 12.—Dismissing application of Interprovincial Coal Co., Strathcona, Alta., re rates on coal from Clover Bar to Strathcona, over G.T.P.R., C.P.R. and C.N.R.

15333. Nov. 11.—Authorizing Sarnia Gas and Electric Co. to maintain intake pipe under G.T.R., Sarnia, Ont.

15334. Nov. 10.—Ordering Bell Telephone Co. to install telephone for W. Ellins, on Scarborough Rd., outside of Toronto Jct., within 30 days.

15335. Sept. 15.—Dismissing application of Continental Oil Co., Prairie Oil Co. and Winnipeg Oil Co. for order requiring railways to reduce commodity rates on oil, coal fuel, gas, petroleum, etc., from points in western United States to Winnipeg, Calgary, Regina and Saskatoon.

15336. Nov. 10.—Amending order 14961, Oct. 4, re highway crossings by C.P.R. Manitou Lake Branch, Manitoba, by striking out crossing '6.

15337. Oct. 12.—Authorizing G.T.R. to rearrange existing team tracks across Norwich St., Guelph, Ont., question of protection to be provided at Elora Rd. and Norwich St. to be considered later, and rescinding order 15256.

15338, 15339. Nov. 13.—Authorizing Kettle Valley Ry. to build trestle over Voght Creek and at station 1523, Coldwater Division, south of Merritt, B.C.

15340. Nov. 13.—Authorizing Alberta Central Ry. to cross highways and road diversion between mileage 40 and 64.5, west of Red Deer.

15341. Nov. 11.—Authorizing C.N.R. to cross eight highways with its Maryfield line, Sask.

15342, 15343. Nov. 11.—Approving C.N.O.R. revised location, mileage 68.7 to 76.5, and 70 to 80.8 from Sudbury Jct.

15344. Oct. 31.—Approving plans of C.N.R. standard pile and frame trestles for eastern lines.

15345. Nov. 11.—Authorizing C.N.O.R. to build bridge on its Sudbury-Port Arthur line over Pearl River, mileage 36.04 east of Port Arthur.

15346. Nov. 11.—Authorizing C.N.R. to build spur to Hudson's Bay Co.'s warehouse, south of Union station, Winnipeg.

15347. Nov. 13.—Amending order 12818, Jan. 26, re C.N.O.R. providing crossing without diverting highway in lot 3, con. 2, Gloucester tp.

15348. Nov. 10.—Authorizing G.T.R. to rebuild bridge 83, at mileage 93.50, District 9, Northern Division.

15349, 15350. Nov. 11, 13.—Authorizing C.P.R. to build spurs for E. G. Hazell, at mileage 99.3, on its Crownest subdivision, and for A. T. and W. J. Stephenson, at Red Deer, Alta.

15351, 15352. Nov. 11.—Approving location of Esquimalt and Nanaimo Ry. branch line from Comox, via Cumberland to Alberni, for 11.1 miles, to Great Central Lake, on Vancouver Island, and authorizing it to cross and divert nine highways.

15353. Nov. 13.—Approving location of G.T.P. Branch Lines Co. station at Irricana, on its Tofield-Calgary branch, Alta.

15354. Nov. 11.—Authorizing C.N.O.R. to cross eight highways in Medora tp., Ont.

15355. Nov. 13.—Ordering Atlantic, Quebec and Western Ry. to build farm crossing for J. A. Chedore, Gascon, Que.

15356, 15357. Nov. 13.—Authorizing Kettle Valley Ry. to build pile trestles at stations 1517 and 1468.

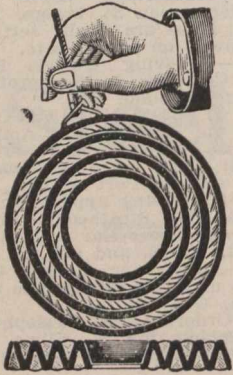
15358. Nov. 10.—Authorizing Midland Ry. of Manitoba (G.N.R.) to use crossing over G.T.P.R., St. Boniface parish, for construction purposes only.

15359. Aug. 10.—Naming express collection and delivery limits for Kenora, Ont.

15360. Nov. 13.—Authorizing C.P.R. to cross seven streets, avenues and lanes in Strathcona, Alta.

15361. Nov. 13.—Authorizing Norfolk

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County Telephone Co. to erect wires across M.C.R. at Main St., Waterford, Ont.

15362. Nov. 13.—Ordering Temiscouata Ry. to restore watercourse to original source or compensate J. A. Nadeau, Caron Brook, N.B., for damage to land.

15363. Nov. 7.—Rescinding order 14943, Oct. 6, re G.T.R. spur to St. Mary's Portland Cement Co.'s premises, Blanshard tp., Ont., and including Cement Co. as party to application.

15364. Nov. 13.—Authorizing C.P.R. to use bridges at mileages 61.64 and 63.33, Lac Du Bonnet subdivision, Man.

15365. Nov. 13.—Authorizing Niagara, St. Catharines and Toronto Ry. to build bridge over Welland canal feeder in lot 27, con. 6 and 7, Crowland tp., Ont.

15366. Nov. 14.—Authorizing G.T.P.R. to build spur for Hardstone Bros., St. Boniface parish, Man.

15367. Nov. 7.—Authorizing C.P.R. to build second track on west side of main line between Highlands, Que., and south switch, to cross Upper Lachine Road, G.T.R. main line, and G.T.R. old main line, by bridges, and to move station at Highlands 350 ft. south.

15368. Nov. 14.—Relieving C.P.R. from further protection of crossing at west end of Dorval station, Que.

15369. Nov. 14.—Rescinding order 11663, Sept. 15, 1910, re crossing Main St., Glen-coe, Ont., G.T.R. to operate gates there day and night.

15370. Nov. 13.—Authorizing Algoma Central and Hudson Bay Ry. to cross under C.P.R. with its Bruce St. extension, Sault Ste. Marie, Ont.

15371. Nov. 14.—Approving C.N.R. revised location through tps. 26-25, r. 23-25, w. 4 m., Alta., from mileage 211.62 (old location) to 224.91 (revised location).

15372. Nov. 13.—Authorizing C.N.Q.R. to cross Montreal St. Ry. at Ontario St., additions to be made to interlocking plant.

15373. Oct. 11.—Approving plans of subway to be built by city of Hamilton, Ont., under G.T.R., near Sherman Inlet, subject to G.T.R. approval of plans.

15374. Nov. 14.—Authorizing Montreal and Southern Counties Ry. Express Department to use certain form of merchandise receipt. This order is given in full on another page, under "Among the Express Companies."

15375. Oct. 27.—Authorizing G.T.P.R. to cross and divert highway in s.w. ¼ sec. 23, tp. 14, r. 27, w. p.m., Man.

15376. Nov. 14.—Approving location of G.T.P. Branch Lines Co. station at Edgeley, Sask.

15377. Nov. 7.—Ordering G.T.R. to erect gates by May 1, 1912, at crossing 300 yds. west of Cornwall station, Ont., 20% from railway grade crossing fund, 20% by Cornwall tp., 25% by town of Cornwall, 55% by company; pending completion, crossings to be protected by day and night watchmen.

15378. Nov. 7.—Adding Government Railways Managing Board as party to proceedings, without prejudice to any contention it may wish to advance, in connection with doing away with level crossings in Montreal.

15379. Nov. 14.—Authorizing C.N.R. to build bridge over Fairford River, Fairford Settlement, Man.

15380. Nov. 13.—Authorizing C.N.R. to open for traffic its Moose Jaw extension from Radville to end of track, 83 miles, and rescinding order 15056.

15381. Nov. 15.—Rescinding orders 13971 and 14536 re C.P.R. bridge in Ops tp., Ont.

15382. Nov. 14.—Authorizing C.N.R. to cross with its Vegreville-Calgary branch the C.P.R. Didsbury-Kininvie branch in s.e. and s.w. ¼ sec. 28, tp. 25, r. 24, w. 4 m., Alta., interlocking plant to be installed.

15383. Nov. 14.—Authorizing G.T.P. Branch Lines Co. to cross highways on its Calgary branch at mileages 98.4 and 98.7, Alta.

15384. Nov. 14.—Ordering G.T.P. to operate gates day and night at John St., Aylmer, Ont.

15385. Nov. 15.—Authorizing Moose Jaw Electric Ry. to cross C.P.R. spur at Seventh Ave., Moose Jaw, Sask.

15386. Nov. 14.—Amending order 15286, Mar. 15, 1910, re rates on binder twine, by adding words "Plymouth Cordage Co." before "Welland," etc.

15387. Nov. 15.—Ordering that crossing of Norfolk St., Simcoe, Ont., by G.T.R., be protected by watchman between 7 a.m. and 7 p.m. daily.

15388. Nov. 16.—Approving location of G.T.P. Branch Lines Co. station at Cudworth, Sask.

15389. Nov. 14.—Authorizing C.P.R. to extend spur into Martin Senour Co.'s premises, St. Boniface, Man.

### Great Northern Railway Lines in Canada.

In the annual report for the year ended June 30, the following references are made to construction on lines owned and controlled by the company in Canada and to those approaching the International boundary:

The expenditure on construction of new lines and purchase of property charged to cost of road amounted to \$2,407,367, but it is not shown how much of this was expended in Canada. Of the lines under construction tracklaying has been started on the line from Stanley to Wildrose, N.D., and the work is expected to be completed by the end of the year. This branch will be 51 miles, its present terminus being on the North Dakota-Montana boundary, about 25 miles south of the International boundary. The branch line from Bainville to Plentywood, Mont., 53.19 miles, has been in operation since March. Plentywood is about 20 miles south of the International boundary. Grading has been completed from Oroville, on the Washington section of what is in British Columbia, the Vancouver, Victoria and Eastern Ry., southerly to Pateros, 70 miles. Work has been continued during the year on the V.V. and E.R. and N. Co.'s lines. On the line between Princeton and Tulameen, B.C., the grade has been completed for 14 miles and track will be laid this fall from Princeton to Coalmount. (Since the date of the report this track has been laid). About 14 miles of grading is being proceeded with between Abbotsford and Chilliwack, at the east end of the line. There has been added during the year 1.02 miles of side tracks on the Canadian lines. The work of reducing the line grade at Vancouver, mentioned in previous reports, has been completed, the grade having been reduced from a maximum of 2.54 to 1% for 8,200 ft. A portion of the material removed has been used in filling in a part of the bed of False Creek and so enlarging the company's terminal property in Vancouver. Particulars of the cost of lines in Canada, etc., are given on another page under "Great Northern Ry. Co.'s Annual Report."

The following is our own compilation of current construction news:

**Fort William, Ont.**—A party of engineers, said to be in the G.N.R. employ, has been at work for some time west of Fort William, and was at the beginning of Nov. working in Blake tp.

The city council had under discussion Oct. 26, the question of building a bridge across Mission River in the vicinity of Island No. 2. In the course of the discussion, Alderman Hamilton stated that if the bridge did not materialize it might result in the acquisition of the island by another railway company. In a subsequent interview, he declined to say anything further about the matter.

**Midland Great Northern Ry.**—Midland Ry. of Manitoba.—The Board of Railway Commissioners has authorized the M.R. of M. to connect with the Canadian Northern Ry., and to cross the Grand Trunk Pacific Ry. in parish lot 55, St. Boniface, Man., the interlocking plant there to be enlarged.

Grading for the line from Oak Point Jct. to the freight yards on Isabel St., Winnipeg, has been completed, and the laying of the track and the finishing of the line is expected to be completed early in Dec. The steelwork for the viaducts crossing several streets is practically finished. The freight yard has been laid out, and the building of the freight shed is well forward. This building is 600 by 50 ft. At Oak Point Jct. are located a four-stall locomotive house, section foreman's house, yard office, coaling platform and some other small buildings. The contractor for the building of the line was A. Guthrie, St. Paul, Minn., and

the buildings are being put up by the J. McDiarmid Co., Winnipeg.

A number of G.N.R. traffic officers were in Winnipeg, Nov. 10, inspecting the work in progress. W. P. Kenny, General Traffic Manager, is reported as stating that the company would be running its own freight trains into Winnipeg, over its own line, and into its own terminals by Jan. 1, 1912.

**Vancouver, Victoria and Eastern Ry. and Navigation Co.**—Tracklaying is reported to have been completed as far as the fourth crossing of the Tulameen River, B.C. From near this point a branch line has been surveyed to Ash-nola, where the B.C. Copper Co. is carrying on operations, and it is reported that the line will be built at an early date. Plans of the revised location of the line from Hope to the western boundary of Yale district, 24.17 miles, have been approved by the Board of Railway Commissioners.

The company is acquiring some additional lands in the vicinity of False Creek, Vancouver, in connection with its development there, and arbitration proceedings in connection therewith are in progress. A start has been made in laying out the site south of False Creek, where the freight yards are to be situated. For this four tracks are being laid east, and two west, from Main St. The piling and filling in of the area to be levelled up is in progress. The filling is being done from the head of False Creek westward to where the union station will be located at the foot of Park Lane. The material for this filling in is being brought from Sapperton, about 13 miles, and additional material will be secured when the present cut through Grandview is deepened, as projected.

The Board of Railway Commissioners has authorized the company to build a dock and warehouse on Burrard Inlet. (Nov., pg. 1053.)

### A Railway to Hudson Bay.

In a recent interview J. D. McArthur, of J. D. McArthur & Co., who have the contract for building the first section of 143 miles of the projected Dominion Government railway to Hudson Bay, stated that all preliminary work was well started and would be continued. The starting point of construction will be the north bank of the Saskatchewan River at Pas Mission, at which point the supply camp has been located and where has been concentrated the construction plant, and the necessary supplies for distribution along the route, as soon as construction gangs go in. It is intended to establish camps and distribute supplies during the winter. Construction will be proceeded with at several points, particularly where there is any rock work. The greater part of the work is light. It is anticipated that the grading for the 143 miles from Pas Mission to Split Lake will be completed by the end of 1912.

The construction of the bridge across the Saskatchewan River at Pas Mission is reported to be well advanced and it is expected to be completed during 1912. (Nov., pg. 1053.)

John A. Tait, District Freight Agent, Canadian Northern Ry., Regina, Sask., writes:—"I enclose money order to pay my subscription, which is just expiring, to your valuable publication, The Railway and Marine World, and also another year's subscription in advance. It is needless to say that I enjoy reading the many interesting and instructive matters contained in your paper from month to month."

Mrs. G. C. Royce, wife of Major Royce, Manager of the Toronto Suburban Ry., has been elected a member of the executive of the Toronto Women's Rifle Club.

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Vanadium Crucible Steel Castings are now being used in sizes up to 200 pounds weight.

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## TORONTO AND TRENTON NEW LINE--NOW OPEN

Effective Monday, Oct. 9, 1911

### CONDENSED TIME TABLE

Eastbound—Read down.		STATIONS.	Westbound—Read up.	
No. 10 P.M.	No. 8 A.M.		No. 7 P.M.	No. 9 P.M.
6.30	9.30	... TORONTO	1.00	9.30
9.00	12.00	... Port Hope	10.30	7.00
9.15	12.15	... Coburg	10.15	6.45
9.43	12.43	... Colborne	9.47	6.17
10.00	1.00	... Brighton	9.30	6.00
10.20	1.20	... TRENTON	9.10	5.40
P.M.	P.M.		A.M.	P.M.

For Time at Intermediate Points, See Time Tables

Trains run daily, Sunday excepted. Solid, Wide, Vestibuled Trains.

#### Dining Car Service

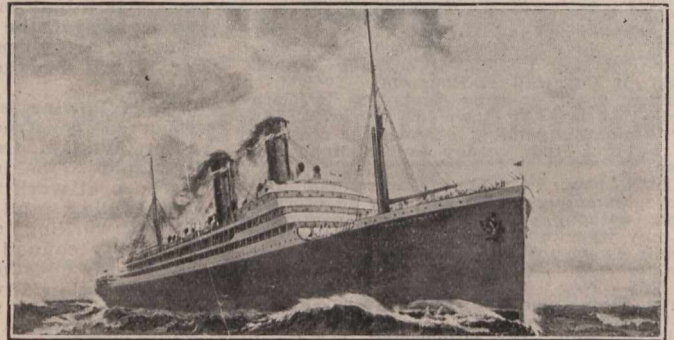
Toronto to Trenton, on Train No. 8. Trenton to Toronto, on Train No. 9.

#### Parlor Cars On All Trains

Trains run from and to Union Station, Toronto. Union Station with Central Ontario Railway is located in centre of Town of Trenton. All Central Ontario Railway Trains make close connections at Trenton Union Station with above trains.

GEO. H. SHAW,  
General Traffic Manager,  
Toronto, Ont.

R. L. FAIRBAIRN,  
Asst. Genl. Pass. Agent,  
Toronto, Ont.



## THE ROYAL LINE

MONTREAL-QUEBEC TO BRISTOL

(Summer Service)

HALIFAX TO BRISTOL

(Winter Service)

### ROYAL GEORGE AND ROYAL EDWARD

Their equipment and interior appointments are of the most luxurious and modern description, and all the conveniences and comforts that make for an enjoyable voyage have been thoroughly anticipated. Marconi wireless, deep sea telephones, passenger elevators, thermo-tank system of ventilation, superbly appointed cabins.

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GEO. H. SHAW,  
Gen. Traffic Manager,  
Toronto, Ont.

WM. PHILLIPS,  
Gen. Freight and Pass. Agent,  
Toronto, Ont.

### Canadian Pacific Railway Construction, Betterments, Etc.

**St. John, N.B.**—The filling up of the old lumber pond at the head of St. John harbor has been completed, and work was started, Nov. 9, on the erection of a warehouse on the site reclaimed. The building will be 400 by 40 ft.

**Aroostook Jct.**—The Board of Railway Commissioners is being asked for authority to take possession of certain lands at Aroostook Jct., N.B., for additional tracks.

**Quebec Station, etc.**—The mayor, in an interview Nov. 4, stated that on the recent visit of D. McNicoll, Vice President, C.P.R., to the city, he said that the company was desirous of facilitating communication between the wharves and the railway yards, and showed plans which it had under consideration for the extension of its facilities there. They showed yards at St. Malo, where property has been acquired, with tracks along the St. Charles River to near the General Hospital, where they would be connected with the existing line into the city. Other property would be acquired, and a new station would be built. When details have been worked out the plans would be submitted to the city for approval.

**Western Junction, Montreal.**—Considerable progress has been made towards the completion of the new yards. The object in building this terminal yard was to relieve the Outremont yard, where practically all the through freight is now sorted. Western Junction will be the make-up point for all southbound trains. A 24-stall roundhouse is under construction. The yard is to be a plain poling one, and the present small capacity is being augmented by the addition of eight new tracks with necessary roundhouse tracks, ashpits, etc. These new sidings are of sufficient length to handle 85 car trains. As a part of the improvement scheme at this place, it is reported a boarding house for the men may be erected. The work now being carried out only represents about a third of the scheme mapped out for the future.

**Ottawa Entrance, etc.**—The matter of the entrance of the railway into the city, which has been under consideration for some time, was down for hearing before the Board of Railway Commissioners Nov. 7, but was postponed. The plans showing what it is proposed to do are, it is said, being prepared at Montreal under the direction of N. Cauchon, consulting engineer, but it was found impossible to complete them before Nov. 7.

D. McNicoll, Vice President, had an interview with representatives of the city council Oct. 24, when he stated that the objections made to the tunnel project would be met by the amended plans which were being prepared, and that as soon as the necessary authority was obtained, work would be started. A new station would also be built on Canal St., to the south of Tupper's Bridge. A local report states that there will be a 0.4% gradient in the tunnel, and that electricity will be used as a motive power.

**Montreal-Toronto Second Track.**—The Board of Railway Commissioners has authorized the opening for traffic of the second track recently completed from Smiths Falls to Glen Tay, Ont., 16 miles. Glen Tay is the point from which the new line is projected under the charter of the Campbellford, Lake Ontario and Western Ry. to and along the Lake shore to the Montreal-Toronto line between Locust Hill and Leaside Jct.

Location plans have also been approved by the Board for the section from Cobourg to the westerly limit of Belleville, across the city, to mileage 2.3.

**Campbellford, Lake Ontario and Western Ry.**—The Board of Railway Commissioners has approved location plans from mileage 0, at Glen Tay, on the C.P.R. Montreal-Toronto line, to the western boundary of South Sherbrooke tp., 15.1 miles.

**Georgian Bay and Seaboard Ry.**—Ballasting the last portion of this line to be completed to Bethany Jct., on the C.P.R. Montreal-Toronto line is being proceeded with rapidly. It is expected that everything will be ready for opening for traffic by Dec. 15. The line extends from Bethany Jct. to Victoria Harbor, Georgian Bay.

**West Toronto Yard Extensions, etc.**—The application of the C.P.R. as exercising the franchises of the Ontario and Quebec Ry. for the right to expropriate certain lands in West Toronto in connection with its yard extension and other improvements came before the Board of Railway Commissioners at Ottawa, Nov. 14. This application is in addition to the lands authorized, Nov. 2, to be taken for the proposed roundhouse, machine shops, etc.

**South Ontario Pacific Ry.**—The Board of Railway Commissioners has authorized the connecting of this line from Guelph Jct. to Hamilton, Ont., with the Toronto, Hamilton and Buffalo Ry. at Hamilton, mileage 16.17 from Guelph Jct.

Application is being made for final sanction of a lease of the company's line from Guelph Jct. to Hamilton, now being completed, to the C.P.R. for 999 years from Jan. 1, 1912.

Application is being made to the Dominion Parliament to authorize the building of a railway from Hamilton southerly and easterly to the Niagara River.

**Spur Line at Guelph.**—An extension of time has been granted by the Board of Railway Commissioners for the building of the spur to the Provincial Reformatory farm, Guelph, Ont.

**Entrance to Stratford.**—H. W. Killaly, Engineers of Surveys, Montreal, is in charge of the surveys being made to secure a route through Stratford, Ont., for the projected branch of the Guelph and Goderich Ry., from near Millbank, and for the extension of the Tillsonburg, Lake Erie and Pacific Ry., or the St. Marys and Western Ontario Ry., which are to meet there.

**London Roundhouse, etc.**—Work has been completed on the new roundhouse on Quebec St., and it is expected the coaling plant and watering tank will be completed by Dec. 31. The yard round the new roundhouse is being laid out, but will not be finished until early in the new year.

**Bridge at Sault Ste. Marie.**—We are advised that designs for a 336 ft. double leaf, single track bridge over the new U.S. ship canal at Sault Ste. Marie, Mich., have been accepted. This bridge will form part of the connection between the C.P.R. at Sault Ste. Marie, Ont., and the Minneapolis, St. Paul and Sault Ste. Marie Ry. at Sault Ste. Marie, Mich.

**Port Arthur-Fort William Second Track.**—The Board of Railway Commissioners has authorized the opening for traffic of the second track between Port Arthur and Fort William, Ont., 4.2 miles.

**Fort William Sidings.**—The Fort William city council notified Superintendent Armstrong, Nov. 2, that it could not grant the use of any streets for sidings except on condition that the city could take them over at any time. This and some other questions affecting the interpretation of the agreement with the company were discussed by George Bury, Vice President and General Manager, and the mayor, Nov. 11.

**Graham, Ont.**—The Board of Railway Commissioners has approved location plans for a slight deviation of the main line near Graham station, Ont., at mileage 95.16.

**Winnipeg Terminals.**—A press report Nov. 14 states that the company is preparing plans for increasing the accommodation at the Winnipeg terminals. It is stated that new yards will be built outside the city.

**Express Building for Winnipeg.**—The C.P.R. has started work on a building on Main St., Winnipeg, opposite the station, to be used by the Dominion Express Co. It is to have a frontage of 50 ft., beside the subway, and will extend to King St., 300 ft., where it will have a frontage of 80 ft. The building will be four stories high, over a basement. The contractors are John Gunn and Co., Winnipeg.

**Carberry to Douglas.**—The Board of Railway Commissioners has authorized the opening for traffic of the portion of the Brandon subdivision between Carberry and Douglas, Man., 16 miles, this being a portion of the second track now under construction between Portage la Prairie and Brandon.

**Brandon Yards.**—The company is laying out a yard on Rosser Ave., just south of the industrial spur for city freight. Local reports stated Nov. 11 that it is intended to build a new freight shed early in the new year.

**Boissevain to Lauder.**—The Board of Railway Commissioners has approved location plans for the branch from Boissevain to Lauder, Man., between sec. 22, to 3, r. 20, northwesterly to sec. 17, tp. 5, r. 24, west principal meridian.

**Manitoba and North Western Ry.**—Application is being made to the Dominion Parliament to authorize the building of a branch from Theodore westerly to the C.P.R. Pheasant Hills branch between Govan and Lanigan, Sask.

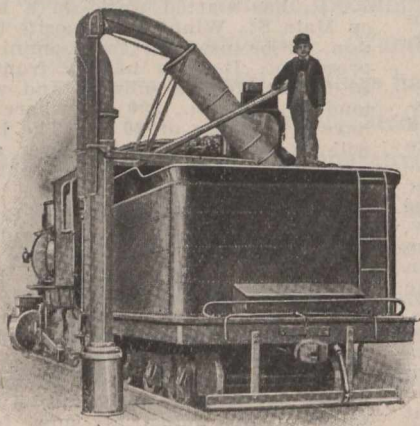
**Proposed Extensions of Western Lines.**—Application is being made to the Dominion Parliament for power to build the following branch lines: from Hawarden on the Moose Jaw Northwesterly branch, to near Floral or Cheviot, on the Pheasant Hills branch, Sask.; from the Estevan-Forward branch to the Weyburn-Lethbridge branch, Sask.; from Sedgewick, on the Hardisty subdivision, southerly to tp. 39 or 40, range 10, 12 or 13, west 4th meridian, Alta.; from near Wilkie, on the line authorized by sec. 3 (c), chap. 74, statutes of 1907, northwesterly and northerly to the North Saskatchewan River in tps. 51 to 56, ranges one to eight, west 4th meridian, Sask. or Alta.; from near Kipp, on the Crowsnest branch, easterly and northeasterly to tp. 12 or 13, range 12 or 13, west 4th meridian, Alta.; from the authorized terminus of the line from Asouith, authorized by sec. 3 (c), of the C.P.R. Act of 1910, northwesterly to Battleford, Sask.; from Irricana easterly and southeasterly to tp. 20 or 21, ranges 11 to 14, west 4th meridian, Alta.; from Osborne to Cartwright and Boissevain, Man.; from Otterburn to Stuartburn, Man.; from the Icelandic River northerly and northeasterly for 100 miles, and from Killam to near Strathcona, Alta., and also to make the terminus of the line from Lauder westerly near Stoughton, on the Arcola branch.

**Second Track Work on Western Lines.**—In a recent interview the President, Sir Thomas Shaughnessy, is reported to have stated that the company would have to continue second track construction in the west. We are advised that the second track through from Winnipeg to Brandon, Man., will be fully completed this year, and that when the appropriations are being considered in the near future a decision will be



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## IRON AND STEEL WIRE ROPES

reached as to what work will be done next year.

Grading for about 20 miles of second track east and west of Moose Jaw, Sask., between Pasqua and Caron, has been in progress during the past season.

**Transfer Track at Balcarres.**—The Board of Railway Commissioners has directed the C.P.R. and the Grand Trunk Pacific Ry. to build a transfer track for the interchange of traffic at Balcarres, Sask.

**Regina-Colonsay-Bulyea Branch.**—The company opened for traffic Nov. 5 its completed line out of Regina, extending via Craven to Colonsay, on the extension of the Manitoba and North Western Ry., from Yorkton into Saskatoon. The total length of the branch, part of which was in operation in 1910, is 133 miles. At Valeport, at the southern end of Lost Mountain Lake, a branch of 19 miles extends to Bulyea, on the Pheasant Hills branch. This branch was also opened for traffic Nov. 5.

**Regina Southeasterly.**—Local press reports state that arrangements are being made for starting construction early in 1912 on a line from Regina towards the International boundary, near Portal. It is stated that the right of way as far as Griffin, Sask., was purchased a year or so ago, and that right-of-way agents are now working beyond Griffin.

**Saskatoon Improvements.**—The Saskatoon city council is applying to the Saskatchewan Legislature for confirmation of an agreement with the C.P.R. for the purpose of effecting certain improvements in the city.

**Cutknife Branch.**—Tracklaying was started Oct. 27, on the branch running northerly from Wilkie, Sask., into the Cutknife district, on which grading has been completed for about 30 miles.

**Wilkie-Anglia Branch.**—The Board of Railway Commissioners has approved the location of this branch between mileage 7.46 and 24.90. This branch will form another connection between the Pheasant Hills branch and the Manitoba and North Western Ry. extension, which effects a junction at Macklin, Sask.

**Asquith to Conquest, Sask.**—The branch which it is proposed to build will be practically a straight line of 42 miles, crossing the G.T. Pacific Ry. and the Canadian Northern Ry. Goose Lake branch. It will connect at additional points, the extension of the Manitoba and North Western Ry. from Yorkton to the Calgary and Edmonton Ry. Westaskiwin branch with the Moose Jaw northwesterly branch, which now joins it at Macklin.

**Moose Jaw Northwesterly.**—The Board of Railway Commissioners has authorized the opening for traffic of the extension of this branch from Kerrobert to Conquest, Sask., 93.07 miles.

**Moose Jaw Southwesterly.**—The route map has been approved for this projected branch southerly from near the starting point of the Outlook branch to south of Lake Johnston, 35 miles. This is a revised location of the route approved in 1910. The plan then approved showed the line to near the same points, but continuing the Weyburn-Lethbridge line now under construction.

**Swift Current Northwesterly.**—The Board of Railway Commissioners granted permission Nov. 2 for the operation of a train service over the completed branch line northwesterly from Swift Current, Sask.

**Medicine Hat to Shepherd, Alta.**—The route plan of a projected line from Medicine Hat to Shepherd is before the Minister of Railways at Ottawa for ap-

proval. The projected line runs north of Grassy Lake, crosses the Bow River, west and north through the Sundial country, and then northwesterly by Lake McGregor and Queenstown, crossing the Bow River south of Cheadle, and running into Shepherd, where it will connect with the main line.

**Bassano to Irricana.**—The Board of Railway Commissioners has approved location plans of a branch from Bassano, on the main line, to the branch from Irricana easterly, 22 miles.

**Calgary Hotel.**—A contract has been let to P. Lyall and Sons, Montreal, for the erection of a C.P.R. hotel at Calgary, Alta. The contractors were reported, Nov. 14, to be making arrangements for starting on the building, which is to be ready for opening in the spring of 1913. The foundation contract, which was let some months ago, is nearly completed.

**Calgary Shops.**—A survey party has been at work since Nov. 1 laying out the site of the proposed shops, etc., at Calgary. It is expected that a considerable number will be employed during the winter preparing the foundations, etc.

**Strathcona-Edmonton High Level Bridge.**—A large quantity of steel for the superstructure of the bridge to connect these two points has been delivered. The contractors have got most of the falsework in place, and expect to get on with the erection at an early date.

**Royal Collieries Co.**—Permission has been granted by the Board of Railway Commissioners for the building by the C.P.R. of two spurs for the Royal Collieries Co. at Royal View, near Lethbridge, Alta.

**Macleod to Frank, Alta.**—The Board of Railway Commissioners has approved location plans for a branch from Macleod to Frank, Alta., 54.52 miles.

**Kipp-Aldersyde Branch.**—The Board of Railway Commissioners has authorized the opening for traffic of a further section of this branch from Carmanag, mileage 28.2, to Aldersyde, mileage 84.2, from Lethbridge, Alta.; the extension was opened Nov. 5.

**Fort Steele to Skookumchuck, B.C.**—Press reports state that a contract has been let to Foley, Welch and Stewart to build a line from Fort Steele to Skookumchuck, about 50 miles.

**Kootenay Central Ry.**—Application is being made to the Dominion Parliament for an extension of time for the building of the lines already authorized and for power to build a branch from the C.P.R. Crowsnest branch near Galloway, B.C., southerly to the International boundary.

**Improvements at Coquitlam, B.C.**—A bylaw approving the agreement between the council and the C.P.R. with reference to the laying out of yards, etc., at Coquitlam was voted on by the taxpayers Nov. 18, and passed by a majority of 136, only six voting against it.

**Victoria Hotel.**—A contract has been let to Skene and Christie, Victoria, B.C., for the erection of a six story addition to the Hotel Empress, Victoria. Work was started Nov. 1, under the charge of J. L. Skene.

**Esquimalt and Nanaimo Ry.**—The steel bridge, replacing the wooden trestle across Niagara Canyon, has been completed and will be opened for traffic as soon as it has been accepted from the contractors.

The Board of Railway Commissioners has approved location plans for a branch line from Comox, via Cumberland, to Alberni, 11.1 miles, and to Great Central Lake.

A contract has been let, we are officially advised, to the Westholme Lum-

ber Co. for clearing the right of way for the extension of the E. and N. Ry. between McBride Jct. and Union Bay. This extension is about 40 miles, and starts from the main line, where the line to Alberni branches off. The contractors are reported to have started work, and will push it forward rapidly, as it is intended to start grading as soon as possible.

The extension into Port Alberni will, it is expected, be put in operation early in Dec.

Application is being made to the Dominion Parliament to increase the company's bonding powers and give it power to build the following additional lines: from near the north fork on the Oyster River, on the line authorized by par. a, sec. 2, chap. 92 of the statutes of 1906, northerly and northwesterly to Hardy Bay, on the west coast of Vancouver Island. (Nov., pg. 1060a.)

### Canadian Pacific Railway Hotel Extensions.

Travel on the C.P.R., particularly through the west, has grown so enormously that extensive additions to many of the hotels on the system are being planned. The hotels at Banff, Lake Louise, Field and Glacier were forced almost daily during the past season, to turn away tourists.

At St. Andrews, N.B., the accommodation of the Algonquin Hotel has been increased, bringing the number of rooms up to nearly 250. The McAdam Hotel at McAdam Jct., N.B., has been recently added to.

While it was expected when the Royal Alexandra at Winnipeg was being built that sufficient accommodation had been provided for at least 20 years, its extension has already become necessary.

The new Calgary hotel, to contain 350 rooms, is being fitted up with the most modern conveniences, the work being rushed with the idea of early completion.

The Banff Springs hotel is also having extensive additions built in, the main part consisting of a centre wing to contain 100 rooms. New employees' quarters are also being built. The new sulphur water swimming pool will be completed for the 1912 season. These pools are tiled throughout. A considerable number of artisans will be retained on these improvements all winter.

At the Lake Louise hotel there is to be an immediate addition of at least 125 rooms, making a total of nearly 250. There will also be added more kitchen space, and a new boiler plant and laundry. A detached employees' quarter, as at Banff, is being built.

At Balfour, B.C., the new Kootenay Lake hotel, situated on the lake of the same name, was opened last August.

At Glacier, B.C., the Glacier House is having another 100 rooms added, making a total of 190 in all.

The Fraser Canyon House at North Bend, B.C., was recently re-opened after thorough renovation. It has 16 bedrooms.

Extensive additions and improvements are being carried out at the Hotel Vancouver, which when completed, will bring the rooming capacity up to 600. The improvements include a new centre part, kitchen, dining room and grill room. This year, in spite of the two new additions recently put up containing 58 and 72 rooms, respectively, the management was heavily handicapped for room.

At Victoria, B.C., the Empress is having another 70 rooms added to its original number of 220, which at the time of construction was deemed sufficient for the next five years.

The C.P.R. has now 2,000 men enrolled in classes for first aid to the injured, at about 100 points on its lines.

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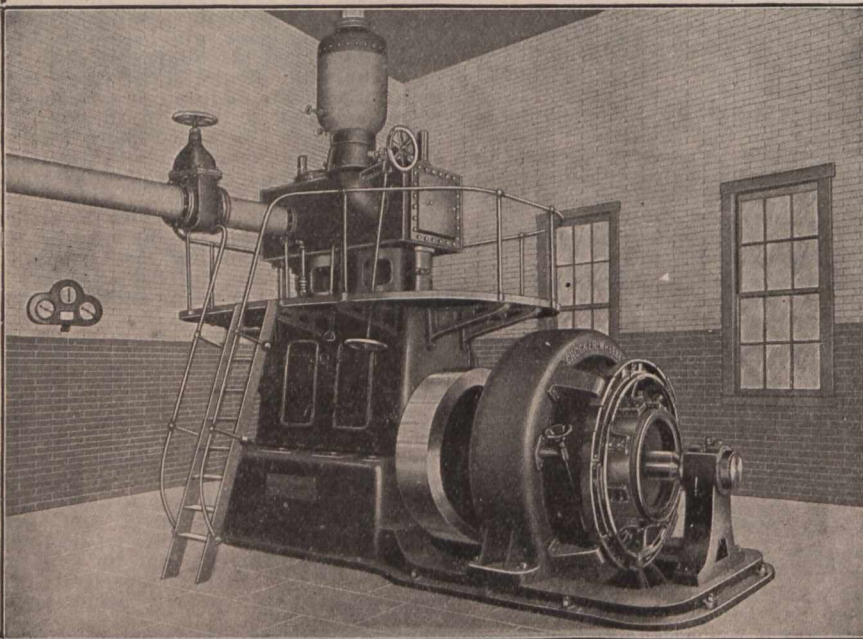
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Union Bank Building, Winnipeg	- W. F. Porter, "
Grain Exchange Bldg. Calgary	- J. F. Porter, "

**Traffic Orders by the Board of Railway Commissioners.**

Summaries of other orders are given on another page, under "Orders by the Board of Railway Commissioners."

**EXPORT LUMBER RATES TO MONTREAL.**

14964. Sept. 19.—Re application of Robert Cox and Co. complaining that the rate charged by the C.P.R. on lumber from Routhier, Que., to Montreal, for export, was excessive and discriminatory, it is ordered that the company reduce its export rate on lumber from Loranger, Hebert and Campeau to 5c. per 100 lbs., and from Routhier and Mont Laurier to 6c. per 100 lbs., and that the company file a tariff making the said rates effective not later than Oct. 18.

**RATES ON HAY TO EASTERN U.S. POINTS.**

15080. Oct. 12.—Re application of Montreal Board of Trade Transportation Bureau, on behalf of the shippers of hay of the city of Montreal, under sec. 323 of the Railway Act, for an order disallowing the increased rates on hay from Ontario and Quebec to eastern United States points, which otherwise will become effective on Oct. 16, and reinstating the present rates of the Grand Trunk, Canadian Pacific, Canadian Northern, and Quebec, Montreal & Southern railway companies: Upon representations made to the Board by the Freight Traffic Manager of the G.T.R. on behalf of the carriers which have published and filed tariffs of advanced rates on hay and straw from points in Canada to points in the U.S., to become effective Oct. 16, that the carriers desire to postpone the effective date of the said tariffs until Jan. 1, 1912: It is ordered that the effective date of the said tariffs published and filed by the Grand Trunk, Canadian Pacific, Canadian Northern Ontario, Canadian Northern Quebec, Quebec, Montreal & Southern, Central Vermont, Ottawa & New York, Central Ontario, Thousand Islands, and Lotbiniere & Megantic railway companies, and the New York Central & Hudson River and Rutland railroad companies, be postponed until Jan. 1, 1912, until which date the tariffs on hay and straw, lawfully in force from and to the said points at the date of this order, shall not be increased. And it is also ordered that the said companies be required to justify the said advanced rates at a sittings of the Board to be held at Ottawa on Nov. 21, 1911.

**ADJUSTMENT OF FREIGHT CLAIMS.**

15141. Sept. 15.—Re application of Canadian Freight Claims Bureau of Winnipeg, complaining of delay by Canadian Pacific and Canadian Northern railway companies in payment of claims for overcharges caused by referring complaints to Montreal for adjustment, and applying for an order requiring that the same be investigated and disposed of at Winnipeg. It appearing that the Board has no jurisdiction to afford the relief asked for, the application is hereby dismissed.

Commissioner McLean gave the following judgment: The complaint as launched was directed against both the C.N.R. and the C.P.R. At the hearing, the complaint as to the C.N.R. was withdrawn by the applicants. The complaint in brief is that when a claim for an overcharge is filed, it has to be sent to the head offices of the company at Montreal; thence it is returned to Winnipeg to be examined into; then it is returned to Montreal with the report of the railway official who has looked into it; and that, thereafter, the settlement, if any, is made from the Montreal office. It is alleged that this involves an unnecessary delay. The applicants desire that the claims should be investigated and settled at the Winnipeg office. It appears that the C.P.R. has its

Freight Claims Auditor at Montreal, to whom all claims are sent either by the claimant or the local representative of the company with whom the claim may have been lodged. The central claims office is a recognized institution with all large railways. It is only appears that the more extensive the company's operations, the greater necessity for centralization in the matter of disbursements. There was at one time a branch claims office at Winnipeg, but I understand that when this was in existence it was none the less necessary to have the vouchers signed in Montreal. A. J. Beatty, who appeared for applicants, stated at the hearing that he was unable to find anything in the Railway Act which empowered the Board to order claims to be paid at Winnipeg, and that whatever might be urged by him in this matter was a matter of inference from the Board's powers as to rates. Under sec. 78 of the Railway Act, the tolls and tariffs legally in force are conclusive against the railway in case of prosecution under the Act. Sec. 398 sets out the penalties attaching to the disregard of the provisions of the Act in respect of tolls. It is established that the Board has no power, under the Railway Act, to order the refund of such portion of a rate as is in excess of the legal rate. If, on determination by the Board that there is such excess, the railways refuse to refund, then the remedy is by action in the courts. The powers of the Board being so limited as to a matter in which it makes a formal adjudication, it follows with greater force that in the matter of an alleged overcharge, as to the conditions of which the Board is not cognizant, it has no jurisdiction to determine when and where such refund shall be made. Parliament not having spoken in the matter, the Board has no jurisdiction, and the application fails.

**UNPREPAID JOINT FREIGHT TRAFFIC.**

The Board on Nov. 11 notified railway companies that it would require them on Nov. 21 to show cause why a regulation should not be made that in transferring to a second carrier unprepaid joint freight traffic, they should show that carrier how their charges are made up; the second, or delivering, carrier to show the information in its advice note to the consignee. A second circular, issued Nov. 14, postponed the hearing to Dec. 19.

**Oil Fuel For C. P. R. Locomotives in British Columbia.**

As announced in our issue of June last, the C.P.R. has decided to use crude oil for fuel for the locomotives on a portion of its British Columbia Division. We are now further officially advised that circular tanks of rivetted steel boiler plate, with a capacity of 200,000 gallons, will be built on the Shuswap and Mountain subdivisions of the first district of the B.C. division, at Field, Golden, Roger's Pass, Revelstoke, Sicamous Jet., Notch Hill and Kamloops.

We are also advised that the only change necessary in the locomotives will be the insertion of jet burners in the fire boxes. The tenders will be changed to hold oil instead of coal.

The Master Boiler Makers Association will hold its next convention at Pittsburgh, Pa., May 14-17, 1912. J. Rogers Flannery, of the Flannery Bolt Co., is secretary of arrangements.

P. A. Freeman, General Superintendent and Chief Engineer, Halifax Electric Tramway Co., read a paper on "Development of Electric Power at the Pit Mouth" at the annual meeting of the Nova Scotia Society of Engineers recently.

**Canadian Northern Railway Earnings, Expenses, Etc.**

Gross earnings, working expenses, net profits, increases or decreases, compared with those for 1910-11, from July 1, 1911:—

		Net	
Earnings.	Expenses.	Earnings.	Net Increase
July \$1,475,900	\$1,114,300	\$361,600	\$13,400
Aug. 1,420,600	1,105,900	314,700	51,700
Sept. 1,576,400	1,157,000	419,400	83,200
\$4,472,900	\$3,377,200	\$1,095,700	\$103,300
Inc. 874,900	771,600	103,300	.....

Approximate earnings for October, \$2,028,900, and for two weeks ended November 14, \$1,030,000 against \$1,627,800 and \$737,100, for same periods 1910.

**Canadian Pacific Railway Earnings, Expenses, Etc.**

Gross earnings, working expenses, net profits, increases or decreases, compared with those for 1910-11, from July 1, 1911:—

		Net.	
Earnings.	Expenses.	Profits	Net Increase.
July \$9,661,818.14	\$5,958,789.81	\$3,703,028.33	\$218,408.74
Aug. 10,421,904.42	6,346,333.41	4,075,571.01	383,898.68
Sept. 10,049,084.97	6,131,638.17	3,917,446.80	5,847.16

\$30,132,807.53 \$18,436,761.89 \$11,696,046.14 \$608,154.58  
Inc. 2,693,047.87 2,034,893.29 609,154.58 .....

