

Canadian Railway AND Marine World

ESTABLISHED 1898.

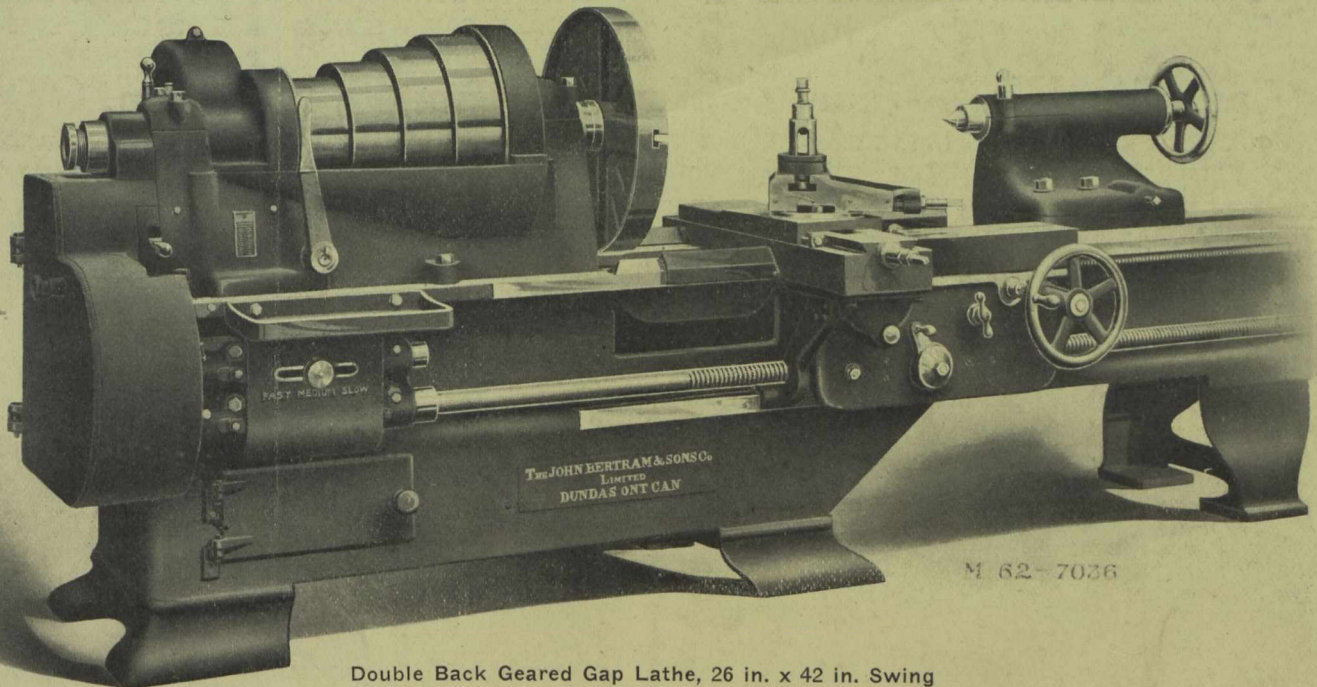
Number 208

TORONTO, CANADA, JUNE, 1915

Subscription Rates, Page 221



BERTRAM MACHINE TOOLS



Double Back Geared Gap Lathe, 26 in. x 42 in. Swing

A "Safety First" Machine

As safe for your operator as Engineering Skill
can make it! DON'T TAKE CHANCES!

Specify "BERTRAM" Machine Tools for

"BERTRAM" TOOLS are SAFE TOOLS

The John Bertram & Sons Co., Limited

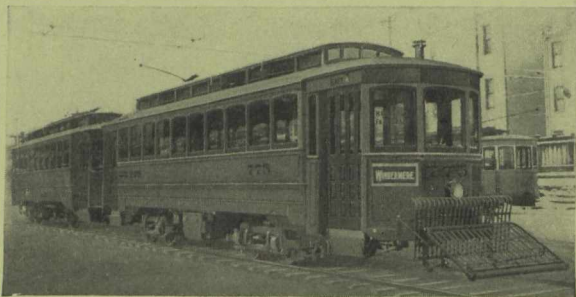
MONTREAL
723 Drummond Bldg.

DUNDAS, ONTARIO, CANADA
VANCOUVER

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The most economical and profitable method of handling rush-hour and holiday crowds is train-service. To operate trains efficiently and safely automatic air brakes are necessary.

Westinghouse AMM Automatic Air Brakes



are specially designed for train service of not to exceed five cars.

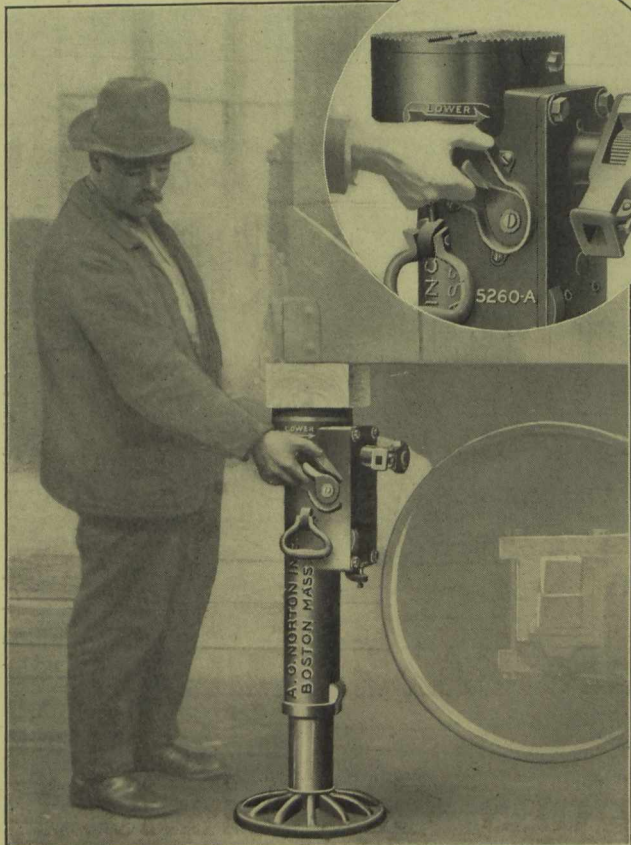
One motorman on the front car controls the train as easily as a single car.

Cars equipped with AMM Brakes are always instantly ready for train service; simply couple the cars together and connect the air hose.

A straight-air feature can be provided for single-car operation, giving the same flexibility of service as with straight-air, the safety features of the AMM equipment remaining always present.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

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Don't Pump Your Jack Down

Lower the Load by "Pressing the Button"

THE NORTON SELF LOWERING JACK

is absolutely Safe and will do your work **Quicker** and **Easier** than you have ever done it before.

Send for Illustrated Catalogue No. 28

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Stock Carried by Canadian Agents: **MUSSENS LIMITED**
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The Steel Company of Canada, Limited

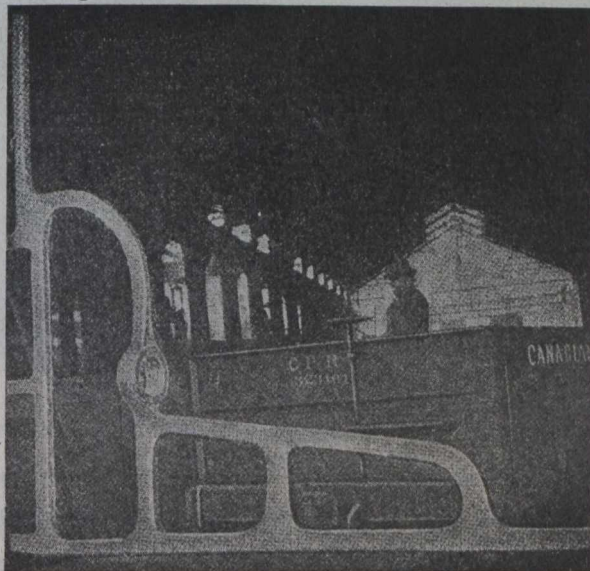
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Special Steel Marine Forgings

When forgings are required to stand the strain of rough weather, and to prove themselves reliable and dependable, write us for particulars and prices.

We have the facilities for the production of heavy steel forgings of all kinds, including:

- Connecting Rods
- Crank Shafts
- Eccentric or Cam Forgings
- Marine Engine Forgings
- Piston Heads
- Piston Rods
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The cleanable, sanitary, everlasting, weather-proof, uncrackable, unpeelable, unflakable, curtain material.

It pulls down your maintenance cost while enhancing the appearance of your car interior.

Use Fabrikoid in order to insure the future of your cars.

Many weights, widths, colors, patterns.

Write for samples and prices.

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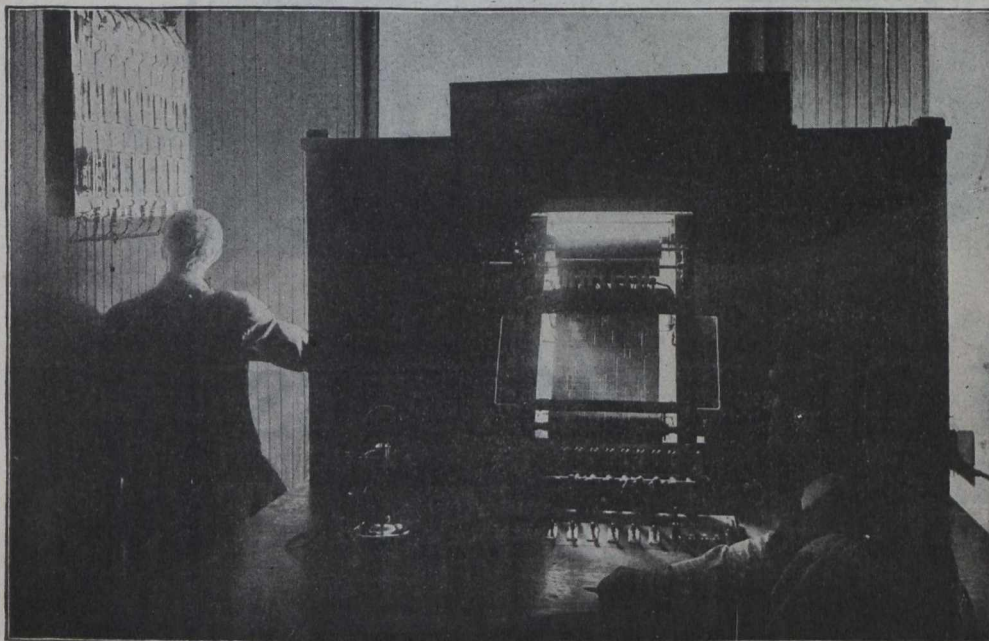
60 Broadway, New York, N. Y.

Meeting One Financial Obstacle to Adequate Signal Protection

There is little doubt that there would be a tremendously greater amount of mileage protected by automatic block if first cost were the only difficulty to be encountered. The great difficulty, however, in the universal use of fixed automatic block signals is found in the continuous cost of maintenance.

The advantage in this respect of

Simmen Automatic Block Cab Signals



is shown by the fact that none of the four roads which are operating the Simmen System have found it necessary to provide any special organization or additional labor for inspection purposes.

The reason for this is that the track and overhead installation of the Simmen System is so simple (involving no apparatus along the track except standard telephone overhead construction and simple signal rails) that the regular track and line maintenance labor is ample to care for these elements.

All operating electrical apparatus is either in the cab or in the dispatcher's office.

The cab apparatus is easily inspected when the car is in for regular inspection:

The apparatus in the dispatcher's office is readily inspected and cared for by the dispatcher, with the occasional assistance of a lineman.

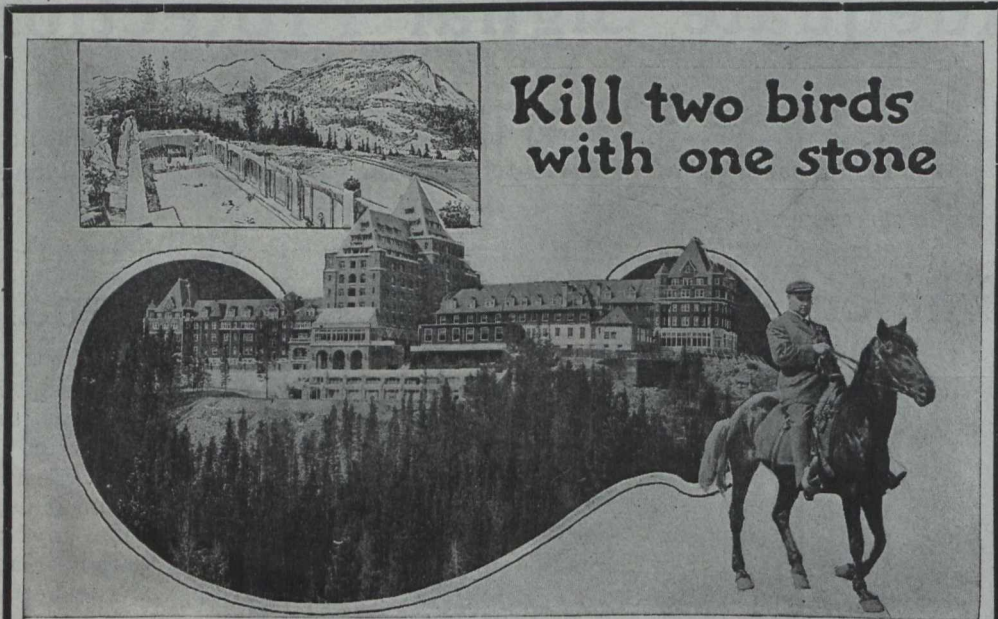
This enormous comparative saving in maintenance costs is proved by the experience of the four roads on which the **Simmen System** is now, and has for some time been, standardized.

The importance of this fact in any signal installation is obvious.

THE NORTHEY-SIMMEN SIGNAL CO., Ltd.

TORONTO

Simmen Automatic Railway Signal Co., Buffalo



**Kill two birds
with one stone**

and travel via **THE**

CANADIAN ROCKIES

to the

PANAMA PACIFIC EXPOSITION

If you are planning your 1915 trip to San Francisco, make sure your ticket reads via Canadian Pacific, otherwise you will miss the grandeur beauty of nature's most stupendous works—The Canadian Rockies.

BANFF LAKE LOUISE FIELD GLACIER

Are important tourist stop-over points on the Canadian Pacific Railway route to the Pacific Coast. These have excellent hotel accommodation, with opportunities for riding, climbing, swimming, boating and golf.

Agents will personally call on you to arrange your itinerary.

Write, phone or call on nearest C. P. R. Representative.

W. FULTON
Asst. Dist. Passenger Agent
Toronto

M. G. MURPHY
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Toronto



When you are depending upon a locomotive crane for handling your coal you realize that it must be a **good** crane. You cannot have the crane continually breaking down, as it means a big loss in time.

BROWNHOIST Locomotive Cranes

are being used to-day by railroad men because they realize that these cranes will do their work as it should be done. One road uses thirty of them. These cranes are built for hard, continuous service. And records prove that they will stand up under the severe working conditions. Ask the owners—they will tell you what Brownhoist cranes will do.

Write for our Catalog K, which shows how and where the Brownhoist Locomotive Crane is used.

THE BROWN HOISTING MACHINERY CO.
CLEVELAND, OHIO

MONTREAL OFFICE, 145 St. James Street

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This comprises practically all the shops of importance in North America, and it can be said without exaggeration that the list of railroads using Thermit includes practically every system from the small road having only three or four locomotives to the largest system in the world having many thousand locomotives.

If by any chance your shop is not using Thermit, you should investigate the process and see how effectively and economically it will handle the many repairs on locomotive frames and other sections.



Let us send you this pamphlet.

Remember that the greatest railway systems in the world use hundreds of thousands of pounds of Thermit. They do not use it for any reason except that it "delivers the goods" and has proven itself a profitable investment.

Let us mail you our new pamphlet, No 2144, which contains full information on Thermit in Railroad Shops.

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HAVE NO EQUAL IN

QUALITY, EFFICIENCY AND ECONOMY

SOLE MANUFACTURERS OF

Celebrated Galena Coach, Engine and Car Oils

LUBRICATION ON A GUARANTEED BASIS

ELECTRIC RAILWAY LUBRICATION
A SPECIALTY

Perfection Valve and Signal Oils

Galena Railway Safety Oil—Made especially for use in head-lights, marker and classification lamps.

Galena Long Time Burner Oil—For use in switch and semaphore lamps, and all lamps for long time burning, avoiding smoked and cracked chimneys and crusted wicks.

TESTS AND CORRESPONDENCE SOLICITED

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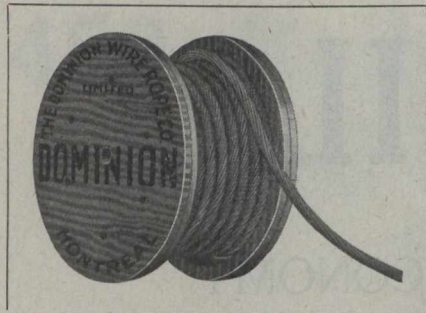
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Franklin, Pa., and Toronto, Ont.

Canadian Sales Office — 603 Shaughnessy Bldg., Montreal, Que.

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MADE IN CANADA



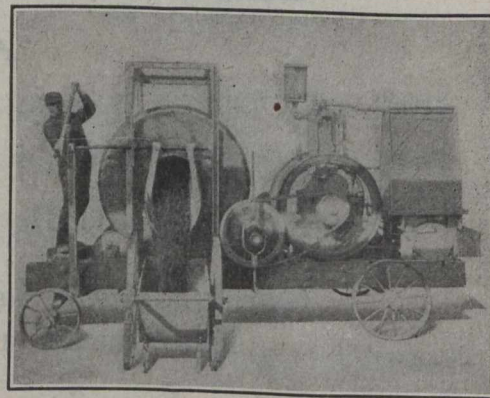
We Know Our Ropes are Good---
But Our Customers Say
They Are The "Best"

Stocks carried in Montreal, Winnipeg and St. Catharines

The DOMINION WIRE ROPE CO., LIMITED, MONTREAL

When You Purchase a RANSOME

Concrete Mixer you obtain the most dependable machine to be had anywhere. Ransome Mixers are noted for their simplicity of construction, ease of operation and economy of operation.



Ransome Concrete Mixer, equipped with Gasoline Engine.

We supply you with equipment which will stand up and take hard knocks and will give you top notch service all the time.

Ransome Mixers Supplied in all Sizes
with all styles of power

Let us prove the worth of a Ransome to you---it will make good with a vengeance.

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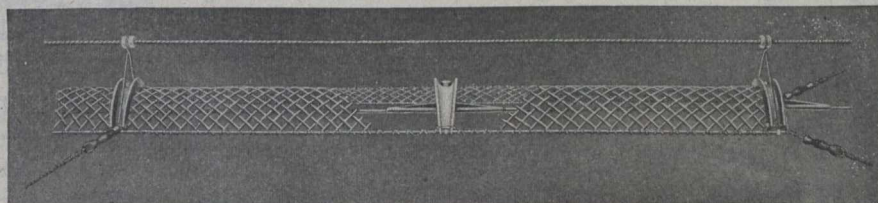
BRANCHES
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MONTREAL

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Offers dependable protection against electric cars being stalled on steam road grade crossings.



The Open Wire Mesh

Requires practically no maintenance. It stays in position to catch the trolley and supply power to carry cars to safety at all times.

Wind and locomotive exhausts have little effect on it. Snow and ice cannot collect to any extent.

Light in weight and easily installed.

Over 100,000 feet in service.

The Ohio Brass Company, Mansfield, Ohio, U.S.A.

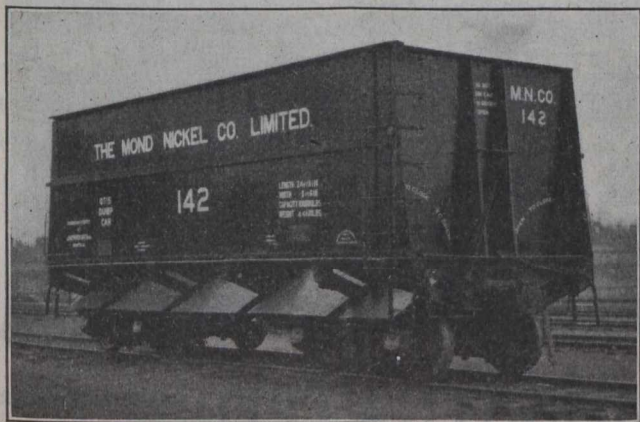
GENERAL SERVICE CARS

OTIS DUMP CARS

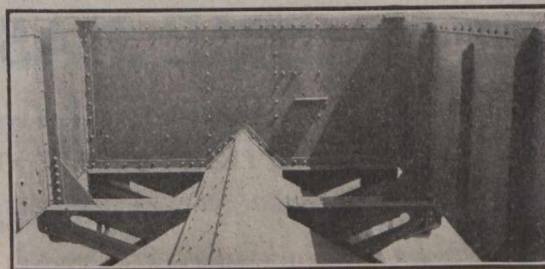
PATENTED

THE MOST PRACTICAL CAR FOR ALL BULK FREIGHT.

DUMP THE MATERIAL AND SAVE TIME AND MONEY. ALWAYS READY FOR USE.



In Ore Service.



All Steel Car With Doors Open.

THERE ARE THOUSANDS OF OTIS CARS IN USE IN COAL AND GENERAL SERVICE. A SIMPLE EASY OPERATING LEVEL FLOOR GONDOLA CAR THAT DUMPS THE ENTIRE LOAD.

Made in All Sizes and Capacities for Regular or Special Requirements.

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—SOLE PATENTEES FOR GENERAL SERVICE CARS FOR CANADA—



The World's Best Materials Are Used In Berry Brothers' Varnishes

A person who has always traded at a small country store never knows of the thousands of things sold in a large department store. The difference between the two stores is one of resources. The small store draws from a few sources, and the department store draws from every source.

In the same way BERRY BROTHERS' VARNISHES are superior, because their ingredients, the workmanship, the inventive skill in making them, are the best the entire world can furnish. They reflect the varnish supremacy of the world.

Let us send you some interesting literature on varnish problems

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(INCORPORATED)
World's Largest Varnish Makers

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ONTARIO

**HOW RAILROADS SAVE MONEY
BY USING THE
TATE FLEXIBLE STAYBOLT**

TIME HAS DEMONSTRATED

FIRST—That flexible staybolts produce more satisfactory and more economical results than rigid staybolts.

SECOND—That TATE FLEXIBLE STAYBOLTS are best of all, measured by every standard.

Ask for our New Catalog just issued

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FLANNERY BOLT COMPANY, - Vanadium Building, Pittsburgh, Pa.



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The Chateau Laurier, Ottawa, Ont.

Accommodation, 350 rooms. Rates \$2.00 per day and upwards, European Plan.

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Accommodation, 300 rooms. Rates \$2.00 per day and upwards. European Plan.

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The Qu'Appelle, Regina.
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G. T. BELL,
Passenger Traffic Manager,
Montreal, Que.

EXCELLENCE COUNTS!

Excellence in Railway Service

is expressed in what the

Grand Trunk System The Double Track Route

is offering the Travelling Public of Canada.

Unexcelled Road Bed
Superior Dining Car Service
Courteous Attention
Modern Equipment

The Grand Trunk System reaches all trade centres in Eastern Canada, and is now a large factor in Western Canada traffic through the Grand Trunk Pacific Railway, recently completed to the Pacific coast.

W. P. HINTON,
Assistant Passenger Traffic Manager,
Montreal, Que.

The Science of Water Treatment

The Dearborn Company was organized because of the conviction on part of its founders that a scientific handling of the water treatment question was the only solution for the steam user of the troubles constantly arising as a result of scale formation, foaming, corrosion and pitting of boiler tubes, with all the attendant injury to the boilers, loss of heating efficiency, and waste of fuel.

Periodical removal of scale is unsatisfactory since there is a constantly increasing ratio of heat loss and fuel waste—as the scale gradually forms—aside from the injury to the boilers.

The Practical Method is **Prevention** and this can be effectively done only by attacking the mineral ingredients in the water with the proper reagents, changing their nature and character and eliminating their harmful qualities.

The application of scientific knowledge is most important in the choosing of reagents. Provision must be made for the various minerals present in the water, determined by analysis, as well as for the by-products that will be formed as a result of reactions brought about. Failure to give this phase due consideration may result in more serious trouble than the first condition of the water produced.

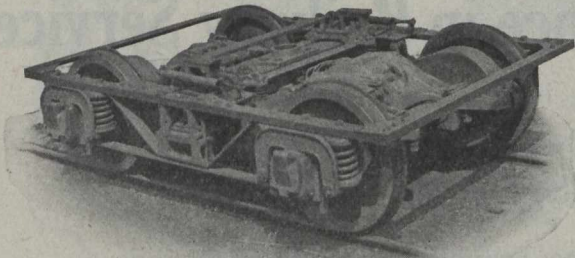
Unscientific "dope" compounds, ineffective and often harmful, have caused steam users endless annoyance and trouble.

We'd like an opportunity to demonstrate results by our methods. Gallon samples of the water supplies for analysis constitute the first step. May we have them?

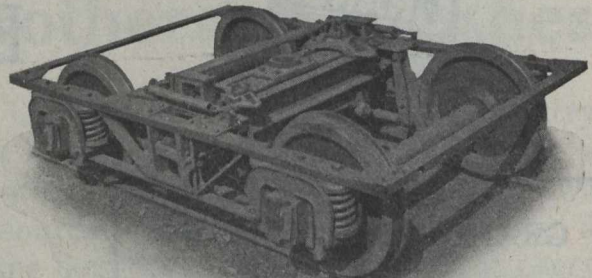
Dearborn Chemical Company of Canada, Limited

Office and Works,
1220-1230 Dundas Street, TORONTO, ONT.

The "National" Truck for Interurban Service



WITH MOTORS.



WITHOUT MOTORS.

When we can say that we have never had a dissatisfied customer it means that the "NATIONAL" Truck has unusual merit. It solves the problem of minimum weight with maximum efficiency and smooth riding qualities.

"There are no rough spots on the road that uses the "NATIONAL" Truck.

National Steel Car Company, Limited

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MODERN HIGH-CLASS

ROLLING STOCK



Passenger, Freight
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Car Castings,
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Parts.

CROSSEN CAR COMPANY, LTD.

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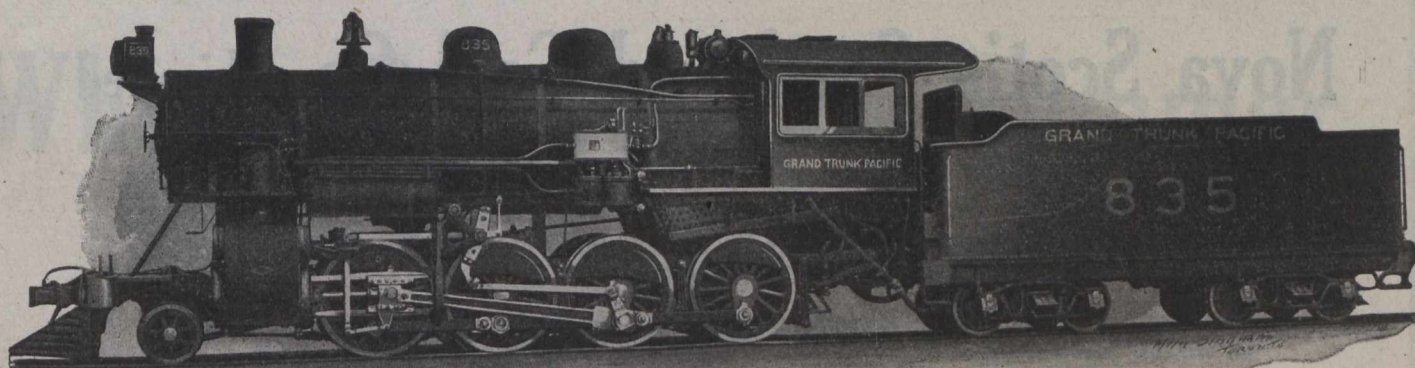
TO THE CANADIAN STREET RAILWAY COMPANIES

Wish to advise, we have opened a Canadian Plant for the manufacture of the

KNUTSON Trolley Retriever
IDEAL Catcher
Pressed Steel Headlight
SIMPLEX Trolley Base

and other specialties and by February 25th, will be in a position to make shipment of our products from our Canadian Plant. Feel certain that this move will be appreciated by the Canadian Street Railway Companies and await the continuance of the valued patronage given us by the numerous lines in Canada.

THE TROLLEY SUPPLY CO., Canton, Ohio



Consolidated Type Locomotive Built for Freight Service on the Grand Trunk Pacific Railway.

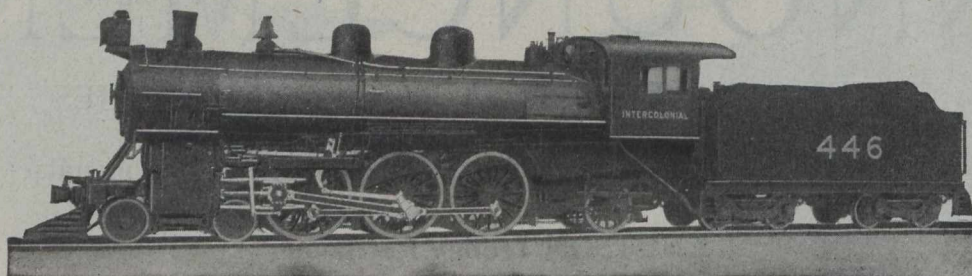
LOCOMOTIVES

Long experience, new equipment, efficient management and expert workmen, are guarantees that our Locomotives will give record service. Over 1,200 Locomotives have been built at our Works since the erection of the plant. We are builders of Simple and Compound Locomotives adapted to every variety of service, for Railway Contractors, for Industrial Purposes, Mines, all classes of Railway Work, etc.

We are also builders of stationary boilers, suitable for contractors and industrial plants. Grey iron castings—any size or shape—ordinary or intricate—made promptly. New foundry, splendidly equipped. We would be pleased to quote on castings—singly or by contract. We also make drop forgings of all descriptions.

CANADIAN LOCOMOTIVE CO., Limited, Kingston, Ontario

Heavier Trains—Less Coal and Water Per Trip



PACIFIC TYPE LOCOMOTIVE — INTERCOLONIAL RAILWAY.

Total weight of engine, 243,500 pounds; weight on drivers, 154,000 pounds; diameter of drivers, 73 inches; boiler pressure, 180 pounds; cylinders, 23½ x 28 inches; maximum tractive power, 32,400 pounds.

On a 185 mile run at an average speed of 40 miles per hour, these new Pacific type locomotives handle 10 cars and consume 12,884 pounds of coal and 9,750 gallons of water per trip.

Pacific type locomotives built five years ago, handled 9 cars on this same run at the same speed, but consumed 17,620 pounds of coal and 14,250 gallons of water per trip.

This is a saving of 26.9 per cent. in coal and 31.6 per cent. in water, with one extra car.

MONTREAL LOCOMOTIVE WORKS, LIMITED,
DOMINION EXPRESS BUILDING, MONTREAL, CANADA

Nova Scotia Steel and Coal Co., Limited

Manufacturers of

MARINE, RAILWAY AND GENERAL ENGINEERING FORGINGS OF ALL SHAPES AND UP TO 40 TONS IN WEIGHT, MADE FROM BEST ORDINARY OR HARMET FLUID COMPRESSED OPEN-HEARTH STEEL. OUR FORGE IS EQUIPPED WITH THE MOST MODERN STEAM HYDRAULIC PRESSES.

RAILWAY TRACK MATERIAL, fish plate, tie plate, track bolts, spikes, tee rails—12 to 40 lbs. per yard.

ROLLED STEEL FOR CAR BUILDERS' USE: Spring, machinery, tire, angle, and merchant bar steel, bright compressed shafting, rivets, tank plate—12-gauge up to 1" and 50" wide cold twisted steel bars for reinforced concrete work.

ALSO MINERS AND SHIPPERS OF THE CELEBRATED "OLD SYDNEY" COAL. HIGH CALIFORIC VALUE—LOW ASH—UNEXCELLED FOR STEAM-RAISING PURPOSES. BEST HOUSE COAL MINED IN CANADA.

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Style No. 3200

THE GARLOCK PACKING CO.

HAMILTON ONTARIO

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BRANCHES:



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Locomotive Throttles
Use Garlock Style Number 3200.

Air Pump Piston Rods
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Use Garlock Style Number 150.

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Use Garlock Style Number 200.

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High Pressure Cold Water
Use Garlock Style Number 960.

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High Pressure Hot Water
Use Garlock Style Number 1907.

These Packings are Guaranteed to give Satisfactory Service under the above conditions.

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Nova Scotia
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Lake St. Joseph
Rideau Lakes

Muskoka Lakes
Georgian Bay District
Rainy Lakes and
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THROUGH TICKETS AND LOW RATES

Apply to nearest C. N. R. Agent or General Passenger Department



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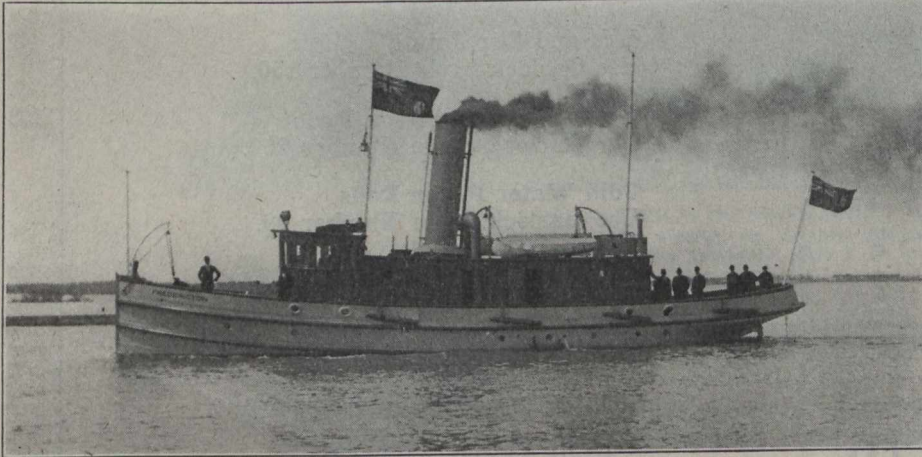
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STEEL SHIPBUILDERS

Engineers and Boilermakers



Steel Tug "Fredericton" built for the Dominion Government, 80 feet length, 20 feet breadth, 10 feet draught, compound marine engine, 12 x 26 x 18, Clyde boiler 10 feet x 11 feet, 145 lbs. steam.

Dredges, Hydraulic and Dipper Type; Steel Steamers, full Canal Size; Tugs, Barges and Scows

Marine Engines and Boilers, all Sizes

Polson Iron Works, Limited

Works and Office, Esplanade East, Toronto

PEDLAR'S "PERFECT" PRODUCTS
MADE IN CANADA

PEDLAR'S "Perfect" CULVERTS

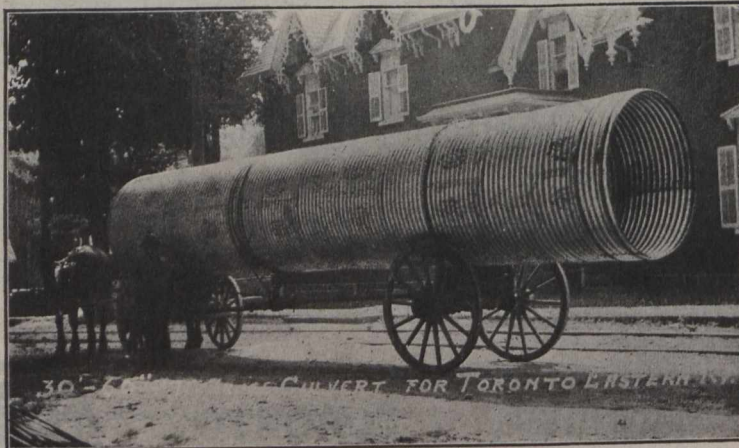


Illustration Shows Method of Handling from Flatcar to Field. This is a 60-inch Culvert, 30 feet long, for Toronto Eastern Railway.

are made to specifications for length in sizes from 8 to 84 inches in diameter. The rivetted type has lateral narrow and deep corrugations of greater frequency than in any other culvert on the market. Heavily galvanized, anti-corrosive, frost proof. Once laid, the job is PERMANENT. Shipped assembled in lengths up to 40 feet—coupling bands supplied FREE for greater lengths.

Write for complete Culvert Reference Book No. 4 "R.M." giving drainage tables and valuable data. Address nearest branch.

Sole Manufacturers:

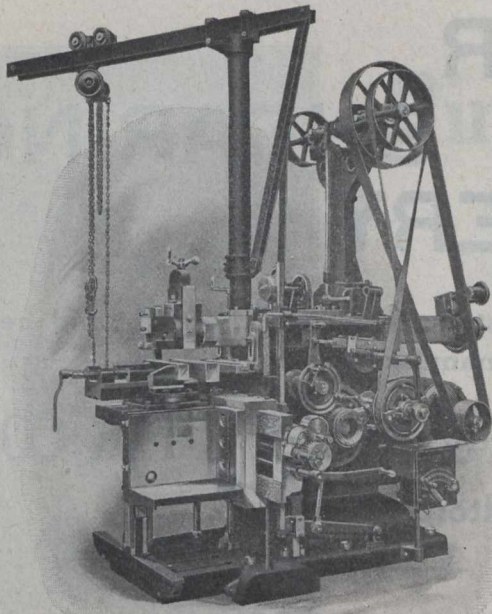
The PEDLAR PEOPLE, Limited

Executive Office and Factories:

OSHAWA, ONT.

Branches: Montreal, Ottawa, Toronto, London, Winnipeg.

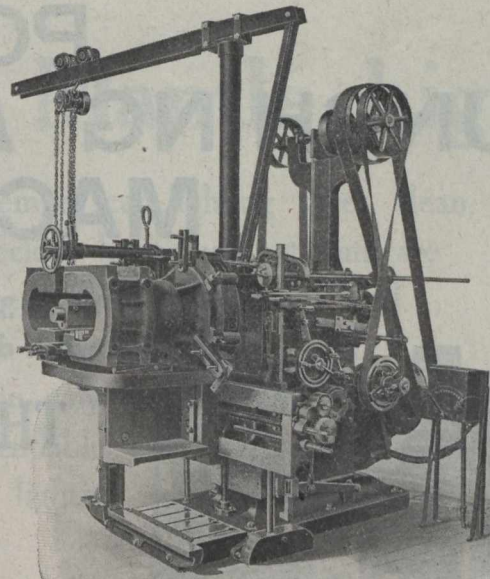
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SPECIAL DRAW CUT RAILROAD SHAPER, 32-INCH STROKE.

THE MOST POWERFUL SHAPER OF ITS SIZE BUILT,—ENOUGH SO TO BREAK 1¼ x 2-INCH TOOL STEEL.

RIGID IN CONSTRUCTION, AND THE DRAW CUT ELIMINATES VIBRATION AND CHATTER.



SPECIAL RAILROAD SHAPER, SLOTTING CONTINUOUS AXLE BOXES 22 INCHES THROUGH DIAMETER OF CROWN BRASS 12½ INCHES.

THIS MACHINE PLANES THE BRASS WITH THE LINES OF CUT PARALLEL TO THOSE IN THE BOX, MAKING A PERFECT BEARING, AND ELIMINATING TROUBLE WITH LOOSE BRASSES.

THE MORTON MANUFACTURING CO., Muskegon Heights, Mich., U.S.A.

Send for Bulletin No. 6 G., which fully illustrates.

Visit our Exhibit at Panama-Pacific International Exposition, San Francisco, Cal. Located Section 1, Block 39, Palace of Machinery.

The Sign of the Times



Enamelled iron signs are ideal for station name and station door signs.

They are much superior to a painted wooden sign, which has to be repainted at frequent intervals, and they last a lifetime.

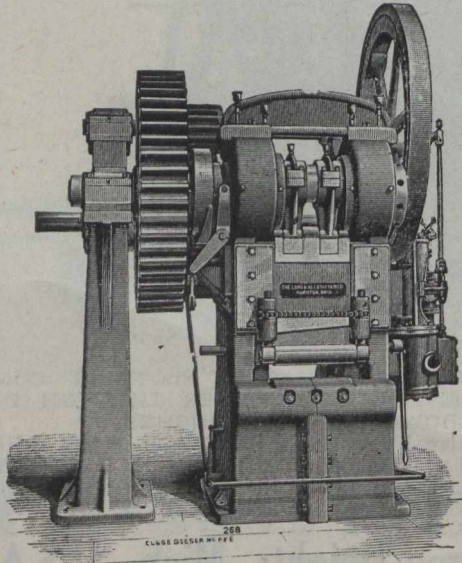
There is absolutely no wear to them, and we guarantee that they will not fade or be affected by the weather in any way.

We will be pleased to quote you prices on request.

Acton Burrows Limited

70 Bond Street, Toronto, Ont.

POWER PUNCHING AND SHEARING MACHINERY



Gate Shear—Steam-Driven

Over 350 sizes and styles for all kinds of light and heavy work designed and manufactured by

THE LONG & ALLSTATTER CO.

Hamilton, Ohio, U.S. A.

Riveting Machines

Tire Welding Machines

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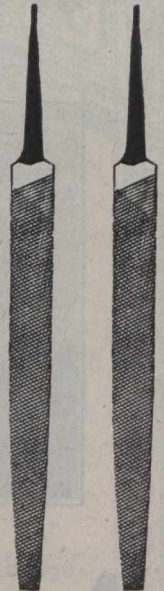
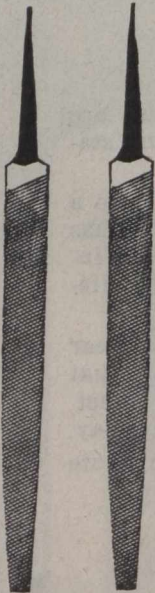
Bending and Forming Machines

Write for Catalogue if interested. Correspondence invited.

Efficient Files

When better files are possible they will still bear these famous names

**KEARNEY & FOOT
GREAT WESTERN
AMERICAN
ARCADE
GLOBE**



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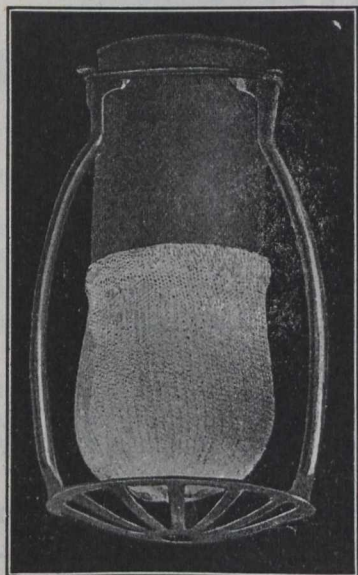
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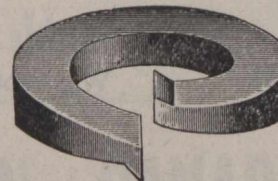
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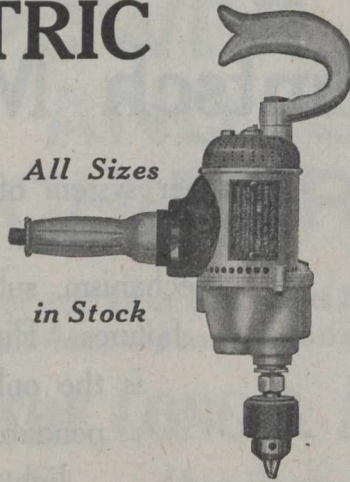
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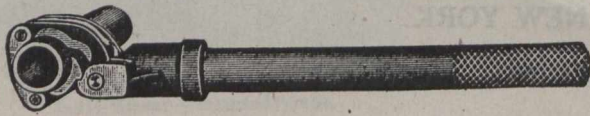
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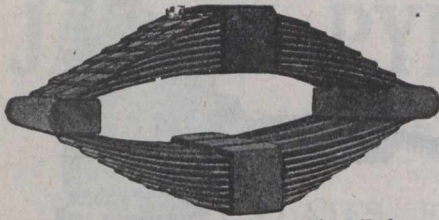
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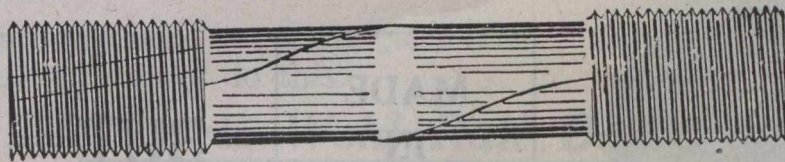
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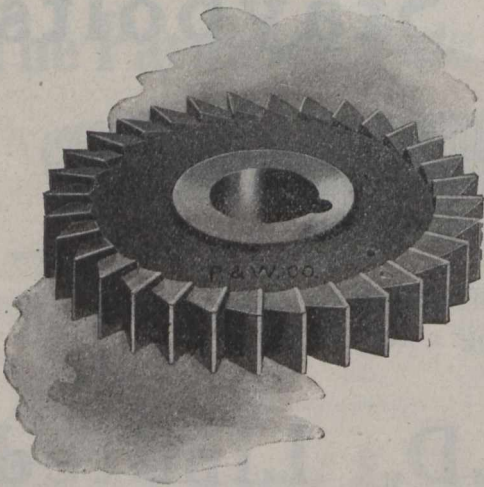
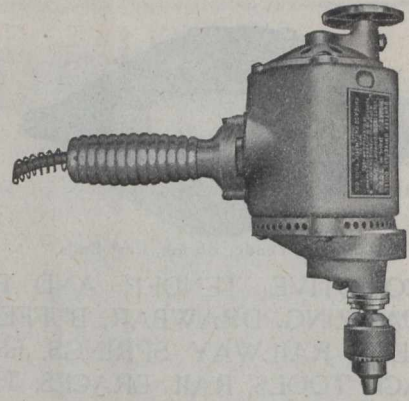
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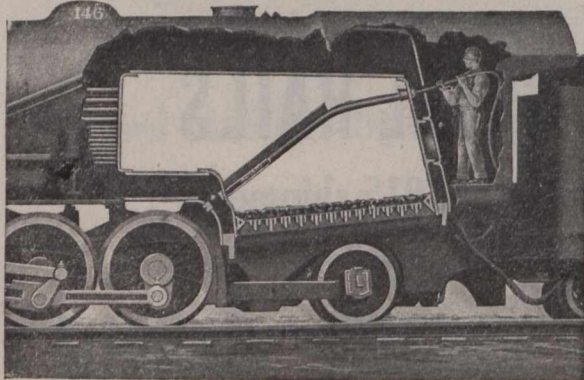
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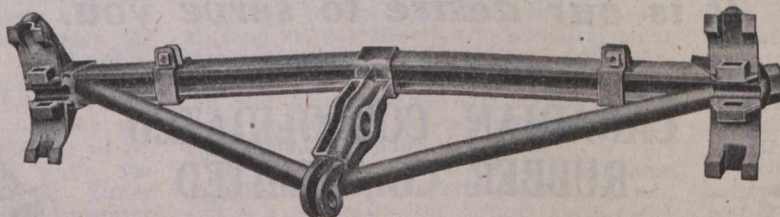
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Canadian Railway and Marine World

June, 1915.

Coaling Plants on the Canadian Northern Railway.