Approximate earnings for October, \$11,113,000, and for two weeks ended November 14, \$4,979,000, against \$10,150,000 and \$4,375,000 for same periods 1910.

**Grand Trunk Railway Earnings, Expenses, Etc.**

The following figures show the earnings and expenses of the G.T.R., C.A.R., G.T. Western Ry. and D.G.H. & M.R. for Sept., as compared with those for Sept., 1910:—

GRAND TRUNK RAILWAY.			
		1911.	1910.
Earnings	.....	\$3,458,600	\$3,217,700
Expenses	.....	2,476,200	2,269,200
Net earnings	.....	\$ 982,400	\$ 948,500
CANADA ATLANTIC RAILWAY.			
		1911.	1910.
Earnings	.....	\$ 184,400	\$ 175,800
Expenses	.....	156,700	158,700
Net earnings	.....	\$ 27,700	\$ 17,100
GRAND TRUNK WESTERN RAILWAY.			
		1911.	1910.
Earnings	.....	\$ 560,000	\$ 529,600
Expenses	.....	431,600	402,100
Net earnings	.....	\$ 128,400	\$ 127,500
DETROIT, GRAND HAVEN AND MILWAUKEE RY.			
		1911.	1910.
Earnings	.....	\$ 206,500	\$ 184,900
Expenses	.....	149,500	147,700
Net earnings	.....	\$ 57,000	\$ 37,200

Approximate earnings for Oct., \$4,468,718, and for two weeks ended Nov. 14, \$1,916,798, against \$4,180,039 and \$1,802,180 for same periods, 1910.

**TRAFFIC RECEIPTS OF THE SYSTEM.**

Aggregate from July 1 to Oct. 31:—

		1911.	1910.
Grand Trunk Railway	.....	\$2,834,963	\$2,481,267
Canada Atlantic Railway	.....	155,660	137,289
Grand Trunk Western Ry.	.....	465,435	403,703
Detroit, Grand Haven and Milwaukee Ry.	.....	164,179	136,562
Totals	.....	\$3,620,257	\$3,158,821

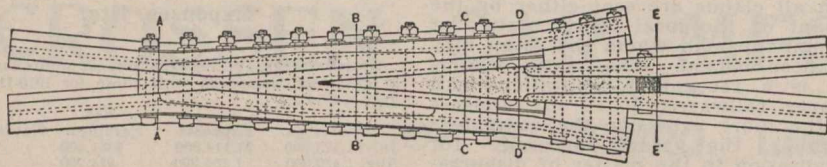
**Quebec Public Utilities Commission.**

The Commission has passed the following orders recently:—

Authorizing the Shawinigan Water and Power Co. to cross the Shawinigan Terminal Ry. Co.'s line and divert a roadway.

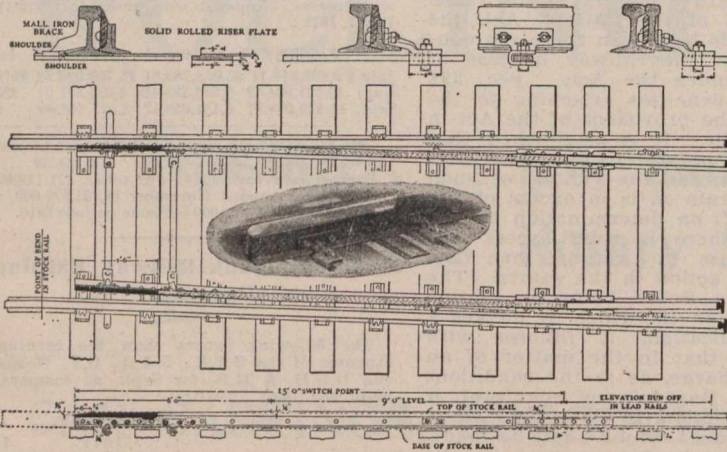
Approving the C.P.R.'s plans for a bridge over the branch of the St. Maurice River at Cap de la Madeleine, to connect with Belle River Island.

Authorizing the Quebec County Ry. to operate the extension of its upper town line from St. Louis St. to St. George St., and along St. George St. to St. Edward St., two-thirds of a mile.



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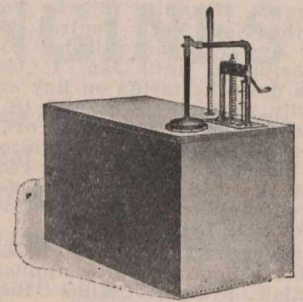
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## RAILWAY DEVELOPMENT.

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

**Alberta Central Ry.**—The Board of Railway Commissioners has approved the deviation of location for the line between mileage 0 and 64.5 west of Red Deer, Alta.; and plans of bridges over Medicine River, Horseguard River, mileage 50, and Fleming's Creek, mileage 60.1, all west of Red Deer. (Nov., pg. 1035.)

**Alberta Ry. and Irrigation Co.**—The town council of Pincher Creek, Alta., decided at a meeting, Nov. 3, to protest against the approval by the Dominion Government of plans filed for the entrance of one of the company's branch lines into the town. (Oct., pg. 935.)

**Algoma Central and Hudson Bay Ry.**—The section of the line from mileage 65 to 79 has been taken over by the company from the contractors, and a regular train service was put in operation Oct. 28. The Board of Railway Commissioners has authorized the operation of regular trains on the extension as far as mileage 85 from Sault Ste Marie, Ont. Track has been laid to mileage 91, at the crossing of the Montreal River, where a large bridge has been completed. Three trestles at mileage 93 are nearing completion; two other trestles at mileage 99 are well advanced, and three trestles between mileage 104 and 106 are also under construction. Grading has been completed to Agawa, at mileage 126, and it is expected that track will be laid to that point this season. The remainder of the grading to Hawk Lake Jct. has been completed, and the line is being operated from that point to Josephine Jct., the point of connection with the Michipicoten branch. This junction is at mileage 170 from Sault Ste Marie. The grading between Hawk Lake Jct. and Hobon, on the C.P.R. transcontinental line is well advanced, a late report stating that there is only about nine miles to be completed. The Board of Railway Commissioners has approved a revised location on this section between mileage 30.08 and 53 from Hawk Lake Jct., and ordered an interlocking plant at the crossing at grade of the C.P.R. at Hobon. It is expected that the line will be completed to Hobon early in 1912. Grading is also in progress from Hobon towards the National Transcontinental Ry.

A contract has been entered into with the Dominion Government under the act granting aid to certain railways for a line from Sault Ste. Marie to the C.P.R. between White River and Dalton stations, about 200 miles, and for a line from Michipicoten harbor towards the C.P.R., about 25 miles. Both lines are under construction, and trains have been operated over nearly 100 miles for several years, but until the present time the Dominion subsidies have not been granted. The Michipicoten line joins the main line at Hawk Lake Jct., and the junction with the C.P.R. is at Hobon.

**Atlantic, Quebec and Western Ry.**—Local reports state that although track has been laid into Gaspé, Que., on the extension of this line, it is not intended to have it fully ballasted and completed for the regular operation of trains until next year. (Nov., pg. 1035.)

**Burrard Inlet Tunnel and Bridge Co.**—E. Cruttwell, London, Eng., representing Sir J. W. Barry, the special engineer engaged by the municipalities in connection with the planning of the bridge proposed to be built over the second narrows of Burrard Inlet, arrived in Vancouver, B.C., Nov. 2. After consultation with the local engineers, and an inspection of the site, he took charge of the plans, etc., that had been prepared, and

stated that he would remain in the city until he had completed the work of examining them and advising the municipalities. (Nov., pg. 1035.)

**Calgary and Fernie Ry.**—The Dominion Parliament is being asked to extend the time for the building of this line and to increase the company's bonding powers. Pringle and Guthrie, Ottawa, are solicitors for applicants. (May, 1910, pg. 349.)

**Canadian Collieries (Dunsmuir), Ltd.**—Press reports state that \$1,000,000 has been appropriated for improvements at the company's collieries, and railways in the vicinity of Wellington, Vancouver Island, B.C.

**Central Ry. of Canada.**—Application is being made to the Dominion Parliament to confirm certain transfers and agreements between the company and the Ottawa River Ry., the Central Counties Ry., the Great Eastern Ry., the Ottawa Valley Ry., the Carillon and Grenville ry., and the Ottawa River Navigation Co., and to amalgamate these companies with the Central Ry. Co. of Canada. An extension of time for the construction of the several authorized lines is asked, and also power to build the following additional lines of railway:—from a point in Laval county to St. Jerome, Terrebonne county, from the main line in Two Mountains county to St. Scholastique, Que.; from the main line in Hochelaga county passing through Chambly, Vercheres and St. Hyacinthe counties to Ste. Rosalie, on the Intercolonial Ry.; from a point in Chambly county on the last named line through Laprairie and Napierville counties to the Intercolonial boundary in St. John's county. The company also asks power to enter into agreements for various purposes with the Pontiac Central Ry., Western Central Ry., Quebec, Montreal and Southern Ry., Montreal and Southern Counties Ry., Joliette and Lake Manuan Colonization Ry., and the Imperial Traction Companies. The notice of application is signed by J. D. Wells, Secretary.

A meeting of the shareholders of the Great Eastern Ry. has been called to be held in Montreal, Dec. 18. Among other things to consider is an agreement of the sale of part of the company's assets.

We are officially advised that L. B. Howland represents the C. Ry. Co. of Canada as Superintendent of Construction for the entire line from Montreal to Georgian Bay, together with the projected branches. It is proposed to carry on survey work east and west of Hawkesbury, Ont., during the winter, and to make arrangements for starting construction in the spring. The contractors, C. J. Willis and Sons, of London, Eng., have a branch office in Montreal, and also have a temporary construction office at Hawkesbury. (Nov., pg. 1035.)

**Dominion Atlantic Ry.**—The Board of Railway Commissioners has approved revised location plans of the projected North Mountain branch from Centreville to Lakeville, N.S., 5.1 miles. (Nov., pg. 1035.)

**Dominion Pacific Ry.**—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from the International boundary in range 23 west of 4th meridian, Alberta, northeasterly to Cardston, and on via Pincher Creek to Lundcreek on the C.P.R. Crownsnest branch, thence northerly and west of the Porcupine Hills to Calgary; thence northerly, and west of Snake, Gull and Pigeon Lakes to Edmonton, and on northwesterly to Fort St. John, B.C., with a branch from Pincher Creek southwesterly and along the south fork of the Old Man River to the boundary between Alberta and British Columbia. O. E. Culbert, Ottawa, is solicitor for applicants. (July, pg. 645.)

**Duluth and Northern Minnesota Ry.**

During the hearing of an application of the company for power to increase rates on logs and forest products, before the Minnesota State Railroad and Warehouse Commission, Nov. 9. J. Mullen, Vice President and General Manager, said it was planned to extend the line through Lake and Cook counties about 60 miles to a junction with the Canadian Northern Ry. The company's line now extends from Knife River to Cramer, Minn., 62 miles. At Knife River connection is made with the Duluth and Iron Range Rd., and the apparent junction with the C.N.R. would be at or near Gunflint Lake, at the International boundary, where the C.N.R. Gunflint branch—the Old Port Arthur, Duluth and Western Ry. ends.

**Essex Terminal Ry.**—The Board of Railway Commissioners has authorized the opening for traffic of the company's line in Walkerville to east of Giles Ave., between Windsor Ave. and Macdougall St., Windsor, Ont. (Sept., pg. 853.)

**Fredericton and Grand Lake Coal and Ry. Co.**—Application is being made to the Dominion Parliament to declare the line proposed to be built from Gibson to Minto, N.B., to be a work for the general advantage of Canada, and to authorize the company to enter into any agreement with the C.P.R. under sec. 361 of the Railway Act. The notice of application is signed by H. P. Timmerman, President, who is Industrial Commissioner, C.P.R. Eastern Lines.

The C.P.R. is applying to the Dominion Parliament for power to enter into an agreement with the Province of New Brunswick for any of the purposes specified under sec. 361 of the Railway Act in respect of a line extending from near Norton to Minto, N.B. This is the New Brunswick Coal and Ry. Co.'s line of which the proposed F. and G.L.C. and R. Co.'s line would be a connection. The N.B. Legislature last session passed an Act guaranteeing bonds for the construction of the Gibson-Minto line, on certain conditions, one of which had to do with the taking over of the N.B.C. and R. Co.'s line.

Sir Thomas Tait is taking an active interest in the proposition, and it is said that proposals have been submitted to the New Brunswick Government which will be embodied in an act amending that passed last session. If the rearrangement of the conditions as to a guarantee of bonds is carried through it is expected that construction will be proceeded with early in 1912. (Nov., pg. 1035.)

**Gatineau and Ungava Ry.**—Application is being made to the Dominion Parliament to change the name of the company to the Ottawa and Ungava Ry. Co., and to extend the time within which it may build the lines authorized by sec. 7, chap 102, of the statutes of 1909-10. A. T. Genest, Ottawa, is solicitor for applicants. (Jan., 1910, pg. 19.)

**Hudson Bay, Peace River and Pacific Ry.**—See Winnipeg City Power Line.

**Intercolonial Ry.**—On the branch line to Sydney Mines, N.S., a four span steel bridge across Georges River has been completed.

The overhead bridge on St. George St., Moncton, carrying the street over the railway is nearing completion. The substructure is of concrete, and the superstructure of steel. It has a span of 180 ft., and is 36 ft. wide.

The proposed cut-off at Moncton leaves the main line, Moncton to Halifax, at Sunny Brae station, 1.22 miles east of Moncton station, and extends 1.14 miles westerly through the northern part of the city to the east of the proposed freight terminal yard. This cut-off will be a double track line laid with 80-lb. rails; it will cross Hall's Creek on a steel superstructure of three

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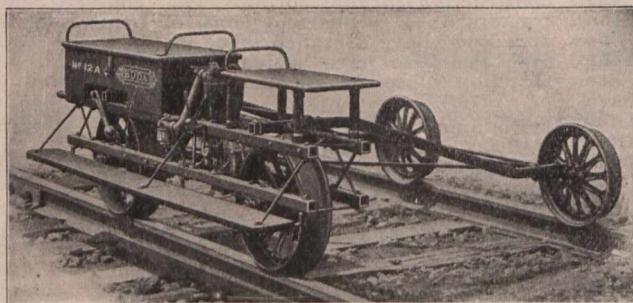
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spans—70, 125, and 60 ft. respectively—carried by concrete substructures on pile foundations, and will be carried over Church and Archibald Sts. by steel spans on concrete abutments, crossing three other streets at grade. The yard will extend from the west end of the cut-off, westerly 1.97 miles to an intersection with both the I.R.C. main line, Moncton to Montreal, and the National Transcontinental Ry., 2.6 miles northwest of Moncton station. This yard will be a gravity switching system, with receiving, classification, and dispatching yards, from and to Moncton, Halifax, and St. John, and two humps; it will have two locomotive houses, coal chutes, ash pits, water supply, etc., and about 35 miles of track. Tenders for the graduation, sub-structures, track-laying, ballasting, etc., have been advertised for, and it is expected that work will be commenced this year. (Nov., pg. 1035.)

**Interprovincial and James Bay Ry.**—Application is being made to the Dominion Parliament to revive the act of incorporation, extend the time for construction, and increase the bonding powers. An alternative notice asks for the incorporation of a company with this title to build a railway from near Lumsden's Mills, on the Lake Nemiskaming Colonization Ry., to or towards the Des Quinze River, Que. Pringle, Thompson and Guthrie, Ottawa, are solicitors for applicants. (July, 1909, pg. 477.)

**Joliette and Lake Manuan Colonization Ry.**—A press report states that a contract has been let to the British Canadian Construction Co., Ottawa, to build a line from Montreal, through Joliette, Que., to the National Transcontinental Ry., about 217 miles, the work to be completed by Dec., 1913. Further reports state that work has been started between Joliette and Ste. Emelie de L'Energie, and that some miles of grading has been completed. It is proposed to continue work all winter on the rock sections. J. A. Patten, St. Felix de Valois, Que., is Chief Engineer.

The B. C. C. Co. was incorporated under the Dominion Companies Act, Nov. 4, with \$500,000 capital and office at Ottawa, to carry on a railway and general contracting business, the incorporators being: A. M. Laredo, London, Eng.; R. S. Ross, P. O'Reilly, R. M. Bobier and A. Gay, Montreal. (Oct., pg. 935.)

**Kelowna, B.C.**—Survey parties are reported to be going over a section of the route projected for the abandoned Midway and Vernon Ry., in the vicinity of Kelowna, but with what object has not been made public. One report states that an extension of the Shuswap and Okanagan Ry. from Vernon to Kelowna is proposed, and another states that the surveys are in connection with the projected construction of electric railways in the Okanagan Valley.

**Kettle Valley Lines.**—About 57 miles of track has been laid, and an additional 84 miles of grading is in various stages of construction. At the Midway end, track has been laid to the third crossing of the third fork of the Kettle River, 27 miles, and it is expected that track will be laid to Carmi, 18 miles further, by the end of the year. At the other end track has been laid from Merritt to Otter Summit, 30 miles, and it is expected that a train service will be put in operation over it at an early date. Construction work on another section between Penticton and Osprey Lake, 40 miles, has been started, and L. M. Rice, one of the contracting firm, stated Nov. 2, that he expected to have it completed by the summer of 1913. (Nov., pg. 1035.)

**Kootenay and Alberta Ry.**—The Board of Railway Commissioners has authorized the company to take for railway purposes, land at the junction of its line with the C.P.R. main line, on the Crow's-nest Division, Alta.

L. B. Merriam, Chief Engineer, was in Pincher Creek, Alta., Nov. 3, looking over routes for a possible entrance. (Nov., pg. 1035.)

**London and Port Stanley Ry.**—The directors, who represent the city of London, have under consideration a proposition for the purchase of a considerable area in the eastern section of London, to provide for an extension of the line, and for factory sites. (Oct., pg. 937.)

**Michigan Central Rd.**—A good deal of work has been done in the laying out of the site for a new terminal station in Detroit, Mich. A number of directors visited the site Nov. 10, when the complete plans were explained by G. H. Webb, Chief Engineer. It is said that the building of the station will be pushed forward as fast as possible. (Nov., pg. 1035.)

**Minneapolis and St. Louis Rd.**—The company's engineers were reported, Nov. 16, to be engaged in preliminary surveys south of the International boundary for a line to connect with one of the Canadian lines. Three routes are under examination: one from Bagley, to Clearwater county, N.D., northwesterly; a second easterly, and the third towards Thief River Falls, through Rosseau and north to the International boundary. (Nov., pg. 1035.)

**Minneapolis, St. Paul and Sault Ste. Marie Ry.**—The Central Terminal Ry. has given a mortgage, filed Nov. 18, to the Guaranty Trust Co. of New York to secure an issue of \$20,000,000 first Chicago Terminal 4 per cent. 30-year sinking fund gold bonds. The C.T.R. Company was organized in connection with the M. St. P. and S.S.M. Ry., and has taken title to 105 parcels of land in Chicago, on which it is proposed to lay out freight terminals.

**Montreal Central Terminal Ry.**—Application is being made to the Dominion Parliament to extend the time within which the company may build the authorized lines, tunnel and bridge, and to permit the issue of an increased amount of common stock and bonds. The notice is signed by F. E. Carne, Secretary. (July, pg. 647.)

**Naas and Skeena River Ry.**—Vancouver press reports state that arrangements are being made to open up some extensive deposits of anthracite in the Nasoga Gulf and Naas River districts of British Columbia, and that a railway will be built from the mines to the mouth of the Naas River, Nasoga Gulf, to bring out the product. R. C. Campbell-Johnson, mining engineer, Vancouver, who is interested in the project, is one of the provisional directors of the N. and S.R. Ry., incorporated last session of the B.C. Legislature. (April, pg. 321.)

**North Arm Bridge and Ry. Co.**—The incorporators of this projected railway and bridge include — Loewen, Vancouver, and — McCartney, Victoria, and the company was stated, by Vancouver press reports, Nov. 8, to be entirely independent of affiliations with existing railway companies. The route, as outlined by the promoters, is from the end of the C.P.R. spur which runs around the head of the south arm of Burrard Inlet, across the Admiralty reserve, over a bridge to be built to the north shore and thence northwesterly along the shore line of Burrard Inlet to North Vancouver. (Nov., pg. 1037.)

**North Shore Colonization Co.**—A company with a capital of \$200,000 and office at Newcastle, N.B., has taken over the development of what is known as the Legan settlement on the North Shore of the Mirimichi Bay. W. L. Allen is Secretary of the company, which held its organization meeting at Newcastle, recently. The question of the extension of the company's operations was discussed and it was considered advisable that

steps should be taken with the view of securing a railway connection. This may be done either by building an independent line, or by getting the Government to build the line as a branch of the Intercolonial Ry.

**Point Anne Ry.**—The Board of Railway Commissioners has authorized the company to connect its line with the Canadian Northern Ontario Ry. on lot 20 near Point Anne, Ont. (See Belleville and Point Anne Ry., July, 1903, pg. 233.)

**Quebec and Saguenay Ry.**—The grading of this line is reported to be progressing at a rapid rate, and it is expected that a portion of the mileage under contract will be in operation early next year. It is hoped to have the line to Murray Bay completed by the end of the year, and then the question of the extension to Tadousac, Que., will be considered.

We are officially advised that the construction work during the season now drawing to a close has been very satisfactory. The part under contract to the Bishop Construction Co., from Pointe au Pic wharf to the new pulp mills at Nairne Falls, 7½ miles, is completed, with the exception of ballasting, which will be done next spring. The rest of the road from Cape Tourmente to Pointe au Pic wharf, 56.5 miles, is well advanced. Thirty-three miles of grading has been completed; the work will be continued during the winter, and it is expected that the contractors, O'Brien and Doheny, will complete the grading in good time next season, to get the rails laid for the entire distance early next fall, and mostly, if not all, ballasted. The amount of solid rock moved on the O'Brien and Doheny contract this season from June to Oct. 31, was 450,000 cubic yards. The rock is completely covered by sub-contractors, thus ensuring rapid construction.

It is said that surveys for the continuance of the road to Cape St. Charles, on the Labrador coast, will be started in the near future.

**Quebec Central Ry.**—Application is being made to the Quebec Legislature to authorize the company to build a branch line through Megantic, Lotbiniere and Levis counties. In an interview, Nov. 18, J. H. Walsh, General Manager, is reported to have said the proposed branch would start from the main line between Thetford Mines and Broughton, and would connect with the proposed branch from Scotts to Quebec. The building of the branch had always been contemplated, as it would shorten the distance between Sherbrooke and Quebec, and avoid the heavy gradients in the Chaudiere valley and the summit near Broughton for through traffic from Quebec. Preliminary surveys show that very favorable alignments and gradients can be secured. (Nov., pg. 1035.)

**Quebec Eastern Ry.**—We are officially advised that trial and location surveys are now being made through Sherbrooke, Richmond, Wolfe, Megantic, Lotbiniere and Levis to Quebec, about 125 miles. Three parties are in the field working under the direction of E. H. Drury, Chief Engineer. The character of the country is rough and broken, and eight bridges will be necessary. Maximum gradient, 1 per cent. compensated; maximum curvature, five degrees spiralized. (Nov., pg. 1037.)

**Quebec Harbor Railway Bridge.**—The new steel bascule railway bridge at Louise basin, Quebec, which is being built by the Harbor Commission, is approaching completion. Tracks have been laid on both sides of the abutments, and everything is ready for the passage of trains as soon as the bridge work is completed.

**Reid Newfoundland Ry.**—The Bonavista branch, the first of the new branch lines to be built, was opened for traffic



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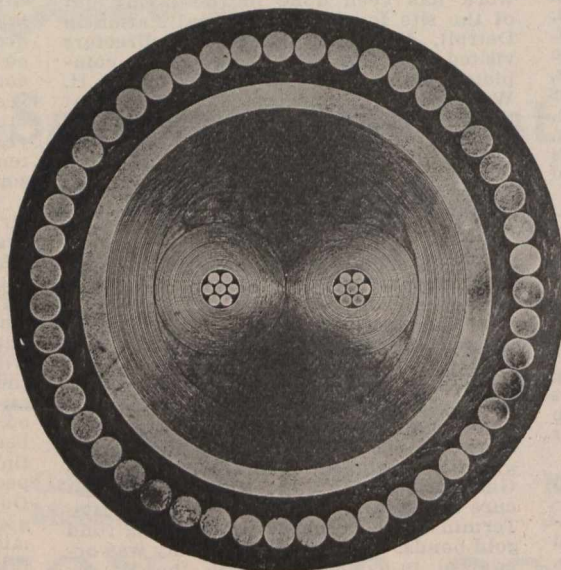
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Nov. 8. About one-third of the Trepassey branch has been completed, and work has been started on the branch from Broad Cove to Heart's Content. The other lines proposed to be built are the Bonne Bay and Fortune Bay branches. (Nov., pg. 1037.)

**Royal Canadian Ry. System.**—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Ste Anne du Bout de l'Isle, westerly through Vaudreuil and Soulanges counties, Que., to the St. Lawrence River in Glengarry county, Ont., with a bridge over the branch of the Ottawa River separating Montreal Island from Ile Perrot, and another bridge over the branch of the Ottawa River separating Ile Perrot from the mainland in Vaudreuil county. It is desired that these bridges be built so as to provide for general as well as railway traffic. The company also desires power to build dams, to develop electricity and dispose of the same. Gouin, Lemieux, Murphy and Berard, Montreal, are solicitors for applicants.

**St. John Valley Ry.**—An early start on construction of this projected railway is anticipated. The New Brunswick Premier states that a satisfactory agreement has been reached with the Dominion Government in regard to its operation. The details in so far as they differ from those laid down in the provincial legislation, and the resolutions of the Dominion Parliament, will be submitted to these bodies for their approval. (Nov., pg. 1037.)

The St. John Valley Construction Co. has been incorporated under the New Brunswick Companies Act with a capital of \$49,000 and office at Woodstock, N.B., to carry on a general contracting business, and to enter into contracts with the Dominion and provincial governments for the construction of railways and other public works. The provisional directors are:—H. F. Smith, Peel, N.B.; C. Smith, H. G. Smith, St. John; J. N. Winslow, Woodstock, N.B.; G. McPhail, railway contractor, Woodstock, N.B.

**Salisbury and Albert Ry.**—The renovation of this line is reported to have been practically completed. The bridges have been rebuilt, and several miles of track has been relaid with heavier steel. It was expected that the line to Albert would be ready for re-opening early in Dec. (Sept., pg. 855.)

**Saskatchewan Central Ry.**—The Dominion Parliament is being asked to grant an extension of time within which the company may build the lines authorized by chap. 160 of the statutes of 1910. (May, 1910, pg. 353.)

**Temiskaming and Northern Ontario Ry.**—Speaking at Ottawa, recently, J. L. Englehart, Chairman, T. and N.O.R. Commission, said the Commission had been slow to build into Elk Lake and Gowganda because such a branch would not tap any agricultural country and also because there already existed facilities which could be utilized for water transportation. The Porcupine branch was already paying well, and a branch might be built from South Porcupine to Elk Lake. The Commission intended in the very near future to build about 100 miles beyond Cochrane towards Moose Factory. Ultimately the line would reach James Bay. Speaking at Sault Ste Marie, Ont., a few days later, Mr. Englehart said just as soon as work in hand would permit, a survey would be started for a line to connect Sault Ste Marie with the T. and N.O.R. The junction with the main line had not been determined, but it would be south of the Porcupine district. He could not make any definite statement as to when construction would be proceeded with on the line northerly from Cochrane, as there was a good deal of pre-

liminary work to be done, but it would be at as early a date as possible.

The Premier of Ontario was quoted as having stated, Nov. 16, that application had been made to the Dominion Government for a subsidy not exceeding \$6,400 a mile for this railway, and that there was every possibility it would be successful.

Owing to a slide at Pearl Lake on the Porcupine branch 500 ft. of the line disappeared. A temporary bridge is being put in pending a decision as to what will have to be done in the way of permanent reconstruction. (Nov., pg. 1037.)

**Vancouver Island and Eastern Ry.**—The Dominion Parliament is being asked to extend the time for building the lines authorized by the company's acts of 1908 and 1910. Smith and Johnston, Ottawa, are solicitors for applicants. (Mar., 1910, pg. 187.)

**Vancouver-Nanaimo Coal Mines Co.**—We are advised that this company is operating a coal mine west of the Esquimalt and Nanaimo Ry., about 2.5 miles from Nanaimo, B.C., and is delivering its output to the E. and N.R. over a logging railway. It is reported that the company proposes to extend this line to tide water, but we are advised that nothing has been done, except to secure an order from the Board of Railway Commissioners to cross the E. and N.R. overhead. A. von Alvensleben, Vancouver, B.C., is President of the company.

**Winnipeg City Power Line.**—With the completion of the Winnipeg city power plant the usefulness of the line built from Lac du Bonnet to Pointe du Bois, 27 miles, has ceased, and the Winnipeg city council is considering what will be done with it. One proposition which has been made is that the city should endeavor to make a bargain with the Hudson Bay, Peace River, and Pacific Ry., by which the line would form part of that company's projected line from Winnipeg to Hudson Bay, with a branch to the Peace River. While this has been suggested and may be developed, the board of control has under consideration applications from the J. D. McArthur Co., and John Gunn and Sons, who wish to secure rights over the line for the transportation of freight for industries in which they are interested.

**Canadian Freight Association (Western Lines).**—At the recent annual meeting at Winnipeg, the following officers were elected for the ensuing year: President, J. P. Driscoll, C.N.R.; Vice President, C. E. Dewey, G.T.P.R.; Executive Committee, W. C. Bowles, C. E. Dewey and G. Stephen; Inspection Committee, W. G. Manders, G. H. Smith, W. J. Hunter and H. H. Brown; Car Service Committee, D. C. Coleman, J. P. Driscoll, W. H. Harris and W. C. Watrous; Classification Committee, W. B. Lanigan, C. Stephen, C. E. Dewey, W. C. Bowles, W. G. Manders, R. J. Foreman and H. H. Brown; Secretary-Treasurer, W. E. Campbell.

**Dominion Railway Subsidy Contracts.**—Contracts have been entered into with the Algoma Central and Hudson Bay Ry., under the act granting aid to certain railways for the building of the following lines: from Sault Ste. Marie, Ont., to a point on the C.P.R. between White River and Dorion, Ont., 200 miles; and from Michipicoten Harbor, Lake Superior, towards the main C.P.R. line, 25 miles.

C. Morrow, formerly freight clerk, Quebec Central Ry., Thetford Mines, who was recently arrested on two charges of embezzlement, was acquitted at Arthabaska, Nov. 9, on the ground of irregularities in the preliminary hearing. It is stated that the terms of the acquittal do not preclude further action.

**Great Northern Railway Co's Annual Report.**

The annual report for the year ended June 30, shows that the authorized capital stock is \$210,000,000, of which \$209,981,875 is outstanding. The unissued stock is being retained for acquiring 145 shares of the stock of the St. Paul, Minneapolis and Manitoba Ry. which are still outstanding. The mortgage securing an issue of \$600,000,000 first and refunding mortgage gold bonds, dated May 1, is a first lien on the company's lines, which include 533.74 miles in Canada, with all their equipment. There has been reserved \$100,000,000 of this issue for the construction of additional lines, the purchase of additional property, the betterment and improvement of existing lines, and additions to rolling stock and equipment.

In 1899 the company purchased a majority of the stock of the four companies forming the Spokane Falls and Northern Ry., among them being the entire capital stock and mortgage bonds of the Nelson and Fort Sheppard Ry., and the Red Mountain Ry. in Canada. No bonds have ever been issued against any of the lines which the company has caused to be built in Canada and, during the year, the company cancelled and surrendered \$1,293,000, face value, of Nelson and Fort Sheppard Ry. first mortgage bonds and \$217,000, face value, Red Mountain Ry. first mortgage bonds, in each case the entire issue outstanding, receiving in lieu thereof, the full paid capital stock of each company, at par, to the same amount.

The company's investment in controlled Canadian companies, on account of advances made to pay for property, construction, additions and betterments, has been increased during the year, as follows:

Brandon, Saskatchewan and Hudson's Bay Ry. ....	\$ 13,192.99
Crow's Nest Southern Ry. ....	1,686.34
Nelson and Fort Sheppard Ry. ....	7,236.70
Red Mountain Ry. ....	684.17
Vancouver, Victoria and Eastern Ry. and Navigation Co. ....	1,794,093.32
New Westminster Southern Ry. ..Cr.	558.91

Total .....\$1,816,334.61

To apply on the above advances and those previously made, the company has received during the year and credited at its par value, 88 shares (\$8,800) of the fully paid capital stock of the Nelson and Fort Sheppard Ry. Co. and 68,000 shares (\$6,800,000) of the Vancouver, Victoria and Eastern Ry. and Nav. Co. Shares of their capital stock will be duly issued by the above companies to cover the balances remaining due from them.

In 1900 the G.N.R. Co. guaranteed the payment, principal and interest, of £480,000 5% debenture stock of the Kootenay Ry. and Navigation Co., nearly half of which debenture stock and a large amount of its common stock were owned by the G.N.R. Shortly thereafter the G.N.R. purchased the balance of the common stock. During the year the K.R. and N. Co. redeemed its outstanding debentures, cancelled the entire amount, including those owned by the G.N.R., and went into liquidation. In due season the securities that were pledged to secure this debenture stock will be returned to the G.N.R. and at least a portion will be disposed of. The cancellation of the K.R. and N. Co.'s debenture stock at once terminated the G.N.R.'s guaranty.

The financial report showed gross operating revenue \$61,257,632.93, a decrease of \$3,207,736.94, against the figures for 1909-10; while the net income from operation was \$20,562,461.37, a decrease of \$1,294,519. The decrease was almost entirely in freight. The revenues of the company's Canadian lines are not given separately.

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TORONTO, CANADA, DECEMBER, 1911.

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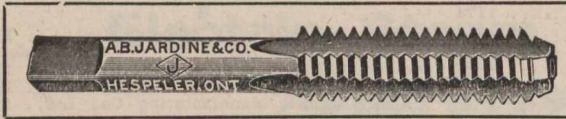
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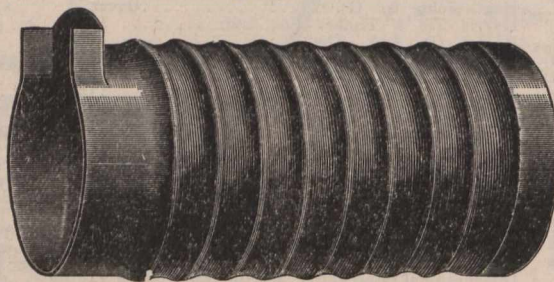
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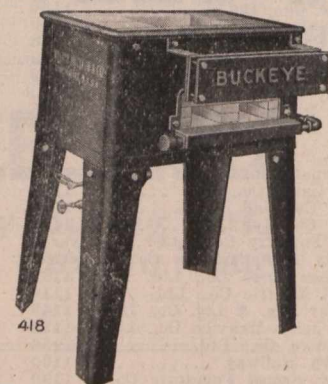
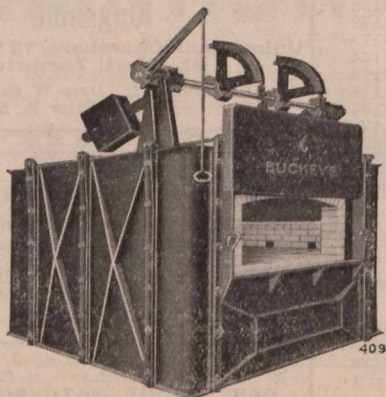
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### Canadian Northern Railway Construction, Betterments, Etc.

**James Bay and Eastern Ry.**—The Board of Railway Commissioners has approved revised location for this projected railway from mileage 18.2 to 19.6, in Ashuapmouchouan tp., Que.

**Quebec and Lake St. John Ry.**—In addition to the sections relating to finance in the act which the Quebec Legislature is being asked to pass, the company is applying for power to build branch lines from any point on its existing lines, and for an extension of time within which already authorized branch lines may be built.

**Canadian Northern Quebec Ry.**—The Dominion Parliament is being asked to extend the time within which the lines described in pars. c, e and f, sec. 3, chap. 73 of the statutes of 1907 may be completed. These lines are, from Quebec to Moncton, N.B., and Pugwash, N.S.; from St. Jerome towards the Ottawa, Northern and Western Ry. in Wright county, Que.; and the branches and extensions of the Chateauguay and Northern Ry. mentioned in sec. 2, chap. 75 of the Quebec statutes for 1899.

The action brought by the Quebec city council to recover from the company \$200,000 cash subsidy paid, owing to its alleged failure to comply with the condition that shops should be built in the city, was set down for hearing Nov. 6. The agreement was made with, and the subsidy paid to the old Great Northern Ry., which is now part of the C.N.Q.R. Before the action came on for hearing, an agreement was reached between the city and the company. A plan showing the layout of the company's yards at Limoilou was placed before the committee on Nov. 6, and a letter, signed by D. B. Hanna, President, was read. In this letter Mr. Hanna said while the company's plan of reorganization had not yet been ratified by Parliament, but with a desire to meet the city the company was willing to make a start on the new shops at Limoilou. The building of the roundhouse, machine shop and car shop would be proceeded with at once. It was desired, however, to have an assurance that the council would not directly or indirectly assist in the expropriation for a highway through the company's property, and would also agree to the closing of certain streets within the area acquired or sought to be acquired for yards, etc.; and that the property of the C.N.Q.R. and Quebec and Lake St. John Ry. in the city be subject to a fixed assessment of \$6,000 a year for 20 years. The company had already acquired 85 per cent. of the property proposed to be secured for yard purposes. In explaining the matter to the committee, Mr. Hanna said the buildings would be completed by Nov., 1912; as a result of the discussion it was agreed to allow the action to remain in abeyance; to approve the company's proposals as to terms, upon a report of the city engineer that a serious start had been made upon the erection of the buildings, and to deal with the question of a fixed assessment later.

A plan for the construction of a bridge over the St. Charles River was also considered. After some discussion it was agreed that further plans be submitted, the bridge to provide accommodation for two steam railway tracks, two electric railway tracks, a road for ordinary traffic, and one for foot passengers. This bridge will replace an existing one, connecting with Limoilou.

The Board of Railway Commissioners has authorized the company to build a double track across Orleans and Ste. Jean d'Arc streets, Montreal.

**Montreal Terminal Plans.**—It was stated unofficially in Montreal, Nov. 17,

that all the plans in connection with the tunnel and central terminal plans had been completed, and would be laid before the city council within a few days. The plans, it is said, show that the company's tracks will enter a tunnel at the back of the mountain near the east end of St. Genevieve opposite to St. Eustache, which will lead to a terminal station, bounded by Cathcart, St. Monique, Lagauchetiere, and Mansfield streets. The section between Dorchester and Lagauchetiere street, it is stated, will be used for the station building, while a hotel may be built on the remaining portion of the site. The transfer of the whole of the property within the area named was reported to have been completed Nov. 9.

**Canadian Northern Ontario Ry.**—The Dominion Parliament is being asked to authorize the sale of a portion of the constructed right of way of the Carillon and Grenville Ry., between Grenville and Carillon, Que., by the Carillon and Grenville Ry., to the C.N.O.R., and to confirm a notarial deed of sale thereof dated July 25.

Montreal city officials were notified, Nov. 6, that application had been made to the Board of Railway Commissioners for making the necessary connections at Montreal for the new direct line to Hawkesbury. This line will join the existing line near Maisonneuve, and trains will run into the present station on Moreau st., pending the construction of the new central terminal station. This line is a part of the main line to Sudbury, Ont., for which a subsidy was granted last session of the Dominion Parliament. Nothing has been done in the way of constructing the Ottawa-Sudbury section of the line, but the usual preparatory work is being gone on with. Beyond the junction with the existing Toronto-Sudbury line, a further section has been opened for traffic, from Gowganda Jct. to one mile west of Ruel, 14 miles, the order permitting this being dated Nov. 10. The line through to Port Arthur from this point is under contract, and construction gangs are at work from both ends. The Board of Railway Commissioners has approved revised location plans for the following sections: mileage 68.7 to 80.8; 92.37 to 93.27; 124.27 to 127.32; and 182.03 to 183.79, all from Sudbury Jct., Ont.

The first section of the Toronto-Ottawa line was opened recently to Trenton, where a roundhouse, machine shop, etc., are being erected. The buildings with the necessary yard space and tracks will cover about five acres. Permission has been granted for the opening for freight traffic of a further section, from Trenton to Belleville, 15.5 miles, and for its connection with the Thurlow Ry. on lot 25, con. 1, Thurlow tp.; and with the Belleville and Point Anne Ry. The grading of the line between Belleville and Deseronto has been completed and track is being laid. From Deseronto to Sydenham the Bay of Quinte Ry. line will be used. The location of this line is being revised at two places in order to give better gradients. Work is also in progress between Sydenham and Smiths Falls, and from the Ottawa end to Smiths Falls. The Board of Railway Commissioners has approved revised locations at Perth Road, Loughborough tp., mileage 170.35 to 171.4 from Toronto; in South Crosby tp., mileage 186.77 to 188.78 from Toronto, and has authorized the operation of construction trains across the C.P.R. and the G.T.R. near Ottawa.

The land which has recently been bought near Rideau Jct., Ottawa, is, we are advised, for yards, etc., for a divisional point.

No official announcement has been made in regard to the construction of the portion of the main line between Rideau Jct., Ont., near Ottawa and the

junction with the Toronto-Gowganda line in Capreol tp., Ont., but we have reason to believe that contracts will be let in the near future to J. P. Mullarkey for the work between Rideau Jct. and Pembroke, Ont., and to Angus Sinclair, C.E., for the work between Pembroke and Capreol tp.

The Board of Railway Commissioners as a result of the hearing of the company's application for a right of way adjacent to the C.P.R. tracks in the north part of Toronto, has made an order, to the effect that the C.P.R. give the company running rights over a sufficient number of tracks east of Yonge St. to Summerhill Ave., to enable it to have access to its proposed terminal yards west of Yonge St. There is to be a subway at Yonge St., where each company will have three tracks. Plans for this subway were ordered to be made in conformity with this decision.

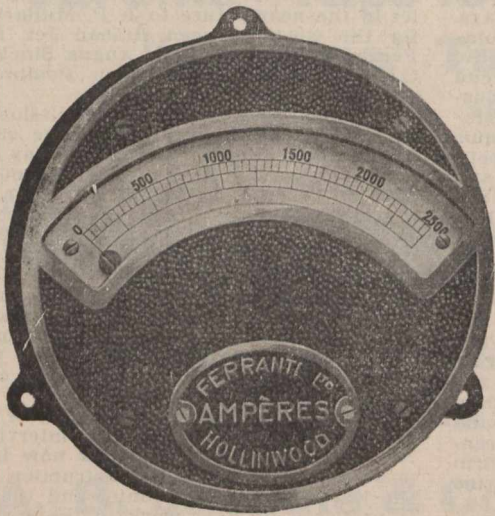
Sir Wm. Mackenzie, President, is reported to have stated in an interview, Nov. 14, that the company is now in a position to undertake construction on the line west from Toronto, and that it is proposed to start work in the spring. It is also expected that construction will be started between Niagara and Hamilton, so that the entire line from Toronto to the Niagara frontier will be under construction by the summer. The route follows the right of way of the Electric Development Co.'s power transmission line for the greater part of the distance, and presents no engineering difficulties. There are, however, a considerable number of bridges to be built. The Board of Railway Commissioners has approved revised location plans from mileage three (instead of mileage 0 as mentioned in our Nov. issue) to mileage 10.97, west from Yonge St., and from that point to mileage 34.84; thus covering the distance from just outside Toronto, through York, Etobicoke, Toronto, Trafalgar and Nelson tps. The question of the position of the Hamilton terminals, and the route by which access will be had to them is under consideration.

T. Foley, of Foley, Welch and Stewart which firm is interested in the contract for building the line from the junction with the Sudbury-Toronto line to Port Arthur, was in Toronto, Nov. 20, and is reported to have stated that there are 4,500 men engaged on the line and that in a short time there will be 400 teams at work. Construction will be gone on with during the winter as labor is plentiful, and the work is of such a character that there is no necessity to stop.

**Canadian Northern Ry.**—The Board of Railway Commissioners has authorized the company to build a new line across Rainy River, in the Rainy Lake District, Ont., and has approved revised location plans for the same, subject to making suitable provision for tying up logs and for the passage of steamboats and logs.

Plans have been filed for the proposed new viaduct at the south end of Main St., Winnipeg. The city council is considering the plans, particularly in reference to the lowering of the bridge three feet at the north end, in order to secure a suitable gradient from the Winnipeg side.

The Premier of Manitoba, in a recent speech, said that with the enlargement of the boundaries of the province, the building of a direct line under provincial guarantee from Winnipeg to Hudson Bay would be undertaken. Such a line could be secured by the building of about 175 miles. There is already a Canadian Northern Ry. line in operation from Winnipeg to Gypsumville tp. 31, range 9, west of 1st meridian, and a line from that point due north to intersect the line now under construction from Pas Mission, would be less than



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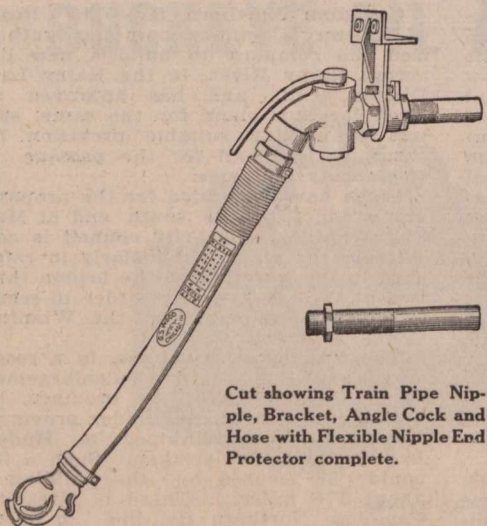
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175 miles in length. It is proposed that this line will be built by the C.N.R. under contract with the province. Another report states that a route along the east shore of Lake Winnipeg is also under consideration. At Ottawa, Nov. 21, Premier Roblin, after settling the boundary question with the Dominion Government, said the Manitoba Government would take immediate steps to provide transportation to the Hudson Bay hinterland.

The new station at Brandon, Man., has been completed and business was transferred there Nov. 11.

The Board of Railway Commissioners has authorized the building of a transfer track with the C.P.R. at Carberry, Man., and has authorized the opening for traffic of the following lines:—Thunderhill extension from Pelly to Preeceville, Sask., mileage 35.6 to 72.6; the branch from Delisle to MacRorie, Sask., 46 miles; from Luxton to Radville, 72 miles; and for freight traffic only from Radville to the end of its Moose Jaw extension, 83 miles. Further authority was given, Nov. 14, for the operation of trains over this latter section. Other branch lines opened for traffic in Saskatchewan are:—the Jackfish Lake branch from North Battleford to Edam, 39 miles; the Big River branch from Shellbrook to Big River; from Shellbrook southwesterly to Marcelin, about 30 miles, and the extension of the line from Saskatoon towards Calgary, between Kindersley and Alaska, 43 miles.

The old Qu'Appelle Long Lake and Saskatchewan Ry. has been considerably improved. The relaying with 85 lb. steel on new ties has been completed and the line has been rebalasted.

Considerable betterments have been made on the line between Kamsack and Edmonton, Alta., and it is said that this work will be continued during 1912.

The Board of Railway Commissioners has authorized the opening for traffic of the branch line from Vegreville, southwesterly to Warden, 109 miles. This line is practically completed into Calgary.

The Board of Railway Commissioners has authorized the building of a spur line across block four of the Hudson's Bay Co.'s reserve in Edmonton, Alta.

Westward from Edmonton grading has been completed to the Pembina River, to which point it is expected that track will be laid by Dec. 31. The line to Athabasca Landing is also expected to be completed by the end of the year. On the line to Peace River it is expected that grading will be done to the crossing of the Athabasca, 30 miles from the confluence with the Macleod River, early in January.

The C.N.R. Co. is applying to the Dominion Parliament to extend the time within which the 11 branch lines, described in paragraphs a to k, inclusive, of sec. 2, chap. 80, of the statutes of 1910; and the lines authorized by paragraphs e, g, i, k and l of sec. 2, chap. 92, of the statutes of 1908, may be built; and also the lines authorized by the provincial legislatures to be built by the Alberta Midland Ry., and the Saskatchewan Midland Ry., and the Saskatchewan Northwestern Ry., now amalgamated with the C.N.R., may be built.

**Canadian Northern Pacific Ry.**—T. G. Holt, Executive Agent in British Columbia, in an interview at Ottawa, Nov. 9, is reported to have stated that rapid progress is being made with the building of the company's lines in British Columbia.

Eighty miles have been graded from Port Mann to Hope, and a further stretch of 160 miles is covered with teams and men. From this point to the boundary near the Yellowhead Pass, is under contract, and work is going ahead. There does not appear to be any reason why the line cannot be completed within two years.

In connection with the work along the

Fraser River Canyon the C.P.R. has secured an order from the courts regulating the blasting operations. It was stated that traffic had been tied up owing to large pieces of rock being thrown on the C.P.R. tracks.

Between Cisco and Kamloops, there are a number of large bridges to be built, and a contract has been arranged with Waddell and Harrington, Kansas City, Mo., for the supervision and inspection of construction of these and other bridges on the line in the province.

A sub-contract has been let to Twohey Bros., Portland, Ore., for the grading of 100 miles of the line along the Thompson River valley from mileage 62 to 162.

**Vancouver Island Lines.**—Tenders were received to Nov. 20 for the building of a further section of the line on Vancouver Island, from mileage 60 to 100. This 40 mile section extends from about six miles west of Duncan, to about five miles north of Cowichan Lake. Two tenders were asked for, one being on the basis of "solid rock, loose rock, hard pan and earth," and the other for "solid rock and all other material." (Nov., pg. 1055.)

### Railway Finance, Meetings, Etc.

**Alberta Ry. & Irrigation Co.**—There has been filed with the Secretary of State at Ottawa a duplicate original of the lease of the lines, etc., of the Alberta Ry. and Irrigation Co. to the C.P.R. for 99 years from Jan. 1, 1912.

The Dominion Parliament is being asked to authorize the issue of mortgage bonds secured upon the company's railways for retiring previous mandatory securities, improving the railway and for other purposes.

**Algoma Central and Hudson Bay Ry.**—Following are directors for the current year.—T. J. Drummond, J. F. Taylor, W. K. Whigham, W. C. Franz, H. M. Price, H. Coppell, J. S. Dale, John T. Terry, Jr., J. T. Lea, R. L. Austin, T. Gibson and D. C. Newton.

**Algoma Eastern Ry.**—Following are the directors for the current year.—T. J. Drummond, W. K. Whigham, J. F. Taylor, T. Gibson, H. M. Price, W. C. Franz and D. C. Newton.

**Canadian Northern Pacific Ry.**—An issue of £1,400,000 of 4% debenture stock, guaranteed by the Province of British Columbia, was placed on the London, Eng., market, Nov. 13.

**Canadian Northern Ry.**—There has been filed with the Provincial Secretary at Toronto a mortgage dated Oct. 20, made by the company to the Imperial Rolling Stock Co., securing notes on rolling stock, which is subject to a conditional sale or bailment. The National Trust Co., Toronto, is also a party.

**Cap de la Madeleine Ry.**—The Dominion Parliament is being asked to declare this railway to be an undertaking for the general advantage of Canada, to change the location of its head office to Montreal, and to authorize it to enter into agreements with the C.P.R. for any purpose under sec. 361 of the Railway Act.

**Dominion Atlantic Ry.**—Application is being made to the Board of Railway Commissioners for a recommendation to the Governor in Council to sanction a lease of the company's railway to the C.P.R. for 99 years from Jan. 1, 1912.

Estimated passenger earnings for Oct., \$76,200; freight, \$93,400; total, \$169,600.

**The Grand Trunk Ry. Co.** issued a prospectus in London, Eng., Nov. 7, of £1,250,000 four per cent. guaranteed stock, at 92, the proceeds to be applied to the company's general purposes. This stock ranks for dividend out of the profits of each year in priority of all the preference stocks. On Jan. 1, 1912, Mid-

land 5% 1st mortgage bonds for \$856,800, the balance of an original issue of \$1,571,600 will mature and be paid off, reducing the company's preference charges by \$42,840 a year.

**Ontario, Hudson Bay and Western Ry.**—Following are directors for the current year.—T. J. Drummond, J. F. Taylor, W. K. Whigham, W. C. Franz, H. M. Price, H. Coppell, J. S. Dale, John T. Terry, Jr., J. T. Lea, R. L. Austin, T. Gibson, D. C. Newton.

**Quebec and Lake St. John Ry.**—Application is being made to the Quebec Legislature to confirm an agreement with the Railway Share Trust and Agency Co., London, Eng., and the Canadian Northern Ry. Co., to provide that such agreement, having been sanctioned by resolutions of the company's prior lien and other bondholders, shall be binding on all holders of stock whether present at the meeting or not; to authorize the issue of the new debenture stock as provided for the winding up of the Lake St. Joseph Hotel Co., and the transfer of its properties to the Q. and L. St. J. R. Co. the discharge of the existing trust-deed, and the exchange of the securities issued thereunder for the new debenture stock.

**Quebec Central Ry.**—In settling up matters in connection with the lease of the Q.C.R. to the C.P.R., it was found that certificates for 1,760 shares of £25 each, originally issued to E. C. Bower, one of the original contractors for the line, were missing. The certificates were transferred some time ago to the Railway Finance and Construction Co., but it appears they have gone astray. As the result of an action, June 28, the courts decided that the R. F. and C. Co. was the owner of the certificates; that duplicates must be issued; and that the shares should not be sold for the space of a year unless with the consent of the court, the Q.C. Ry. to be indemnified for that period, and the R.F. and C. Co. to make every endeavor to locate the certificates by advertising in England and Canada.

**Quebec Southern Ry.**—Quebec and South Shore Ry.—The action before the U.S. Circuit Court in New York, in which \$2,500,000 is claimed by H. A. Hodge and F. D. White, from A. L. Meyer, in connection with the amalgamation of these companies, prior to the receivership and the subsequent sale to the Quebec, Montreal and Southern Ry. Co., terminated in a mis-trial, Nov. 8. The plaintiffs, who represent the old Q.S.R. interests, were given time to file an amended complaint. The defendants represent the interests which brought about the amalgamation.

**Temiscouata Ry.**—Gross earnings for Sept., \$20,269.68; expenses \$14,610.17; net earnings \$5,659.51, against \$3,736 net earnings for Sept., 1910.

**Temiskaming and Northern Ontario Ry.**—Revenue for Sept., \$200,177.29; expenditure, \$119,112.56; balance, \$81,064.73; less hire of equipment, \$5,389.80; net result, \$75,814.93; expenses per cent. of earnings, 59.4.

**Victoria and Sidney Ry.**—The Victoria city council has been informed by the Great Northern Ry., which owns the line through a subsidiary company, that while the company is prepared to hand over to the city and the province all surplus earnings to meet the interest on the bonds guaranteed by the city and the province, and to relieve them from future obligations under the guarantees, it cannot do anything in the way of recouping the city for the amounts it has already paid out on account of the line having failed to earn sufficient to meet the interest on bonds guaranteed.

**White Pass and Yukon Route.**—Gross earnings for six months ended Sept. 30, \$969,080, against \$1,089,427 for same period 1910.



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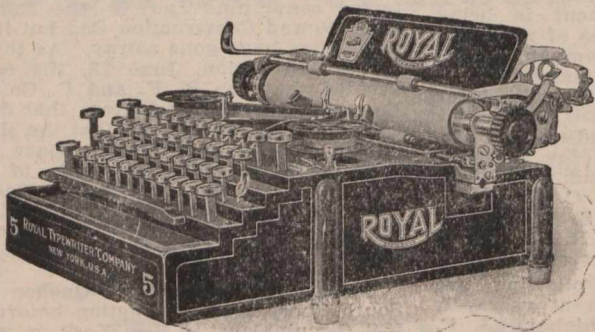
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**Malnyi About Transportation People.**

Lord Strathcona has subscribed \$2,500 to the King Edward Memorial Fund in Montreal.

R. B. Bennett, M.P., Calgary, has resigned his position as counsel for the C.P.R. in Alberta.

C. R. Hosmer, director, C.P.R., has been elected a director of the Montreal Citizens' Association.

T. P. Mooney, G.T.R. baggage agent, Bonaventure station, Montreal, was married Nov. 14 to Miss White.

Lord Strathcona has been gazetted as Honorary Colonel of the Royal Canadian cavalry corps, the Strathcona Horse.

Lady Mackenzie and Miss Mackenzie left Toronto, Nov. 6, for New York, whence they sailed for England.

Sir William Mackenzie has subscribed £1,000 to the habitation fund of the Society of Knights Bachelor, London, Eng.

W. H. Jordan, of the Canadian Northern Ry. freight tariff bureau, Toronto, died there, after a brief illness, Oct. 29.

C. E. E. Ussher, Passenger Traffic Manager, C.P.R., left Montreal, Nov. 6, on a tour of inspection to the Pacific coast.

H. N. Ruttan, M. Can. Soc. C.E., City Engineer, Winnipeg, has been granted six months leave of absence on account of ill health.

Sir William Whyte has been elected a director of the Imperial Guarantee and Accident Insurance Co., in place of the late J. J. Kenny.

J. P. Mullarkey, railway contractor, has been appointed a commissioner of the school of high commercial education for Quebec.

W. G. Webster, on retiring from the G.T.R. ticket agency at Stuart St. station, Hamilton, Oct. 30, was presented with a purse of gold.

J. C. Weir, President and Managing Director of J. and R. Weir, shipbuilders and marine engineers, Montreal, died there Nov. 9, aged 76.

Miss Hebert, daughter of E. J. Hebert, First Assistant General Passenger Agent, C.P.R., Montreal, was married there, Nov. 14, to Dr. Bemers.

C. E. Morgan, G.T.R. ticket agent at Hamilton, Ont., who died there recently, left an estate valued at \$49,665 to his son and daughters.

A. E. Chamberlain, who was recently appointed Development Commissioner, Great Northern Ry., St. Paul, Minn., was born in Ontario in 1860, and has lived in the U.S. since 1886.

F. P. Gutelius, General Superintendent, Eastern Division, C.P.R., after being absent from duty for some little time owing to ill health, returned to his office in Montreal, Nov. 14.

W. J. Shaughnessy, eldest son of Sir Thos. G. Shaughnessy, President, C.P.R., was married, Nov. 16, at Montreal, to Miss L. M. Graham, niece of Sir Hugh Graham, proprietor Montreal Star.

S. O. Greening, President, B. Greening Wire Co., Ltd., Hamilton, Ont., who died there recently, left an estate valued at \$470,155 to his widow and children.

W. C. Matthews, General Manager in Canada for R. G. Dun and Co., who died at Toronto, Nov. 1, was a director of the Great North Western Telegraph Co.

W. Tout, who died in Hamilton, Ont., Nov. 2, aged 79, was foreman engineer of the old Great Western Ry. He had retired from active service many years ago.

J. L. Englehart, Chairman, Temiskaming and Northern Ontario Ry. Commission, Toronto, addressed the Cana-

dian Club, Ottawa, recently, on the future of Northern Ontario.

D. A. McDonald, who was associated with the firm of Ironsides, Rennie and Campbell in its railway contracting work, died in Victoria, B.C., recently, after a lengthened illness.

G. R. Joughins, Superintendent Motive Power and Rolling Stock, Intercolonial Ry., Moncton, N.B., is spending a holiday in Europe, during which he will visit his old home in Dublin.

Lord Mount Stephen has given £10,000 towards the establishment of a fund for providing pensions of £100 a year to Scotch Presbyterian ministers of 70 years of age and upwards.

H. B. Darnell, at one time in the C.P.R. service in Japan, and now General Agent of the International Sleeping Car Co., at Yokohama, was in Canada in November on a holiday trip.

Arthur Hawkes, formerly Superintendent of Publicity, Canadian Northern Ry., has been appointed Special Commissioner of Immigration in connection with the Dominion Department of the Interior.

O. L. Dickeson, Vice President and General Manager, White Pass and Yukon Ry., after spending some time in Ottawa, went to his old home in Ottumwa, Iowa, Nov. 10, for a holiday, accompanied by Mrs. Dickeson.

A recount of the ballots applied for by Conservatives has been refused in Queens-Sunbury, N.B., where Col. McLean (Liberal), Vice President, St. John Ry., was elected at the recent Dominion elections.

The marriage of Miss M. Jaques, youngest daughter of C. A. Jaques, Montreal, of G. E. Jaques and Co., shipping agents, Montreal, to L. P. Thompson, of Wallaceburg, Ont., is announced to take place at Montreal early in Dec.

H. Campbell Oswald, who has been appointed Assistant Secretary, C.P.R., Montreal, was born there, Sept. 6, 1871, and has been in the company's service for 25 years. He is also Secretary of several C.P.R. subsidiary companies.

W. H. Flynn, railway contractor, who died at South Berwick, Me., recently, was a native of St. Andrews, N.B. He carried out contracts on the New York, New Haven and Hartford Rd., the Pennsylvania Rd., and the Central Rd. of New Jersey.

E. W. Smith, Superintendent, Dining Cars, G.T.R., Toronto, was elected a member of the executive committee of the American Association of Dining Car Superintendents at the annual meeting held at Cincinnati, Ohio, recently.

John Brown, C.P.R. ticket agent, Stratford, Ont., who is mayor of the city and a former member of the Ontario Legislature, has been nominated by the liberals in North Perth as their candidate in the pending Ontario general election.

H. H. Tatum, a retired English surgeon, for some years connected with the G.T.R. motive power office, Montreal, died suddenly in the street while on his way home on Nov. 6. One of his daughters was married Oct. 18, to F. Jaques, of G. E. Jaques and Co.

W. H. Hill, Assistant General Freight Agent, Chicago, Burlington and Quincy Ry., Kansas City, Mo., son of A. S. D. Hill, of Eramosa, Ont., and nephew of J. J. Hill, Chairman of the Board, Great Northern Ry., died recently and was buried at Guelph, Ont.

E. Pennington, President, Minneapolis, St. Paul and Sault Ste. Marie Ry., accompanied by Mrs. and Miss Pennington, returned to Minneapolis, Minn., Nov. 5 from a pleasure tour along the Pacific coast, the return trip being over the C.P.R. from Vancouver, B.C.

J. S. Wood, who has been appointed Assistant General Freight Agent, Lehigh Valley Rd., New York, commenced his railway career in 1888 in the division freight office, G.T.R., Hamilton, Ont., and was later transferred to Montreal, where he remained to Dec., 1892.

W. E. Allinson, who has been appointed General Travelling Baggage Agent, C.P.R., Winnipeg, commenced service with the C.P.R. Baggage Department, Montreal, as office boy, Feb., 1905, and was subsequently stenographer, clerk, and since Jan. 1, 1911, chief clerk there.

W. S. Painter, who recently resigned his position as Architect, C.P.R., at Montreal, has entered into partnership with F. H. Swales as Painter and Swales, with offices at Montreal and Vancouver. Mr. Painter is still looking after the C.P.R.'s architectural work west of Calgary.

J. B. Elliott, Master Mechanic, Eastern Division, C.P.R., Ottawa, was presented with a purse of gold, Nov. 14, on his retirement from the company's service. He entered the service of one of the companies now amalgamated with the C.P.R. as fireman in 1865, and was appointed Master Mechanic in 1887.

Sir H. Montagu Allan has been elected President of the St. Andrew's Society of Montreal, and the other officers include: D. Seath, of the Montreal Harbor Board, as Recording Secretary; Lord Strathcona, R. B. Angus, and D. McNicoll, of the C.P.R. directorate, as members of the finance committee.

W. G. Ross, ex-Managing Director, Montreal Street Ry., and H. J. Fuller, President, Canadian Fairbanks-Morse Co., have been elected members of an advisory committee to represent the Canadian bondholders of the Amalgamated Asbestos Co., a re-organization of the finances of which is necessary.

Sir William H. White, director, Grand Trunk Ry., who has been touring the G.T.R. system, prior to sailing from New York, for England, recently, was presented with the John Fritz medal for long and honorable service in the engineering profession. He was for several years Chief Architect of the British navy.

Robt. Hobson, Vice President and Managing Director, Steel Company of Canada, Hamilton, Ont., has been elected a director of the American Iron and Steel Institute for three years. The other Canadian director is T. J. Drummond, of Drummond McCall and Co., Montreal, and President, Lake Superior Corporation.

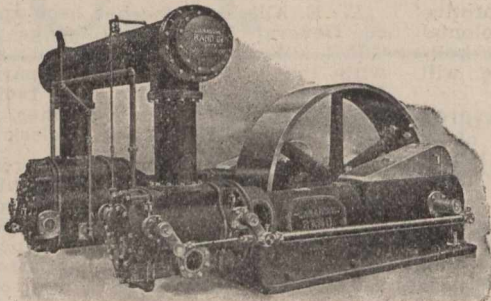
C. R. Stovel, who was engaged on survey work on the C.P.R. in its early stages and for some years latterly was Claims and Right of Way Agent for the Canadian Northern Railway, died Nov. 10 at St. Paul, Minn., where he has resided for the past year. He married a step sister of Sir William Mackenzie, President, C.N.R.

Probate of the will of the late Robt. Meighen, director, C.P.R., and President, Lake of the Woods Milling Co., has been granted in Ontario, on an estimated value of \$2,483,783, of which \$1,974,612 is represented by stock holdings. Subject to some minor bequests, the income of the entire estate is bequeathed to his widow.

A. MacDougall, who died at Montreal recently, aged 86, was at one time in G.T.R. service, and subsequently was chiefly interested in the organization and operation of the Montreal Grain Elevating Co., which he joined in 1860, eventually becoming Manager and later Managing Director, which latter position he held when the company went out of business in 1910.

A provincial branch of the St. John's Ambulance Association has been formed

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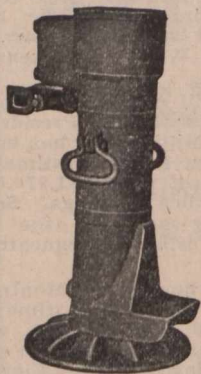
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for Quebec, with Montreal as headquarters. Lieut.-Col. L. R. Johnson, Assistant Superintendent Motive Power, C.P.R., is a member of the local committee. The Honorary President of the Association in Canada is Sir Thos. G. Shaughnessy, K.C.V.O., Knight of Grace of the Order of St. John of Jerusalem.

Sir William Whyte was the principal guest at a dinner in Winnipeg recently, at which there were present practically all the principal officials of the C.P.R. Western lines, and a number of former officials. George Bury, who has succeeded Sir William as Vice President, presided, and the presentation of a silver tray, silver tea set, and silver punch bowl was made by F. W. Peters, assistant to the Vice President.

Scott Griffin, Manager, Canadian Northern Steamships, London, Eng., and Mrs. Griffin returned to London from the country recently, and have taken a house at 22 Cumberland Place for the winter.

W. H. Flynn, railway contractor, who recently died at South Berwick, Me., was born at St. Andrews, N.B. He carried out considerable construction work on the Boston and Maine Rd., Pennsylvania Rd., and the Central Rd. of New Jersey.

J. H. Forrest, in charge of the Toronto Railway Co.'s accident department, was seriously injured, Nov. 11, owing to a ladder slipping and throwing him to the granolithic pavement while he was putting up a storm window on his house. His left heel and ankle were broken, and he was severely bruised. He was taken to the General Hospital, and after five days there, was removed to his house. He will probably be laid up for several weeks.

S. H. Graves, of Chicago, Ill., President, White Pass and Yukon Ry., was found dead in bed at the Aylmer Apartments, Ottawa, Nov. 13. He was in the city on business with the Board of Railway Commissioners, arising out of the recent valuation of the line by the Commissioners' staff, made in order to enable a decision to be reached as to freight rates on the line. Heart failure was certified as the cause of death, and the body was taken to Chicago for burial.

The fund of \$1,000,000 which has been raised recently for McGill University, Montreal, includes the following contributions:—Robt. Reford, of the Robt. Reford Co., Ltd., \$100,000; R. B. Angus, Director, C.P.R., \$50,000; E. A. Robert, President, Montreal Street Ry., \$30,000; M. L. Hersey, Consulting Chemist, C.P.R., \$30,000; N. Curry, President, Canadian Car & Foundry Co., \$25,000; G. E. Drummond, of Drummond McCall & Co., \$25,000; Reid Bros., of the Newfoundland Ry., \$10,000.

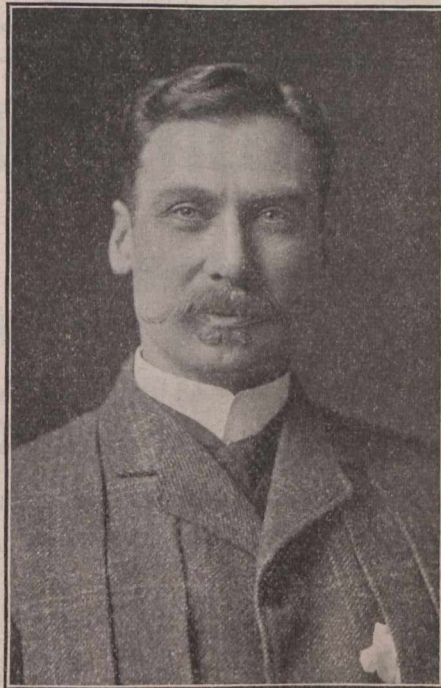
The body of R. S. Lewis, Canadian Passenger Agent, Lehigh Valley Rd., Toronto, was found in Lake Ontario, at Wilson, N.Y., a few miles east of the mouth of the Niagara River, Nov. 25. The deceased, who was about 70 years old, had represented the L.V.R. in Toronto for many years. He had been staying at the Niagara House, Niagara-on-the-Lake, under an assumed name for a week or so before his death, and probably committed suicide, as he had been despondent for some time owing to ill health.

James Waugh, whose appointment as Commercial Agent, G.T.R., Omaha, Neb., was announced in our last issue, entered G.T.R. service in 1891 as clerk in the Commercial Express Line office at Milwaukee, Wisc., since when he has been, from 1894 to 1900, Soliciting Freight Agent, same line, Chicago, Ill.; 1900 to July 1, 1905, Travelling Freight Agent, same line, Detroit, Mich.; July 1, 1905, to July, 1908, Michigan State Agent, Reading Despatch Line, Detroit, Mich.; July, 1908, to Oct. 31, 1911, Travelling Freight Agent, G.T.R., Philadelphia, Pa.

R. J. S. Weatherston, whose appointment as Division Freight Agent, G.T.R., Stratford, Ont., was announced in our last issue, entered G.T.R. service, July 4, 1893, since when he has been, to Jan. 1, 1902, in Transportation Department; Jan. 1, 1902, to July 18, 1906, in various positions in the Traffic Department, Toronto; July 18, 1906, to Jan. 10, 1907, chief clerk, Division Freight Agent's office, Ottawa, Ont.; Jan. 10, 1907, to Oct., 1911, chief clerk, Division Freight Agent's office, Hamilton, Ont.

H. H. Hamill, who has been appointed Travelling Freight Agent, G.T.R., New York City, was born at Somerville, Mass., Apr. 6, 1874, and entered transportation service with the Johnson Steamship Line, Boston, Mass., in 1893, and from Feb. 1, 1900, to June 1, 1906, was city solicitor, National Despatch Line, Boston, Mass.; June 1, 1906, to Apr. 1, 1910, Travelling Agent, National Despatch-Great Eastern Line, Boston, Mass.; Apr. 1, 1910 to Nov. 1, 1911, Soliciting Freight Agent, G.T.R., New York City.

G. T. Pettigrew, whose appointment



R. W. Leonard, M. Can. Soc. C. E.,  
Chairman, National Transcontinental Railway Commission.

as Division Freight Agent, G.T.R., Montreal, was announced in our last issue, entered G.T.R. service, May 1, 1888, since when he has been, to Oct. 1, 1895, apprentice and clerk in General Freight Agent's office; Oct. 1, 1895, to Jan. 1, 1898, clerk in Foreign Freight Department; Jan. 1, 1898, to Jan. 1, 1899, clerk in General Freight Agent's office; Jan. 1, 1899, to Jan. 1, 1903, clerk in Foreign Freight Department; Jan. 1, 1903, to July 22, 1907, chief clerk, same department; July 22, 1907, to Oct., 1911, Division Freight Agent, Stratford, Ont.

G. A. Balfour, who has been appointed Assistant to the General Superintendent, Eastern Division, C.P.R., Montreal, was born in Elderslie tp., Ont., Dec. 5, 1867, and entered C.P.R. service July 21, 1889, since when he has been, to Oct., 1889, stenographer to Accountant, Montreal; Oct., 1889, to Dec., 1893, private secretary to General Superintendent, Montreal; Dec., 1893, to Nov. 30, 1897, in charge of Timekeeping Department, Montreal; Dec. 1, 1897, to June 17, 1900, assistant chief clerk, General Superintendent's Office, Montreal; June

18, 1900, to Oct. 1, 1911, chief clerk, General Superintendent's office, Montreal.

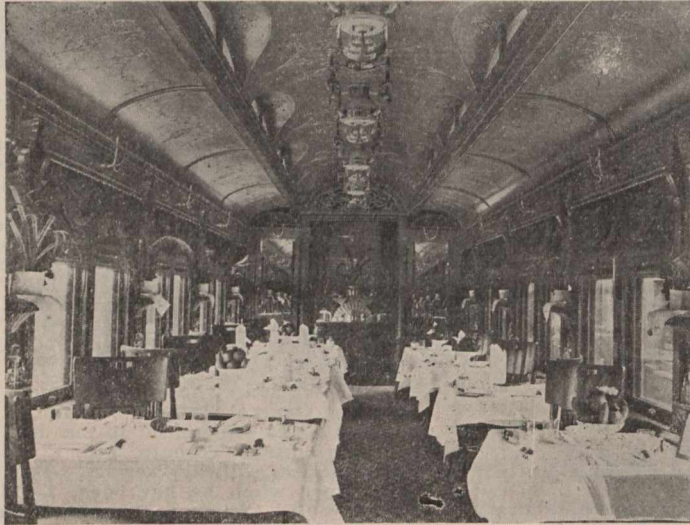
H. A. Pepler, whose appointment as District Master Mechanic, C.P.R., Montreal, was announced in our last issue, was born at Richmond, Que., June 25, 1873, and entered railway service Aug. 28, 1888, since when he has been, to Oct. 1, 1889, call boy, G.T.R., Richmond, Que.; Oct. 1, 1889, to Apr., 1893, apprentice, G.T.R., Richmond, Que.; Apr., 1893, to Oct., 1898, in erecting shops, G.T.R., Point St. Charles, Montreal, as apprentice and machinist; Oct., 1898, to Feb., 1903, charge hand, Windsor St. roundhouse, C.P.R., Montreal; Feb., 1903, to Aug., 1904, Locomotive Foreman, C.P.R., Megantic, Que.; Aug., 1904, to Oct. 16, 1911, Locomotive Foreman, C.P.R., Farnham, Que.

F. J. Watson, whose appointment as Assistant General Freight Agent, G.T.R., Montreal, was announced in our last issue, was born at Toronto, Jan. 12, 1866, and entered railway service, Mar. 1, 1884, since when he has been, to 1885, secretary to Assistant General Freight Agent, Northern and Northwestern Ry.; 1885 to 1888, secretary to General Freight Agent, same road; 1889 to 1891, waybill inspector, G.T.R.; 1891 to May 1, 1892, Travelling Freight Agent, Western Division, G.T.R.; May 1, 1892, to July 1, 1896, Travelling Freight Agent, Eastern Division, G.T.R., Montreal; July 1, 1896, to Aug. 1, 1897, chief clerk, Freight Department, Southern Division, G.T.R., Hamilton, Ont.; Aug. 1 to Dec. 6, 1897, Division Freight Agent, G.T.R., Stratford, Ont.; Dec. 6, 1897, to Oct. 1911, Division Freight Agent, G.T.R., Montreal.

S. S. Russell, who has been appointed Superintendent of Car Service, Central Vermont Ry., St. Albans, Vt., was born at Rednersville, Ont., Oct. 18, 1874, and entered railway service in 1891, since when he has been, to 1892, in office of Assistant Superintendent, G.T.R., Belleville, Ont.; 1892 to Aug., 1896, in Superintendent's office, G.T.R., Toronto; Aug., 1896, to Mar., 1898, secretary to Superintendent, G.T.R., Toronto; Mar., 1898, to June, 1902, chief clerk to Joint Superintendent, G.T.R. and Wabash Rd., St. Thomas, Ont.; June to Dec., 1902, private secretary to General Manager, Central Vermont Ry., St. Albans, Vt.; Jan., 1903, to Dec., 1904, chief clerk to Superintendent of Transportation, Central Vermont Ry., St. Albans, Vt.; Dec., 1904, to Nov., 1911, secretary to General Manager, Central Vermont Ry., St. Albans, Vt.

Sir Donald D. Mann, Vice President, Canadian Northern Ry., while travelling from Montreal to Toronto in his private car, Oct. 26, was taken ill suddenly, suffering severe pain similar to several attacks which he had had on previous occasions, and which were attributed to acute indigestion. Physicians who were called in consultation after his arrival in Toronto diagnosed the cause as gall stones, and he was operated on at his house, Fallingbrook, Toronto, on Oct. 30 by Dr. Starr, Drs. A. McPhedran and W. Goldie assisting. Lady Mann and her son were in Europe, where they had been for several months, and Sir Wm. Mackenzie was in Winnipeg. D. B. Hanna, Third Vice President, C.N.R., was at Fallingbrook during the operation. Lady Mann returned to Toronto Nov. 10. Sir Donald is convalescing satisfactorily and is expected to be out early in December.

J. R. Cameron, who has been appointed Assistant General Manager, Canadian Northern Ry., Winnipeg, was born at Truro, N.S., Nov. 5, 1865, and entered railway service, May, 1882, since when he has been, to Apr., 1883, brakeman and baggage man, C.P.R., Winnipeg; Apr., 1883, to Mar., 1886, conductor, C.P.R., Winnipeg; Apr., 1886, to Apr.,



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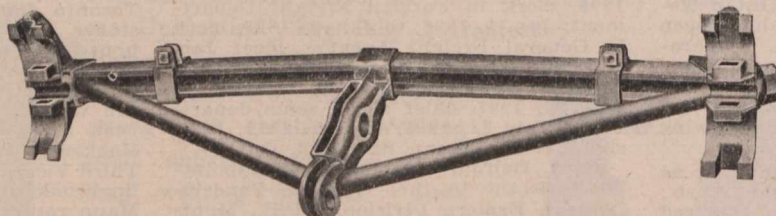
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1887, conductor, Manitoba and North Western Ry., Winnipeg; Apr., 1887, to Oct., 1898, conductor, Northern Pacific Ry. in Montana; Oct., 1898, to June, 1901, Trainmaster, Northern Pacific Ry., Grand Forks, B.C., with jurisdiction over the company's lines in Manitoba; June, 1901, to Aug., 1904, conductor, Canadian Northern Ry., Winnipeg; Aug., 1904, to Dec., 1905, Superintendent, Canadian Northern Ry., Kamsack, Sask.; Dec., 1905, to Jan., 1908, Superintendent, District 1, C.N.R., Port Arthur, Ont.; Jan., 1908, to Nov., 1911, General Superintendent, C.N.R., Winnipeg.

C. W. Spencer, who died at Montreal, Nov. 23, following a stroke of paralysis on Nov. 20, was born at Kemptville, Ont., Oct. 31, 1857, and entered railway service, May 7, 1871, since when he was, to 1874, operator and clerk, Canada Central Ry., and Brockville and Ottawa Ry., Ottawa, Ont.; 1874 to May, 1880, assistant agent, same road, Ottawa; May, 1880, to Jan., 1881, assistant train dispatcher, same road, Jan. to Apr. 12, 1881, when the Canada Central Ry. was taken over by the C.P.R., Chief Dispatcher, same road; Apr. 12 to May 11, 1881, Chief Dispatcher, C.P.R.; May 11 to June 29, 1881, Traffic Superintendent, same road; June 29, 1881, to Aug. 1, 1884, Assistant Superintendent, C.P.R.; Aug. 1, 1884, to Sept. 25, 1887, Assistant General Superintendent, C.P.R.; Sept. 25, 1887, to Apr. 30, 1903, General Superintendent, Eastern Division, C.P.R., Montreal; Apr. 30, 1903, to Aug. 31, 1905, General Superintendent of Transportation, Eastern Lines, C.P.R., Montreal; Sept. 1, 1905, to Dec., 1907, General Manager, Mackenzie, Mann and Co.'s Eastern Lines, Montreal.

A. Wilcox, who has been appointed General Superintendent, Western Division, C.N.R., Edmonton, Alta., was born at Kincardine, Ont., Jan. 2, 1865, and entered railway service in 1881, since when he has been, to 1883, successively, operator, ticket and freight clerk, Toronto, Grey and Bruce Ry., Owen Sound, Ont.; 1883 to 1887, operator and agent at various points, and relieving dispatcher, C.P.R., Winnipeg; 1887 to 1890, train dispatcher, C.P.R., Moose Jaw, Sask.; 1903, Chief Dispatcher, C.P.R., Cranbrook, B.C.; July, 1903, to July, 1904, Chief Dispatcher, Canadian Northern Ry., Port Arthur, Ont.; July, 1904, to Jan., 1908, Superintendent, District 2, C.N.R., Winnipeg; Jan., 1908, to May, 1909, Superintendent, District 1, C.N.R., Port Arthur, Ont.; May to Nov., C.N.R., Port Arthur, Ont.; May to Nov., 1909, Superintendent, District 3, C.N.R., Dauphin, Man.; Nov., 1909, to Nov. 1, 1911, Superintendent, District 1, C.N.R., Port Arthur, Ont.; Nov. 1 to Dec. 1, 1911, Assistant General Superintendent, C.N.R., Winnipeg.

W. B. Scott, who has been appointed Vice President and General Manager, Union Pacific Rd., Omaha, Neb., was born at Hamilton, Ont., Aug., 1862, and entered railway service in 1873, as messenger boy, G.T.R., Guelph, Ont. Since then he has been consecutively, freight clerk, G.T.R., Guelph, Ont., telegraph operator, same road, Toronto, train dispatcher, C.P.R., Winnipeg, Chief Dispatcher and Trainmaster on construction, Great Northern Ry., between Minot, N.D., and Helena, Mont., and Superintendent of Telegraphs, Chicago Great Western Rd. From 1890 to 1897, he was Trainmaster, Atchison, Topeka and Santa Fe Ry., Chicago, Ill.; 1897 to 1902, Superintendent, Gulf, Colorado and Santa Fe Ry., Temple, Tex.; 1902 to 1904, Superintendent, Galveston, Harrisburg and San Antonio Ry., San Antonio, Tex.; 1904 to 1905, General Superintendent, Houston and Texas Central Rd., and in 1905 was appointed Director of Maintenance and Operation, Harriman Lines, Chicago, Ill.

R. W. Leonard, M. Can. Soc. C.E.,

whose appointment as Chairman, National Transcontinental Railway Commission, was announced in our last issue, and whose portrait appears on page 1151, was born at Brantford, Ont., in 1860. He graduated from the Royal Military College, Kingston, Ont., in 1883, obtaining a silver medal. From 1883 to 1885 he was engaged on surveys and construction for the C.P.R., in the Lake Superior District, and during 1885 served as a staff officer on transport in the Northwest Rebellion. In the autumn of the same year he was Resident Engineer, C.P.R., in Manitoba; 1886, engineer on surveys and construction, C.P.R., Ontario and Quebec Divisions; 1887 to 1890, Chief Engineer, Cumberland Ry. and Coal Co., Springhill, N.S.; 1890 to 1906, consecutively, engineer, C.P.R., engineer in charge of construction of Niagara Falls Park and River Ry. hydro-electric plant, contractor, Ottawa and Parry Sound Ry., Chief Engineer in charge of construction, C.P.R., Montreal-Ottawa line, Chief Engineer of surveys and construction in Quebec, St. Lawrence and Adirondack Ry., Consulting Engineer, surveys and construction, Rutland and Noyan Ry., engineer in charge of iron and nickel mining, Lake Superior Corporation, Chief Engineer of surveys and construction, Cape Breton Ry., Engineer in charge of Hamilton Cataract Power Co.'s hydro-electric plant, engineer in charge of construction of Kaministiquia Power Co.'s plant, and from 1906 to Oct., 1911, President, Coniagas Mines, Ltd., and Coniagas Reduction Co., Ltd. He is a member of the board of governors of Toronto University, Kingston School of Mining, Wycliffe College, Toronto, and Bishop Ridley College, St. Catharines, Ont., Vice President, Canadian Mining Institute, past Vice President, Canadian Society of Civil Engineers, member of the Council of the Institute of Mining and Metallurgy, London, Eng., member of the American Institute of Mining Engineers, past President, Royal Military College Club, Kingston, Ont.

**Central Vermont Railway Co's Annual Report.**

The report for the year ended June 30, shows the following results,—

Gross receipts .....	\$4,337,644.14
Operating expenses .....	3,256,260.79
Balance .....	\$1,081,383.35
Taxes .....	146,763.23
Net debit from rentals .....	9,088.83
Outside operations, parlor cafe car service .....	6,611.43
Hire of equipment, debit balance....	169,477.92
Interest on securities held by company	\$ 762,664.80
Fixed charges .....	43,720.00
	\$ 806,384.80
Fixed charges .....	716,133.35
Net result .....	\$ 90,251.45

During the year, \$27,864.20 was spent on new tracks, sidings and spurs, crossings, stations and ballasting, the amount being included in operating expenses. Eight stock cars, four flat cars, four construction cars and six cabooses were built at the St. Albans shops. An additional \$21,654.08 was spent on improvements and charged to capital account. The balance sheet shows assets of \$17,488,824.18; liabilities of \$17,396,994.40, and a balance to profit and loss of \$91,829.78.

Following are the officers and directors for the current year: Chairman of the Board, C. M. Hays; President, E. H. Fitzhugh; Vice President, C. W. Witters, St. Albans, Vt.; other directors,

G. C. Jones, E. C. Smith, St. Albans, Vt.; W. S. Webb, Shelbourne, Vt.; J. W. Stewart, Middlebury, Vt.; J. W. McCullough, Bennington, Vt.; E. H. Baker, Boston, Mass.; S. E. Kilmer, E. L. Marston, New York; A. Tuttle, Fairhaven, Mass.; C. P. Smith, Burlington, Vt.; auditor, W. G. Crabbe; treasurer and clerk, W. H. Chaffee.

**National Transcontinental Railway Construction, Etc.**

A report given out at Ottawa, Nov. 1, set out that on Oct. 1, to which date the figures had all been received, track had been laid on 1,245 miles of the 1,845 miles between Moncton and Winnipeg. This track has been laid on different contracts and has not been connected. The report further states that owing to its inaccessibility, work has not been started on a section of 115 miles in the Abitibi country, for which Macdonnell and O'Brien are contractors. In connection with this report, J. T. Davis, one of the firm having the contract for the line from the Quebec Bridge location towards the New Brunswick boundary, stated recently that the work would be completed during 1912.

The shops at Transcona, Man., are expected to be opened early in January, 1912. At present only the motive power and car repair shops have been built, and work is in progress on the other shops.

R. W. Leonard, the newly appointed Chairman of the Commission, entered upon his duties Oct. 26, and after attending to office details, began on Nov. 4 the inspection of the work under construction. The first portion of the line visited was the district under the charge of A. E. Doucet. He completed the inspection of the finished line from Quebec towards Weymontachene, and on Nov. 14, left Ottawa for Winnipeg to inspect the work in progress there, the completed line to Superior Jct., and the work easterly from that point. (Nov., pg. 1059.)

**Grand Trunk Pacific Railway Construction, Etc.**

After considerable discussion the Fort William, Ont., city council, on Oct. 31, made a considerable number of amendments in the agreement proposed by the company covering the building of a road, and car lines, etc., on Mission Island. The amended agreement is being considered by the company. A new freight shed has been completed on the Mission terminals, Fort William. It will be used for freight storage during this winter, but it is intended for through lake and rail traffic.

The building of the viaduct south of Main St., Winnipeg, for the entrance of trains into the Fort Garry station is being pushed forward. It is expected that it will be completed early in the new year.

The mayor of Brandon, Man., in a recent interview with E. J. Chamberlin, Vice President and General Manager, was told that until difficulties which have arisen in connection with the crossing of the C.P.R. east of Chater are adjusted, the company will not be able to do any grading to within at least three miles of the C.P.R. on the north side.