A 100-ton mechanical coaling plant, as illustrated herewith, has been built recently for the C.N.R. at Trenton, Ont., the central divisional point on the Toronto-Ottawa line, which was opened early last summer. It is the intention to erect similar plants this year at the several divisional and turning points on the section of the new transcontinental line north of Lake Superior, viz., Capreol, Foley, Fitzbach and Hector. All these plants will be identical in structural details and method of operation, the only difference that will be necessary will possibly be in the mechanical power, depending on what is available. Wherever possible, as in Trenton, electric drive will be used, but alternative steam and gasoline engine drive have been developed, to be used as conditions warrant. These plants

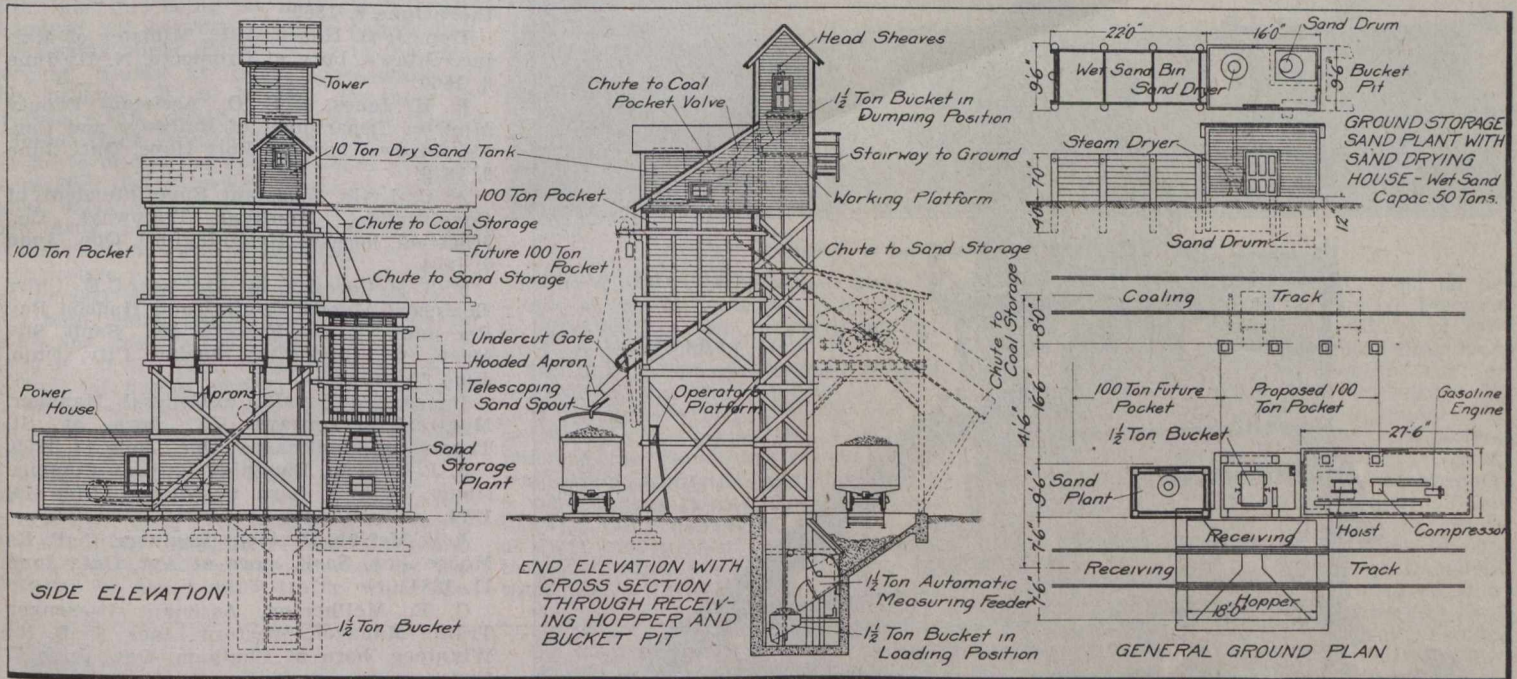
tween, these columns, is composed of heavy planking.

To the rear of the coal pocket, at one end, there is an elevator shaft, consisting of four wooden columns, two of which are those of the coal pocket supports, the other two being carried on the concrete side walls of the receiving coal hopper. The elevator shaft extends into a pit, 18 ft. deep.

Back of this elevator shaft pit, and forming a part thereof, is a receiving hopper, underneath the delivery track, which spans the pit on two tracks, supported by I beams. The receiving hopper and elevator pit, consists of a concrete lined chamber, the receiving hopper having sloping sides towards the elevator shaft, the slope corresponding to that of the bottom of the coal pocket above. The coal for the plant will

top of the elevator travel, the apron roller guide bends forward, so that in the final position, the apron has swung open, the sloping bottom of the car discharging the coal through the apron to a chute, which delivers the coal into the coal pocket. As the bucket commences to descend, the apron is closed. On approaching the bottom of the pit, the feeding mechanism is automatically operated, so that the feeder revolves, dumping the contained 1½ ton into the bucket.

The sand storage plant is a small frame building adjoining the hoistway, the base of which is at an elevation of about 14 ft. It is of similar construction to the coal pocket, only lighter. A chute, leading into it from the top, is fed in exactly the same manner as the coal pocket, a valve in the coal



100 Ton Mechanical Coaling Plant, Canadian Northern Ry., Trenton, Ontario.

are to be of the same type as those installed on the National Transcontinental Ry., which were fully described in Canadian Railway and Marine World, Aug. 1914. While of the same type, they will only have half the capacity, with provision in the design for doubling the initial capacity when necessary, so that the ultimate capacity of the N.T.R. and C.N.R. plants will be the same. Another important difference between the plants is that the N.T.R. plants are of reinforced concrete throughout, while the C.N.R. are of wooden construction. Other minor points of difference will be apparent by referring to the description of the N.T.R.

The coal is carried in an elevated coal pocket, 14 by 22 ft., and will have a depth varying from about 10 to 20 ft., the bottom of the coal pocket having a slope with regard to the horizontal of about 30 degrees. This pocket is carried on 8 heavy squared timbers, resting on concrete piers, the pedestals being heavily cross braced. The coal pocket, supported by, and contained be-

lie delivered on cars, which will be run over the top of the receiving hopper and dumped. The area of the receiving hopper is 11 by 14 ft., and as it slopes in three directions towards the front, the coal will all tend in that direction to a central point in the front edge of the bottom of the hopper. At this central point, there is a feeding mechanism, which consists of a gate, chute and feeder, the latter delivering the coal automatically in 1½ ton lots.

The elevating bucket is of the same capacity as the automatic feeder, 1½ ton, and is 4 ft. square, the bottom sloping the same as the receiving hopper and coal pocket. Hinged to this low edge of the elevator, along the front face, there is an apron or folding chute, kept closed in its upward travel by a roller on its front face bearing against a guide. The elevator ways are 30 lb. rails. The movement of the bucket from the bottom of the pit, automatically causes the feeder to revolve, filling up with the measured 1½ ton. At the

pocket chute diverting the sand as elevated from the receiving hopper into the sand pocket chute. Beneath the sand pocket there is a sand drying room, fed by gravity from the supply above. The dried sand is delivered by compressed air to a 10 ton dry sand tank, situated directly over top of the coal pocket. There is also a 50 ton ground storage plant for wet sand.

The coaling plant at Trenton, Ont., will be electrically operated, with the power located in a small building adjoining the hoistway, on the ground, and will be automatically operated, so that the operator will be free during the unloading period to attend to other work around the plant. With the plants that will be either steam or gasoline engine driven, the same automatic operation will be provided.

Considerable storage areas are being provided at all the division points along the C.N.R., those on the transcontinental line having capacities of from 9,500 to 14,000 tons, in order to use this plant for unloading to

these storage areas, there will be a special chute from the main chute which will lead from the top of the hoist, running back over the unloading track, through which the coal can be chuted to the storage pile in rear of the plant.

Special features of the Trenton installation are the facilities for handling the coal to and from the storage yard to the rear. At this point, the storage yard will have a capacity of 5,000 tons. Around the edge of this area, there will be a series of posts, to any one of which a cable from the coaling plant may be attached. This cable will act as a drag line, to which will be attached a scoop with a capacity of about three-quarters of a ton, to be operated from the mechanism on the platform over top of the receiving hopper, where the operator who will manipulate the drag line will be situated. The coal, after being chuted out the back of the plant, will be picked up by the scoop, and dragged to whatever part of the pile it is desired, by attaching the cable to the most convenient post. When it is necessary to use the coal from the storage pile, the operation will be reversed, the coal being

As mentioned, the plant is designed so as to be capable of extension to double its initial capacity by the addition of a further bin of similar size to the original one, on

the elevator side of the plant. We are indebted to L. C. Fritch, Assistant to the President, C.N.R., for the information on which this article is based.

Birthdays of Transportation Men in June.

Many happy returns of the day to:—

Jas. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry., Windsor, Ont., born at Ayr, Ont., June 20, 1851.

W. C. Bowles, General Freight Agent, Western Lines, C. P. R., Winnipeg, born at Montreal, June 3, 1875.

J. H. Boyle, Superintendent, District 3, Lake Superior Division, C. P. R., Schreiber, Ont., born at Waterloo, Que., June 26, 1869.

F. P. Brady, General Superintendent, National Transcontinental Ry., Quebec to Winnipeg, and Lake Superior Branch, G. T. Pacific Ry., Cochrane, Ont., born at Haverhill, N. H., June 22, 1853.

A. H. N. Bruce, M. Can. Soc. C.E., Ottawa, born at Ballyscullion, Ireland, June 18, 1854.

H. W. Brodie, General Passenger Agent,

A. Craig, City Passenger Agent, C. P. R., Hamilton, Ont., born there, June 5, 1884.

A. E. Doucet, M. Can. Soc. C.E., ex-District Engineer, National Transcontinental Ry., Quebec, born at Montreal, June 9, 1860.

E. W. DuVal, Superintendent, District 3, Saskatchewan Division, C. P. R., Saskatoon, born at Toledo, Ohio, June 5, 1885.

Knowlson Elliott, City Freight Agent, C. P. R., Calgary, Alta., born at Gorrie, Ont., June 26, 1884.

J. M. R. Fairbairn, M. Can. Soc. C. E., Assistant Chief Engineer, Eastern Lines, C. P. R., Montreal, born at Peterboro, Ont., June 30, 1873.

W. E. Foster, Solicitor for Ontario, G. T. R., Montreal, born at Belleville, Ont., June 27, 1866.

A. A. Goodchild, General Storekeeper, Eastern Lines, C. P. R., Montreal, born at Peckham, London, Eng., June 3, 1866.

H. W. Harding, Local Secretary, Canadian Northern Ry., London, Eng., born there June 6, 1869.

Hon. J. D. Hazen, M.P., Minister of Marine, Ottawa, born at Oromocto, N. B., June 6, 1860.

L. K. Jones, I. S. O., Assistant Deputy Minister Department of Railways and Canals, Ottawa, born at Port Hope, Ont., June 9, 1849.

A. C. Lytle, Assistant Superintendent of Construction, Montreal Tramways Co., Montreal, born at Hemmingford, Que., June 6, 1854.

R. S. McCormick, M. Am. Soc. C.E., Chief Engineer, Algoma Central and Hudson Bay Ry. and Algoma Eastern Ry., Sault Ste. Marie, Ont., born at Quaker City, Ohio, June 22, 1873.

Duncan McDonald, ex-General Manager, Montreal Tramways Co., born at St. Thomas de Montmagny, Que., June 17, 1859.

S. J. McLean, Dominion Railway Commissioner, Ottawa, born at Quebec, June 14, 1871.

J. V. McNab, Resident Engineer, C. P. R., Moose Jaw, Sask., born at Ayr, Ont., June 11, 1884.

C. E. McPherson, Assistant Passenger Traffic Manager, Western Lines, C. P. R., Winnipeg, born at Chatham, Ont., June 7, 1861.

W. R. MacInnes, Freight Traffic Manager, C. P. R., Montreal, born at Hamilton, Ont., June 7, 1867.

H. J. Maguire, District Baggage Agent, British Columbia Division and B. C. and Pacific Coast Service, C. P. R., Vancouver, B. C., born at Toronto, June 16, 1881.

G. Manson, Assistant to the Vice President C. P. R., Montreal, born at Thurso, Scotland, June 8, 1863.

H. N. Merriam, ex-Division Engineer, Pacific Great Eastern Ry., Vancouver, B. C., born at Waupun, Wis., June 19, 1874.

J. D. Morton, Assistant Comptroller, Canadian Northern Ry., Toronto, born at London, Ont., June 15, 1857.

L. Mulkern, District Freight Agent, C. P. R., Toronto, born at London, Ont., June 18, 1871.

J. E. Pinault, General Superintendent, Canada and Gulf Terminal Ry., Mont Joli, Que., born at Rimouski, Que., June 24, 1884.

F. R. Porter, Assistant General Freight Agent, Grand Trunk Pacific Ry., Winnipeg, born at Stratford, Ont., June 13, 1875.



100 Ton Coaling Plant for Canadian Northern Railway Divisional Points.

dragged over to the coaling plant, being run into the receiving hopper, and then elevated into the pocket in the manner before described. This installation is in the nature of an experiment, and if successful, will possibly be applied to the other plants.

Lines West of Revelstoke, C. P. R., Vancouver, B. C., born at Fredericton, N. B., June 8, 1874.

G. W. Coburn, Resident Engineer, C. P. R., Brandon, Man., born at Upper Melbourne, Que., June 24, 1877.

F. Price, Superintendent of Car Service, G. T. R., Montreal, born there, June 11, 1864.
 Allan Purvis, Superintendent District 2, Ontario Division C. P. R., London, Ont., born at Batavia, Java, June 29, 1878.
 L. G. Rogers, Assistant Superintendent, Division 1, Ontario Division, C. P. R., Trenton, Ont., born at Richford, Vt., June 18, 1874.
 N. Van Wyck, Freight Claims Agent, Can-

ada Steamship Lines Ltd., Montreal, born at Hamilton, Ont., June 29, 1883.

V. G. R. Vickers, Manager, Foreign Department, and Superintendent, Atlantic Division, Dominion Express Co., Montreal, born at Toronto, June 1, 1866.

Walter White, Trainmaster, G. T. R., Palmerston, Ont., born at Toronto, June 4, 1866.

Reconstruction of Canadian Pacific Railway Bridge Over Lachine Canal.

The accompanying illustrations show the reconstructed C.P.R. bridge over the Lachine canal near Montreal. It is unique in many respects, and the swing span is moved with ease, although a weight of 758 tons swings upon the central pivot. From the time that the railway traffic is closed till the moment when the waterway is open for steamship traffic is only 70 seconds. The danger signals on the approaches are automatically adjusted before any movement can be made.

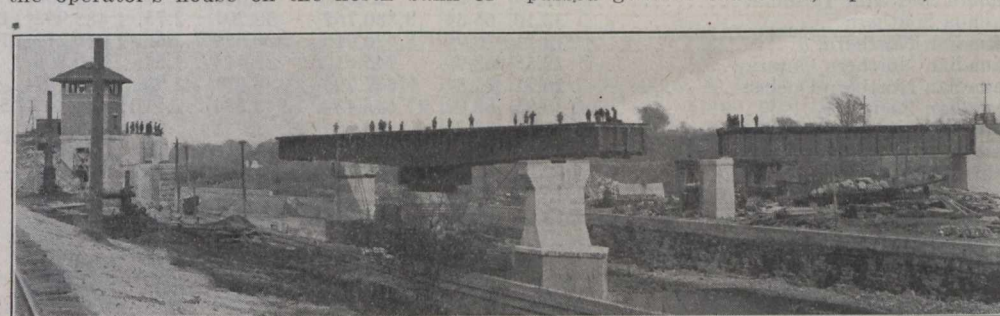
The object in reconstructing the bridge was to complete the second track between Montreal and Brigham Junction, 49.5 miles from Montreal on the Montreal-St. John, N.B., line, this being the only single track structure left between the two points, and occasioning slight delays owing to the converging tracks at both approaches to the bridges. P. B. Motley, Engineer of Bridges, C.P.R., found it possible to design a double track swing-bridge in such a manner as to utilize the old pivot pier without decreasing the waterway for traffic on the canal, using a type of bridge consisting of four deck plate girders instead of the original lattice truss construction.

This plate girder swing span is said to be the longest plate girder span of its kind ever built, being 239 ft. 7 ins. long and 13 ft. 6½ ins. deep in the centre, reduced to 8 ft. ½ in. at the ends measured from back to back of flange angles. The 4 girders were each shipped in three pieces from the Dominion Bridge Co.'s shops, which are near the bridge site, and were lowered in place by heavy derricks. When all the parts were assembled, they were rivetted up into their completed lengths, after which the operating machinery was installed. The use of 4 girders was dictated by the necessity of maintaining traffic while the

There is also a 90 ft. span at the south end of the bridge to accommodate the existing roadway and admit of the running of a railway track along the south canal bank in the future. This span weighs about 143 tons, making a total of 758 tons for the whole bridge. The total cost was \$233,000.

The electric operating power is carried by submarine cables under the canal to the centre pier, and there supplied to duplex 30 h.p. motors, which are controlled from the operator's house on the north bank of

the canal, and, in addition, a spare 30 h.p. motor is kept on hand in the house in case of emergency. The house is entirely of fireproof construction.



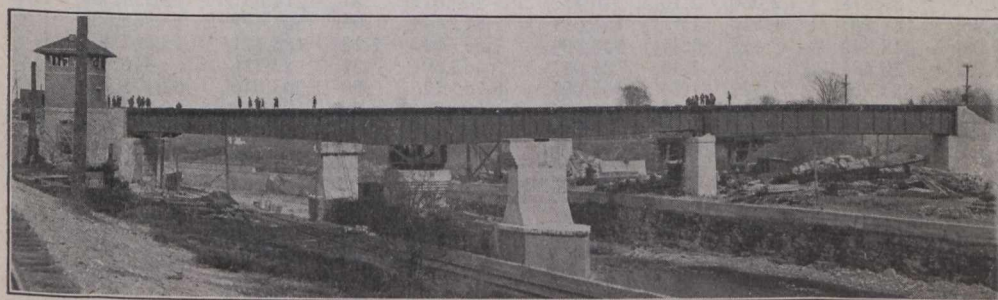
C.P.R. Bridge Over Lachine Canal with Swing Span Open.

Not only is the design of the structure interesting, but the rapidity of construction is also noteworthy. Work was started on the substructure on Dec. 1, 1914, which involved the demolition of the old south single-track abutment, and the building of a new double track abutment behind it, likewise the removing of a certain amount of earth embankment and the widening of the old one to accommodate the new double track. It also included the extension of the

and considering the nature of the work and the tonnage erected, the speed of the work is certainly remarkable. The bridge is protected by the most modern interlocking machinery, so as to make it impossible for a train to approach the bridge before it is properly closed and safely locked, and, in addition, it is impossible for the operator to open the bridge for canal traffic until all railway traffic is stopped at a safe distance from the bridge—all of these operations being carried out from the signal tower, which commands a view up and down the canal even when trains are passing over the bridge. The structure is also provided with a system of lights for the protection of shipping on the canal, and gives a much clearer view along the track than formerly, as there is no overhead lattice work projecting above the rail level.

Order re Hand Rails and Steps for Reaching Locomotive Headlights.

The Board of Railway Commissioners passed general order 140, April 13, as fol-



C.P.R. Bridge Over Lachine Canal, with Swing Span Closed.

demolition of the old structure and building of the new was being carried on. By this plan it was possible to erect two girders on the upstream side of the old bridge, after which traffic was diverted into them, while the downstream side was altered and the other two girders erected, after which the four girders were connected by their lateral and other bracing. This operation saved the building of a special temporary wooden bridge alongside the old structure, as would otherwise have been necessary.

The weight of each of these girders is 112 tons and of the whole swing span 615 tons.

two piers on the upstream side towards the Lachine locks, one of which (the pivot pier), required considerable subaqueous work and bonding into the old stonework. The north abutment was extended in the same direction to accommodate the double track, and also to act as the lower storey for the operator's house. This substructure work was carried out during the winter, working 24-hour shifts most of the time, until the bridge seats were ready to receive the steel girders on Feb. 8.

During the progress of the work, no trains were delayed by any of the opera-

—Re complaint of W. L. Best on behalf of Brotherhood of Locomotive Firemen and Enginemen against the failure of railway companies properly to equip their locomotives with safe and adequate facilities for reaching headlamp when necessary for employees to light and give other necessary attention to this part of the locomotive; and re general order 102, Feb. 17, 1913, prescribing rules and regulations respecting safety appliances on trains. Upon hearing what was alleged by the representatives of the Wabash, Canadian Pacific, Quebec, Montreal & Southern, Canadian Northern Ontario, Canadian Northern Quebec, Canadian Northern, Ottawa & New York, Grand Trunk, Grand Trunk Pacific, Central Vermont, Michigan Central, New York Central & Hudson River, and Rutland Railways, the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen, at a conference had with the Board's operating officers, at Ottawa, April 8, the railway companies unanimously consenting to the proposed amendment: It is ordered that general order 102 be amended by adding to the clause with the heading, "Handrails and Steps for Headlights," in the second last paragraph of the regulations, the words, "and headlight equipment," so as to make the said clause read as follows:

"Handrails and Steps for Headlights: Locomotives having headlights which can not be safely and conveniently reached from pilot beam or steam-chests shall be equipped with secure handrails and steps suitable for the use of men in getting to and from such headlights and headlight equipment."

To curve rails for curves down to 3 degrees is the tendency on the better maintained roads, the object being to obtain a better riding track and one that may be maintained to line more easily.

Steam Railway Statistics for Year Ended June 30, 1914.

The table given in our last issue showed the financial results of the operations of steam railways for the year ended June 30, 1913. The following table gives the percentages and the principal statistical information compiled by the companies. The table published last issue and the one given below contain all the information given prior to 1910 in our compilation of these statistics, but the columns have been rearranged so as to combine in the first table the financial and in the second the statistical information:—

Name of Railway	Proportion of total Passenger service revenue to total earnings	Proportion of freight revenue plus switching revenue, &c., to total earnings	Revenue Train Mileage	Mileage of Non Revenue Trains	Earnings per Train Mile	Passengers Carried	Passengers Carried One Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried One Mile	Freight Earnings per Train Mile
Algoma Central & Hudson Bay.....	8.26	83.12	291,159	51,091	\$3.28	40,850	2,701,523	\$0.50	369,088	25,368,799	\$6.11
Algoma Eastern.....	11.77	87.30	50,854	3,080	3.60	39,006	695,654	1.19	731,928	8,192,188	4.32
Atlantic, Quebec & Western.....	56.83	42.93	91,816	5,589	.72	40,730	1,431,898	.56	34,125	1,430,308	.87
Bay of Quinte.....	22.99	75.77	213,836	.....	.94	103,927	1,595,318	.29	244,820	9,488,941	.73
Bedlington and Nelson.....	19.00	81.60	1,708	51	.49	612	4,188	.09	1,348	12,639	.39
Brandon, Sask. & Hudson Bay.....	56.23	43.70	66,792	2,818	.90	31,365	1,114,623	.78	62,371	2,773,708	1.13
British Yukon.....	34.47	64.00	45,957	720	4.56	9,864	878,153	1.81	43,307	3,806,933	2.95
Brockville, Westport & N. W.....	53.39	46.51	54,656	.....	1.29	62,782	1,721,871	.71	27,527	888,471	.99
Canada and Gulf Terminal.....	47.89	50.69	23,624	1,204	1.95	28,033	595,224	.94	26,347	804,628	.99
Canada Southern.....	33.10	66.34	3,880,762	58,701	2.73	1,483,993	127,153,523	1.71	7,540,865	1,117,844,297	3.58
Canadian Northern.....	18.21	76.99	8,920,016	300,059	2.66	2,010,272	158,216,177	1.22	6,537,416	2,419,604,849	2.95
Canadian Northern Ontario.....	27.58	68.99	945,619	86,445	1.54	410,806	17,448,111	.69	1,164,128	101,375,945	1.92
Canadian Northern Quebec.....	26.21	71.81	837,793	38,871	1.99	641,797	21,795,953	.93	1,116,012	87,811,675	2.48
Canadian Pacific.....	30.95	68.02	47,645,434	1,948,384	2.51	15,449,849	1,570,758,210	1.58	27,801,217	10,601,426,321	3.08
Cape Breton.....	57.68	38.25	19,654	.....	.58	9,415	207,142	.33	6,379	95,272	.22
Caraquet.....	31.15	68.85	41,600	.....	1.79	18,468	791,422	.55	32,901	1,316,040	1.23
Central Ontario.....	32.24	61.19	365,730	5,228	.95	169,858	3,829,127	.61	354,427	13,450,167	1.01
Crow's Nest Southern.....	13.73	86.01	90,273	9,322	1.50	17,595	453,350	.40	265,472	14,402,912	2.62
Cumberland Ry. & Coal Co.....	17.87	81.70	47,947	.....	2.24	48,668	615,027	.61	354,346	4,255,944	1.84
Dominion Atlantic.....	47.98	50.82	594,515	71,148	1.64	461,962	19,395,157	.95	356,829	18,677,339	1.69
Eastern British Columbia.....	6.97	92.46	7,752	168	6.23	5,660	54,657	.43	121,700	1,081,028	5.76
Elgin and Havelock.....	31.46	68.54	11,664	.....	.89	6,896	66,460	.28	12,384	119,762	.61
Esquimalt & Nanaimo.....	39.76	57.42	271,140	24,746	3.10	461,616	11,181,085	2.26	435,085	15,773,080	3.84
Essex Terminal.....	89.24	23.200	.....	.....	2.25	.....	.....	.....	176,393	881,965	.....
Fredericton & Grand Lake Coal & Ry. Co.....	8.81	90.30	24,632	.....	2.02	7,616	181,311	.18	63,176	1,807,602	1.83
Grand Trunk.....	34.94	63.69	19,140,816	744,132	2.04	12,216,728	647,018,545	1.55	20,027,455	3,561,953,486	2.27
G. T. R. (Canada Atlantic).....	23.67	73.73	1,779,969	102,496	1.33	608,847	21,226,334	.71	1,917,573	276,033,020	1.54
Grand Trunk Pacific.....	20.59	77.81	3,949,334	709,680	2.08	691,686	58,606,074	1.07	1,792,445	991,781,455	2.51
Halifax and South Western.....	48.51	50.79	396,656	11,110	1.41	245,090	8,090,318	.76	267,342	16,386,129	.92
Hereford.....	17.52	82.02	96,391	690	1.27	32,352	709,723	.32	268,203	9,620,349	1.60
Intercolonial.....	33.33	65.98	8,104,197	139,303	1.53	3,927,559	200,154,568	1.21	5,082,484	1,345,580,752	1.61
International of New Brunswick.....	37.92	61.10	120,530	5,558	.....	38,383	1,722,766	.....	88,872	3,444,821	.....
Inverness Ry. and Coal Co.....	10.91	88.46	106,026	3,290	2.00	38,186	823,086	.54	288,470	15,898,665	1.76
Iroindale, Bancroft & Ottawa.....	29.61	68.39	33,850	.....	.95	18,067	293,441	.28	31,078	795,281	.65
Kent Northern.....	42.98	57.02	16,902	.....	1.19	10,000	1,722,766	.51	7,250	145,060	.68
Kettle Valley.....	11.06	88.94	2,216	.....	3.29	1,308	23,686	.36	27,772	136,294	2.92
Klondike Mines.....	.....	100.00	14,168	.....	7.91	.....	.....	.....	42,786	444,490	7.91
London & Port Stanley.....	30.09	68.73	122,382	607	1.10	132,669	2,111,340	.51	637,869	10,332,663	1.61
Lotbiniere & Megantic.....	24.16	77.57	18,960	.....	1.59	15,249	200,524	.38	41,941	583,681	1.22
Maine Central (Princeton Branch).....	62.63	37.37	13,596	206	1.32	82,649	421,510	1.08	183,443	935,559	.69
Manitoba Great Northern.....	15.74	82.90	38,799	475	1.13	9,742	223,671	.21	85,005	4,614,721	1.24
Maritime Coal, Ry. & Power Co.....	10.41	89.59	33,878	2,000	2.10	20,472	209,611	.21	214,631	2,339,300	1.88
Massawippi Valley.....	33.39	65.96	181,263	1,516	1.17	161,691	2,813,444	.66	527,491	15,988,830	1.67
Midland Ry. of Manitoba.....	57.72	39.08	248,842	415	1.31	123,094	7,887,843	1.25	185,111	13,267,271	1.25
Moncton and Buctouche.....	35.51	60.88	20,487	.....	1.45	21,047	463,597	.51	22,216	446,847	.88
Montreal and Atlantic.....	23.90	73.78	582,163	57,572	1.74	361,007	8,756,525	.80	1,203,616	62,175,234	1.84
Montreal and Province Line.....	43.85	54.43	91,820	819	1.49	143,884	2,392,084	.88	108,478	2,766,054	1.87
Montreal and Vermont Jct.....	47.14	52.73	92,778	2,217	1.42	117,613	2,483,920	1.07	434,484	10,985,854	2.01
Morrissey, Fernie & Michel.....	9.01	90.99	30,601	.....	3.79	176,700	1,077,870	.34	833,236	5,082,739	3.45
Napierville Jct.....	8.24	91.61	30,292	18	2.67	18,932	273,120	.43	402,186	11,960,303	3.25
National Transcontinental.....	16.92	82.31	5,846	5,551	.79	10,827	540,889	.17	62,973	5,045,541	.66
Nelson & Fort Sheppard.....	40.75	55.11	56,346	5,668	1.17	22,940	674,458	.71	26,339	1,076,425	1.94
New Brunswick & P. E. I.....	28.43	71.12	21,055	.....	.73	20,250	582,962	.43	55,343	825,020	.56
New Brunswick Coal & Ry. Co.....	26.80	64.93	42,943	.....	1.29	21,322	494,300	.34	58,507	1,926,941	.83
New Westminster Southern.....	22.17	71.40	21,055	.....	2.24	16,129	184,267	.50	51,292	534,800	1.60
North Shore.....	24.84	75.16	3,360	.....	.24	786	6,288	.06	1,550	12,400	.18
New Brunswick & Seaboard.....	13.90	86.10	12,396	.....	1.73	6,977	118,609	.24	71,243	1,211,131	1.53
Ottawa and New York.....	36.14	61.21	155,623	23,265	1.67	147,202	3,797,953	1.21	396,895	19,164,501	2.03
Pere Marquette.....	8.38	91.10	1,046,670	5,769	2.25	342,475	7,069,250	.72	2,140,323	377,499,887	2.72
Prince Edward Island.....	52.15	44.42	337,465	15,576	1.09	443,129	10,466,877	.59	116,426	4,442,949	.84
Quebec & Lake St. John.....	33.82	64.46	576,484	12,460	1.62	464,956	14,128,237	1.15	543,025	46,073,016	1.65
Quebec Central.....	29.15	69.69	851,039	271,097	1.84	434,317	18,785,938	.91	1,086,205	81,586,720	1.75
Quebec, Montreal & Southern.....	39.14	59.46	278,075	4,379	1.48	249,423	5,457,037	.76	485,390	18,739,680	1.60
Quebec Oriental.....	42.79	57.16	134,778	3,235	1.00	31,425	2,086,544	.92	66,037	5,150,275	1.06
Quebec Ry., Light & Power Co.....	15.35	83.44	31,281	62	2.78	115,629	1,387,548	1.82	225,045	1,716,315	2.03
Red Mountain.....	20.83	77.51	9,779	551	1.66	7,321	65,685	.48	31,085	277,268	1.20
Roberval-Saguenay.....	15.25	82.03	137,560	.....	1.18	9,512	152,192	.18	55,032	915,530	.97
Rutland and Noyan.....	62.46	37.54	7,933	.....	1.87	129,936	440,483	1.71	222,856	755,482	2.24
Salisbury and Albert.....	34.21	63.70	30,064	.....	1.20	15,924	339,767	.41	40,106	1,034,854	.76
Schomberg and Aurora.....	43.59	56.41	22,962	.....	.60	16,695	189,072	.26	15,352	153,520	.34

(Continued on page 205)

Steam Railway Statistics for Year Ended June 30, 1914 (Continued from page 204)

Name of Railway	Proportion of total Passenger service to train revenue to total earnings	Proportion of freight revenue plus switching revenue, &c. to total earnings	Revenue Train Mileage	Mileage of Non Revenue Trains	Earnings per Train Mile	Passengers Carried	Passengers Carried One Mile	Passenger Earnings per Train Mile	Tons of Freight Carried	Tons of Freight Carried One Mile	Freight Earnings per Train Mile
Stanstead, Shefford & Chambly.....	45.88	53.47	83,473	9,207	1.07	175,370	1,216,319	.67	461,549	2,279,469	1.23
St. Clair Tunnel.....	20.93	78.68									
St. Lawrence & Adirondack.....	43.00	56.59	326,967	11,685	1.99	708,579	15,729,202	1.32	946,044	35,565,339	3.23
St. Martins.....	39.66	59.28	17,160		.84	9,056	178,636	.33	11,277	168,273	.50
Sydney and Louisburg.....	6.87	89.82	256,355		3.14	176,166	2,182,099	1.07	4,895,569	70,317,192	3.22
Temiscouata.....	24.23	73.93	169,976	13,146	1.59	76,873	2,183,516	.45	213,681	9,353,790	2.03
Timiskaming and Northern Ont.....	37.78	57.71	779,432	61,743	2.19	517,868	23,343,245	1.53	559,952	84,486,528	2.27
Thousand Islands.....	33.05	57.99	32,060		1.26	44,706	268,230	.41	38,789	232,734	.73
Toronto, Hamilton & Buffalo.....	26.66	69.24	478,905	18,024	3.13	669,744	20,120,113	1.36	2,194,285	84,803,590	7.00
Vancouver, Victoria & Eastern.....	32.85	64.30	320,701	30,846	2.40	263,758	7,190,252	1.05	1,315,391	35,810,120	2.84
Victoria and Sidney.....	54.04	44.23	42,100		1.34	86,179	984,282	.93	28,637	385,139	2.51
Victoria Terminal Ry. & Ferry Co.....	50.18	38.80	2,590		1.88	82,148	81,327	1.21	26,911	26,642	2.86
Wabash (in Canada).....	27.32	72.47	1,540,110	29,935	1.64	592,798	37,222,914	.94	1,802,486	351,899,342	2.22
Wellington Colliery Co.....	4.14	95.86	31,200		3.35	6,965	74,873	.13	312,162	3,302,555	3.21
York and Carleton.....	36.72	62.28	8,585		.66	7,290	75,000	.24	10,204	102,040	.41
	29.85	68.19	107,895,272	4,911,928		46,702,280	3,089,031,194		101,393,989	22,063,294,685	

The Bridging of the St. John River between St. Leonard, N.B., and Van Buren, Me.

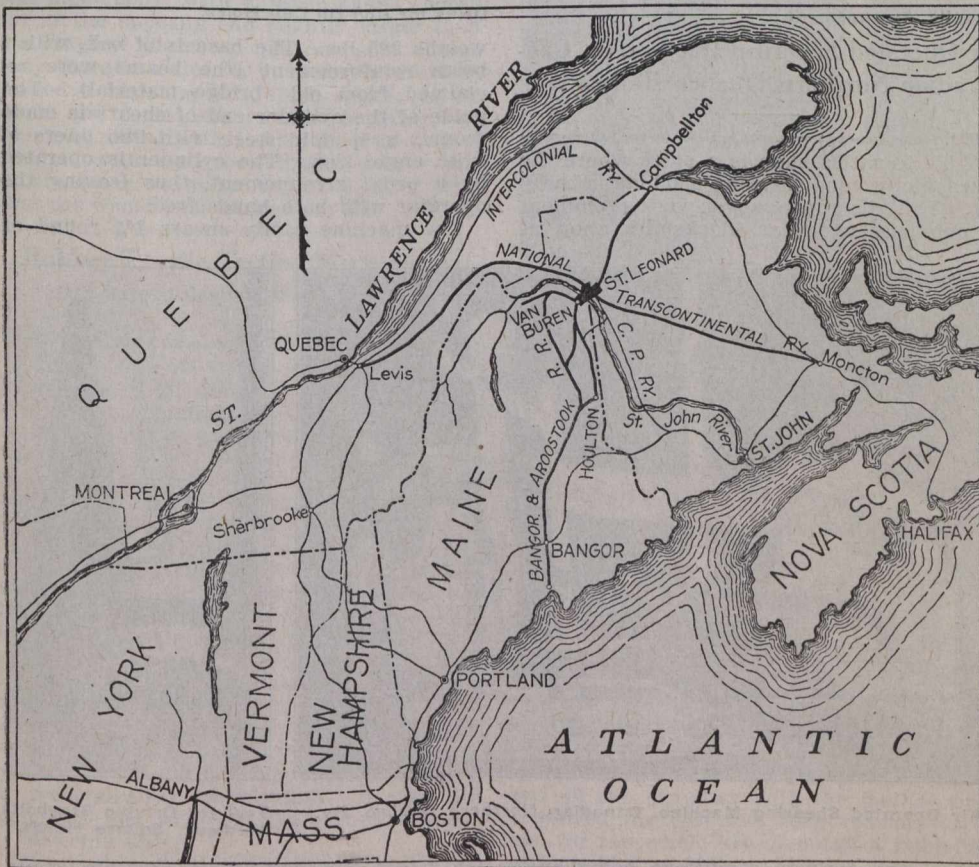
An article on the bridge which has been built recently across the St. John River to connect the Bangor and Aroostook Rd. with the Intercolonial Ry. and the National Transcontinental Ry., and which was published in Canadian Railway and Marine

As stated in our May issue, the connecting line which has been built is 1.36 miles long, of which 1.19 miles is the property of the VanBuren Bridge Co., extending from the United States bank of the St. John River to a connection with and crossing of the

a signal tower at the N. T. R.

The river, which measures from bank to bank 970 ft., is crossed by a bridge consisting of 5 single track steel riveted lattice through spans of 160 ft. each (skew 77°), supported on two concrete abutments and four concrete piers, with approach embankments thoroughly protected by riprap.

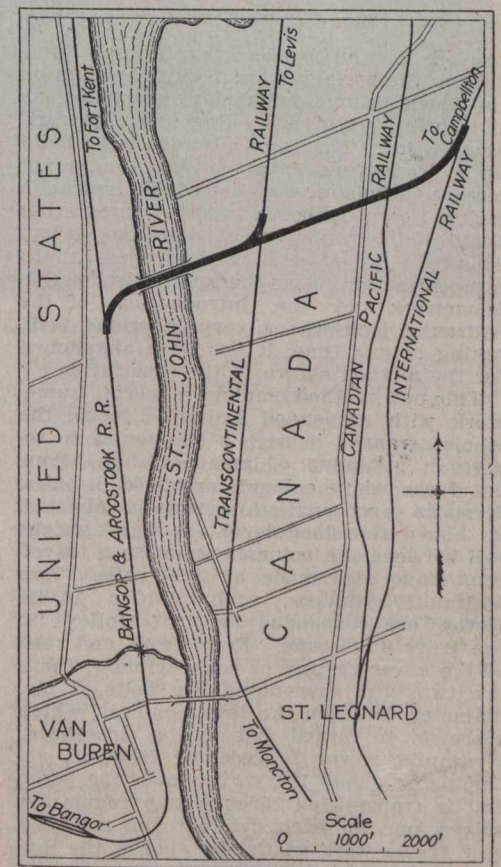
The railway shown on the larger of the two accompanying plans as extending from St. Leonard to Campbellton, N. B., was built



The connection between New Brunswick and Northern Maine by the VanBuren Bridge.

World for May was received such a short time before publication date that it was impossible to have illustrations made to accompany it. We therefore give herewith plans showing the location of the bridge and the connecting railways.

National Transcontinental Ry., thence to a crossing of a C. P. R. branch line, and thence to a junction with the International Branch of the Intercolonial Ry., the two grade railway crossings being protected by electric power interlocking signals controlled from



Line between St. Leonard and VanBuren, showing Connections and Crossings.

as the International Ry. of New Brunswick, by Thos. Malcolm, of Campbellton. It was acquired last year by the Canadian Government Railways, and is being operated as an Intercolonial branch line.

Railway Mechanical Methods and Devices.

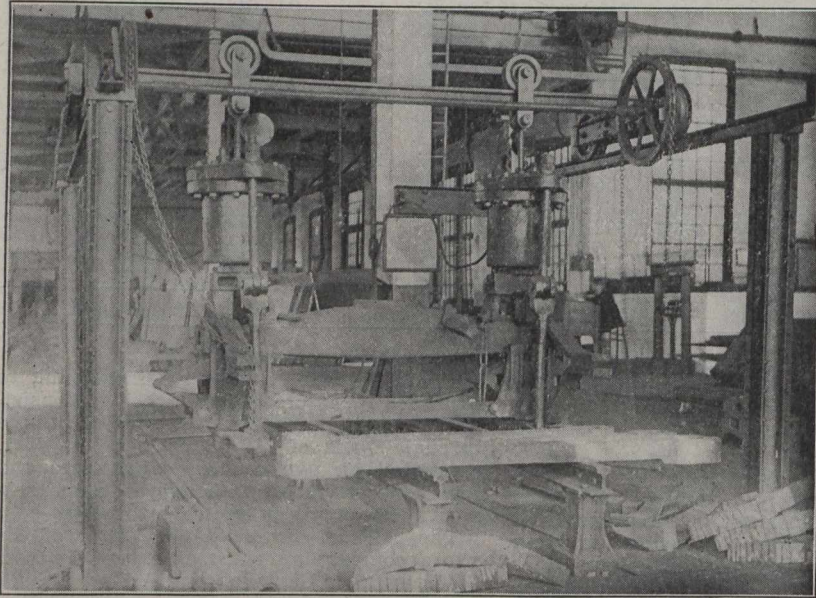
Assembling Tender Trucks at Stratford Shops, Grand Trunk Railway.

A most valuable method of assembling tender trucks is in use in the G. T. R. shops at Stratford, Ont., and is shown in the accompanying illustration. In placing the truck spring between the spring plank and

the blocking, compressing the leaf springs below the bolster, allowing the introduction of the bolts, which are then secured in place by nuts.

This arrangement has proved very rapid in operation, and requires but a very short time for the whole operation, as compared to the slow process in the former method, outlined earlier in this article.

ing excellent satisfaction. The parts are few, and were reclaimed from the scrap pile, i. e., one four wheel truck equalizer, one 14 in. brake cylinder and an auxiliary reservoir, in fact it would not be necessary to use the reservoir were it not for the machine being a long distance from the main storage tank. The part we had to have manufactured was the knife block, which



Assembling Tender Trucks under Special Hydraulic Arrangement.

truck bolster, it is necessary to apply pressure to the spring in order that the nuts on the truck column bolts may be applied, as the spring after assembling is compressed about 3 ins. The usual practice is to build up a framework encompassing the spring plank and bolster, with a portable hydraulic jack between the bolster and the upper cross beam of the frame to compress the spring. This was the process used in these shops up to recently, but as the application of this framework and the introduction of the hydraulic jack was a very laborious task, taking a long time, it has been abandoned for the method shown in the illustration.

This new method employs a special framework with suspended hydraulic jacks, the whole arranged in such a manner as to require a minimum of manual labor. Four cut down bridge columns arranged in pairs, form an overhead crane runway about 8 ft. above the floor level. A light weight rail between the columns supports a travelling crane also made of light rails. Two hydraulic cylinders, each with a 10 in. piston, are suspended by light trolleys to the travelling crane. From front and rear of the cover casting of each cylinder, there are two part suspending eye bolts, 2 ins. diameter, between the lower ends of which there is a forged bar for a crosshead. Hydraulic power is received from an accumulator about 100 yards down the shop, and is transmitted through two regulating valves, one for each cylinder and mounted on a frame work on the far side of the machine, through an armoured hose to the cylinders.

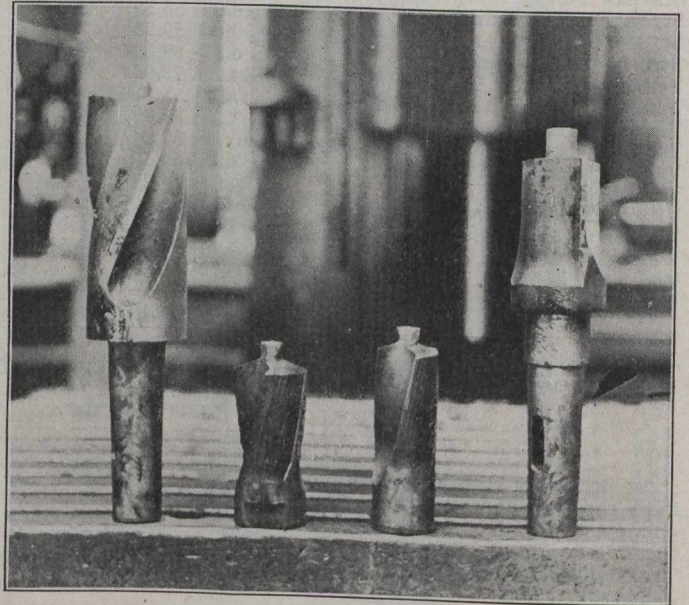
The truck parts are mounted on a two rail stand beneath the cylinders. The spring plank rests on the lower crosshead when the latter is swung up into place. The hydraulic cylinder rams are blocked up over the bolster, so that when power is let into the cylinders, the plungers force down on

Air Operated Shearing Machine on Canadian Northern Quebec Railway.

By H. J. White, General Foreman, Car Department, Joliette, Que

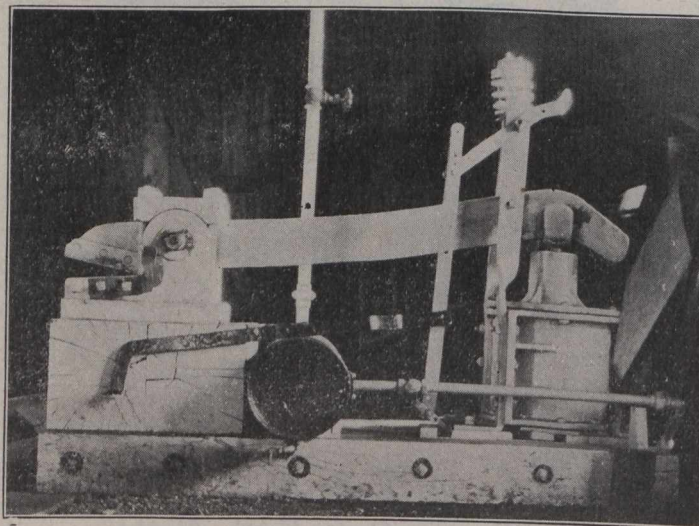
A blacksmith's shop is a place where the absence of a good shearing machine is badly felt. This discrepancy was very prominent in our passenger car blacksmith shop at

Drills for Rod Oil Cup Holes.



weighs 285 lbs. The base is of oak, with I beam reinforcement (the beams were reclaimed from old bridge material). The guide at the cylinder end of shears is made from 3 x 3/4 mild steel, with two liners of 3 in. angle iron. The cylinder is operated by a pedal arrangement, thus leaving the operator with both hands free.

The machine easily shears 1 1/4 round or

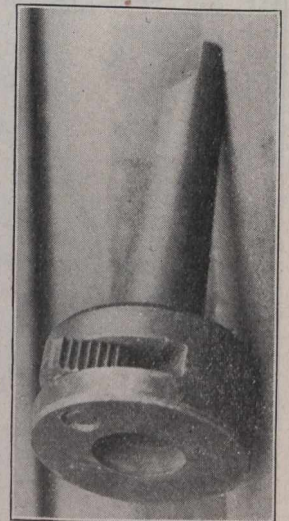


Air Operated Shearing Machine, Canadian Northern Quebec. Ry.

Quebec, and railway conditions being anything but prosperous, I did not care to approach the management with a request to purchase such a machine. On going into the matter with the Passenger Shop Foreman, J. S. Jackson, we decided to construct one ourselves and the accompanying illustration shows the result of our labor.

These shears are working daily and giv-

1 x 2 inch bar with 85 lbs. pressure of air. We find it excellent when reclaiming bolts. The laborer collecting used bolts in the shop culls all bolts at the machine and passes them on direct to the threading machine. A good point of the machine is that it is fool proof. If the operator puts in a piece of material for shearing which is beyond the capacity of the machine, it simply refuses to



Tool for Driving Staybolts Without Square Heads.

cut, whereas with a belt driven machine, such a case would result in broken gear, etc., and the machine would consequently be out of service for several days.

The cost of construction was \$40. Scrap material which is now reclaimed, made possible by the use of this machine, amounts to about \$25 a month, and as a labor saving device it is worth \$45 a month to the car department alone.

Drills for Rod Oil Cup Holes, at Stratford Shops, Grand Trunk Railway.

A type of fluted reamer drill of the form shown in the accompanying illustration is used in drilling out the oil cup holes in the G. T. R. shops at Stratford, Ont. The holes are first drilled the size of the opening from the oil pocket into the bearing, and with this as a guide for the tip of the reamer drill, the latter is sunk into the work.

The drills are made of high speed steel, and are fitted on soft steel shanks, as the two outer drills show, the centre two showing the high speed steel section. The cutting end is given a guiding tip, and the body is fluted with either straight or spiral fluting.