It is stated in Regina that the company's line to the International boundary, about 130 miles, will be completed, and put in operation by the end of the year.

The grading on the line from Young to Prince Albert, of which the last 45 miles was put under contract this season, will not be completed this year.

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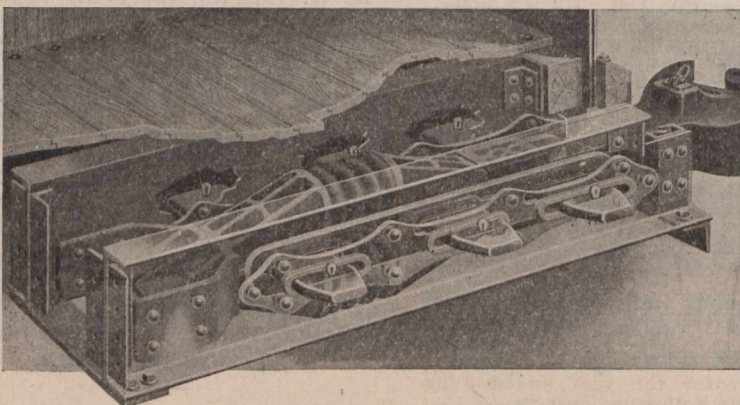
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Transportation by the Company's Steamers, brigades of boats and canoes throughout the Territories not traversed by railways.

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

The company is arranging for the building of a large bridge, at the end of the present grade, and the last six or seven miles of grading will be completed when the bridge is built.

The Board of Railway Commissioners has approved revised location plans for the following lines in Alberta:—from sec. 33, tp. 23, range 29 west of 4th meridian to north line of sec. 1, tp. 24, range 1, west of 5th meridian, mileage 196.81 to 193.44; from sec. 9, tp. 47, range 1, to sec. 23, tp. 45, range 4, west of 6th meridian, mileage 99.70 to 129; and from sec. 1, to sec. 8, tp. 45, range 1, west of 6th meridian, mileage 110.57 to 113.53.

J. W. Stewart, of Foley, Welch and Stewart, returned to Vancouver, Nov. 3, from a trip of inspection over the company's contracts on the line between Wolf Creek, Alta., and the coast. He stated that track has been laid across the summit of the Rocky Mountains in the Yellowhead Pass and that it is expected Tete Jaune Cache will be reached early in Dec. The right of way along the south fork of the Fraser River has been cleared to 30 miles west of Tete Jaune Cache, and a good deal of clearing had been done in the vicinity of Fort George. The present contract extends to Aldermere, from which point the right of way had been graded for 60 miles easterly. Work will be continued all winter. West of Aldermere, the work is also being proceeded with, and with the completion of the Kitselas tunnels, early in Dec., the company will be enabled to lay track easterly to the first crossing of the Skeena River, a few miles below Hazelton, B.C.

The management has still under consideration the building of a branch from Fort George to Vancouver, B.C. The company's steamship wharf at Vancouver was completed Nov. 8, and on the following day a communication was received by the Board of Trade from C. H. Nicholson, Manager, G.T.P. Coast Steamship Co., asking for its aid in some negotiations with the city council, in connection with the extension of the company's steamship terminals.

We are officially advised that F. W. Bergman, Manager of the Chateau Laurier, Ottawa, left Montreal, Nov. 4, for Prince Rupert, B.C., for the purpose of reporting upon hotel matters there. Pending receipt of his report, nothing definite has been decided as to the erection of a new hotel there.

In an interview at Victoria, Nov. 13, F. W. Bergman is reported to have said that the company is about to start the building of a big hotel at Prince Rupert, and that the object of his visit to the coast is to arrange with a local architect as to plans. The building will have 250 rooms, and construction will be started in the spring. The company contemplated building eight hotels in all. Of these the first is the G.T.R. hotel at Ottawa, now approaching completion; construction has been started on another at Winnipeg; the site of a third has been located at the Yellowhead Pass, and the location for the other hotels is under consideration. Nothing has been settled about the building of one at Victoria. (Nov., pg. 1059.)

**Quebec Central Ry.**—In connection with the lease of the line, application is being made by the C.P.R. to the Dominion Parliament to authorize it to enter into an agreement with the Q.C.R. Co. for any of the purposes specified in sec. 361 of the Railway Act.

The G.T. Pacific Ry. Co. is seeking to obtain an injunction in the British Columbia courts to restrain the use of the words "Grand Trunk" or "Grand Trunk Pacific" in the title of the Grand Trunk Pacific Transfer Co., of Vancouver.

## 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.

The Dominion Iron and Steel Co.'s output for Sept. comprised,—rails 16,975 tons, rods 3,065 tons, blooms 23,705 tons, steel ingots 27,290 tons, pig iron 22,390 tons, coke 39,290 tons.

The National Boiler Washing Co., Ltd., Montreal, has obtained the contract for the entire heating of the Canadian Steel Foundries, Ltd., new works at Longue Pointe, Montreal.

The Steel Co. of Canada will, it is said, make a very large addition to its Hamilton, Ont., plant next year, providing for rod, bloom and billet mills and two 60-ton continuous open hearth furnaces.

Price Bros. & Co., pulp manufacturers, Jonquiere, Que., are having installed eight 90 in. return tubular boilers of rated capacity 300 h.p. each, by the Robb Engineering Co., Amherst, Nova Scotia.

The International P.-A.-Y.-E. Tramcar Co. has been incorporated under the Dominion Companies Act, with a capital of \$3,750,000 and office at Montreal, for the purpose of building cars under the p.-a.-y.-e. patents, and various other incidental purposes. The provisional directors are:—G. V. Cousins, E. G. T. Penny, P. F. Brown, A. H. Elder, and S. T. Mains, Montreal.

E. C. Brown, Manager, Foreign Dept., Dearborn Drug and Chemical Works, has returned to Chicago after spending the last two years in the Orient. He established a branch office in the Philippines and agencies covering Japan, Formosa, Korea and China. Several of the principal railways in China and the Philippines are using the Dearborn water treatment, and tests are being made on the Japanese lines.

## Railway and Allied Associations, Clubs, Etc.

The names of persons given below are those of the secretaries.

CANADIAN CAR SERVICE BUREAU, J. E. Duval, 401 St. Nicholas Building, Montreal.

CANADIAN FREIGHT ASSOCIATION, T Marshall, Union Station, Toronto.

CANADIAN FREIGHT ASSOCIATION, (West ern Lines), W. E. Campbell, 101 Bon Accord Building, Winnipeg.

CANADIAN RAILWAY CLUB, J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday each month, 8:30 p.m., except June, July and August.

CANADIAN SOCIETY OF CIVIL ENGINEERS, C. H. McLeod, 413 Dorchester St., west, Montreal.

CANADIAN STREET RAILWAY ASSOCIATION, Acton Burrows, 70 Bond Street, Toronto.

CANADIAN TICKET AGENTS' ASSOCIATION, E. de la Hooke, London, Ont.

CENTRAL RAILWAY AND ENGINEERING Club of Canada, C. L. Worth, 409 Union Station, Toronto. Meetings at Toronto 3rd Tuesday each month, except June, July and August.

EASTERN CANADIAN PASSENGER ASSOCIATION, G. H. Webster, 54 Beaver Hall Hill, Montreal.

ENGINEERS' CLUB OF MONTREAL, R. W. H. Smith, 9 Beaver Hall Square, Montreal.

ENGINEERS' CLUB OF TORONTO, R. B. Wolsey, 94 King St. west, Toronto.

NOVA SCOTIA SOCIETY OF ENGINEERS, J. Lorn Allan, Halifax and Eastern Ry., Dartmouth, N.S.

QUEBEC TRANSPORTATION CLUB, J. S. Blanchet, Quebec.

WESTERN CANADA RAILWAY CLUB, W. H. Rosevear, 25½ Princess St., Winnipeg. Meetings at Winnipeg 2nd Monday each month, except June, July and August.

## C.P.R. Spur Line near Toronto.

It is reported that the company will build a spur line of about 4½ miles from the Toronto-Windsor line 1½ miles west of Toronto to a junction with the Toronto-Owen Sound line.

**G.T.R. International Bridge.**—It is reported that the International bridge between Bridgeburg, Ont., and Buffalo, N.Y., will be widened at an early date, so as to permit a second track to be laid. The cost is reported at being esumated at \$3,000,000.

**Railway Contracts with Cartage Agencies.**—The Board of Railway Commissioners issued an order, Nov. 15, requiring railway companies to file within 60 days copies of all existing contracts with their cartage agents for the cartage of freight traffic at so-called cartage points, and thereafter to file from time to time any new contracts or modifications of existing ones, or of cartage limits.

**G.T.R. New England Projects.**—In connection with the project for the extension of the Southern New England Ry. to Providence, R.I., under the arrangement of the Central Vermont Ry., which is controlled by the G.T.R., the merchants of Boston, Mass., and the State Legislature have expressed their desire that the company should extend its lines into Boston. E. H. Fitzhugh, President, C.V.R., recently went to Boston for consultation with the various interests there, and it is said that an announcement will be made at an early date of the route by which the G.T.R. lines will secure a direct entrance into Boston. The nature of the negotiations in progress has not been made public.

The Board of Railway Commissioners has removed its offices from 66 Queen St., Ottawa, to the new union station building erected by the G.T.R.

During September three railway employes were killed, and four injured, in the course of their work in connection with Canadian railways. Of the fatalities, two were due to being run over and one to falling through the hopper door of a dump car.

The presentation of a silver tray to W. Jackson at the Canadian Ticket Agents Association's annual meeting at Sault Ste. Marie in October, in commemoration of his attendance at 25 consecutive annual meetings as mentioned in our November number, was participated in by members of the Association, as well as by the guests present. To emphasize the general nature of the tribute, C. A. Cairns, G.P. and T.A., Chicago and Northwestern Ry., spoke on behalf of the donors, the President of the Association, J. F. Dolan, making the presentation.

An Alberta court decided, Nov. 7, that the Provincial Government was entitled to the \$7,400,000, proceeds of the issue of bonds of the Alberta and Great Waterways Ry. Co., guaranteed by the province, the charter of which company was afterwards cancelled. The money was deposited in the Royal Union and Merchants banks, the last two paying the amounts held by them into court. The Royal Bank was directed to pay over the \$6,000,000 it holds, with 5 per cent. interest. An appeal has been entered, which will not be heard until March, 1912.



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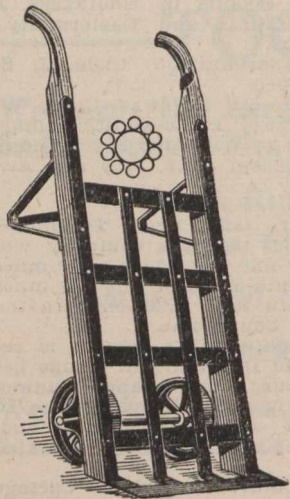
This truck has many **SPECIAL** features over the old style, and is made Strong and Heavy, to withstand the abuse to which it is subject. The Roller Bearings reduce friction to a minimum, thereby **Doubling** the **Life** of the **Truck**.

Purchasing Agents will consult their own interests by having\* this **Truck** in their Freight Sheds.

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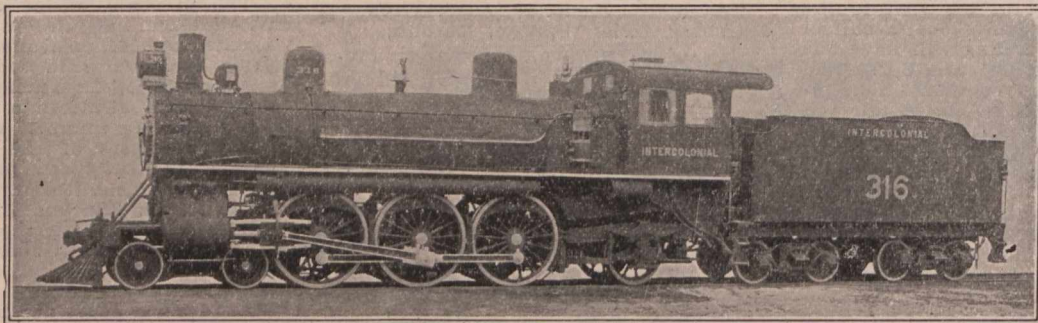
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Gallon samples of the waters are required for analysis. When reports are completed, we are ready to prepare treatment, and will send an expert engineer to instruct in the proper handling of the material.

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KINGSTON, ONT.

Builders of Simple  
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**LOCOMOTIVES** Adapted to every  
variety of service

## TRANSPORTATION APPOINTMENTS.

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

**Canadian Northern Ry.**—Consequent on the rapid growth of the system the company's lines have been divided into two grand divisions, one including districts 1, 2 and 3, with headquarters at Winnipeg, and the other districts 4, 5 and 6, with headquarters at Edmonton, Alta. The dividing point of the two grand divisions on the main line is Humboldt, Sask.

J. R. Cameron, heretofore General Superintendent all lines, has been appointed Assistant General Manager. Office, Winnipeg.

A. E. Warren, heretofore Superintendent District 2, Winnipeg, has been appointed General Superintendent, Central Division. Office, Winnipeg.

A. Wilcox, Superintendent, District 1, Fort Arthur, Ont., was on Nov. 1, appointed Assistant General Superintendent, with jurisdiction over matter pertaining to transportation, and with office at Winnipeg. On Dec. 1 he was appointed General Superintendent, Western Division, with office at Edmonton, Alta.

J. E. Nelson, heretofore Trainmaster, Rainy River, Ont., has been appointed Superintendent, District 1, Fort Arthur, Ont., vice A. Wilcox, promoted.

M. B. Murphy, heretofore Superintendent, Duluth Rainy Lake & Winnipeg Ry., Virginia, Minn., has been appointed Superintendent, District 2, vice A. E. Warren, promoted. Office, Winnipeg.

W. A. Kirkpatrick, heretofore Operating Inspector, has been appointed acting Assistant Superintendent in charge of Winnipeg Terminals.

E. Durrell, heretofore conductor, has been appointed Trainmaster at Dauphin, Man., vice G. W. Chapman, transferred.

**Canadian Pacific Ry.**—G. M. Bosworth, Vice President in charge of the company's traffic and ocean steamship lines, has also been given jurisdiction over the telegraph, hotel and sleeping, dining and parlor cars departments, and chiefs of these departments now report to him.

H. G. Jones, Assistant Architect, Montreal, has resigned. We are officially advised that no appointment will be made to succeed him.

W. A. Cowan, heretofore Resident Engineer, Farnham, Que., has been appointed Inspecting Engineer, reporting to the Assistant Chief Engineer, Montreal.

H. Campbell Oswald has been appointed Assistant Secretary of the Company. Office, Montreal.

A. R. G. Heward, who has been absent from business for some time on account of ill health, retains the position of Assistant Secretary, also.

H. T. Ruhl, heretofore Resident Engineer, Sudbury, Ont., has been appointed Resident Engineer, District 1, Eastern Division, vice W. A. Cowan, promoted. Office, Farnham, Que.

J. D. Wells, heretofore locomotive engineer, Farnham, Que., has been appointed acting District Master Mechanic, District 1, Eastern Division, vice A. W. Horsey, transferred. Office, Farnham, Que.

H. A. Asty, heretofore Assistant Foreman at Ottawa, Ont., has been appointed Locomotive Foreman at Farnham, Que., vice H. A. Pepler, appointed District Master Mechanic, District 2 and Montreal, as announced in our last issue.

With reference to the re-arrangement of territory of the district master mechanics of the Eastern Division, as announced in our last issue, there are now

four, instead of three, as heretofore, their names, districts and locations being as follows:—J. D. Wells, acting, District 1, Farnham, Que., vice A. W. Horsey, absent on sick leave; H. A. Pepler, District 2 and Montreal Terminals, Montreal; W. Borbridge, District 3, Montreal; J. M. Burke, District 4, Ottawa, Ont.

The following ticket agents have been appointed: T. C. Ivory, Omeme, Ont.; A. J. Leitch, Dutton, Ont.; McKenzie and Co., Thedford, Ont.; W. S. Beamish, Bothwell, Ont., vice E. Humphries; R. Scott, Clifford, Ont.; W. J. Jones, Parry Sound, Ont., vice W. B. W. Armstrong, resigned.

A. E. Stewart, heretofore locomotive engineer, has been appointed acting District Master Mechanic, London, Ont., vice John Burns, appointed Master Mechanic, Eastern Division, Montreal. We are advised that it is expected that A. W. Horsey, District Master Mechanic, District 1, absent on sick leave, Eastern Division, Farnham, Que., will be appointed District Master Mechanic at London, Ont.

A. Sturrock has been appointed Shop Foreman at Fort William, Ont.

D. Cossar has been appointed Shop Foreman at Kenora, Ont.

T. S. Bertram has been appointed Night Shop Foreman at Kenora, Ont.

As announced in our last issue, C. H. Temple, formerly Assistant Superintendent of Motive Power, Western Lines, has been appointed Superintendent of Motive Power, Western Lines, in consequence of the appointment of Grant Hall as Assistant General Manager, Western Lines, Mr. Temple has charge of the Car Department as well, though this was not stated in the circular. G. H. Eaton continues as Assistant Master Car Builder.

W. E. Allison, heretofore chief clerk, General Baggage Agent's office, Montreal has been appointed General Travelling Baggage Agent. Office, Winnipeg.

James Jones, heretofore Freight Claims Agent, Vancouver, B.C., has been appointed Freight Claims Agent, Moose Jaw, Sask., vice James Black, transferred to Vancouver.

J. W. Keppel, heretofore leading fitter, has been appointed Night Foreman at Sutherland, Sask.

R. B. Bennett, K.C., M.P., has resigned as the company's counsel for Alberta.

L. Charlton has been appointed Travelling Freight Agent, Alberta Division. Headquarters, Calgary. C. S. Morse is also Travelling Freight Agent, with headquarters at Lethbridge.

Joseph Little has been appointed Night Foreman at Medicine Hat, Alta.

A. Martin has been appointed Night Foreman at Calgary, Alta.

T. Riordan has been appointed Roadmaster, Red Deer subdivision, Alberta Division, vice M. Newlands, transferred to MacLeod.

James Boyes has been appointed Shop Foreman at Cranbrook, B.C.

James Black, heretofore Freight Claims Agent, Moose Jaw, Sask., has been appointed Freight Claims Agent, Vancouver, B.C., vice James Jones, transferred to Moose Jaw.

Consequent upon W. J. Pugsley leaving to take a position in the company's service in Canada, on account of health, the position of Passenger Agent at Liverpool, Eng., has been abolished. All correspondence for the Liverpool Passenger Department, should be addressed to F. W. Forster, Agent, Royal Liver Bldg., Liverpool.

**Central Vermont Ry.**—S. S. Russell, heretofore secretary to General Manager, has been appointed Superintendent of Car Service. Office, St. Albans, Vt.

A. C. West, heretofore Master Mechanic, Quebec, Montreal and Southern Ry., has been appointed Roundhouse Foreman, C.V.R., at St. Albans, Vt., vice

R. G. Gilbride, resigned to enter G.T.P.R. service.

W. J. Hamilton, heretofore charge-man, St. Albans shops, has been appointed Roundhouse Foreman, Montpelier Jct., vice H. J. Hague, transferred.

R. Ross, Boiler Foreman, St. Albans shops, has resigned to return to private business.

H. J. Hague, heretofore Roundhouse Foreman at Montpelier Jct., has been appointed Roundhouse Foreman at White River Jct., vice T. Palos, resigned to enter private business.

**Grand Trunk Pacific Ry.**—Niblock & Tull, Grain Exchange Building, Calgary, Alta., have been appointed city ticket agents, G.T.P.R. D. B. Niblock, of this firm, was formerly C.P.R. Ticket Agent at Calgary.

The following agents have been appointed:—Pope, Man., J. E. Lalonde; Uno, Man., A. W. Gould; Gerald, Sask., H. R. Adams.

**Grand Trunk Ry.**—C. R. Moore, heretofore chief clerk to the Superintendent, Middle Division, Toronto, has been appointed chief clerk to Vice President Kelley, Montreal.

J. A. Murphy has been appointed chief clerk to the Superintendent, Middle Division, Toronto, vice C. R. Moore, promoted.

T. Short, heretofore stationmaster at Stratford, Ont., has been appointed stationmaster at Hamilton, Ont., vice J. Carról, resigned.

F. Baker, heretofore conductor, has been appointed stationmaster at Stratford, Ont., vice T. Short, transferred.

H. H. Hamill, heretofore Soliciting Freight Agent, New York City, has been appointed Travelling Freight Agent, there, vice S. E. Dewey, appointed Commercial Agent, Pittsburgh, Pa.

T. J. Brown has been appointed Chief Train Dispatcher, Durand, Mich., vice H. J. Tobin, resigned.

The title of Second Assistant General Freight Agent, heretofore held by R. L. Burnap, recently appointed Assistant Freight Traffic Manager, Chicago, Ill., as announced in our last issue, has been abolished.

T. A. Chappell has been appointed Travelling Freight Agent, Philadelphia, Pa., vice Jas. Waugh, appointed Commercial Agent, Omaha, Neb., as announced in our last issue.

The following agents have been appointed:—St. Annes, Que., S. A. Wickens; Emsdale, Ont., G. F. Meyers; Milton, Ont., B. Sine; Grimsby, Ont., S. B. Bradley; Thorold, Ont., W. G. Baker; Harley, Ont., R. E. Strain; Fergus, Ont., S. Young; Lucknow, Ont., O. A. Martin; Welland, Ont., J. McMillan; Carlsbad Springs, Ont., J. L. Foster; Barry's Bay, Ont., M. G. Billings; Rainy Lake, Ont., H. D. Reynolds; the stations at Holland Landing, Ont., J. L. O'Brien, acting agent, and at Wyebridge, Ont., G. McMann, acting agent, have been closed. The following outside agents have been appointed:—Hamilton, Ont., C. R. Morgan, acting city passenger and ticket agent; St. Marys, Ont., L. Spearin.

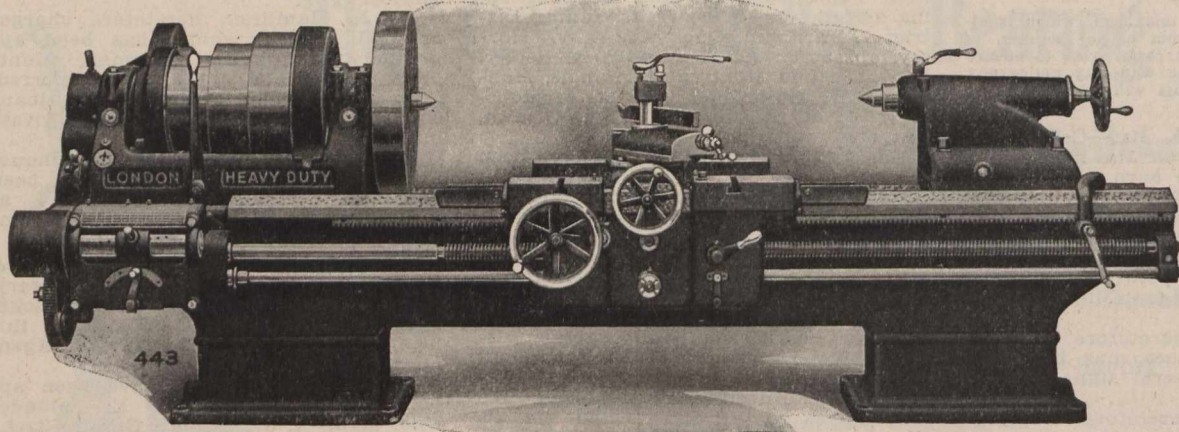
**Great Northern Ry.**—V. Kistler, heretofore District Freight and Passenger Agent, Grand Forks, B.C., has been appointed Contracting Freight Agent, Portland, Ore.

**Kaslo and Slocan Ry.**—The officials of this company, as recently re-organized, are:—President, James Anderson; Vice President, H. Giegerick; Manager, J. L. Retallack; Secretary, W. H. Burgess.

**Maine Central Rd.**—A. P. Foss, heretofore Auditor of Disbursements, has been appointed Assistant Comptroller. Office, Portland, Me.

A. J. Raynes has been appointed Auditor of Disbursements, vice A. P. Foss, promoted. Office, Portland, Me.

**National Transcontinental Ry.**—A. G. McFarlane, heretofore Inspecting En-



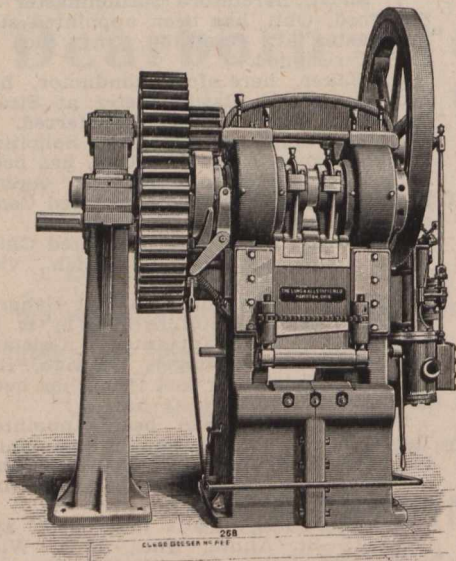
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**Heavy Duty**

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- Double Friction Back Gears
- Compensated Ways
- Hardened Steel Spindle
- Double Apron cast in one piece

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HAMILTON, CANADA



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PUNCHING & SHARING  
MACHINERY**

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

**A. D. HANNAH & D. HOGG,**  
PROPRIETORS

**ARTHUR M. GRANT,**  
MANAGER

gineer, has been appointed acting District Engineer, District F, Winnipeg, vice S. R. Poulin, deceased.

**New York Central Lines.** — J. F. Deems, General Superintendent of Motive Power, Rolling Stock Machinery, has resigned to become President, Ward Equipment Co., New York. The position of General Superintendent of Motive Power has been abolished, each Superintendent of Motive Power and Rolling Stock has full charge of his department and reports to his General Manager.

**Pere Marquette Rd.**—W. L. Kellog, heretofore Superintendent of Motive Power, Cincinnati, Hamilton and Dayton Ry., is reported to have been appointed Superintendent of Motive Power, P.M.R., Detroit, Mich.

**Railway Rolling Stock Notes.**

The C.P.R. is in the market for ten sleeping cars.

F. H. Hopkins and Co. have ordered one Lidgerwood flat car from the Canadian Car and Foundry Co., Montreal.

The Grand Trunk Ry. has ordered 2,000 steel underframe box cars, 30 tons capacity, from the Canadian Car and Foundry Co., Montreal.

The Algoma Steel Co. has ordered 15 all steel flat cars, 40 tons capacity, and ten special coke transfer cars, from the Canadian Car and Foundry Co., Montreal.

The 2,000 steel underframe box cars which the G.T.R. has ordered from the Canadian Car and Foundry Co., Montreal, will be mainly similar to the 1,000 mentioned in our July issue.

The Intercolonial Ry. has ordered 52 box cars from the Canadian Car and Foundry Co., Montreal; five first class passenger cars from the Preston Car and Coach Co., Preston, Ont., three vans from its Moncton shops, and nine box cars.

The G.T.P.R. has received 12 consolidation and two switching locomotives from the Montreal Locomotive Works, and six colonist cars, nos. 3032 to 3037, and four mail and express cars, nos. 106 to 109, from the Canadian Car and Foundry Co., Montreal.

The Algoma Central and Hudson Bay Ry. has ordered six first class cars, two baggage cars, and 30 steel frame box cars, 40 tons capacity, from the Canadian Car and Foundry Co., Montreal, and four second class cars from the Preston Car and Coach Co., Preston, Ont.

The Canadian Northern Ry., between Oct. 15 and Nov. 15, received the following additions to rolling stock: 175 box cars, two first class cars, two baggage cars, and one sleeping car, from the Canadian Car and Foundry Co., Montreal, and 35 box cars from the Crossen Car Co., Cobourg, Ont.

The eight second class and baggage cars and the two second class and mail cars, which the Canadian Northern Ry. is having built by the Preston Car and Coach Co., Preston, Ont., are 72½ ft. long over all, and equipped with six-wheel trucks, steel tired wheels, Simplex high speed brake beams, cast steel bolsters, diamond S steel back brake shoes, Gold hot water and steam heating, acetylene gas, etc.

The Canadian Northern Ry., between Oct. 15 and Nov. 15, ordered nine baggage cars from the Canadian Car and Foundry Co., Montreal; 31 ten-wheel passenger locomotives, 20 ten-wheel freight locomotives, and one rotary snow plough from the Montreal Locomotive Works, and 25 freight consolidation superheater locomotives, and five 6-wheeled switching locomotives from the Canadian Locomotive Co., Kingston, Ont.

The C.P.R., between Oct. 14 and Nov. 14, received the following additions to rolling stock: 125 wooden box cars, one van, three flangers, six D.10 locomotives, one R.1 Mallet locomotive, from its Angus shops, Montreal; 485 steel frame box cars, from the Canadian Car and Foundry Co., Montreal; 13 N.3 locomotives from the Montreal Locomotive Works; six N.3 locomotives from the Canadian Locomotive Co., Kingston, Ont., and 197 steel frame box cars from the United States.

The C.P.R., between Oct. 14 and Nov. 14, placed orders at its Angus shops, Montreal, for the following rolling stock: 59 box cars, six stock cars, three vans, one freight refrigerator car, two flangers, two snow ploughs, one superintendent's car, 12 tourist cars, six observation cars, five dining cars, six sleeping cars, three cafe-parlor car, two switching locomotives, and five G.2 locomotives, and ordered 2,500 steel frame box cars, 40 tons capacity, from the Canadian Car and Foundry Co., Montreal.

The Algoma Steel Co. has ordered 25 all steel Otis general service cars, 40 tons capacity, from the Hart-Otis Car Co., Montreal. These will be built by the Canadian Car and Foundry Co., Montreal. Following are the chief details:—

Length over end sills	21 ft. 9½ ins.
Length inside	19 ft. 1 in.
Width over all	9 ft. 11¼ ins.
Width inside	9 ft. 6 ins.
Height inside	4 ft. 6 ins.
Height from rail to top	8 ft. 10¾ ins.
Height from rail to floor	4 ft. 4¾ ins.
Truck centres	11 ft. 11 ins.
No. of doors on each side	4
Width of door opening	2 ft. 2 ins.
Length of door opening	19 ft. 1 in.

Following are chief details of the 15 first class cars which the Canadian Northern Ry. has ordered from the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue:—

Length over end sills	72 ft. 6 ins.
Width over side sills	9 ft. 10½ ins.
Width over all at eaves	10 ft. 2¾ ins.
Width between deck sills	5 ft. 6 ins.
Height top of sill to bottom plate	6 ft. 8½ ins.
Platforms	Standard Coupler Co.
Body bolsters	Double cast steel
Lighting	Commercial Acetylene Co.
Heating	Gold Duplex, Frumveller heater
Hoppers	Duner Co.
Air brakes	Westinghouse P.M. 1612
Truck wheels, 36 ins. steel tired, cast steel centres	Axles
	M.C.B., 4¼ by 8 ins.
Brake beams	Simplex high speed
Journal boxes	McCord malleable

The Algoma Central and Hudson Bay Ry. has ordered 75 Otis composite general service cars, one of which is illustrated on this page, from the Hart-Otis Car Co., Montreal, in addition to the 50 previously ordered. Following are the chief dimensions:—

Length over end sills	38 ft. 9 ins.
Length inside	36 ft. 5 ins.
Width over all	9 ft. 11 ins.
Width inside	9 ft. 7 ins.
Height inside	4 ft. 6 ins.
Height from rail	8 ft. 10 13-16 ins.
Height from rail to floor	4 ft. 4 13-16 ins.
Wheel base of truck	5 ft. 6 ins.
Truck centres	26 ft.
No. of doors on each side	6
Width of door opening	2 ft.
Length of door opening	36 ft. 5 ins.
Capacity	110,000 lbs.
Tare weight	37,800 lbs.

Following are chief dimensions and details of special equipment of the 15 steel flat cars and 10 special coke cars, which the Algoma Steel Co. is having built by the Canadian Car and Foundry Co., Montreal:

Steel Flat Cars.	
Capacity	80,000 lbs.
Length over end sills	36 ft.
Width over side sills	8 ft. 10 ins.
Brakes	Westinghouse H.C. 812
Couplers	Simplex cast steel
Trucks	Diamond arch bar
Wheel base	5 ft. 2 ins.
Axles	M.C.B.
Bolsters and brake beams	Simplex
Journal bearings	M.C.B.
Journal boxes	Cast iron
Wheels	33 ins. M.C.B.

Special Coke Cars.	
Capacity	60,000 lbs.
Length inside body	37 ft. 2¾ ins.
Width inside body	7 ft. 5¾ ins.
Other particulars as above.	

Following are chief details of the 400 Hart convertible ballast and construction cars, which the Canadian Northern Ry. has ordered from the Hart-Otis Car Co., Montreal, as mentioned in our last issue. These cars will be of the latest type, and will be built, under license, by the Canadian Car and Foundry Co., Montreal. They are intended for delivery during 1912:

Capacity	80,000 lbs.
Width over side sills	8 ft. 10 ins.
Length inside as hopper	20 ft. 10 ins.
Length inside as gondola	34 ft. 8 ins.
Width inside	8 ft. 8 ins.
Width over all	10 ft. 2½ ins.
Width at top	9 ft. 10 ins.
Height from rail to floor	4 ft. 4¼ ins.
Height from rail to top of car	8 ft. 1¾ ins.
Height inside	3 ft. 9¼ ins.
Truck centres	26 ft. 8 ins.
Wheel base of truck	5 ft. 4 ins.
Length of hopper door opening	16 ft. 8½ ins.
Width of hopper door opening	2 ft.

Following are chief details of the 300 steel underframe flat cars which the Canadian Northern Ry. has ordered from the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue:—

Back to back of end sills	41 ft. 9¼ ins.
Width over side sills	8 ft. 10 ins.
Truck centres	31 ft. 2 ins.
Wheel base	5 ft. 4 ins.
Height from top of rail to top of floor	4 ft. 2¾ ins.
Height, top of rail to centre of drawbar	2 ft. 10½ ins.
Draft springs	M.C.B. Class G
Air brakes	Westinghouse K.C. 812
Trucks	Standard 40 ton Diamond arch bar type
Wheels	Cast iron, 33 ins.
Axles	M.C.B.
Journals	5 by 9 ins.
Journal bearings	M.C.B.
Journal boxes	McCord
Truck springs	M.C.B. Class C
Brakebeams and bolsters	Simplex
Brake shoes	Steel back

Following are the chief details of the rotary snow plough which the Canadian Northern Ry. has ordered from the Montreal Locomotive Works:—

Cylinders, diar. and stroke	17 by 22 ins.
Truck wheels	33 ins.
Boiler, diar.	60 ins.
Boiler, pressure	190 lbs.
Firebox, length and width	92 by 50 ins.
Tubes, no. and diar.	202 2 ins.
Tubes, length	9 ft. 8 ins.
Wheel base, trucks	4 ft. 6 ins.
Wheel base, total	19 ft. 8½ ins.
Total wheel base, plough and tender	52 ft. 6 ins.
Weight on forward truck	82,000 lbs.
Weight on rear truck	70,000 lbs.
Weight, total	152,000 lbs.
Weight, tender	123,600 lbs.
Heating surface, tubes	1,022 sq. ft.
Heating surface, firebox	130 sq. ft.
Heating surface, total	1,152 sq. ft.
Grate area	31.9 sq. ft.
Width of drum	10 ft.
Width of cut	10 ft. 7 ins.
Rotary wheel diar.	9 ft. 8½ ins.
Rotary wheel, type	Scoop

Following are chief details of the D.10g locomotives which the C.P.R. is building at its Angus shops, Montreal, as mentioned in a recent issue:—

Weight on drivers	149,000 lbs.
Weight, total	198,500 lbs.
Cylinders, diar. and stroke	21 by 28 ins.
Valves, diar. and kind	11 ins. piston
Boiler, type	Extended wagon top
Boiler, pressure	200 lbs.
Heating surface, tubes	2,229 sq. ft.
Heating surface, firebox	180 sq. ft.
Heating surface, total	2,409 sq. ft.
Heating surface, superheater	408 sq. ft.
Tubes, no. and diar.	239 2 ins., 24 5 ins.
Tubes, length	14 ft. 2¾ ins.
Firebox	8 ft. 6¼ ins. by 5 ft. 9¾ ins.
Grate area	49 sq. ft.
Tank capacity, water	5,000 imp. gals.
Tank capacity, coal	10 tons
Axles, main	9½ by 12 ins.
Axles, others	9 by 12 ins.
Brakes	Westinghouse E.T.6
Headlight	Pyle National Electric
Valve gear	Walschaert
Superheater	Vaughan and Horsey

The Quebec Central Ry. has ordered two mogul locomotives from the Cana-



## FOR WELDING PURPOSES

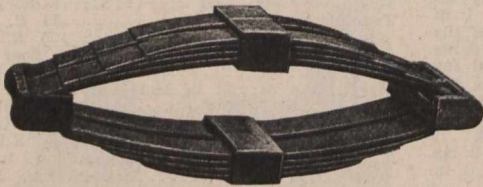
THE ROYAL LINE SS. ROYAL  
GEORGE

"At your request for a recommendation with reference to Blau-gas, I would say that we have used your Blau-gas and Oxygen for cutting out rivets and plates and have found it extremely satisfactory. It is much quicker than any other method of cutting I have seen used, also it can be used in places where hand work is impossible. I have much pleasure in recommending it to anyone requiring expeditious work of this kind."

THOS. DAVIDSON MFG. CO.,  
MONTREAL.

"We have your favor of the 31st ult., and beg to say that we have tested the boiler you welded for us, and found it perfect."

**THE BLAU-GAS COMPANY OF CANADA, LIMITED**  
27 MCGILL COLLEGE AVE., - - - - MONTREAL.



Double Elliptic Street Car Spring with Cast Ends

## RAILWAY SPRINGS

LOCOMOTIVE, TENDER AND PASSENGER CAR SPRINGS of every description.

EQUALIZING, DRAWBOARD, BUFFER AND SPIRAL SPRINGS of all kinds.

STREET RAILWAY SPRINGS, from the largest to the smallest.

TRACK TOOLS, RAIL BRACES, TIE PLATES, GUY ANCHORS AND RODS, LOCOMOTIVE SANDERS,  
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MONTREAL - CANADA

## A HISTORY OF THE PAY-AS-YOU-ENTER CAR AND ITS LESSON

The following cities are using Pay-As-You-Enter Cars: Chicago City Railway, 839 cars; Chicago Railways, 1,328; Public Service Corporation of New Jersey, 466; New York City Railway, 555; Third Avenue Railroad, New York, 550; International Railway, Buffalo, 200; Buffalo & Lake Erie Traction Co., 10; Washington Ry. & Elec. Co., Washington, D.C., 100; Capital Traction Co., Washington, D.C., 51; Municipal Traction Co., Cleveland, Ohio, 180; United Rys. Co. of St. Louis, Missouri, 310; Portland Ry., Lt. & Pwr. Co., Portland, Ore., 25; Columbus Ry. & Lt. Co., Columbus, Ohio, 10; Wichita R.R. & Lt. Co., Wichita, Kan., 14; Jacksonville Elec. Co., Jacksonville, Fla., 5; Dallas Elec. Co., Dallas, Texas, 20; Houston Elec. Co., Houston, Tex., 41; Northern Texas Trac. Co., Ft. Worth, Texas, 25; Ithaca Street Ry., Ithaca, N.Y., 2; Peoria Street Ry., Peoria, Ill., 13; Urbana & Champaign Ry., Champaign, Ill., 3; Mutual Lt. & Water Co., Brunswick, Ga., 4; Rochester Ry. Co., Rochester, N.Y., 25; Ft. Dodge, Des Moines & So. R.R. Co., 2; Muskogee Elec. Trac., Muskogee, Okla., 6; Union Traction Co., Dubuque, Ia., 4; Topeka Ry. Co., Topeka, Kas., 12; United Rys. & Elec. Co., Baltimore, Md., 32; Detroit United Ry., Detroit, Mich., 225; Cincinnati Traction Co., Ohio, 50; Montreal Street Railway, 400; British Columbia Elec. Ry., 30; Calgary Street Railway, 18; Metropolitan Street Ry., Kansas City, Mo., 50; Edmonton Radial Ry., 4; San Antonio Traction Co., San Antonio, Tex., 6; Rockford & Int. Ry., Rockford, Ill.; Cairo Street Ry. & Lt. System, 6; Des Moines City Railway, Iowa, 12; Macon Ry. & Lt. Co., Macon, Ga.; Virginia Ry. & Power Co.; Columbia Elec. St. Ry. & Lt. & Power Co., Columbia, S.C.; Aurora, Elgin & Chicago Ry., Chicago, Ill.; Wichita Falls Traction Co., Wichita Falls, Tex.; Ottawa Electric Ry. Co., Ottawa; Bloomington & Normal Ry. & Lt. Co., Bloomington, Ill.; Corsicana Transit Co., Corsicana, Tex.; Compania Electrica y de Ferrocarriles, Mexico; The Milwaukee Elec. Ry. & Lt. Co., Milwaukee, Wis.; Springfield Street Ry. Co., Springfield, Mass.; Lynchburg Traction Co., Lynchburg, Va.; Chicago & Southern Traction Co., Chicago, Ill.; Calumet & South Chicago Ry. Co., Chicago, Ill.

### THE LESSON

taught by this widespread use of Pay-As-You-Enter Cars is obvious. Increased Revenue, Accident Elimination and Schedule Improvement have been demonstrated in every case. Isn't all this sufficient to show that it always pays to operate the Pay-As-You-Enter Car? Why not remodel some of your present cars?

We license manufacturers and railways to build and use the Pay-As-You-Enter Car, the Patents on which are owned by

**THE PAY-AS-YOU-ENTER CAR CORPORATION, - 78 CRAIG STREET WEST, MONTREAL**

dian Locomotive Co., Kingston, Ont. Following are the chief details:—

Weight on drivers	122,000 lbs.
Weight, total	141,000 lbs.
Wheel base, rigid	15 ft.
Wheel base, total	23 ft.
Heating surface, tubes	1,741 sq. ft.
Heating surface, firebox	153 sq. ft.
Heating surface, total	1,894 sq. ft.
Driving wheels, diar.	56 ins.
Driving wheel centres. Main, steel; other cast iron	
Driving journals	9 by 12 ins.
Cylinders, diar. and stroke	20 by 26 ins.
Boiler, type	Radial stay
Boiler, pressure	200 lbs.
Tubes, no. and diar.	280 2 ins.
Tubes, length	11 ft. 11 ins.
Brakes	Westinghouse American
Weight of tender, loaded	104,000 lbs.
Capacity, water	4,300 imp. gals.
Capacity, coal	9½ tons
Tank, type	U-shape, sloping back
Truck, type	4-wheel with steel bolster
Wheels, diar.	33 ins.
Wheels, type	Steel tires, w.i. centres
Journals	5 by 9 ins.
Brake beams	Steel

Following are chief details of the five six-wheeled switching locomotives which the Canadian Northern Ry. has ordered from the Canadian Locomotive Co., Kingston, Ont.:—

Weight	123,000 lbs.
Wheel base	11 ft.
Heating surface, tubes	1,206 sq. ft.
Heating surface, firebox	181 sq. ft.
Heating surface, total	1,387 sq. ft.
Driving wheels, diar.	50 ins.
Driving wheel centres	Cast iron
Driving journals	8½ by 10 ins.