Staybolt Driver at Pere Marquette Railroad Shops.

The accompanying illustration shows a staybolt driving tool as used in the Pere Marquette Rd. Shops, St. Thomas, Ont., which has the advantage of not requiring the staybolts to be squared in the head, as usually practised. The tool consists of a soft steel body, with a taper shank, bored out at the opposite end slightly larger than the staybolt diameter. In one side of the body there is a slot, $\frac{3}{8}$ in. wide, in which is pinned a high speed steel block, $\frac{3}{8}$ in. thick and 1 in. square, the periphery of which is milled with teeth. The turning of the tool with a staybolt inside, causes this square block to make a partial turn, gripping the round head of the staybolt.

Rubber Tensile Testing Machine on Intercolonial Railway.

By G. E. Davidson, Assistant Test Engineer, Moncton, N. B.

The quality of water and air hose depends largely on the quality of the rubber used in its manufacture and those whose business it is to purchase such hose generally judge of its value by cutting a small piece from the rubber lining to feel its elasticity by stretching it. The better the rubber the better the hose. Good rubber stretches like a rubber paper band while the rubber used in inferior hose has so little elasticity that it can scarcely be noticed. The M. C. B. specification for air brake hose embraces this fact and it calls for a definite amount of elasticity and strength.

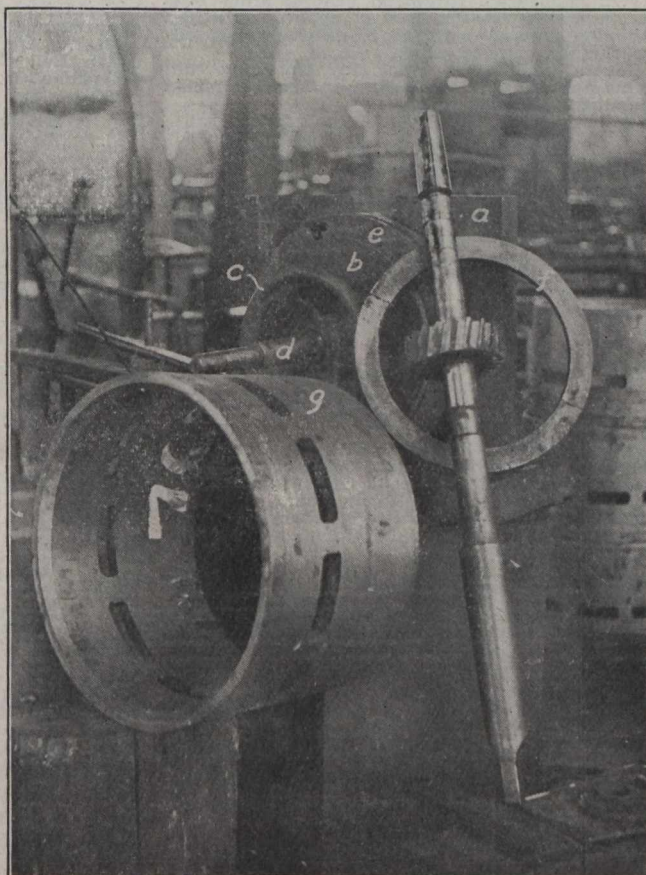
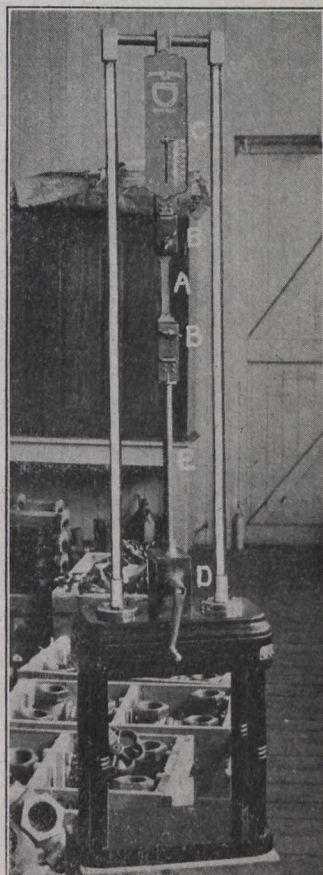
The accompanying illustration shows a machine for testing the elasticity and strength of rubber used in the formation of air brake, air signal and steam hose, in accordance with the requirements of M. C. B. A. recommended specification. It was designed by the writer at the test laboratory at Moncton shops.

The frame, of $\frac{3}{8}$ in. bar brass, is 35 ins. high, fitted with brass sockets with base of walnut. At A is shown the piece of rubber to be tested. These sections are cut out of the inner and outer tubes of the hose, and shaped by a specially designed die. They are first made in strips 1 in. wide, and 5 ins. long, and then cut down to $\frac{1}{2}$ in. wide for a distance of $2\frac{1}{2}$ ins. at centre. The test

pieces are held at each end by wooden grips, B.

The elasticity of the rubber is determined by the distance (marks placed 2 inches apart), it will stretch before breaking. The required elongation for test pieces taken from air and signal hose is 10 inches, but for steam hose, other qualities than elasticity are essential to withstand the severe effect of the steam on the rubber, and a stretch of 6 ins. is considered good for steam hose. The strength of the test piece is indicated on the spring C (capacity 50 lbs.) and should show a strength of from 800 to

outer face of the cone b, there is a four part ring, e, held together by a spring in an annular groove around the outer face. Several sizes of these rings are employed, to accommodate varying inside diameters of bushings; one of the rings is shown at f. The bushing to be slotted g, is slipped over the ring, and held in place by a clamp on the outer end of the pin d. The cone b is indexed with holes corresponding to the number of slots to be milled, the index pin being in the back face of the face plate. With this indexing as a guide, the first hole is set up, the bushing centred, and the mil-



Rubber Tensile Testing Machine.

Jig and Tools for Milling Piston Valve Bushing Slots.

1,200 lbs. a square inch. Bevelled gear in box, D, with crank regulates the travel of the spindle, E, the maximum travel being 12 inches.—Can. Gov. Ry.'s Employes' Magazine.

Milling Slots in Piston Valve Bushings, at Michigan Central Railroad Shops.

The customary practice in machining the steam passage slots in piston valve bushings, appears to be the use of the end mill, with the bushing mounted on a table in front of the mill. This was the practice in the Michigan Central Rd. Shops at St. Thomas, Ont., until recently. The bushings used on the company's locomotives have either 7 or 9 slots. Milling these out with the end mill in the usual manner, the cost was 40 cts. per slot; with the method now employed the cost has been reduced to 40 cts. for the whole set of holes, a reduction of from 80% to 90%.

The jig and tools employed in this new method are shown in the accompanying illustration. The jig consists of a special face plate a, pivoted on the front of which is a tapered cone b, the larger end of which is away from the face plate, towards which it may be forced by the hand wheel c, on the inner end of the pivotal pin d. Around the

ling arbor h, sunk into the slot the required depth. The operation is performed on a horizontal miller.

Railway Construction Balances in Alberta.—The proceeds of the securities of the various railways building lines under a provincial guarantee of bonds are held in the banks at Edmonton and paid out by the Provincial Treasurer, on receipt of authenticated construction certificates. The Premier informed the Legislature recently that the following balances were on hand to meet certificates as they were presented: Alberta and Great Waterways Ry., \$5,309,874.25; Canadian Northern Ry., \$1,148,959.85; Canadian Northern Western Ry., \$2,759,652.39; Grand Trunk Pacific Branch Lines, \$1.00; Edmonton, Dunvegan and British Columbia Ry., \$1,639,081.39; Lacombe and Blindman Valley Ry., \$140,186.91; Total, \$10,997,755.79. There had been paid to the several railways as interest on the proceeds of the bonds held awaiting expenditure: Alberta and Great Waterways Ry. \$1,302,276.47; Canadian Northern Ry., \$223,992.95; Canadian Northern Western Ry., \$88,149.29; Grand Trunk Pacific Branch Lines, \$107,676.34; Edmonton, Dunvegan and British Columbia Ry., \$270,405.15; Lacombe and Blindman Valley Ry., \$2,619.10; Total, \$1,995,119.30.

Orders by Board of Railway Commissioners for Canada.

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

The dates given of orders, immediately following the numbers, are those on which the orders were drawn.

General order 140. Apr. 13.—Amending general order 102, Feb. 17, 1913, re handrails and steps for locomotive headlights. This order is given in full on another page.

General order 141. Apr. 15.—Dismissing C.P.R. application to amend general order 107, except with respect to part of application dealing with clause (e) of Sec. 8, which is reserved for further consideration.

General order 142. Apr. 17. Amending the terms and conditions endorsed on Express Merchandise Receipts.

General order 143. Apr. 29.—Ordering railway companies to make refunds on unused tickets within specified times. This order is given on another page.

23545. Apr. 13.—Authorizing C.P.R. to remove regular agent at St. Constant Station, Que.

23546. Apr. 16.—Relieving C.P.R. from speed limitation of 25 miles an hour on its Weyburn-Stirling Branch, mileage 0 to 49.2 east of Stirling, Alta.

23547. Apr. 14.—Approving clearances between G.T.R. and poles carrying G.N.W. Telegraph Co. and railway wires between Guy St. and St. Henri Station, Montreal, Que.

23548. Apr. 16.—Dismissing complaint G. E. Earl and others of Winchester, Ont., against proposed withdrawal by Bell Telephone Co. of its service there.

23549. Apr. 13.—Ordering C.P.R. and Canadian Northern Ry. to flag all switching movements over Victoria St., Tweed, Ont.; speed over crossing limited to 10 miles an hour.

23550. Apr. 14.—Approving Salisbury and Albert Ry. Standard Freight Tariff, C.R.C., 3, effective Apr. 1.

23551, 23552. Apr. 19.—Approving Western Dominion Ry. location from main line, as located, in Sec. 26-6-30, w. 4 m., to south fork of Old Man River, near McDonald coal mines in Kootenay Pass, Alta., 30.78 miles, and from Pincher Creek station to International boundary in Sec. 2-1-23, w. 4 m., mileage 1 to 66.36, Alta.

23553. Apr. 16.—Approving agreement between Bell Telephone Co. and North Easthope Tp., Ont., March 27.

23554. Apr. 15.—Authorizing Kettle Valley Ry. to connect with Vancouver, Victoria and Eastern Ry. at Princeton, B.C.

23555. Apr. 17.—Authorizing G.T.R. to build extension of siding for Beaver Board Co., on Lot 48, Con. 1, Thorold Tp., Ont.

23556. Apr. 19.—Authorizing C.P.R. to use bridge 65.4, Havelock Subdivision, near Addington station, Ont.

23557. Apr. 15.—Authorizing C.P.R. to divert original road allowance along north boundary of Sec. 12-8-17, w. 2 m., at mileage 15.08, Weyburn-Stirling Branch.

23558. Apr. 19.—Extending to May 31 time within which C.P.R. was required to complete certain branch lines in York Tp., Ont., for Canadian Kodak Co.

23559 to 23561. Apr. 19.—Authorizing C.P.R. to use bridges 67.8, Havelock Subdivision; 5.7, Toronto Subdivision, and 75.6, Havelock Subdivision, Ont.

23562. Apr. 19.—Approving C.P.R. clearances of entrances to locomotive repair shop at Schreiber, Ont.

23563. Apr. 19.—Amending order 23454, March 25, re highway over C.P.R. in Burwash Tp., Ont.

23564. Apr. 19.—Approving C.P.R. clearances at door openings into car repair shops at Schreiber, Ont.

23565 to 23568. Apr. 19.—Authorizing C.P.R. to operate bridges 24.1, Toronto Subdivision; 50.9, Havelock Subdivision; 10.7 and 5.75, Toronto Subdivision, Ont.

23569. Apr. 16.—Approving C.P.R. clearances on siding of Masson Milling and Trading Co., at mileage 100.10, Ottawa Subdivision, Ont.

23570. Apr. 16.—Approving proposed Supplement 7 to Express Classification for Canada, 3.

23571. Apr. 19.—Approving agreement between Bell Telephone Co. and Sutton and North Gwillimbury Telephone Co., Apr. 1.

23572. Apr. 21.—Ordering C.P.R. forthwith to reduce its rate on alfalfa meal, in carloads, from Enderby to Duncan, B.C., to 30c. per 100 lbs.

23573. Apr. 21.—Approving change in location of G.T.R. siding for Breithaupt Leather Co., Berlin, Ont.

23574. Apr. 21.—Authorizing Drury, Denison and Graham united municipalities, Ont., to build highway crossing over Algoma Eastern

Ry. between Lots 6 and 7, Con. 2, Drury Tp., Ont.

23575. Apr. 20.—Ordering G.T. Pacific Ry. to build highway crossing over its tracks opposite Ryley Ave., Vanderhoof, B.C.

23576 to 23578, Apr. 20.—Relieving C.P.R. from providing further protection at highway crossings near Drummondville Jct., Que; Thorah Tp., Ont., and Leonard station, Ont.

23579. Apr. 20.—Approving C.P.R. siding and two branches for Alberta Portland Cement Co., Sandstone, Alta.

23580. Apr. 21.—Authorizing G.T.R. to move south gate at crossing of Niagara St., St. Catharines, Ont.; Niagara, St. Catharines and Toronto Ry. to pay cost of moving and altering gates, and thereafter to pay G.T.R. half maintenance and half wages of watchman.

23581. Apr. 20.—Approving agreement between Bell Telephone Co. and Ivy Thornton Telephone Co., July 17, 1912.

23582. Apr. 21.—Authorizing Canadian Northern Ry. and C.P.R. to operate over crossing in Sec. 31-29-9, w. 3 m., Sask., without first stopping.

23583. Apr. 21.—Relieving C.P.R. from speed limitation on trains on its Swift Current to Brooks Branch, mileage 0 to 33, Sask.

23584. Apr. 21.—Approving agreement between Bell Telephone Co. and Aberdeen-Plummer Centre Line Telephone Association, Mar. 9.

23585, 23586. Apr. 22.—Relieving C.P.R. from speed limitation of 30 miles an hour, mileage 0 to 28.2, and of 15 miles an hour, mileage 28.2 to 84.2, on its Kipp-Aldersyde Branch, Alta.

23587. Apr. 21.—Approving location of C.P.R. station shelter at Lot 31, Con. 1, Darlington Tp., Ont.

23588. Apr. 21.—Authorizing G.T.R. to build siding at Bridgeburg, Ont., for Tuttle & Bailey Mfg. Co.

23589. Apr. 22.—Ordering Canadian Northern Ry. to rebuild fence on each side of track between mileage 40 and 41, Rapid City Subdivision, Man., work to be completed by May 31.

23590. Apr. 22.—Ordering Canadian Northern Ry. to put 12 in. corrugated iron pipe under embankment at mileage 40.7, on C. A. Biecum's property, Cardlaw, Man.

23591. Apr. 22.—Amending order 23550, Apr. 14, re Salisbury and Albert Ry. Tariffs, by substituting Albert for Harvey when it occurs in the name of the railway.

23592. Apr. 26.—Approving revised location of C.P.R. Swift Current Northwesterly Branch from mileage 111.95 to 122.58, Alta., and rescinding order 22825, Nov. 5, 1914.

23593. Apr. 26.—Extending to June 1 time within which C.P.R. shall install gates at crossing of Park Ave., Montreal.

23594. Apr. 24.—Approving C.P.R. clearances at Thomas Organ Co.'s siding, mileage 87.64, London Subdivision, Ont.

23595. Apr. 24.—Authorizing C.P.R. to build tunnel at mileage 40.4, Boundary Subdivision, B.C.

23596. Apr. 22.—Amending order 22691, Oct. 9, 1914, re C.P.R. grade separation at North Toronto, Ont., to provide that approach to subway at Yonge St., on southerly side, shall have grade of 5%, instead of 2½% as shown on plan referred to in par. 1 of order.

23597. Apr. 27.—Relieving C.P.R. from speed limitation of 15 miles an hour on its Lacombe Easterly Branch, between Castor and Coronation, Alta.

23598. Apr. 22.—Authorizing Esquimalt and Nanaimo Ry. to build highway crossing between Secs. 4 and 11, Bright District, B.C.; cost to be paid by B.C. Public Works Department, E. & N. Ry. to close Brenton's Crossing at that point.

23599. Apr. 22.—Ordering C.P.R. to stop trains 21 on flag at Kempton, Ont., and 22 when desired by passengers for Kempton.

23600. Apr. 27.—Authorizing C.P.R. to use bridge 53.2 near Arnprior, Ont.

23601. Apr. 27.—Approving plan and specifications of drainage works to be built under G.T. Pacific Branch Lines Co. and Canadian Northern Ry. near Canora station, Sask.

23602. Apr. 24.—Authorizing G.T.R. to build siding for Sarnia Metal Products Co., Sarnia, Ont.

23603. Apr. 27.—Approving C.N. Quebec Ry. revised location at Shawinigan River, mileage 86.69 from Quebec.

23604. Apr. 27.—Authorizing Town of Montreal East, Que., to build Marien Ave. across C.N. Quebec Ry.

23605, 23606. Apr. 28.—Relieving C.P.R. from speed limitation of 15 miles an hour on extension of its Lacombe Branch from Stettler to Castor, mileage 49.6 to 85; and of 20 miles an hour on its Coronation Subdivision, Kerrobert to Monitor, mileage 0 to 74.6, Alta.

23607. Apr. 27.—Authorizing Lake Erie and Northern Ry. to build across Graham Ave., Brantford Tp., Ont.

23608. Apr. 29.—Authorizing Van Buren Bridge Co. to open for traffic its line from con-

nection with Intercolonial Ry. International Branch, near St. Leonard, N.B., to International boundary, about 1.42 miles.

23609. Apr. 29.—Authorizing Canadian Northern Ry. to build across road between Secs. 28-29, Tp. 19, R. 22, w. 2 m., Sask.

23610. Apr. 28.—Authorizing Algoma Central and Hudson Bay Ry. to remove regular agent at Frater station, Ont.

23611. Apr. 28.—Approving Toronto, Hamilton and Buffalo Ry. plans showing automatic block signals to be installed between Hamilton and Brantford, Ont.

23612. Apr. 28.—Relieving Central Vermont Ry. from providing further protection at crossing of public highway, ¼ mile north of Stanbridge East station, Que.

23613 to 23617, Apr. 27, 28.—Ordering Bell Telephone Co. to raise its wires at five points on the London and Port Stanley Ry., at expense of the London Railway Commission, London, Ont.

23618 to 23623, Apr. 27, 28.—Ordering Bell Telephone Co. to raise its wires at 6 points on the London and Port Stanley Ry., at expense of the London Railway Commission, London, Ont.

23624. Apr. 29.—Authorizing Van Buren Bridge Co., National Transcontinental Ry. and C.P.R. to operate over crossings in St. Leonard Parish, N.B., without first stopping; and relieving them from maintaining night signalman to operate interlocking plants there.

23625. Apr. 29.—Authorizing C.P.R. to open for traffic its Arborg Subdivision, mileage 46.5 to mileage 47.7, Man.

23626. Apr. 28.—Dismissing G.T.R. application for order amending order 22317, July 24, 1914, to provide that Standard Crushed Stone Co. shall convey necessary right of way to applicant.

23627 to 23630. Apr. 29.—Authorizing Canadian Northern Ry. to build across public roads at 4 points in Saskatchewan.

23631. Apr. 28.—Approving agreement between Bell Telephone Co. and Rose Mutual Telephone Association, June 15, 1914, as transferred to Rose Telephone Co. of Algoma, Ltd.

23632. Apr. 28.—Rescinding order 10019, Mar. 30, 1910, and approving agreement between Bell Telephone Co. and Woodbridge and Vaughan Telephone Co., Apr. 20.

23633. Apr. 30.—Approving C.P.R. plan showing signals controlling crossing switches between Kingston and Havelock Subdivisions at Sharbot Lake, Ont.

23634. Apr. 30.—Authorizing G.T. Pacific Ry. to remove diamond at crossing of Edmonton Interurban Ry. at 27th St., Edmonton, Alta.

23635. Apr. 30.—Approving location of C.N. Alberta Ry. combined station and section house at Villeneuve.

23636. May 1.—Extending to May 17 time for commencing service between Quebec Oriental Ry. eastbound train and the I.R.C. Ocean Limited, as provided in order 23106, service thereafter to be from May 1.

23637. Apr. 27.—Ordering Great North Western Telegraph Co. to raise its wires at crossing of London and Port Stanley Ry., near Elm St., St. Thomas, Ont.

23638. Apr. 28.—Dismissing American Coal and Coke Co.'s application for re-hearing of complaint that Michigan Central Rd. has been holding cars for orders at Windsor, Ont., and has refused to take coal to Detroit, Mich., until such orders were received.

23639. Apr. 30.—Authorizing Berlin and Northern Ry. to operate over G.T.R. on Wellington St., Berlin, Ont., without first stopping; speed limited to 15 miles an hour; and amending order 21778, May 7, 1914.

23640. Apr. 30.—Prohibiting G.T.R. from allowing cars to stand on side track west of main track at crossing of Grey St., Brantford, Ont., closer than 150 ft. from street line.

23641. Apr. 13.—Amending order 23406, Mar. 12, re highway crossing of C.P.R. in Sec. 21-12-28, w. 3 m., Sask.

23642. May 1.—Ordering C.P.R. to build farm crossing, with gates, near Station 2450, about mileage 46.4, for R. G. Shackelford, Keyes, Man.

23643. May 3.—Authorizing C.P.R. to remove regular agent at Pointe au Chene, Que., and caretaker to be appointed.

23644. May 3.—Authorizing G.T. Pacific Ry. to remove regular agent at Uno station, Man., caretaker to be appointed.

23645. May 3.—Authorizing C.P.R. to build spurs for F. Gobeille and Daoust, Lalonde & Co., Montreal.

23646. May 3.—Ordering Canadian Northern Ry. to commence fencing its line between mileage 39 and 55.7, Jackfish Branch, and complete same with all dispatch.

23647. Apr. 30.—Authorizing C.P.R. to operate over bridge across Pitt River, mileage 109.7, Cascade Subdivision, B.C.

23648. May 3.—Authorizing Lake Erie and Northern Ry. to build across Mount Pleasant Road, Brantford Tp., Ont.

23649. May 3.—Relieving G.T. Pacific Branch Lines Co. from erecting fences, gates, and cattle guards on its Regina-Boundary Branch, at mileage 147.57 and 147.59.

23650. May 3.—Authorizing Lake Erie & Northern Ry. to build across Scarfe St, Brantford Tp., Ont.

23651. May 3.—Approving Lake Erie & Northern Ry. revised location between Lorne Bridge and Harold Ave., mileage 21.1 to 21.9, Brantford, Ont.

23652. May 3.—Authorizing C.N. Ontario Ry. to build branch for Dominion Match Co., Deseronto, Ont.

23653. May 4.—Approving Kettle Valley Ry. revised location between mileage 69 and 70.14 west of Penticton, B.C.

23654. May 3.—Extending to June 15, time within which Great Northern Ry. shall install bell at Front St., near intersection of Columbia St., New Westminster, B.C.

23655. May 4.—Authorizing Canadian Northern Ry. to remove station agent at Mikado, Sask., caretaker to be appointed.

23656. May 4.—Ordering Edmonton, Dunvegan & British Columbia Ry. to build farm crossing for W. J. Hunt, Eunice, Alta.; fencing between mileage 60 and Athabasca Crossing, mileage 131, to be commenced at once and completed with all dispatch.

23657. May 4.—Ordering Ottawa & New York Ry. on and after May 30, to schedule its northbound morning train to arrive at Finch at 9.43 and leave at 9.48; and southbound and northbound evening trains at 5.50; and that C.P.R. on and after May 30, schedule its westbound morning local to arrive at Finch at 9.45, its eastbound morning local at 9.47, and its eastbound evening local at 5.50; both railways to hold trains, when necessary, for connection, up to 20 minutes after schedule time to leave Finch; and rescinding order 21751, Apr. 29, 1914.

23658. May 4.—Approving C.N. Ontario Ry. plan 39362 of subway to be built at St. Laurent Road, mileage 47.26 from Hawkesbury, at Cartierville, Que.

23659, 23660. May 5.—Authorizing C.P.R. to operate over bridge at Harrison Mills, B.C., without first stopping, and over bridge 16.6 over Eagle River, Shuswap, B.C.,

23661. May 6.—Authorizing Hydro-Electric Power Commission of Ontario to erect wires across C.P.R., at King St., Chatham, Ont.

23662. May 7.—Rescinding order 23541, Apr. 14, re night signalman at C. N. Quebec Ry. and National Transcontinental Ry. crossing at Tawachiche, Que.

23663. May 4.—Ordering Great Northern Ry. to provide daily (except Sunday) mixed train service on its Oroville-Princeton Subdivision, in each direction, commencing July 1, to remain in effect during fruit and vegetable shipping season.

23664. May 5.—Authorizing C.P.R. to build McMillat St., across its line at Elfros, Sask.

23665. May 8.—Rescinding order 21522, Mar. 19, re stopping C.P.R. train 22 at St. Clet, Que.

23666. May 5.—Amending order 21959, June 9, 1914, to provide that Goyette, Lemoyne, Que., pay \$93 of cost of crossing 400 ft. east of west switch of passing siding, C.P.R. to pay \$50, being difference between cost of 36 in. and 18 in. pipe culvert.

23667. May 8.—Ordering that 20% (not exceeding \$5,000) of cost of building subway across Westminster Road (13th St.) Lethbridge, Alta., be paid out of railway grade crossing fund; balance apportioned between railway and city proportionately.

23668. May 10.—Authorizing Lake Erie and Northern Ry. to operate for construction purposes only, over crossing of G.T.R. at Simcoe, Ont.; watchman at crossing to be appointed and paid by L. E. & N. R.

23669. May 11.—Authorizing C.P.R. to use bridge 67.9 on its Georgian Bay and Seaboard Subdivision, Ont.

23670. May 10.—Authorizing C.P.R. to build bridge 107.2 over Shaw's Creek, near Severn Falls, Ont., and rescinding order 23463, Mar. 29.

23671. May 8.—Rescinding order 23599, Apr. 22, and ordering C.P.R. to stop its westbound through passenger train, leaving Montreal at 10 p.m. daily, at Kempton, for passengers for Toronto, or points west thereof; and to stop its eastbound Montreal express leaving North Toronto at 10 p.m. daily, at Kempton, for passengers from Toronto, or points west thereof.

23672. May 11.—Authorizing C.P.R. to use bridge at Cornelia St., Smith's Falls, Ont.

23673. May 11.—Approving plan and specifications of Saskatchewan Board of Highway Commissioners, showing drainage works to be built under Canadian Northern Ry. in n. w. ¼ Sec. 35-30-4, w. 2. m.; work to be done under supervision of C.N.R. engineer, and any dispute to be settled by the Board's engineer.

23674. May 10.—Authorizing, until Sept. 30, Canadian Northern Ry. to carry traffic over its Oakland Branch, Man., from mileage 42 to end of track, 12 miles; speed of trains limited to 12 miles an hour.

23675. May 10.—Approving Edmonton, Dunvegan & British Columbia Ry. revised location, mileage 305.60 to 331.77, Alberta.

23676. May 10.—Relieving Michigan Central Rd. from providing further protection at crossing of Ontario Road, Welland, Ont.

23677. May 8.—Extending, for three months from date, time within which G.T.R. shall build siding connecting with Michigan Central Rd. branch in Crowland Tp., Ont.

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—The following notice was issued towards the end of April: "The directors regret that the net earnings for the half year ended Dec. 31, 1914, are insufficient to enable them to declare any dividend to be payable on the 5% income charge convertible debenture stock on May 2, and they think it proper to point out to the holders of that stock that the earnings of the railway for the first nine months of the current financial year have been so reduced by conditions arising from the war that it is unlikely that any interest on the stock will be payable in Nov. next. The directors hope that a large crop will so improve business conditions throughout the Dominion that the payment of interest may be resumed in 1916. It has been represented to the directors that an effect of the war has been to postpone the rapid development of business on the railway and consequently to postpone the value of the option to holders of the 5% income charge convertible debenture stock to convert their holdings into ordinary shares, which option expires on Jan. 1, 1919. The directors have therefore resolved to extend the period of the option for three years, and on each 1st of January and 1st of July until Jan. 1, 1922, the holders of the stock will have the option on 60 days previous notice of converting their stock into fully paid shares of the company at the fixed rate of \$100, or £20 11s. 5d., of this stock for each \$100 of shares."

Grand Trunk Ry.—The certificate of the chairman of a general meeting of shareholders held in London, Eng., April 15, states that a resolution had been passed assenting to the provisions of the G. T. Act of 1915. The act authorizes the G. T. R. to assist financially, either by the purchase of shares or otherwise, any subsidiary company. The reason for obtaining this act, it was stated to the Dominion Parliament, was that G. T. R. securities are more readily marketable than those of the subsidiary companies.

Lake Erie and Detroit River Ry.—The annual meeting was held at Detroit, Mich., May 4. The board for the current year is as follows: P. H. King, President; A. Leslie, Vice President; F. H. Alfred, H. L. McDowell and J. A. McDougall.

Maritime Coal, Ry. and Power Co.—The report for the year ended Feb. 28, shows gross profits of \$122,473, an increase of \$5,512, and net profits of \$111,211, an increase of \$20,076. With the balance of \$90,757 brought forward from the previous year there was a total of \$201,968 available for distribution, \$35,000 was transferred to general reserve and \$3,000 to depreciation and renewal reserve; bond interest amounted to \$93,601; \$3,842 was transferred to sinking fund reserve, \$7,869 written off securities and \$5,000 off coal stocks to provide for possible depreciation in value; leaving a balance of \$53,654 to be carried forward. The balance sheet shows total assets of \$3,825,365, of which \$3,416,950 represents property, plant, etc. Investments amount to \$56,500, cash \$26,828, accounts receivable \$132,074, and other liquid assets, including inventory, \$197,576. Current liabilities are \$56,440. With the additions for the year reserve funds total \$103,761. Following are the officers and directors: President, W. Hanson; Vice President, A. E. Dymont; Hon. N. Curry, G. R. Hulme, A. MacLaurin, Wm. L. Madgen, Hon. W. Mitchell, W. H. Tottie.

New York Central Lines.—It has been reported in New York by J. P. Morgan and Co., bankers, that substantially all of the \$100,000,000 of 20-year 6% convertible bonds recently offered to the company's shareholders have been subscribed for. The proceeds of the bonds will be used to fund

an equal amount of the company's present unfunded debt, and in the acquisition of property.

The Pere Marquette Rd. is to be sold on or before Oct. 1, under an order of the U.S. District Court, at Detroit, Mich.

Toronto, Hamilton & Buffalo Ry.—The Michigan Central Rd. report for the past fiscal year says: "This company advanced to the Toronto, Hamilton & Buffalo Ry. Co. during the year, on its promissory notes, bearing interest at 6% per annum, \$100,000,000, as its one-sixth proportion of the estimated cost of construction of The Erie & Ontario Ry., a new railway incorporated May 27, 1914, and extending from a connection with the T., H. & B. Ry. at Smithville to Port Maitland, Ont., on Lake Erie, about 18 miles. Agreement for amalgamation of this road with the T., H. & B. R. was approved by the Governor in Council Dec. 15, 1914 and was made effective on filing at Ottawa, Jan. 30, 1915. The road was completed and placed in operation Dec. 22, 1914, between Smithville and Dunnville, on the Grand River, 14.9 miles. It is expected, owing to the great natural facilities afforded at Dunnville and along the Grand River to Port Maitland, that the road will attract many industries to the territory which it serves."

Inverness Railway and Coal Company to Default on Bond Interest.

A meeting of 5 per cent first mortgage bond holders will be held in Toronto, June 30, to consider resolutions to the following effect: That the payment of interest on bonds and payments of sinking fund be postponed until such time after the termination of the war as may be determined at the meeting; that the company may create prior lien securities; that defaults under the trust deed and bonds be waived and that the company retain possession of and operate the property as if no default had occurred.

The Inverness Ry. & Coal Co.'s railway extends from Point Tupper to Inverness, N.S., 61 miles, with a total track of 65.5 miles, laid with 56 lb. rails. It was chartered as the Inverness & Richmond Ry. Co., in 1887, the road being opened for traffic, June 15, 1901. In 1902 it was reorganized under the present corporate title and absorbed the Inverness-Richmond Collieries & Ry. Co. of Canada, Ltd. In addition to operating the railway it also operates a colliery at Inverness the output of which for the year ended June 30, 1913, the latest figures available, was 278,197 tons.

The company's general officers are: Sir Wm. Mackenzie, President; Sir Donald Mann, Vice President; L. W. Mitchell, Secretary and Treasurer, Toronto; J. McGilivray, General Manager, Inverness, N.S.

The funded debt consists of first mortgage 5 per cent. 20 year \$500 gold coupon bonds, due May 1, 1922, interest payable May 1 and No. 1. The total issue is \$3,000,000, of which at June 30, 1913, \$869,000 was held in the treasury as security for outstanding loans.

The International Railway Fuel Association's seventh annual convention was held at Chicago, Ill., May 17 to 20, when papers were read and discussed, treating with powdered coal, its preparation and use in locomotive and stationary boilers; fuel conditions in South America; analysis and dependent sequence as a guide to fuel economies; smoke prevention; standardization of coal preparation; fuel stations; relation of mechanical stokers to the fuel problem; fuel oil for locomotive use; waste of fuel in railway stationary plants, and storage coal.

The Dominion Government Operates the National Transcontinental Railway.

The Canadian Government Railways having taken over, on May 1, the operation of the National Transcontinental Ry. from Moncton, N.B., to Winnipeg, and the Grand Trunk Pacific Ry.'s Lake Superior Branch from Fort William to Superior Jct., Ont., the jurisdiction of the heads of departments of the C.G.R. at Moncton, has been extended over these lines.

F. P. BRADY, heretofore General Superintendent, Canadian Government Rys., Moncton, has been appointed General Superintendent, National Transcontinental Ry. between Quebec and Winnipeg, and the Grand Trunk Pacific Ry.'s Lake Superior Branch between Fort William and Superior Jct. Office, Cochrane, Ont.

J. K. McNEILLIE, heretofore Superintendent, District 3, Eastern Division, C.P.R., who has been appointed to succeed F. P. Brady as General Superintendent at Moncton, N.B., will have jurisdiction over the N.T.R. east of Quebec as well as the I.C.R. and P.E.I.R.

A. J. GORRIE, at one time General Superintendent, Canadian Northern Quebec Ry., and subsequently receiver Quebec & Lake St. John Ry., has been appointed Superintendent, District 1, N.T.R., Quebec to O'Brien, Ont. Office, Quebec, Que.

J. J. McMANUS has been appointed Assistant Superintendent, District 1, Quebec to O'Brien, Ont. Office, Quebec, Que.

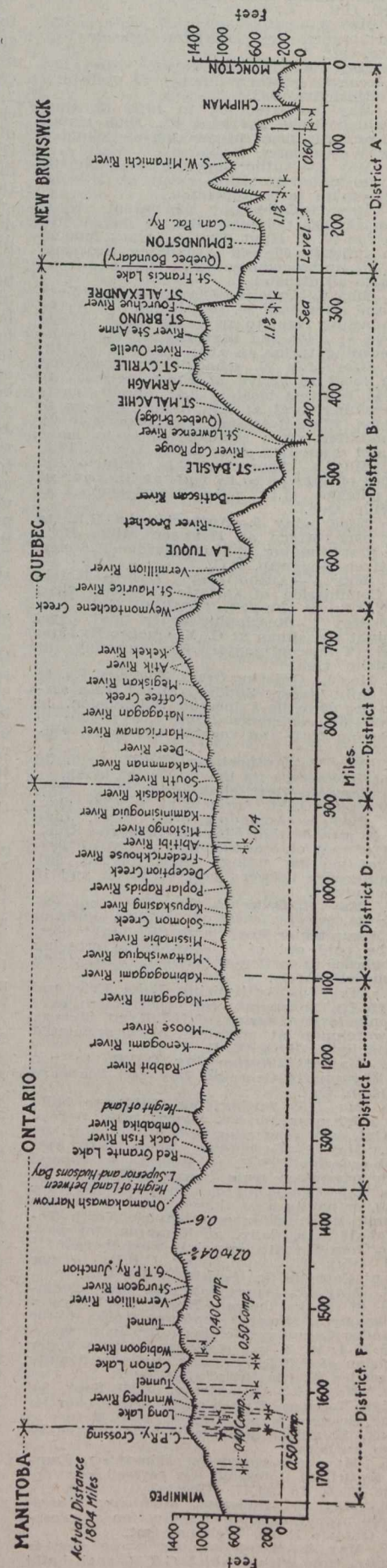
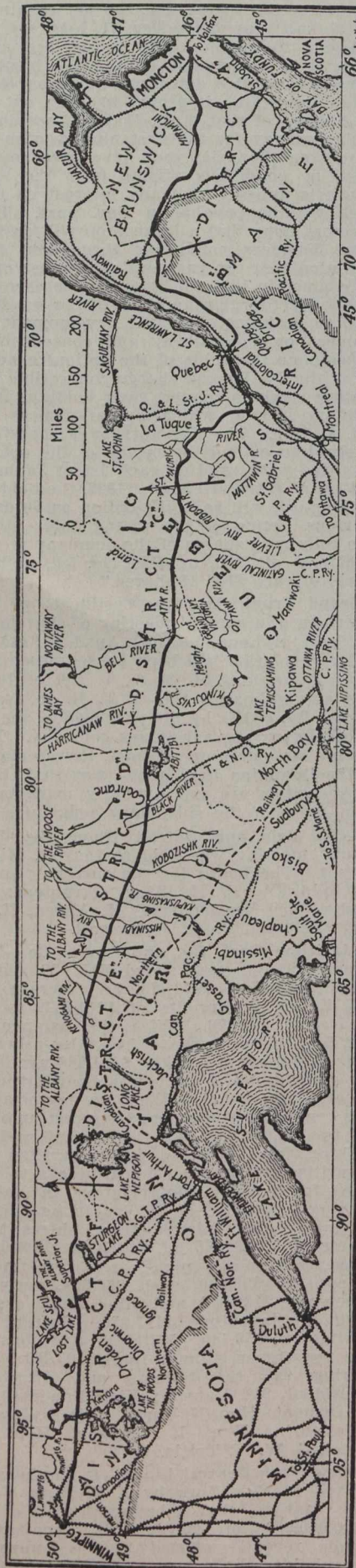
W. B. WAY, heretofore Inspector of Transportation, Eastern Lines, C.P.R., Montreal, has been appointed Superintendent, District 2, N.T.R., O'Brien to Armstrong, Ont., excluding O'Brien. Office, Cochrane, Ont.

H. A. RYAN, heretofore Assistant Superintendent, N.T.R., between Edmundston, N.B., and St. Chrysostome, Que., at Monk, Que., has been appointed Assistant Superintendent, District 2, O'Brien to Armstrong, Ont., excluding O'Brien. Office, Cochrane, Ont.

R. S. RICHARDSON, heretofore Assistant Superintendent, District 3, I.R.C., Moncton, N.B., has been appointed Superintendent, District 3, N.T.R., Armstrong, Ont., to Winnipeg, excluding Armstrong and Superior Jct. to Fort William, Ont. Office, Winnipeg.

Quebec Press Dispatch, May 23.—“The first through train over the N.T.R. from Winnipeg reached here at 9.30 p.m. yesterday, consisting of two cars, carrying officials, including: F. P. Gutelius, General Manager Canadian Government Railways; F. P. Brady, General Superintendent; C. A. Hayes, General Traffic Manager; H. H. Melanson, General Passenger Agent; C. B. Brown, Chief Engineer; W. A. Cowan, Divisional Engineer; Gordon Grant, Chief Engineer N.T.R., and others. The train left Winnipeg May 18, and travelled by day. The officials report the road in excellent condition, and announce the inauguration of the passenger service for June 1.”

An act was passed by the Dominion Parliament in 1903 providing for the building of the National Transcontinental Ry. This act provided that the Dominion would build a line from Moncton, N.B., to Winnipeg, Man., while the Grand Trunk Pacific Ry. Co., incorporated by another act, was to build a line from Winnipeg to the Pacific Coast, the Dominion guaranteeing the company's bonds upon certain conditions. The line was to be laid out with 0.4% gradient against east bound traffic and 0.6% against west bound traffic, and the construction throughout was to be upon the most modern lines. The specifications for the eastern division to be built under the charge of the



Map and Profile, National Transcontinental Railway, Moncton, N.B., to Winnipeg, Man., 1804.5 miles.

Commissioners of the National Transcontinental Ry., were to be subject to the approval of the Grand Trunk Pacific engineers, while the Western Division was to be built by the G.T. Pacific Ry. under the inspection of an engineer appointed by the Dominion Government. The act further provided that when the Eastern Division was completed it was to be operated in conjunction with the Western Division, as one through line by the G.T.P.R., the rental to be paid being 3% a year upon the actual cost of the line. No rental was to be payable during the first seven years of the 50-year period for which the lease was to run.

Track laying on the Eastern Division was finished by the end of 1913, but the line was not sufficiently completed until the autumn of 1914, to enable the Government to enter upon negotiations with the com-

Manager, Canadian Government Railways, announced that effective May 1, the jurisdiction of the heads of departments of the Canadian Government Railways at Moncton, had been extended over National Transcontinental Ry. and the G.T.P.R.'s Lake Superior Branch.

The G.T.P.R.'s Lake Superior Branch from Fort William to Lake Superior Jct., 190 miles, has been operated by that company for some time, together with the 258 mile section of the N.T.R., from Lake Superior Jct. to Winnipeg, as the G.T.P.R. Lake Superior Division. Power to acquire this line by lease or otherwise for five years, together with its terminal facilities and accommodation works, was given at the Dominion Parliament's last session. The lease is to be ratified by Parliament, and the provisions of the Government Railways Act are

The principal points on the main line, Moncton being the starting point, are: McGivins Jct., mileage 56.3; Napadogan, mileage 117.4 (d); Edmondston, mileage 250.5 (d); New Brunswick boundary mileage, 256.3; Monk, Que., mileage 354.4 (d); Quebec Bridge, mileage 360.2; Quebec, general shops and terminals; Hervey Jct., mileage 532.9; Fitzpatrick, mileage 566.6 (d); Parent, mileage 705.5 (d); Doucet, mileage 808.5 (d); O'Brien, mileage 905.3 (d); Quebec, Ontario boundary, mileage 956.2; Cochrane, mileage 1027.9 (d); Hearst, mileage 1156.9 (d); Grant, mileage 1282.4 (d); Armstrong, mileage 1413.5 (d); Superior Jct., mileage 1546.1; Graham, mileage 1552.5 (d); Redditt, mileage 1675.7 (d); Ontario, Manitoba boundary, mileage 1712.00; Transcona, Man., terminal yards and general shops, mileage 1779.2; Water St., Winnipeg, mile-

		NATIONAL TRANSCONTINENTAL RAILWAY EASTERN DIVISION																										
		MILEAGE BETWEEN PRINCIPAL POINTS																										
I.C.R.	MONCTON																											
	HALIFAX	185.9																										
	SYDNEY	337.6	276.4																									
	ST. JOHN	89.4	275.2	427.5																								
	MFGIVINEYS JCT	96.3	282.2	433.9	185.7																							
	NAPADOGAN	117.4	303.3	455.0	206.8	21.1																						
	EDMUNDSTON	230.5	416.4	568.1	319.9	134.2	113.1																					
	N.B. BOUNDARY	256.3	442.2	593.9	345.7	160.0	138.9	25.8																				
	MONK	354.4	540.3	692.0	443.8	258.1	237.0	123.9	98.1																			
	QUEBEC BRIDGE N. ABUT	460.2	646.1	797.8	549.6	363.9	342.8	229.7	203.9	105.8																		
BRIDGE	460.6	646.5	798.2	550.0	364.3	343.2	230.1	204.3	106.2	0.4																		
QUEBEC VIA N.T.R.	466.7	652.6	804.3	556.1	370.4	349.3	236.2	210.4	112.3	6.5	6.1																	
HERVEY JCT	532.9	718.8	870.5	622.3	436.6	415.5	302.4	276.6	178.5	72.7	72.3	78.4																
FITZPATRICK	586.6	772.5	924.2	676.0	490.3	469.2	356.1	330.3	232.2	126.4	126.0	132.1	53.7															
PARENT	705.5	891.4	1043.1	794.9	609.2	588.1	475.0	449.2	351.1	245.3	244.9	251.0	172.6	118.9														
DOUCET	808.5	994.4	1146.1	897.9	712.2	691.1	578.0	552.2	454.1	348.3	347.9	354.0	275.6	221.9	103.0													
O'BRIEN	915.3	1101.2	1252.9	1004.7	819.0	797.9	684.8	659.0	560.9	455.1	454.7	460.8	382.4	328.7	209.8	106.8												
QUE. & ONT. BOUND	956.2	1142.1	1293.8	1045.6	859.9	838.8	725.7	699.9	601.8	496.0	495.6	501.7	423.3	369.6	250.7	147.7	40.9											
COCHRANE	1027.9	1213.8	1365.5	1117.3	931.6	910.5	797.4	771.6	673.5	567.7	567.3	573.4	495.0	441.3	322.4	219.4	112.6	71.7										
HEARST	1156.9	1342.8	1494.5	1246.3	1060.4	1039.5	926.4	900.6	802.5	696.7	696.3	702.4	624.0	570.3	451.4	348.4	241.6	200.7	129.0									
GRANT	1282.1	1468.0	1619.7	1371.5	1185.8	1164.7	1051.6	1025.8	927.7	821.9	821.5	827.6	749.2	695.5	576.6	473.6	366.8	325.9	254.2	125.2								
ARMSTRONG	1413.5	1599.4	1751.1	1502.9	1317.2	1296.1	1183.0	1157.2	1059.1	953.3	952.9	959.0	880.6	826.9	708.0	605.0	498.2	457.3	385.6	256.6	131.4							
SUPERIOR JCT	1546.1	1732.0	1883.7	1635.5	1449.8	1428.7	1315.6	1289.8	1191.7	1085.9	1085.5	1091.6	1013.2	959.5	840.6	737.6	630.8	589.9	518.2	389.2	264.0	132.6						
FORT WILLIAM	1738.1	1924.0	2075.7	1827.5	1641.8	1620.7	1507.6	1481.8	1383.7	1277.9	1277.5	1283.6	1205.2	1151.5	1032.6	929.6	822.8	781.9	710.2	581.2	456.0	324.6	192.0					
GRAHAM	1552.5	1738.4	1890.1	1641.9	1456.2	1435.1	1322.0	1296.2	1198.1	1092.3	1091.9	1098.0	1019.6	965.9	847.0	744.0	637.2	596.3	524.6	395.6	270.4	139.0	6.4	198.4				
REDDITT	1675.7	1861.6	2013.3	1765.1	1579.4	1558.3	1445.2	1419.4	1321.3	1215.5	1215.1	1221.2	1142.8	1089.1	970.2	867.2	760.4	719.5	647.8	518.8	393.6	262.2	129.6	321.6	123.2			
MANITOBA BOUND	1712.0	1897.9	2049.6	1801.4	1615.7	1594.6	1481.5	1455.7	1357.6	1251.8	1251.4	1257.5	1179.1	1125.4	1006.5	903.5	796.7	755.8	684.1	555.1	429.9	298.5	165.9	357.9	159.5	36.3		
TRANSCONA	1779.2	1965.1	2116.8	1868.6	1702.9	1681.8	1568.7	1543.9	1444.8	1339.0	1338.6	1344.7	1266.3	1212.6	1093.7	990.7	883.9	843.0	771.3	642.3	517.1	385.7	253.1	445.1	246.7	123.5	87.2	
WINNIPEG	1804.5	1990.4	2142.1	1893.9	1708.2	1687.1	1574.0	1549.2	1450.1	1344.3	1343.9	1350.0	1271.6	1217.9	1099.6	996.0	889.2	848.3	776.6	647.6	522.4	391.0	258.4	450.4	252.0	128.8	92.7	5.3
WATER STREET																												

A. G. Book
Asst. to Chief Engineer.

REVISED
OTTAWA, ONT.
SEPT. 15th. 1914.

pany respecting the taking of it over under the terms of the contract. The company filed what Senator Lougheed told the Senate were "omnibus objections" to entering upon this contract, and subsequently the Government decided to undertake the operation of the Eastern Division as part of the Canadian Government Railway's system. An order-in-council providing for this was passed, and upon the G.T.P.R. Co. finally deciding not to take a lease of the line, an official announcement was made, April 30, as follows:

"As the G.T.P.R. Co. has declined to take out a lease, the Government will to-morrow, May 1, take over for operation the National Transcontinental Ry., Eastern Division, from Moncton to Winnipeg. At the same time the Government will also take over and operate the Lake Superior Division of the Grand Trunk Pacific lying between Superior Junction and Fort William, including the terminals at the latter place."

to apply to the branch. The total mileage of the line from Moncton, N.B., to the west side of Water St., Winnipeg, is 1,804.5, to which is to be added the mileage of the Lake Superior Branch, 190 miles, making a total of 1,994.05 miles of new main line to be operated by the Dominion Government. Of this mileage, 457.7 miles from Moncton, N.B., to St. Jean Chrysostome, Que., has been operated by the Government Railways officials since Nov. 22, 1914, and certain other mileages on the line between Quebec and Lake Superior Jct. have been operated by the contractors under a special arrangement with the Railways Department.