Tender, weight, loaded	144,000 lbs.
Capacity, water	6,000 imp. gals.
Capacity, coal	12 tons
Tank, type	Water bottom
Truck, type	Four wheeled equalized
Wheels, diar.	33 ins.
Wheels, type	Steel tired
Journals	5½ by 10 ins.
Brake beams	Simplex
Wheels, type	Solid steel
Journals	5½ by 10 ins.
Brake beams	Simplex high speed trussed beams

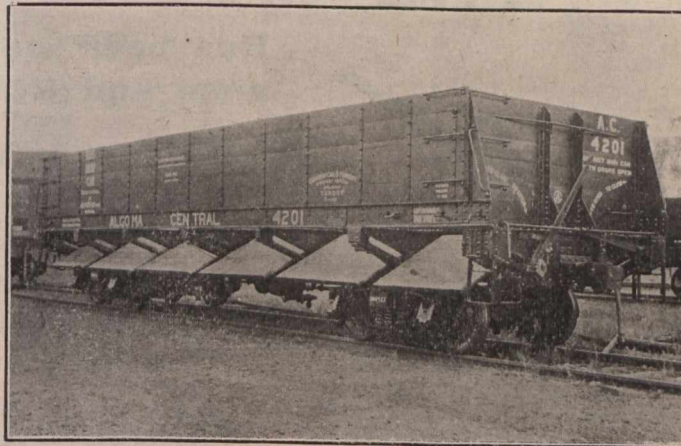
Following are the chief details of the D.4g locomotives which the C.P.R. is building at its Angus shops, Montreal, as mentioned in a recent issue:—

Weight on drivers	100,000 lbs.
Weight, total	135,000 lbs.
Weight of tender, loaded	118,000 lbs.
Tender capacity, coal	10 tons
Tender capacity, water	4,000 imp. gals.
Heating surface, firebox	152 sq. ft.
Heating surface, tubes	844 sq. ft.
Heating surface, total	996 sq. ft.
Heating surface, superheater	229 sq. ft.
Grate area	28.5 sq. ft.
Tubes, no. and diar.	115 2 ins., 18 5 ins.
Wheel base, driving	11 ft. 10 ins.
Wheel base of engine	22 ft. 1 in.
Wheel base, engine and tender	50 ft. 2 ins.
Boiler, type	Wagon top
Boiler pressure	180 lbs.
Superheater	Vaughan and Horsey
Staying	Radial and cross
Cylinders, diar. and stroke	19 by 24 ins.
Driving wheels, diar.	62 ins.
Valve gear	Walschaert
Valve, kind and size	Piston 11 ins.
Axes, main	8½ by 8½ ins.
Axes, others	8 by 8½ ins.

in the operation of local services on some of the lines of its subsidiary companies in the east, we are officially advised that the management has the matter under consideration, and is looking for the proper kind of car. When that is secured, services will be run out to Quebec and other points still to be determined. As mentioned in our last issue, one of the lines which may be so operated is the Cntral Ontario Ry., between Trenton and Picton.

Following are chief details of the 31 ten-wheel passenger locomotives and the 20 ten-wheel freight locomotives, equipped with superheaters, which the Canadian Northern Ry. has ordered from the Montreal Locomotive Works:—

	Passenger.	Freight.
Cylinders, diar. and stroke	22 by 26 ins.	20 by 24 ins.
Driving wheels, diar.	63 ins.	57 ins.
Boiler, diar. front end.	66 ins.	58¼ ins.
Boiler, pressure	170 lbs.	170 lbs.
Firebox, length	113 ins.	102 ins.
Firebox, width	40¼ ins.	41¼ ins.
Tubes, no. and diar.	185 2 ins.	133 2 ins.
	26 5½ ins.	18 5¾ ins.
Tubes, length	13 ft. 2¼ ins.	13 ft. 2¼ ins.
Wheel base, driving	14 ft. 6 ins.	13 ft. 6 ins.
Wheel base, engine	24 ft. 10 ins.	23 ft. 8 ins.
Wheel base, engine and tender	54 ft. 3 ins.	52 ft. 8 ins.
Weight on engine truck	36,000 lbs.	36,000 lbs.
Weight on driving wheels	136,000 lbs.	115,000 lbs.
Weight, total, engine	172,000 lbs.	151,000 lbs.



Otis Composite General Service Cars, built for the Algoma Central and Hudson Bay Railway.

Cylinders, diar. and stroke	19 by 26 ins.
Boiler, type	Radial stay
Boiler, pressure	180 lbs.
Tubes, no. and diar.	223 2 ins.
Tubes, length	10 ft. 5 ins.
Injectors	Locomotive type
Safety valves	Locomotive pop
Brakes	Westinghouse American
Tender, weight, loaded	86,000 lbs.
Capacity, water	3,500 imp. gals.
Capacity, coal	5 tons
Tank, type	Sloping back
Truck, type	Arch bars with steel bolsters
Wheels, diar.	33 ins.
Wheel, type	Wrought iron, steel tired
Journals	4¼ by 8 ins.
Brake beams	Steel trussed

Following are chief details of the 25 consolidation superheater locomotives which the Canadian Northern Ry. has ordered from the Canadian Locomotive Co., Kingston, Ont.:—

Weight on drivers	163,000 lbs.
Weight, total	188,000 lbs.
Wheel base, rigid	15 ft. 6 ins.
Wheel base, total	23 ft. 9 ins.
Heating surface, tubes	1,772 sq. ft.
Heating surface, firebox	179 sq. ft.
Heating surface, total	1,921 sq. ft.
Driving wheels, diar.	57 ins.
Driving wheel centres	Cast steel
Driving journals	Main 9½ by 12 ins. others 9 by 12 ins.
Cylinders, diar. and stroke	23 by 26 ins.
Boiler, type	Radial stay
Boiler, pressure	170 lbs.
Tubes, no. and diar.	179 2 ins., 24 5½ ins.
Tubes, length	14 ft.
Brakes	Westinghouse American
Superheater	Schmidt

Axes, tender	5 by 9 ins.
Axes, engine truck	5 by 8 ins.
Brakes	Westinghouse E.T.6
Headlight	Pyle National Electric

The Temiskaming and Northern Ontario Ry. has ordered four consolidation superheater locomotives from the Canadian Locomotive Co., Kingston, Ont.

Following are the chief details:—

Weight on drivers	180,000 lbs.
Weight, total	206,000 lbs.
Wheel base, rigid	15 ft. 10 ins.
Wheel base, total	24 ft. 8 ins.
Heating surface, tubes	1,898 sq. ft.
Heating surface, superheater	455 sq. ft.
Heating surface, firebox	166 sq. ft.
Heating surface, total	2,519 sq. ft.
Driving wheels, diar.	57 ins.
Driving wheel centres	Cast steel
Driving journals	Main 9½ by 12 ins.; others 9 by 12 ins.

Cylinders, diar. and stroke	23 by 30 ins.
Boiler, type	Extended wagon top, radial stayed
Boiler pressure	180 lbs.
Tubes, no. and diar.	250 2 ins., 24 5 ins.
Tubes, length	14 ft. 6 ins.
Air brakes	Westinghouse ET. 6
Superheater	Vaughan and Horsey, 24 superheater elements of 4 1¼ ins. tubes each
Tender, weight, loaded	130,000 lbs.
Capacity, water	5,500 imp. gals.
Capacity, coal	10 tons
Tank, type	Water bottom
Truck, type	Four wheeled equalized
Wheels, diar.	36 ins.

With reference to press reports to the effect that the Canadian Northern Ry. is considering the use of gasoline motors in the operation of local services on some

Weight of tender	122,000 lbs.	122,000 lbs.
Heating surface, tubes	1,746 sq. ft.	1,241 sq. ft.
Heating surface, firebox	183 sq. ft.	139 sq. ft.
Heating surface, total	1,929 sq. ft.	1,380 sq. ft.
Grate area	31.6 sq. ft.	29.2 sq. ft.
Maximum tractive power	28,900 lbs.	24,300 lbs.
Tender, water capacity	5,000 imp. gals.	5,000 imp. gals.
Tender, coal capacity	10 tons	10 tons

Following are chief dimensions and details of special equipment of the six first class cars, two baggage cars and 30 steel frame box cars, which the Algoma Central and Hudson Bay Ry. is having built by the Canadian Car and Foundry Co., Montreal:

First Class Cars.	
Length over end sills	.60 ft. 8 ins.
Width over side sills	.9 ft. 10 ins.
Width between deck sills	.5 ft. 6 ins.
Vestibules	Pullman, type C
Curtains	Holden Co.
Diaphragms	Ajax
Bolsters	Double cast steel
Buffers and platforms	Standard Coupler Co.
Water system	Gravity and air
Hoppers	Duner Co.
Heating	Hot water, Canadian Gold Car Heating and Lighting Co.
Air brakes	Westinghouse L.N. 1412
Trucks	Standard 4-wheel wood frame, 80,000 lbs. capacity
Axes	M.C.B.
Wheels	Steel tired, c.i. centres, 36 ins.
Journal boxes	McCord
Journal bearings	M.C.B.
Brake beams	Simplex

The two baggage cars are mainly as above.

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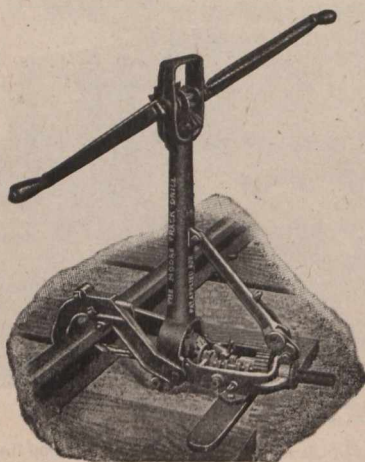
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And it has other advantages too numerous to mention in this space.

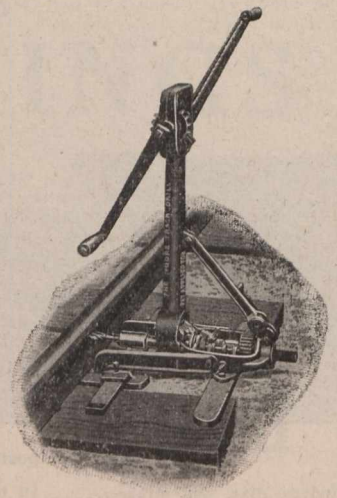
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232 ST. JAMES STREET,

## MONTREAL

Steel Frame Box Cars.	.....	36 ft.
Length inside body	.....	8 ft. 6 ins.
Width inside body	.....	Westinghouse K.C. 812
Brakes	.....	Diamond arch bar, 80,000 lbs.
Trucks	.....	5 ft. 2 ins.
Wheel base	.....	Simplex
Bolsters	.....	Susemihl
Side bearings	.....	Simplex
Brake beams	.....	M.C.B.
Journal bearings	.....	M.C.B.
Journal boxes	.....	33 ins. M.C.B.
Wheels	.....	

### Among the Express Companies.

W. A. Best has been appointed agent, Canadian Northern Ex. Co., Regina, Sask.

E. A. Brand has been appointed agent, Canadian Ex. Co., Hamilton, Ont., vice W. A. Robinson.

J. H. Parr, heretofore Route Agent, Canadian Ex. Co., has been appointed agent at Quebec, Que.

E. C. Macintyre has been appointed agent, Dominion Ex. Co., Rossland, B.C., vice C. W. Waistell.

W. McKellar has been appointed agent, Canadian Ex. Co., Seaforth, Ont., vice W. Somerville, resigned.

R. S. Cradock has been appointed agent, Dominion Ex. Co., Port Arthur, Ont., vice J. Wood, resigned.

W. S. Martin, heretofore acting agent, Dominion Ex. Co., has been appointed agent at Portage la Prairie, Man.

J. Wood, heretofore agent, Dominion Ex. Co., Port Arthur, Ont., has been appointed agent at Brandon, Man., vice W. S. Martin, transferred.

The Canadian Northern Ex. Co. is now operating over the Central Ontario Ry., having displaced the Dominion Ex. Co., which, however, retains its offices at Marmora and Bannockburn.

The Canadian Ex. Co. is now operating its service over the Quebec Oriental Ry., between Matapedia and Grand River, Que., and has opened offices at Gascons, Grand River, Newport, Paspebiac, Port Daniel, Ste. Adelaide and St. Godefroi.

The town of Montcalm is making complaint before the Quebec Public Utilities Commission, against the Dominion and American Express Companies, regarding their refusal to deliver parcels within the town limits. The question as to the jurisdiction of the Commission to deal with the matter was raised, and after some discussion it was agreed to leave the matter to be settled by the Chairman. If he decides that the Commission has jurisdiction, a date will be fixed for the hearing.

The Board of Railway Commissioners has authorized the Montreal and Southern Counties Ry. Express Department to use for local service between Montreal and Longueuil, the form of merchandise receipt contained in the Board's judgment, Dec. 24, 1910, without pars. 4, 5 (i), 7 (b), 7 (c), and 8, also the last clause of par. 3, for which the company shall add to its Standard Tariff, which was approved by order 15236, Oct. 11, the following clause:—"If the shipper desires the company to assume liability in excess of \$50, an additional charge of 5c for each \$100 or fraction thereof will be made."

The Board of Railway Commissioners recently ordered express companies subject to its jurisdiction, pending the disposition of question of joint tariffs, to graduate shipments of express freight subject to graduate charges and carried by two or more companies, under the lowest through or aggregate rate per 100 lbs. The graduate under \$2 per 100 lbs. to be the minimum through rate, unless joint rate is published. Companies to submit supplement to Express Classification for Canada C.R.C. 2, making such changes as may be necessary by Nov. 22, and to prepare with reasonable

dispatch, joint tariffs in accordance with the Board's judgment of Dec. 24, 1910, for traffic over any continuous route in Canada operated by two or more companies.

The Express Traffic Association recently applied to the Board of Railway Commissioners to cancel section D of the express classification, relating to books, maps, almanacs and other printed matter, on the ground that the rates had proved unremunerative, that for long distances they favored some shippers more than others, and that they should be made to conform to the other express rates of the association. Chief Commissioner Mabee, in dismissing the application, said that the association had given no evidence to show that the rates had not been remunerative, indeed the association had extended the classification to cover shipments of 10 lbs., whereas the postal service limited each shipment to 5 lbs. He also stated that the association had agreed to an international scale with the United States express companies covering many items in schedule D. The application of the Toronto Board of Trade to increase the weight of books carried under schedule D, was also dismissed, the Chief Commissioner stating that the Board had no authority to grant the request. The Express Traffic Association obtained the Board's consent to vary the order, so as to provide that the charges on empties must be prepaid by the consignees, unless an agreement to the contrary is made.

The Board of Railway Commissioners has sent a circular to the mayors of municipalities at 46 points east of Port Arthur, Ont., regarding express delivery limits within such towns, as follows: "The express collection and delivery limits in cities, towns and villages were fixed by the Board's order 13357, at the municipal boundaries, but this was merely a provisional measure, and leave was reserved to the companies to apply to the Board for the establishment of reasonable collection and delivery zones in cities, towns and villages, if any, where for any special reasons it might be unreasonable to require collection and delivery services to be made throughout the entire area thereof. Applications have been made in regard to these limits at various points, and these have either been settled by conference between the municipal authorities and the express companies, or failing such agreement, have been settled by the Board. The express companies concerned will take up the matter of collection and delivery limits with you, and if you and the representative or representatives of the express company or companies are unable to agree as to what are reasonable limits, the matter will then be dealt with by an officer of the Board."

### Telegraph and Cable Matters.

It is reported in North Sydney, N.S., that the Western Union Telegraph Co. is considering the removal of its North Sydney office to Lloyd's Cove.

G. M. Bosworth, Vice President, C.P.R., in charge of traffic, has had his jurisdiction extended to cover, among other departments, the whole of the telegraph system, the chief of which will now report to him.

The Assistant Postmaster General, in response to questions, in the British House of Commons, Nov. 14, stated that he hoped to be in a position shortly to make a statement regarding the reduction of cable rates between Great Britain and Canada.

S. J. Baker has been appointed acting Telegraph Inspector, Saskatchewan Division, C.P.R. Telegraphs, with head-

quarters at Saskatoon. We are officially advised that the appointment is only a temporary one. A. C. Fraser is Telegraph Inspector, Saskatchewan Division, with headquarters at Moose Jaw.

The Great North Western Telegraph Co. has offered to place its wires underground at Sparks and Rideau Sts., Ottawa, for a cash payment of \$9,000. The city board of control is favorable to the proposition, and, it is stated, will recommend to the city council that it be accepted.

C. E. Davies, Local Manager, Great North Western Telegraph Co., Ottawa, Ont., has also been appointed Supervisor of Equipment, with jurisdiction over the company's equipment at London, Hamilton, Toronto, Kingston, Ottawa, Montreal, Quebec and Campbellton. This latter position is a new one.

At a recent meeting of the directors of the Montreal Telegraph Co., Hugh A. Allan resigned the Presidency, and his seat on the board, on account of having taken up his residence in England. Since the organization of the company in 1847, with the exception of the first five years, an Allan has been President. W. McMaster, heretofore Vice President, was elected President, and Wm. Wainwright was elected Vice President. B. McLennan was elected a director to fill the vacancy on the board.

James Kent, Manager, C.P.R. Telegraphs, who returned to Montreal recently from a trip of inspection of the lines to the Pacific coast, stated that two additional wires have been strung from Winnipeg to Calgary, one by way of Arcola and Regina, and the other by way of Saskatoon and Edmonton. A new wire has also been erected between Calgary and Vancouver. In speaking of the C.P.R. building now being erected at Toronto, he said that the Telegraph Department would occupy the top floor, which would be equipped with the latest type of instruments.

The Marconi's Wireless Telegraph Co., Ltd., of London, Eng., has, we are advised, instituted proceedings against Siemens Bros. and Co., Ltd., for alleged infringement of the Marconi Co.'s patents by the use of the German Telefunken Co.'s system. This is the third suit which has recently been instituted by the Marconi's Co. The first suit against the British Radio-Telegraph and Telephone Co., Ltd., resulted in a decision being given in Feb. last in favor of the Marconi's Co. The second suit, against the Lodge-Muirhead Syndicate, terminated in a settlement by which the Marconi's Co. took over all the Lodge-Muirhead patents, and by which Sir Oliver Lodge becomes associated with the Marconi's Co. as a scientific adviser.

**American Railway Master Mechanics' Association.**—Master Car Builders' Association. At a recent joint meeting of the executive committees of these associations, it was decided to hold the annual conventions for 1912, at Atlantic City, N.J., June 12 to 14 for the first named and June 17 to 19 for the latter. It was also decided, on the suggestion of railway men to make certain changes in the entertainment programme, which it is anticipated will dispense with all of the entertainment items except the ball game. Preference in the assignment of accommodation at the headquarters hotel will be given to members who made application by Dec. 1.

A Dwight Smith, Railway Sales Engineer, Northern Electric & Manufacturing Co., Montreal, who is contributing a series of articles on telephone train dispatching to the Railway and Marine World, read a paper on the subject before the Central Railway and Engineering Club at Toronto, Nov. 21.



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Poor Richard, Jr.

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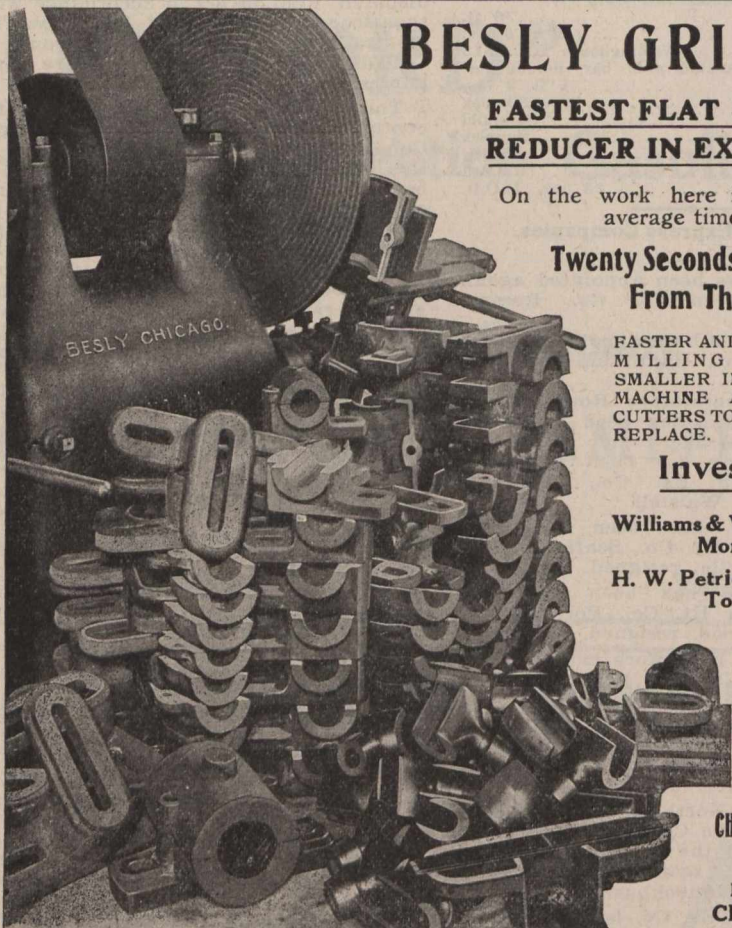
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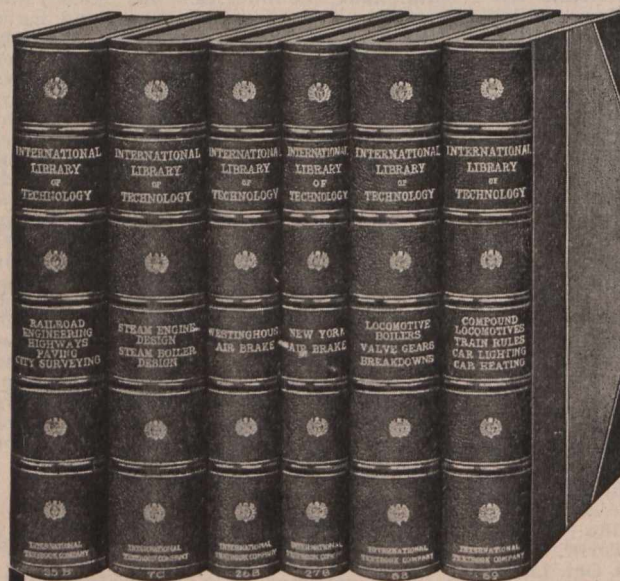
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# ELECTRIC RAILWAYS

## Canadian Street Railway Association.

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ASSOCIATION'S OFFICE, 70 Bond St., Toronto. EXECUTIVE COMMITTEE.—E. P. Coleman, Manager of Railways, Dominion Power and Transmission Co.; H. M. Hopper, General Manager, St. John Ry.; J. E. Hutcheson, Superintendent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.; D. McDonald, General Manager, Montreal St. Ry.; M. N. Todd, President, Galt, Preston and Hespeler St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager Railway and Marine World.

OFFICIAL ORGAN, THE RAILWAY AND MARINE WORLD.

## The Proposed Tube Railways in Toronto and Surface Connections.

The Toronto city council's legal department is preparing for submission to the ratepayers on Jan. 1, a bylaw to authorize the construction of a tube system of railways, with surface connections for the city. The ratepayers have already approved a bylaw favoring the carrying out a rapid transit project of which a tube railway was a principal part, but a proviso was attached to this bylaw to the effect that no construction of a tube railway should be undertaken until the money was specifically voted for that object. In order to provide the necessary data for this bylaw, plans were prepared in the City Engineer's offices of the railway department of which E. L. Cousins is in charge, for the complete system, and tenders were invited for the building of the tube. Fourteen tenders were received, Nov. 2, for the work either as a whole or for sections. That of M. J. Haney & Co., Toronto, is the lowest, the cost working out at \$2,474,781. The McKnight Construction Co., Toronto, Clark and Monds, Toronto, and the Litchfield Construction Co., Brookline, Mass., tendered upon one section of the work each; while the following firms tendered upon the whole work, the figures appended being the approximate cost on the basis of the price per cubic yard tendered:

M. J. Haney & Co., Toronto	.....	\$2,474,781
F. L. Crawford, Brooklyn, N.Y.	.....	2,845,590
Canadian Stewart Co., Montreal	.....	2,930,713
Connors Bros., Lowell, Mass.	.....	2,962,887
Orpen & Co., Toronto	.....	3,091,927
Larkin & Sangster, St. Catharines, Ont.	.....	3,456,754
Hugh Navin & Co., Boston, Mass.	.....	3,730,580
P. McGovern, Boston, Mass.	.....	3,849,390
Smith & Pinnock, New York	.....	3,900,000
Coleman Bros., Boston, Mass.	.....	3,912,186
Anglo-Canadian Construction Co., Toronto	.....	5,196,542

The estimates presented to the board of control by the City Engineer, Nov. 20, place the total cost of the work at \$5,171,395, made up as follows: The contract for the bare tube, \$2,474,781; rearrangement of gas and water mains, sewers, etc., \$1,251,581; underpinning buildings, \$75,000; equipment, block signals, wiring, lighting tracking, station entrances, etc., \$573,000; land damages, \$250,000; carrying expenses during work of construction, including interest and sinking fund, \$250,000; engineering, \$75,000.

The plans and specifications upon which the tenders for the tube construction were asked, provided that the tenders were submitted on the understanding that no contract could be entered into until the taxpayers had passed a bylaw authorizing the expenditure. The plans show a line starting at Front St., and extending under Bay St. to Queen St.

West, under the corner of the City Hall lawn to Terauley St., across under College St., to St. Vincent St., under the property on the west side of Chapel St., under North St. to Bloor St., under several properties to Ketchum Ave., then swinging round across under Davenport Road, and keeping west of Yonge St., crossing the C.P.R. and coming out to Yonge St. at Alcorn and Shaftesbury Avenues, then along Yonge St. to St. Clair Ave., a distance of three miles. The profile shows that the total rise in gradient from Front St. to St. Clair Ave. is 208½ ft. The gradient rises gradually to near McMurrich Ave., where it is 122 ft. higher than Front St.; and then descends to Gibson Ave., where it is 105¼ ft. higher than Front St.; ascending again to Balmoral Ave., the remaining portion of the subway being level. Provision is made for stations at Front St., King St., Albert St., College St., Bloor St., Davenport Road, Roxborough St., Shaftesbury Ave., and St. Clair Ave. The section plans show a subway 32 ft. 2 in. wide and over 19 ft. high over all, with an up and down tube, the inside measurements of each tube being 12 ft. side to side, 16 ft. 6 in. in height. When the ballasting is put in each tube will have a height of 15 ft. from top of rail to the top of tube arch. The top of the outside of the subway will be from three to ten feet below the surface of the ground. The subways at stations will be 44 ft. 3 in. over all, a platform 16 ft. in width being provided in each tube. The walls at the stations are set back just over eight feet on each side, to the platform level, which is extended on a cantilever to within about three inches of the car; the lower portion of the subway being of the same width as the tubes.

According to the specifications prices were asked for the work upon each quarter of a mile of tunnel, at per cubic yard for excavation, and at per cubic yard of concrete, with reinforcing steel at per pound. The walls of the subway are to be 2 ft. 7 in. thick, with a partition wall 1 ft. thick; provided with proper drainage and waterproofed on the top outside. The estimated quantity of material to be excavated is 462,658 cubic yards, the greater part of which is blue clay, varying from 3 to 17 ft. below the surface, with a covering of filled in material, and occasionally a small quantity of quick sand. It is estimated that there will be required for the construction of the tube work, 150,416 cubic yards of concrete, of which 127,381 will be 1:2:4 mixture, and 23,035 will be 1:4:8 mixture. The quantity of steel for reinforcing is estimated at 9,134,920 lbs. The waterproofing material required will average about 11.10 square yards per linear foot of tunnel.

The city has under construction a surface line along St. Clair Ave., for about three miles westerly from Yonge St. St. Clair Ave. is being extended and widened to 100 ft. for this distance, and as soon as possible track laying will be gone on with. At the extreme eastern boundary of the city another line is under construction on Gerrard St., westerly towards Yonge St. Considerable grading has been done, and track laying has been started. It is proposed that these lines will connect with the Yonge St. tube line, if it is built.

The Quebec Public Utilities Commission conducted a test of car fenders at Montreal, Nov. 8 and 9. Six patterns had been put before the Commission, but only four of the inventors submitted fenders for the test.

## The Selection and Method of Instruction of Trainmen in Order to Obtain Complete and Intelligent Accident Reports.

By A. E. Beck, Claim Agent, British Columbia Electric Railway.

In the selection of trainmen the management of a line should exercise great care and select none, even for trial, except such as are physically sound, quick as to intelligence and sober as to habits. When selected the candidate for service should receive thorough instruction as to the duties he will be called upon to perform, thus being made fit to become a servant of an exacting public, it being a well known and generally accepted fact that efficient and courteous trainmen have much to do with the securing and maintaining of the good repute of a public service corporation.

The selection of trainmen should be placed in the hands of one particular official. Once chosen for the service of the line the man should be turned over to the operating department for practical instructions in duties he will be called upon to perform, including knowledge of the various parts of a car and the best method of operating the equipment under every possible condition. When the term of instruction is completed the same official who originally selected the man for service should examine him as to proficiency, the responsibility for the appointment thus resting upon one man, the person who originally selected the candidate on general grounds and, after training and examination, finally passes upon the would-be employe on the strength of the detailed knowledge concerning the operation of trains which he is found to possess. The claim agent of the line should personally, so far as is practicable, impart to the new employe, with responsibility and dignity, the final instructions, as it is to this official that the trainman must eventually make his excuses in case of errors resulting in accidents.

The methods usually adopted in securing accident reports are by formal question and answer or by narrative. Prominence should be given to the narrative form, especially in primary investigation, as in this manner the trainman will, in his own way, best tell his story. The majority of trainmen object to being catechized, and usually respond to questions with monosyllabic replies which do not bring out the full facts of the case. The narrative form should, however, always include questions relating to date, time, place, speed, name of person or owner concerned, and witnesses.

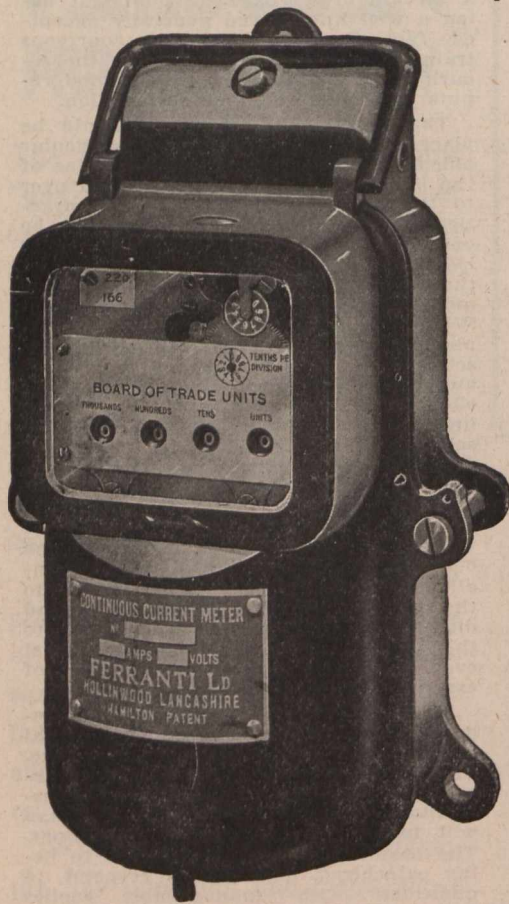
The formal accident report should contain a few direct questions for stated answer, chiefly covering the specific points mentioned as necessary in the preceding paragraph. The form of the report should be such as to encourage the trainman to tell the whole story clearly and concisely, although not with the brevity of "Dog crossing track, Dog hesitates, Dog gone." It is often found that the general education of the average trainman has been neglected, and the inclusion of a long list of questions on the accident report frequently confuses him and leads to his submitting a report which does not give the assistance or information needed by the claim agent.

It is not expected that a report from a trainman will be a literary production, but it is to be always expected that

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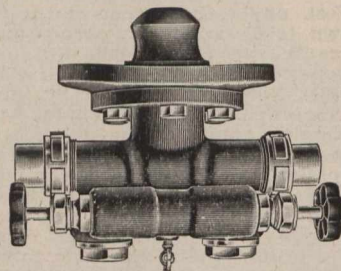
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Canadian Representative

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West Toronto, Ont.

# DOUBLE BOILER CHECK VALVE



The position of this valve is on top of the boiler. It is provided with a stop valve for each check valve, so that either one of the check valves, if out of order, may be "cut out" without interfering with the feeding of the boiler. Removable caps on top of each check permit inspection and grinding of valves without disconnecting pipes.

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OTTAWA - - CANADA

the statements will be truthful and in strict conformity with the facts of the case. To give assurance on this point the trainman should make certain to obtain the names and addresses of the greatest possible number of witnesses in any case where his own actions or the management of the line by which he is employed are liable to be called to account for any cause.

"Were you afraid to obtain witnesses?" "It was your duty to thus protect your company, yourself and your mate." "Others must be your judge." "An unjust claim may be made against your company." "You or your mate may be reprimanded and, possibly, discharged on account of this affair." "Every passenger is a witness, either directly or in corroboration." "Protect your company, yourself and your mate." "Observe and note carefully remarks, conditions and distances at the time of an accident."—Questions, suggestions and advice such as are above noted might well be used by a claim agent when dealing with trainmen.

Blanks for accident report should, like the book of rules, be always "on the job." They should have printed thereon rules to be observed in case of accident and a number of pointed "Don'ts" and "Hints" for trainmen, in preference to a long list of questions, many of which are superfluous. Space should also be left on the blank for a diagram which will give full information as to the exact location of an accident.

Accident reports should be made out as promptly as possible and handed to the division superintendent or inspector, who should, in turn, transmit them without delay to the claim agent.

The foregoing paper was read before the American Electric Railway Association at Atlantic City recently.

### Quebec Ry. Light Heat and Power Co's Annual Report.

The first annual meeting was held in Montreal recently. Following are extracts from the report for the year ended June 30:—

The company owns the whole of, or the majority of the stock of the following companies: Quebec Railway, Light and Power Co., Quebec Jacques Cartier Electric Co., Quebec Gas Co., Frontenac Gas Co., Quebec County Ry. Co., Quebec and Saguenay Railway Co., and Canadian Electric Light Co.

The gross earnings, \$1,280,126.76, compared with \$1,127,952.42 in 1910. The operating expenses were \$661,907.15, compared with \$644,563.60 in 1910. The net earnings were \$618,219.61, an increase of \$134,830.79 over 1910. After adding miscellaneous income from subsidiary companies' earnings prior to July 1, 1910, and deducting fixed charges of \$456,329.02, two dividends, amounting to \$199,990, organization expenses of \$10,681.47, and less sundry interest earned of \$11,109.48, there remains a surplus of \$62,328.60.

The mileage on the Quebec Ry., Light and Power Co.'s city division has been increased 26-100 miles by an extension of track in Limoilou ward from the exhibition grounds to the Charlesbourg Road. Extensive repairs and renewals have been made, and the roadway is in excellent physical condition. Sixteen new cars of the modern pay-as-you-enter type and 10 open bench cars of standard type were purchased and put in service. Two large sweepers and two snow scrapers were also added which enabled the company to maintain its service during the heaviest storms. With the enlargement of car barns at St. Malo, the company has now ample room to accommodate its rolling stock. Provision has been made at these barns for additions to the rolling stock and for the enlarge-

ment of the barns when rendered necessary.

The mileage of the Montmorency division has been increased by 3½ miles of double track road from Beauport to Kent House park. This extension runs through a thickly settled district, and your directors are of the opinion that it will be almost immediately remunerative. About two miles of main line has been relaid with 80 lb. steel rails, the old rails taken up being used for sidings at various points. Additional tracks have also been laid in the yards at the Quebec terminal to facilitate the handling of the increasing freight traffic. The main line has been rebonded during the year with type e.a. electric welded rail bonds, which has greatly increased the efficiency and enabled the maintenance of a much improved service. The roadway is in excellent physical condition. Forty-eight gondola freight cars, 60,000 lbs. capacity; 15 box freight cars, 60,000 lbs. capacity, and two passenger motor cars of standard 400 class have been added to the equipment during the year, while one electric

locomotive no. 6, constructed in the company's shops, has been in operation for some time, with good results. A new sub-station has been constructed at Ste. Anne de Beaupre, and a 500 k.w. motor generator set with exciter and transformers has been installed there. A new transmission line has also been constructed from Montmorency Falls to Ste. Anne de Beaupre, and the voltage increased from 10,000 to 25,000 volts, thus effecting a considerable saving. The company's hotel at Montmorency Falls park, the Kent House, has been enlarged and refurbished throughout. A number of new attractions have been added to the equipment of the Montmorency Falls park, and some of these have already proven profitable, as well as serving to induce people to visit the park.

Attached to the report are a number of interesting diagrams respecting the railway portion of the company's property.

On the City Division the gross earnings rose from \$110,000 in 1897-8 to \$351,441.96 in 1910-11, and the operating expenses from \$80,000 to \$218,217.19. The operating expenses per cent. of gross earnings decreased from 72% in 1897-8 to 62.09% in 1910-11.

On the Montmorency Division the gross earnings increased from \$50,000 in 1897-8 to \$245,039.04 in 1910-11, and the operating expenses from \$30,000 to \$166,719.68. The operating expenses per cent. of gross earnings were practically the same in 1910-11 as in 1897-8.



The Quebec Railway, Light, Heat and Power Co.'s New Office Building.

locomotive no. 6, constructed in the company's shops, has been in operation for some time, with good results. A new sub-station has been constructed at Ste. Anne de Beaupre, and a 500 k.w. motor generator set with exciter and transformers has been installed there. A new transmission line has also been constructed from Montmorency Falls to Ste. Anne de Beaupre, and the voltage increased from 10,000 to 25,000 volts, thus effecting a considerable saving. The company's hotel at Montmorency Falls park, the Kent House, has been enlarged and refurbished throughout. A number of new attractions have been added to the equipment of the Montmorency Falls park, and some of these have already proven profitable, as well as serving to induce people to visit the park.

The construction of the Quebec County Ry. was commenced in July, 1910, and the road opened for operation in Sept., 1910. The earnings of this line have fully warranted the expenditure incurred in its construction. The line runs from Maple Avenue westward through St. Cyrille Street, in Montcalmville, and through private right-of-way and streets

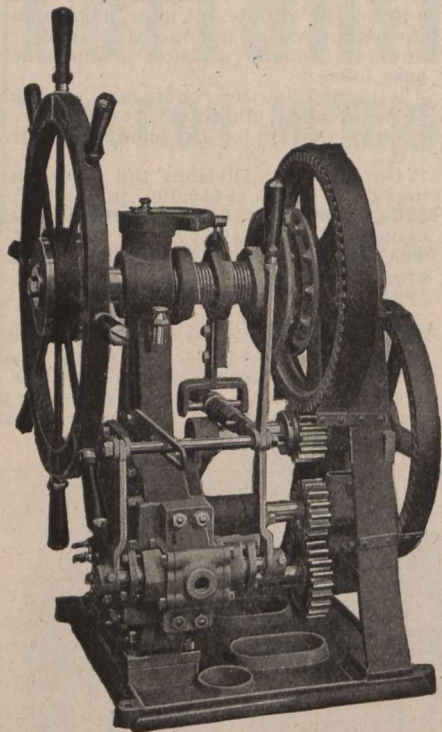
On the City Division the total number of passengers carried increased from 3,500,000 in 1897-8 to 10,706,479 in 1910-11. The revenue passengers increased from 2,500,000 in 1897-8 to 7,857,680 in 1910-11. The average fares per revenue passenger were practically the same in 1910-11, as in 1895-6, namely, 4.41c. The average fares for all passengers, transfers included, were also practically the same, namely, 3.23c.

On the City Division the car mileage increased from 700,500 in 1897-8 to 1,556,973 in 1910-11, and the earnings per car mile increased from .15½c. in 1897-8 to 22.26c. in 1910-11.

On the Montmorency Division the total number of passengers carried increased from 200,000 in 1897-8 to 1,475,702 in 1910-11, and the earnings per passenger decreased from .18½c. in 1897-8 to .11½c. in 1910-11.

The pamphlet also contains an illustration of the company's new office building at Crown and St. Joseph Sts., which is reproduced on this page. It is seven stories high, of structural steel, with terra-cotta fireproofing throughout. The building occupies one entire block,

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### CANADIAN PACIFIC RAILWAY.

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

1. Authorizing it to construct the following branch lines of railway:—

(a) From a point at or near Hewarden on its Moose-jaw Northwesterly Branch in a northerly direction to a point at or near Floral or Cheviot on the Pheasant Hills Branch or to a point between these two places in the Province of Saskatchewan.

(b) From a point on its Estevan-Forward Branch in Township 2 or 3, Range 12, 13 or 14, west 2nd Meridian in a westerly and northwesterly direction to a junction with its Weyburn-Lethbridge Branch in Township 5 or 6, Range 25 or 26, west 2nd Meridian, in the Province of Saskatchewan.

(c) From a point at or near Sedgewick on its Hardisty Subdivision in a southerly direction to a point in Township 39 or 40, Range 11, 12 or 13, west 4th Meridian, in the Province of Alberta.

(d) In a northwesterly and northerly direction from a point on its line from Wilkie authorized by section 3 (b) of chapter 74 of the Statutes of 1907, to a point near the North Saskatchewan River in Township 51, 52, 53, 54, 55 or 56, Range 1, 2, 3, 4, 5, 6, 7 or 8, west 4th Meridian, in the Provinces of Saskatchewan and Alberta.

(e) From a point at or near Kipp on its Crow's Nest Subdivision in an easterly and northeasterly direction to a point in Township 12 or 13, Range 12 or 13, west 4th Meridian, in the Province of Alberta.

(f) From the northwesterly terminus of the line from Asquith authorized by section 3 (b) of the Canadian Pacific Railway Act, 1910, in a westerly and northwesterly direction to a point at or near Battleford, in the Province of Saskatchewan.

(g) From a point at or near Irricana in an easterly and southeasterly direction to a point in Township 20 or 21, Range 11, 12, 13 or 14, west 4th Meridian, in the Province of Alberta.

2. Authorizing it to make the terminus of its line from Lauder Westerly at a point at or near Stoughton on its Arcola Branch.

3. Authorizing it to enter into an agreement with the Province of New Brunswick for any of the purposes specified under section 361 of The Railway Act in respect of a line of railway extending from Norton to Minto, New Brunswick, and for other purposes.

Dated at Montreal, this 25th October, 1911.

WALTER R. BAKER,

Secretary.

Pringle, Thompson & Burgess,  
 Ottawa agents.

### CANADIAN NORTHERN ONTARIO RAILWAY COMPANY.

**NOTICE** is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act authorizing the sale of a portion of the constructed right of way of the Carillon & Grenville Railway Company between Grenville and Carillon by the Carillon & Grenville Railway Company to the Canadian Northern Ontario Railway Company, and confirming a notarial deed of sale thereof, dated July 25th, 1911, passed before Notary Robert Bennett Hutcheson under his number 11283, and registered in the Registry Office at Lachute, P.Q.

GERARD RUEL,

Chief solicitor.

Toronto, 26th October, 1911.

has a length of 145 ft. and a width of 64 ft. at one end and 71 ft. at the other end. The first, second and third floors will be occupied by the company, and the remainder of the building will be leased. Many applications have already been received for space. With this building the transaction of the company's business will be greatly facilitated, admitting as it will of the consolidation of all the company's executive offices in the one building. The company expects to occupy the new offices some time in January.

**Montreal Street Railway Co's. Annual Report.**

Following are extracts from the report for the year ended Sept. 30, presented at the annual meeting, Nov. 1:—  
 Gross earnings .....\$4,775,300.64  
 Operating expenses ..... 2,679,805.85

Net earnings ..... 2,095,494.79  
 Interest from M.P. & I. Ry. Co. .... 114,807.83

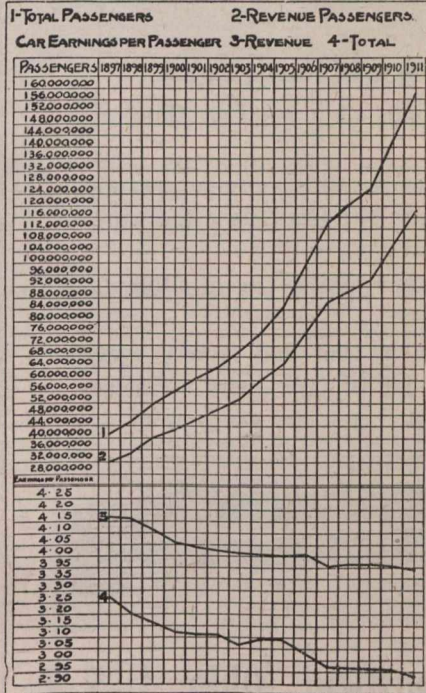
Total income .....\$2,210,302.62  
 From which deduct:—  
 City percentage on earnings.\$335,194.31  
 Interest ..... 185,087.41  
 Rental leased lines ..... 7,122.60  
 Taxes ..... 56,500.00

Net income .....\$1,626,398.30  
 Dividend 10% ..... 1,000,000.00

Surplus .....\$ 626,398.30  
 From which has been appropriated for:  
 Contingent account .....\$250,000.00  
 Fire insurance fund ..... 25,000.00

Transferred to general surplus .....\$ 351,398.30  
 The gross earnings increased during the year \$422,749.46, or 9.71%, the operating expenses \$224,504.79, or 9.14%, the net earnings \$198,244.67, or 10.45%. The gross earnings continue to show very satisfactory increases. The percentage of expenses to gross earnings is 56.12%, against 56.41% for the previous year.

ings upon such terms as may be approved by the majority of the holders of the shares issued by the company, represented at a special general meeting called to authorize the same. On Oct. 5 a special general meeting of shareholders was held for the purpose of considering the sale of the whole of the company's undertakings to the Montreal Tramways Co. The proposition as sub-



Operating expenses	2,679,805.85	2,455,301.06
Expenses % of earnings	56.12	56.41
Net earnings	2,095,494.79	1,897,250.12
Passengers carried	118,268,080	107,241,406
Car earnings per passenger	3.94c	3.95c
Transfers	40,488,545	36,437,123
Total passengers carried	158,756,625	143,678,529
Car earnings per pass. total carried	2.93c	2.95c

GENERAL BALANCE SHEET.

ASSETS—  
 Cost of road and equipment:  
 Construction, etc. ....\$ 5,097,510.51  
 Equipment, etc. .... 5,667,288.17  
 Real estate and buildings. 2,390,624.04  
 Stock and bonds of other companies ..... 3,683,634.97

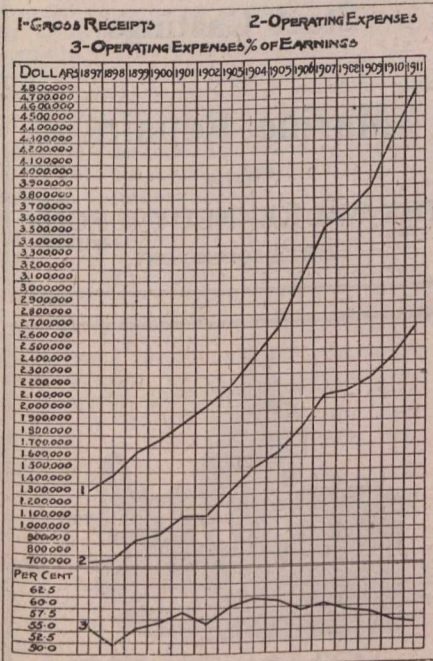
CURRENT ASSETS—  
 Montreal Park and Island Ry. advances .....\$ 718,833.51  
 Montreal Terminal Ry. advances ..... 3,462.34  
 Accounts receivable ..... 189,332.76  
 Stores ..... 369,668.17  
 Cash ..... 783,395.09

Fire insurance fund investment ..... 2,064,691.87  
 ..... 364,000.00  
 .....\$19,267,749.56

LIABILITIES—  
 Capital stock .....\$10,000,000.00  
 Bonds 4½%, payable Aug., 1922 ..... 681,333.33  
 Bonds 4½%, payable May, 1922 ..... 1,500,000.00  
 Bonds 4½%, payable May, 1922 ..... 2,238,666.67  
 Mortgages ..... 1,863.00

CURRENT LIABILITIES—  
 Accounts and wages payable .....\$ 250,109.80  
 Accrued interest ..... 75,510.00  
 Accrued tax on earnings ..... 348,963.19  
 Employees' securities ..... 19,658.28  
 Unclaimed dividends ..... 1,956.57  
 Unredeemed tickets ..... 75,605.20  
 Dividend payable Oct. 25. 250,000.00  
 Suspense account ..... 329,616.88

Fire insurance fund ....\$ 571,539.96  
 Contingent account ..... 187,917.20  
 Surplus ..... 2,735,009.48  
 ..... 3,494,466.64  
 .....\$19,267,749.56



mitted was carried by the majority of the issued shares and a circular has been forwarded to the shareholders giving the terms of the sale.

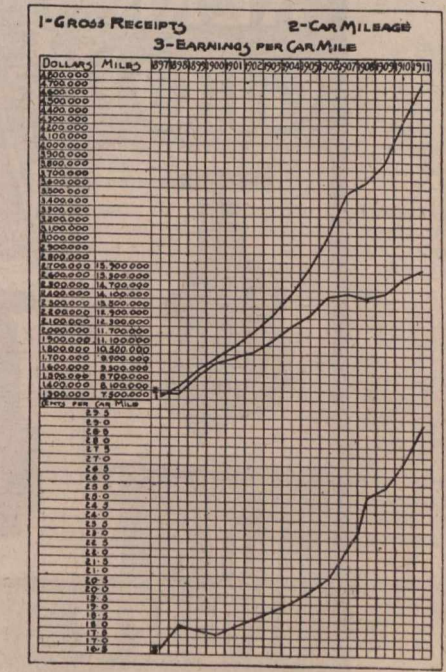
Owing to the continued rapid growth and congestion of the city your directors during the year negotiated with the city for the purpose of making a new contract which would be more applicable to the present day conditions. It is hoped that the amalgamation of this company with its subsidiary companies under the name of the Montreal Tramways Co. will help to speedily complete the negotiations for a new franchise. The property has been maintained in a high state of efficiency, and a considerable sum has been spent in the upkeep of the tracks and rolling stock, the power plants and buildings are in excellent condition, it being the policy of your directors to spare no efforts nor expense in this direction; yet notwithstanding this the operating expenses percentage of earnings has decreased. The company has continued its liberal policy towards its employes in respect to wages, having increased them during the year. The company has paid to the city taxes and percentage on earnings amounting to \$380,678.99, on account of snow removal \$73,364.96, a total of \$454,043.95, being an increase over the previous year of \$15,860.40.

The Montreal Park and Island Ry's gross earnings show an increase of \$60,973.72, the operating expenses an increase of \$27,843.93, the net result being \$114,807.83, against \$85,878.04 for the previous year.

The Montreal Terminal Ry's gross earnings for the year are \$134,019.96, operating expenses \$122,116.10, and taxes and percentage on city earnings \$4,279.96, leaving a net result of \$7,623.90.

STATISTICAL STATEMENT.

Gross earnings	1911.	1910.
.....	\$4,775,300.64	\$4,352,551.18

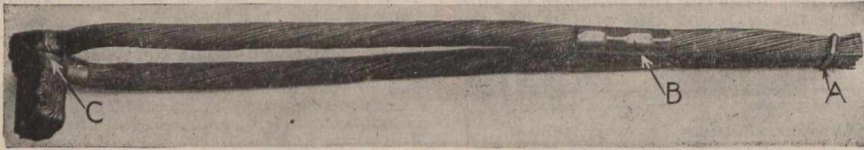


COMPARATIVE STATEMENT OF OPERATIONS.

	1911.	1910.
Gross earnings	\$4,775,300.64	\$4,352,551.18
Operating expenses	2,679,805.85	2,455,301.06
Net earnings from operation	2,095,494.79	1,897,250.12
Interest from M.P. & I. Ry.	114,807.83	85,878.04
Total income	\$2,210,302.62	\$1,983,128.16

Your directors appropriated \$25,000 from the surplus earnings as a credit to the fire insurance fund. The amount now at the credit of the fund is \$571,539.96.  
 During the year the company secured an amendment to its charter, authorizing the sale, lease or transfer to any person or company of all its undertak-

# Why Not Call A Spade A Spade?



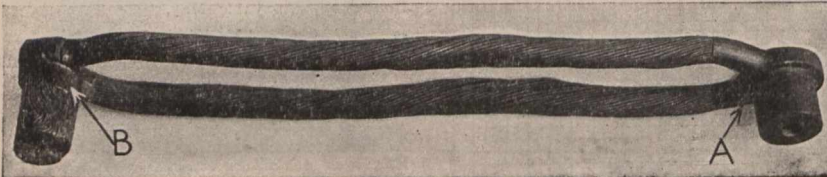
Cuts show One Piece Feature of All Wire Bonds Patented in U.S.A.

Joints made by attaching terminals of a bond to the body are *joints*.

In ALL WIRE RAIL BONDS the terminals are formed out of the body of the bond itself—hence our One Piece feature—result, *NO JOINTS*.

Four “joints” per bond (of other makes) mean 1408 unnecessary joints per mile of track.

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FIXED CHARGES—		
City percentage on earnings	\$ 335,194.31	\$ 278,084.93
Interest	185,087.41	175,421.07
Rental leased lines	7,122.60	6,472.05
Taxes	56,500.00	48,000.00
<b>Total</b>	<b>\$ 583,904.32</b>	<b>\$ 507,978.05</b>
Net income	\$1,626,398.30	\$1,475,150.11
Dividend 10%	1,000,000.00	1,000,000.00
Surplus	\$ 626,398.30	\$ 475,150.11
From which has been appropriated:		
Contingent account	250,000.00	250,000.00
Fire insurance fund	25,000.00	25,000.00
Transferred to surplus account	\$ 351,398.30	\$ 200,150.11

Following are the officers, and directors for the current year: President, E. A. Robert; Vice President, J. W. McConnell; other directors, Hon. J. M. Wilson, F. H. Wilson, W. C. Finley, G. G. Foster and J. M. McIntyre, the last mentioned being elected in place of D. L. McGibbon, resigned.

**Electric Railway Projects, Construction, Betterments, Etc.**

**Bassano, Alta.**—The town council Nov. 14, granted a franchise for the building of an electric railway through the town, and out to the C.P.R. dam, five miles. The line is to be completed within nine months, and the town has the option of buying the property at the end of 20 years, or at the end of any ten year period thereafter.

**Berlin and Bridgeport Electric St. Ry.**—Press reports state that plans are under consideration for the building of a belt line, making connection at King St., with the present city and radial lines. (See Berlin and Waterloo St. Ry., Oct., pg. 973.)

**Brandon, Man.**—The proposition made by J. D. McGregor for a franchise for an electric railway in the city has been withdrawn for the present. The citizens voted, Nov. 9, on the question of municipal ownership against a company franchise, 458 votes being given for the company franchise and 176 for municipal ownership. This poll represented about half of the electorate who voted at the plebiscite on the question whether an electric railway should be built or not. The result of this vote was 1,238 in favor of and 236 against the building of an electric railway. (Nov., pg. 1067.)

**British Columbia Electric Ry.**—Work has been started on several small extensions on a number of the lines on the outskirts of Vancouver, and arrangements are being made for the building of an extension to Ladner.

The Vancouver city council proposes to ask the Legislature for power to acquire at some future date the company's lines in greater Vancouver, and to lay aside annually \$500,000 from the present time to the expiration of the company's charter when the city may take over the line.

The ratepayers of Barnaby have authorized the company to test the validity of the company's franchise in the courts. (Nov., pg. 1067.)

**Calgary Municipal Ry.**—Application is being made by the city council for the confirmation by the Alberta Legislature of money bylaws recently passed, one of which was for the raising of \$375,000 for street railway purposes. (Nov., pg. 1069.)

The Calgary Municipal Ry. has completed 24 miles of extensions and now operates 30 cars. We are officially advised that 20 miles more are to be built next year.

**Calgary to Chestermere, Alta.**—Construction is reported to have been started upon the building of an electric railway from Crescent Heights, Calgary, in

the direction of Chestermere, Alta. It is expected to have the line completed early in the new year. Those interested in the matter are J. A. MacCullough, W. Horner, A. M. Hamilton, C. T. Gilbert, C. A. Shippy, H. T. Graham, all of Calgary. It is said that when built the line will be operated by the Calgary Municipal Ry. (See Calgary Municipal Ry., Aug., pg. 783.)

**Edmonton Radial Ry.—Strathcona Radial Ry.**—Application is being made to the Alberta Legislature by the Edmonton city council for an amendment to the city charter, to grant an extension of time within which the several lines authorized may be built. (Nov., pg. 1069.)

**Galt, Preston and Hespeler St. Ry.**—No definite decision has been reached as to the building of an extension to Riverside Park, Galt, Ont. The work, if undertaken, will be ordinary street railway construction.

**Hamilton, Waterloo and Guelph Ry.**—The Dominion Parliament is being asked to extend the time within which this projected railway may be built. Pringle and Guthrie, Ottawa, are solicitors for applicants. (July, pg. 683.)

**Lethbridge, Alta.**—The Lethbridge city council, Nov. 8, appointed T. H. McCauley, Superintendent, Calgary Municipal Ry., as consulting engineer, and A. Reid, supervising engineer, for the building of an electric railway in the city. Construction has been started, and it is hoped to have the line in operation by Aug., 1912. The route will be from Round St. to McDuff St., east on Westminster Road, then west to Galbraith St., and from Round St., west on Redpath St., and on Round St. to Henderson Park on Courtland St. Tenders for the supply of the necessary additional equipment for the power house have been asked, and the city is arranging to order ten cars. The site for the car barns has not yet been chosen. (Nov., pg. 1069.)

**London and Lake Erie Ry. and Transportation Co.**—The section of the line from London to St. Thomas, Ont., has been strengthened and in part reconstructed, and work was started Nov. 10, rebalasting it. The remaining mileage from St. Thomas to Port Stanley will be taken in hand next season. Arrangements are being made for the use of hydro-electric power for the operation of the lines. (Sept., pg. 879.)

**London and North Western Ry. of Canada.**—Plans are reported to be in preparation for the building of an 80 ft. dam on the Au Sable River, in West William tp., near London, in connection with the company's proposal to build an electric railway from London to Sarnia, Ont.

The surveys for the railway are reported to have been completed, the route following as nearly as possible the Sarnia gravel road. (June, pg. 555.)

**London Street Ry.**—The directors have authorized the issue of the balance of the \$750,000 of authorized stock, of which \$552,000 is at present outstanding. The proceeds of the new stock will be utilized for the purpose of building some extensions. No decision has been reached as to the extensions to be built. (Nov., pg. 1069.)

**Monarch Ry.**—W. H. Price, Toronto, representing this company, is quoted as stating that if the tube railway system is adopted by the Toronto ratepayers on Jan. 1, the company will start the construction of its line from north of Toronto to Barrie, Ont. (Aug., 1910, pg. 682.)

**Moncton Tramways, Electricity and Gas Co.**—Track has been laid on Main and Mechanic streets, and the overhead work completed. The car bodies have been fitted on to their trucks, and the

other work is so far advanced that it is expected to have the lines in operation early in December. (Nov., pg. 1069.)

**Montreal and Southern Counties Ry.**—W. B. Powell, General Manager, is reported as having stated that a good deal of work has been completed on the extension to Richelieu and that he expects the line will be completed from Montreal to Richelieu, about 60 miles, by July, 1912. A sub-power station is being built at St. Lambert. The question of additional lines in the city of Montreal is being considered by the city council. (Nov., pg. 1069.)

**Moose Jaw Electric Ry.**—Four miles of this line have been in operation for a couple of months, with satisfactory results. Arrangements are being made for the laying of an additional ten miles of track during 1912. The new lines will include an extension on Main St. north, and a loop line up 18th Ave., then along Grosvenor St., connecting with Main St. (Sept., pg. 879.)

**Morrisburg and Ottawa Ry.**—The surveys for the projected railway and the plans for the line, so far as they have been completed, were made by J. S. McIntosh, B.Sc. The plans have not yet been filed for the approval of the provincial authorities. The company, which has a provincial charter, proposes to build a line from Ottawa to Morrisburg, Ont., via Metcalfe, Winchester and Williamsburg, about 45 miles. We are advised that it is expected to start building the line in the near future.

Following are the officers and directors for the current year: President, Jas. Oliver; Vice President, W. J. Campbell; Secretary-Treasurer, R. A. Bishop; other directors: H. McDonald, W. C. Strader. With the exception of the last named, who lives in Williamsburg, Ont., all the officers and directors live in Ottawa. (Nov., pg. 1069.)

**Nanaimo, B.C.**—Another proposal for a franchise for an electric railway in the city has been submitted to the city council by the B.C. Hydraulic Co., and has been taken into consideration. (Nov., pg. 1069.)

**Niagara, St. Catharines and Toronto Ry.**—We are officially advised that while consideration has been given to a proposal to extend the line from Port Colborne to Fort Erie, and on to Niagara Falls, thus giving the company a belt line through the peninsula, nothing definite has been arranged.

The Board of Railway Commissioners has authorized the opening for traffic of the company's revised line across ponds 1, 2 and 3, opposite locks 12, 13 and 14 of the old Welland canal, at Merritton, Ont. (June, pg. 557.)

**Nipissing Central Ry.**—J. L. Englehart, Chairman, Temiskaming and Northern Ontario Ry. Commission and President, N.C.R., stated, Nov. 9, that the extension of this line will be gone on with just as soon as the towns interested grant the necessary franchises. Surveys from Haileybury and Liskeard have been completed, and all that is required now is the approval of the Haileybury and Liskeard town councils. (Nov., pg. 1069.)

**North Midland Ry.**—Negotiations have been reopened with the London, Ont., city council, having for their object the guarantee of the company's bonds. At the last municipal elections the citizens voted in favor of the principle of extending aid to the building of the line, but some difficulties arose, and nothing was done in the way of arranging the bond guarantee. The city council had the matter under discussion, Nov. 15. (Sept., pg. 879.)

**Ontario West Shore Ry.**—Further deliveries of ties and other construction materials were made at Goderich, Ont., Nov. 10. Track has been laid from God-



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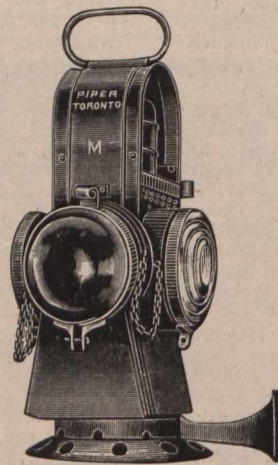
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erich to Kintoul, 16 miles, over which freight is being carried. It is said that some further track is to be laid, and the line got into order for the operation of a passenger service. (Sept., pg. 879.)

**Ottawa Electric Ry.**—Press reports state that plans are under consideration for the building of an electric railway from Ottawa to McGregor Lake, Ont. (Oct., pg. 975.)

**Owen Sound, Ont.**—We are advised by the mayor of Owen Sound, Ont., that the report which he made to the town council on the matter of the building of an electric railway has not yet been dealt with. The project is only in its infancy, but he hopes that it will be endorsed.

The plan outlined by the town engineer shows a line of six miles. The eastern branch would run from Carney's mills up to the Cemetery hill, and the western branch would cross the river at Tenth St., and continue out to Twenty-third St. on Brooke. The Tenth St. bridge would be used for interswitching freight traffic between the G.T.R. and the C.P.R. (Nov., pg. 1069.)

**Peoples Ry.**—A. N. Warfield, the engineer who made surveys for this projected railway, sued the company at the recent assizes at Stratford, Ont., for \$3,000 for services rendered. Judgment was reserved. (Oct., pg. 975.)

**Quebec Ry. Light and Power Co.**—R. Forget, President, is reported to have stated recently that it is intended to lay a second track from Quebec to Ste Anne de Beaupre, Que. In connection with this projected work it is reported in several quarters that the C.P.R. has under consideration the question of acquiring this section of the line, and the extension now under construction by the same interests, under the Quebec and Saguenay Ry. charter. (Oct., pg. 975.)

**St. John Ry.**—The Provincial Government is making extensive repairs to the suspension bridge at St. John, N.B., pending the building of a new bridge. Plans for this new bridge, it is stated, are being prepared, so as to provide for a double track line for the electric railway. (July, pg. 685.)

**Saskatchewan Power Co.**—Application is being made to the Dominion Parliament to authorize the expropriation of lands in addition to those previously authorized, and for the purpose of further defining the company's powers.

Application is being made to the Saskatchewan Legislature for an act confirming the agreement made July 21 between the city and H. M. E. Evans, "whereby a street railway franchise was granted and a contract made for the purchase of electric power." (Nov., pg. 1071.)

**Southeast Calgary Ry.**—Application is being made to the Alberta Legislature to incorporate a company with this title to build an electric railway from Calgary, southeasterly to Shepard. Loughheed, Bennett, McLaws and Co. are solicitors for applicants.

**Toronto and York Radial Ry.**—The franchise of the section of the company's Scarboro division, within the city limits, including the portion between Kingston road and the corner of Gerrard and Main streets, expires Nov. 12, 1912, and the Toronto city council has under consideration a bylaw for acquiring it.

A number of residents of the Yonge St. district north of the C.P.R. north track line waited on the Premier of Ontario recently in connection with the Ontario Railway and Municipal Board's conflicting orders as to switches on the Metropolitan Division. This matter has been before the Board since March in different forms. In June it was adjourned until Sept., in order to see if some arrangement would not be reached as to

the annexation of North Toronto to the city, and so bring about the double tracking of the line. This could not be arranged, and in October, on a further hearing, two of the commissioners decided that the company's application to put in switches should be refused. The Chairman held that the decision involved some points of law and that his view carried. His judgment gave the company permission to construct switches at certain points on the line according to a plan filed and approved by the Board's engineer, subject to the inspection of the Board's engineer. The residents of North Toronto are not satisfied and it is expected they will carry the matter into the courts.

The company is reported to have purchased a considerable portion of the right of way necessary for building a double track line between Sunnyside and Long Branch. The city has power to acquire this section of the line, on the charter's expiration. The line runs along the side of the Lake Shore road, with the exception of a small length at the Mimico Creek, for which the company acquired a private right of way and built a new line, which was opened for traffic recently. (Oct., pg. 975.)

**Toronto Eastern Ry.**—The Board of Railway Commissioners has authorized the company to connect its proposed tracks from Wellington St., Bowmanville, Ont., with the Canadian Northern Ontario Ry., in con. 3, Darlington tp.

Press reports state that surveys are being made for an electric railway branching out from the T.E.R. at Port Hope, and passing through Peterboro, Lindsay and Omeme to Orillia. The engineers in charge of the work are Graham and Mann. (Nov., pg. 1071.)

**Toronto Suburban Ry.**—The reconstructing of sections of the line to Lambton, Ont., is being proceeded with, and Sir Wm. Mackenzie was reported as stating, Nov. 15, that work will probably be started early in the new year on the extension of the line towards Guelph. Press reports state that this line will be built as an extension of the Weston, and not of the Lambton line. (Aug., pg. 785.)

**Windsor, Chatham and London Ry.**—Application is being made to the Dominion Parliament to amalgamate the W.C. and L. Ry. and the Windsor, Essex and Lake Shore Rapid Ry., and to extend the time within which the lines may be built. Although the notice is given under the title of the W.C. and L. Ry., it is asked that the amalgamation may be made "under the name of either one of them, or such other name as may be chosen." Wilson, Pike and Stewart, Chatham, Ont., are solicitors for both companies interested.

**Windsor, Essex and Lake Shore Rapid Ry.**—See Windsor, Chatham and London Ry. (Nov., pg. 1071.)

**Winnipeg Electric Ry.**—The new lines recently opened in Winnipeg extend from Sherbrooke St., along Sargeant St., along Kennedy St. and Ellice St., to Portage Ave., opposite the post office, and along Princess St., to Main St., beyond Logan Ave.

Residents of St. Vital and Norwood are asking the company to extend its line from Marion St., along St. Mary's Road, to the southern limits of St. Boniface. (Nov., pg. 1071.)

**Berlin and Waterloo St. Ry.**—The Berlin, Ont., town council has under consideration an offer by W. H. Breithaupt, President, Berlin and Bridgeport Electric St. Ry., to lease the B. and W.S.R. on a 25 year agreement, terminable at the end of any five years. The agreement provides for the upkeep of the line by the lessee, and payment of a rental of 25% of the gross proceeds.

## The Montreal Tramways Company.

The Quebec Public Utilities Commission has approved of the amalgamation of the Montreal Street Ry. Co., the Montreal Park and Island Ry. Co., the Montreal Terminal Ry. Co., and the Public Service Corporation under the title of the Montreal Tramways Co. On the other hand, the Board of Railway Commissioners has refused to recommend that the Governor-General in Council approve agreement for the amalgamation of the Montreal Terminal Ry. Co. and the Montreal Park and Island Ry. Co., which are Dominion companies, with the Montreal Street Ry. Co., which was incorporated by the Quebec Legislature.

The action brought by Senator Beique on behalf of himself and other shareholders to prevent the amalgamation has been dismissed by the courts.

It was announced in Montreal, Nov. 17, that the M.T. Co. would take over, on Dec. 1, the control of the Montreal Street Ry., the Montreal Park and Island Ry., the Montreal Terminal Ry., and the Public Service Corporation, the amalgamation of which under the new title has been approved by the shareholders. In preparation for this N. and W. Harris, Boston, Mass., who have taken \$10,000,000 of bonds, arranged for the transfer from New York of \$10,000,000 in gold, with which to take over the interests of the shareholders of the Montreal St. Ry. This it is estimated will absorb \$9,000,000. The additional \$1,000,000 will be used to take up the underlying bonds of subsidiary companies. It is said that a further issue of \$7,000,000 of debentures will be marketed in the near future.

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

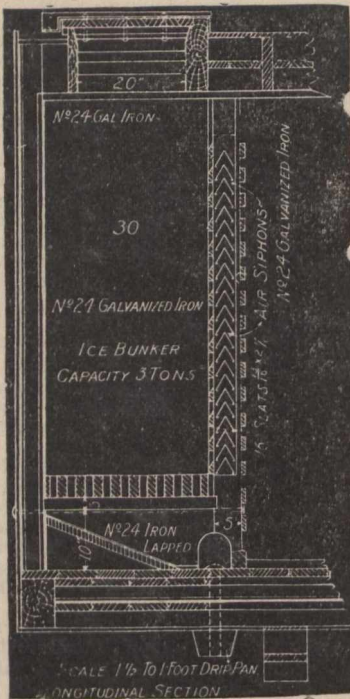
**British Columbia Electric Ry.**—Gross earnings for Sept., \$453,391; working expenses, \$282,443; net operating earnings, \$170,948; renewal funds, \$37,935; net earnings, \$133,013; approximate income from investments, \$25,000; net income, \$158,013, against \$311,803 gross earnings; \$174,237, working expenses; \$137,566, net operating earnings; \$22,417, renewal funds; \$115,149, net earnings; \$20,000, approximate income from investments; \$135,149, net income for Sept., 1910. Aggregate gross earnings for three months ended Sept. 30, \$1,299,241; net earnings, \$441,138, against \$897,458 aggregate gross earnings, and \$377,856 net earnings for the same period 1910.

**Calgary Municipal Railway.**—Earnings for October, \$35,591.70; operating expenses, \$18,027.17; contingent account, 5% of gross receipts, \$1,779.58; interest and sinking fund, \$5,263.33; net profit, \$10,521.62; no. of passengers carried, 865,005; number of miles run, 126,801; revenue per car mile, 28.061c.; operating expenses, per car mile, 13.428c.; profit per car mile, 14.633c.; cost of power per car mile, 4.447c.; proportion operating expenses to revenue, 50.6%.

Following are the figures for the year ended June 30:—earnings, \$275,434.51; operating expenses, \$139,601.98; interest, \$23,220; sinking fund, \$9,370; taxes, \$2,264.17; net surplus, \$87,206.64.

**Cape Breton Electric Co.**—The regular 3 per cent. dividend on the preferred stock for the half year, and a dividend of 2 per cent. on the common stock were paid Nov. 1.

**Grand Valley Ry.**—Application has been made for the appointment of a receiver for the G.V.R. Co. The General Accident, Fire and Life Assurance Co. holds \$17,000 of the company's bonds



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- (d) From Killam to Strathcona, Alberta.

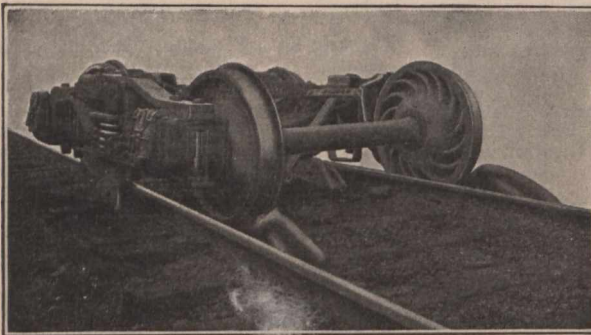
2. Amending the Statute relating to the company's power to issue four per cent. Consolidated Debenture Stock for the acquisition of mortgage bonds so as to make it apply also to the debenture stock and other securities of any other railway company, the principal or interest of which has been guaranteed by the company, and for other purposes.

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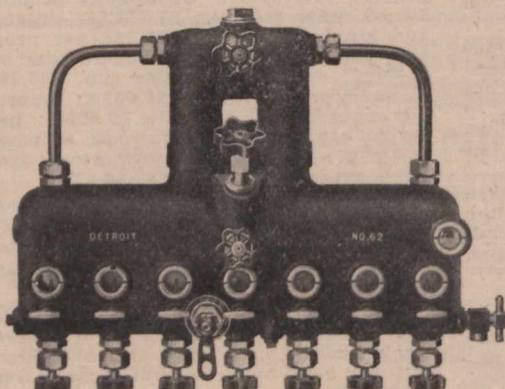
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and alleges that the company has issued a larger amount of bonds than the sale of the railway will realize.

The G.V.R. extends from Brantford via Paris to Galt, Ont., and the same interests also own the Brantford St. Ry. and the Woodstock, Thames Valley and Ingersoll Ry.

**Halifax Electric Tramway.**—Receipts for Oct., \$18,153.21, and for two weeks ended Nov. 14, \$7,696.27, against \$19,455.30 and \$7,927.17 for same periods, 1910.

**Hamilton St. Ry.**—The city's percentage of the company's earnings for the three months ended Sept. 30 was \$12,340.67, an increase of \$1,797.61 over that for the same period 1910.

**London St. Ry.**—Gross earnings for Oct., \$22,015.12; expenses, \$15,414.32; net earnings, \$6,600.80; deductions, \$2,441.75; net income, \$4,159.05, against \$21,021.06 gross earnings; \$14,866.12 expenses; \$6,154.94 net earnings; \$2,441.75 deductions; \$3,713.19 net income for Oct., 1910. Aggregate gross earnings for 10 months ended Oct. 31, \$231,196.26; expenses, \$159,864.45; net earnings, \$71,331.81; deductions, \$24,012.84; net income, \$47,318.97, against \$211,745 gross earnings; \$149,723.10 expenses; \$62,022.69 net earnings; \$23,945.20 deductions; \$38,077.49 net income for same period 1910.

**Montreal St. Ry.**—Passenger earnings for Oct., \$426,116.76; miscellaneous earnings, \$16,275.99; total earnings, \$442,392.75; operating expenses, \$232,201.90; net earnings, \$210,190.85; city percentage on earnings, \$14,312.19; interest on bonds and loans, \$15,777.43; rental leased lines, \$607.10; taxes, \$5,000; total charges, \$35,696.72; surplus, \$174,494.13, against \$372,487.35 passenger earnings; \$14,200.31 miscellaneous earnings; \$386,687.66 total earnings; \$205,750.06 operating expenses; \$180,937.60 net earnings; \$12,392.74 city percentage on earnings; \$15,052.37 interest on bonds and loans; \$552.90 rental leased lines; \$4,000 taxes; \$31,998.01 total charges, \$148,939.59 surplus for Oct., 1910. Expenses per cent. of earnings for Oct., 52.49, against 53.21 in Oct., 1910.

**Nelson St. Ry.**—Revenue for three months ended Sept. 30, \$4,078.85. Passengers carried, 387,397.

**Port Arthur and Fort William Electric Ry.**—Revenue for Sept., \$17,660.99; operating expenses, \$8,896.44; net revenue, \$8,767.55. Car mileage, 71,066 miles; gross earnings per car mile, 24.852c.; operating expenses per car mile, 12.514c.; net earnings, 12.338c. per car mile.

**Regina Municipal Ry.**—Receipts for week ending Nov. 4, \$1,041; passengers carried, 4,269.

**Sherbrooke Ry. and Power Co.**—The Quebec Legislature is being asked to authorize the company, among other things, to acquire or sell shares, stock, debentures, bonds or other securities of other companies; to guarantee the payment of principal, interest and sinking funds for the same, and to authorize amalgamation or consolidation of other companies.

Railway earnings for Sept., \$9,582; operating expenses, \$4,884; net earnings, \$4,700. Gross earnings for three months ended Sept. 30, \$25,762; operating expenses, \$12,461; net earnings, \$13,301.

**Toronto Ry.**—Gross earnings for Oct., \$415,756.92; expenses, \$204,825.62; net earnings, \$210,931.30, against \$379,720.88 gross earnings; \$188,567.67 expenses; \$191,153.21 net earnings for Oct., 1910. Aggregate gross earnings for 10 months ended Oct. 31, \$3,936,539.18; expenses, \$1,971,101.99; net earnings, \$1,965,437.19, against \$3,575,658.89; gross earnings, \$1,841,334.61; expenses, \$1,734,-

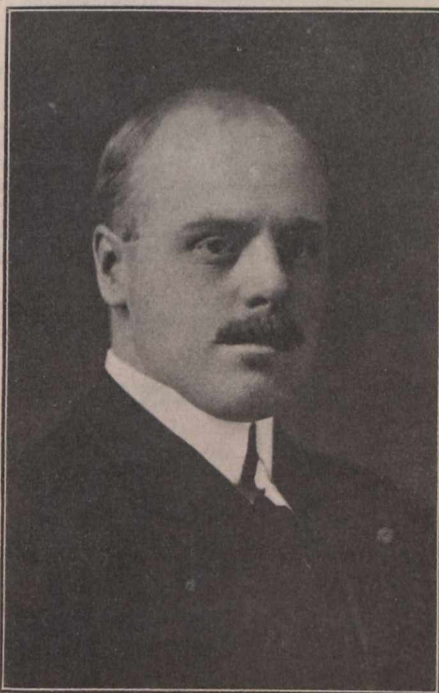
324.28 net earnings for same period 1910.

**Toronto Suburban Ry.**—There has been filed with the Provincial Secretary at Toronto a discharge of the mortgage made by the City and Suburban Ry. to the Trust Corporation of Ontario, dated Feb. 1, 1893, and a discharge of the mortgage made by its successor, the T.S. Ry., to the National Trust Co., Mar. 1, 1909.

**Winnipeg Electric Ry.**—Gross earnings for Sept., \$321,664; working expenses, \$146,140; net earnings, \$175,524, against \$267,127 gross earnings; \$131,969 working expenses; \$135,158 net earnings for Sept., 1910. Aggregate gross earnings for nine months ended Sept. 30, \$2,825,637; net earnings, \$1,433,507, against \$2,298,384 aggregate gross earnings, and \$1,144,626 net earnings for same period 1910.

#### Electric Railway Notes.

The Sherbrooke Ry. and Power Co. has received two new pay-as-you-enter cars for its belt line.



G. Gordon Gale,  
General Superintendent, Hull Electric Co.

The London and Lake Erie Ry. and Transportation Co. is reported to be in the market for several new cars.

The Guelph Radial Ry. has received two double truck pay-as-you-enter cars from the Preston Car and Coach Co., Preston, Ont.

G. Lee has been appointed acting Agent, Oshawa Ry., Deseronto, Ont., vice P. B. Whiteley, transferred to the audit office for general duties.

The Calgary Municipal Ry. has ordered six 36½ ft. electric pay-as-you-enter car bodies, 46½ ft. long over all, from the Ottawa Car Co., Ottawa, Ont.

The Hull Electric Co. has ordered six electric straight platform, semi-convertible car bodies, pay-as-you-enter type, 50 ft. long over all, from the Ottawa Car Co., Ottawa, Ont.

The Board of Railway Commissioners has approved the Montreal and Southern Counties Ry.'s standard tariff of freight rates between Montreal and Longueuil and intermediate points.

F. H. Williams, M. Can. Soc., C.E., one of the Illinois Traction System's elec-

trical engineers, read a paper on that system before the Canadian Society of Civil Engineers in Montreal, Nov. 9.

The Sandwich, Windsor and Amherstburg Ry. has received two single truck pay-within cars from the Preston Car and Coach Co., Preston, Ont. These cars were described and illustrated in our June issue.

The Winnipeg city council decided Nov. 3 that it will not at present ask the Winnipeg Electric Ry. to put on an all night service. The present service starts at 5.30 a.m., and continues until 2 a.m., or 20½ hours out of the 24.

The Board of Railway Commissioners has approved a revised table of standard passenger fares on the Quebec Ry. Light and Power Co.'s line between Quebec and Montmorency Falls Park, via Beauport Jct., and intermediate stopping places.

The Sherbrooke Ry. and Power Co. has received two 18½ ft. electric pay-as-you-enter, semi-convertible car bodies, 29 ft. long over all, mounted on 2IE trucks, with Westinghouse 101-B-2 motor equipments, from the Ottawa Car Co., Ottawa, Ont.

In an action for damages against the Montreal St. Ry., which came before the courts in Montreal, Nov. 13, it was alleged by the plaintiff, who had been injured by one of the cars carrying freight, that the company did not have the right to move such cars in the city.

The British Columbia Government brought the first case of infraction of the rules made under the Tramways Regulation Act, into court Nov. 1. The B.C. Electric Ry. was charged with allowing passengers to ride on the steps of a certain car. Judgment was reserved on a technicality as to who should prosecute, and as to whether the city or company should be held responsible. The case was dismissed Nov. 10, the magistrate holding that the conductor did not give permission to any passengers to ride on the steps of the car. The passengers rushed on the car, and the conductor had no opportunity to have them put off before it was outside the city boundary.

John W. Williams, whose appointment as Secretary, London St. Ry., London, Ont., was mentioned in our last issue, was born at Detroit, Mich., Sept. 21, 1869. He commenced service with the Detroit and Pontiac Ry., and on the purchase of that railway by the Detroit United Ry., he was Assistant to the General Manager and Purchasing Agent. Prior to his present appointment he had been for some years in the Auditing Department, Detroit United Ry.

G. Gordon Gale, whose portrait appears on this page, was, prior to 1907, assistant engineer, Canadian Rubber Co.'s electrical plant, and from 1907 to Nov., 1908, was Superintendent of Power, Hull Electric Co.; Nov., 1908, to 1909, acting General Superintendent, and since 1909, General Superintendent, Hull Electric Co., Deschenes, Que. He is a graduate of McGill University, and an associate member of the Institute of Electrical Engineers, and of the Canadian Society of Civil Engineers.

Proceedings are being taken against the Quebec Ry. Light and Power Co., for conveying sand and stone on a freight car through the city streets, contrary to a bylaw which stipulates that only passengers shall be carried through the streets. The material is being taken to a new building on the Grande Allee, and the contractor recently waited on the city council committee on the subject, explaining the matter, but the committee stated that as they had no right to act contrary to the bylaw, the case would have to be dealt with in the courts.

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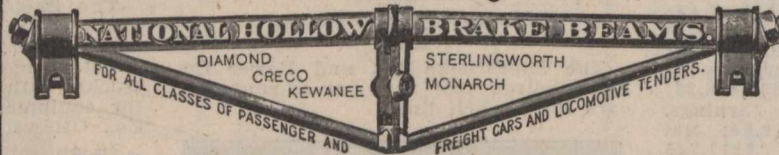
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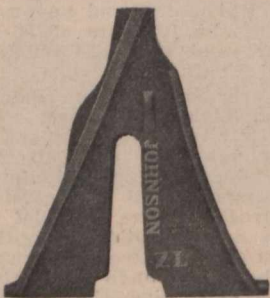
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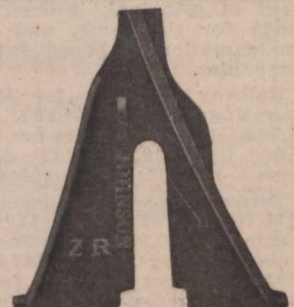


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# MARINE DEPARTMENT

**Dominion Marine Association.**

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**Great Lakes and St. Lawrence River Rate Committee.**

CHAIRMAN, E. E. Horsey, Kingston, Ont. SECRETARY, Jas. Morrison, Montreal.

**International Water Lines Passenger Association.**

PRESIDENT, W. M. Lowrie, New York. SECRETARY, M. R. Nelson, New York.

**The Shipping Federation of Canada.**

PRESIDENT, A. A. Allan, Montreal; MANAGER, AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

**Ship Masters' Association of Canada.**

GRAND MASTER, Capt. J. H. McMaugh, Toronto, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

**The Vessel Toiler's Machinery.**

In previous issues we have given various particulars about the vessel Toiler, which was built in England, and which is now in Canada engaged in the lake trade. The following additional information will be of interest:—

The propelling machinery consists of two Diesel oil engines driving twin screws which develop 180 h.p. each at about 250 revolutions per minute. Their

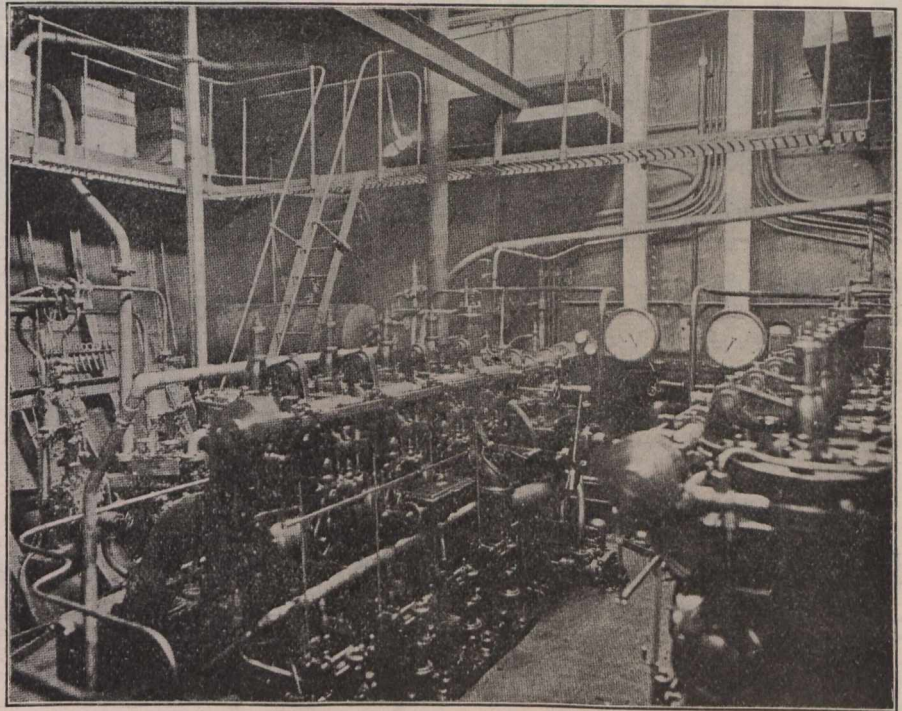


Fig. 2. The Engine Room of The Toiler.