In addition to the main line, on which there is a small amount of second track, and a line from Quebec to the site of the Quebec Bridge, together 20.79 miles, there are 423.26 miles of track in yards and sidings.

age 1804.5. The "d" in the brackets signifies divisional points. Rolling stock is being supplied from the Intercolonial Ry., but the Minister of Railways has power to purchase whatever rolling stock is necessary out of the consolidated funds. A number of locomotives and cars have been sent out from Moncton, for distribution along the line, having been taken across the St. Lawrence River at Quebec by the car ferry Leonard.

The Dominion Government took over last autumn the North Ry.'s charter rights to build a railway from Montreal to the N.T. Ry. at the crossing of the Bell River, Que., paying therefor \$250,000.

Railway track has increased in weight 37% during the last 20 years, and during the same period the unit load hauled has increased, in some instances, over 300%.

Following this, F. P. Gutelius, General

Railway Development.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—The construction programme for the year, J. D. McArthur, President, is reported to have said in a recent interview, contemplates the completion of grading to Fort McMurray, Alberta, mileage 300 from Carbondale, the point of junction with the Edmonton, Dunvegan and British Columbia Ry. Track has been laid from Carbondale to mileage 135, about 21 miles north of Lac la Biche. While grading is expected to be completed to Fort McMurray by the end of the year, it is not expected that the track will reach that place until Mar., 1916. (April, pg. 136.)

Bassano and Bow Valley Ry.—We are officially advised that while the contracting firm of Grant Smith and Co. and McDonnell, Calgary, looked into the matter of the construction of this line, there is no authority at all for the press reports stating that they had acquired the charter. (May, pg. 170.)

Burrard Inlet Tunnel and Bridge Co.—The directors are taking legal advice as to the situation created by the fact that the legal advisors of two municipalities are of opinion that the bylaws authorizing the raising of funds for the building of the bridge must be re-submitted to the rate-payers, while the legal advisors of the two other municipalities are of the contrary opinion. The municipality of the district of North Vancouver, which has the largest interest, has decided not to pay out any further money on account of the bridge project unless the money bylaws are re-submitted to a vote. (April, pg. 136.)

Central Canada Ry.—J. D. McArthur, President, is reported to have said in a recent interview that the construction of the line from McLennan, Alberta, to Peace River, 50 miles, would be proceeded with immediately and completed this year. Grading is completed for about 28 miles, from McLennan, the Junction point with the Edmonton, Dunvegan and British Columbia Ry., and track had been laid to April 20, on about 20 miles. (May, pg. 170.)

Dominion Atlantic Ry.—A steel railway bridge on concrete piers was completed recently over the Avon River in Nova Scotia. The Avon flows into Minas Bay, an affluent of the Bay of Fundy, which accounts for the fact that tides in the river reach 35 to 40 ft. The bridge is 1,200 ft. long c. to c. of abutments, with 9 concrete piers all on rock or hardpan, 35 ft. below river bed, except one which is carried on piles. The rock is overlaid with 5 ft. of gravel covered with 15 ft. of shifting sand. The current reaches as high as 8 miles an hour. Foundation work was extremely difficult, and had to be done at low tide—allowing only 3½ hours a day for a shift. The bridge was built in two years by the Nova Scotia Construction Co., Ltd., of Sydney, N.S., with A. S. Kennedy, Construction Superintendent.

Edmonton, Dunvegan and British Columbia Ry.—In a recent interview J. D. McArthur is reported to have stated that the head of steel had reached Big Smoky River, mileage 290 from Edmonton, Alberta, and that it is proposed to complete the line to mileage 357, or six miles west of the Spirit River settlement. The projected branch to Grand Prairie district, will leave the main line in the vicinity of the Spirit River settlement, and will be about 60 miles long. The surveys will be rushed to completion, and grading will be done during the year, but it is not expected that track

will be laid until the spring of 1916.

The construction of the Grand Prairie branch presents some difficult features, the principal being the steep declivity on the east bank of the Big Smoky River, and the overcoming of the Birch Hills, which lie between the Big Smoky River and Grand Prairie city. (May, pg. 170.)

Hardy Bay and Quatsino Sound Ry.—A press report stated, May 11, that W. E. Cullen, Spokane, Wash., colliery proprietor, and J. F. Twohy, railway contractor, had gone to Hardy Bay, Vancouver Island, to take over some coal properties, and to inspect the route of the projected 17 mile railway to connect Hardy Bay with Coal Harbor, on Quatsino Sound. (Aug., 1909, pg. 573.)

Intercolonial Ry.—Tenders were received by the Department of Railways, up to May 28, for building a spur line of 2.3 miles, leaving the main line about 1.8 miles east of Bathurst, N.B. This is the spur for the construction of which \$62,400 was voted at the Dominion Parliament last session. Industrial sidings will be built from the spur to serve the Bathurst Lumber Co., new pulp mill and other mills. (May, pg. 183.)

Kent Coal and Ry. Co.—The New Brunswick Legislature has incorporated a company with this title to build a railway from Rexton to Richibucto Head, and from Rexton to Minto or Chipman, crossing the Intercolonial Ry. between Kent Jct. and Adamsville, N.B. (April, pg. 136.)

Kettle Valley Lines.—We are officially advised that it is the intention to operate the line between Midway and Merrif, B.C., for the present under the control of the K.R.V. Ry., of which J. J. Warren is President. The service will be operated connecting with the C.P.R. at both ends of the line, and C.P.R. rolling stock will be used.

The track on the section of the line from Osprey Summit to Princeton, B.C., was tied up with the Vancouver, Victoria and Eastern Ry., April 21, and the ballasting on the section was expected to be fully completed May 31. (May, pg. 171.)

Lake Erie and Northern Ry.—We have been officially informed that the line is completed from Galt to Brantford, and that grading is completed southerly from Brantford to within a mile of Port Dover, Ont. The bridge at Waterford was expected to be completed by May 31, and the one over the Grand River at Brantford is expected to be completed by July 1. Track has been laid on the southerly section of the line between Waterford and Simcoe, eight miles, and Johnson Bros., the contractors, expect to have the grading and track laying completed by Aug. 30.

In connection with the projected operation of the line by electricity enquiries are being made for electric material and there appears to be no doubt that the line will be electrified.

A proposition has been made by the company to the Brantford City Council for certain running rights over the Grand Valley section of the Brantford Municipal Ry., at Galt, and between Paris and Brantford. The matter came before the City Council, April 27, when representatives of the Board of Trade were invited to confer with the Brantford Railway Commissioners as to the project. It was stated, May 3, that the city might sell the Grand Valley section of the line to the L. E. and N. R. (May, pg. 171.)

Roberval-Saguenay Ry.—The following details of this railway, which includes the

line built under the charter of the Ha Ha Bay Ry., are contained in a recent judgment of the Quebec Public Utility Commission:—The main line extends from Bagotville (or St. Alphonse) on the shore of Ha Ha Bay to St. Mathias (or Ha Ha Bay Jct.) on the Quebec and Lake St. John Ry., 19.38 miles. From Laterriere Jct. a branch extends to Laterriere, 6.50 miles, and while construction has been carried out to Portage des Roches, 12 miles from Laterriere Jct., this latter portion has not been opened up to regular trains. From La Brosse Jct. to Chicoutimi West there is a second branch 3.35 miles, operated by electric power. A branch to St. Alexis, one mile, is projected and subsidized by the Provincial Legislature and the Dominion Parliament, but no work has been done on it. (July, 1914, pg. 323.)

St. John and Quebec Ry.—The New Brunswick Legislature has extended the time for building the section of the line from Centerville to Grand Falls. Under the original contract the whole line was to be completed by Sept. 30; the new provision authorizes the carrying on of the work without unnecessary delay. The Government in submitting the measure said the line from Centerville to Gagetown was in operation and the 40% of the receipts to which it was entitled under the operating contract had been paid to the province by the Intercolonial Ry.

The act provides among other things that the Government may retain from the sums received out of the sale of bonds, such amounts as may be necessary to meet outstanding claims against the contractors. Acting under this provision the Government is asking that all outstanding claims be submitted for adjustment so that they may be settled out of the money in hand as far as it will permit. (Feb., pg. 57.)

Taber Transit Co.—A meeting of shareholders was held May 1 at the Superior Coal Co.'s offices, Taber, Alta., to ratify a bylaw authorizing the issue of bonds for \$12,000 a mile for the projected railway from Taber, to connect with collieries in the vicinity, and to give connection with the C.P.R. Suffield branch and with Bow City, to ratify an agreement with J. F. Kramer and W. E. Bullock for the purchase of certain lands, and for the completion of organization. The notice calling the meeting was signed by J. F. Kramer, one of the provisional directors. (April, 1914, pg. 166.)

Toronto, Hamilton and Buffalo Ry.—It is said that nothing further will be done in the matter of the application of the Hamilton, Ont., City Council to the Board of Railway Commissioners for an order compelling the T., H. and B. R. to elevate its line along Hunter St., for some time. A city official is reported to have stated that Canadian Northern Ry. interests are cooperating with the T., H. and B. R. officials, and that a plan will ultimately be submitted for the elevation of tracks, and the entrance of the C.N.R. into Hamilton, which will settle a number of questions that have been under discussion for some considerable time. (April, pg. 137.)

Railway Lands Patented.—Letters patent covering Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, were issued in March, as follows:

	Acres.
Calgary and Edmonton Ry.	2,724.00
Canadian Northern Ry.	800.00
Canadian Pacific Ry.	397.51
Edmonton, Dunvegan and British Columbia Ry.	108.09
Grand Trunk Pacific Branch Lines Co.	30.36
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	1,579.68
Total	5,639.64

Mainly About Railway People.

Sir Thomas Shaughnessy, President, C.P.R., sailed on the s.s. Adriatic from New York, May 27, for England.

G. W. Downing, a car inspector, I.R.C., was killed at Moncton, N.B., May 11, by being caught between two cars.

W. Somerville, ticket agent, G.T.R., Seaforth, Ont., has been appointed Secretary-Treasurer of the Seaforth Collegiate Board.

G. H. Ham, of the headquarters staff, C.P.R., returned to Montreal, early in May, after a three months trip along the Pacific coast.

J. K. L. Ross, director, C.P.R., and Mrs. Ross have offered their residence, Drumbo, Sydney, N.S., as a convalescent home for wounded soldiers.

Capt. G. E. B. Begy, of the 4th Battalion, Canadian Overseas Expeditionary Forces, who is a contractor at St. Catharines, Ont., was wounded in the battle of Langemarck.

Mrs. Robert Thomson died at St. John, N.B., May 25. Her husband, who died about seven months ago, was a prominent ship owner, etc., at St. John.

Dr. H. A. Beatty, Chief Surgeon, Ontario Division, C.P.R., Toronto, has been elected to the executive of the American Railway Chief Surgeons' Association, for this year.

Major Jas. Lightfoot, of the Canadian Overseas Expeditionary Forces, proprietor of Lightfoot Transfer Co., Winnipeg, was wounded in the battle of Langemarck.

H. J. Somerset, formerly Manager, Perth Electric Tramways Co., Australia, who died in Toronto, April 11, left an estate of \$46,527 to his widow, also life insurance of \$11,733 in her favor.

Private A. G. Ingals, of the Canadian Overseas Expeditionary Forces, who was killed in the battle of Langemarck, was an electrician in the Winnipeg Electric Ry. Co.'s service.

Lt. S. D. Armour, of the 72nd Seaforth Highlanders, Vancouver, who was wounded in the battle of Langemarck, is a nephew of Stuart Armour, Manager, C.P.R. Hotel, Lake Louise, Alta.

Capt. W. C. Cochrane, who is on Major-General Steele's staff in the 2nd contingent, Canadian Overseas Expeditionary Forces, is a son of Hon. Frank Cochrane, Minister of Railways and Canals.

M. E. Duncan, Vice President and General Manager, Canadian Car and Foundry Co., died in Montreal May 23, aged 53, of hemorrhage of the brain.

Lt.-Col. Gordon Stewart, Ottawa, who is Major of the Ontario Brigade in the Canadian Overseas Expeditionary Forces, is a dredging contractor and son of Robt. Stewart, ex-M.P. for Ottawa.

Lt.-Col. J. J. Creelman, of the Second Field Artillery Brigade, Canadian Overseas Expeditionary Forces, and son of A. R. Creelman, K.C., director, C.P.R., was wounded in the battle of Langemarck.

B. C. Gesner, Eastern Sales Agent, Galena Signal Oil Co., Moncton, N.B., was born at Cornwallis, N.S., April 23, 1859, and not in 1850, as stated in Canadian Railway and Marine World for April.

George Bradshaw, Safety Engineer, Grand Trunk and Grand Trunk Pacific Railways, read a paper on practical methods in accident prevention, before the Richmond Railroad Club at Richmond, Va., May 10.

Sir Thomas Tait, President, Fredericton and Grand Lake Coal and Ry. Co., accompanied by Lady and Miss Tait, returned to Montreal recently from Florida where they spent the winter.

C. L. Cantley, Assistant Manager, Nova Scotia Steel and Coal Co., and son of T.

Cantley, General Manager, who is with the Canadian expeditionary forces in France, has been appointed a Quartermaster-General.

W. U. Appleton, General Master Mechanic, Canadian Government Railways, Moncton, N.B., received some painful cuts and bruises, when his gasoline motor car collided with a freight train on the Montreal Transcontinental Ry., near St. Anselm, Que., at the end of April.

R. W. Burnett, who resigned the position of General Master Car Builder, C.P.R., recently, has been staying in Chicago, and is going to take a thorough rest for a time. With Mrs. Burnett, he will make an extended tour through the west, including a visit to the San Francisco exhibition.

D. F. Burke, of Port Arthur, Ont., who was one of the promoters of the Port Arthur, Duluth & Western Ry., has been informed that two of his sons, who were in



C. F. Black,
Attorney, Central Vermont Railway.

the 8th Battalion, Canadian Overseas Expeditionary Forces, are prisoners at Munster, Germany.

Lieut. McLurg, formerly Manager, Algoma Central Steamship Co., and latterly Sales Manager, Algoma Steel Corporation, Sault Ste. Marie, Ont., who was with the Canadian Overseas Expeditionary Forces, has been wounded, and is a prisoner in Germany.

Capt. T. C. Irving, Jr., Vice President, Robt. W. Hunt & Co., Ltd., Bureau of Inspection, etc., Montreal and Toronto, who is in command of No. 1 company, Field Engineers, in the Canadian Overseas Expeditionary Forces, cabled his father after the battle of Langemarck that he was well.

Major D. Rykert McCuaig, son of C. J. McCuaig, President, Sherbrooke Railway & Power Co., who was in the 13th Battalion, Canadian Overseas Expeditionary Forces, and was wounded at the battle of Langemarck, where he fought most heroically, is a prisoner in a German hospital.

W. P. Hinton, Assistant Passenger Traffic Manager, G.T.R. and G.T.P.R., returned to Montreal recently after a 12,000 mile trip over the company's rail and steamship lines. While in San Francisco he represented the companies at the American Association of Passenger Traffic Officers convention.

A. L. Hertzberg, M. Can. Soc. C. E., Division Engineer, Ontario Division, C. P. R., Toronto, received news early in May, that his son, Lieut. H. F. H. Hertzberg, of the Canadian Engineers, had been wounded at Langemarck, and was in the military hospital at Colchester, Eng. A younger son is also at the front.

T. Mullins, whose appointment as City Passenger Agent, C.P.R., Ottawa, was announced in our last issue, was entertained to dinner by his associates at Toronto, May 1, and presented with a gold watch and chain. The surplus amount received from subscribers was sent to the cigarette and tobacco fund for soldiers at the front.

H. K. Wicksteed, M. Can. Soc. C. E., Chief Engineer of Surveys, Mackenzie, Mann & Co., Ltd., who spent three months in Venezuela last winter in connection with a coal mining and railway construction proposition, left Toronto again for there May 18, accompanied by R. H. M. Temple, Assistant Solicitor, Canadian Northern Ry.

Arthur Walsh, who retired recently as agent C. P. R. Telegraphs, Montreal, was appointed to that position on the opening of the office in Sept. 1886, but had been in telegraph service with the Montreal Telegraph Co., the Western Union and the Great North Western Telegraph Cos. for several years prior to that date.

Col. H. S. Greenwood, formerly Assistant Chief Engineer, Mackenzie, Mann & Co., Ltd., Toronto, has been in London, Eng., for some time, serving as a major on the Royal Engineers staff. He is especially engaged in railway work for the War Office and will probably go to the continent in the near future.

Lt.-Col. W. S. Buell, of Brockville, Ont., who was at one time interested in the Brockville Navigation Co., was wounded in the shoulder by shrapnel while leading the 4th Battalion, Canadian Overseas Expeditionary Forces at the battle of Langemarck. He is in a hospital in London, Eng., and is not expected to be able to return to duty for two or three months.

Lieut. H. F. H. Hertzberg, of the Second Field Company, Canadian Engineers, son of A. L. Hertzberg, Division Engineer, Ontario Division, C.P.R., who was wounded at the battle of Langemarck, is in a hospital at Colchester, Eng., and is reported to be convalescing satisfactorily. His brother, O. P. Hertzberg, is at the front in the 3rd Toronto Battalion.

C. L. Conacher, formerly Traffic Manager, Cambrian Railways, Wales, who visited Canada last summer, has been serving as a railway transport officer in London, Eng., on the staff of the War Office (Director of Movements) with the rank of staff captain, since Oct. 1914. He hopes when released from his duties after the war, to revisit Canada and renew the connections he formed here.

D. R. MacBain, Superintendent of Motive Power, New York Central Rd., west of Buffalo, N. Y., Cleveland, Ohio, has been appointed by the President of the United States, a member of the board of the National jury of awards at the Panama-Pacific Exposition. He was at one time Master Mechanic, Michigan Central Rd., at St. Thomas, Ont.

L. M. Miller, of St. Thomas, Ont., who has been appointed Assistant to the Chief Medical Officer, Ontario Workmen's Compensation Board, Toronto, has been Super-

intendent of the Railway Hospital Association at St. Thomas, Ont., in charge of first aid work, and has also been acting for the Michigan Central Rd. in connection with the settlement of accident claims.

The will of the late **Lt.-Col. Lacey R. Johnson**, General Welfare Agent, C.P.R., disposes of his estate to his wife, with the furniture of his house for the use of his unmarried daughters. His model locomotive is left one son, and his gold watch and chain to another. On his wife's death, the property is to be divided among four daughters and two sons, the two unmarried daughters to receive double portions.

G. McLaren Brown, European Manager, C.P.R., and Mrs. Brown, W. Phillips, European Railway and Steamship Manager, Canadian Northern Ry., and Mrs. Phillips, and Hugh A. Allan, of the Allan Line Steamship Co., and Mrs. Allan, attended a reception given by the Mayor and Mayoress of Folkestone, Eng., Apr. 27, to Canadian and British officers stationed at Folkestone and Shorncliffe.

G. McLaren Brown, European Manager, C.P.R., in speaking at the April meeting of Canada Lodge, A. F. and A. M., in London, Eng., made a glowing and sympathetic allusion to the heroism of the Canadians in the recent actions in Belgium, reminding the brethren that only a few months ago several of those who have since fallen had been the guests of the lodge on their arrival from Canada.

O. S. Cockey, General Agent, G.T.R. New York, N.Y., died at White Sulphur Springs, Va., May 9, aged 60. He entered railway service with the Pennsylvania Rd. at Pittsburgh, Pa., afterwards going to the Great Western Ry. of Canada, which was taken over by the G.T.R. He was appointed Commercial Agent, G.T.R., at New York, Nov. 1, 1891, and General Agent, May 1, 1894, holding the latter position till his death.

Sir Thomas Shaughnessy, President, C.P.R., has returned to Montreal from a visit to the Panama Exhibition, at San Francisco, and other California points, travelling home by way of Vancouver. He was accompanied by Lady and Miss Shanghnessy. At Vancouver he was met by R. B. Angus, one of the directors, who was accompanied by his son-in-law, C. B. Martin and Mrs. Martin, and the two parties returned to Montreal together.

William Tansley, who has been appointed Assistant Superintendent, District 5, Eastern Division, C.P.R., Smiths Falls, Ont., was born in Shelburne, Ont., Dec. 27, 1872, and entered C.P.R. service in 1889, since when he has been, to 1900, operator and agent at various points on the Ontario Division; 1900 to 1907, dispatcher, Toronto; 1907 to 1912, Chief Dispatcher, Toronto; 1912 to 1914, Assistant Superintendent, Havelock, Ont.; 1914 to May 18, 1915, Assistant Superintendent, District 3, Ontario Division, Toronto.

Joseph Rielle, who died at Montreal, May 9, was born at Laprairie, Que., in 1833, and in 1854 became assistant to the then Assistant Engineer, Montreal Harbor Commissioners, and subsequently was appointed Assistant Engineer. He was a member of the Canadian Society of Civil Engineers from 1887, and in 1904, on the completion of 50 years as a land surveyor, the Society presented him with a testimonial. He was at one time Vice President of the Pontiac and Pacific Jct. Ry.

J. A. L. Waddell, D. Sc. (McGill); L.L.D.; M. Can. Soc. C. E.; M. Am. Soc. C. E.; M. Inst. C. E.; M. S. C. E., France, of Kansas City, Mo., who is a Canadian by birth and who has done considerable engineering work in Canada, one of his latest engagements being through the former firm of Waddell & Harrington, now dissolved, in connection

with bridge construction on the Canadian Northern Pacific Ry., has been given the degree of hakushi (doctor of engineering) by the Japanese Department of Education.

Miles Hoar, who died recently at Sackville, N.B., aged 82, was an interesting link with the old stage coach days. At the age of 19 he was working on the European and North American Ry. survey, and in the following year commenced driving a stage coach between St. John and Moncton, N.B., and later drove between Harvey and St. John, and still later between Moncton and Amherst. On the completion of the railway there, he engaged in the mail service on the railway, and was later employed on a section at Sackville, subsequently being appointed foreman, where he remained for 35 years.

J. F. Richardson, who was appointed Superintendent of Telegraphs, Saskatchewan Division, C.P.R., Moose Jaw, recently, in reported to have resigned and to have left Moose Jaw for Montreal. It is stated that he has been succeeded by D. Coons, who



W. J. Pickrell,
Master Mechanic, Ontario Division, Canadian
Pacific Railway.

had been transferred from that position to Calgary, recently, in a similar capacity for the Alberta Division, that D. L. Howard heretofore Inspector of Telegraphs, Medicine Hat, has been appointed Superintendent of Telegraphs, Alberta Division, Calgary, and that H. H. Goodfellow, heretofore Assistant Chief Operator at Vancouver, B.C., has been appointed Inspector of Telegraphs at Medicine Hat.

Lance Corporal C. A. McCowan, 13th Battalion, Canadian Scottish, son of A. McCowan, General Car Foreman, Canadian Northern Ry., Winnipeg, who was born in Montreal 22 years ago, was shot in the neck at Neuve Chapelle, Mar. 11, about 9 a.m. He received first aid but could not be removed from the trenches until after dark. While he was being removed with other wounded, the Germans attacked them with machine guns, one of the stretcher bearers who was accompanying McCowan being shot through the wrist. McCowan wrote his father from Shorncliffe early in May,

saying that he hoped to be able to return to the front shortly.

J. Billingham, who was appointed Superintendent of Motive Power, Grand Trunk Pacific Ry., Transcona, Man., in August, 1914, has resigned. Prior to his departure for his home in Schenectady, N.Y., he was presented with a case of silver and an address by the local staff. He was born in England, and served an apprenticeship with the London and North Western Ry. there. On going to the United States he was appointed Master Mechanic, Baltimore and Ohio Rd., and was subsequently European Manager, Galena-Signal Oil Co., and later returned to the U. S. as Superintendent of Works, American Locomotive Co., Schenectady, N.Y.

John H. Mills, whose appointment as Master Mechanic, Lake Superior Division, C. P. R., North Bay, Ont., was announced in our last issue, was born at Sherbrooke, Que., Apr. 23, 1865, and entered C. P. R. service, May 1, 1889, since when he has been, to Dec. 20, 1889, in Bridge and Building Department, Sherbrooke, Que.; Feb. 27, 1890 to Jan. 3, 1898, fireman, Farnham, Que.; Jan. 3, 1898 to Jan. 23, 1902, locomotive driver, Farnham, Que.; Jan. 23, 1902 to Apr. 1, 1903, delivering new locomotives from main shops to destination; Apr. 1, 1903 to Dec. 31, 1908, District Master Mechanic, Montreal; Jan. 1, 1909 to Apr. 14, 1915, Master Mechanic, Ontario Division, Toronto.

A. L. Sauve, whose appointment as City Ticket Agent, C.P.R., Ottawa, Ont., was announced in our last issue, was born at Portage du Fort, Que., Oct. 2, 1888, and entered C.P.R. service, July 6, 1906, since when he has been, to Dec. 11, 1907, stenographer and ticket clerk, Ottawa, Ont.; Dec. 11, 1907 to June 5, 1908, stenographer, General Passenger Department, Montreal; June 5, 1908 to May 1, 1909, ticket agent, s.s. Empress of Britain; May 1, to Dec. 10, 1909, City Ticket Agent, Quebec, Que.; Dec. 10, 1909 to Oct. 4, 1911, chief clerk, City Ticket Office, Ottawa, Ont.; Oct. 4, 1911, to Apr. 14, 1915, City Passenger Agent, Detroit, Mich.

F. M. Rutter, A.M.Can.Soc.C.E., who has been appointed Assistant Superintendent, District 3, Ontario Division, C.P.R., Toronto, was born there, Dec. 26, 1880, and educated at Upper Canada College and Toronto University. He entered C.P.R. service in April 1902, since when he has been, to 1904, chain man and rod man on location surveys and construction, Toronto-Sudbury line; 1906 to 1907, transit man, Maintenance of Way Department, Montreal; 1907 to 1911, Resident Engineer, Maintenance of Way, Woodstock, N.B.; 1911 to July 1913, Resident Engineer, Maintenance of Way, Toronto; July 1913 to Apr. 30, 1915, Assistant Division Engineer, Maintenance of Way, Eastern Division, Montreal.

The Michigan Central Rd. annual report for the past fiscal year contains the following paragraph: "**Thomas Eedson**, retired Auditor of Freight Accounts and Freight Claim Agent, died in Detroit, Nov. 1, 1914, at the age of 73. He came into the service of this company in 1883 from a position with the Canada Southern Ry. Co., and remained in the accounting department until his retirement in 1912. He also held a similar position with the Toronto, Hamilton & Buffalo Ry. Co. from the date of its organization to his death. He was an industrious man, of studious and inquiring mind, and rendered good service in his own department as well as in the organization and conduct of the Freight Claim Association and the Association of American Railway Accounting Officers."

M. A. Fullington, A.M.Can.Soc.C.E., who has been appointed Superintendent, District

3, Eastern Division, C.P.R., Montreal, was born at Johnson, Vt., May 12, 1880, and entered C.P.R. service, Oct. 1904, since when he has been, to Jan. 1905, rodman, Toronto; Jan. to Oct. 1905, transitman, London, Ont.; Oct. 1905 to Apr. 1907, Assistant Engineer, Toronto Terminals; Apr. 1907 to Jan. 1912, Resident Engineer, Districts 1 and 4, Ontario Division, Toronto; Jan. 1912 to Jan. 1913, Engineer, Dominion Atlantic Ry., Kentville, N.S.; Jan. to July 1913, Assistant Division Engineer, C.P.R., Montreal; July to Sept. 1913, Assistant Engineer, Eastern Lines, C.P.R., Montreal; Sept. 1913 to May 10, 1915, Assistant Superintendent, District 4, Eastern Division, C.P.R., Ottawa, Ont.

W. H. Winterrowd, who has been appointed Assistant to Chief Mechanical Engineer, C. P. R., Montreal, was born at Hope, Indiana, Apr. 2, 1884, and educated at Shelbyville, Ind., and Purdue University, whence he graduated in 1907. He entered railway service in 1905, since when he has been, to 1906, blacksmith helper, Lake Erie and Western Ry., Lima, Ohio; 1906 to 1907, air brake and care repair man, Pennsylvania Rd., Western Lines, Dennison, Ohio; 1907 to 1908, special apprentice, Lake Shore and Michigan Southern Ry., Elkhart, Ind.; 1908 to 1909, Roundhouse Foreman, Lake Erie, Alliance and Wheeling Ry., Alliance, Ohio; 1909 to 1910, Night Roundhouse Foreman, Lake Shore and Michigan Southern Ry., Youngstown, Ohio; 1910, Roundhouse Foreman, same road, Cleveland, Ohio; 1910 to Sept. 1912, Assistant to Mechanical Engineer, same road, Cleveland, Ohio; Sept. 1912 to May 1915, Mechanical Engineer, Angus Shops, C. P. R., Montreal.

R. W. McCormick, who died at Farnham, Que., Apr. 23, was born at Liverpool, Eng., Jan. 8, 1867, and entered railway service in 1879, as operator with the old Canada Central Ry., at Sand Point, Ont., and acted, successively, as operator and agent, at Renfrew, Smiths Falls and Carleton Jct., Ont. He was subsequently, from Oct. 1896 to Feb. 1897, relieving train dispatcher, C. P. R., Ottawa; Feb. 1897 to Oct. 1901, dispatcher, C. P. R., Ottawa; Dec. 1901 to Oct. 1903, Chief Dispatcher, C. P. R., Ottawa; Oct. 1903 to Aug. 1906, Trainmaster C. P. R., Ottawa; Aug. 1906 to Nov. 1907, Assistant Superintendent, C. P. R., successively, at Smiths Falls, and Montreal; Nov. 1907 to Feb. 1911, Assistant Superintendent, District 4, Eastern Division, C. P. R., Ottawa; Feb. 1911 to Sept. 1913, Assistant Superintendent, District 1, Eastern Division, C. P. R., Farnham, Que.; Sept. 1913 to June 1914, Superintendent, District 3, Eastern Division, C. P. R., Montreal; June 1914 to Apr. 23, 1915, Superintendent, District 1, Eastern Division, C. P. R., Farnham, Que.

William John Pickrell, who has been appointed Master Mechanic, Ontario Division, C.P.R., Toronto, was born at London, Ont., Sept. 15, 1880, and entered C.P.R. service, Jan. 3, 1900, since when he has been, to July 31, 1901, wiper; July 31, 1901 to Oct. 31, 1904, fireman; Nov. 1, 1904 to July 31, 1906, travelling fireman; Aug. 1, 1907 to Apr. 14, 1908, assistant road fireman; Apr. 15, 1908 to May 9, 1910, locomotive driver; May 10 to June 30, 1910, rule examiner; July 1 to Oct. 14, 1910, locomotive driver; Oct. 15 to Dec. 15, 1910, rule examiner; Dec. 16, 1910 to Apr. 8, 1912, locomotive driver; Apr. 9 to Dec. 1, 1912, District Master Mechanic; Dec. 2 to Dec. 8, 1912, locomotive driver; Dec. 9, 1912 to July 28, 1913, District Master Mechanic, Districts 3 and 4, Ontario Division; July 29 to Aug. 17, 1913, Assistant Superintendent, District 3, Ontario Division; Aug. 18 to Oct. 31, 1913, District Master Mechanic, Districts 3 and 4, Ontario Division, all at Toronto; Nov. 1, 1913 to Apr. 23, 1915, Assistant Superintendent,

District 2, Atlantic Division, Aroostook Jct., N.B.

Charles W. Van Buren, whose appointment as General Master Car Builder, C. P. R., Montreal, was announced in our last issue, was born in Rensselaer County, N. Y., Oct. 15, 1867, and entered railway service in March 1889, since when he has been to Nov. 1891, carpenter, New York Central Shops, West Albany, N. Y.; Nov. 1891 to Sept. 1, 1893, assistant foreman; Sept. 1, 1893 to Sept. 1, 1896, in charge of Car Department work, Adirondack Division, same road, Herkimer, N. Y.; Sept. 1, 1896 to July 16, 1905, Car Foreman, Adirondack Division, and Mohawk Division, New York Central and West Shore Rds.; July 16, 1905 to July 1, 1906, General Car Inspector, Eastern Lines, C.P.R., Montreal; July 1, 1906 to July 1, 1909, Divisional Car Foreman, Eastern Division, C.P.R., Montreal; July 1, 1909, to May 31, 1911, Master Car Builder, Eastern Lines, C. P. R., Montreal; June 1, 1911 to Jan. 1, 1915, Assistant to General Manager, Union Stock Yard and Transit Co., Chicago, Ill.; Jan. 1 to April 1915, General Foreman, Car Shops, Milwaukee Refrigerator Transit and Car Co., Milwaukee, Wis.

Walter C. E. Moberly, who died at Vancouver, B.C., May 14, aged 83, was born at Steeple Orton, Oxfordshire, Eng., and educated at Barrie, Ont. He entered railway service with the Ontario, Simcoe and Huron Ry., and from 1855 to 1857 was engaged in exploring the country from Lake Simcoe to Lake Huron and north to Lake Superior. In the following year he went to British Columbia under the British Public Works Department, and arranged the site of the capital of British Columbia, Queensborough, now New Westminster. He was in 1862-63 engaged in the construction of the Yale-Cariboo wagon road, and in 1864 was appointed Assistant Surveyor General for the colony, and explored the south and south east, when he discovered the Eagle Pass, which was utilized in later years for the C.P.R. route. In 1871, the Dominion Government having decided on the building of a transcontinental railway, he was sent for, and his knowledge utilized, he being appointed engineer in charge of surveyors from the west end of Eagle Pass, easterly through Gold, Selkirk and Rocky ranges of mountains, to Mount Murchison. On leaving Government service, he was one of the promoters, and afterwards Chief Engineer of the Manitoba Southwestern Ry., now part of the C.P.R.

James Kerr McNeillie, who has been appointed General Superintendent, Intercolonial Ry., Prince Edward Island Ry. and National Transcontinental Ry. east of Quebec, with office at Moncton, N.B., was born at Toronto, Feb. 23, 1874, and entered railway service in May, 1890, since when he has been, to Nov., 1891, call boy and apprentice, G.T.R., Lindsay, Ont.; Nov., 1891, to Sept. 1896, apprentice, locomotive fitter and machinist, G.T.R., Point St. Charles, Que.; Sept. 1, 1896, to Nov., 1899, trainmaster's clerk and chief clerk, Superintendent's office, C.P.R., Farnham, Que.; Nov., 1899, to June, 1902, clerk, and chief clerk, General Superintendent's office, C.P.R., Winnipeg; June, 1902, to Feb., 1903, Car Service Agent, C.P.R., Winnipeg; Mar., 1903, to Oct., 1907, Car Service Agent in charge of distribution of passenger equipment, C. P. R., Montreal, Que.; 1907, to July, 1908, Assistant Superintendent of Terminals, C. P. R., Toronto; July, 1908, to Feb., 1909, Superintendent, District 1, Ontario Division, C.P.R., Toronto; Feb., 1909, to Mar., 1911, Superintendent, District 2, Ontario Division, C.P.R., London; Mar., 1911, to Feb., 1913, Superintendent, District 1, Eastern Division, C.P.R., Farnham, Que.; Feb., 1913, to June,

1914, Superintendent, District 2 (Montreal Terminals), Eastern Division, C.P.R., Montreal; June, 1914, to May, 1915, Superintendent, District 3, Eastern Division, C.P.R., Montreal.

F. P. Brady, who has been appointed General Superintendent, National Transcontinental Ry. between Quebec and Winnipeg, and of the Lake Superior Branch, Grand Trunk Pacific Ry., which are being operated as part of the Canadian Government Railways, with office at Cochrane, Ont., was born at Haverhill, N.H., June 22, 1853, and entered railway service 1869, as station baggagemaster Passumpsic Ry., since which he has been consecutively: 1873 to 1880, train dispatcher Northern Rd., at Concord, N.H.; 1880 to 1888, Chief Train Dispatcher Southeastern Ry., at Richford, Vt.; 1888 to 1889, Trainmaster C.P.R.; 1889 to 1898, Assistant Superintendent same road; 1898 to May, 1901, Superintendent same road at Smith's Falls, Ont.; May, 1901, to Sept., 1902, Superintendent districts 10 and 11 same road at Toronto; Sept., 1902, to May, 1903, Superintendent district 19 same road at Fort William, Ont.; June 1, 1903, to Feb., 1904, Assistant General Superintendent Central Division, Winnipeg, Man.; Feb., 1904, to Sept. 16, 1908, General Superintendent Lake Superior Division, C.P.R., North Bay, Ont.; May 1, 1908, to June, 1909, Member of the Canadian Government Railways Board of Management; June, 1909, to June, 1913, also General Superintendent, Canadian Government Railways, Moncton, N.B.; June, 1913, on the abolition of the Canadian Government Railways Managing Board, to May, 1915, General Superintendent, Canadian Government Railways, Moncton, N.B.

Railway Taxation in Alberta.

The Minister of Railways informed the Alberta Legislature recently that there had been received from the railway companies in the Province \$635,114.83 on account of taxation on lines, from 1906 to 1914, both years inclusive; the annual amount received being \$68,490.51 a year from 1906 to 1910, inclusive, and \$74,165.57 a year from 1911 to 1914, inclusive. Taxes were levied on the following lines: Calgary-Strathcona line, 190.6 miles; Calgary-Mcleod line, 105.2 miles; Dunmore Jct.-Summit Lake line, 210.9 miles; total, 506.7 miles; amount of taxes \$60,730 yearly, during the whole period. Lethbridge-Coutts line, 65.3 miles, amount of taxes, \$7,760.51 yearly to 1910; from 1911 to 1914, inclusive, to the Lethbridge-Coutts line, there has been added the Sterling-Cardston line, 46.8 miles, making 112.1 miles, on which the taxation received was \$13,435.57 a year. Taxation is in arrears as follows:—C.P.R. Lacombe branch, 49.6 miles, \$5,944.72 a year for 1912, 1913 and 1914; C.P.R. Wetaskiwin branch, 51 miles, \$6,112.52 a year, for 1912, 1913 and 1914; Canadian Northern Ry., Lloydminster to Edmonton, 169 miles, \$20,255.22 a year, for 1913 and 1914; Edmonton, Yukon and Pacific Ry. (C.P.R.), from Edmonton to Strathcona, 7.23 miles, \$866.54 a year for 1913 and 1914.

German Bridge Dynamiter.—The U. S. Federal Court at Boston, Mass., May 12, refused a writ of habeas corpus to Werner Horn, holding that his attempt to destroy the C. P. R. railway bridge at the New Brunswick-Maine International Boundary, was not an act of war. The court also held that Horn's removal from the State of Maine to Boston, was not illegal. The charges which Horn has now to meet are for violation of the interstate regulations respecting the carrying of explosives.

Arbitration Award in Enginemen's Wage Controversy.

The board of arbitration appointed in the United States under the Newlands law, to settle the controversy between the western railways and their enginemen for increases in wages and changes in service rules, filed its award in the U. S. district court at Chicago, Apr. 30. Slight increases in pay were allowed, and a number of service rules altered, but considerably different from the form submitted by the men. The board of arbitration consisted of J. C. Pritchard, Asheville, N.C., former judge of the U. S. circuit court, chairman; C. Nagel, St. Louis, former Secretary of Commerce and Labor; H. E. Byram, Vice-President, Chicago, Burlington and Quincy Rd.; W. L. Park, Vice-President, Illinois Central Rd.; F. A. Burgess, Assistant Grand Chief of the Brotherhood of Locomotive Engineers, and T. Shea, Assistant President of the Brotherhood of Locomotive Firemen and Enginemen. The award was signed by the first four members, but Messrs. Burgess and Shea presented a minority report protesting against the award as unfair and unsatisfactory. The chairman filed a memorandum stating that while all the awards were not equitable in his estimation, in the main they were fair. Messrs. Byram and Park also filed a statement that their signatures did not imply approval of the principle or in detail, stating that the agreement under which the arbitration was held gave no latitude for the adjustment of unequal conditions.

The demands of the enginemen were comprised in 16 articles, which were submitted to the board. The railways contended that if these were allowed, they would have involved a payroll increase of \$41,000,000 a year, or 51%. The following are summaries of the awards:

Basis of Day's Work and Overtime.—In passenger service, the minimum rate for locomotive drivers shall be \$4.30, and for firemen, \$2.50, 100 miles or less, or 6 hours 40 mins. constituting a minimum day's work, with mileage in excess of 100 pro rata. On short run lines, less than 80 miles, overtime shall be paid for all time actually on duty or held for duty in excess of 8 hours, within 12 consecutive hours. All other passenger overtime shall be computed on a 15 m.p.h. basis, at the rate of 75 and 45 cts. an hour for locomotive drivers and firemen respectively. In freight service the rate shall be according to the class of locomotive as in article 2, for 10 hours or less, with mileage in excess of 100 pro rata, with overtime on a 10 m.p.h. basis and paid pro rata on the minute basis. When performing combination road service, the rate of pay will conform to each class of service, and when two or more locomotives of different weight are used during a trip, or a day's work, the highest rate applicable to any locomotive shall be paid. In the article submitted by the men, passenger service was to be paid on the basis of 5 hours or less constituting a day's work, with overtime at 20 m.p.h. In all other classes of service, overtime should be computed at 10 m.p.h. and paid for at 15 m.p.h.

Rates of Pay.—In passenger service, the minimum rate of wages shall vary for locomotive drivers and firemen respectively from \$4.30 and \$2.50 for locomotives weighing less than 80,000 lbs. on the drivers, to \$5 and \$4 on Mallet locomotives, regardless of weight on drivers, these rates for firemen applying on a coal basis with a slight reduction in most cases of oil burners. Similarly in freight service, they shall vary from \$4.75 and \$2.75 per day on locomotives weighing 80,000 lbs. on the drivers, to \$6.50 and \$4.25 on Mallet locomotives weighing 275,000 lbs. or over on drivers, with the

firemen's differential on oil locomotives. Through freight rates will apply on all work, wreck, pusher or helper, mine runs, circus trains and milk trains according to class of locomotive, with overtime on the minute basis. Belt line or transfer service is recognized as different from switching, but as conditions vary, the adjustment of compensation is left for local arrangements between the managements and the men. No change is made in the territory where a wage differential exists because of gradients, and the railways subject to the schedules in effect Oct. 10, 1913, shall maintain this differential in addition to the award herein given. Locomotive drivers and firemen shall have preference in the selection of operators where electric operation is subject to steam, but this shall not displace men appointed prior to May 1, 1915. As the conditions of electric operation are new, no uniform rules can be adopted, but the minimum rates awarded in the foregoing are made to apply, but the mileage to be covered and hours of service are to be the same as now existing on the several lines, this to be without prejudice to existing agreements.

Local or Way Freight.—A minimum of 30 cts. per 100 miles is to be added to through freight rates for local service, with mileage over 100 pro rata.

Switching Service.—The minimum rate of wages per 10 hours or less, with overtime pro rata, for locomotives under and over 140,000 lbs., respectively on the drivers, shall be for locomotive drivers, \$4.25 and \$4.40, and firemen, \$2.70 and \$2.75; similarly with Mallet locomotives under and over 275,000 lbs., \$5.15 and \$5.40, and \$4 and \$4 respectively. The time to begin is when required to report for duty, and to end when the locomotive is placed on the designated track, or the enginemen are released, exclusive of meal time, which shall be between 11.30 a.m. and 1 p.m., or 11.30 p.m. and 1 a.m. If required to work during meal hour, it shall be paid for in addition to the minimum day, and 30 mins. shall be allowed under pay for meals.

Beginning and Ending of Day.—In all classes of road service, the enginemen's time will commence when they are required to report for duty, and shall terminate when the locomotive is placed on the designated track or relieved by the hostler at the terminal.

Terminal Delay.—Pay shall begin at the time enginemen are required to report for duty. The final terminal delay in freight service shall be computed from the time the locomotive reaches the designated main track switch connected with the yard track, and in passenger service, from the time the train reaches the terminal station, and after the lapse of 30 mins. will be paid for the full delay at the end of the trip at the overtime rate on the minute basis, except when road overtime has commenced, when terminal overtime shall not apply.

Automatic Release and Tie-up.—Enginemen tied up under the law will be paid continuous time from the initial point to the tie-up point, and when resuming duty on a continuous trip, they shall be paid from the tie-up point to the terminal: 50 miles, or 5 hours or less, 50 miles pay; up to 100 miles or 10 hours, 100 miles pay; over 100 miles or 10 hours at schedule rates.

Held Away from Home Terminals.—Enginemen in pool freight or unassigned service at other than home terminal, will be paid continuous time after 22 hours from previous release at the rate paid for last service. If held 14 hours after the first 32 hour period, pay to be continuous for the next 10 hours, or until the end of the 24

hour period, and similarly for each 24 hour period thereafter. If called for duty after pay begins the time will be continuous.

Deadheading.—On company's business on passenger trains, per mile, locomotive drivers and firemen, respectively 4.3 and 2.5 cts., and on other trains, 4.75 and 2.75 cts., provided that a minimum day is paid for.

Hostlers.—Minimum pay, 12 hours or less, \$4.20 a day, overtime pro rata. Enginemen to be given preference in these positions. Other locomotive house employes handling locomotives 25% of time, to be paid \$3 for 12 hours or less, overtime pro rata.

Efficiency Tests.—Value recognized, but must be conducted under conditions not hazardous to employes.

Assistance for Firemen.—Coal must be shovelled forward at specified points or by men on tender for that purpose, so that it can be reached by fireman from the locomotive deck. Coal of proper size to be used.

Two Firemen.—When two firemen are deemed necessary on locomotives of over 200,000 lbs. on the drivers, committees will discuss the matter with the proper officials, and in the event of failure of a settlement, to be referred to a committee of five, two appointed by the railway, two by the committee, and one by the four assembled. Rulings for the selection of the fifth man in event of dispute are laid down.

Miscellaneous.—Firemen shall be relieved of cleaning all locomotives. Enginemen having to set up wedges, fill grease cups, clean headlights and place supplies on locomotives, shall be relieved of this work where competent locomotive house forces are maintained.

Official Record of Weight on Drivers.—Each railway shall keep bulletins at terminals showing weights on drivers of all locomotives in service.

Throwing Switches and Flagging.—No general rules formulated owing to complexity of the service and the variety of such rules.

Refund of Unused Railway Tickets.

The Board of Railway Commissioners passed general order 143, April 29, as follows:

Complaints having been made to the Board, and its appearing that considerable inconvenience and annoyance have been caused the public by delays on the part of railway companies in making repayment to ticket holders, as required under the Passenger Tickets Act, R.S.C. 1906, chap. 38, it is ordered that every railway company repay to every holder of a ticket over its railway, within 30 days from demand in the case of a single line ticket, and within 60 days from demand in the case of a joint ticket, the cost of the said ticket if unused in whole or in part, less the regular fare for the distance for which such ticket may have been used. That every such railway company failing to comply with the foregoing regulation be liable to a penalty not exceeding \$25 for every such failure.

Railway Stores, Limited, has been incorporated under the Dominion Companies Act, with a capital of \$20,000 and office at Ottawa, Ont., with very extensive powers, but primarily "to import, export, manufacture, buy, sell and deal in goods, wares and merchandise." It also has authority to build or acquire wharves, railway sidings, electric power plants, or anything else which may be considered necessary for the purposes of its business. The provisional directors are: J. Milk, H. E. White, P. McLaren, J. F. Haskin, A. Gamble, C. W. Leach, R. J. Willoughby, G. A. Owens, W. L. Best, Ottawa.

Rates on High Explosives to Grand Trunk Railway Stations.

The Interstate Commerce Commission having had before it the question of rates on high explosives to G.T.R. stations, the following report, prepared by Commissioner Harlan, was adopted under date of April 12:—

Without encumbering this report with dates, figures, rate tables, and other unnecessary details, it will suffice to say that it appears from the testimony adduced of record that in the undeveloped districts of Michigan farmers and others make quite a general use of dynamite in clearing their lands and for other purposes; that there is a substantial movement of high explosives to those regions from Baltimore, Wilmington, and Philadelphia; that the usual route to G.T.R. points in Michigan is by various lines to Buffalo, thence through Canada over the rails of the Canadian member of the G.T. system, namely, the G.T.R. of Canada, and thence to destination of the rails of the G.T. Western Ry., the domestic member of that system; and that for a number of years both the Canadian and the domestic members of the G.T. system have joined with the lines east of Buffalo in maintaining through routes and joint rates for the carriage of high explosives from the points of origin just mentioned to the destinations in question.

In the tariffs under suspension, filed by the respondents (the Philadelphia and Reading Ry.) at the request of the G.T. system, it is proposed to cancel these joint through rates and apply the intermediate rates to the traffic, thus materially increasing the cost of the through carriage, particularly on less than carload shipments. From Philadelphia to Caseville, for example, the present less than carload rate of \$1.32 is raised to \$1.76, an increase of 44 cts. per 100 lbs. To all points the increase proposed on less than carload traffic is substantial. The carload rate between the points last mentioned is raised from 66 to 88 cts., an increase of 22 cts. per 100 lbs. The proposed carload rates to other points are increased in the same general proportion.

The higher charges that will apply, if the tariffs in question are permitted to become effective, have not been justified of record by the respondents, and no substantial effort to do so was made by them so far as their mere reasonableness is concerned. The protestants, on the other hand, offered testimony tending to show that the withdrawal of the present joint rates would practically defeat the movement of high explosives to the destinations in question because the small jobbers in that territory could not handle these articles in carload lots, and the intermediate rates and the increased minimum charges on less than carload shipments, that would be applicable if the joint rates are canceled, would so increase the cost of the explosives as to put them beyond the reach of the farmers and others who use them in small quantities.

The justification offered by the carriers for the withdrawal of the joint rates rests chiefly on the assertion that it is against the policy of the G.T.R. of Canada to maintain joint through rates on high explosives. This statement was definitely made of record and upon the argument, and yet the evidence apparently shows that the Canadian member of the G.T. system for many years has participated in such rates and in recent years, in conjunction with its connections, has moved large quantities of high explosives over its rails under joint rates. It is stated that the existence of such rates was the result of an inadvertence on the part of the domestic member of that system, but if so, the inadvertence appears

to have been consistently observed through a period of years while the traffic in these commodities was moving over its rails in appreciable volume. It appears, however, that under the Canadian act respecting railways, carriers are expressly relieved from any public obligation to carry high explosives; and that act is appealed to as the basis of the policy now asserted by the G.T.R. of Canada of not joining in through rates on such commodities. We do not understand, however, that it now refuses, or proposes in the future to refuse, to carry high explosives in Canada on the local rates established by it for that traffic.

A sharp issue is made on behalf of the G.T.R. of Canada, the Canadian member of the G.T. system, as to the legal power of this Commission to require it to continue to participate in this traffic under the present joint rates. Its rails lie within the Dominion of Canada, and its corporate life and operations as a railway are carried on under the authority of the laws of Canada. It is contended, therefore, that this Commission has no authority to require the G.T.R. of Canada without its consent either to establish or to continue to maintain joint arrangements with our domestic carriers for the through movement of any traffic, and especially for the carriage of dynamite and other high explosives. The Canadian Commission in dealing with movements from the United States into Canada has recently held that the only practicable course for that Commission was not to interfere with the rates published by carriers within the jurisdiction of this Commission, and that upon a parity of reasoning our jurisdiction should be similarly limited with respect to rates published by Canadian carriers for movements into the United States. Some such understanding as between the two regulating bodies is desirable, as in *International Paper Co. v. D. & H. Co.*, 33 I. C. C., 270, as well as in other cases, this Commission has announced the same principle as a reasonable working basis in dealing with such traffic. It is there said (p. 274):

"The Canadian board has held that it should not consider the reasonableness of joint rates from points in the United States to points in Canada, published by U.S. carriers and concurred in by Canadian carriers. It has taken the position that this Commission having jurisdiction over the carriers primarily responsible for the making and publication of such rates, is the proper tribunal to consider the reasonableness thereof. *Continental Prairie & Winnipeg Oil Co. v. C.P. Ry. Co.*, 13 Can. Ry. Cas., 156; *C.N. Ry. Co. v. G.T. Ry. Co.*, 10 Can. Ry. Cas., 139."

We added that, in view of careful investigation that had been made by the Canadian Commission, we would not require the carriers subject to our jurisdiction to withdraw their concurrences in the rates there under consideration, namely, from points in the Dominion of Canada to points in the state of New York.

In the case before us here, however, we are called upon to consider the rights of shippers with respect to rates for the movement of traffic, not to or from points in Canada, but from a point in the United States through Canada to another point in the United States. While our powers respecting the through charges on such traffic seem not to have been considered in any previous formal proceeding before us, we had been under the impression that sec. 1 of the act imposes upon all the carriers participating in such traffic some control with respect to their charges for the service and particularly when the charges take the form of joint through rates. Such joint rates obviously are not under the control of the Canadian Commission and, under the principle referred to in the cases last

cited, seem necessarily to fall within our jurisdiction.

It is doubtless true that this Commission could not require a Canadian line not engaged in such traffic to accept shipments against its will or in violation of any Canadian police or other lawful regulation. But the G.T.R. of Canada does not propose to retire from traffic between domestic points in this country that may move over its rails. It does not propose even to retire from the traffic in high explosives between such points; on the contrary, as heretofore stated, we gather from the record that it proposes to continue to participate in the movement of high explosives from points in the U. S. to other points in the U. S. It will continue to accept through billing on such traffic, so far as this record advises us, even if the joint through rates are permitted to be canceled; but the policy announced by it is simply that it no longer desires to maintain joint rates on such commodities and hereafter will apply its materially higher local rates on all such through shipments. While proposing to continue in general traffic between our domestic points and in the movement of high explosives, the G.T.R. of Canada nevertheless denies that this Commission has any power to review or control its course in the premises with respect to the matter of its rates for the through movement.

There may be that limitation upon our powers respecting the rates and practices of carriers moving traffic between domestic points over intermediate Canadian rails. But obviously no definite ruling upon questions involving a possible conflict of authority as between the rate regulating bodies of this country and of Canada should be announced in such a case as this and upon such a record and without the most ample consideration of the matter in all its phases. We shall therefore express no final conclusions at this time respecting the question of our jurisdiction and the application of our act under the terms of sec. 1 to the rates and practices of the carriers moving traffic between domestic points over intermediate Canadian rails. The domestic member of the G.T. system is clearly subject to all the provisions of our act, both in the matter of its rates and routes, and under our law may inaugurate no such policy with respect to this particular traffic that has been announced by the Canadian member of that system. The points in Michigan on the rails of the domestic member of the system may be reached over reasonably convenient routes lying wholly within the U. S.; and a number of the carriers operating south of the lakes in our own territory are parties to the tariffs in question. The protestants are entitled to through routes and reasonable joint rates on this traffic to such destinations, and we shall expect the respondents to withdraw the tariffs under suspension until such routes have been established over the rails of our own lines at the through rates now in effect in connection with the G.T. system. In such rates and routes to local points on its rails the G.T. Western Ry. will be expected to join.

An order will be entered requiring the respondents to withdraw the tariffs under suspension until through routes and joint rates have been established as indicated in this report.

The Greater Winnipeg Water District Commission has under consideration tenders for the supply of tools and equipment for its machine shops at Deacon, Man. (May, pg. 170.)

The Canada Steamship Lines, Ltd., has given positive instructions that no intoxicating liquors are to be sold on any of its Lake Ontario boats this season.

Rail Creeping.

By J. J. Bethune, Roadmaster Prince Edward Island Railway.

Following are some of the causes of rail creeping: (1) The effect of gravity, from the top of the grade to a sag, together with the application of the brakes to the wheels on the down grade, is the first or aggressive cause. (2) Track laid without the proper spaces left at end of rails for expansion, this causing rails to creep in the direction of least resistance, if there are no trains running on it. (3) Track not properly buried in ballast to prevent ties moving sideways. (4) Spikes not driven down tight in contact with rail flange. (5) Slot spikes at joints getting worn out, and in some cases breaking off. (6) Joint bolts not kept perfectly tight. With the exception of the first cause these can, by close attention, be, to a certain extent, remedied.

In order to prevent rail creeping, or at least reduce it to a minimum, track must be well ballasted and filled within 1 in. of top of tie, with good heavy gravel or broken stone ballast, tie properly spaced and placed at right angle with rail, spikes at intervals kept driven down with head in contact with rail flange, slot spikes kept in good condition and in place, track bolts kept tight, and I have found it a good plan where joint ties keep pushing down grade in light ballast to put short struts made of 2 x 3 spruce between ends of ties on the down grade side, for three or four spaces, in order to get the support of the side thrust of three or four more ties to assist joint tie. No doubt the best preventive and final one, with the other conditions I have mentioned being attended to, is to apply a good anti-creeper, of which there are many on the market. I am not in a position to recommend any particular kind, as my experience in the use of them is limited.

But there are some peculiarities about rail creeping that are difficult to solve. I have in mind a piece of track on my own division on a down grade of 1.4% and curves of 9 degrees. On three miles there is only 0.3 mile of tangent altogether, made up of short tangents between curves. The right and left curvature about balances, track direction being about due east and west. This piece of track has in two years crept 18 ins. more on the north rail than on the other. It would be reasonable to think that on a long simple curve the outside rail would have a greater tendency to creep on account of the continual side friction of the wheels, but in the case I have mentioned, on account of the curves being about balanced, it is natural to conclude that the creeping would be about equal on both sides of the track. I would be pleased to have the opinion of some of your readers on this point. The only reason that I can see for this difference is that perhaps the heat of the sun in summer would have a better chance to strike the north rail during midday, especially in clay cuttings, where the south rail would be, to a certain extent, sheltered.—Can. Gov. Ry.'s Employees' Magazine.

Railway Rolling Stock Notes.

The Canadian Northern Ry. has received 2 box cars from Crossen Car Co.

The Grand Trunk Pacific Ry. has received 13 express refrigerator cars, nos. 6000 to 6012, on an order of 50, from Canadian Car and Foundry Co.

The Intercolonial Ry has received 5 steel snow ploughs from Canadian Car and Foundry Co., and 5 box cars, 80,000 lbs. capacity, from Nova Scotia Car Works.

Press dispatches state that the Russian Government has placed orders, with the

Canadian Car and Foundry Co., for 2,000 box cars, and with the Eastern Car Co. for a similar number. Details of the construction, it is stated, are not complete, but it may be stated that the gauge of the Russian railways is 5 ft.

The private car being built for J. C. Eaton, Toronto, by the Preston Car and Coach Co., is to be of steel exterior finish, with the interior finished in wood. It will have an observation platform, observation room, 3 bedrooms, 2 sleeping sections, a dining room, servants' room and kitchen and will have all the latest improvements that are usually found on a car of this type. It will be provided with electric light and gas, and very probably Edison storage batteries will be used. The type of underframe will be similar to that used on C.P.R. and C. N.R. passenger cars, viz., the box girder type instead of the fish belly type.

Referring to the vote of \$2,250,000 by the Dominion Parliament at its last session for rolling stock for the Canadian Government Railways, some details of which were given in our last issue, we have been officially advised that the orders concerned are as follows.—National Steel Car Co., 8 steel sleeping cars, placed Mar. 11, date for delivery, Aug. 1; Preston Car and Coach Co., 4 steel sleeping cars, ordered Mar. 11, date for delivery July 31; Nova Scotia Car Works, 200 steel flat cars, ordered Mar. 11, date for delivery Aug. 1; Eastern Car Co., 250 steel gondola cars, ordered Mar. 11, date for delivery July 1; Canadian Allis-Chalmers, 3 consolidation locomotives, ordered Apr. 1, date for delivery July 31, and 4 switching locomotives, ordered Apr. 15, for delivery during May; Montreal Locomotive Works, 10 Pacific type passenger locomotives, ordered Mar. 13, 1914, delivered during Aug. 1914; Intercolonial Ry. Shops, Moncton, N. B., 4 baggage cars and 2 postal cars, for delivery by March, 1916. In addition to the foregoing, superheaters will be applied to 12 locomotives at the I.R.C. shops at Moncton.

Canadian Northern Railway Construction, Betterments, Etc.

Canadian Northern Quebec Ry.—The Minister of Railways has approved route map in respect of revised location of the projected railway westward from Huberdean, Que. Huberdean is the terminal point of the old Montford and Galineau Colonization Ry., and is situated 45 miles from the connection with the Montreal-Quebec line.

Canadian Northern Ry.—We are officially advised that while it is proposed to add some additional sidings to the terminal yards at Port Arthur, Ont., it is not proposed to make such extensive additions as a recent press report stated.

No official announcement has been made by the management as to its construction programme for the season for the territory from Winnipeg to Edmonton, but it is said that no new work will be put in hand. Whatever is done will be in the way of completing lines on which track has been laid, and going on with grading where there are uncompleted contracts. Even to what extent this is to be done is as yet uncertain. The only definite announcement is one credited to M. H. McLeod, General Manager, to the effect that ballasting on the main line west of Edmonton will be carried on. This will cover the Canadian Northern Pacific Ry. from the Alberta-British Columbia boundary to the Albretha Summit, construction of which was in charge of the Winnipeg office. The first gangs of men were sent out on the line April 29, and it was expected that over 1,200

would have been sent out from Edmonton by May 3. There are also a number of the smaller steel bridges to be put in by the bridge building companies between Yellowhead pass and Albretha Summit. Track is at present being carried over these streams by temporary bridges.

Two trains a week are being operated on the Peace River Branch, which at present extends from Oudway to Sangudo, Alberta, 38 miles. Grading has been completed from Sangudo, to Whitecourt and settlers are hoping that track will be laid on this section during this year.

Canadian Northern Pacific Ry.—A regular train service has been placed in operation on the first section of this line from Port Mann to Hope, B.C. This service will be extended as the other sections of the line are finally completed. The work to be done consists of the completion of the ballasting, and the general finishing up of construction work. It is expected to have the entire line opened up by Aug. 1. (May, pg. 180.)

Victims of the Lusitania Disaster.

Additional comment on the sinking of the Cunard Line steamship Lusitania, by German torpedoes, off Old Kinsale Head, on the south coast of Ireland, May 7, is needless. The world wide indignation at such a heartless, and for all practical war purposes, useless crime, has been voiced in the daily press. There is no doubt that the vessel's destruction was carefully planned with the view of frightening the allied powers and the United States into removing the restrictions placed on shipping so far as Germany is concerned. In the main, the effect will be in the opposite direction. Diplomatic protests have been made to Germany by the neutral powers, and the outcome is a matter of guess work.

Among those who lost their lives in the sinking of the vessel, and who were more or less connected with transportation interests in the Dominion, were the Misses Anna and Gwen Allan, daughters of Sir Montagu Allan, formerly of the Allan Line, Montreal; F. S. Hammond, son of the late H. C. Hammond, formerly President of the Northern Navigation Co., Toronto; F. S. Pearson, who was associated with Sir William Mackenzie and others in a number of traction and allied companies in Mexico and Brazil; and F. Skelton, a director of the Canadian Shovel and Tool Co., Hamilton, Ont., and father of F. A. Skelton, Secretary, Canadian Car and Foundry Co., Montreal.

Among those on board who were saved were Lady Allan, wife of Sir Montagu Allan, Montreal; Mrs. F. S. Hammond; R. Holt, son of Sir Herbert Holt, director, C.P.R., Montreal; F. Orr Lewis, President, Canadian Vickers, Ltd., Montreal; D. A. Thomas, of Cardiff, Wales, who is connected with the projected Pacific, Peace River and Athabasca Railway and allied concerns in the Peace River District, Alberta, and his daughter, Lady Mackworth.

F. S. Pearson, was born in Lowell, Mass., July 3, 1861, and for some years practised as a mining engineer in the U.S. and Brazil. In 1888 he was Manager of the Somerville Electric Light Co., Somerville, Mass., and later served as Chief Engineer, West End St. Ry., Boston, Mass., and of the Dominion Coal Co., Sydney, N.S., which company owned the Sydney and Glace Bay Electric Ry., now owned by the Cape Breton Electric Co. Latterly he was President and director of the Mexico Tramways Co., Mexican Light and Power Co., Mexico North Western Ry., Rio de Janeiro Tramway, Light and Power Co., Barcelona Traction, Light and Power Co., and a director of Sao Paulo Tramway, Light and Power Co.

Operating Results of United States Railways.

The net operating income of U. S. rail-ways for February, the latest figures avail-able, increased \$52 per mile, or 44.3%, com-pared with Feb., 1914; but Feb., 1914, was an abnormally poor month, net operating income per mile being 44.0% less than in February, 1913. The increase shown in February, which only partially overcomes the considerable decrease in the same item a year ago, is the result of radical reduc-tions in operating expenses.

Total operating revenues were \$205,112,212, a decrease from 1914 of \$1,961,957. Operating expenses were \$155,031,302, a de-crease of \$13,966,146. Net operating revenue was \$50,080,910, an increase of \$12,004,189. Taxes were \$10,995,903, a decrease of \$296,011. This left \$39,028,155 for net operating income, available for rentals, in-terest on bonds, appropriations for improve-ments and new construction, and dividends. Operating revenues per mile of line aver-aged \$897, a decrease of 1.9%; operating expenses per mile averaged \$678, a decrease of 9.1%; net operating revenue per mile averaged \$219, an increase of 30.3%, while taxes per mile were \$48, a decrease of 3.5%. Net operating income per mile was \$171, an increase of 44.3%. Railways operating 228,678 miles of line are covered by this summary, or about 90% of the steam rail-way mileage in the U. S.

The eight months of the current fiscal year show a decrease in total operating revenues per mile of line of 7.9% compared with the corresponding period of the pre-ceding year, a decrease in net operating expenses per mile of 9.7%, and a decrease in net operating revenue per mile of 3.2%. This net operating revenue per mile increas-ed 3.7% in the east, decreased 17.8% in the south, and decreased 3.7% in the west.

February operating income per mile was 44.3% greater in 1915 than in 1914, 19.6% less than in 1913; 18.1% less than in 1812, and 5.8% less than in 1911.

Train Operation on Roberval-Saguenay Railway.

The Quebec Public Utilities Commission in a recent judgment upon the petition of the municipalities through which the R.S. Ry. passes, has ordered that the company submit for approval a schedule train ser-vice, either by passenger or mixed trains, whereby a train with passenger and bag-gage accommodation will proceed directly from Bagotville to Ha Ha Bay Jct., so as to connect with the Quebec and Lake St. John Ry.'s outgoing morning train from Chicoutimi, and the same company's in-coming train which arrives from Quebec in the evening and which passes Ha Ha Bay Jct. en route to Chicoutimi. This service is to be maintained in constant operation every day except Sundays, or on such days as the Q. and L. St. J. Ry. trains are regu-larly scheduled. In the event of the com-pany desiring to diminish this service at a future date it shall make application to the Commissioner, filing full reasons, details of traffic and statements in support thereof at least 30 days before it is intended to put such altered schedule into effect. It is also directed that the company take means to render the present mixed train service more conformable to the time scheduled for it than its present operation shows.

In reference to allegations made as to improper and insufficient passage accom-modation upon trains and the backing of trains over considerable distances in a dangerous manner, the Commission finds that they have substantial foundation, and

are not to be altogether entertained. The backing of trains, however, does not appear to be sufficiently protected, and the Com-mission directs that a man be stationed on the front car in backing up, provided with a whistle, bell or horn during the day, and a light at night, to give warning of the ap-proach of the train.

In giving reasons for this order the commissioners state that while the train service at present being given complies with the minimum required by the sub-sidiary contract between the Department of Railways and the company, is not an adequate and reasonable provision for the passenger requirements of the public, and moreover failed entirely to make connection with the Q. and L. St. J. Ry. trains at Ha Ha Bay Jct. or Chicoutimi, which was one of the reasons for granting the Dominion and Provincial subsidies. The company submitted that the traffic on the line did not warrant the outlay necessary to give the additional service, and pointed out that the present service was given at a loss for the year ended Dec. 31, 1914, of \$3,923.93. The applicants contended that one reason for this deficit was that special freight rates, considerably below its ordinary charges, had been granted certain shippers. The commissioners do not say that a clear tention to this "as it is an apparent or real breach of the law governing such matters." The commissioner's do not say that a clear case is made out for this, "but it certainly appears that the rates charged by the com-pany in certain instances are lower than the general and accepted tariffs would war-rant * * * * We are of opinion that with some reasonable change in its freight tariff charges and more regard for the con-venience of passenger traffic the operating returns would be increased. In any event we feel that the object for which public aid has been given in a substantial way (representing approximately one-half of the total cost of the lines) is being largely defeated by the meagre passenger accom-modation that is presently afforded."

Canadian Overseas Railway Construction Corps.

This corps, which has been raised by the C. P. R. management at the request of the British War Office through the Dominion Militia Department, and the details of the organization of which with a diagram of the same are published in Canadian Railway and Marine World for April, has been mobil-ized at Christopher's Pit, just outside West St. John, N. B., where the officers and men have been accommodated in between 40 and 50 C. P. R. cars which were placed on sid-ings there.

F. L. Wanklyn, General Executive Assis-tant, C. P. R., has been appointed Honorary Lt. Col. of the corps.

Following is a list of the officers with par-ticulars of their civil and military qualifica-tions:

Regimental Staff.

Officer Commanding, rank, Lieutenant Colonel, Colin Worthington Pope Ramsey, age 32; 16 years general railway construc-tion. Captain's Class A certificate Royal School of Infantry, St. Johns, Que., 1902. Gazetted Lt. Col., March 11, 1915.

Chief Engineer, rank, Major, John Garnett Reid, age 37; 18 years general railway con-struction.

Adjutant, rank, Captain, LeRoy Fraser Grant, age 31; 2 years railway construction and 6 years general municipal engineering. Graduate Royal Military College and two years commissioned officer in permanent force Canadian Militia.

Medical Officer, rank, Captain, Frank

Ernest Pettman, age 36; 2 years general practice and hospital experience, three years in charge of hospitals on railway construc-tion work in B. C.

Quartermaster, rank, Major, Bertram Poidevin Richardson, age 43; 19 years rail-way construction and general engineering work. 1900-03 Quartermaster and Superin-tendent of military works South Africa (war medal).

Paymaster, rank, Captain, John Henry Pope, age 31; 12 years general business ex-perience. Field officer's certificate, Divi-sional School, Sherbrooke, Que., 1903.

No. 1 Company.

Superintendent of Construction, rank, Major, Chelton Longley Hervey, age 43; 23 years general railway construction work. St. Johns Military Academy and one year sergeant in U. S. Engineers, Spanish-Ameri-can War. 1909-15 Lieut. Corps of Guides, Divisional Area No. 4.

Mechanical Engineer, rank, Captain. (Var-ious applications being considered for this position.)

Superintendent, rank, Lieutenant, Daniel Hillman, age 38, 14 years general railway construction.

Superintendent, rank, Lieutenant, William Henry Douglas Murray, age 35; 17 years railway and building construction and general contract work; 8 years with volunteers, portion of time non-commissioned officer.

Bridge Engineer, rank, Lieutenant, LeRoy Zimmerman Wilson, age 26, 6 years with Do-minion and St. Lawrence Bridge Co.'s de-signing and erecting engineer. Provincial Lieutenant 4th Field Company, Canadian Engineers. Recently qualified.

Superintendent, rank, Lieutenant, Henry Wellwood, age 36; 12 years general railway construction. Provisional Lieutenant 38th Regiment; recently qualified.

No. 2 Company.

Superintendent of Construction, rank, Major, Alfred George Tully LeFevre, age 41; 21 years general railway construction. Graduate Royal Military College. Captain and acting Adjutant 5th Westmount Rifles.

Bridge Engineer, rank, Captain, (Various applications being considered for this posi-tion.)

Superintendent, rank, Lieutenant, Ken-neth A. Ramsay, age 33; 13 years general railway construction. Royal Military Col-lege 1900-02.

Superintendent, rank, Lieutenant, Erks-kine Duncan, age 34; 14 years general rail-way construction; 2 years with volunteers in ranks.

Superintendent, rank, Lieutenant, Francis Bernard Connors, age 28, 9 years general railway construction; 2 years with volun-teers Jan. 13, to Mar. 15, 1915. Sergeant 12th Canadian.

Superintendent, rank, Lieutenant, Henry Lewis Sherwood, age 33; 12 years general railway construction. Graduate Royal Mil-itary College, 1903.

Overland Wireless Telephony between Scranton, Penn., and Binghamton, N. Y., 63 miles, has been developed by L. B. Foley, Superintendent of Telegraphs, Delaware, Lackawanna & Western Rd. For some time the company has maintained wireless tele-graph communication between Hoboken, N. J., Scranton, Binghamton and Buffalo, N. Y., and between these stations and moving ex-press trains. This service has been relied on in emergencies (storms) to maintain the train dispatching. The use of radio-telephony as well as telegraphy is part of the develop-ment of this auxiliary service; it is desired thus to communicate over a distance of 50 miles from a fixed station to a train and over 150 miles between fixed stations.

Canadian Pacific Railway Construction, Betterments, Etc.

Sir Thomas Shaughnessy, President, returned to Montreal, May 6, after a trip to California, from which he returned via Vancouver, inspecting the company's western lines en route. He stated that on the trip he had given instructions to have full gangs of men put at work all along the line on track improvement and on general betterment undertakings. This kind of work is ordinarily started at this time of the year, and in view of the present situation it was decided to do all of it as soon as possible instead of spreading it over the entire construction season. It is expected that as a result the total amount of work done will be considerably in excess of what would ordinarily have been accomplished. To some extent this same policy is being carried out on the company's eastern lines. There is not, however, the same amount of work to be done in the east as in the west. It is hoped that this policy will tend to relieve the unemployment situation which has been proving a strain upon the municipal authorities in some places. There will not be any new work undertaken at present, but all work in hand will be continued.

Eastern Division.—A spur line of about 2,000 ft. has been built a few miles east of Dorval, Que., to the new cavalry remount depot established by the Dominion Government, where accommodation is provided for 3,000 horses. The spur will provide for the handling in and out of the horses, together with feed, etc. A 1,000 ft. platform has been built. The work was done in six days by the company's own forces under the charge of R. McKillop, Division Engineer.

Ontario Division.—Darling & Pearson, architects, Toronto, have been engaged to prepare plans for the union station at North Toronto for the joint use of the C.P. R. and the Canadian Northern.

Pacific Division.—A press report states that a subcontract has been let to the Bates and Rogers Construction Co., Spokane, Wash., for concrete lining the Rogers Pass tunnel. The estimated cost of the work to be done under the contract is said to be \$300,000. (May, pg. 176.)

Railway Development in British Columbia.

In an interview by a representative of Canada, a periodical published in London, Eng., Sir Richard McBride, Premier of British Columbia, while visiting England, is reported to have said, recently:—

"Railway development has been progressing at a splendid rate in British Columbia. Of the different railway projects with which the province has been associated, the Kettle Valley Ry., which is part of the C. P. R. system, will be completed and in operation this year. The main line of the Canadian Northern has already been completed to tidewater at the coast, and I have it on the authority of Sir William Mackenzie that a regular train service will be inaugurated during the summer. On Vancouver Island the C. N. R. has proceeded splendidly with construction between Patricia Bay and Alberni, and negotiations are now in progress between the Government and the company to the end that the steel will be laid and a train service on the Island inaugurated in the near future. The Pacific Great Eastern, from Vancouver to Fort George, has been graded throughout the entire mileage, with the exception of a small section round Howe Sound, and upward of 50 miles of the road

are now in operation. The P. G. E. R., in addition to opening up a large section of the interior, will also bring the G. T. Pacific system into touch with the city of Vancouver. It is expected that this line will prove of great value to the country. The G. T. P. R. is operating three trains a week through to Prince Rupert, and I have no doubt that as soon as conditions warrant, the people of the northern district will have a daily trans-continental service.

"In respect of the Pacific Great Eastern, the proposals of the Province are to carry this road to the Peace River, and unquestionably, when money conditions permit, the portion of the line from Fort George north will be at once undertaken. Considerable interest has been taken on the U. S. side in the P. G. E. R. development, in view of the attention which the U. S. Government is devoting to the opening up of Alaska. Those who have studied the problems of western development seem to be of the opinion that unless and until the U. S. Government joins with that of British Columbia or of Canada in permitting the continuance of the P. G. E. R. further north through Yukon and into Alaska, the whole making a main arterial line, the expansion and development of the northern section of the continent will not proceed as it ought to do. Personally, I have been closely in touch with Washington and Ottawa in the endeavor to have the subject actively pushed, and I have every reason to feel that the day is not far distant when we may be able to claim a north and south line from British Columbia right through to Alaska that will give to hundreds of thousands of enterprising people fresh and profitable opportunities of making new settlements."

A Public Utilities Commission for Alberta.

The Alberta Legislature has passed an act for the creation of a Public Utilities Commission for the Province. It provides for the appointment of three commissioners to hold office for ten years, one of whom shall be chairman. The commissioners are to devote their whole time to the commission's work and may be reappointed upon the expiration of their ten years' term, but no commissioner may remain in office after attaining 70 years of age. Otherwise a commissioner can be removed only by the Lieutenant-Governor upon an address of the Legislature. No commissioner may be financially interested in any public utility in the Province, or in any device or appliance used in the business of a public utility.

The commissioners are to have a supervisory jurisdiction over public utilities with power to make such orders as to equipment, appliances, safety devices, extension of works or system as are necessary for the safety or convenience of the public, or for the proper carrying out of any contract or franchise involving the use of any public property or rights; and to enquire into the merits of any application of a local authority to raise money by debentures, and to grant or refuse permission.

Public utilities owned by the cities or towns of the Province are exempt from the provisions of the act, unless a bylaw be passed bringing them under it, and public utilities owned by corporations existing at present are also exempted.

The commissioners will have jurisdiction in all questions relating to the transportation of goods, or passengers on the lines of any street railway, or steam railway, and may authorize any such company to carry goods or passengers on its lines for any

period of time and at such prices as it may fix. It will have jurisdiction in regard to tolls charged; may order extensions; and has power to see to the making of agreements between municipalities and the owners of public utilities.

It is given full power to hold investigations into all matters within its purview, either upon its own initiative, or upon receipt of a complaint; to obtain information as to how the owners of public utilities are complying with the law; to appraise and value public utilities when necessary; to impose and enforce regulations for the safety of the public and employes, etc.

No franchise for a public utility is hereafter to be granted without the approval of the commissioners; and no railway company may close a station, or stop the sale of passenger tickets or remove an agent, to receive and discharge freight at any point without the consent of the commissioners.

Discrimination in Favor of Grand Trunk Railway Prohibited.

The Interstate Commerce Commission has rendered a decision in which it finds that the practice of the Crosby Transportation Co., in selling through tickets via its boats and the Detroit, Grand Haven & Milwaukee Ry. between Milwaukee, Wis., and Grand Rapids, Mich., and refusing to sell through tickets between the same points via the Grand Rapids, Grand Haven & Muskegon Ry., is unjustly discriminatory. The Detroit, Grand Haven & Milwaukee Ry. is a steam road, operated by the Grand Trunk Ry. The Grand Rapids, Grand Haven & Muskegon Ry. is an electric interurban line. The following extracts from the decision sufficiently describe both the circumstances of the case and the position which the commission takes: "That the service of the electric road accords with the convenience of a large proportion of the travelling public is evidenced by the fact that a considerable number of persons travel over the electric line in the journey between Grand Rapids and Milwaukee, although put to the inconvenience of buying new tickets and rechecking baggage at Grand Haven. The docks at Milwaukee used by the Crosby Transportation Co. are owned by the Chicago, Milwaukee & St. Paul Ry., but are leased by the G.T.R. The dock at Grand Haven is owned by the G.T.R. It is urged on behalf of the G.T.R. that its ownership of the dock at Grand Haven should give it the right to exclude its competitor from its use and enjoyment. The Crosby Transportation Co. is an independent company, but is the exclusive carrier for the G.T.R. between Milwaukee and Grand Haven. Its arrangement with the G.T.R. permits the use of the G.T.R. dock by the steamboat company. There is nothing in the record that leads to the conclusion that the use of this dock or of the dock at Milwaukee by the transportation company is contingent on that company turning over all of the through traffic to the G.T.R. Neither is it clear that such a condition could be imposed. The electric line from Grand Rapids to Grand Haven is not in any sense a competitor of the Crosby Transportation Co. The latter named company can not be exempted from fulfilling its obligations as a common carrier to furnish a public service without discrimination. We are of the opinion that the Crosby Transportation Co. by selling through tickets over the G.T.R. between Grand Rapids and Milwaukee and refusing so to do via the Grand Rapids, Grand Haven & Muskegon Ry. unduly prefers the G.T.R. and unduly discriminates against the Grand Rapids, Grand Haven & Muskegon Ry. An order will be entered in conformity with the conclusion herein expressed."

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AND
Marine World**
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ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication.

TORONTO, CANADA, JUNE, 1915.

PRINCIPAL CONTENTS.

Algoma Central and Hudson Bay Ry. Bridges	224
Appointments, Transportation	222
Birthdays of Transportation Men	202
Board of Railway Commissioners,—	
Orders by, Summaries of	208
Traffic orders	225
Canadian Pacific Ry. Construction	220
Lachine Bridge	203
Canadian Government Railways, Branch Lines for	221
Canadian Northern Ry., Coaling Plants ..	201
Construction	218
Canadian Overseas Railway Construction Corps	219
Deleware and Hudson Co. in Canada	224
Electric Railway Department	226 to 235
British Columbia Ry. Reduction in Fares Finance, Meetings, etc.	228
Hamilton, Grimsby and Beamsville Electric Ry. and Ontario's Jurisdiction ..	226
Jitney Situation in Canada	230
Manitoba Public Utility Commissioner and Electric Railways	232
Niagara, St. Catharines and Toronto Railway Club	233
Nipissing Central Ry. Operation	235
Ontario Hydro Electric Power Commission's Railways	227
Projects, Construction, Etc.	229
Toronto Ry. Employees' Wages	225
New Cars	234
Enginemen's Wages, Arbitration Award ..	216
Grand Trunk Ry. Betterments	223
Great Northern Ry. Lines in Canada	225
Hudson Bay Railway	225
Inverness Ry. and Coal Co.	209
Mainly About Railway People	213
Marine Department	236 to 242
Car Ferry Terminal at Carleton Point, P.E.I.	236
Coast, Lake and River Officer	238
Hudson Bay Co.'s Tug and Lighters	237
Railway Companies and Steamboat Lines ..	237
Sault Ste. Marie Canals Traffic	240
Shipping Letters from Head of the Lakes ..	238
Vessels Registered	239
National Transcontinental Ry., Dominion Government Operation of	210

Railway Development	212
Railway Development in British Columbia..	220
Railway Earnings	225
Railway Finance, Meetings, Etc.	209
Railway Mechanical Methods and Devices	206, 207
Railway Rolling Stock Notes	218
Railway Statistics	204
Railway Taxation in Alberta	221
Rates on High Explosives	217
United States Government Railways in Alaska	224

R. F. Morkill Not Killed as Reported.

Railway Review, Chicago, had the two following items in its issue of May 15.

"R. F. Morkill, Signal Engineer of the Grand Trunk Ry., has been killed in the war in Belgium. Mr. Morkill was on leave of absence, serving with the Canadian contingent.

"Barton Wheelwright, Inspector of Signals of the Grand Trunk Ry., has been appointed Signal Engineer, with office at Montreal, Que. R. F. Morkill, formerly Signal Engineer, has been killed while serving with the Canadian troops in Belgium."

Canadian Railway and Marine World is pleased to be able to say with Mark Twain that the items above quoted are "greatly exaggerated."

On May 19, H. R. Safford, Chief Engineer, G.T.R., Montreal, telegraphed to one of Mr. Morkill's Toronto friends in reference to an inquiry as follows:

"No truth in Chicago rumors about Morkill. Last report stated everything satisfactory."

On May 21, H. R. Charlton, General Advertising Agent, G.T.R., Montreal, wrote Canadian Railway and Marine World as follows: "There is no truth in the report that Barton Wheelwright has been appointed Signal Engineer of the Grand Trunk, nor have we any information that Mr. Morkill has been reported in the casualty list."

Barton Wheelwright, Inspector of Signals, G.T.R., has, we are informed, been acting as Signal Engineer since Mr. Morkill left for overseas service.

When last heard from, a short time ago, Mr. Morkill was engaged in the installation of high power searchlights on the English coast.

Acquirement of Branch Lines for the Canadian Government Railway System.

The Minister of Railways moved in the House of Commons, Mar. 24, three resolutions respecting the purchasing of certain lines by the Dominion Government. The first set out that it was expedient to authorize the Minister, subject to the authority of the Governor-in-Council, to construct, purchase or acquire in whole or in part any railway, railway bridge, station, terminal ferry, or other work in Quebec, New Brunswick, Nova Scotia or Prince Edward Island, provided that the lease or contract for purchase be submitted to Parliament; that no railway to be acquired shall exceed 200 miles in length; that no contract for the building of any line of more than 25 miles shall be entered into without an appropriation having been made by Parliament; that any railway so acquired shall form part of the Government railway system, and that no railway shall be acquired unless it directly connects with some part of the then existing Government system. The second resolution ratifies and confirms an agreement made Aug. 1, 1914, with the International Ry. of New Brunswick and Thos. Malcolm, for the purchase of the entire undertaking of the I.R. of N.B., extending from Campbellton to St. Leonard, 112 miles, for \$275,000, payable any time within five years from date of agreement, and pending the payment of the purchase money for the lease of the line at \$90,000 a year, payable

half yearly. The third resolution ratifies and confirms an agreement dated Mar. 18, 1915, for the purchase of the New Brunswick and Prince Edward Island Ry. from Sackville to Cape Tormentine, N.B., 36 miles, for \$270,000, and providing that until the purchase money is paid interest on that amount at 4% shall be paid from Aug. 1, 1914.

The resolutions were passed, but were discussed at some length when they came before the House in form of a bill. The principal amendment made was one authorizing the Minister to lease branch lines, with or without an agreement to purchase, and another providing that where a line over 25 miles in length is acquired no money shall be paid therefor until it has been voted by Parliament.

This matter was under discussion in the session of 1912-13 when power was given to the Minister by the House of Commons to acquire a line not more than 200 miles in length or to build a line not more than 25 miles in length without the consent of Parliament. The Senate declared that this should only be done with the consent of Parliament, and as the House of Commons would not agree, the measure was dropped.

The House of Commons has voted \$12,500 for the International Ry. of New Brunswick, and \$49,700 for the New Brunswick and Prince Edward Island Ry., to bring them up to the standard of Intercolonial branch line construction.

Dominion Atlantic Ry. Men in Active Service.—The following are those in the service of the Dominion Atlantic Ry. Engineering Department, who are now on, or preparing for, active service in Europe:

J. G. St. J. Ellis, heretofore Assistant Engineer, who is in England qualifying for a commission in the Royal Engineers; W. H. Parker, instrument man and masonry inspector, who joined the army at the beginning of the war as a private, and has since received a commission as Second Lieutenant, 2nd Royal Muster Fusiliers; J. R. C. Tyler, instrument man and masonry inspector, 2nd Lieutenant, 7th Battalion York and Lancaster Regiment; C. Hyde, rod man with the Canadian Medical Corps, and W. A. Archibald, with the McGill Hospital Corps.

Women as Conductors. One of the results of the war in Europe is the employment of women to take the places of men, in various capacities, to which they are suited. On the continent, women have been utilized as conductors on street cars for some time, and their services are now being utilized in Glasgow, Scotland, where it is stated the experiment is only being tried with two women employes of the Corporation Tramways, and that no decision has been arrived at as to whether it will be adopted extensively, but, if it is, it will be only a temporary measure to tide over the present shortage

Merchant Navies.—Figures quoted showing the tonnage of the seven chief merchant navies of the world are as follows: Great Britain 20,030,587; Germany, 4,998,746; United States 3,489,736; Norway 2,475,324; France 2,246,504; Japan 1,700,062; Italy 1,571,761. The British tonnage is more than 3,500,000 tons greater than that of the other six countries combined. It is scarcely necessary to mention that the German merchant marine is not in active service at present.

The Medical Officer of Health of Saskatoon, Sask., is using advertising signs on the municipal railway to educate the citizens upon matters under his department's control.

The Moncton & Buctouche Ry. has arranged for its locomotive and car repair work to be done at the Intercolonial Ry.'s shops at Moncton, N.B.

Transportation Appointments Throughout Canada.

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.

Algoma Eastern Ry.—J. A. DRESSER having retired as Manager of the Lands Department, the work is now being carried on under the supervision of R. S. McCORMICK, Chief Engineer. Office, Sault Ste. Marie, Ont.

Canada Steamship Lines, Ltd.—C. E. CROFT, formerly Chief Clerk to Operating Superintendent, Passenger Steamers, Toronto, has been appointed General Agent, Passenger Traffic Department, (Commissary), Office, Yonge St. Wharf, Toronto.

Additional appointments and details of rearrangement of Passenger Traffic territory will be found on another page in the Marine Department.

Canadian Government Railways.—J. K. McNEILLIE, heretofore Superintendent, District 3, Eastern Division, C.P.R., Montreal, has been appointed General Superintendent, Intercolonial Ry., Prince Edward Island Ry. and National Transcontinental Ry. east of Quebec, vice F. P. Brady, transferred. Office, Moncton, N.B.

Dr. W. A. FERGUSON has been appointed Chief Medical Officer. Office, Moncton, N.B.

Appointments consequent on the taking over of the National Transcontinental Ry. Grand Trunk Branch, and the Lake Superior Branch, will be found on another page under "Government Operation of the National Transcontinental Ry."

Canadian Northern Ry.—S. J. HUNGERFORD, Superintendent of Rolling Stock, has had his jurisdiction extended over the Eastern Lines. Office, Winnipeg. (At present he is located in Toronto attending to shell manufacture by the Universal Tool Steel Co., Ltd.)

W. C. MOORE, heretofore Road Foreman of Locomotives, Trenton, Ont., has been appointed Master Mechanic, Ottawa Division, reporting to the Superintendent. Office, Trenton, Ont.

W. H. LONG, heretofore acting General Car Foreman, Toronto, has been appointed Division Car Foreman, Ottawa Division, reporting to the Master Mechanic. Office, Trenton, Ont.

W. M. HOOD, heretofore Travelling Passenger Agent, Toronto, has been appointed City Agent, Passenger, Express and Freight Departments, Oshawa, Ont.

J. W. FINDLAY, heretofore Road Foreman of Locomotives, Parry Sound, Ont., has been appointed Master Mechanic, Toronto Division, reporting to the Superintendent. Office, Parry Sound, Ont.

W. F. MILLER, has been appointed Division Car Foreman, Toronto Division, reporting to the Master Mechanic. Office, Parry Sound, Ont.

O. C. BISHOP, heretofore acting Superintendent, Sleeping, Dining and Cafe Cars and News Department, Winnipeg, has been appointed Superintendent of Sleeping and Dining Cars and News Service, Western Lines. Office, Winnipeg.

J. M. GRIEVE has been appointed Assistant Superintendent of Sleeping, Dining and Parlor Cars and News Service, Western Lines, Office, Winnipeg.

C. D. FRENCH, heretofore in the General Stores Department, has been appointed storekeeper, Humboldt, Sask., vice S. K. Moorcroft, promoted.

S. K. MOORCROFT, heretofore storekeeper, Humboldt, Sask., has been appointed Division Storekeeper, Saskatoon, Sask., vice A. E. Down, who has joined the 28th Battalion for service in Europe.

T. R. McLEOD, heretofore Master Mechanic, Ontario Grand Division, Toronto, has been appointed Superintendent, Pacific Division, and his former position has been abolished. Office, Port Mann, B.C.

Canadian Pacific Ry.—W. H. WINTERROWD, heretofore Mechanical Engineer, Angus Shops, Montreal, has been appointed Assistant to Chief Mechanical Engineer. Office, Montreal.

A. E. STEWART, heretofore District Master Mechanic, District 1, Ontario Division, Toronto, has been appointed Assistant Superintendent, District 2, Atlantic Division, vice W. J. Pickrell, appointed Master Mechanic, Ontario Division. Office, Aroostook, Jct., N.B.

N. E. GUTELIUS, heretofore Resident Engineer, Montreal, has been appointed Resident Engineer, Brownville Jct., Me., vice M. Kelly, transferred.

W. FORREST, heretofore General Car Inspector, Windsor St. Station, Montreal,



F. P. Brady,
General Superintendent, National Transcontinental Ry., and G.T. Pacific Ry. Lake Superior Branch, Canadian Government Railways.

has been appointed Car Foreman at Lake Megantic, Que.

F. W. COOPER, A.M.Can.Soc.C.E., whose appointment as acting Superintendent, District 1, Eastern Division, Farnham, Que., was announced in our last issue, has been appointed Superintendent there.

M. McD. DUFF, heretofore Assistant Manager Steamship Lines, Montreal, has been appointed Manager, Great Lakes Steamship Service. Office, Montreal. We are advised that the change is one of title only, and that his duties remain as heretofore.

M. A. FULLINGTON, A.M.Can.Soc.C.E., heretofore Assistant Superintendent, District 4, Eastern Division, Ottawa, Ont., has been appointed Superintendent, District 3, Eastern Division, vice J. K. McNeillie, resigned to enter Canadian Government Railways service. Office, Montreal.

W. D. NEIL, heretofore at Winnipeg, has

been appointed Superintendent of Telegraph Traffic, Montreal, vice J. Fletcher, transferred to Winnipeg.

W. TANSLEY, heretofore Assistant Superintendent, District 3, Ontario Division, Toronto, has been appointed Assistant Superintendent, District 5, Eastern Division, vice J. H. Hughes transferred. Office, Smith's Falls, Ont.

F. M. RUTTER, A.M.Can.Soc.C.E., heretofore Assistant Division Engineer, Eastern Division, Montreal, has been appointed Assistant Superintendent, District 3, Ontario Division, vice W. Tansley, transferred. Office, Toronto.

G. I. EVANS, heretofore Superintendent, Locomotive Shops, Angus Shops, Montreal, has been appointed District Master Mechanic, Districts 3 and 4, Ontario Division, vice C. Connors, transferred. Office, Toronto.

G. H. DAVIS, heretofore Resident Engineer, District 4, Ontario Division, has been appointed Assistant Division Engineer, Eastern Division, Montreal, vice F. M. Rutter, promoted.

C. CONNORS, heretofore District Master Mechanic, Districts 3 and 4, Ontario Division, Toronto, has been appointed District Master Mechanic, District 1, Ontario Division, Toronto.

J. FLETCHER, heretofore Superintendent of Telegraph Traffic, Montreal, has been appointed Superintendent of Telegraph Traffic, Winnipeg. This is a new position.

H. G. REID heretofore Master Mechanic, Lake Superior Division, North Bay, Ont., has been appointed Master Mechanic, Saskatchewan Division, vice M. J. Scott, transferred. Office, Moose Jaw.

D. COONS, Superintendent of Telegraphs, Alberta Division, Calgary, has been appointed Superintendent of Telegraphs, Saskatchewan Division, vice J. F. Richardson, resigned. Office, Moose Jaw.

M. J. SCOTT, heretofore Master Mechanic, Saskatchewan Division, Moose Jaw, has been appointed Master Mechanic, Alberta Division, vice A. Sturrock, transferred. Office, Calgary.

D. L. HOWARD, heretofore Inspector of Telegraphs, Medicine Hat, Alta., has been appointed Superintendent of Telegraphs, Alberta Division, vice D. Coons, transferred. Office, Calgary.