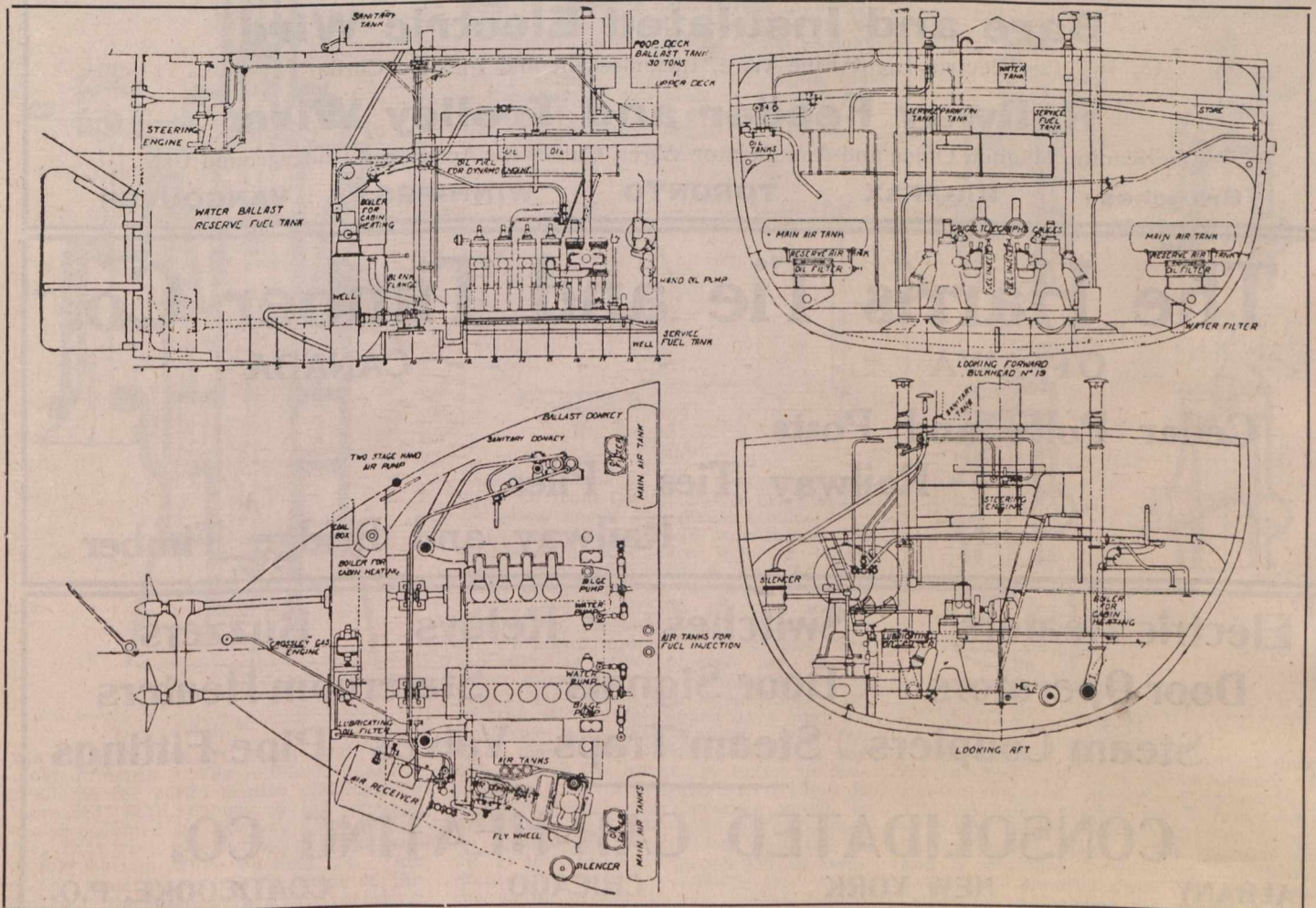


Fig. 1. Arrangement of The Toiler's Propelling Machinery.

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arrangement is indicated by sectional drawing, fig. 1, and the photograph, fig. 2. The weight of the engines is only about half that of steam engines and boilers of the same power, while the fuel consumption is only one-fourth the weight of that necessary if coal were

ed air. Fig. 3 shows the arrangement of the engine in diagrammatic form. The four two-cycle combustion cylinders marked 1 represent the working motor, the two double-acting cylinders marked 2 constituting what are termed the manœuvring motor. Under normal cir-

compression ensues up to 5 (D to F), after which the compressed air is forced into the channel leading to the working cylinder. When manœuvring, atmospheric air is cut off and compressed air admitted from 1 to 2, the indicator diagram becoming H I J D E D F G.

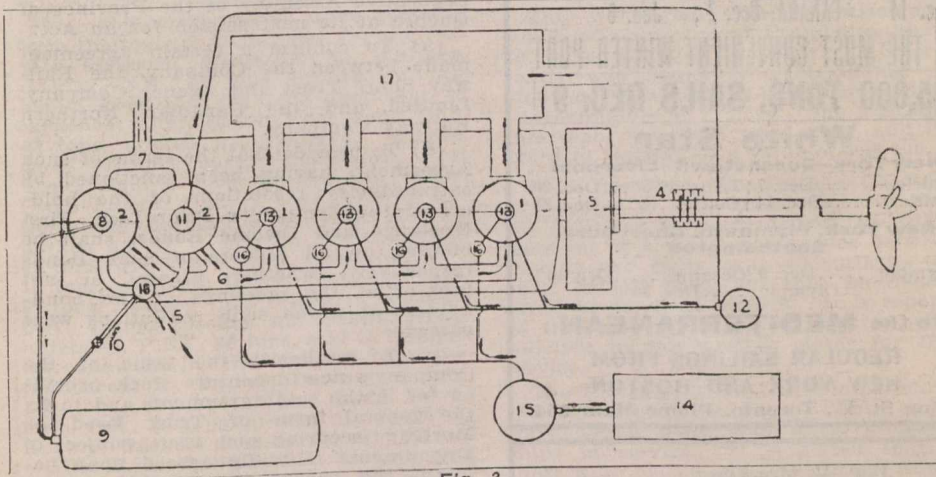


Fig. 3.

being used in the ordinary way, so that there is a very considerable addition to the dead-weight capacity available for cargo, amounting in this case to about 140 tons, compared to the steam-driven ship of similar dimensions. The Toiler is of Canadian canal dimensions, being

circumstances the manœuvring motor draws air from the atmosphere from the pipe 5 and delivers it slightly compressed through the channel 6 into the working cylinders 1. In the working cylinders this air is compressed to 36-38 atmospheres in order to assist the combustion and the development of power. The products of combustion are driven into the cylinder 17 and pass thence into the open air. When manœuvring the manœuvring motor is connected with a compressed air reservoir 9 instead of the atmosphere by turning the lever 18. The air used during manœuvring is automatically replenished by the air pump 8, which begins to act as soon as the pressure in the reservoir sinks below a certain amount. The liquid fuel is drawn from the tank 14 through the filter 15 by the fuel pump 16, and delivered to the fuel valves 13, being driven thence into the combustion cham-

The action of the internal combustion cylinders is illustrated in fig. 6. Air is supplied under pressure to the receiver 26 and passes thence through the passage 41, which is laid open to the cylinder when the piston is at the bottom of the stroke. As the piston rises this passage is closed and the air is compressed until at about the top of the stroke a small supply of oil is admitted through the valve 25 and the resulting explosion provides the necessary source of power, the waste gases escaping through the opening 42 as the piston descends. The fuel valve 25 is controlled in the ordinary way by means of cams.

An ingenious method has been adopted for regulating the oil pumps and valves. Briefly the arrangement is such that during the period in which the motor revolves forward after the levers have been partly reversed the pumps supply no oil to the valves, thus avoiding contrary explosions. The manœuvring arrangements have proved very satisfactory in the Toiler and it is claimed that the engine can be changed from full speed ahead to full speed astern more quickly even than a steam engine. On one occasion she was submitted to an unusually severe test on returning to her builders' yard, when she was completely turned around and placed alongside a quay. In 16 minutes no less than 31 manœuvres were accomplished and the pressure never sank below eight atmospheres, the normal being 10 atmospheres.

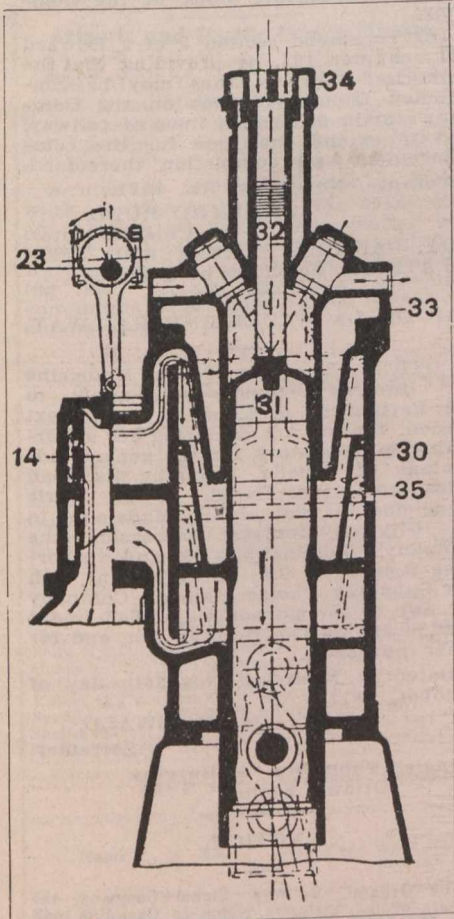


Fig. 4.

248 ft. long, 42½ ft. beam, and 19 ft. molded depth. The cubical capacity available for cargo is also considerably increased both owing to the smaller space occupied by the engines and the fact that fuel can be carried in the double bottom when burning oil. One of the most noteworthy features of the design is the manner in which reversing is accomplished by means of compress-

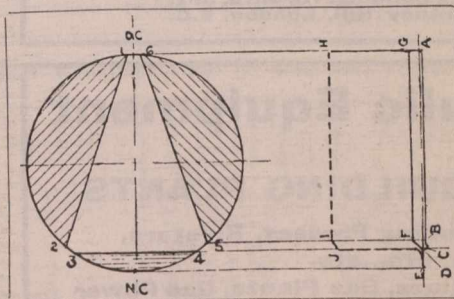


Fig. 5.

bers by means of the compressed air supplied from the air pump 11; 3 is the fly wheel and 4 the thrust block.

The construction and working of the manœuvring cylinders will be better understood from figs. 4 and 5. The circle of fig. 5 shows the order of events during one revolution of the engine, considering this cylinder to act firstly as an air pump under direct running, and secondly, as a compressed air engine when manœuvring. Shortly after the piston has passed the upper dead centre the slide valve opens at 1 and air is drawn into the cylinder until the valve closes at 2 (corresponding to the line A B on the imaginary indicator diagram). From 2 to 3 (B to C) there is a slight decrease in pressure which is neutralized at 3 when the piston passes an opening in the cylinder wall (35 in fig. 4) thus placing the cylinder in communication with the outside air. After the piston passes the lower dead centre this opening is closed again at 4 and

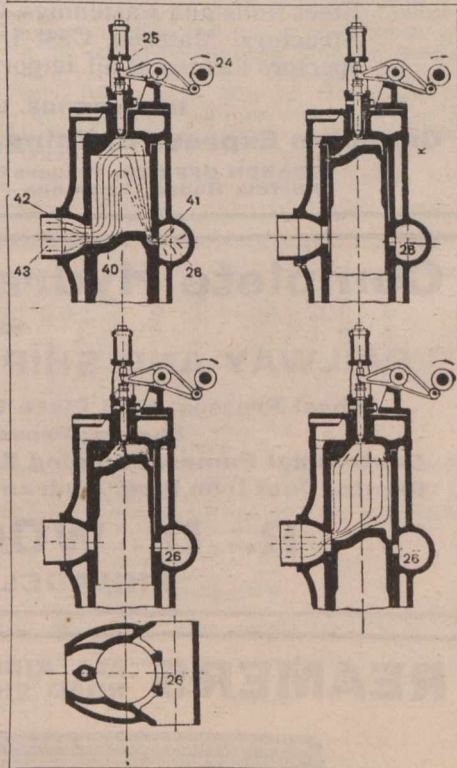


Fig. 6.

The question of auxiliary machinery for the Toiler, in view of the absence of steam, required special consideration. The auxiliaries consist of a ballast donkey pump and a sanitary donkey pump in the engine room, and a capstan aft and a windlass forward on the deck, besides the steering gear. All these are driven by compressed air, which is supplied by a separate compressor driven



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 Olympic ...Dec. 30

**To the MEDITERRANEAN**

**REGULAR SAILINGS FROM NEW YORK AND BOSTON**

**QUEBEC AND LAKE ST. JOHN RAILWAY COMPANY.**

Notice is hereby given that application will be made by the Quebec and Lake St. John Railway Company to the Legislative Assembly of the Province of Quebec at its next session for an Act:

(a) To confirm a certain agreement made between the Company, the Railway Share Trust and Agency Company, Limited, and the Canadian Northern Railway Company.

(b) To provide that the terms of such Agreement, having been sanctioned by extraordinary resolutions of the holders of the Company's Prior Lien, First Mortgage and Income Bonds, shall be binding on all holders of such Bonds respectively, whether present or not present at the meetings of the bondholders at which such resolutions were passed;

(c) To authorize the issue of the Company's new debenture stock provided for in the said agreement, and to fix the general form of Trust Deed or Mortgage securing such issue, subject to amendments mutually agreed upon between the parties to the said Agreement;

(d) To provide for the winding up of the Lake St. Joseph Hotel Company and the transfer of its properties to the Company, and the discharge of the existing Trust Deed, and the exchange of securities issued thereunder for the said new debenture stock of the Company;

(e) To amend section 2 of 9 Edward VII, chapter 104, by providing that the authorized branch lines may be constructed from any point on the Company's main or branch lines of railway, and to extend the time for the commencement and completion thereof.

Toronto, November 6th, 1911.

GERARD RUEL,

Chief Solicitor.

ROY, CANNON, PARENT and FITZPATRICK, Solicitors at Quebec.

**CAP DE LA MADELEINE RAILWAY.**

NOTICE.—The Cap de la Madeleine Railway Company will apply to the Parliament of Canada, at its next session, for an Act declaring its undertaking to be a work for the general advantage of Canada, changing its head office from the Parish of St. Marie Madeleine du Cap de la Madeleine to the City of Montreal, increasing the company's bonding powers, and authorizing it to enter into an agreement with the Canadian Pacific Railway Company for any of the purposes specified under Section 361 of The Railway Act, and for other purposes.

Dated at Montreal, this 26th day of October, 1911.

H. C. OSWALD,

Secretary.

Pringle, Thompson & Burgess,  
 Ottawa agents.

**NOTICE.**

The General Railway Signal Company, the owners of the exclusive rights to Canadian patents No. 92323, No. 93127, No. 96256, and No. 97758, issued to Young and Townsend, and covering methods of signaling electrified railways, wishes to call the attention of all possible users of the devices and systems covered by such patents, to the fact that it is prepared to sell and furnish, at short notice, all such devices, and to install such systems upon any railway in the Dominion of Canada.

All inquiries regarding the above should be addressed to the office of the company, Room 506, Eastern Townships Bank, 263 St. James St., Montreal, Que.

ROBERT W. HUNT,  
 President.

THOS. C. IRVING, JR.,  
 Vice-President.

JAS. W. MOFFAT,  
 Secretary.

CHAS. WARNOCK,  
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by a 30 h.p. Diesel engine. In addition there is a small electric light engine working on paraffin. The cabin heating is accomplished by a hot water system.

**Vessels Removed from the Register.**

The following vessels were removed from the register during Oct. for the reasons assigned: Steam—A. C. Whitney, Halifax, N.S., 41 tons, broken up; Albani, Brockville, Ont., 39 tons, out of existence; Anglo Saxon, Port Hope, Ont., 43 tons, broken up; Aurora, Quebec, Que., 79 tons, burnt; Bella Fair, Port Hope, Ont., 5 tons, broken up; Belle, Owen Sound, Ont., 5 tons, broken up; Besse and Harry, Halifax, N.S., 13 tons, broken up; C. C. Martin, Midland, Ont., 45 tons, wrecked; Comet, Chatham, Ont., 15 tons, wrecked; Derby, Chatham, N.B., 9 tons, broken up; Flash, Peterboro, Ont., 4 tons, broken up; Frank, Charlottetown, P.E.I., 30 tons, sold to foreigners; John Irwin, Halifax, N.S., 80 tons, foundered; La France, Dawson, Yukon, 169 tons, wrecked; Maple Leaf, Peterboro, Ont., 18 tons, broken up; Roddick, Kenora, Ont., 31 tons, wrecked. Sailing—Alice E. L., Halifax, N.S., 59 tons, sold to foreigners; Annie Amelia, Sydney, N. S., 13 tons, transferred to Newfoundland; Georgiana, James A. Gray, Charlottetown, P.E.I., 91 tons, stranded; Lady Napier, Charlottetown, P.E.I., 210 tons, abandoned at sea; May Bell, St. John, N.B., 76 tons, wrecked; Rough Rider, St. Andrews, N.B., 15 tons, sold to foreigners.

**Atlantic and Pacific Ocean Marine.**

The Allan Line s.s. Virginian, which sailed from Montreal, Nov. 23, was the last passenger vessel sailing from the St. Lawrence for the 1911 navigation season.

A number of longshoremen struck work at Montreal, Nov. 17, demanding an increase of pay. The matter was settled on Nov. 20, the men returning to work at the old rate, on the understanding that certain conditions of which complaints had been made would be ameliorated.

The C.P.R. s.s. Empress of Britain which arrived at Liverpool, Eng., Nov. 10, reported that she had collided with a small coasting steamboat, off the Calf of Man, south of the Isle of Man. She suffered no damage, but the small vessel put in at the Isle of Man in a water-logged condition.

The Norwegian steamship Halvdan, which was wrecked at Framboise, about 30 miles west of Louisburg, N.S., recently, was bound from Mexillones to Montreal with a cargo of nitrate, valued approximately at £70,000. She was built this year, was 3,925 tons gross, and insured in Norway at a value of £39,000.

G. M. Bosworth, Vice President, C.P.R., is reported to have stated recently, that the company was considering the establishment of a steamship service between Canada and India, with Calcutta as the chief Indian port, but that no details could be given at present. It is reported from New York that freight is being solicited in the western states for this service.

The C.P.R. will, on the completion of the two Pacific Empresses, now under construction in England, have 76 steamships in service. It is stated that if these were placed end to end they would extend for 3½ miles. The number of employes of the steamship department is given as 12,000 and it is said that 3,000 tons of coal are consumed daily in the operation of the vessels.

A London, Eng., press report states that the British Government has decided not to subsidize a steamship service between Great Britain and Canada, by way of the West Indies, and that it is currently reported that the C.P.R. will, in the near future, establish a service, linking up the islands with Canadian ports, with possible extensions to some South American ports.

The Allan Line has placed separate orders in Glasgow, Scotland, for two steamships for the St. Lawrence route. They will be equipped with four screw turbine engines, of the latest design, with special reversing gear for going astern. Their dimensions will be, length 570 ft., beam 71 ft., depth of hold 45½ ft., and of about 18,000 tons each. The first will

be ready for service in May, 1913, and the second in the month following.

The steamship which the Union Steamship Co. of New Zealand has under construction on the Clyde, Scotland, for the Canada-Australia mail route, will be 522 ft. long, 66 ft. beam, and be about 13,000 gross tons, with accommodation for 700 passengers. She will be equipped with twin reciprocating engines and turbine amidships, driving triple screws, and 10 boilers, four of which will be arranged for burning oil fuel.

The Donaldson Line s.s. Letitia, which is under construction at Greenock, Scotland, will, it is expected, sail from Glasgow, Mar. 23 on her maiden trip to St. John, N.B. She is of about 10,000 tons, with engines of 6,000 n.h.p., and is being built for one class cabin passengers and third class, with a total accommodation for 1,410. She will be equipped with all the latest improvements, including a Marconi wireless telegraph installation.

Further attempts were made, during November, to float the wrecked C.P.R. s.s. Empress of China off the Japanese coast. It was anticipated that on the completion of blasting operations to clear a channel, an expected high tide would float her clear. It is stated that the chief damage done is to her plates and frames, and that her bulkheads are all good. Should the attempt be successful, she will be drydocked and repaired. In the meantime the s.s. Mont-eagle is taking her place until the end of the year.

It is reported in Quebec, that "one of the largest steamship companies in the world," the name of which is not divulged, is planning to run a line to Canada, next year, making its summer terminus, either at Montreal or Quebec. It is not stated where the company's vessels will run from, but the preliminary negotiations took place in New York, and it is stated everything was proceeding in a very satisfactory manner. Two vessels, it is said, will be placed on the route at the commencement of the St. Lawrence season next year, in the freight trade.

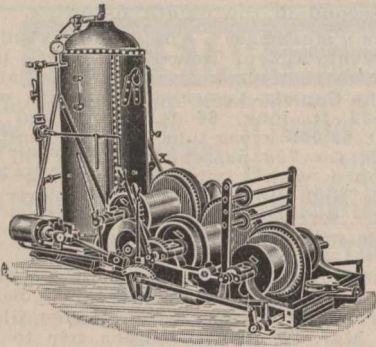
A London, Eng., press dispatch, Nov.

**LIST OF STEAM VESSELS REGISTERED IN CANADA DURING OCTOBER, 1911.**

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Carrick Castle..	130,746	Vancouver, B.C., 1911.....	Screw 1 n. h. p. ....	33.0	9.8	4.2	12	8	Vancouver, B.C.....	D Rankin, Vancouver, B.C.
Colima.....	130,607	Philadelphia, Pa., 1904.....	" 42½ " ..	96.0	22.0	11.9	200	98	Victoria, B.C.....	C.P.R., Montreal.
Ichthus M.....	130,582	West Chezzetcook, N.S., 1911	" 2½ " ..	32.0	11.6	3.4	6	5	Halifax, N.S.....	R. McLaren, West Chezzetcook, N.S.
La Boheme.....	130,748	United States.....	" 2 " ..	35.0	9.0	4.6	11	8	Vancouver, B.C.....	H. S. Sulley, Vancouver, B.C.
Lavina B.....	130,473	Tancook, N.S., 1910.....	" 2½ " ..	41.2	10.3	5.9	12	11	Lunenburg, N.S.....	A. Boutillier, Mill Cove, N.S.
Lotys.....	130,581	Halifax, N.S., 1909.....	" 2½ " ..	31.4	6.6	3.0	3	2	Halifax, N.S.....	E. F. Keefe, Halifax, N.S.
Morgan (The)...	130,275	Port Stanley, Ont., 1911.....	" 18½ " ..	70.3	16.4	7.9	50	34	Port Stanley, Ont.....	C. F. J. and T. H. Morgan, J.O., Port Stanley, Ont.
Phryne.....	130,749	North Vancouver, B.C., 1911	" 3 " ..	47.2	11.8	6.0	24	16	Vancouver, B.C.....	J. H. Wrigley, Vancouver, B.C.
Polly N.S.....	126,920	Little Tancook, N.S., 1911.....	" 2½ " ..	35.7	7.8	3.2	8	6	Halifax, N.S.....	G. Fournier, Halifax, N.S.
Qualis.....	130,750	Vancouver, B.C., 1911.....	" 1½ " ..	40.2	11.3	5.3	16	11	Vancouver, B.C.....	J. L. Green & R. A. Woodbridge, J.O, Vancouver, B.C.
R. G. Shaw.....	126,230	Buffalo, N.Y., 1878.....	" 5 " ..	49.0	12.0	6.2	28	16	Sarnia, Ont.....	W. H. Reid, Sarnia, Ont.
Robert G. Cann	130,622	Shelburne, N.S., 1911.....	" 41½ " ..	119.0	24.6	9.4	265	99	Yarmouth, N.S.....	H. Cann & Son, Yarmouth, N.S.
Satsuki.....	130,756	Sea Island, B.C., 1911.....	" 24 " ..	49.5	11.7	6.4	26	17	Vancouver, B.C.....	M. Endo, Fraser River, B.C.
Sheileena.....	130,751	Hong Kong, China, 1911.....	" 3½ " ..	52.8	12.6	4.8	35	23	" ..	W. Farrell, Vancouver, B.C.
Sir Hy. Harness	57,886	East Cowes, Eng., 1896.....	" 50 " ..	85.0	18.0	9.3	100	59	Halifax, N.S.....	C. G. Brister, Halifax, N.S.

**LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING OCTOBER, 1911.**

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Alma M.....	130,475	Tancook, N.S., 1907.....	Schr.	43.6	10.8	6.6	16	Lunenburg, N.S.....	H. Miller, Eastern Points, N.S.
E. C. E. 16.....	130,752	Vancouver, B.C., 1910.....	Scow	78.5	30.0	7.5	158	Vancouver, B.C.....	Evans, Coleman & Evans, Vancouver, B.C.
E. C. E. 17.....	130,753	Port Mellon, B.C., 1910.....	"	78.0	29.8	7.5	157	" ..	" ..
E. C. E. 18.....	130,754	Vancouver B.C., 1911.....	"	83.3	29.9	8.3	185	" ..	" ..
F. M. Toro.....	130,754	Lunenburg, N.S., 1911.....	Schr.	106.8	26.3	10.4	100	Lunenburg, N.S.....	F. Corkum, M.O., Lunenburg, N.S.
Glendale.....	130,424	Waldoboro, Me., 1872.....	"	41.0	13.0	5.0	14	St Andrews, N.B.....	T. O. Mitchell, Campbell, N.B.
H. S. M. D.....	130,755	Vancouver, B.C., 1911.....	Scow	77.3	32.1	6.6	148	Vancouver, B.C.....	British Columbia Mills Timber & Trading Co.,
Hattie M. J.....	130,752	Tancook, N.S., 1909.....	Schr.	42.2	10.4	5.4	12	Lunenburg, N.S.....	W. I. Harnish, et al, Mill Cove, N.S. [Vancouver
Hugh John.....	111,416	Lockeport, N.S., 1900.....	"	104.1	24.9	10.1	119	Halifax, N.S.....	C. W. Anderson, Sherbrook, N.S.
Jean Joseph.....	126,932	Chicoutimi, Que., 1910.....	"	79.0	21.6	5.3	50	Quebec, Que.....	J. Levesque, Chicoutimi, Que.
Legere.....	126,933	Bic, Que., 1910.....	"	86.8	25.0	7.5	82	" ..	N. A. St. Pierre, Bic, Que.
M. G. C. C. No. 1	130,535	Welland, Ont., 1911.....	Scow	101.0	30.0	8.0	401	Montreal.....	Montreal General Contracting Co., Montreal.
Pearl Beatrice H.	130,727	Tancook, N.S., 1911.....	Schr.	56.2	14.0	7.6	32	Lunenburg, N.S.....	W. Hubley, M.O., Indian Harbor, N.S.
Shant-Alee.....	130,474	" .. 1908.....	"	42.2	10.3	5.3	11	" ..	R. Wight, Blue Rocks, N.S.

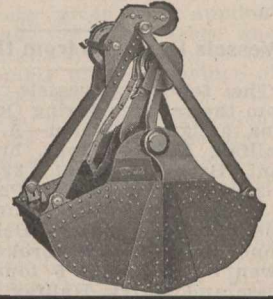


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Welland, Ont.

**Dredges - Ditchers - Derricks  
Steam Shovels  
Steel Dump and Deck Scows**

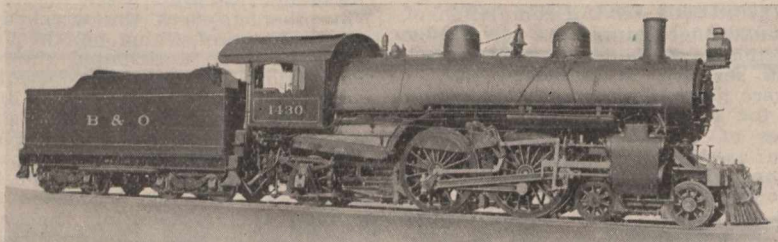
Submarine Rock Drilling Machinery  
Mine Hoists, Hoisting Engines  
Centrifugal Pumps, Clam Buckets  
Steel Skips, Coal and Concrete Tubs  
and other Contractors' Machinery.



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Irving Park Ave., corner Southport,  
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New Seamless Steel Trolley Poles

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Has already saved many castings from the scrap heap.

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11, stated that it had been announced from Rotterdam, Holland, that a steamship line would shortly be inaugurated with fortnightly sailings from Rotterdam to Canada and the United States, the undertaking being under C.P.R. auspices and financed by that company and a company of Rotterdam bankers. G. M. Bosworth recently denied that the C.P.R. would operate a steamship line between Rotterdam and the United States in connection with the New York, New Haven and Hartford Rd. A later dispatch states that the scheme is financed in Rotterdam by local bankers only, and that they have purchased two vessels from the C.P.R.

The Union Steamship Co. is reported to have completed negotiations whereby the Canadian Mexican Pacific Steamship Co. has been acquired, as from Jan. 1, 1912. J. H. Welsford, of Liverpool, Eng., President, Union Steamship Co., has spent some time in Vancouver recently, in consolidating the interests of his company, and as announced in our last issue, has also acquired the Boscowitz Steamship Co., which will still be operated under its own name. It is stated that, on the opening of the Panama canal, the Union Steamship Co., with its subsidiaries, will operate in conjunction with Welsford and Co.'s vessels now running in the trans-Atlantic service, under the name of the Gulf Transport Line.

W. E. W. Jackson, of the Dominion Meteorological Observatory, who recently returned from a survey trip in Hudson Bay, on behalf of the Government, is reported to have stated that the Hudson Straits are only open for a short period each year, and when he left on Aug. 10, they were almost filled with ice. The bay itself is open much longer. Though he does not say that navigation is impossible, he holds that on the point of cost, the route could not compete with the St. Lawrence route, as on account of the special construction of vessel required, the slow speed, etc., the freight charges, in order to meet the expense would have to be higher than usual, rendering transportation by that route prohibitive.

**Maritime Provinces and Newfoundland.**

The Norwegian barque Antigua was driven ashore at Martin River, Nov. 17, and completely wrecked, 12 of a crew of 15 being drowned.

The Reid Newfoundland Co.'s s.s. Clyde, which ran ashore at Little Bay, Nfld., Nov. 5, was released Nov. 7 by H.M.S. Brilliant, apparently undamaged. She immediately resumed her service between Newfoundland and Labrador.

The Senlac Steamship Co.'s s.s. Senlac, managed by Wm. Thomson and Co., St. John, N.B., has been sold to a British firm for £1,500. She was built at St. John in 1904, and is screw driven by engine of 66 n.h.p. Her dimensions are, length, 182.4 ft.; breadth, 33 ft.; depth, 16.1 ft.; tonnage, 1011 gross, 615 register.

The steamboat Electra, owned by W. A. Beattie, Pictou, N.S., which stranded recently near Margaree, on the Cape Breton coast, has been abandoned as a total wreck, having broken up during a storm. She was built at Arcadia, N.S., in 1887, and was screw driven by engine of 25 n.h.p. Her dimensions were, length 85.9 ft., breadth 16.9 ft., depth 8.2 ft.; tonnage, 107 gross, 78 register. An inquiry is being held into the cause of the loss.

The steamship Robert G. Cann, which has been built by the New Burrill-Johnson Iron Co., Yarmouth, and J. McGill, Shelburne, recently underwent her trials satisfactorily, maintaining a speed of 12 knots an hour. In addition to com-

modious passenger accommodation, there is hold capacity for 1,200 barrels. She is equipped with compound surface condensing engines of 41 n.h.p., supplied with steam by a horizontal boiler, at 135 lbs., steam steering gear, two steam winches, steam pumps, steam heating, electric lighting, etc. Her dimensions are: length, 119 ft., beam 24½ ft., depth of hold 9½ ft., tonnage 265 gross, 99 register.

Proposals are again being submitted to the Government with a view to obtaining some compensation for bondholders and shareholders in the defunct Chignecto Marine Transport Ry. Co., which had a charter to build a railway for the trans-shipment of vessels across the isthmus which divides the Bay of Fundy and Northumberland Strait. The company was formed in 1882, and in 1886 was granted a subsidy by the Government of the day amounting to \$170,000 for 20 years. The charter expired in 1893, but some work was done subsequently, on the understanding, it is claimed, that the charter would be renewed and the subsidy re-voted. This, however, it was decided not to do. It is stated that about \$4,000,000 was spent in the construction.

The Dominion Government has, according to a number of dally and other papers, awarded a contract to the British Dry Dock and Shipbuilding Co. for the construction of a dry dock and shipbuilding plant at Sydney, N.S., at an estimated cost of \$4,500,000. The statement, as printed, is obviously incorrect. The facts are that the company has recently been incorporated with a capital of \$10,000,000, with the object of building a dry dock and shipbuilding plant at some point in the Maritime Provinces, probably at Sydney, chiefly with the view of tendering for the construction of the proposed vessels for the Canadian navy. It was recently reported that the company's tender was one of the lower ones sent in, and that probably it would receive an order for some of the vessels, which would be built. Sir Henry Pellatt, who is chiefly interested in the concern, with the Fairfield Co., Glasgow, Scotland, and John Brown and Co., Middlesbrough, Eng., stated some time ago that unless the company received a Government order for some of the proposed naval vessels, the dock, etc., would not be proceeded with, as far as his company was concerned. The only connection the Government has with the proposed plant is in regard to the question of a subsidy, and before any subsidy could be granted, full plans and details would have to be submitted and approved by the Public Works De-

partment. Since the incorporation of the company, and the receipt of tenders for naval vessels, a change of Government has taken place.

**Province of Quebec Marine.**

The Minister of Marine visited Montreal, Nov. 8, to inspect the works in progress in the harbor.

The work in connection with the laying of the foundations of the new concrete lighthouse on St. Helen's island was commenced recently.

C. C. Ballantyne, one of the members of the Montreal Harbor Commission, announced, Nov. 9, that he would shortly retire in order to devote more time to his own affairs. He was recently elected a director of the Merchants Bank.

W. I. Gear, of the Robert Reford Co., Montreal, addressed the Nomad's Club, there, Nov. 8, on the future of Montreal as a port, dealing with the question of the present route from the Great Lakes to Montreal, and the proposed Georgian Bay canal route.

At a meeting of the Richelieu and Ontario Navigation Co.'s directors, Nov. 2, the question of purchasing four additional vessels was considered. No decision was arrived at, but it was considered imperative that the company's fleet be increased in the near future.

The Richelieu and Ontario Navigation Co. has under consideration plans for a ferry steamboat for operation between Montreal and Longueuil. It will probably be double ended, with accommodation for 3,000 passengers, and be in readiness for operation in 1913.

Chantier Maritime de St. Laurent, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000 and office at St. Laurent, Ile d'Orleans, Que., to carry on the business of shipbuilders and builders of works of all kinds relating to navigation and the maritime trade.

The St. Lawrence Dry Dock and Shipbuilding Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$1,000,000, and office at Quebec, Que., to build, own and operate all kinds of vessels, wharves, docks, dry docks, dredging equipment, machinery, etc. The incorporators are: L. Kent, R. Wall, J. Desautels, C. Donohue, Montreal, and J. B. Craven, New York.

The Montreal Insurance and Vessel Agency, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000, and office at Mont-

**LAKE GRAIN SHIPMENTS.**

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the bushels of grain shipped by vessels from Fort William and Port Arthur, of the 1910 crop, from Sept. 1 to Oct. 31, with ports of destination. The last two figures in each column represent lbs.:

Destination	Wheat	Oats	Barley	Flax
Buffalo.....	8,925,818.30			
Depot Harbor.....	67,700.00	105,000.00	83,539.07	
Erie.....	409,028.00			
Goderich.....	1,557,084.30	596,639.28	37,333.12	19,745.17
Kingston.....	2,434,973.00	165,962.20	164,798.04	7,814.16
Montreal.....	1,933,673.30	635,022.18	11,091.06	14,064.22
Midland.....	45,480.10	28,000.00		
Meaford.....	46,519.50			
Owen Sound.....	241,849.20	481,315.31	106,919.32	
Prescott.....		12,232.32		
Point Edward.....	175,000.00	149,000.00		
Port Colborne.....	1,784,123.20	20,000.00		
Port Stanley.....	50,000.00			
Quebec.....		90,005.00		
Tiffin.....	849,408.10			
Victoria Harbor.....		176,575.24		
	18,670,658.20	2,459,784.17	403,681.13	41,622.55
Same period 1910.....	19,732,543.20	2,210,772.15	324,551.25	400,034.24

In addition to the above, 3,964.09 bushels of rye were shipped to Kingston, and 4,191.40 bush. of screenings to Montreal.

real, to carry on a general financial agency and brokerage business, and act as agents or brokers for steamship, railway, transportation and express companies. G. W. MacDougall, L. Macfarlane, C. A. Pope, G. Barclay, and J. G. Cartwright, Montreal, are the incorporators.

The British North American Dry Dock and shipbuilding Co., Ltd., has been incorporated under the Dominion Companies Act, with \$1,000,000 capital and office at Quebec, Que., to build and operate vessels, wharves, dry docks, elevators, tramways, terminals, and to act as carriers of passengers and freight. The incorporators are, W. Price, J. F. Burstall, V. Chateauvert, J. B. E. Letellier, P. J. E. Bazin, W. Shaw, N. Drouin, W. M. Dobell and J. T. Ross, Quebec.

#### Ontario and the Great Lakes.

The Richelieu and Ontario Navigation Co. has declared a quarterly dividend at the rate of 8% per annum, an increase of 2%.

The Toronto Harbor Commissioners have decided that the harbor must be made deep enough for vessels drawing 24 ft.

The Hamilton city council is applying to Parliament for the appointment of a harbor commission to manage the waters of Burlington Bay.

The Northern Navigation Co. is considering the question of lengthening its steamboat Huronic during the winter by 50 ft., and increasing the engine power.

The Department of Public Works has awarded the contract for the construction of a breakwater at Wheatley, at a cost of about \$28,000, to W. Bermingham.

Negotiations are in progress for the formation of a joint harbor commission for the control of the harbors and water front properties of Fort William and Port Arthur.

Capt. Jas. McMaugh, who retired from the Toronto Ferry Co.'s service a short time ago and who had been connected with the navigation of the Great Lakes for several years, died in California, recently.

The Northern Navigation Co. announced, Nov. 15, that the report that the s.s. Hamonic left Sarnia, Nov. 12, on her last trip of the season, is in error. She will run until Dec. 6, with the company's other vessels.

The Prescott and Ogdensburg Ferry Co.'s steamboat City of Belleville, which drifted on the rocks at Big Island recently, through the breaking of the rudder chains, was taken to Ogdensburg, where repairs to her hull were undertaken.

The Peterborough and Lake Simcoe Navigation Co.'s fleet, consisting of the steamboats Otonabee, Manita, Monarch and Water Lily, and four barges, with the wharf and storehouse at Ashburnham, is offered for sale by tender in one or more lots.

Press reports from Collingwood state that the Western Steamship Co. will have its steamboat J. A. McKee length-

#### CANADIAN PACIFIC RAILWAY COMPANY.

##### Dividend Notice.

At a meeting of the Board of Directors, held to-day, a dividend of two and one-half per cent. on the Common Stock, for the quarter ended 30th September last, being at the rate of seven per cent. per annum from revenue and three per cent. from interest on the proceeds of land sales, and from other extraneous assets, was declared payable on 2nd January next to Shareholders of record at 3.00 p.m. on 1st December next.

By order of the Board.  
W. R. BAKER,  
Secretary.  
Montreal, November 13th, 1911.

#### ESQUIMALT & NANAIMO RAILWAY.

NOTICE.—The Esquimalt & Nanaimo Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct a branch from a point or at or near the North fork of Oyster River on the railway authorized by paragraph (a) of section 2, of chapter 92 of the Statutes of 1906, thence in a northerly and northwesterly direction to a point on or near Hardy Bay on the West Coast of Vancouver Island, and increasing the company's bonding powers; and for other purposes.

W. F. SALISBURY,  
Secretary.  
Pringle, Thompson and Burgess,  
Ottawa agents.

#### SOUTH ONTARIO PACIFIC RAILWAY COMPANY.

NOTICE.—The South Ontario Pacific Railway Company will apply to the Parliament of Canada at its next session for an Act authorizing it to construct and operate a railway from a point at or near Hamilton, in a southerly and southeasterly direction, to a point on the Niagara River in the Province of Ontario, and increasing its bonding powers, and for other purposes.

Dated at Montreal this 8th November, 1911.

H. C. OSWALD,  
Secretary.  
Pringle, Thompson and Burgess,  
Ottawa Agents.

#### ALBERTA RAILWAY & IRRIGATION COMPANY.

NOTICE is hereby given that the Alberta Railway and Irrigation Company will apply to the Parliament of Canada, at its next session, for an Act authorizing the company to issue mortgage bonds secured upon the company's railways and branches for the purpose of retiring prior mandatory securities, improving its railways, and for other purposes.

Dated at Montreal, this 6th November, 1911.

H. C. OSWALD,  
Secretary.  
Pringle, Thompson and Burgess,  
Ottawa Agents.

#### KOOTENAY CENTRAL RAILWAY.

NOTICE.—The Kootenay Central Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct a branch from a point on the Crow's Nest Branch of the Canadian Pacific Railway at or near Galloway, in the Province of British Columbia, in a southerly direction to the International Boundary, and extending the time within which it may construct the railways heretofore authorized, and for increasing the company's bonding powers; and for other purposes.

Dated at Montreal this third day of November, A.D. 1911.

H. C. OSWALD,  
Secretary.  
Pringle, Thompson and Burgess,  
Ottawa Agents.

#### MANITOBA & NORTHWESTERN RAILWAY.

NOTICE.—The Manitoba and Northwestern Railway Company of Canada will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct a branch from a point at or near Theodore in a westerly direction to a junction with the Pheasant Hills Branch of the C.P.R. between Govan and Lanigan in the Province of Saskatchewan, and for other purposes.

Dated at Montreal, this 25th October, 1911.

H. C. OSWALD,  
Secretary.  
Pringle, Thompson & Burgess,  
Ottawa agents.

#### CANADIAN PACIFIC RAILWAY.

NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to enter into an agreement with the Quebec Central Railway Company for any of the purposes specified in section 361 of The Railway Act, and to lease the railways of the said company, and for other purposes.

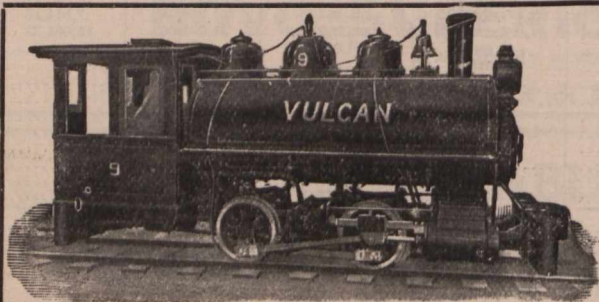
Dated at Montreal, 2nd November, 1911.

W. R. BAKER,  
Secretary.  
Pringle, Thompson and Burgess,  
Ottawa Agents.

#### The Victoria Rolling Stock & Realty Co. of Ontario, Limited.

Notice is hereby given that a dividend of three per cent. on the paid-up capital stock of the Company for the half-year ended Nov. 30th, 1911, has been declared payable Dec. 1st, 1911, to the shareholders on record as of the 30th of Nov., 1911.

By order of the Board.  
G. T. CHISHOLM, Secretary.  
Toronto, Nov. 20th, 1911.



EVERYBODY IS GOING into heavier cars and equipment, and of course heavier Dinkeys. Come along. We are ready for you. All sizes in stock.

## VULCAN IRON WORKS

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ened during the winter. We are, however officially advised that though it has been under consideration, it is not intended to do it this winter.

The Western Navigation Co.'s steamboat Kaministiquia is to be lengthened at Port Arthur by 76 ft. during the winter. She was formerly known as Imperial, and was built at Toronto in 1886, and rebuilt and renamed at Port Arthur in 1906. She is now 109 ft. long.

Press reports from London, Ont., state that a proposal is being considered to dredge the River Thames from Chatham to London, to enable steamboats to come up to the city. It is estimated that in addition to dredging, the installation of four locks between Chatham and London would be all that is necessary.

Press reports from Montreal, Nov. 11, stated that negotiations had been reopened between the Richelieu and Ontario Navigation Co., and shareholders of the Niagara Navigation Co., with the view of merging the two interests, and that Sir Henry Pellatt was conducting the negotiations for the R. & O. N. Co. Sir Henry has denied this.

The Ministers of Railways and Canals is reported to have stated, Nov. 7, that he would not be able to inspect the proposed route of the new Welland canal, until after the first session of Parliament, after which inspection the Government would consider the question of going ahead. It was probable that a year or more would elapse before anything definite was settled.

The Ontario and Ohio Navigation Co., a subsidiary of the London and Lake Erie Ry. and Transportation Co., is reported to have plans prepared for a second steamboat to ply between Port Stanley and Cleveland. S. W. Mower, General Manager, is reported to have stated recently, that though the plans were ready, nothing definite about ordering a new vessel had been done.

The Dominion Government has awarded a contract to Pratt and Hambly, Midland, Ont., for the construction and equipment of a wireless telegraph station at Sault Ste. Marie, Ont. A site is said to have been obtained at Pim Hill, about half a mile north of the old wireless station. Work is said to have been commenced, and it is expected to be completed by Mar. 1, 1912.

The steamboat John Sharples, which ran ashore on the Gallop Islands in Dec., 1910, and which has been lying at Garden Island since it was released in the following spring will, press reports say, be taken to Cleveland or Buffalo, where it is considered there is better opportunity for its sale. The underwriters who have had the sale in hand for some time, are reported to have refused \$27,500.