H. H. GOODFELLOW, heretofore assistant chief operator, Telegraph Department, Vancouver, B.C., is reported to have been appointed Inspector of Telegraphs, Medicine Hat, Alta., vice D. L. Howard, promoted.

A. STURROCK, heretofore Master Mechanic, Alberta Division, Calgary has been appointed Master Mechanic, British Columbia Division, vice D. T. Main, promoted. Office, Vancouver.

W. H. ROWLANDS, heretofore assistant port steward, has been appointed port steward, British Columbia Coast Steamship Service, vice J. S. Byrom, promoted to Great Lakes Steamship Service. Office, Victoria.

Central Vermont Ry.—S. S. RUSSELL, heretofore Superintendent, Northern Division, St. Albans, Vt., has been appointed Special Agent. Office, St. Albans, Vt.

Chicago, Milwaukee & St. Paul Ry.—T. P. CASEY, heretofore Travelling Freight & Passenger Agent, Buffalo, N.Y., has been appointed Canadian Freight & Passenger Agent, succeeding A. J. Taylor, deceased. Office Toronto.

W. H. D. Snazel, who acted in Mr. Taylor's place during his several months' absence through illness, continues as Travelling Freight & Passenger Agent at Toronto.

Dominion Atlantic Ry.—J. A. MACKAY, has been appointed acting Assistant Engineer, vice J. G. St. J. Ellis, who is in Eng-

land qualifying for service with the Expeditionary Force. Office, Kentville, N.S.

Edmonton, Dunvegan and British Columbia Ry.—R. M. HALPENNY, heretofore Trainmaster, Grand Trunk Pacific Ry., Jasper, Alta., has been appointed Superintendent, E. D. & B. C. R., and his former position has been abolished.

Grand Trunk Pacific Ry.—A. KILPATRICK, heretofore Superintendent, Edmonton, Alta., to Prince George, B.C., Edson, Alta., has been appointed Superintendent of the Lake Superior Division, vice A. A. Tisdale, who has been granted temporary leave of absence. Office, Fort William, Ont.

T. W. PALOS has been appointed Locomotive Foreman, Graham, Ont., vice R. G. Gilbride, resigned.

C. E. BROOKS, heretofore General Foreman in charge of Shops, Transcona, Man., has been appointed acting Superintendent of Motive Power, vice J. Billingham, Superintendent of Motive Power, resigned. Office, Transcona, Man.

H. McCALL, Superintendent, Winnipeg, Man., to Watrous, Sask., and Melville-Canora Branch, Edson, Alta., has had his jurisdiction extended to include the Regina Division, on the transfer of J. P. Kirkpatrick to Edson, Alta. Office, Melville, Sask.

J. P. KIRKPATRICK, heretofore Superintendent, Regina Division, has been appointed acting Superintendent, Edmonton, Alta., to Prince George, B.C., and intersecting branch lines, vice A. Kilpatrick, temporarily transferred to Fort William, Ont. Office, Edson, Alta.

W. C. C. MEHAN, General Superintendent, Prince Rupert, B.C., has had his jurisdiction extended to include the territory between Prince George, B.C., and the west switch at North Edmonton, Alta.

The following station agents have been appointed,—Pope, Man., P. C. Sells; Asquith, Sask., R. L. Harrop; Yorkton, Sask., T. J. Shields.

Grand Trunk Ry.—W. C. SEALY, heretofore Assistant Master Mechanic, Ontario Lines, has been appointed Master Mechanic, Ontario Lines, vice J. Markey, deceased. Office, Toronto.

J. R. LECKIE, heretofore Locomotive Foreman, London, Ont., has been appointed Assistant Master Mechanic, Ontario Lines, vice W. C. Sealy, promoted. Office, Toronto.

J. A. WALTON, heretofore Locomotive Foreman, Palmerston, Ont., has been appointed Locomotive Foreman, London, Ont., vice J. R. Leckie, promoted.

W. H. ARCHER has been appointed Locomotive Foreman, Palmerston, Ont., vice J. A. Walton, transferred.

J. McPEAK, formerly Commercial Agent, Detroit, Mich., who has been on leave of absence through ill health, for some time, has returned to service with the title of Travelling Freight Agent, at Detroit, Mich. H. H. Hamill is Commercial Agent there.

The following station agents have been appointed,—Aultsville, Ont., J. A. Roch; Hoards, Ont., R. S. Davidson; Beachville, Ont., C. V. Vail; Mitchell, Ont., W. A. Abay; Ilderton, Ont., C. H. Duplan; Vars, Ont., K. J. Mills; outside agency, Pottersburg, Ont., W. J. Duffin. The station at Terra Cotta, Ont., and the outside agency at Omamee, Ont., have been closed.

Intercolonial Ry.—T. L. LANDERS, has been appointed acting Resident Engineer, District 3, vice W. A. Cowan. Office, Truro, N.S.

F. F. CAREY, heretofore locomotive driver, has been appointed acting District Master Mechanic, District 3, Moncton, N.B.

See also Canadian Government Railways.

National Transcontinental Ry.—See under

"The Dominion Government operates the N. T. R.," on another page.

A. E. DOUCET, District Engineer, section B., at Quebec, retired from the service April 30, and the office was closed. The small amount of work still to be done on the line in that district will be under the jurisdiction of Arthur Dick, formerly one of the division engineers.

Grand Trunk Railway Betterments, Construction, Etc.

Track Elevation in Montreal.—The City Engineering Department has submitted to the Board of Control a further estimate of the cost of elevating the G. T. R. tracks from Bonaventure station to St. Henri. The present estimate is \$6,000,000 instead of the \$8,000,000 originally estimated, and towards which the city obtained legislative authority to contribute \$2,000,000. The last estimate of the G. T. R. placed the cost of the elevation at \$10,000,000 and asked the city to



J. K. McNeillie,
General Superintendent, Canadian Government
Railways.

increase its contribution by \$500,000. The present estimate is the reply of the city to the railway company. The principal item upon which there has been a reduction in the city's estimates is in regard to the construction of the bridges across the streets. The city takes exception to the general plan adopted by the railway engineers, under which two sets of columns would be placed under the steel bridges which will span the city streets, piercing the embankment on which the tracks will run. The city officials hold that, in many cases, the columns provide unnecessary strength, and that single span bridges will suffice, thus reducing by a large amount the steel work required. The city, too, does not agree that the company should calculate on getting 6% interest on the capital employed in the improvement, and suggests that a lower rate should be substituted. The contention that 3% should be allowed as the cost of marketing securities which may be rendered necessary as a result of the charges imposed in both parties by the Railway Commission, is not acceptable.

It is expected that the report will be approved by the City Council at an early meeting after which it will go before the Board of Railway Commissioners for consideration along with the G. T. R. plans. (May, pg. 176.)

The Delaware and Hudson Company in Canada.

The Delaware and Hudson Co. owns two railways in Canada—the Quebec, Montreal and Southern, extending from Noyan Jct., to Belleville, 81 miles, from a junction with the G. T. R. at St. Lambert to Fortierville, 109.69 miles, and from St. Constant Jct. to Napierville Jct., 1.40 miles, a total of 192.09 miles; and the Napierville Jct. from St. Constant Jct. to Rouse's Point, Que., 27.06 miles. At the latter point connection is made with the Delaware and Hudson Rd.'s main line, which extends northerly to Wilkes Barre, Pa. The total mileage of railways owned and operated by the company is 903.99, so that almost 25% of its mileage is in Canada.

The directors' report for the year ended Dec. 31, 1914, shows that the revenue in the railway department was \$22,595,028.50, a decrease of \$1,558,466.23 from 1913; the operating expenses excluding taxes were \$15,048,452.04, a decrease of \$161,854.81; the net operating revenue was \$7,546,576.46, a decrease of \$1,396,611.42.

The percentage of expenses to revenues increased from 62.97% in 1913 to 66.60% in 1914. The figures showing the revenues of the Canadian lines are not given separately, but they are to be found, as for the year ended June 30, 1914, in the statistical table published on pg. 162 of our May issue.

The following information is given with respect to the Canadian lines:—

"The Quebec, Montreal and Southern Ry. Co. shows a decrease in operating revenues of \$8,835.17, as compared with previous year. The operating expenses decreased \$16,955.83. Income from hire of equipment increased \$11,514.33. The net income, not allowing for interest due the Delaware and Hudson Co., was \$149,051.37, an increase of \$19,758.62.

"The Napierville Junction Ry. Co. shows a decrease in operating revenues of \$14,668.78 from the previous year. Operating expenses increased \$11,816.45. Net income was \$24,858.11 or 4.14% on capital stock outstanding, a decrease of \$28,015.02, from the previous year. A dividend of 3% for the year ended Dec. 31, 1914, was declared. The freight revenue decreased \$23,019.77, while passenger revenue increased \$8,080.19. The latter increase was due to the inauguration of through passenger train service over the Napierville Junction Ry. between Montreal and points on the Delaware and Hudson Ry. The increase in expenses was due to increased maintenance and increased passenger train service. The cost of maintenance, while higher than the preceding year, was not abnormally high, inasmuch as during the first years of the company's existence the renewals were naturally relatively small."

The D. and H. Co. owns \$1,000,000 of stock in the Quebec, Montreal and Southern Ry. and \$600,000 stock in the Napierville Jct. Ry.

The Grand Trunk and G. T. Pacific Rys. are said to have over 1,200 men serving in the Canadian Overseas Expeditionary Forces. The secretaries to the President, E. J. Chamberlin and to Vice President H. G. Kelley, are among the number.

The Great Northern Ry. has removed its Vancouver, B. C., offices from 314 to 607 Hastings Street.

Grand Trunk Pacific Railway Construction-

Ballasting is still in progress on the section of the main line between Skeena Crossing and New Hazelton, B. C. An additional train is to be put on the run between Edmonton, Alberta, and Prince Rupert, B. C., June 1, giving a tri-weekly service between these points.

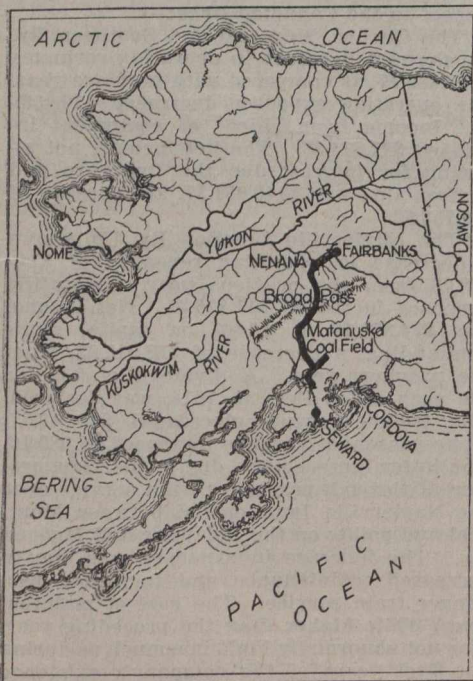
The last pontoon for the G. T. P. R. dry-dock at Prince Rupert was launched in April, and the dock is expected to be ready with a complete outfit with machinery for ship repairs by Aug. 1.

The fuel oil tank equipment at Prince Rupert has been completed and oil burning locomotives have commenced running.

Train service was resumed on the Regina-Yorkton-Canora branch May 15, and it is expected to place a train service in operation on the Weyburn branch of the Regina-International boundary line at an early date. (April, pg. 138.)

U. S. Government Railway for Alaska.

The President of the United States has announced that the Seward-Fairbanks line, known sometimes as the Susitna route, had been selected for the Government railway to be built in Alaska under the \$35,000,000 appropriation of 1914. The route extends from Seward, on Resurrection Bay, to Fairbanks, on the Tanana River, 471 miles. It includes the existing Alaska Northern Rd., which runs from Seward through the Kenai Peninsula for 71 miles to Turnagain Arm. This branch is to be bought by the Government for \$1,150,000. From Turnagain Arm the route is to be extended through the



Route of United States Government Railway for Alaska.

The Alaska Northern Rd., extending north from Seward, is shown by a lighter line than the railway to be built by the Government.

Susitna Valley and across Broad Pass to the Tanana River, and from there on to Fairbanks. It is to be a standard gauge road. A side line is to run from Matanuska Junction into the Matanuska coal field, 38 miles. The road is to be built with its present base at Ship Creek, on Cook's Inlet, and from this point it is expected that the Matanuska coal will be shipped during the greater portion of the year. The estimated cost of construction from Seward to

Fairbanks, including the Matanuska branch, is \$26,800,000.

W. C. Edes, of the Alaska Engineering Commission, has been designated chairman, to be in immediate charge of work and to have power of approval or disapproval of all administrative matters. Lieut. Mears and Mr. Riggs, the other members of the commission, have gone to Alaska to take up the construction and survey work.

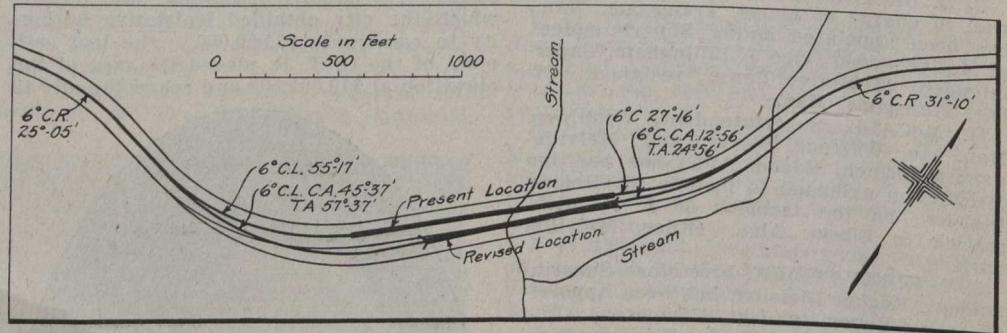
Algoma Central and Hudson Bay Railway Bridge at Bellevue.

The Algoma Central and Hudson Bay Ry. is about to replace the temporary bridge at Bellevue, 20.3 miles north of Sault Ste. Marie, by a permanent structure. The old bridge is a large timber structure of 79-14

Engineer, A.C. & H.B.R., to whom we are indebted for this data. A contract has been let for the superstructure.

A 45° Triangle has been adopted as a badge by the Oregon Society of Engineers and its significance thus noted: Its three angles remind us of the client, the contractor and the engineer. The sides of the triangle are typical of right dealing. The two equal sides call attention to the fact that contractor and client have an equal claim on the knowledge, training and attention of the engineer. The right angle should be a constant reminder that each is entitled to a square deal.

The C.P.R. as Purchasing Agent for the Allies.— Press reports state that it is announced on good authority that the C.P.R.



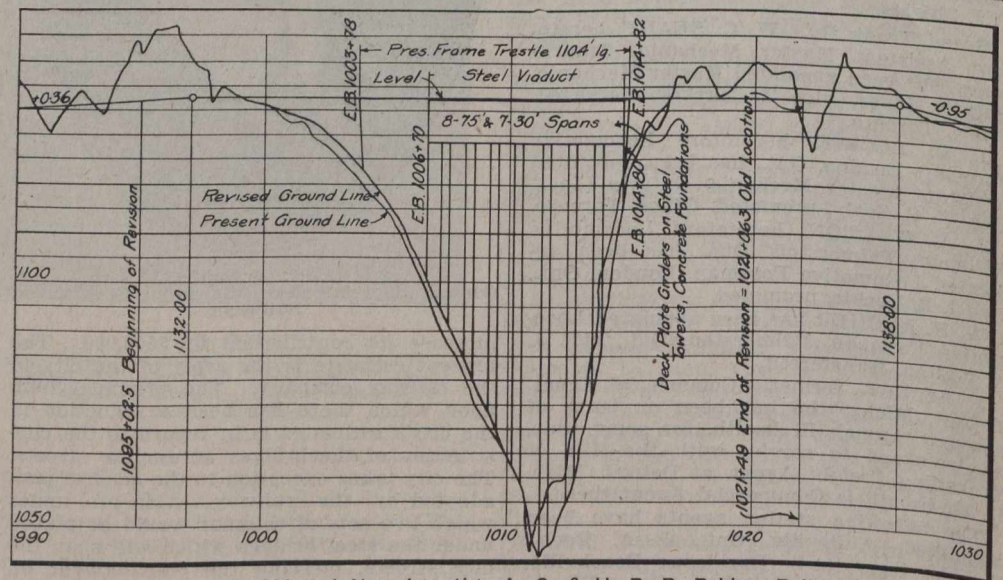
Old and New Location A. C. & H. B. R. Bridge, Bellevue, Ont.

ft. spans or a total length of 1,104 ft. It was built in the winter of 1901-2 and contains approximately 1,500,000 ft. b. m. fir timber. It is especially well braced and is a fine piece of timber work. It spans a gully or coulee through which a small creek flows, hence the waterway is negligible.

The new bridge will be built alongside the old one by making a slight revision in the line. The structure will be 810 ft. long

Purchasing Department has been placed at the disposal of the Allied Governments, to act as purchasing agent on this continent for supplies of all kinds for war purposes. It was stated a few weeks ago that the City of New York sent representatives to Montreal to look into the C.P.R. purchasing system with a view to its adoption by the corporation.

Pacific Great Eastern Railway.—Van-



Condensed Profile Old and New Location A. C. & H. B. R. Bridge, Bellevue, Ont.

over all, composed of 8-75 ft. intermediate and 7-30 ft. tower deck girder spans supported upon trestle legs on concrete.

The north end of the new bridge will come opposite the 3rd bent from the north end of the present bridge, and the south end opposite the 18th bent, hence the new structure will be 294 ft. shorter than the old one. It will contain approximately 1,500,000 lbs. steel, and designed under Dominion Government specifications, class I.

The foundation work will be put in by company forces under the supervision of R. S. McCormick, M. Am. Soc. C.E., Chief

cover press dispatch May 25:—"Officials of the P. & E. R. announce that, through the Provincial and Dominion Governments, they have secured about \$3,000,000, with which to complete the line as far north as the Hundred-mile House in Cariboo, 223 miles from Vancouver. This work will occupy the company until the end of the year. The railway is in operation between Vancouver and Lillooet, 120 miles."

G. Marconi, the wireless telegraph inventor, left New York May 22 to give his services to the Italian Government in the war.

Traffic Orders by the Board of Railway Commissioners.

Express Merchandise, Receipts and Labelling.

General Order 144, April 29.—Re complaints by shippers against sec. 5, sub sec. (c) of the form of Express Merchandise and Receipt, and re labelling "prepaid" and "collect" packages: That sub-section (c) of sec. 5 of the "Terms and Conditions" endorsed on the Express Merchandise Receipt be amended by striking out the concluding words of the sub-section, reading "or from conditions beyond its control"; and by inserting as sub-section "(cc)" the following:

"For any loss or damage caused by delay or by injury to or loss or destruction of the shipment, or any part thereof, from conditions beyond the control of the company, unless such loss or damage is caused by the negligence of the railway company upon whose trains or property the shipment was at the time such loss or damage occurred."

That express companies shall firmly affix a printed label to every shipment of goods received for carriage, which label shall indicate in conspicuous type whether the charges thereon have been prepaid, or are payable by the consignee. One such label affixed to any one package or article in a shipment composed of two or more packages or articles may suffice, provided that the label indicates the total number of packages or articles in the shipment. For "prepaid" shipments the label shall be printed in black on yellow paper. For "collect" shipments the label shall be printed in black on white paper. Permission of the consignee shall be obtained before the removal of any tag, wrapper, or portion of wrapper from any package or article for the purpose of verifying a "prepaid" label, or marks indicating prepayment, on a consignment billed "to collect."

And it is further ordered that General Order 142, April 17, be rescinded.

Allowance for Car Doors for Lime Shipments.

The Board of Railway Commissioners for Canada, 23500, April 3.—Re complaint of Christie, Henderson & Co., Toronto, against refusal of G.T.R. to make an allowance for 296 doors furnished for cars of lime shipped from Galt, Ont. It is ordered that the complaint be dismissed.

Manure Rates to St. Catharines.

23507, April 10.—Re complaint of W. H. Bunting, of St. Catharines, Ont., against increase by G.T.R. in the rates on manure, in carloads, from Toronto, for Canadian Northern delivery at St. Catharines as published in G.T.R. Tariff, C.R.C. no. E-3035: It is ordered that the rate of 3 3/4 cts. per 100 lbs. on manure from Toronto to St. Catharines for Canadian Northern Railway track delivery, shown in item 226 of said tariff, be disallowed; the rate of 2 3/4 cts. per 100 lbs., previously in effect, to be restored, subject to a minimum carload weight of 60,000 lbs., and to the provisions of the General Inter-switching Order, no. 4988, July 8, 1908; the said changes to be made effective not later than April 21.

Winter Rate on Unrossed Green Pulpwood.

23521, April 7.—Re application of E. W. Roberts, of Montreal, for a special winter rate on unrossed green pulpwood, which shall equal that applied on dry, peeled wood by applying the weight per cord of dry wood to the green wood: It is ordered that the application be refused.

Freight on Malt Grain ex Fort William.

23536, April 10.—Re application of Sudbury Brewing & Malting Co. for an order directing the C.P.R. to apply the milling-in-transit privilege to the "malt grain" ex Fort William, which as "dried grain," or feed, is reshipped from the applicant company's

brewery at Sudbury, Ont.: It is ordered that the application be dismissed.

23572, April 21.—Re complaint of Cowichan Creamery Association, of Duncan, B.C., against rate charged by C.P.R. on alfalfa meal from Enderby to Duncan: It is ordered that the C.P.R. be directed forthwith to reduce its rate on alfalfa meal, in carloads, from Enderby, B.C., to Duncan, to 30 cts. per 100 lbs.

Demurrage on Coal at Windsor, Ont.

23638, April 28.—Re application of J. H. Duthie, on behalf of the American Coal and Coke Co., for a re-hearing of the complaint that the Michigan Central Rd. has been holding cars for orders in its freight yards at Windsor, Ont., and has refused to bring coal into Detroit, Michigan, until such orders were received: It is ordered that the application for a re-hearing be dismissed.

Great Northern Railway Lines in Canada.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The section of the line from Coalmount to Otter Creek was reported practically completed May 5, and preparations were being made for operation. The line is already in operation to Coalmount. The Kettle Valley Lines will connect up its traffic with the V. V. and E. Ry. at Princeton, between which point and Otter Creek the line will be operated as a joint section. The company does not propose to carry on any further construction at present as upon the completion of the Otter Creek-Hope section of the Kettle Valley Ry., it will be operated as a joint section, thus enabling the company to connect up with its New Westminster-Vancouver line.

Vancouver Terminals.—Work has been started at the False Creek flats in laying out the actual site of the terminal buildings. The city's committee has declined to grant the company's request for an extension of time for the completion of the buildings, but will not oppose any application on the company's part for an alteration in the location of the buildings nearer to the Canadian Northern Pacific Ry.'s terminal buildings. (May, pg. 179.)

Dominion Government Railway to Hudson Bay.

In connection with the work on the terminals at Port Nelson, the Dominion Government steamship Minto, is expected to leave Halifax to place the buoys in Hudson Strait, and Bay. No further hydrographic survey work is to be carried on this season. Construction work on the terminals is to be pushed on rapidly during the season as it is expected that the grading gangs on the line from Pas, Man., will get through their work this season.

Work has started for the season at the several camps on the line, the work in progress ranging from "finishing up" at the Pas end, on clearing of right of way beyond mileage 393, the furthest out station.

The engineers at the different stations are:—Goose Lake, mileage 137, Division Engineer, W. J. D. Reed-Lewis; Resident engineers:—A. M. Hanson, A. McNaughten, and W. W. Christopherson. Landing River, mileage 280, No. 1:—Division Engineer, F. P. Moffatt; Resident engineers:—F. L. Lloyd, S. Hett, L. Johnson. No. 2:—Division Engineer, A. Timbrell; Resident engineers:—W. A. McCarthy, G. C. P. Montizambert, J. Strachan, Jr., and Kettle Rapids, mileage 332:—Division Engineer, L. F. Sil-

cox; Resident engineers, W. A. Hillman, J. S. Fraser, B. Henderson, F. E. Matthews. Kismagistakum, mileage 393:—Division Engineer, G. H. Parker; Resident engineers, H. McNeil, L. Easton. The staff at Pas consists of J. P. Gordon, Assistant Chief Engineer; T. B. Campbell, Division Engineer, and W. T. Jamieson, Resident Engineer. (May, pg. 183.)

Canadian Northern Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, or decreases, compared with those for 1913-14, from July 1, 1914:

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$1,594,300	\$1,163,800	\$430,500	x \$53,800
Aug.	1,367,700	1,123,000	244,700	x 163,900
Sept.	2,100,900	1,519,000	590,700	65,800
Oct.	1,895,300	1,332,100	563,200	x440,900
Nov.	1,670,200	1,123,100	547,100	x417,700
Dec.	1,329,100	908,000	423,100	200,900
Jan.	950,800	773,000	177,800	x175,100
Feb.	1,105,100	823,700	281,400	42,800
Mar.	1,379,000	956,000	423,000	62,600
	\$13,401,400	\$8,719,900	\$3,681,500	x\$1,311,100
Decr.	\$4,392,400	\$3,981,300	\$1,311,100	.....

x Decrease.
Approximate earnings for April, \$1,421,000, against \$1,610,000 for Apr., 1914, and for 2 weeks ended May 14, \$546,200, against \$830,600 for same period 1914.

Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, or decreases, compared with those of 1913-14, from July 1, 1914:

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$10,481,971.72	\$6,703,525.89	\$3,778,445.83	\$338,347.35
Aug.	8,917,764.33	6,554,606.68	3,373,157.70	597,981.54
Sept.	10,754,139.67	6,387,091.28	4,367,048.39	48,530.30
Oct.	9,282,923.49	5,961,600.13	3,321,323.36	2,281,529.43
Nov.	8,057,358.59	5,413,286.72	2,644,072.17	2,244,173.89
Dec.	7,443,962.43	5,244,438.62	2,199,523.81	2,027,297.90
Jan.	6,109,026.94	4,968,793.64	1,140,233.30	140,059.24
Feb.	6,735,673.49	4,756,663.87	1,979,014.62	507,488.16
Mar.	7,852,989.67	4,879,974.94	2,973,014.73	x126,224.14
	\$76,635,820.68	\$50,869,981.77	\$25,765,838.91	x\$7,016,587.15
Decr.	\$23,608,191.57	\$16,591,604.42	\$7,016,587.15	.....

xDecrease.
Approximate earnings for April, \$7,164,000, against \$9,431,000 for April, 1914; and for 2 weeks ended May 14, \$3,198,000, against \$4,352,000 for same period 1914.

Grand Trunk Railway Earnings, Etc.

The following figures show the earnings for the G.T.R. (including the Canada Atlantic Ry.), the G.T.W.R. and the D.G.H. & M.R. for March:

Grand Trunk Railway.		
Earnings	.....	\$3,242,450
Expenses	.....	2,419,800
Net earnings	.....	\$822,650
Grand Trunk Western Railway.		
Earnings	.....	\$582,750
Expenses	.....	573,800
Net earnings	.....	\$8,950
Detroit, Grand Haven and Milwaukee Ry.		
Earnings	.....	\$189,000
Expenses	.....	213,000
Deficit	.....	\$24,000

Approximate earnings for April, \$4,005,778, against \$4,376,167 for Apr., 1914; and for 2 weeks ended May 14, \$1,785,301, against \$1,923,260 for same period 1914.

Traffic Receipts of the System.

Aggregate from Jan. 1 to Mar. 31:				
	1915	1914	Incr.	Decr.
G.T.R.	\$11,734,513	\$13,098,254	.....	\$1,363,741
G.T.W.R.	2,274,071	2,272,347	\$1,724	.....
D.G.H.&M.R.	757,343	751,222	6,121	.....
Totals	\$14,765,927	\$16,121,823	.....	\$1,355,896

Grand Trunk Pacific Railway Earnings.

The approximate earnings of the Prairie Section and Lake Superior Branch, 1,104 miles, for April, were \$266,925, against \$470,744 for same period 1914, and the aggregate from Jan. 1 to Apr. 30 was \$1,157,156, against \$1,614,551 for same period 1914.

Electric Railway Department

Ontario Railway and Municipal Board Asserts Jurisdiction Over Hamilton, Grimsby and Beamsville Electric Railway.

The Ontario Railway and Municipal Board sat in Grimsby, Dec. 11, 1914, to hear a complaint by four residents of that place that there was a complete lack of conveniences on the company's property, no sanitary arrangements in the cars, and no signs showing sanitary conveniences in Grimsby, all of which was deemed a hardship, inasmuch as the end of the line at Hamilton was 23 miles distant, a ride of upwards of 1½ hour. The Board promised to look into the matter, and arranged with the company to have a conference Dec. 18. On the latter date, G. E. Waller, General Superintendent of Railways, Dominion Power and Transmission Co., which owns and operates the H.G. & B.E.R., represented the company before the Board, and the latter directed that the company, within one week, install signs at Grimsby station showing the location of the conveniences, the signs to be inspected by the Board's engineer. The Board also directed that following this the engineer would be directed to inspect and report on the conveniences in the cars. The company was also asked for suggestions for improvements, but none were at that time offered.

J. C. Royce, the Board's engineer, reported Jan. 26 that he had inspected the cars on the line, and that they had ample space for lavatories. He also reported that proper signs had not been put up in the Grimsby station, but was assured by the General Superintendent of Railways that the company intended improving the accommodations there, as well as the stations at Stoney Creek and Winona.

At a full session of the Board in Grimsby, Feb. 15, there were present, in addition to the original complainants, the clerks of Clinton, North Grimsby, Saltfleet and Barton Tps., and counsel for the company. The judgment given on that occasion directed the installment of conveniences on the cars, the plans and specifications for urinals and closets to be submitted by the company within 30 days, the plans to be prepared by the Board's engineer in the event of the company failing to do this. Station conveniences were also ordered, but judgment was reserved with regard to the open cars, pending the Board's consultation with its engineer.

The company's solicitors, Gibson, Levy and Gibson, Hamilton, telegraphed the Board, Feb. 17, to have the order stayed, following this with a letter, Feb. 20, asking for a rehearing on the ground that the Board had no jurisdiction to make the order. They claimed that for some time they had been considering the bringing together of all the Dominion Power and Transmission Co.'s railway lines under one jurisdiction, and that in planning for this, the status of the Hamilton, Grimsby and Beamsville Electric Ry. had been carefully investigated, and they claimed that it was a railway under the exclusive jurisdiction of the Board of Railway Commissioners for Canada. The Board appointed, Mar. 9, for hearing the points raised.

The company's solicitors based their claim on an order of the Railway Committee of the Privy Council, Jan. 28, 1895, which approved the place and mode of crossing of the G.T.R. by the company's line, and placed certain obligations on the company. Its counsel contended that by reason of the

fact that its railway crossed the G.T.R. under an order of the Privy Council, the company came exclusively under the jurisdiction of the Board of Railway Commissioners for Canada, as the Railway Act, 1888, sec. 306, declared that "each and every branch line or railway now or hereafter connecting with or crossing" certain specified lines of railway, including the G.T.R., "or any of them, is a work for the general advantage of Canada."

On April 7, the Chairman of the Board, D. M. McIntyre, gave the following judgment, which was concurred in:

This is an application under The Ontario Railway Act, sec. 255, for an order directing the company to provide sanitary conveniences on all its passenger cars. The respondent's railway is an electric railway laid in part on a private right of way but mainly on streets of the City of Hamilton and adjoining municipalities under agreements with them. The Board held a sitting at Grimsby on Feb. 15, for the purpose of taking evidence, and at its conclusion indicated that an order would issue as asked by the applicants. On Feb. 20, the company's solicitors wrote raising the question of the Board's jurisdiction to make the proposed order, on the ground that the railway was, for reasons set out in the letter, under the exclusive jurisdiction of the Parliament of Canada. Upon this the Board appointed Mar. 9 in Toronto for argument of the question so raised and notice of the appointment was given to all persons in interest. On the return of the appointment only the company was represented. It then appeared that the company was incorporated by an act of the Ontario Legislature, 1892, chap. 95. In the exercise of its corporate powers the respondent has constructed and is operating some 22 miles of railway from Hamilton to Beamsville through the Village of Grimsby. The railway is a purely local work or undertaking within the meaning of sec. 92, subsec. (10) of The British North America Act. It further appeared that by order of the Railway Committee of the Privy Council of Canada, dated Jan. 28, 1895, the committee approved of the place and mode of crossing by the respondents' railway, The Hamilton, Grimsby and Beamsville Electric Ry., of the G.T.R. on Main Street East, in Hamilton, as shown on plans on file with the committee. The crossing so approved was made shortly afterwards. Upon these facts it is contended by the respondent that after the crossing so approved was made its railway came under the exclusive jurisdiction of the Parliament of Canada by force of the provisions of sec. 306 and 307 of The Railway Act, as enacted in 1888, which are as follows:—

"306. The Intercolonial Ry., the Grand Trunk Ry., the North Shore Ry., the Northern Ry., the Hamilton and Northwestern Ry., the Canada Southern Ry., the Great Western Ry., the Credit Valley Ry., the Ontario and Quebec Ry., and the Canadian Pacific Ry. are hereby declared to be works for the general advantage of Canada, and each and every branch line or railway now or hereafter connecting with or crossing the said lines of railway, or any of them, is a work for the general advantage of Canada.

"307. Every such railway and branch line shall hereafter be subject to the legislative authority of the Parliament of Canada; but the provisions of any Act of the Legislature of any Province of Canada, passed prior to May 25, 1883, relating to any such railway or branch

line, and in force at that date, shall remain in force so far as they are consistent with any act of the Parliament of Canada passed after that date."

These sections were in force at the time the crossing was made pursuant to the Railway Committee's order and continued in force till 1903, when The Railway Act was revised and radical changes were made in the law. The Board cannot adopt the respondent's contention. A consideration of the provisions of the Railway Act, dealing specifically with railway crossings and junctions, as that act was at the time of the transactions in question, leads the Board to the conclusion that the words "Each and every branch line or railway now or hereafter connecting with or crossing the said lines of railway," as used in sec. 306, do not extend to and include street railways or electric railways constructed under provincial authority. To hold the contrary view would have consequences so far reaching, placing as it would, under Dominion jurisdiction, without enquiry or consideration of its special circumstances, every railway constructed under provincial authority which connected with or crossed a federal railway between 1888 and 1903, that the Board cannot adopt it without the most cogent and convincing proof that such was the intention of Parliament.

In the Railway Act of 1888 there is found a group of sections numbered 173 to 177, both inclusive, which deal with "Railway Crossings and Junctions." Sec. 173, as enacted by 56 Vic. Chap. 27, sec. 1, reads as follows:—

"173. The railway of any company shall not be crossed, intersected, joined or united by or with any other railway, nor shall any railway be intersected or crossed by any street railway, electric railway or tramway, whether constructed under Dominion or provincial or municipal authority, or otherwise, unless the place and mode of the proposed crossing, intersection, or junction or union, are first approved by the Railway Committee, on application therefor, of which application ten clear days' notice in writing shall be given by the party or company desiring the approval, such notice to be sent by mail addressed to the president, general manager, managing director, secretary, or superintendent of the company whose railway is to be so crossed, intersected, joined or united; and in the case of crossing by street railways, electric railways or tramways respectively, the Railway Committee shall have the same powers in all respects as to the protection of such crossing and otherwise as are given the Railway Committee by this Act in regard to one railway crossing another."

It must be concluded from this that it was in the contemplation of Parliament that "the railway of any company" that is, by force of the section defining the application of the act, the railway of a company within the legislative authority of the Parliament of Canada, might be crossed by either of two classes of works; first, by "any other railway," secondly, "by any street railway, electric railway or tramway, whether constructed under Dominion, provincial or municipal authority or otherwise." Clearly the words "the railway of any company" did not, in the view of Parliament, include a crossing of a federal railway by a street railway or an electric railway constructed under provincial authority, otherwise the inclusion of the subsequent words dealing with such a crossing would be insensible. Furthermore, the concluding paragraph of sec. 173, defining the powers of the Railway Committee as to the

protection of crossings, leaves no room for doubt that Parliament differentiates between works designated by the unqualified term "railway" and those intended by the terms "street railway" and "electric railway" and treats the latter as in a class by themselves.

Sec. 177 of the above group of sections, which reads as below, shows that in legislating with reference to "Railway Crossings and Junctions," Parliament treated as generically distinct a railway company incorporated by the legislature of any province.

"177. Every railway company incorporated by any Act of the Legislature of any Province which crosses, intersects, joins or unites with any railway within the legislative authority of the Parliament of Canada, or which is crossed, or intersected by, or joined or united with any such railway shall, in respect of such crossing, intersection, junction and union, and all matters preliminary or incidental thereto, be deemed to be, and be, within the legislative authority of the Parliament of Canada, and subject in respect thereof to the provisions of this act."

Here Parliament assumes jurisdiction over a provincial company whose railway crosses or is crossed by a Dominion railway and defines the extent to which its jurisdictional status is affected thereby, and that is "in respect of such crossing * * * and matters preliminary and incidental thereto." To that extent such provincial railway is declared to be subject to the provisions of the Railway Act of Canada, and applying the canon of interpretation *expressio unius est exclusio alterius*, we are warranted in concluding that to no greater extent is there any displacement of provincial by federal jurisdiction. It thus appears that when Parliament intended that its legislation in respect of "railway crossings and junctions" should apply to street railways, electric railways or railways constructed under provincial authority, it expressly mentioned them under such designation, and in the case of the latter defined the extent to which the provincial jurisdiction should be displaced by the paramount federal authority. The Board is not now concerned with the question as to how far such latter legislation is *intra vires* of the Dominion Parliament, in view of recent decisions by the court of last resort, but seeks merely to discover the expressed intention of Parliament.

When it is contended that secs. 306 and 307 of the Railway Act apply to the respondent's railway—an electric railway, a street railway, constructed under provincial authority—and that by reason of its crossing the G.T.R. in 1895 it thereafter became subject to the exclusive legislative authority of the Parliament of Canada, one searches these sections in vain for the above indicia of intention that they should have such an application. The words used in these sections are general and should not be extended in their application to cases already specially provided for unless an intention that this should be done is manifested in explicit language. In "Maxwell on the Interpretation of Statutes," 4th Ed., pgs. 263-4, the scope and method of application of the principle of interpretation here invoked is thus summarized: "A general later law does not abrogate an earlier special one by mere implication. *Generalia specialibus non derogant*: the law does not allow the exposition to revoke or alter by construction of general words any particular Statute where the words may have their proper operation without it. It is usually presumed to have only general cases in view and not particular cases which have been already otherwise provided for by the Special Act. * * * * * Having already given its attention to the particular subject and provided for it, the Legislature is reasonably presumed not to intend to alter that special provision by a subsequent general enactment, unless that intention is

manifested in explicit language. * * * * * The general statute is read as silently excluding from its operation the cases which have been provided for by the Special one." Although in the foregoing citation the above maxim is treated in its application to an earlier and a later statute—the one general and the other special—the principle of interpretation involved seems equally applicable when one is called upon to co-ordinate several provisions of the same statute, some special and others general. The Board is of opinion that secs. 306 and 307 do not apply to such a railway as the respondent's, with the result of placing it, for all purposes, under the legislative authority of the Parliament of Canada upon its crossing the G.T.R., but that the ultimate consequences to it of such crossing is defined in sec. 177 and as to all other matters than those there enumerated it continues under the legislative authority of the Province. As indicated at the hearing on Feb. 15, an order will issue directing the respondent to provide sanitary conveniences for the use of passengers on all its passenger cars.

An interesting discussion of the constitutional question arising on this application is to be found in the official report of House of Commons Debates, session 1906-7.

The Board was referred to the case, the G.T.R. Co. of Canada vs. Hamilton Radial Electric Ry. Co., 29 O. R., 143, decided in 1897. For the determination of the question arising in this action it was not necessary to do more than hold that jurisdiction to order the crossing of a Dominion by a provincial railway resided in the Railway Committee of the Privy Council of Canada. As to this there is no dispute, since such an order may be supported either by the express provisions of the Railway Act above considered or by the doctrine of incidental powers, elaborated by the court of last resort. The finding of the Board is, therefore, in accord with the decision of Mr. Justice Street so far as he was called upon to interpret this legislation by the precise issue before him.

On May 10 the Board ordered that the company file within 30 days complete plans and specifications for sanitary conveniences on its passenger cars and in its passenger station in Grimsby on the submission of which the Board will fix the time for completing the installation of the same. It is said that the H. G. & B. E. R. will appeal from the Board's decision.

Morrisburg and Ottawa Electric Railway's Finances.

At a meeting of shareholders in Ottawa, May 1, a committee was appointed to take steps to appeal against an order of the county judge at Cornwall, Ont., calling upon the shareholders to pay up the calls on their shares, and to ascertain if the company cannot be wound up. It was stated at the meeting that \$78,000 had been paid up on the stock, that about \$68,000 was due on subscriptions, that of the \$78,000 only \$10,000 had been expended upon construction work in Metcalfe and Winchester townships, and that the balance had been expended in the maintenance of offices and the payment of salaries. The company's charter will expire in the course of a year or so, its application for an extension of time for construction having been refused at the Ontario Legislature's recent session. An opinion was expressed at the meeting that the surveys made and rights acquired under the charter might be taken over by the Hydro Electric Power Commission of Ontario, which was responsible for the Legislature's refusal of an extension of time, in connection with the plans for municipally owned electric lines. D. Fraser is Chair-

man, and Z. C. Ketchum, Secretary of the Committee. J. G. Kilt, President of the company, has been invited to give an explanation of its affairs to the committee before any definite action is taken.

In the 11 actions against shareholders at Cornwall, the county judge has given judgment for the amounts claimed. Seven writs were issued at Ottawa against other shareholders, and writs against at least 25 other shareholders are to be issued for the non-payment of instalments due. (Nov., 1914, pg. 576, and May, pg. 189.)

Hydro Electric Power Commission of Ontario's Electric Railways.

Representatives of 15 municipalities met in Hamilton, May 12, and discussed the project for building under the electric railway powers vested in the Commission by the Ontario Legislature, lines from Hamilton to Port Dover, and from Hamilton to Guelph and on to Georgian Bay. The representatives formed an association with the title of the Greater Hamilton Hydro Electric Radial Union, with the following officers:—Honorary President, Sir Adam Beck; President, T. S. Morris, Hamilton; First Vice President, J. F. Vance, Waterdown; Second Vice President, J. A. Tooley, Cayuga; Secretary, C. Peebles, Hamilton. The meeting asked the Commission to immediately inquire into prospects and to give an estimate of the cost of a line from Hamilton to Port Dover.

The central association is the Ontario Hydro Electric Radial Association, and branch associations have now been formed at Toronto, Guelph, Waterloo, London, and Stratford, with others territorially described as the St. Lawrence-Trent Valley; the Brant; the Oxford; the Erie East; the Erie West; the Niagara; the Grey; the Bruce and Simcoe.

The proposed plan for financing construction is as follows:—When the report of the Commission is presented showing the cost, each municipality will vote on the question. If the plebiscite is carried by the people, each municipality will issue debentures covering the amount asked from it. These debentures will be placed with the Commission as security, but not sold. The Commission will then issue bonds covering the total debenture issue, and these will represent the money required for the construction of the electric lines. If at any time a road shows a loss from operation, the municipalities interested will be asked to forward equalized cheques covering the same, or, if so desired, may allow the sale of its debentures to the amount required. The bonds will be issued for 50 years and only interest and sinking fund will be paid during the first 10 years.

We are officially advised that the Commission's engineers are making surveys for an electric line from Hamilton to Niagara Falls.

A meeting held at Winchester, April 23, advocated the building of an electric railway between Ottawa and Morrisburg. E. G. Hewson, representing the Commission, explained what the municipalities had to do prior to the Commission undertaking any surveys, and steps were taken for the formation of a committee to represent the municipalities interested. The Gloucester Township Council passed a resolution, May 3, favoring the building of a line from Billings' Bridge into Morrisburg. (May, pages 185, 189 and 190.)

Ottawa Electric Ry.—Under the provisions of the mortgage trust deed of June 29, 1897, notice is given of the redemption of 15 debentures of \$1,000 each, on July 5.

Reduction of Fares on British Columbia Electric Railway.

The B. C. Electric Ry. announced, May 3, that on and after May 11 it would offer a special non transfer ticket, good only within the city limits of Vancouver and Victoria, at the rate of 8 for 25 cts. The issue of all types of tickets previously used by the company is being continued at the old rate to cover travel where transfers are demanded. These rates are straight 5 ct. fare, (a strip of 5 tickets for 25 cts. being provided for the accommodation of passengers); workmen's tickets at 10 for 40 cts., consisting of 5 white tickets, which can only be used before 8 a. m. and 5 green tickets which are good at any time, and the usual arrangement of school children's tickets at 10 for 25 cts. The new 8-for-25 cts. tickets are not good on any interurban car.

In connection with the introduction of its new special ticket the company decided to make it popular with the general public. As tickets were printed on cardboard of tango colour, the name tango ticket was chosen and an extensive publicity programme was carried on by the company during the week May 3-10 to bring this name before the public as well as impress upon them the benefits which would accrue to the travelling public from the standpoint of economy and the good to the city as a whole as a result of using tango tickets. Half page advertisements were taken throughout the week in all daily papers in Vancouver and Victoria as well as considerable space in weekly publications circulating throughout the cities. Extensive use was also made of news articles, written from a local standpoint, as to the advantages which the public would derive from the use of the tango ticket. One very striking illustration used in both advertisements and news articles pointed out that 32 rides at 5 cts. fare meant an expenditure of \$1.60, while 32 rides on tango tickets cost only \$1, the result being the saving to the individual of 60 cts. on an investment of \$1.

The company also inaugurated a word competition, prizes being offered both in Victoria and Vancouver, of \$50, the first prize \$20, and eight other prizes ranging down to \$2, for the largest lists of words which could be formed from the letters in the words tango ticket. Throughout the entire week every car in Vancouver and Victoria carried a striking fender sign noting the sale of tango tickets on May 10. Eight sheet posters were also displayed on billboards along the tram lines. As a result of the publicity methods adopted the words tango ticket became during the week the general talk of the public both in Vancouver and Victoria.

The company made May 10 known as tango ticket day in both cities where the new tickets are accepted. The conductors of each car wore white satin badges on which was printed in tango color "Ask me for tango tickets, 8 for 25 cts." Tango pennants, 12 by 16 ins. in size, on which was printed "Use Tango Tickets," were also floated from the trolley pole of each city car. One of the daily newspapers recognized the day as tango ticket day and offered to the readers of its Sunday issue prizes in a guessing contest as to the number of tango tickets which would be sold by the company on the first day of sale.

At a meeting of the Vancouver City Council, May 10, a protest against the new car tickets issued by the B. C. E. Ry. was made by the Auto Public Service Corporation. Alderman McLeath proposed to move a resolution that the Solicitor be instructed to notify the B. C. E. Ry. that in issuing tickets without transfers it is violating the terms and conditions of the agreement between the

city and the company. It is contended that secs. 11 and 12 of the agreement entitle every passenger to a transfer to a connecting car when a fare is paid. Objection was taken to the consideration of the resolution, and notice was therefore given that it would be brought forward at the next meeting.

In announcing the issue of the special tickets Geo. Kidd, General Manager, gave an interview to the local press. He stated that the serious decrease in the company's receipts made it necessary to choose between two alternatives, one was to reduce expenses by cutting down the service and the other was to endeavor to increase travel by lowering the fares. "It must be apparent to every citizen in Vancouver and Victoria," said Mr. Kidd, "that the service as present given cannot possibly be maintained with the present patronage. To cut down the service would have meant that a portion of our plant would be lying idle and a large number of men would have to be laid off, thereby adding to the number of unemployed in the city."

Mr. Kidd said it was impossible for anyone to predict with anything approaching accuracy the effect of an alteration in fares. Actual experience alone could give precise information, and it would depend largely on the increased use which the public would make of the cars to prove whether it was economically possible for the company to sell 8 tickets for 25 cts. If it can be done the B. C. Electric will do it.