The steamboat Forest B, while running between Kenora and Rainy River, struck a rock to the south of the Little Traverse in the Lake of the Woods, Nov. 8, and foundered. She was built at Rainy River in 1895, and re-built there in 1910, and was formerly named Brandon and Edna Bridges. She is screw driven with engine of 4 n.h.p., and is 75 ft. long, 17 ft. broad, 6 ft. deep, 88 tons, gross, 60 register.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above tide-water, for October, as follows: Superior, 602.23; Michigan and Huron, 579.60; Erie, 571.53; Ontario, 244.62. As compared with the average October levels for the past ten years, Superior was 0.64 ft. below; Michigan and Huron 1.14 ft. below; Erie, 0.62 ft. below, and Ontario, 1.25 ft. below. It was anticipated that during November Superior would fall 0.2 ft. and the other levels 9.3 ft.

Polson Dry Dock and Shipbuilding Co., Ltd., has been incorporated under the

Dominion Companies Act, with a capital of \$1,000,000 and office at Toronto, to carry on the business of engineers, dredgers, contractors, shipowners and shippers, carriers by land and water, etc., to build, own and operate all kinds of vessels and dredging equipment, wharves, docks, dry docks, harbors, breakwaters, etc., and in connection therewith to build and operate tramways, terminals and railway sidings on its own lands.

The Canadian Lake and Ocean Navigation Co.'s s.s. Turret Cape, operated by the Merchants Mutual Line, Toronto, was reported hard ashore on the Middle Bank, near Cove Island, Lake Huron, Nov. 20. She left Point Edward on the previous day, light, for Port Arthur, and was caught in a storm. It is feared she is a total loss. She was built at Sunderland, Eng., in 1895, and was screw driven, with engine of 250 n.h.p. Her dimensions were, length 253 ft., breadth 44 ft., depth 19.4 ft.; tonnage, 1,827 gross, 1,142 register, and she is registered in England. It has since been reported that she has been abandoned to the underwriters.

The late freighter Toiler, of which we have given a description previously, and the engines of which are described and illustrated on another page, is being operated by C. I. de Sola, Montreal, for the builders. She brought, from England, a cargo of pig iron for Halifax, and scoria blocks for Montreal, and after unloading, proceeded to Port Colborne, light, there taking on a cargo of 94,000 bush. of grain, the largest single cargo to pass through the Welland canal, for Montreal. Her next trip was from Montreal to Charlotte, N.Y., light, where she loaded coal for Montreal, afterwards proceeding to Kingston, where she is berthed for the winter.

**Manitoba, Saskatchewan and Alberta.**

Navigation on Lake Winnipeg was closed for the season, Nov. 5, on the arrival of the Dominion Government steamboat Lady of the Lake at Selkirk.

The municipal council of Assiniboia, Man., is applying to the provincial government to build a lock on the Assiniboine River, and to dredge a channel from where it joins the Red River, to Headingly, to enable steamboats to reach that point.

H. J. Black, Winnipeg, is receiving tenders for one large steam tug,

three barges, one ship barge, one sand dredge, three derricks from three to six tons capacity, one stone crusher, with the requisite boilers and engines for same, to be built on the Red River, or Lake Winnipeg.

An Ottawa press dispatch of Nov. 7 states that the Public Works Department will shortly call for tenders for the construction of approaches to the bridge at the St. Andrews locks, on the Red River, below Winnipeg. The bridge has already been built, but without the proper approaches, full use cannot be made of it.

The Manitoba Gypsum Co., which operated some small steamboats on Lake Manitoba, in connection with its business, has disposed of them to Capt. Pollock, of the steamboat Wolverine, as the railway to its works having been completed it has no further use for the vessels. The boats will, it is stated, be taken to Lake Winnipeg, by way of the Saskatchewan River.

The engineers engaged on survey work on the Saskatchewan River between Winnipeg and Edmonton, have completed their work and will submit a report to the Department of Public Works shortly. It is proposed to establish a 6 ft. waterway between Lake Winnipeg and Edmonton by way of the that such a route will prove a valuable aid in transporting coal and grain. Saskatchewan River, and it is claimed

**British Columbia and Pacific Coast Marine.**

The official trip of the Government tug, Point Ellice, took place on Burrard Inlet, Nov. 11, and the tug was taken over by the Dominion Public Works Department.

The C.P.R. management has decided to build another steamboat for the Kootenay Lakes, but we were advised recently that a contract had not been let for it and that the details had not been fully decided.

The C.P.R. British Columbia Coast Service s.s. Princess Beatrice, which ran aground on Noble Island, Oct. 14, and which was later released with some damage to her bow and stern, is being repaired at Esquimalt.

The Metropole Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000 and offices at Vancouver, to operate steam and other vessels, and to

**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..... Short tons	3,854	17,278	21,132
Grain..... "..... Bushels	2,287,976	2,281,521	5,109,497
Building stone..... "..... Short tons	496,040	869,890	1,365,430
Flour..... "..... Barrels	3,321,706	1,253,890	4,575,096
Iron ore..... "..... Short tons	1,833	5,476	7,309
Pig iron..... "..... ".....	2,073	80,159	82,232
Lumber..... "..... M. ft. B.M.			
Silver ore..... "..... Short tons	16,917,568	2,968,094	19,885,662
Wheat..... "..... Bushels	3,387	16,793	20,180
General merchandise..... "..... Short tons	1,314	536	1,850
Passengers..... "..... Number			
Coal, hard..... Westbound..... Short tons	66,880	217,650	284,480
Coal, soft..... "..... ".....	370,753	1,444,235	1,814,988
Flour..... "..... Barrels		250	250
Grain..... "..... Bushels	120,454	23,911	44,365
Manufactured iron..... "..... Short tons	3,136		3,136
Iron ore..... "..... ".....	12,922	57,579	70,501
Salt..... "..... Barrels	77,869	485,785	163,604
General merchandise..... "..... Short tons	1,217	302	1,519
Passengers..... "..... Number			
Vessel passages..... Number	949	1,624	2,573
Registered tonnage..... Net	2,821,581	3,349,560	6,171,141
Freight—Eastbound..... Short tons	3,937,749	1,662,763	5,600,512
"—Westbound..... ".....	540,888	1,780,172	2,321,060
Total freight..... ".....	4,478,637	3,442,935	7,921,572

carry on a general ship owning and shipping business.

The auxiliary schooner Elsie Bradford, sprang a leak and sank, near the Entrance island lighthouse, Nanaimo, Nov. 4. She was formerly a sailing vessel, named Selma, and was built at Victoria in 1893, her dimensions being, length 47.5 ft., breadth 13.8 ft., depth 6.8 ft.; tonnage, 23 gross, 10 register. She was equipped with a gasoline engine of 6 n.h.p., driving a screw.

The British Columbia Public Works Department has purchased the small steamboat Faloma for departmental work. She was built at Vancouver in

1910, and is equipped with engine of 5 n.h.p. driving a screw. Her dimensions are, length 63.3 ft., breadth 12.2 ft., depth 7.6 ft.; tonnage, 33 gross, 22 register.

Armstrong, Morrison and Co., Vancouver, have sold out their wharf and waterfront properties there to Champion and White. The property includes the steamboat Armoco, built at Vancouver in 1907. She is screw driven with engine of 10 1/2 n.h.p., and her dimensions are, length 56.5 ft., breadth 14.5 ft., depth 7.2 ft.; tonnage, 46 gross, 32 register.

During the past summer the Dominion

Government survey steamboat Lillooet, completed the survey of the channels south of the Skeena River to the northern point of Pitt island, and also carried out other work in Hectate straits, near Graham Island, and surveyed the entrance to Skidegate Inlet. She is completing the season's work at Cousins Inlet, surveying Ocean Falls harbor.

The contract for the conversion of the Grand Trunk Pacific Coast Steamship Co.'s steamships Prince Rupert and Prince George to oil burners, has been awarded to the British Columbia Marine Railway Co., Esquimalt. The Dahl system of oil burners is specified, includ-

# The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Supplies, &c.

- Acetylene**  
Commercial Acetylene Co. ....Toronto.
- Aerated Waters**  
E. L. Drewry .....Winnipeg.
- Air Brakes and Fittings**  
Allis-Chalmers-Bullock, Ltd. ....Montreal.  
Canadian Westinghouse Co. Hamilton, Ont.
- Ales**  
E. L. Drewry .....Winnipeg.
- Alloys**  
American Vanadium Co. ....Pittsburgh, Pa.  
Titanium Alloy Mfg. Co. ....Montreal
- Angle Bars**  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.
- Anti Rail Creepers**  
The Holden Co., Ltd. ....Montreal.
- Asbestos**  
Can. H. W. Johns-Manville Co., Ltd. Toronto
- Automobiles**  
Preston Car & Coach Co. ....Preston, Ont.
- Axes**  
James Smart Mfg. Co. ....Brockville, Ont.
- Axles**  
Canadian Car & Foundry Co., ....Montreal.  
James Hutton & Co. ....Montreal.  
Nova Scotia S. & C. Co. New Glasgow, N.S.  
Jas. W. Pyke & Co. ....Montreal.  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.
- Babbit Metal**  
C. H. Besly Co. ....Chicago, Ill.  
Tallman Brass & Metal Co. Hamilton, Ont.
- Batteries, Storage**  
T. A. Edison Co., Inc. ....Orange, N.J.
- Battery Boards**  
Geo. C. Royce .....West Toronto, Ont.
- Beacons**  
International Marine Signal Co. ....Ottawa.
- Bearings, Side**  
Canadian Car & Foundry Co., ....Montreal.  
Chicago Railway Equipment Co. ....Chicago.
- Blankets and Bedding**  
The Hudson's Bay Co. ....
- Blasting Powder**  
Curtis's & Harvey (Canada) Ltd. ....Montreal.
- Boiler Checks**  
Nathan Manufacturing Co. ....New York.
- Boilers**  
Babcock & Wilcox, Ltd. ....Montreal.  
Polson Iron Works, Ltd. ....Toronto.  
Robb Engineering Co., Ltd. ....Amherst, N.S.
- Boilers, Portable**  
Babcock & Wilcox, Ltd. ....Montreal.  
Polson Iron Works, Ltd. ....Toronto.  
Robb Engineering Co., Ltd. ....Amherst, N.S.
- Boilers, Stationary and Marine**  
Babcock & Wilcox, Ltd. ....Montreal.  
Polson Iron Works, Ltd. ....Toronto.  
Robb Engineering Co., Ltd. ....Amherst, N.S.
- Boilers, Steam**  
Babcock & Wilcox, Ltd. ....Montreal.  
Polson Iron Works, Ltd. ....Toronto.  
Robb Engineering Co., Ltd. ....Amherst, N.S.
- Boilers, Water Tube**  
Babcock & Wilcox, Ltd. ....Montreal.  
Robb Engineering Co., Ltd. ....Amherst, N.S.  
Polson Iron Works, Ltd. ....Toronto.
- Bolsters**  
Canadian Car & Foundry Co., ....Montreal.  
Whyte Railway Signal Co. ....Toronto.
- Bolt Cutters**  
London Machine Tool Co., Ltd. ....Hamilton.
- Bolts and Nuts**  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.
- Bolts, Track**  
Nova Scotia S. & C. Co. ....New Glasgow, N.S.
- Borers, Car Wheel**  
John Bertram & Sons Co. ....Dundas, Ont.
- Boring Mills**  
London Machine Tool Co., Ltd. ....Hamilton.
- Brake Beams**  
Buffalo Brake Beam Co. ....Brantford, Ont.  
Canadian Car & Foundry Co. ....Montreal.  
Chicago Railway Equipment Co. ....Chicago.

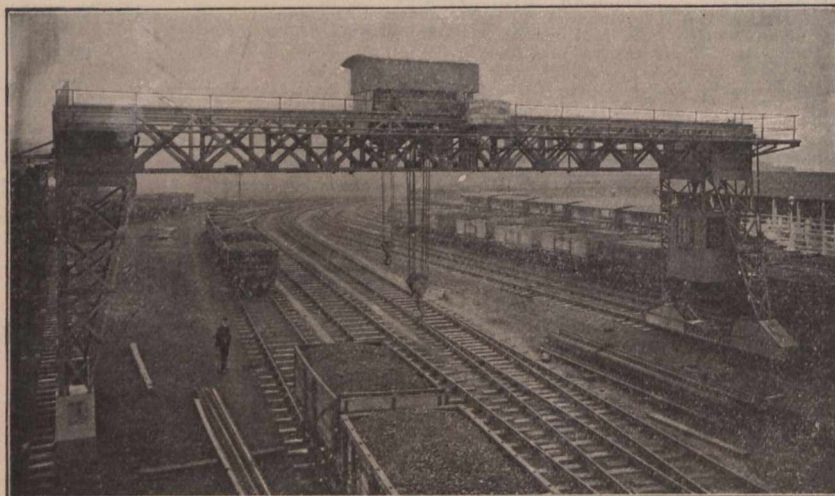
- Brake Shoes**  
Am. Brake Shoe & Fdry. Co. Mahwah, N.J.  
Canada Iron Corporation, Ltd. ....Montreal.  
The Holden Co., Ltd. ....Montreal.
- Brake Shoes, Locomotive Driver**  
Am. Brake Shoe & Fdry. Co. Mahwah, N.J.  
Canada Iron Corporation, Ltd. ....Montreal.  
Dorner Railway Equip. Co. ....Chicago, Ill.  
Railway Materials Co. ....New York.
- Brass**  
C. H. Besly Co. ....Chicago, Ill.
- Brasses, Car**  
T. McAvity & Sons .....St. John, N.B.
- Bridge Numbers**  
Acton Burrows, Limited .....Toronto.
- Bridges**  
Canadian Bridge Co. ....Walkerville, Ont.  
Cleveland Bridge & E. Co. Darlington, Eng.  
Corbet Foundry Co. Ltd. Owen Sound, Ont.  
Dominion Bridge Co. ....Montreal.
- Bronze**  
American Vanadium Co. ....Pittsburgh, Pa.  
Titanium Alloy Mfg. Co. ....Montreal
- Buckets, Coal, Ore and Concrete**  
M. Beatty & Sons, Ltd. ....Welland, Ont.  
Brown Hoisting Machinery Co. ....Cleveland.
- Buildings, Steel**  
Canadian Bridge Co. ....Walkerville, Ont.  
Cleveland Bridge & E. Co. Darlington, Eng.  
Dominion Bridge Co. ....Montreal.
- Bumping Posts**  
Dominion Equip. & Supply Co. ....Winnipeg.  
The Holden Co., Ltd. ....Montreal.  
McCord & Co., .....Chicago, Ill.
- Buoys**  
International Marine Signal Co. ....Ottawa.
- Cables, Electric and Feeder**  
Canada Wire & Cable Co., Ltd. ....Toronto.  
Chapman & Walker, Ltd. ....Toronto.  
E. F. Phillips Electrical Works. ....Montreal.  
The Wire & Cable Co. ....Montreal.
- Capstans**  
Dake Engine Co. ....Grand Haven, Mich.
- Car Furnishings**  
Gullford S. Wood .....Chicago, Ill.
- Car Movers**  
Dominion Equip. & Supply Co. ....Winnipeg.  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Ltd. ....Montreal.
- Car Roofing**  
Franklin Railway Supply Co. ....New York.
- Cars**  
R. M. Burns & Co. ....Chicago, Ill.  
Crossen Car Mfg. Co. ....Cobourg, Ont.  
Canadian Car & Foundry Co. ....Montreal.  
Dorner Railway Equip. Co. ....Chicago, Ill.  
J. T. Gardner .....Chicago, Ill.  
Hart-Otis Car Co., Ltd. ....Montreal.  
Ottawa Car Co., Ltd. ....Ottawa.  
Pay-As-You-Enter Car Co. ....Montreal.  
Preston Car & Coach Co., Ltd. ....Preston.  
Russel Wheel & Fdry Co. ....Detroit, Mich.  
Western Wheeled Scraper Co. Aurora, Ill.
- Car Signal Systems**  
Ohio Brass Co. ....Mansfield, Ohio.
- Cars, Logging**  
Russel Wheel & Fdry Co. ....Detroit, Mich.
- Castings**  
American Vanadium Co. ....Pittsburgh, Pa.  
Canadian Car & Foundry Co. ....Montreal.  
Crossen Car Mfg. Co. ....Cobourg, Ont.  
Lumen Bearing Co. ....West Toronto, Ont.  
Russel Wheel & Fdry Co. ....Detroit, Mich.  
Titanium Alloy Mfg. Co. ....Montreal
- Castings, Brass**  
Canada Iron Corporation, Ltd. ....Montreal.  
Canadian Bronze Co. ....Montreal.  
Corbet Fdry Co., Ltd. ....Owen Sound, Ont.  
Kerr Engine Co. ....Walkerville, Ont.  
Lumen Bearing Co. ....West Toronto, Ont.  
Tallman Brass & Metal Co. ....Hamilton, Ont.

- Castings, Car**  
Am. Brake Shoe & Fdry. Co. Mahwah, N.J.  
Canada Iron Corporation, Ltd. ....Montreal.  
Russel Wheel & Fdry Co. ....Detroit, Mich.
- Castings, Iron**  
Allis-Chalmers-Bullock, Ltd. ....Montreal.  
Canada Iron Corporation, Ltd. ....Montreal.  
Corbet Fdry Co., Ltd. ....Owen Sound, Ont.  
Kerr Engine Co. ....Walkerville, Ont.  
Russel Wheel & Fdry Co. ....Detroit, Mich.
- Castings, Iron and Steel**  
Am. Brake Shoe & Fdry. Co. Mahwah, N.J.
- Castings, Malleable**  
Galt Malleable Iron Co. ....Galt, Ont.  
Pratt & Letchworth Co. ....Brantford, Ont.  
Taylor & Arnold, .....Montreal.
- Castings, Manganese Steel**  
Canadian Steel Foundries, Ltd. ....Montreal.  
Lumen Bearing Co. ....West Toronto, Ont.
- Castings, Steel**  
American Vanadium Co. ....Pittsburgh, Pa.  
Canada Iron Corporation, Ltd. ....Montreal.  
Canadian Steel Foundries, Ltd. ....Montreal.  
W. Kennedy & Sons, Ltd. ....Owen S'd, Ont.  
Pratt & Letchworth Co. ....Brantford, Ont.  
Titanium Alloy Mfg. Co. ....Montreal
- Catenary Materials**  
Ohio Brass Co. ....Mansfield, Ohio.
- Chains**  
E. J. Coghlin & Co. ....Montreal
- Circuit Breakers**  
Geo. C. Royce .....West Toronto, Ont.
- Closets, Car**  
Duner Co. ....Chicago, Ill.
- Coal**  
Nova Scotia S. & C. Co. ....New Glasgow, N.S.
- Compressors, Air**  
Allis-Chalmers-Bullock Ltd. ....Montreal.  
Canadian Rand Co. ....Montreal.  
The Holden Co., Ltd. ....Montreal.  
Mussens, Ltd. ....Montreal.
- Concrete Mixers and Rock Crushers**  
Dominion Equip. & Supply Co. ....Winnipeg.  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Ltd. ....Montreal.
- Contractors' Supplies**  
American Hoist & Der. Co. St. Paul, Minn.  
Dominion Equip. & Supply Co. ....Winnipeg.  
F. H. Hopkins & Co. ....Montreal.  
Rice Lewis & Son .....Toronto.  
Russel Wheel & Fdry Co. ....Detroit, Mich.  
Western Wheeled Scraper Co. ....Aurora, Ill.
- Conveyors, Coal and Ash**  
Babcock & Wilcox, Ltd. ....Montreal.
- Copper**  
C. H. Besly Co. ....Chicago, Ill.
- Copying Presses**  
James Smart Mfg. Co. ....Brockville, Ont.
- Couplers, Car and Locomotive**  
Canadian Car & Foundry Co. ....Montreal.  
Canadian Steel Foundries, Ltd. ....Montreal.  
McConway & Torley Co. ....Pittsburgh, Pa.  
Ohio Brass Co. ....Mansfield, Ohio.  
Taylor & Arnold .....Montreal.
- Couplers, Steam**  
Consolidated Car Heating Co. Albany, N.Y.
- Cranes**  
Brown Hoisting Machinery Co. ....Cleveland.  
Dominion Equip. & Supply Co. ....Winnipeg.  
Northern Engineering Wks. ....Detroit, Mich.
- Cranes, Electric**  
Babcock & Wilcox .....Montreal.  
Dominion Bridge Co. ....Montreal.  
Mussens, Ltd. ....Montreal.  
Northern Engineering Wks. ....Detroit, Mich.
- Cranes, Locomotive**  
American Hoist & Der. Co. St. Paul, Minn.
- Cranes, Wrecking**  
Mussens, Ltd. ....Montreal.
- Crowbars**  
E. J. Coghlin & Co. ....Montreal
- Curtains and Fixtures, Car**  
The Holden Co., Ltd., ....Montreal.  
Preston Car & Coach Co. ....Preston, Ont.

- Machines, Car Shop  
Greenlee Bros. & Co. ....Chicago, Ill.
- Machines, Cement  
Jas. W. Pyke & Co. ....Montreal.
- Machines, Drilling  
John Bertram & Sons Co. ....Dundas, Ont.
- Machines, Earth and Stone Handling.  
Western Wheeled Scraper Co...Aurora, Ill.
- Machines, Hoisting  
American Hoist & Derrick Co. .St. Paul.  
Brown Hoisting Machinery Co..Cleveland.
- Machines, Logging  
Russel Wheel & Fdry. Co. .Detroit, Mich.
- Machines, Milling  
John Bertram & Sons Co. ....Dundas, Ont.
- Machines, Planing and Shaping  
John Bertram & Sons Co. ....Dundas, Ont.
- Machines, Radial Drilling  
John Bertram & Sons Co. ....Dundas, Ont.
- Machines, Rivetting  
Long & Allstatter Co. ....Hamilton, Ohio.
- Machines, Slotting  
John Bertram & Sons Co. ....Dundas, Ont.
- Machines, Tire Welding  
Long & Allstatter Co....Hamilton, Ohio.
- Machines, Track  
Greenlee Bros. & Co. ....Chicago, Ill.
- Machines, Tracklaying  
F. H. Hopkins & Co. ....Montreal.
- Machines, Wood and Iron Working  
Canadian Fairbanks Co. Ltd....Montreal.
- Machine Tools  
John Bertram & Sons Co. ....Dundas, Ont.  
Mussens, Ltd., .....Montreal.  
Pratt & Whitney Co. ....Dundas, Ont.
- Machinists' Supplies  
C. H. Besly Co. ....Chicago, Ill.
- Manhole Frames and Covers  
American Brake Shoe & Fdry. Co.Mahwah.  
Canada Iron Corporation, Ltd...Montreal.
- Marine Repairs  
Corbet Fdry Co., Ltd. .Owen Sound, Ont.  
Goldschmidt Thermit Co.....Toronto.
- Marine Supplies  
Rice Lewis & Son .....Toronto.
- Metal, Rabbit  
Tallman Brass & Metal Co. Hamilton, Ont.
- Metal  
Goldschmidt Thermit .....Toronto.
- Metal Work, Structural  
Canadian Bridge Co. ....Walkerville, Ont.  
Cleveland Bridge & E. Co. Darlington, Eng.  
Corbet Fdry. Co., Ltd. .Owen Sound, Ont.  
Dominion Bridge Co. ....Montreal.  
Jas. W. Pyke & Co. ....Montreal.
- Meters, Traction  
Geo. C. Royce, .....West Toronto, Ont.
- Milepost Numbers  
Acton Burrows, Limited .....Toronto.
- Mill Supplies  
C. H. Besly Co. ....Chicago, Ill.
- Motors  
Canadian Fairbanks-Morse Co., Ltd.....  
McCord & Co. ....Chicago, Ill.
- Motors, Electric  
Allis-Chalmers-Bullock Ltd.....Montreal.  
Chapman & Walker, Ltd. ....Toronto.  
Northern Electric & Mfg. Co. .Montreal.
- Motor Generator Sets  
Allis-Chalmers-Bullock Ltd.....Montreal.  
Chapman & Walker, Ltd. ....Toronto.
- Motors, Turntable  
Taylor & Arnold .....Montreal.
- Nails, Cut and Wire  
Steel Co. of Canada, Ltd..Hamilton, Ont.
- 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.
- Oakum  
The Hudson's Bay Co. ....
- Office Fittings  
Can. Office & School Furn. Co...Preston.
- Office Signs  
Acton Burrows, Limited .....Toronto.
- Oil  
C. H. Besly Co. ....Chicago, Ill.
- Oil Cups  
C. H. Besly Co. ....Chicago, Ill.  
Detroit Lubricator Co. ....Detroit, Mich.  
Nathan Manufacturing Co. ....New York.
- Oils  
Galena Signal Oil Co..Franklin & Toronto.
- Packing  
Anchor Packing Co. of Can. Ltd..Montreal.  
Greene, Tweed & Co. ....New York.  
The N. L. Piper Ry. Supply Co...Toronto.
- Pile Drivers, Railway  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Ltd. ....Montreal.
- Piles  
Harris Tie & Timber Co....Ottawa, Ont.
- Pinch Bars  
The N. L. Piper Ry. Supply Co...Toronto.
- Pipe, Culvert, Cast Iron  
Gartshore-Thompson Pipe & Fdry. Co....  
Hamilton, Ont.
- Pipe, Gas, Cast Iron  
Gartshore-Thompson Pipe & Fdry. Co....  
Hamilton, Ont.
- Pipe, Sewer, Cast Iron  
Gartshore-Thompson Pipe & Fdry. Co....  
Hamilton, Ont.
- Pipe Stocks  
Butterfield & Co. ....Rock Island, Que.  
A. B. Jardine & Co. ....Hespeler, Ont.
- Pipe, Water, Cast Iron  
Gartshore-Thompson Pipe & Fdry. Co....  
Hamilton, Ont.
- Pipe, Wrought Lead and Galvanized  
Steel Co. of Canada, Ltd..Hamilton, Ont.
- Planers  
John Bertram & Sons Co. ....Dundas, Ont.
- Platforms, Steel  
Standard Coupler Co. ....New York.
- Ploughs, Contractors'  
Mussens, Ltd., .....Montreal.  
Western Wheeled Scraper Co..Aurora, Ill.
- Poles and Posts, Cedar  
Harris Tie & Timber Co....Ottawa, Ont.
- Porter  
E. L. Drewry .....Winnipeg.
- Preservative for Hose  
Guilford S. Wood .....Chicago, Ill.
- Presses  
R. D. Wood & Co. ....Philadelphia, Pa.
- Printing  
Southam Press .....Toronto.
- Propeller Wheels  
W. Kennedy & Sons, Ltd.. Owen S'd, Ont.
- Pumps  
Canadian Fairbanks-Morse Co., Ltd.....  
Montreal.  
S. F. Bowser & Co., Ltd.....Toronto.  
Ontario Wind Engine & Pump Co. Toronto  
James Smart Mfg. Co. ....Brockville, Ont.
- Pumps, Centrifugal  
M. Beatty & Sons .....Welland, Ont.  
R. D. Wood & Co. ....Philadelphia, Pa.
- Punches and Shears  
Long & Allstatter Co. ....Hamilton, Ohio.  
Mussens, Ltd., .....Montreal.
- Putty  
Steel Co. of Canada, Ltd..Hamilton, Ont.
- Rail Benders, Roller  
Canadian Steel Foundries Ltd...Montreal.  
Dominion Equip. & Supply Co..Winnipeg.  
F. H. Hopkins & Co. ....Montreal.  
Whyte Railway Signal Co. ....Toronto.
- Rail Bonds  
Ohio Brass Co. ....Mansfield, Ohio.
- Rail Drilling Machines  
Dominion Equip. & Supply Co..Winnipeg  
A. B. Jardine & Co. ....Hespeler, Ont.  
Whyte Railway Signal Co. ....Toronto.
- 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  
J. J. Gartshore .....Toronto.  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Ltd., .....Montreal.  
Jas. W. Pyke & Co. ....Montreal.
- Rail Joints  
Goldschmidt Thermit Co. ....Toronto.  
The Rail Joint Co. of Canada...Montreal.  
Whyte Railway Signal Co. ....Toronto.
- Railway Supplies  
Canadian Fairbanks-Morse Co., Ltd.....  
Montreal.  
Can. H. W. Johns-Manville Co., Ld. Toronto  
Corbet Fdry. Co., Ltd. .Owen Sound, Ont.  
Franklin Railway Supply Co...New York.  
T. McAvity & Sons .....St. John, N.B.  
Burton W. Mudge & Co.....Chicago, Ill.  
The Hiram L. Piper Co. ....Montreal.  
The N. L. Piper Ry. Supply Co...Toronto.  
Rice Lewis & Son .....Toronto.  
Russel Wheel & Fdry. Co. .Detroit, Mich.  
Pratt & Letchworth Co. .Brantford, Ont.  
Whyte Railway Signal Co. ....Toronto.
- Reamers  
Butterfield & Co. ....Rock Island, Que.  
A. B. Jardine & Co. ....Hespeler, Ont.
- Refrigerators.  
Seeger Refrigerator Co....St. Paul, Minn.
- Replacers, Car and Locomotive  
Alexander Car Replacer Mfg. Co..Scranton.  
Dominion Equip. & Supply Co..Winnipeg.  
The Holden Co., Ltd. ....Montreal.  
F. H. Hopkins & Co. ....Montreal.  
Johnson Wrecking Frog Co...Cleveland, O.  
Whyte Railway Signal Co. ....Toronto.
- Riveters  
R. D. Wood & Co. ....Philadelphia, Pa.
- Rock Crushers  
Allis-Chalmers-Bullock Ltd.....Montreal.  
Western Wheeled Scraper Co...Aurora, Ill.
- Rope  
F. H. Hopkins & Co. ....Montreal.  
The Hudson's Bay Company .....
- Ropes, Derick  
Dominion Wire Rope Co. ....Montreal.
- Ropes, Switch  
F. H. Hopkins & Co. ....Montreal.
- Rubber Goods, Mechanical  
Guilford S. Wood .....Chicago, Ill.
- Scales  
Canadian Fairbanks-Morse Co., Ltd.....  
Montreal.
- Sanders, Pneumatic  
Ohio Brass Co. ....Mansfield, Ohio.
- Scows, Dump and Deck  
M. Beatty & Sons .....Welland, Ont.
- Scrapers, Wheel and Drag  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Ltd., .....Montreal.  
Western Wheeled Scraper Co...Aurora, Ill.
- Screw Plates  
Butterfield & Co. ....Rock Island, Que.  
A. B. Jardine & Co. ....Hespeler, Ont.
- Screws, Wood and Machine  
Steel Co. of Canada, Ltd..Hamilton, Ont.
- Seats, Station  
James Smart Mfg. Co. ....Brockville, Ont.
- Semaphore Arms  
Acton Burrows, Limited .....Toronto.
- Semaphores  
The N. L. Piper Ry. Supply Co...Toronto.  
Saxby & Farmer, Ltd. ....Montreal.
- Shapers  
London Machine Tool Co. Ltd..Hamilton.
- Shears  
R. D. Wood & Co. ....Philadelphia, Pa.
- Shingles  
Imperial Timber & Trading Co.Vancouver
- Ships  
Polson Iron Works, Ltd. ....Toronto.  
Shop Equipment, Car and Locomotive  
London Machine Tool Co. Ltd. ...Hamilton.
- Shops  
The Hudson's Bay Company .....
- Signal House Numbers  
Acton Burrows, Limited .....Toronto.
- Signals  
Hall Signal Co. ....Chicago, Ill.  
The Hiram L. Piper Co. ....Montreal.  
The N. L. Piper Ry. Supply Co...Toronto.  
Saxby & Farmer, Limited .....Montreal.  
Union Switch & Signal Co...Swissvale, Pa.  
Whyte Railway Signal Co. ....Toronto.
- Signals, Fog  
International Marine Signal Co....Ottawa.
- Signs  
Acton Burrows, Limited .....Toronto.
- Skidders and Loaders  
Russel Wheel & Fdry. Co. .Detroit, Mich.
- Slack Adjusters  
Chicago Railway Equipment Co..Chicago.
- Sledges  
James Smart Mfg. Co. ....Brockville, Ont.
- Snow Ploughs  
Canadian Car Foundry Co...Montreal  
Crossen Car Mfg. Co. ....Cobourg, Ont.
- Solder  
Tallman Brass & Metal Co..Hamilton, Ont.
- Spikes, Railway, Ship or Pressed  
F. H. Hopkins & Co. ....Montreal.  
Nova Scotia S. & C. Co. New Glasgow, N.S.  
Steel Co. of Canada, Ltd...Hamilton, Ont.
- Spreader Cars  
F. H. Hopkins & Co. ....Montreal.  
Western Wheeled Scraper Co...Aurora, Ill.
- Spring Dampeners  
McCord & Co. ....Chicago, Ill.
- Springs  
American Vanadium Co. .Pittsburgh, Pa.  
Canadian Steel Foundries, Ltd..Montreal.  
B. J. Coghlin & Co. ....Montreal.  
F. H. Hopkins & Co. ....Montreal.  
Titanium Alloy Mfg. Co. ....Montreal
- Sprinklers, Electric  
Preston Car & Coach Co. ...Preston, Ont.
- Stand Pipes  
Corbet Fdry. Co., Ltd. .Owen Sound, Ont.  
T. McAvity & Sons .....St. John, N.B.
- Staples  
Steel Co. of Canada, Ltd...Hamilton, Ont.
- Station Name Signs  
Acton Burrows, Limited .....Toronto.
- Staybolt Iron  
Mussens, Ltd., .....Montreal.  
Taylor & Arnold .....Montreal.
- Staybolts, Flexible  
Flannery Bolt Co. ....Pittsburgh, Pa.
- Staybolts, Locomotive  
Flannery Bolt Co. ....Pittsburgh, Pa.
- Staybolt Taps  
Butterfield & Co. ....Rock Island, Que.  
A. B. Jardine & Co. ....Hespeler, Ont.
- Steam Couplers  
Safety Car Heating & Ltg. Co..New York.
- Steam Hammers  
John Bertram & Sons Co. ....Dundas, Ont.
- Steam Shovels  
M. Beatty & Sons .....Welland, Ont.  
F. H. Hopkins & Co. ....Montreal.  
Montreal Locomotive Works ...Montreal.  
Mussens, Limited .....Montreal.
- Steamship Signs  
Acton Burrows, Limited .....Toronto
- Steam Traps  
Consolidated Car Heating Co..Albany,N.Y.
- Steel  
Hermann Boker & Co. ....Montreal.  
Nova Scotia S. & C. Co. New Glasgow, N.S.
- Steel, Fire Box  
Taylor & Arnold .....Montreal
- Steel for Axes  
Canadian Steel Foundries, Ltd..Montreal.
- Steel for Saws  
Canadian Steel Foundries, Ltd..Montreal.



- Steel for Springs**  
Jas. Hutton & Co. ....Montreal.
- Steel Shafting**  
Nova Scotia S. & C. Co. New Glasgow, N.S.
- Steel, Nickel, for Nickel**  
The Orford Copper Co. ....New York.
- Steel Plates**  
Jas. W. Pyke & Co. ....Montreal.
- Steel, Tool**  
Canadian Steel Foundries, Ltd...Montreal.
- Steering Gears**  
Dake Engine Co. ....Grand Haven, Mich.
- Stokers, Mechanical**  
Babcock & Wilcox .....Montreal.
- Storage Batteries**  
T. A. Edison Co. Inc. ....Orange, N.J.
- Stoves**  
Jas. Smart Mfg. Co. ....Brockville, Ont.
- Superheaters**  
Babcock & Wilcox .....Montreal.
- Switchboards**  
Geo. C. Royce .....West Toronto, Ont.
- Switches**  
Can. Ramapo Iron Ws. Niagara Falls, Ont.  
Canadian Steel Foundries, Ltd...Montreal.
- Switches, Electric**  
Geo. C. Royce .....West Toronto, Ont.
- Switch Stands**  
Can. Ramapo Iron Ws. Niagara Falls, Ont.
- Switch Targets**  
Acton Burrows, Limited .....Toronto.
- Tacks**  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.
- Tanks and Tank Fixtures**  
Ontario Wind Engine & Pump Co. Toronto  
Polson Iron Works, Ltd. ....Toronto.
- Tanks, Oil**  
S. F. Bowser & Co., Limited ....Toronto.  
Corbet Fdry. Co., Ltd. ..Owen Sound, Ont.
- Tanks, Portable Acetylene, for Welding**  
Commercial Acetylene Co. ....Toronto.
- Taps**  
C. H. Besly Co. ....Chicago, Ill.  
Butterfield & Co. ....Rock Island, Que.  
A. B. Jardine & Co. ....Hespeler, Ont.
- Telegraph and Telephone Apparatus**  
Northern Electric & Mfg. Co. ....Montreal.
- Telegraph and Telephone Office Signs**  
Acton Burrows, Limited .....Toronto.
- Thermit**  
Goldschmidt Thermit Co .....Toronto.
- Ticket Cases**  
Can Office & School Furn. Co. ....Preston.
- Tie Plates**  
B. J. Coghlin & Co. ....Montreal  
Nova Scotia S. & C. Co. New Glasgow, N.S.  
Pratt & Letchworth Co. ....Brantford, Ont.  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.  
Guilford S. Wood .....Chicago, Ill.
- Ties**  
Harris Tie & Timber Co. ....Ottawa, Ont.  
Parry Sound Lumber Co. ....Toronto.
- Timber, Railway and Bridge**  
Harris Tie and Timber Co. ....Ottawa, Ont.
- Tires, Steel**  
Jas. Hutton & Co. ....Montreal.  
Jas. W. Pyke & Co. ....Montreal.
- Tools and Supplies**  
Canadian Fairbanks-Morse Co., Ltd. ....  
.....Montreal.  
Jas. Smart Mfg. Co. ....Brockville, Ont.  
A. B. Jardine & Co. ....Hespeler, Ont.  
Pratt & Whitney Co. ....Dundas, Ont.
- Tools, Track**  
John Bertram & Sons Co. ....Dundas, Ont.  
Canadian Steel Foundries, Ltd...Montreal.  
E. J. Coghlin & Co. ....Montreal.  
F. H. Hopkins & Co. ....Montreal.  
Mussens, Limited .....Montreal.
- Tools, Pneumatic**  
The Holden Co., Ltd. ....Montreal.
- Tools, Cast Steel**  
American Brake Shoe & Fdry. Co. Mahwah.
- Track Equipment**  
Can. Ramapo Iron Ws. Niagara Falls, Ont.
- Tramway Equipment**  
J. J. Gartshore .....Toronto.
- Transformers**  
Allis-Chalmers-Bullock Ltd. ....Montreal.  
Geo. C. Royce .....West Toronto, Ont.
- Transmission Appliances**  
Canadian Fairbanks-Morse Co., Ltd. ....  
.....Montreal.
- Trolley Guards**  
Ohio Brass Co. ....Mansfield, Ohio.
- Trolley Poles, Steel**  
Dorner Railway Equip. Co. ....Chicago, Ill.
- Trolley Wheels**  
Tallman Brass & Metal Co. Hamilton, Ont.
- Trucks**  
Corbet Fdry. Co. Ltd. ..Owen Sound, Ont.  
Jas. Smart Mfg. Co. ....Brockville, Ont.
- Trucks, Electric Car**  
Baldwin Locomotive Works, Philadelphia.  
Canadian Steel Foundries, Ltd...Montreal.
- Trusses, Roof**  
Canadian Bridge Co. ....Walkerville, Ont.  
Cleveland Bridge & Eng. Co. Ltd. Cleveland  
Dominion Bridge Co. ....Montreal.
- Tubes, Boiler**  
Jas. W. Pyke & Co. ....Montreal.
- Turbines, Steam**  
Allis-Chalmers-Bullock Ltd. ....Montreal.
- Turnbuckles**  
Canadian Steel Foundries, Ltd...Montreal.  
Canadian Bridge Co. ....Walkerville, Ont.  
Dominion Bridge Co. ....Montreal.
- Typewriters**  
Royal Typewriter Co. ....New York.
- Valves**  
Consolidated Car Heating Co. Albany, N.Y.  
Detroit Lubricator Co. ....Detroit, Mich.
- Valves, Angle and Globe**  
Detroit Lubricator Co. ....Detroit, Mich.  
Kerr Engine Co. ....Walkerville, Ont.  
Nathan Manufacturing Co. ....New York.
- Valves, Brass Gate**  
Detroit Lubricator Co. ....Detroit, Mich.  
Kerr Engine Co. ....Walkerville, Ont.
- Valves, Check**  
Nathan Manufacturing Co. ....New York.
- Valves, Iron and Brass**  
Canadian Fairbanks-Morse Co., Ltd. ....  
.....Montreal.
- Valves, Iron Gate**  
Detroit Lubricator Co. ....Detroit, Mich.  
Kerr Engine Co. ....Walkerville, Ont.
- Valves, Locomotive Pop**  
T. McAvity & Sons .....St. John, N.B.  
Taylor & Arnold .....Montreal.
- Valves, Steam**  
Detroit Lubricator Co. ....Detroit, Mich.  
Nathan Manufacturing Co. ....New York.
- Vanadium Steels**  
American Vanadium Co. ..Pittsburgh, Pa.
- Varnishes**  
The Dougall Varnish Co., Ltd. ....Montreal.
- Velocipedes**  
Kalamazoo Ry. Sup. Co. Kalamazoo, Mich.
- Ventilators, Car**  
Burton W. Mudge & Co. ....Chicago, Ill.
- Vessels**  
Polson Iron Works, Ltd. ....Toronto.
- Wagons, Dump**  
Western Wheeled Scraper Co. Aurora, Ill.
- Washers**  
Steel Co. of Canada, Ltd. ....Hamilton, Ont.
- Waste**  
B. J. Coghlin & Co. ....Montreal.  
N. L. Piper Railway Supply Co. Toronto.
- Water Softeners**  
Babcock & Wilcox .....Montreal.  
L. M. Booth Co. ....Chicago, Ill.  
Dearborn Drug & Chemical Co. Chicago.
- Welding**  
Goldschmidt Thermit Co. ....Toronto.  
Western Steel and Iron Co. ....Winnipeg.
- Wheelbarrows**  
F. H. Hopkins & Co. ....Montreal.
- Wheels, Car**  
Canada Iron Corporation, Ltd. ....Montreal.  
Canadian Car & Foundry Co. ....Montreal.  
Jas. W. Pyke & Co. ....Montreal.
- Wheels, Locomotive**  
Canada Iron Corporation, Ltd. ....Montreal.
- Wheels, Re-inforced Pressed Steel**  
Kalamazoo Ry. Sup. Co. Kalamazoo, Mich.
- White Lead**  
Steel Co. of Canada, Ltd. ..Hamilton, Ont.
- Windlasses**  
Dake Engine Co. ....Grand Haven, Mich.
- Windmills**  
Ontario Wind Engine & Pump Co. Toronto.
- Wire**  
American Vanadium Co. ..Pittsburgh, Pa.  
Titanium Alloy Mfg. Co. ....Montreal.
- Wire and Wire Rope**  
Canada Wire & Cable Co., Ltd. ..Toronto.  
Dominion Wire Rope Co. ....Montreal.  
Mussens, Limited .....Montreal.  
The Wire & Cable Co. ....Montreal.
- Wire, Brass, Iron and Steel**  
Steel Co. of Canada, Ltd. ..Hamilton, Ont.
- Wire, Copper**  
Canada Wire & Cable Co., Ltd. ..Toronto.  
E. F. Phillips Elec. Works, Ltd. ....Montreal.  
The Wire & Cable Co. ....Montreal.
- Wire, Electric**  
Chapman & Walker, Ltd. ....Toronto.  
E. F. Phillips Elec. Works, Ltd. ....Montreal.  
The Wire & Cable Co. ....Montreal.
- Wire Goods, Bright**  
Steel Co. of Canada, Ltd. ..Hamilton, Ont.
- Wire, Insulated, Copper**  
Canada Wire & Cable Co., Ltd. ..Toronto.  
E. F. Phillips Elec. Works, Ltd. ....Montreal.  
The Wire & Cable Co. ....Montreal.
- Wire Rope Clips**  
American Hoist & Derrick Co. ..St. Paul.
- Wire, Telegraph and Telephone**  
Canada Wire & Cable Co., Ltd. ....Toronto.  
Chapman & Walker, Ltd. ....Toronto.  
E. F. Phillips Elec. Works, Ltd. ....Montreal.  
The Wire & Cable Co. ....Montreal.
- Wire, Transmission and Trolley**  
Canada Wire & Cable Co., Ltd. ....Toronto.  
Chapman & Walker, Ltd. ....Toronto.  
The Wire & Cable Co. ....Montreal.
- Wrenches, Cast Steel**  
American Brake Shoe & Fdry. Co. Mahwah.
- Yachts**  
Polson Iron Works, Ltd. ....Toronto.



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