"In adopting these low fares," he continued, "the company has not been influenced by the policy of other street railways in Canada or the United States, as shown by their attitude in dealing with the jitney problem. Many street railways in the United States, fortunately for them, are receiving assistance in solving their jitney problems by the strong action of the municipalities and state legislatures, in enacting special regulations to meet the dangerous conditions arising out of a new form of ill regulated and irresponsible competition. The B. C. E. R. Co. has taken no part in fostering an antagonism to the jitney, believing that the common sense of the citizens and the authorities will sooner or later result in adequate regulations being enforced. The public who ride in our street cars are protected by the most stringent regulations under the Tramway Inspection Act, and also by the terms of franchise granted to it in mutual good faith by the various municipalities, franchises which have always been liberally interpreted by the company. To give effect merely to these clauses in the Tramways Inspection Act alone, clauses devised for the protection and safety of the public, over \$300,000 have been spent by us in the last three years, a sum more than equal to the value of all the jitanies that are competing unfairly against us. To give, for example, a few of the Government regulations we are compelled to conform to—and, mind, I am not complaining about them—the type and design of the cars we use is controlled, their brakes and motors are all periodically rigidly inspected, their carrying capacity is limited, passengers are prohibited from riding upon the steps or fenders, gates must be provided to protect passengers against their own carelessness, all cars must have proper warning signals, and the movement of cars passing each other and following each other is regulated; automatic fenders must be provided, sign boards must be visible day and night, designating the exact route cars are to take, and in addition to these requirements our franchises call among many other heavy responsibilities, for a well-timed and

regulated service throughout the day over all routes, paying or non-paying, whether the traffic is light or heavy. Now contrast the exacting obligations we have to meet with the conditions prevailing upon our public thoroughfares today with the jitney service in its present unregulated condition, so that our streets are becoming a menace to every citizen, no matter whether he is a pedestrian, a patron of the jitney or of the car service. All the company asks is that it shall not be subject to unfair competition; we do not fear jitney competition; we have carried the public in Vancouver almost from the foundation of the city, through the many years of its wonderful progress, a progress in which the company has played a conspicuous part, and our business is to continue in bad times as well as in flourishing times, to satisfy the public in all its reasonable demands, and by acting fairly to it, we propose to continue as the transportation company throughout our territory."

"The unfair jitney competition," said Mr. Kidd, "the absence of even the most reasonable regulation of that extraordinary traffic, has certainly affected the credit of the company in the London money market, and until conditions improve any further expenditure on its tramway system will be altogether out of the question. In England the investing public is hard hit by the present war, and nothing would contribute more to maintain their confidence in British Columbia enterprises than strong and speedy action by the authorities resulting in regulations being passed placing the jitanies on the same competitive footing as the street car company. The successful future of the B. C. Electric Ry. and the cities of Vancouver, Victoria and the surrounding municipalities is so interwoven that the authorities and the company should co-operate for their mutual advantage and the benefit of the province. The company has a record to which it can point with pride as to its part in the development of British Columbia, and our desire is to still further that progress along sound economic lines."

"To come back again to the ticket question," Mr. Kidd added, "I have intimated that the reduction of fares is an experiment which we hope will be a success if our patrons give us their loyal support—this they have done for so many years, and if they will continue to do so, and also use their influence to prevent our competitors having unfair advantages—then Vancouver will be able to boast, and that boast will not be an idle one, that here we have the cheapest, safest, cleanest and quickest service in North America. The matter now rests with the public, who must be the final arbiters."

Toronto-Hamilton Highway.—The Hamilton, Ont., Board of Trade and representatives of various municipalities passed a resolution, April 29, asking for the building of a traffic bridge across the bay at the Hamilton end of the new Toronto-Hamilton highway. It is proposed that a double track line for electric railway traffic be laid on the bridge. The matter is to be discussed with the Commission which is building the highway.

Toronto Civic Railway Car Barn.—A temporary car barn has been erected by the Toronto Civic Ry. on its Bloor St. line between Dorval and Indian Roads, to accommodate the single truck cars now operating on that line. It is a frame structure, with a pit track, to accommodate two cars, and is 85 ft. by 21 ft. It is heated, and while small, will meet the present requirements of this short line.

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—In order to facilitate the laying the permanent track on Victoria Road, and the completion of the unfinished portion of the line on Main St., the South Vancouver, B.C., Town Council has offered to pave the centre strip and to lay the tracks. (May, pg. 190.)

Hamilton, Ont.—A press report states that there is some talk in the city as to the establishment of a cross town street car line "with flexible trolley poles and no tracks."

London and Port Stanley Ry.—The Board of Railway Commissioners will make an order granting the railway a strip of land owned by the G. T. R., along Bathurst St., London, Ont., from William to Richmond Streets for the purposes of the railway. The L. & P. S. R. has certain rights in the G. T. R. station, and it is said that an arrangement will be made between the G. T. R. and the London Railway Commission for an exchange of lands, which will give the city's electrified railway all that it desires, and at the same time enable the G. T. R. to make certain improvements on its line. The L. and P. S. R. will have its terminals on the south side of the G. T. R. station on Richmond St., independent of the G. T. R., and so situated as not to interfere with the projected elevation of its tracks.

P. Pocock, Vice Chairman of the London Railway Commission, stated recently that the work of electrifying the line was expected to be completed by the end of May, and the last of the rolling stock was expected to be delivered early in June. The construction of the terminals will not be a heavy piece of work.

In connection with the electrification of the line, a local press report stated that the Michigan Central Rd. was about to build a line west of its bridge in St. Thomas to connect with the London and Lake Erie Transportation Co.'s line, between London and Port Stanley, and run its traffic over that line instead of over the L. and P. S. R. We are officially advised that it is not proposed to build such a line, and London press reports state that the M. C. R. traffic will still be run over the L. and P. S. R. (Mar., pg. 190.)

Moncton Tramways, Electricity and Gas Co.—The Moncton, N.B., city council discussed with E. B. Reeser, General Manager, May 6, the proposed extension of the car line on Bonaccord St., but no decision was reached. (April, pg. 147.)

Montreal Tramways Co.—In the course of the discussion which has been going on at the meetings of the Board of Control for some months past, G. R. MacLeod, the city's railway engineer, reported May 6, that the cost of developing a system of 100 miles of street railway track, and 10 miles of subways by the city would be about \$49,000,000. He expressed the opinion that it would not be a good plan to enter into competition with the company; but it would be better for the city to buy out the company entirely. The details of the estimates are: "Surface lines, 100 miles, say \$3,000,000; four hundred cars, \$3,000,000; power houses, substations, etc., \$1,500,000; real estate for power stations, car houses, etc., \$2,000,000; probable cost of widening and extending streets, \$7,000,000; grade separations to cross railways, \$1,000,000—total \$19,000,000; while those for the subways are: Ten miles of subways, \$25,000,000; twenty miles of track complete, \$1,000,000; stations and terminals, say, \$2,000,000; electrical equipment, say, \$2,000,000—total, \$39,000,000." An appendix gives a list of the probable routes, of the surface

lines and the subways. The discussion on the situation was further adjourned. (May, pg. 190.)

Niagara Falls, Ont.—A press report revives the report that the Ontario Department of Public Works has under consideration plans and specifications for an aerial railway over the whirlpool rapids. The report states that a private company desires to obtain such a franchise.

Ottawa Electric Ry.—We were officially advised, May 25, that it was expected that the city was to commence the renewal of the Bank St. pavement, between Gladstone Ave. and Sparks St., about one mile, about the end of the month. As this is one of the busiest streets in Ottawa, the O.E.R. has agreed to divert its cars during the progress of the work so that it can be rushed through in the shortest possible time. The rails to be used are of the Lorain girder section 115-462, and will be laid on an 8in. concrete slab, and the surfacing will be of creosoted wood block on the track allowance and asphalt between the tracks and the curbs. The work will be carried out by the Ottawa Construction Co., and it is expected that it will be continued night and day, and completed in about eight weeks.

Pictou County Electric Co.—We have been officially advised that the work on the extension from Posher's bridge to Parkdale, 0.50 mile, has been postponed for a few weeks. L. T. Flaherty, Stellarton, N.S., is Manager. (Mar., pg. 108.)

Regina Municipal Ry.—The Regina, Sask., City Council in its estimates for this year has authorized the expenditure of \$10,000 to build an extension of the Young St. line. The extension is to be made so as to connect the power house line with the C.P.R. Arcola branch to facilitate the haulage of coal. (Mar., pg. 108.)

Sandwich, Windsor and Amherstburg Ry.—We are officially advised, in connection with a recent press report that the company had offered to construct a belt line by way of Lincoln Road and Ottawa St., Walkerville, Ont., that the offer has not yet been accepted by the Town Council. The matter will have to be submitted to a vote of the people before anything is done. (May, pg. 190.)

Sudbury and Copper Cliff Suburban Electric Ry.—A local press report states that construction will be restarted on this line in Sudbury, Ont., early in June. All the grading has been completed, most of the ties have been placed, and some track has been laid. (Dec., 1914, pg. 555.)

Three Rivers Traction Co.—We are officially advised that the company has started construction on a circuit line in the city of Three Rivers, Que., and a suburban line to Cap de la Madeleine, a total length of about seven miles. The line in the city will traverse the principal business and residential sections and pass the C.P.R. station, the Richelieu and Ontario Navigation Co.'s wharf, and other public places. Part of the suburban line is not yet located but it will extend to Cap de la Madeleine near the Roman Catholic Church, and shrine, to which there is considerable pilgrimage traffic. The Union Bag and Paper Co. has a large mill in the same vicinity. The cars will touch all points on the city line and then proceed to Cap de la Madeleine. Sixty pound steel rails will be used; the overhead construction is to be part span work on the wider streets and bracket work on the narrower ones. The construction is in charge of J. C. Smith, Vice President, and is being done by the staff of the Shawinigan Water and Power Co.,

of which the company is a subsidiary. It is intended to complete the entire line as quickly as possible, and it is hoped to do so by Sept. 1. Power will be supplied by the Shawinigan Water and Power Co. and will be transmitted at 50,000 volts, and will be converted into direct current by means of motor generator sets in the Shawinigan Co.'s substation.

The company expects to purchase 8 cars of the p.a.y.e. type with the necessary plant for construction and snow cleaning.

The officers and directors are: President, T. McDougall; Vice President, J. C. Smith; Secretary-Treasurer, W. S. Hart, Montreal; other directors, J. Wilson, D. Murphy, Ottawa. (May, pg. 190.)

Toronto Ry.—Plans are being prepared, for the reconstruction of the College St. line from Bathurst St. westward. The eastern section has already been rebuilt.

The Ontario Railway and Municipal Board issued an order, April 26, directing the company to start construction of a double track line on Ossington Ave., from Bloor St. to Hallam St., along the latter street to Dufferin St., along that street to Lappin Ave., and along that avenue to a junction with the present line on Lansdowne Ave., and to complete it by Aug. 1. The Board's original order of Nov. 6, 1914, was that the line should be completed by June 1. The company argued for delay on account of the financial stringency, and the probable effect on its receipts by the jitney traffic. (Nov., 1914, pg. 517.)

Toronto Suburban Ry. Co. informed the Ontario Railway and Municipal Board, April 30, that if the city of Toronto desires to build car lines on Pacific Ave. and Annette St., within the old municipality of Toronto Junction, the company will abandon its charter rights to build on those streets. The matter is now before the City Council, and if the Council approves a bylaw will have to be submitted to provide funds for construction.

Track has been laid from Islington almost to the west bank of the Humber River, a temporary bridge having been erected over Mimico Creek. The piers and abutments for the bridge across the Humber River are practically completed, and it is expected that the steel work will be delivered early in June. Ballasting is being carried on along the line to Georgetown, and progress is being made with the electrical installation. Tracklaying and other work is being gone on with westerly of Georgetown. (May, pg. 190.)

Western Canada Power Co.—At the annual meeting, May 7, the capital stock was increased from \$5,000,000 to \$10,000,000, and a bylaw providing for the issue of part of the capital as preference stock was adopted. The retiring directors were re-elected with the exception of T. J. Drummond, Vice President, who had retired, C. C. Giles being elected to succeed him as a director. The directors subsequently re-elected C. H. Cahan as President, and elected A. R. Doble as Vice President in place of T. J. Drummond. The company has, in connection with its power plant, a railway in operation from Ruskin to Stave Falls, B.C., six miles, and owns the charter of the Burrard, Westminster Boundary Ry. and Navigation Co., which proposes to build electric railways centring in New Westminster.

Winnipeg Electric Ry.—The substation at Stony Mountain, Man., for the operation of the Winnipeg, Selkirk and Lake Winnipeg Ry.'s Stonewall branch, a subsidiary of the W. E. Ry., is reported to have been completed. The branch, 7.50 miles long, was opened for traffic Dec. 12, 1914, a temporary provision for power being made. (April, pg. 147.)

Jitney Automobile Operation in Canada.

The jitney automobile service has now invaded a dozen or more places in Canada, the idea having spread from the Pacific to the Atlantic coast in less than six months. With the exception of Sudbury, Ont., where construction has been started on an electric railway, the jitney comes in competition with an electric railway in each place, and in three places with those operated by municipalities. In every city where the jitney is in operation electric railway revenues are being affected, and the city councils are endeavoring to recoup themselves, either for the revenue lost on percentage of the street railway traffic, or of actual car revenue, by the license fee fixed for the jitneys.

The experience of United States cities is being reproduced in Canada, viz., that the jitney cannot operate profitably for a 5 cent fare on a longer route than 3 miles. The result of this is that there is talk of adopting a zone fare for electric railway service, which has hitherto been considered unnecessary, as it would have a tendency to concentrate instead of spreading out the population. The question of the permanence of the jitney service at all seasons of the year is being considered, and it is thought likely that with the coming of the winter, it will practically cease in Canada, with the probable exception of Pacific coast cities.

In Halifax, N.S., application has been made to the City Council for permission to license a jitney in the city and has been referred to the city solicitor to see whether it would interfere with the Halifax Electric Tramway Co.'s rights under its agreement with the city.

One jitney started operating in Sherbrooke, Que., April 15.

The number of jitneys being operated in Montreal is still limited, although it was reported, May 4, that 15 were being operated on the Park Ave. route alone. Another route has been opened up from Place d'Armes Square to Bernard St. The Manager of the Montreal Jitney Association is reported to have said that there was a difficulty in getting cars to put on routes which the public ask to have opened up. The Mayor has issued a statement in which he says that the citizens must be safeguarded against all dangers arising from the new form of traffic, and that the city's interest must be protected particularly against any loss of percentages receivable from the Montreal Tramways Co. A feature in connection with the traffic is the entry of 14 and 16 passenger jitney busses into the service, and the revival of the Canadian Autobus Co.'s plans. This company ran some experimental trips with a model autobus, May 3. It has a capacity of 40 to 45 passengers, and is stated to have been built to suit the conditions of Montreal traffic. The company has a franchise from the city to operate these vehicles, and has nothing to do with the "jitney" service. W. H. Dandurand is President of the Autobus Co.

In Ottawa one jitney started to run in the middle of April, it operated for one day, and nothing has been heard of it since.

The question of regulating the jitney traffic in Toronto was considered by the Police Commissioners and a bylaw is being prepared for regulating and controlling the traffic. In the meantime the police force is exercising control under the general traffic regulations. The traffic started Mar. 30, and on May 6 the Chief of Police reported that there were 150 jitneys in operation. This number has been increased since. Up to that date the principal traffic had been controlled by the Toronto Jitney Association, but since then the Independent Jitney Association has been organized, and by

May 18, it and the unorganized jitneys had practically driven the Toronto Jitney Association's cars off Yonge St., which is the most profitable route. The Toronto Jitney Association's cars are now operating on other routes, some cross town ones having been opened up. In nearly every case the street car routes are being followed. The Toronto Ry.'s traffic being perceptibly affected, particularly on the Yonge St. route, which was probably the best paying one the company had. It is now possible to obtain a seat on any Yonge St. car at almost any time of the day. A service was started on Yonge St., north of the C.P.R. tracks, Mar. 30, to Glengrove, 2½ miles, at a 5 ct. fare, six tickets for 25 cts., and another to the Rosedale Golf Club, at a straight 10 ct. fare. This service competes with the Toronto and York Radial Ry.'s Metropolitan Division, on its most profitable section. Competing with the Toronto Suburban Ry. is a service operated by 10 cars from West Toronto to Lambton, two miles, at a 5 ct. fare, 6 tickets for 25 cts.

The Deputy Chief of Police of Hamilton, Ont., in conjunction with the Hamilton Jitney Association's officers, has drafted a set of regulations for the control of the jitney traffic in the city. These are under the consideration of the Police Commissioners and the city council. The question of putting a tax on the owners of cars is to be considered directly by the City Council, and the suggestion is made that \$5 a year for each passenger seat in each car be charged, the idea being to replace the revenue taken away from the city as a result of the inroad made on the Hamilton St. Ry.'s earnings by the jitney traffic. Prior to drawing up the regulations the police department made an investigation of the extent of the traffic, which showed that on May 10, between noon and 8 p.m., 651 jitneys stopped at the corner of King and James Streets. Pending the passing of the bylaw the police are inspecting all cars put into the service and are regulating the traffic. The routes operated over are practically the same as those of the street railway, with a 5 ct. fare and 6 tickets for 25 cts.

The jitney has not yet made its appearance in London, Ont., but the city council is being urged to give the matter consideration so as to be prepared to act promptly when any proposition is made for such a service.

G. Markes, who was a partner in a jitney service at Sudbury, is seeking a franchise for a similar service in Stratford, Ont., and the city council has granted a franchise to a local company with the title of Motor Busses, Limited, to operate a jitney service in the city. Nothing has as yet been done in the way of putting a service in operation.

A jitney service is being operated at Sudbury, Ont., where the construction of an electric railway has been started.

The Manitoba Public Utilities Commission has issued a memorandum to the different municipalities in which the Winnipeg Electric Ry. and its subsidiaries operate, referring to the applications being made for a reduction of fares on the lines, and intimating that if the municipalities do not put the jitney traffic under proper regulations the W. E. R. can no longer be expected to continue its progressive policy of extensions. In Winnipeg the jitney traffic, which began in the middle of February, now covers practically the whole of the city, there being according to late advices 480 cars in operation, the fares charged being 5 and 10 cts., according to the distance traversed. The Winnipeg Jitney Dispatch Service has been organized to give special and casual service to any point, at rates to be arranged be-

tween the driver and his customer. At a meeting of the Real Estate Exchange, May 6, E. Anderson addressed the members on transportation problems as affected by the jitney. He dealt with the topic first as affecting the public, and secondly as affecting the street railway. Rapid communication is the only way to build up a city, and this he pointed out, can only be regularly and properly given by an electric railway; the long haul resulting in a loss, which is only made up by the short haul traffic in the centre. The jitney can give a more attractive service in good weather during a certain period of the year in the short haul area, but at no time can it give a profitable or satisfactory service for the long haul.

There were about 10 jitneys being operated in Regina, Sask., May 10, the first car making its appearance April 28. The city is charging a license fee of \$25, but has under consideration a bylaw for the full regulation of the traffic. The Minister of Municipal Affairs has promised that a measure authorizing municipalities to make regulations to control the jitney traffic will be submitted at the legislature's current session.

The jitney is only being operated in one city in Alberta—Edmonton—but steps are being taken in Calgary by the city council to enact a bylaw so that the officers will be prepared to act promptly, when any move is made to start such a service there. The bylaw passed by the Edmonton City Council is given in another column. The owners of jitneys operating in the city are of opinion that the council has not the power to pass such a bylaw, and it is possible that a case will be taken before the courts to test its validity. The question of the acceptance of a personal bond instead of an insurance policy was referred to a committee for consideration, and on May 5, it was decided to suspend the operation of this clause to July 5, so as to permit the jitney owners to secure policies. Pending the hearing of a test case there has been a considerable decrease in the number of jitney cars being operated, licenses having been taken out only for the larger seated cars.

British Columbia was the first Province in which the jitney appeared, and it was the first to take definite steps for its control. It introduced an amendment into the Municipal Act, authorizing municipalities to make regulations for the Government licensing and regulating all motor vehicles operating within their bounds, and a section granting similar powers was introduced into the Vancouver Corporation Act. A summary of these provisions has already appeared in Canadian Railway and Marine World. There are at present about 300 cars being operated in Vancouver and vicinity, and about 125 in Victoria. The service given by them is as a rule in the well settled sections only, and mainly along the British Columbia Electric Ry.'s routes, a 5 ct. fare being charged. Between Vancouver and New Westminster the cars run along the paved highway, with a 25 ct. fare. The draft regulations drawn up under the terms of the act have been under consideration, and several modifications have been made in consequence of representations by the jitney associations. The regulations come into operation June 1.

The New Westminster, B.C., City Council has appointed a special committee to draw up regulations for the jitney traffic.

The Victoria Jitney Association has been formed with W. T. Scott as Traffic Manager. It is in correspondence with the Provincial Government as to the regulations to be made under the act, and has appointed a committee to investigate the question of accident insurance rates.

Mainly About Electric Railway People.

C. E. A. Carr, Railway Supplies, etc., Toronto, formerly General Manager, Quebec Ry., Light and Power Co., received word, May 13, from Ottawa, that his son, C. C. Carr, had been wounded at Langemarck, and has since been listed as missing.

City Engineer Arnold has been appointed Superintendent of the Saskatoon, Sask., Municipal Ry. by the City Council, by a majority of one, for a trial period of two months. In accepting this additional work he expressed the opinion that an expert street railway man should be employed.

The Brantford, Ont., Municipal Railway Commissioners and the city council's hydro electric commissioners have had some meetings in reference to a merger of the working staff by the appointment as joint Manager of **L. G. Ireland**, now manager of the city's hydro electric plant. Our advices, May 19, pointed to the probability of Mr. Ireland being appointed joint manager by June 1.

John G. Baukat, who is acting as Manager, London (Ont.) Railway Commission, which is electrifying and which will operate the London & Port Stanley Ry. was, from 1898 to 1899 assistant engineer, in charge of power and equipment, Port Chester Ry., of Port Chester, N.Y.; 1899 to 1902 in General Electric Co.'s railway department, Schenectady, N.Y.; 1902 to 1905, Chief Engineer, Schenectady Ry., Schenectady, N.Y.; 1905 to 1909, Assistant Superintendent of Electrical Equipment, New York Central & Hudson River Rd.; for a short time Chief Engineer, Miami Valley Construction Co., New York, N.Y.; 1910 to 1911, Mechanical Engineer, Wilmington-Philadelphia Traction Co., Wilmington, Del.; 1911 to 1913, Superintendent of Equipment, Lehigh Valley Transit Co., Allentown, Pa. In 1913 he was appointed electrical engineer, National Steel Car Co., Hamilton, Ont., and in 1904 was appointed on the Hydro Electric Power Commission of Ontario's staff.

Col. H. H. McLean, K.C., M.P., President, St. John Ry., who will command the New Brunswick and Nova Scotia regiments and the 41st and 42nd Quebec regiments in the third Canadian overseas contingent, was born at Fredericton, N.B., Mar. 22, 1855, and educated there. He became an attorney in 1876, a barrister in 1877, referee in equity in 1889, and a K.C. in 1899, and is considered one of the foremost commercial and shipping lawyers in the province. In addition to being President of the St. John Ry., he is, or has been, intimately connected with several other transportation companies and allied interests, including the Alexander Gibson Ry. and Manufacturing Co., New Brunswick Southern Ry., Fredericton Ry., Carleton Electric Light Co., Grand Falls Water Power and Boom Co., New Brunswick Ry., New Brunswick Fish and Game Co., Algonquin Hotel Co., St. Andrews Land Co., St. John Bridge and Ry. Extension Co., etc., and is connected in a legal capacity with the C.P.R., Dominion Express Co., Dominion Coal Co., Cumberland Ry. and Coal Co., Maine Central Rd., etc. He has been associated with the military since joining the volunteers during the Fenian raids, and became Captain and Adjutant of the 62nd St. John Fusiliers, and afterwards Lieutenant-Colonel commanding that corps until 1903, when he was appointed Commandant of the 12th Infantry Brigade, which position he held until 1911. He was promoted to Colonel in 1911, and raised the 28th New Brunswick Dragoons, to the command of which he was appointed. He was Captain and Adjutant of the provisional battalion from New Brunswick and Prince Edward Island for service during the northwest rebellion in 1885; Commandant of

the Bisley team in 1899; in command of all troops assembled at St. John, N.B., for the reception of the Duke and Duchess of Cornwall and York, now King and Queen, in 1901; and also in command of the Infantry Brigade at Halifax, N.S., for the same purpose; in command of the 7th Infantry Brigade, for the tercentenary celebrations at Quebec in 1908; in command of the Canadian contingent at the coronation of the King and Queen, London, Eng., in 1911. He is President of the New Brunswick Provincial Rifle Association and a member of the Canadian Council of the British Red Cross Society. In 1877, when there was a possibility of war between Great Britain and Russia, he raised a volunteer force of 100 men, for which he received the thanks of the War Office, and during the South African war he offered to raise a similar force, and was thanked by the general officer commanding. He holds the long service decoration, and was appointed an honorary aide de camp to the Governor General in 1910. He was appointed Vice Consul for the Argentine Republic in 1908, and since that year has represented Sunbury and Queens, N.B., in the House of Commons.

Electric Railway Notes.

Moncton Tramways, Electricity & Gas Co., Moncton, N.B., is in the market for 2 or 3 one man, p.a.y.e., single end operation, single truck cars.

The Brantford Municipal Railway Commission has ordered three more single truck, p.a.y.e. cars from the Preston Car and Coach Co., for operation on the Eagle Place loop.

The London, Ont., City Council has passed a bylaw for the operation by the London St. Ry. of a Sunday service on the same terms and conditions as have heretofore prevailed.

The Winnipeg Electric Ry. has completed the new car signs which were directed by the Public Utilities Commissioner. The order necessitated, it is stated, the rearrangement of 380 signs.

The Three Rivers Traction Co., which is building a line in Three Rivers, Que., and a suburban line to Cap de la Madeleine, will probably order 8 single truck p.a.y.e. cars as well as the necessary construction and snow fighting outfit.

The Edmonton, Alberta, City Council has under consideration a recommendation of the finance committee that three business men of the city, not connected with the council, conduct a thorough investigation into the Edmonton Radial Ry.'s financial affairs.

The Ottawa Electric Ry. at the request of the Ottawa City Council began to stop its cars on the far side of the street, instead of the near side, April 29. This is a return to the old system, which was discontinued at the request of the City Council about two years ago.

The Saskatoon, Sask., City Council decided, May 7, to speed up the cars on the Municipal Ry. so as to give a faster service. The schedule adopted was drawn up by the Street Railway Men's Union, and laid before the council by City Engineer Archibald, who is also Superintendent of the Municipal Ry.

The Commissioners operating the Municipal Ry., and the Hydro Electric Power plant in Brantford, Ont., held a joint meeting, May 11, to discuss plans for placing these two utilities under one management, L. C. Ireland, the manager of the power distribution plant, being suggested for the joint office.

The Port Arthur Electric Ry., which is

owned and operated by the city, is hauling the city refuse from central points to outside dumps. A special car was built last year for the purpose. The experiment is being watched closely to see what comparison there is as to cost, with the previous system of hauling by horses.

Street cars in various parts of Great Britain and Ireland are being utilized to a considerable extent in a great recruiting campaign. They are decorated by artistically designed recruiting posters, and at night are illuminated by a large number of 16 c.p. colored lights. They are very attractive, and are said to be doing excellent work.

Representatives of rural municipalities of Manitoba served by interurban electric lines owned by the Winnipeg Electric Ry. met at Winnipeg, May 1, and passed resolutions asking for the provision of a freight and parcel station at the old market between Main and Princess Streets, and the granting of such franchise to the W. E. Ry. as would enable it to handle such traffic, from the interurban lines now having terminals at the north end city limits.

The Regina, Sask., Municipal Ry. put in operation a new time schedule, May 10, giving a faster service on all down town lines on week days. No change is made on two lines and the service on the Highland Park line has been discontinued. It is proposed to submit a bylaw at the first opportunity to see if a Sunday car service is wanted. The council refused to grant a request for a single fare for a return trip to the market on Wednesdays and Saturdays. Commissioner Reid pointed out that the Council received 4.2 cents from each passenger while it cost 4.8 cents each to carry them.

Ejection of Passenger Justified.—In the recent case of Capital Traction Co. vs. Brinley, decided by the Court of Appeals of the District of Columbia, U.S.A., it appeared that the appellee boarded a street car and tendered an overdue transfer to the conductor in payment of his fare. The conductor refused to accept the transfer, and informed the appellee that he would have to pay his fare or leave the car. The latter insisted that the transfer was all right, whereupon the conductor stopped the car and summoned the motorman for the purpose of removing the appellee from the car. The appellee then tendered payment of his fare, but the conductor refused to accept it and ejected the appellee, who brought action for wrongful ejection. The court, reversing a verdict judgment below, held that the appellee having voluntarily assumed the status of trespasser, his offer to pay his fare came too late, and that the trial court erred in not directing a verdict for the appellant.

Edmonton Radial Ry. Depreciation.—The Edmonton, Alta., City Council has been charging depreciation at 10% a year on the cost of the municipal railway's permanent track. It has been contended that this was altogether too high and the rate has been reduced to 6%. This will make a difference in operating charges that along with other things will enable the management to make a better showing, although the mileage of track is undoubtedly too large for the population, there being 54 miles and only about 62,000 people.

London & Port Stanley Ry.—J. G. Baukat, who has been on the Hydro Electric Power Commission of Ontario's staff for some time, has been sent to London, Ont., as acting Manager of the London & Port Stanley Ry. and is making preliminary arrangements for the organization of a staff to operate it after its re-opening in July as an electric line.

Manitoba's Public Utility Commissioner Shows Why Electric Railways Cannot be Extended or Fares Reduced.

The Public Utility Commissioner of Manitoba, H. A. Robson, has issued a memorandum to the City of Winnipeg and surrounding municipalities stating why he cannot order the extension of electric railway lines or the reduction of fares, as follows:

"Several applications have recently been made either for orders for street car extensions in and around Winnipeg or for reduction of fares. The proposed extensions include:

"1. A line to Morse Place, i. e., the Johnson Ave. extension into Kildonan;

"2. An extension of the Sargent Ave. line through into St. James to make a belt line with Portage Ave.;

"3. A line to the St. Boniface stock-yards;

"4. A line through the northwest part of the city to Brookside cemetery.

"The jurisdiction of the public utility commission, to order construction or impose penalties in the alternative depends on the presence of certain facts—1, A contract requiring the company to build, or 2,—the extension to such an extent of business that a fair return on the capital investment is assured.

"New lines in the city may be required under the company's franchise, if a certain population exists in the territory to be served. Otherwise the obligation to build depends on condition 2 above. Suburban lines also generally depend on condition 2.

"In the city, the company has built many lines at the request of the council, without the lines being within the stipulation as to population. Several useful lines now in operation would not have existed but for this voluntary construction. Rural lines have been built on the assumption that they would so increase population thereon as to justify the investment. There are instances where it is obvious that this expectation has not yet been realized.

"The street railway company in ordinary times, and particularly before recent competition, was making such earning that it might carry further financial load and still ensure a fair return upon the value of the undertaking. But from the figures showing the reductions, due somewhat no doubt to financial depression, but primarily to the automobile competition, there is not now such a revenue that a fair return on the value of the property exists.

"There is evidently no contractual obligation to build the new lines, and because of the shrinkage just referred to the obligation under the law does not exist. So that nothing can be done in present circumstances towards enforcing the construction of these new lines.

"A few words may be added to elaborate the situation. The automobile competition gets the patronage in the populous districts where the paying traffic is found. This factor has substantially depleted the revenues which have been carrying the system as a whole.

"The street railway company reaches the outskirts of the community, and takes the 'long haul.' It is common to all such systems that the outer traffic is carried on at a loss which is met by the productive lines in the settled districts. The short fare pays the loss on the long fare. For instance, the passenger from Trent Ave., Kildonan, to Deer Lodge, pays a fraction over 4 cts., or perhaps 3 cts. Other examples are to be found at all points. This is a loss, and is made up ordinarily by the greater number of more profitable short runs down town. If the down town business is taken away

or substantially reduced, the result is obvious. The compensation for the long haul is gone. The company cannot be required to build lines which cannot be operated out of their revenue. The remunerative down town business has enabled it to carry the investment and operate lines which would not carry themselves, and which otherwise would not have been built.

"Every season so far there has been a certain amount of new track laid and operated. This has largely been in comparatively unoccupied parts. City growth, like that of the country, follows transportation lines. The incentive to the company to build into new territory in the hope of recoupment with development has gone.

"The street railway will make the new community and the bus will take the business. The general revenues will not now carry losing lines as they have done heretofore. Street car fares to and from suburbs have already been materially reduced or wholly extinguished because of general profitability of the system as a whole. In so doing the company either voluntarily or by slight pressure departed from the rates to which it was entitled under its franchise contracts. At present the company may well say it cannot build new lines to open new districts, or communities or to accommodate workmen and industrial establishments, because the revenue in which they have been carrying such lines in the past has gone into other channels. It cost money in large sums to build roadbeds, lay tracks and equip railway systems. This money is borrowed and the charges met out of revenue. With the present encroachments on revenue street railway transportation companies are not likely to be able to borrow new capital or to pay the interest on it if they were.

"These are matters for thought by the municipal councils of the city and surrounding municipalities. Some expedient must be devised for the encouragement of continued building of electric railways through all parts of the whole large urban area of which Winnipeg is the head and centre. Without continuously increasing any reliable transportation lines these communities will stagnate. The movement to encourage market garden traffic is an evidence of this. Cheaper industrial sites can only be made available by transportation of a cheap and reliable kind.

Accordingly, while this state of affairs exists nothing can be done with existing applications for new lines or further reduction of fares. When circumstances are altered, and the company's financial returns improve, these matters may be brought up again for reconsideration."

Vancouver Bridges burned.—The Connaught bridge and the Granville St. bridge, Vancouver, B.C., owned by the city, were damaged by incendiary fires, April 28. These bridges cross False Creek in the vicinity of Cambie St.; the first named is 4,091 ft. long, of which 3,514 ft. consists of steel spans, while the second is 3,342 ft. long, of which 2,069 ft. consists of steel spans. The city engineer estimates that 650 ft. of the steel work of the Connaught bridge will have to be replaced at an estimated cost of from \$60,000 to \$100,000. The damage to the Granville St. bridge was confined to the floor, and is not large. Owing to the damage to the Connaught bridge the B. C. Electric Ry. has had to rearrange its Oak St. line traffic from Eburne to Hastings and Cambie Sts.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry., and allied companies.

	Feb. 1915	Feb. 1914	July 1, 1914 to Feb. 28, 1915	July 1, 1913 to Feb. 28, 1914
Gross earnings	\$558,512	\$704,003	\$5,197,906	\$6,084,831
Expenses	469,187	513,748	4,040,925	4,407,215
Net earnings	89,325	190,255	1,156,981	1,627,616

	Mar. 1915	Mar. 1914	July 1, 1914 to Mar. 31, 1915	July 1, 1913 to Mar. 31, 1914
Gross earnings	\$557,135	\$717,251	\$5,755,041	\$6,752,082
Expenses	484,565	516,007	4,525,490	4,924,213
Net earnings	72,570	201,244	1,229,551	1,828,869

Cape Breton Electric Co.

	Mar. 1915	Mar. 1914	3 months 1915	3 months 1914
Gross earnings	\$23,495.53	\$26,550.60	\$75,989.00	\$81,633.89
Expenses	15,666.25	16,357.81	48,507.73	50,618.78
Net earnings	7,829.28	10,192.79	27,481.27	31,015.11

Detroit United Ry.—The proposal of the Detroit, Mich., City Council to purchase the lines within the one fare zone for \$23,285,000 has been refused by the company, and a new proposition has been tentatively agreed upon. Under this the proposition to purchase will be submitted to the ratepayers, and if a favorable decision is given, the price will be fixed by the six circuit judges sitting in chancery. The manner in which payment is to be made is left open.

Grand Valley Ry.—The bondholders of the Grand Valley Ry. applied, April 12, at Osgoode Hall, Toronto, to reduce the amount of \$25,000 proposed to be paid to E. B. Stockdale, who was receiver during the liquidation proceedings. Judgment was reserved. The company's line was sold under liquidation proceedings to the City of Brantford, Ont.

Hamilton St. Ry.—The earnings upon which the percentage is payable to the city for the three months ended Mar. 31, were \$132,536.19 against \$148,292.50 in 1914, the percentage being \$10,602.90 against \$11,863.40. The decrease is stated to be accounted for by the depression, and "the manner in which the jitney traffic has cut into the company's earnings."

London St. Ry.

	Mar. 1915	Mar. 1914	Jan. 1 to Mar. 31, 1915	Jan. 1 to Mar. 31, 1914
Gross earnings	\$32,227.12	\$28,964.40	\$92,074.50	\$83,214.62
Expenses	22,297.57	21,354.99	64,610.97	60,116.20
Net earnings	9,929.55	7,609.41	27,463.53	23,098.29

Winnipeg Electric Ry.

	Feb. 1915	Feb. 1914	Jan. 1 to Feb. 28, 1915	Jan. 1 to Feb. 28, 1914
Gross earnings	\$314,658	\$350,977	\$665,340	\$739,648
Expenses	194,565	213,104	408,771	439,282
Net earnings	110,093	137,873	256,569	300,366

	Mar. 1915	Mar. 1914	Jan. 1 to Mar. 31, 1915	Jan. 1 to Mar. 31, 1914
Gross earnings	\$303,209	\$347,812	\$668,549	\$1,081,461
Expenses	197,060	206,393	605,820	645,676
Net earnings	106,149	141,419	362,729	435,785

Toronto Ry., Toronto and York Radial Ry., and allied companies.

	Feb. 1915	Feb. 1914	Jan. 1 to Feb. 28, 1915	Jan. 1 to Feb. 28, 1914
Gross earnings	\$767,326	\$777,683	\$1,610,677	\$1,625,628
Expenses	411,838	400,357	852,333	840,604
Net earnings	355,488	377,326	758,344	784,934

	Mar. 1915	Mar. 1914	Jan. 1 to Mar. 31, 1915	Jan. 1 to Mar. 31, 1914
Gross earnings	\$820,750	\$836,328	\$2,431,427	\$2,461,956
Expenses	356,755	435,685	1,209,188	1,276,379
Net earnings	463,995	400,643	1,222,239	1,185,577

	1915		1914	
	Receipts	percentage	Receipts	percentage
Jan.	\$ 471,226.33	\$ 70,486.33	\$ 501,843.70	\$ 75,276.00
Feb.	440,313.95	67,047.09	461,274.45	72,059.00
Mar.	488,468.30	93,141.32	530,751.18	102,150.24
Apr.	467,701.62	93,540.32	501,435.10	100,287.02
	\$1,867,710.20	\$323,215.06	\$1,975,304.43	\$349,771.72

GENERAL MANAGER WANTED

For a short, up-to-date Canadian electric railway handling heavy freight and passenger service. Must be a good executive man, familiar with freight tariffs, divisions, etc. Apply Box 26, Canadian Railway and Marine World, with record of experience and references.

Niagara, St. Catharines and Toronto Railway Club.

The Niagara Central Club, consisting of employes of the Niagara, St. Catharines & Toronto Ry. and allied lines, has been organized with club rooms at St. Catharines. One, the N. S. C. & T. Ry., has taken a three years' lease of a very substantial two story brick house on the corner of St. Paul and Chestnut Streets, almost

bed rooms are only to be used on the written order of the Dispatcher or Superintendent.

The club has a membership of nearly 200 and the officers are as follows: President, E. F. Seixas, General Manager; Vice President, W. R. Robertson, Superintendent; Secretary-Treasurer, J. S. Sainsbury; Com-

Jitneys must not carry more passengers than are set out in the schedule in the by-law, namely: A car of an originally rated seating capacity of 5 passengers may take 8, including the driver; a rated 7-passenger car may take 11, including the driver, and cars above that size may take passengers 40% in addition to their seating capacity.

Right hand doors must be kept permanently fastened, and a seat permanently fixed thereto. No exception is made of left



Reading Room, Niagara Central Club.



Card Room, Niagara Central Club.

directly opposite the terminal station, and has furnished it completely. The employes have organized themselves into a club and with a small monthly subscription maintain the club house.

The main entrance is on St. Paul St. On the right of the entrance hall is a large comfortably furnished reading room which

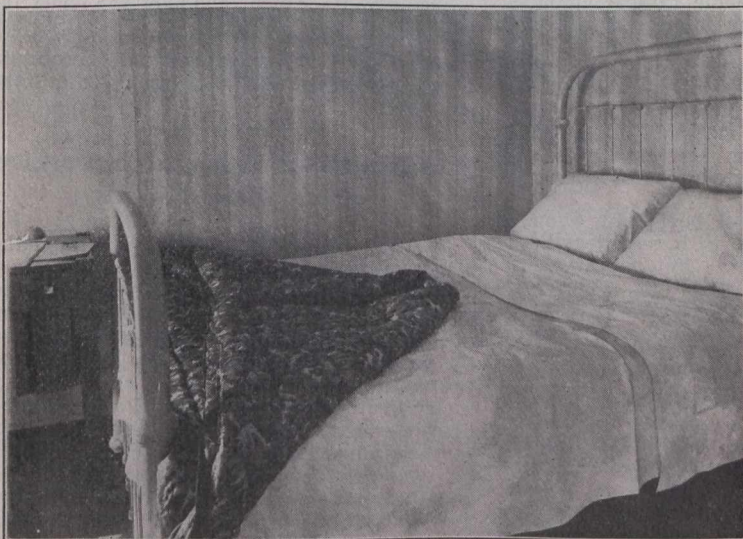
mittee, A. F. McGill, R. Wilson, R. W. Robertson, H. Rule, J. Hurtubise. No reasonable expense has been spared by the company in the furnishing and the large attendance of members attests to their appreciation of the company's action in affording its employes a place of this character.

hand drive cars, for no person will be allowed to enter by the right hand side.

No person may enter or leave when a jitney is in motion.

Change making or fare collection while a jitney is moving is prohibited.

Jitneys may not stop for taking on or letting off passengers except within 2 ft. of the



Bed Room, Niagara Central Club.



Billiard Room, Niagara Central Club.

is supplied with daily papers, current periodicals, monthly magazines and technical journals. It also contains an upright piano and a Victrola. At the end of the hall is a pool and billiard room containing a modern combination table. Off this room are the lavatories, and coat room.

On the second floor is a small completely equipped writing room, a commodious card room, which is also equipped with several of the standard games, such as checkers, cribbage, crokinole, etc. There are also two completely furnished bed rooms for employes who are members of the club to use in case of late and special runs. The

Jitney Automobile Regulations in Vancouver.

The Vancouver City Council has passed the following rules for the regulation of jitney automobile traffic:—

Automobiles plying for hire are to be examined, and their drivers as to fitness for driving, by an inspector, and the city council will grant licenses on his recommendation. The jurisdiction of the chief constable was removed from the bylaw as being bad law, in the opinion of the city solicitor.

curb, and not nearer than 30 ft. from a street corner. Passengers in the front seat must not encroach upon the driver's 50% space.

Route signs must be displayed both front and rear in a way not obscuring the vision of the driver.

Non skid appliances are to be worn in wet weather.

A bond must be filed with the city indemnifying an owner or any number of owners joining together for \$1,000 for any individual injury, and for \$5,000 for any collective claims, such bond to be approved of by the city council with the council as the obligee.

Dominion Power and Transmission Company's Annual Report.

Following are extracts from the report for the calendar year 1914:—The directors regret that there has been an interruption of that onward progress which has characterized the company's record from its incorporation. Towards the middle of the year there seemed excellent prospects of a resumption of general business activity, but the declaration of war and its effects on general business have quite visibly affected this company's gross revenue for the full year. The closing down of factories has reduced considerably the power receipts, and the street railway traffic has fallen off to a marked extent, while the other railways also show some diminution of business. In view, however, of the wide spread and general derangement of business that has taken place, this company's position cannot but be regarded with considerable satisfaction. Bond interest and other overhead charges have been promptly met, and payments of bonds and on account of bond sinking funds have been made amounting for year to \$134,390.00. We have carried out the sound policy of setting apart 20% of our gross revenue for the exclusive purpose of renewals and maintenance, and after paying dividends during the year amounting to \$461,392.00 we are able to show a balance to the good of \$65,599.10.

After the commencement of the war the advisability of continuing the work on the new steam power station was very carefully considered, and it was decided that in view of the improbability of any absolute necessity for a further supply of power under existing conditions, and in view of the state of the money market the completion of the system might well be deferred for the time being. Considerable progress has been made, however, not only with the work on the site of the station, but with the boilers, turbines and electric equipment remaining in the manufacturing establishments of the contractors respectively. Payments amounting to \$402,254.60 have been made on this account. It will probably be advisable to complete the buildings and install the plant during the coming summer, so that there may be in readiness for operation at least one of two units before the approach of another winter.

The operations of the company in all its branches have during the year been carried on with almost absolute freedom from interruption and with satisfaction to customers. The directors look forward with great confidence to the company's future.

The statement appended to the report relates to the company's general operations and does not give separate information for the railways owned and operated, viz.—Hamilton St. Ry., Hamilton and Brantford Ry., Hamilton and Dundas Ry., Hamilton, Grimsby and Beamsville Electric Ry., and Hamilton Radial Ry.

The directors for the current year are:—J. R. Moodie, President; Jas. Dixon, Vice President; Jno. Knox, Treasurer; W. C. Hawkins, Managing Director and Secretary; W. Southam, Lloyd Harris, J. W. Sutherland and C. E. Neill. E. P. Coleman is General Manager.

Montreal Railway Y. M. C. A.—Following were the officers elected at the annual meeting in Montreal, May 7:—Chairman, C. Manning; Vice Chairman, H. A. White; Treasurer, A. A. Maver; Secretary, F. J. Fradd; Executive Committee: W. A. Kneeland, S. Dugh, D. A. Hinchlisse, J. Harrower, T. McHattie, F. W. Britton, W. J. Hyman. The reports spoke of the satisfactory work done during the year.

New Cars for Toronto Railway.

At a sitting of the Ontario Railway and Municipal Board, Apr. 30, to consider plans for the 50 new cars which the Board had previously ordered the Toronto Ry. to build, it developed that the company had proceeded to build the cars without receiving the approval of the plans by the Board, as called for by the order for their construction. Two cars had already been built and placed in service, and 18 others were in various stages of construction. The Chairman, D. M. McIntyre, expressed surprise at the failure of the company to submit the plans, and stated that if the company built any cars it would do so at its own risk, in the event of the Board refusing to approve the design. The hearing was adjourned to May 17.

On the latter date, consideration was given to the above mentioned matter, and also an application from the Toronto Railway Employees' Union for the abolition of the running board on cars. D. W. Harvey, Assistant Engineer of Railways Department of Works, Toronto, submitted plans prepared in that department for the reconstruction of the present cars. The Chairman suggested that an order might be issued calling for nothing but closed cars, but reserved judgment for the present. For the 50 new cars called for as above, Mr. Harvey submitted plans for a new car of composite construction, for the consideration of which the company asked time. The Board decided to leave the consideration of the plans to its engineer, the city engineer and an official of the company.

Lethbridge Municipal Railway Operating Results.

The Commissioner of Public Utilities, for the City of Lethbridge, Alta., has made the following report:

The year 1914 saw some radical changes in the operating of the municipal railway, notably the change to one man one car and the introduction of the straight 5 ct. fare. So far the one man one car has worked out satisfactorily and we have not had an accident that could be charged to one man operation; indeed from the standpoint of safety to the travelling public the cars are safer.

The 5 ct. fare has not been long enough in force for me to say with any degree of accuracy as to its effects but so far there has been no decrease in traffic. The revenue and expenditure was as follows:

	1913.	1914.
Expenditure	\$91,440 84	\$83,098 00
Revenue	60,609 62	46,053 56
Deficit	\$30,831 22	\$37,044 44
Passengers carried	1,420,011	1,054,848
Car miles	433,183	357,938
Revenue per car mile..	13.99c	12.87c
Total cost per car mile.	21.11c	23.22c
Passengers per car mile	3.28	2.94
Av. fare per passenger.	4.17c	4.21c

Taxes to the extent of \$5,518.81 were added to our expenses for 1914. The one man one car was put into operation on June 19 and the 5 ct. fare on Dec. 15, 1914. The position of inspector has been discontinued and the accountant is now doing the work. The sub-station operator is now helping the accountant to count tickets, thus enabling us to dispense with a clerk from the Treasurer's office.

The following is a comparison of the number of passengers carried per month and also the earnings per month for 1913 and 1914:

	Passengers.		Earnings.	
	1913.	1914.	1913.	1914.
Jan.	110,268	129,076	\$ 4,516 32	\$ 5,332 64
Feb.	107,529	112,657	4,409 62	4,610 34
Mar.	117,153	112,695	4,838 07	4,670 66

April	112,250	92,598	4,684 77	3,865 91
May	116,617	79,656	4,847 32	3,350 71
June	142,181	71,752	6,010 73	3,011 30
July	125,489	103,087	5,259 46	4,481 38
Aug.	119,419	70,478	5,000 72	2,991 81
Sept.	112,266	61,798	4,675 01	2,618 84
Oct.	113,724	67,477	4,715 42	2,857 77
Nov.	111,618	70,151	4,618 73	2,981 02
Dec.	131,497	83,473	5,469 25	3,723 68

	1,420,011	1,054,848	\$59,045 42	\$44,496 06
Advertisements and rentals			1,564 20	1,557 50

Total \$60,609 62 \$46,053 56.

The number of working hours per man per week was reduced to 54, thereby enabling me to put on two additional men.

The auditors' report gives the following figures:

Property at cost	\$354,238 72
Losses covered by debentures, including debenture discounts and losses on operating, 1912 and 1913	93,938 77

Franchise for Electric Railway in Transcona.

The Manitoba Legislature at its recent session passed an act respecting the town of Transcona, containing the following section:

"3. Upon a report from the Public Utility Commissioner that substantial default has been made and continues in the performance of his obligations regarding the same by the person to whom has been granted a right to construct railway tracks over and upon the streets and highways of the Town of Transcona, under the terms of any contract made and approved under the authority of sec. 2 of chap. 123 of the Statutes of Manitoba, 4 George V., the Lieutenant Governor in Council may revoke the approval given under said section, whereupon the grant by the said town, pursuant of such approval, shall be extinguished, and the town may, subject to the like approval, proceed to again exercise the power and authority vested in it by the said section."

The Public Utility Commissioner has reported as follows:

"That substantial default has been made and continues in the performance by John Henry Kern of his obligation regarding the construction of railway tracks over and upon the streets and highways of the Town of Transcona, under the terms of contract made and approved under the authority of sec. 2, chap. 123, of the Statutes of Manitoba, 4 George V."

On May 7 the Lieutenant Governor in Council revoked the approval of the Kern contract.

Winnipeg Passes Bylaw to Secure Competent Jitney Drivers.

The Winnipeg City Council passed the following bylaw, April 19:—

"No license shall be issued for the operation upon the streets of the city of Winnipeg of a motor bus, automobile, or jitney, driven by gasoline or electricity, for hire, unless the applicant for such license shall produce a certificate from the Chief of Police of good character and shall have passed a satisfactory examination by those appointed by the city for that purpose, showing that he is capable and competent to operate a motor bus, automobile, jitney or other vehicle driven by gasoline or electricity, with safety and skill, and the License Department is hereby directed to ascertain if any parties operating such motor busses, automobiles, jitneys driven by gasoline or electricity, for hire, are competent, and if any such motor busses, automobiles, jitneys or other vehicles being operated for hire are found to be operated by incompetent drivers or chauffeurs or owners, then the licenses of such drivers, chauffeurs or owners shall be cancelled forthwith and shall not be restored until such drivers, chauffeurs or owners have passed an examination showing that they are capable and competent to operate such motor busses, automobiles, jitneys or other vehicles with safety and skill."

Edmonton Bylaw to License Jitneys and Their Drivers.

The Edmonton, Alta., City Council passed the following bylaw to regulate the operation of jitney cars, effective April 26:—

1. For every car coming within the purview of the bylaw, an annual fee of \$10 for every seat (excluding the driver's seat), according to the seating capacity of the car as set forth in the application and in the license; the seating capacity being determined by the seating capacity for which car was made or sold, and in other cases determined by a measurement of 18 ins. for each passenger, a separate license being required for each car.

2. For every driver other than the licensed owner, an annual fee of \$5. In case any person applying for a jitney license under the provisions of this bylaw has obtained a license as a common carrier of passengers or for a vehicle for hire for the current year under the provisions of bylaw 523, the sum paid for such license shall be credited to the sum payable by the applicant under the provisions of this bylaw, and all licenses issued under this bylaw shall expire on the 31st day of December next succeeding the date of the issue of the same, and no deduction shall be made by reason of the license being issued after the 1st of January in this or any other year. Fares to be charged by every jitney car, route and destination thereof and the license number shall be displayed on a sign attached to the car while in operation in some prominent manner satisfactory to the Inspector of Licenses, and no person shall attach to any jitney car operating in the City of Edmonton any sign other than the sign required as above and by the Motor Vehicles Act, excepting that a banner may be carried on either side or both sides of the engine hood of such car, indicating any special direction of place to which such car is proceeding, such banner not to exceed 3 ft. in length or 16 ins. in width.

3. Every owner or driver operating a jitney car shall wear on the breast of his coat a button or tag which shall be issued by the License Inspector.

Nipissing Central Railway Operation for 1913-14.

The annual report of the operations of the Nipissing Central Ry. by the Timiskaming and Northern Ontario Ry. Commission for the year ended Oct. 31, 1914, shows receipts from operation, \$107,666.07, and from operations other than transportation, \$886.60; total, \$108,552.67, against \$85,509.26 for the year ended Oct. 31, 1913. The expenditures were:—Maintenance of way and structures, \$12,974.22; maintenance of equipment, \$6,169.91; traffic expenses, \$722.24; transportation expenses, \$41,176.77; general expenses, \$22,007.08; total operating expenses, \$83,050.22; taxes, \$15; net revenue, \$25,487.45. Out of this \$25,000 was paid to the Treasurer of the Province of Ontario.

The general balance sheet shows liabilities of \$530,000 on account of capital stock; \$229,194.16 on account of advances received from the Timiskaming and Northern Ontario Ry., and \$13,257.65 for accounts payable and unclaimed wages, a total of \$772,451.81. The assets are \$799,849.78, viz.:—Valuation of road and equipment, \$369,632.28; townsite property, North Cobalt, \$245,160; working assets, \$30,328.72; deferred debit items, \$3,329.28; franchise, \$142,399.52. The difference of \$27,397.97 is carried at credit of profit and loss account.

The traffic statistics show:—Passenger

car hours, 2,419; passenger car miles, 25,756; total passengers carried, 135,451; average daily receipts, \$351.03; average receipts per car hour, \$4.07½; average receipts per car mile, .38¼ cts; earnings per passenger, .07¼ cts.; freight car hours, 38; freight car miles, loaded, 118; freight car miles, empty, 64.

The total trackage operated is 19.93 miles, of which 4.92 miles of main line is owned by the company; 10.45 miles of main track is leased from the T. & N.O. Ry. (of which 5.28 miles is maintained by the company and 5.17 miles by the Commission); and 4.56 miles of company and private sidings and spurs. The rolling stock consists of 8 double end interurban type motor cars; one combined switching motor car and snow plough, and three flat work cars.

Halifax Electric Tramways Co's. Report.

The report for the calendar year 1914 states that no extensive construction work was undertaken. The principal items of capital expenditure were the paving of Cogswell St., new equipment for cars, additions to incandescent and street lighting systems, and the installation in the power house of a new railway motor generator set, turbine feed pump and switchboard. In addition to expenditure for maintenance charged to operating expenses, a substantial sum was set aside for depreciation.

Owing, in large measure, to conditions resulting from the existing war, the earnings were not as large as might have been expected under normal conditions, but the directors feel that, all things considered, the results of the operations are satisfactory.

The receipts were:—Passenger earnings, \$319,880.53; electric light and power, \$254,045.19; gas department, \$64,678.87; miscellaneous, \$6,637.21. Total, \$645,241.80.

Disbursements were:—Operating expenses and taxes, \$375,423.64; interest on bonds, \$30,000; miscellaneous, \$1,004.22; dividends, \$112,000; balance to surplus account, \$126,813.94.

The surplus account at Dec. 31 was \$921,735.58.

Following are comparative statistics:—

	1914.	1913.
Passenger receipts	\$319,880.53	\$301,771.11
Per cent. operating expenses to income	58.62	56.36
Passengers carried	7,316,727	6,876,003
Car mileage	1,370,430	1,275,527

The directors, who were re-elected, are:—E. A. Robert, President; Hon. N. Curry, J. W. McConnell, O. E. Smith, Vice Presidents; W. G. Ross, F. H. Wilson, Sir F. W. Borden, H. H. Smith, W. M. P. Webster, J. A. Neville, J. E. Wood and P. J. McIntosh. J. W. Crosby is Manager.

Toronto Railway Employees' Wages.

The agreement between the Toronto Ry. and its employees, which has been in effect for nearly three years, will expire in the middle of June, and the men have been meeting to decide on terms to be asked under a new agreement.

The wages under the present agreement are as follows:—Motormen and conductors, 23½ cts. an hour for first year; 25½ cts. second year; 27½ cts. thereafter, platform time, 6 days a week; 4 cts. an hour extra for Sunday work. The company pays half cost of uniforms for men in second year and supplies uniforms free to men over two years in service. Motor and truck repair men, who are employed six days a week, are paid at the same rate. Shed foremen get 27½ cts. an hour; assistants, 24½ cts.; car washers 23½ cts., but as the car washers are also shed men, they are really getting 24½ cts.

The business depression, which was accentuated by the war, and latterly the jitney competition, have adversely affected the earnings to such an extent that the management feels that instead of increasing wages, as some of the men seem to expect, they should be reduced as has been done in many manufacturing industries.

Guelph Radial Railways Report for 1914.

Following are the financial statements for the calendar year 1914, of the Guelph Radial Ry., which is owned and operated by the City of Guelph, Ont.:—

ASSETS.		
Cash on hand	\$	111.55
Cash in bank		3,021.90
		\$ 3,133.45
Accounts receivable		459.98
Line and equipment Jan. 1, 1914		174,410.35
New equipment		15,695.00
Car barn building		4,136.01
New switches		1,177.50
Charter		289.90
Gas works siding		101.50
		195,810.26
Less sale of old engine, etc.		110.67
		195,699.59
Supplies on hand		3,204.59
Insurance premiums unexpired		465.71
		\$202,963.32
LIABILITIES.		
Power accounts payable	\$	585.56
Sundry accounts payable		222.82
		808.38
Capital stock		169,870.00
Surplus profits \$19,863.95		
Less dividend 8,450.00		
		11,413.95
Profits for 1914..		8,450.00
Depreciation reserve		19,863.95
		12,420.99
		\$202,963.32
EARNINGS.		
Passenger receipts	\$44,674.80	
Freight receipts	2,697.04	
Advertising	349.20	
Sale of power	40.00	
Rent	230.00	
Interest and discount	143.06	
Park receipts	95.45	
		\$48,229.55
EXPENDITURES.		
Passenger operating	\$11,948.07	
Freight operating	785.23	
Oil and waste	178.69	
Coal	198.90	
Painting	127.18	
Office salaries	1,603.83	
Stationery	105.35	
General expense	612.85	
Insurance	640.54	
Car barn maintenance and wages	5,831.75	
Track	4,624.49	
Line	416.45	
Power house	71.00	
Park expense	836.71	
Taxes	1,634.89	
Hotel taxes	19.00	
Power	6,373.67	
Legal expenses	101.17	
Injury and damage claims	887.90	
Bills receivable	15.00	
		37,012.67
Profit for year		11,216.88
Depreciation		2,766.88
		\$8,450.00

Calgary Municipal Railway Earnings, Etc.

The results of operation for April, 1915, were as follows, compared with April, 1914:

	1915.	1914.
Earnings	\$44,298.72	\$57,256.52
Maintenance of Way and Structures	807.51	1,262.00
Maintenance of Equipment	2,495.06	6,274.21
Transportation	23,092.39	33,579.68
General Expenses	1,171.37	2,930.62
Total Operating Expenses	27,566.33	44,046.51
Balance Revenue over same	16,732.39	13,210.01
Fixed Charges	16,696.67	15,125.67
Surplus for month (1915)	36.02	
Deficit for month (1914)		1,915.66

Marine Department

Construction of Car Ferry Terminal at Carleton Point, P. E. I.

Rapid progress is being made with the building of the car ferry terminal at Carleton Point, P.E.I., for the car ferry to be established by the Canadian Government Railways across Northumberland Strait. The mainland terminal will be located at Cape Tormentine, N.B. The two terminal sites were selected as the result of the investigations by the late A. K. Kirkpatrick, M.Can.Soc.C.E., into the best location for such a route, considering natural harbor conditions, ice formations, currents, tides and shifting of sand. This report appeared in full in Canadian Railway and Marine World for Oct., 1912.

The Carleton Point terminal will consist of a landing pier extending southerly from the shore for about 2,200 ft., beyond which there will be a breakwater 500 ft. long, with an opening 600 ft. wide, between which, with the harbor formed, will be dredged to a depth of 20 ft. An 8 ft. tide has to be contended with. The landing pier and breakwater will both be of the same general construction, consisting of a stone fill, faced on both sides with large stones, the outer end consisting of 9 concrete cribs, to form the landing stage. The inner end of the landing pier will have a top width of 20 ft. for about two thirds the length from the shore, widening to a maximum of about 80 ft. near the landing stage, where there will be several tracks. Only a single track will lead out the greater length of the pier. On the sea side there will be a stone parapet. The outer end of the pier will be 13 ft. above low water, rising from a point two thirds out from the shore, to an elevation of 19 ft. above high tide at the shore line. The outer end concrete cribs will be from 102 to 113 ft. long. There will be 5 at the outer end, with 4 forming the landing stage. The breakwater will consist of a stone core, with large stone facing, rising 15 ft. above low water, and 10 ft. wide at the top, located so as to protect the landing stage from southerly seas.

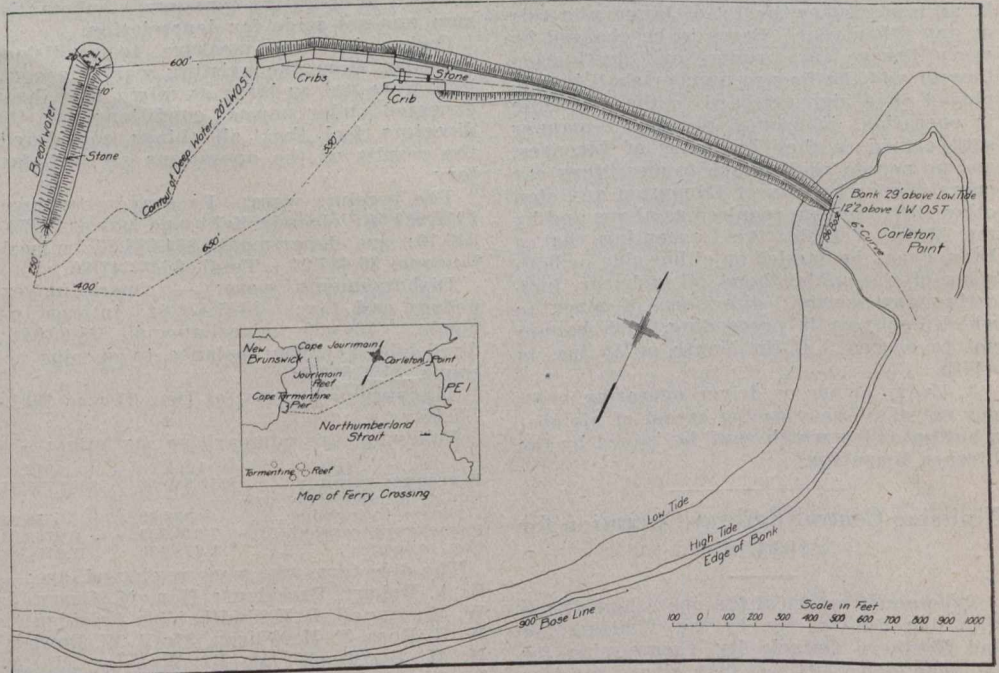
The completed work so far consists of the filling of the breakwater to low water level, as well as about 1,300 ft. of the landing pier completed to the same state. In addition, from 400 to 500 ft. of the outer end of this section of the landing pier has been filled to high tide level. The contractors, Roger Miller and Co., Toronto, have a very complete plant on the work, consisting of the plant on the site, a plant at Point du Chene, N.B., where the cribs are being built, and a quarry 5 miles back from the latter place on the Intercolonial Ry. Point du Chene Branch.

The quarry, which is on a siding about 1,000 ft. from the I.R.C. line, consists of a cutting at right angles to the siding, from which additional sidings have been laid into the working. The stripping involved the removal of about 8 ft. of red clay, which was accomplished by means of a steam shovel. The quarry face varied from 25 to 40 ft. in depth, and is about 300 ft. long. Back from the face, from 10 to 20 blast holes are drilled with a cyclone drill, and the whole face of 300 ft. blown out at one charge. The estimated quantity of stone released in a single blast is about 30,000 tons. This blasted stone is handled by a 60 ton steam shovel operating on a track parallel to the quarry face, into 6 yd. steel skips, 8 ft. square, placed on the flat cars. Paralleling the quarry face, and extending from the inner end of the quarry cut to

the outside of the main siding from the I. R.C., there is a 600 ft. span cableway, which picks up the big stones, and carries them out to the cars waiting on tracks paralleling the main siding. There are 40 steel frame flat cars in constant service. Each car holds 4 steel skips on its deck. The cableway towers are each mounted on 18 pairs of standard car wheels, which operate on short lengths of track at each end, so that the cableway may be moved in towards the quarry face as the cut progresses.

It is the intention to use a 25 ton locomotive crane in the quarry this summer for the removal of the larger facing stones, in addition to the cableway. This crane will operate on a track alongside the face opposite to that from which the core stone is being removed by the steam shovel. From the quarry the stone is taken over the I.R.C. to Point du Chene, a 100 ton I. R.C. locomotive working continuously. At

tion of the pier, 1,500 ft. from the shore, just back of the point where the concrete cribs will be located, there were placed two wooden cribs, 100 by 30 ft., end to end across the pier site, which were sunk in position. The backs of these two cribs were banked for 80 ft. with stone to protect them from the seas, the inner faces of the cribs being left open for the docking of the stone scows between the cribs and the shore on the protected side of the cribs. No stone was dumped in this vicinity, a clear length of about 150 ft. of the pier filling being left open. On this crib there was erected a 95 ft. tower, with a 105 ft. tower at the shore end of the pier. Between the piers there was suspended a cable. The scows towed across from Point du Chene are docked on the inner face of the cribs, and the steel skips lifted from the scows by the cableway, and run along to the desired dumping position. By this means the upper portion of the pier is being filled. In the



Site of Car Ferry Terminal at Carleton Point, P.E.I.

Point du Chene, the steel skips are lifted bodily from the flat cars by derricks along the wharf edge, and placed on scows for removal to the pier site at Carleton Point, a 40 mile tow.

Two methods for dumping the stone on the site have been employed. For the lower portion of the core fill, the stone at Point du Chene has been deposited from the steel skips into dump scows, towed to the site, and dumped in the required position. This method of conducting the work is possible up to the low water line, above which point it is impossible to float the scows at high tide. As noted above, most of this portion of the work is completed. For the upper fill portion, the steel skips have been loaded bodily on flat scows and towed to the site, where for the landing pier, the skips are lifted from the scows by an overhead cableway, carried out over the desired point, and dumped.

This landing pier cableway involved the installation of a considerable piece of plant. At the outer end of the filled por-

initial installation a searchlight was placed on the shore tower, to enable the unloading to proceed at night. Since then the searchlight has been placed on the crib tower, so that the light will not interfere with the operators.

For transporting stone across from Point du Chene there have been in service 5 scows. Of these a large one, 125 x 34 ft., 12 ft. high, with a capacity for 1,000 tons, and equipped with a derrick, is to be used principally for transporting the large facing stones. For the lower core fill, there are two 120 x 35 ft., 13 ft. dump scows, with capacity for 850 tons. These two scows are being used for carrying the steel skips. In addition there are two deck scows, 100 x 30 ft., 8 ft. deep, for deck loads only. Three tugs are employed on the work, two for towing the scows across, and a third for assisting on the site. The largest, the J. O. Gravel, is a 100 ft. steel vessel, 12 ft. draught, equipped with a searchlight, and used in towing across. A smaller tug, the D. M. Fraser, is an 85 ft. vessel, with 9 ft.

draught, and is employed for work around Carleton Point.

For the building of the outer end pier cribs the company has built a wooden floating drydock, 125 x 47 ft., 12 ft. deep, at Point du Chene. This dock has a gate at one end, and the water entrance is controlled by valves. As it will not sink completely of its own weight, concrete weights have been added along the inside bottom edge, which will clear it from docked vessels. The outer end pier cribs will be of a reinforced concrete and wood construction, the bottom being of wood, with the sides, ends, inner walls and framing of reinforced concrete. The wooden bottoms were necessitated to float the cribs from Point du Chene where they are being built, to the dock site, as it was feared that a complete concrete crib would not clear bottom in the minimum water of 16 ft. These cribs are being partially completed in the drydock, and built up to height of about 15 ft., when the valves in the dock are opened, the crib floated out and completed. They will be towed over to the site when required.

The cribs for the outer tower of the cableway were also built in the drydock at Point du Chene. The first one was towed to the site in the drydock, the latter being submerged and the crib floated out at the site. This course was followed as it was feared that the crib might break up if any heavy weather was encountered on the tow across. The second crib was towed over alone, the journey across being successfully made. The largest scow, which is of steel frame construction, was also built at Point du Chene.

The connecting line of railway from the Prince Edward Island Ry. Cape Traverse Branch to the site at Carleton Point, about 2 miles, has been graded, and considerable of the track laid. Most of the line will be laid separately with the P.E.I.R. narrow gauge, (3½ ft.) the standard gauge line being only carried back about a mile from the Carleton Point terminal, where an interchange yard will be established in the meantime, though it is the intention to change the whole P.E.I.R. to standard gauge in order to have through traffic for lines on the mainland.

The engineer in charge for the Railway Department at both Carleton Point and Cape Tormentine, is F. B. Fripp, A.M.Con. Soc.C.E. A. B. Gibson is engineer for Roger Miller and Co., and we are indebted to him for the information on which this article is based.

Railway Companies and the Operating of Steamboat Lines.

Washington, D.C., press dispatch, May 15.—“The application of certain railways to retain ownership or continue operation of boat lines on the great lakes, despite the prohibition in the Panama Canal Act, was denied to-day by the Interstate Commerce Commission. All the railways applying steamship properties under the new law must give up their boat lines by Dec. 1.

“This is the first case involving extensive which has been decided against the railways. The decision is regarded as of great importance to all the ports on the lakes which are reached both by boat and rail lines.

Steamship lines organized as separate corporations and named in the report are owned on the lakes by the Pennsylvania, New York Central, Lehigh Valley, Rutland, Erie and Grand Trunk Railways. They operate practically all over the lakes, but the principal traffic is in coal, ores and grain between Buffalo and the upper ports. The traffic in package freight also is considerable.

The Interstate Commerce Commission has, under the Panama Canal Act's provisions, authorized the following railway companies to continue their interests in steamship services:

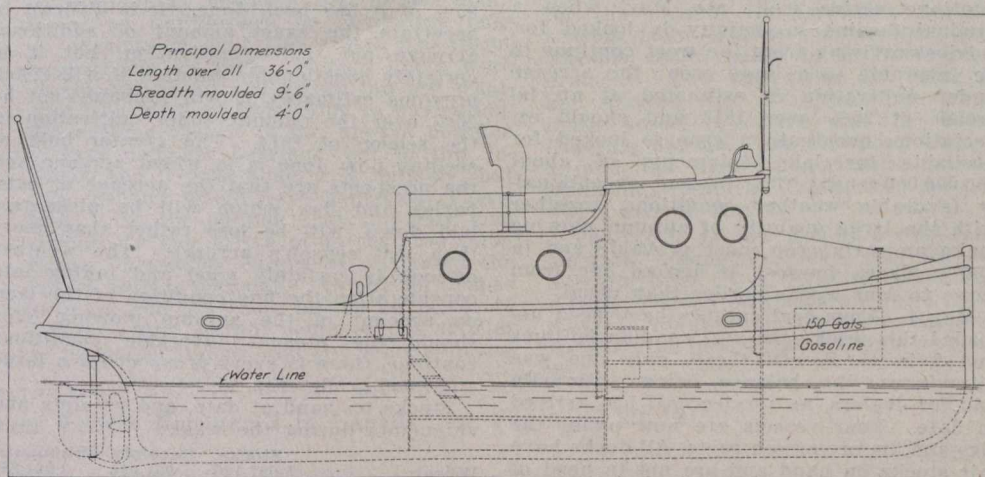
The Pennsylvania-Ontario Transportation Co.'s car ferry between Ashtabula, Ohio, and Port Burwell, Ont., in which the Canadian Pacific Ry. and the Pennsylvania Rd. are jointly interested.

The Grand Trunk Milwaukee Car Ferry Co., owned by G. T. Western Ry. Co.

The Ontario Car Ferry Co., between Charlotte, N.Y., and Cobourg, Ont., owned jointly by Grand Trunk Ry. and Buffalo, Rochester & Pittsburg Ry.

Gasoline Tug and Lighters for Hudson's Bay Company.

The Hudson's Bay Co. is having a small gasoline tug and four lighters built for use in lightering vessels at Fort Churchill, the company's principal distributing centre on Hudson Bay. The accompanying illustration shows the elevation of the tug. It is a steel frame craft, with steel upper works and a wooden hull secured on the steel ribbing, which is made up of angles. It is provided with a wooden hull to facilitate beaching, as the provisions for keeping it in condition are necessarily limited at that far northern point. It has a length overall



Hudson Bay Co. Gasoline Engine Tug for Lightering on Hudson Bay.

of 36 ft., a moulded width of 9½ ft., 11 ft. over gunwales, and a moulded depth of 4 ft., drawing about 3 ft. of water. It is of the turtle back design, with the upper works protected by a conning hood at the front, and well enclosed to fit it for navigating the extremely rough waters that are frequently encountered in the shallow harbor at Fort Churchill. It has a 30 h.p. Buffalo gasoline engine, fuel for which will be carried in a 150 gal. tank placed forward. In the hold are two berths with lockers below. The hull is of 2 in. rock elm planking.

The lighters are of somewhat similar construction, a steel frame with 2 in. elm planking on the hull, and are 50 ft. long, 14 ft. beam and 6 ft. deep. They are open in the top, with no decking. Both the tug and lighters are being built by the Polson Iron Works, Toronto, and will be loaded on flat cars for transit to Montreal, where they will be transhipped by steamship, to Hudson's Bay. They are all nearing completion.

Dominion Government regulations regarding the exportation of grain, provide that no grain shall be exported to the United States except for domestic consumption; grain exported to the United Kingdom must be to a specified consignee, and if exported to foreign countries, a special permit must be obtained.

Oregon Washington Railroad and Navigation Co's Ownership of Steamboats.

Upon application of the Oregon-Washington Rd. & Navigation Co. under sec. 5 of the Act to Regulate Commerce, as amended by sec. 11 of the Panama Canal Act, for an extension of time beyond July 1, 1914, during which petitioner may continue to operate boats on the Willamette and Columbia rivers, Lake Coeur d'Alene, and the Snake River, the Interstate Commerce Commission has held:

That the company does or may compete with its boats in their operations on the Willamette and Columbia rivers, Lake Coeur d'Alene, and the Snake River within the meaning of the act. That the operation of these boats is in the interest of the public and of advantage to the convenience and commerce of the people; that their continued operation by petitioner will neither exclude, prevent, nor reduce competition on the routes by water, and that the application should be granted. That the rates, fares, schedules, and regulations of these boats on the Columbia and Willamette rivers, on Lake Coeur d'Alene, and on the Snake River, governing traffic subject to the act, moved by them, must be filed with the Commission and posted to the public as required by the act and the Commission's rules and regulations.

Canada Steamship Lines Rearrangement of Passenger Territory.

The following covers the territorial rearrangement of the Canada Steamship Lines' Passenger Traffic Department, for the current year, with the respective agents and locations:—

H. D. PATERSON, General Agent, Toronto, for Ontario, west of and including Kingston and Sharbot Lake, and also the City of Detroit, Mich.

W. F. CLONEY, General Agent, Rochester, N.Y., for New York Central line from Batavia, to, but not including Albany, N.Y., and south of N.Y.C. line, to and including Bethlehem, Scranton and Wilkesbarre, Pa., also including the City of Pittsburgh, Pa., and the middle southern States from Louisville, Ky., to New Orleans.

J. V. FOY, General Agent, Buffalo, N.Y., for the Lake Shore line, Buffalo, N.Y., to Toledo, Ohio, and the State of Ohio.

H. W. CRAWFORD, District Passenger Agent, Chicago, Ill., for the State of Michigan, City of Detroit excepted, middle western States as far as St. Paul, Minn., Omaha, Neb., and Kansas City, Mo., and Big Four line St. Louis, Mo., to Terre Haute, Ind., and territory inside these lines, also the States of Illinois and Indiana.

Shipping Letters From the Head of the Lakes.

F. & W. Jones, Brokers, Fort William, Ont., have issued weekly letters as below: ..April 24.—The outlook for coal is not over bright. Five cargoes have arrived and four more are en route. None of the docks appear to have any definite advice as to the quantity of coal to be handled during the season, but it is generally conceded that the movement will be light. The C.P.R. expects to have about 125,000 tons of service coal arrive before September. We have no reliable information of any charters made for dealers' coal, but anticipate that at least 250,000 tons will be handled before autumn. Western rail shipments are very light, about 100 cars a day at all docks.

Navigation opened officially April 20. The accumulated stocks at all elevators then stood at approximately 17,000,000 bushels of all grains. Lake shipments from the opening to date have totalled 3,500,000 bush. and while being somewhat lower than the same period last year (4,837,479 bush.), can be considered as satisfactory. With car arrivals from the west the stocks at elevators now stand at 17,000,000. Forty-two vessels have loaded grain and cleared since the opening to date, six of them for Buffalo. Despatch in loading has been good, the stocks held well covered outbound shipments. It is expected that movement will continue active well into May, when a gradual decline in activity is looked for. Advises arriving from the west continue to be favorable to a large crop; the acreage under cultivation is estimated at an increase of 25% over 1913 and should expectations eventuate a crop is looked for available for lake shipments of about 350,000,000 bush. The present exceptionally favorable weather conditions, together with the large quantity of autumn plowing make an early crop most probable and in many places harvest is looked for from three to four weeks earlier than usual.

May 1.—Four coal cargoes have been unloaded this week—two in Canadian bottoms and 2 in U. S. Of these, only one was bituminous, the balance being anthracite and for dealers, no service coal has arrived to date. Four vessels are now under the rigs and 3m ore are en route. All docks have fair stocks on hand and are not in need of arrivals for immediate shipments. Western car shipments have been brisk, and in excess of last week's output. All the coal docks are in full working order, there has been no Sunday work and docks will only agree to do such extra work when it is absolutely necessary.

During the past week 5,217,497 bush. of grain have been shipped east, 14 in Canadian bottoms and 5 in U. S. Receipts have fallen off and stocks show a decrease of approximately 4,250,000 bush. compared with this time last year. Dispatch remains good, most vessels loading at two or three elevators. Weather conditions were unfavorable Thursday and Friday, a severe northwest gale with rain delaying movements around the harbor and necessitating the use of tugs. It is anticipated that shipments will remain steady during the first half of May and pick up again by July, when the start of an early crop is expected.

Stocks on hand at date, receipts and shipments during the week are as follows:

	Stocks.	Receipts.	Shipments.
Wheat	7,210,987	1,422,523	5,011,281
Oats	3,635,783	249,809	288,232
Barley	527,841	33,046	7,198
Flax	1,403,497	65,531	20,401

May 8.—Coal movement continues slow and with no immediate prospect of improvement in activity. Seven cargoes arrived during the week, two of which are still under the rigs. They are expected to be

unloaded on Sunday and Tuesday respectively. Four of the cargoes were bituminous coal, three anthracite, 4 were carried in Canadian bottoms and 4 in U. S. At time of writing there are advices of only one cargo being en route, and that for the Canadian Northern Coal Dock. Coal stocks are still very heavy, the western car shipments having shown considerable decline, in fact the western coal dealers are feeling the effect of the past trade depression equally with all other industries. The people of the western Provinces have undoubtedly utilized wood fuel wherever it could be secured, and in many instances have fallen back on the coal products of the west, although it is unquestionable that the western coal is very much inferior in quality to the eastern coal.

Shipment in grain has been fairly active, during the week there have been 32 vessels loaded and cleared with grain for eastern points, bringing up the total to 96 since the opening of navigation, 20 of which were billed to Buffalo. Stocks in elevators now stand at 10,220,478 bush. of all grades, showing a reduction on last week's stocks of 2,500,000 bush., after allowing for car arrivals from the west. Seeding in the western Provinces has made great headway and it is now estimated that at least 85% of it has been done. It is difficult to ascertain the exact amount of additional acreage put under cultivation, but it is certainly questionable whether it will reach previous estimates, it will probably not be 20% over the amount under cultivation in the season of 1914. The greater bulk of seeding now done is in wheat acreage and the prospects are that the acreage of oats, barley and flax which will be ultimately laid down, will be less rather than more than last season's acreage. The weather outlook is certainly good and taking into consideration the fine condition of the land on account of the autumn plowing, etc., should the present favorable conditions continue, there is every prospect for a large and good grade crop.

Stocks on hand at date, and receipts and shipments during the week:

	Stocks.	Receipts.	Shipments.
Wheat	5,097,160	951,034	3,064,861
Oats	3,177,493	278,481	737,769
Barley	530,979	53,155	50,017
Flax	1,414,846	58,766	47,417

May 14.—Only two cargoes of coal have been unloaded this week, one anthracite and one bituminous. There are no ships at the docks at present. Two are en route with coal, both being for the C.P.R. dock. The dock companies at these points expect a very slack season until July, but anticipate a considerable increase in coal arrivals beginning about the middle of July and continuing for the balance of the season. Western car shipments are still very light and stock piles are being reduced very slowly.

This week has seen a big drop in grain shipments, only 14 cargoes leaving these ports as against 32 last week. The shipments, which totalled 2,845,940 bush., show a decrease of over 1,000,000 bush. from last week's figures. Only one cargo, about 350,000 bush., went to Buffalo, the majority of the Canadian vessels discharging at Port Colborne. There is little prospect of any big increase in grain movement for some time, as grain shippers have sufficient grain in the east to fill all the present export demands, stocks of grain in eastern elevators at present being 4,081,757 bush. wheat; 1,830,821 bush. oats. The greatest bulk of this amount is in store at Montreal. Receipts from the west are steadily dropping off, this week's figures showing a decrease of over 140,000 bush. against those of last

week. Stocks on hand at date, and receipts and shipments during the week are:

	Stocks.	Receipts.	Shipments.
Wheat	4,060,880	867,685	1,903,965
Oats	2,369,789	164,178	971,882
Barley	497,230	25,890	59,638
Flax	1,434,188	44,068	24,726

Coast, Lake and River Officers for 1915.

The following appointments, made by navigation companies engaged in Canadian navigation, for their various steam vessels and tugs for this year, have been reported to Canadian Railway and Marine World since those published in the April and May issues. The first column shows the names of the vessels, the second those of the captains and the third those of the chief engineers.

CANADA STEAMSHIP LINES LTD., MONTREAL		
A. E. McKinstry	A. E. Stinson	A. E. House
Aberdeen	N. Huggins	W. Malcolm
Acadian	P. McKay	C. Burton
Bickerdike	H. A. Leany	S. LaRue
C. A. Jaques	T. Johnson	F. Hamelin
Cadillac	J. D. Sullivan	A. S. Hawkins
Canadian	N. McKay	A. McLaren
Calgarian	R. F. Pyette	A. Black
City of Hamilton	O. Patenaude	W. Dungan
City of Ottawa	J. S. Moore	S. Murray
D. A. Gordon	H. J. Aitkens	Jos. Kennedy
Donnacona	W. Blackler	D. McMillan
Doric	R. McIntyre	Jos. Aston
Dundee	R. N. Anderson	J. D. Andrews
Dunelm		A. C. Leitch
Emperor	G. W. Pearson	G. Smith
Empress of Fort William	N. McGlennon	
Empress of Midland	D. Burke	I. J. Boynton
Fairfax	M. Heffernon	C. LaVallee
Fordonian	J. E. Mann	J. M. Kettles
Glenellah		J. H. McLattie
Haddington	R. J. Wilson	C. Leriche
Hamiltonian	A. B. McIntyre	A. E. Kennedy
Kenora	C. R. Albinson	F. Wilson
Martian	J. F. Davis	J. W. McLeod
Midland King	W. Anderson	Jas. McGregor
Midland Prince	Jas. Tyndall	J. A. Pickard
Nee pawah	W. W. Allen	J. C. Carr
Renvoyle	A. McLelland	C. Holmes
Rosedale		T. H. Dryburgh
Stadacona	H. J. Page	W. W. Norcross
Strathcona	C. Dineen	Jas. Payne
Tagona		W. Taylor
W. Grant Morden	N. Campbell	R. Chalmers
Wahcondah	Jas. Wilson	W. A. McLaren
Water Lily	D. McVickers	R. Davis
Winona		J. J. Palmer

CANADIAN LAKE AND OCEAN NAVIGATION CO., TORONTO.	
Scottish Hero	H. C. Harrison
Turret Cape	J. J. Dove
Turret Court	J. S. Duguid

MERCHANTS MUTUAL LINE LTD., TORONTO		
A. E. Ames	W. Montgomery	L. McMillan
Beaverton	O. Patterson	H. Myler
H. M. Pellatt	J. Woolner	W. Harman
J. H. Plummer	J. L. Baxter	A. McCauley
Mapleton	W. J. Jewitt	E. Spenser
Saskatoon	N. Barrett	J. McKellar

NATIONAL STEAMSHIP CO. LTD., TORONTO	
Natironco	G. McDonald

TORONTO FERRY CO. LTD., TORONTO.		
Bluebell	D. J. Enright	J. Urquhart
Clark Bros.	T. W. Bryan	P. Kenney
Island Queen	W. Osborne	H. Dawson
Jasmine	J. Tymon	F. Rutherford
John Hanlan	A. Belrose	J. Thompson
Kathleen	M. Osborne	J. Harrold
Luella	S. McCuaig	T. Whitty
Mayflower	J. Sixsmith	J. Cameron
Primrose	H. Dick	E. S. Berry
Trillium	R. Williams	J. W. Aston

TURRET CROWN LTD., TORONTO.		
Turret Crown	C. E. Sears	G. Campbell

JOHN WALTER, EDMONTON, ALTA.
City of Edmonton P. Christianson
Seona

The Empress of Ireland Disaster. The judgment of the Admiralty Court in the case of the C. P. R. against the owners of the s. s. Storstad for the loss of the Empress of Ireland, which was run down during a fog, in the St. Lawrence River, May 29, 1914, has been delivered in favor of the C. P. R. The amount of damages to be awarded is being gone into. The whole of the blame for the disaster was attributed to the first officer of the s. s. Storstad, for altering the course of the vessel during the fog. No blame whatever was attached to the officers and crew of the Empress of Ireland. The owners of the Storstad are appealing against this judgment.

Grounding of the s.s. Glenmount.

An investigation was held at Kingston, Ont., May 7, into the Montreal Transportation Co.'s s.s. Glenmount touching ground near Gull Island shoal in the St. Lawrence River, Apr. 30, while in charge of F. Patenaude, an unlicensed pilot. It was shown in the evidence that the Glenmount was bound down from Kingston with grain and was drawing 13 ft. 7 ins. of water. The weather was overcast and dark just prior to the grounding, but was sufficiently clear to maintain full speed of 10 knots. The master, H. Peters, stated that as it is the custom with the firms navigating vessels in these waters to place a pilot on board who assumes control, in order that the master may obtain sufficient rest before resuming responsibility when working the vessel through the canals, he, following the custom of years, was not on the bridge, but was standing by his cabin door looking out, and owing to the fact that he was not conversant with the lights and buoys in that vicinity, and with the idea prevailing in his mind that the pilot was in charge and in full control, he did not take notice of things around. He practically stated that he would not care to interfere with the pilot unless he saw something radically wrong.

The pilot, F. Patenaude, who holds a master's certificate, but no pilot's license, stated that this was his first mishap in 30 years, and it was his first trip on the Glenmount. At the time of the accident he was alone on the bridge, the second officer having left the bridge some time previously. He did not enquire the speed of the vessel, and said that he never steered by compass, nor took any bearings, nor timed his actions in relation to the speed of the vessel.

The second officer, L. Dicks, stated that he possessed a mate's certificate for the coasting trade, and that prior to the accident he had left the bridge to give orders to the man on the lookout and did not return to the bridge until after the accident had occurred. He did not take any notice of the lights, being unfamiliar with the locality.

Following is the judgment delivered by Capt. L. A. Demers, Dominion Wreck Commissioner, concurred in by Capt. T. O'Connor and Jas. Murray, Kingston, Ont., as nautical assessors:

The court finds that, in view of the existing custom, whereby the owners of vessels plying between Kingston and Montreal order that a pilot, having no license as such, be sent to join the ship at Kingston, to assume full control of the navigation of the vessel, virtually relieving the master and officers of responsibility, in order that the master may be enabled to rest prior to assuming command when working his ship through the locks, this custom having prevailed from time immemorial, according to statements made by counsel, and the masters of ships having surrendered the control of the navigation of their vessels almost entirely, no blame can be attached to the master, Henry Peters, who is hereby exonerated. With regard to the second officer, his absence from the bridge, though it did not contribute to the grounding, is censured, especially in view of the information which the court has received, that officers have orders not to leave the bridge. With reference to the pilot, the court places the onus of this casualty on his shoulders. Knowing under what conditions he was engaged he should have taken every precaution, and unusual precautions in view of the condition of low water existing, a fact of which he was well aware. It is the court's opinion, however, that he has manifested an indifference by navigating only on assumption that the vessel had about covered the distance. Though lights were observable ahead and astern, no use whatever was made of those aids to navigation. We assume that it is not always possible to take compass bearings, but in this instance had it been done, it is unlikely that this casualty would have happened. Therefore, it is our opinion that the only conclusion we can arrive at is that the pilot, Frank Patenaude, carelessly navigated the vessel on this occasion. Having no license as pilot, and the court having no power to impose a fine, he not being on the articles as master or officer, and not being a licens-

ed pilot, his certificate as master cannot be dealt with. The mate's log was examined and found to be absolutely useless to impart information, and we would suggest that better supervision be exercised by the master with regard to the keeping of the log by the first mate, so that when it is required to substantiate statements which may be made, correct information may be found therein.

Atlantic and Pacific Ocean Marine.

The Cunard Co. has chartered the British s.s. Earl of Forfar for freight service between Canada and Europe. She arrived at Montreal during May.

The s.s. Henriette Woermann, formerly owned by the Woermann Line, Hamburg, Germany, but which was captured off the west coast of Africa, early in the war, has been chartered to the Cunard Co., by the British Government, and is being operated between Liverpool and New York, under the name of Polymnia.

The Union Steamship Co. of New Zealand announces that it has purchased the steamships Canada Cape and Wyandotte, both being well known in Vancouver, for its freight service between Australasia and the Pacific coast. The names of the vessels have been changed to Waiheno and Waimarino respectively.

The first steamship to arrive at Montreal for the present St. Lawrence navigation season, from outside points, was the s.s. Thespis, under charter to the Dominion Government. She was from St. John, N.B., and arrived Apr. 30. The first trans-Atlantic vessel to arrive was the Thomson Line s.s. Jacona, from Newport, Eng., May 1, and the first trans-Atlantic passenger steamship, was the C.P.R. s.s. Metagama, which arrived May 2.

The C.P.R. is now issuing a new form of outward steamship ticket on its trans-Atlantic lines. One form is issued for all classes, instead of a separate form for each class as heretofore. Care has been taken to make the new form as simple as possible

List of Steam Vessels Registered in Canada Jan. 1 to April 30, 1915.

No.	Name	Port of Registry	Where and When Built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc.	Owner or Managing Owner
119,063	Brit. Columbia 1	Vancouver, B.C.	Bowling, Scotland	1903 170 7	27 1	10 5	557	222	81 sc.	Coast Steamship Co., Vancouver, B.C.
134,290	Cheslatta	Victoria, B.C.	Arrowhead, B.C.	1907 59 7	12 0	3 2	44	30	13 1/2 sc.	D. T. Hall, Hall's Landing, B.C.
134,552	Edward S.	Port Burwell, Ont.	Port Stanley, Ont.	1914 62 6	16 4	7 4	52	36	13 sc.	Smale, M.O., Malahide, Ont.
134,522	Njord	Sydney, N.S.	Arendale, Norway	1886 152 7	30 5	17 2	523	254	70 sc.	Canadian Whaling Co., Seven Islands, Que.
134,285	Queen	Victoria, B.C.	N. Westminster, B.C.	1914 84 7	20 6	8 0	115	68	23 sc.	Queen City Trading and Transportation Co., Victoria, B.C.
134,258	Vaughan	Winnipeg	Selkirk, Man.	1914 82 7	19 3	9 0	184	91	20 sc.	Minister of Public Works, Ottawa.
134,497	W. R. Charlton	Quebec, Que.	Sault au Mouton, Que.	1906 70 0	19 5	5 2	62	36	20 pa.	W.R. Charlton, Sault au Mouton, Que.

(1) Formerly Onyx

List of Sailing Vessels and Barges Registered in Canada Jan. 1 to April 30, 1915.

No.	Name	Port of Registry	Rig	Where and When Built	Length	Breadth	Depth	Reg. Tons	Owner or Managing Owner
134482	Bilodeau L	Montreal	Scow	Charlottetown, P.E.I.	1902 81 7	23 5	5 1	135	Quinlan & Robertson, Montreal
134368	Benjamin Harrison	Sorel, Que.	Barge	Mt. Clements, Mich.	1889 172 6	32 4	12 1	508	J. Guertin, St. Joseph de Sorel, Que.
134389	Buster	Sault Ste. Marie, Ont.	Scow		90 0	30 0	6 5	317	Algoma Dredging Co., Sault Ste. Marie, Ont.
134287	C.L.C. No. 2	Victoria, B.C.	Barge	Victoria, B.C.	1913 75 0	25 0	6 5	113	Cameron Lumber Co., Victoria, B.C.
134388	Continental	Sault Ste. Marie, Ont.	Dredge	Cleveland, Ohio	71 0	28 0	7 5	209	Algoma Dredging Co., Sault Ste. Marie, Ont.
122584	Empire No. 1	Montreal	Barge	Ste. Claire, Mich.	1880 170 0	81 5	12 4	518	Empire Coal Co., Montreal
134475	" 2	"	"	United States	95 5	17 5	8 8	126	"
134476	" 3	"	"	Northumberland, N.Y.	1901 97 3	17 7	8 4	123	"
134477	" 4	"	"	"	1901 97 2	17 8	8 1	121	"
134496	Grue No. 2	Quebec, Que.	"	Quebec, Que.	1911 79 7	30 7	5 8	126	La Compagnie de Sable Union, Quebec, Que.
134495	J.L.L. No. 9	"	Dredge	"	1914 60 4	30 8	6 0	173	"
134402	Marjorie McGlashen	Lunenburg, N.S.	Schr.	Liverpool, N.S.	1915 113 7	26 1	10 6	109	W. Duff, M.O., Lunenburg, N.S.
134481	P.S. Co. XXIV	Vancouver, B.C.	Scow	N. Vancouver, B.C.	1915 67 0	24 0	5 5	186	Packers Steamship Co., Vancouver, B.C.
134457	R.M. Co. Dredge 10	Toronto	Dredge	Welland, Ont.	1914 107 0	36 0	8 0	386	Randolph Macdonald Co., Toronto
134454	Seventy-four	"	Scow	Toronto	1914 83 0	34 9	5 5	143	G. Osler and G. H. Cassels, I. O., Toronto
134455	Seventy-five	"	"	"	1914 120 0	42 0	8 8	405	"
134456	Seventy-six	"	"	"	1914 64 0	34 0	4 0	113	"
134479	U. Marcotte	Montreal	"	Montreal	1915 140 3	42 2	9 7	463	Quinlan & Robertson, Montreal
134561	W.M.R. No. 1	New Westminster, B.C.	"	N. Westminster B.C.	1912 78 0	28 0	7 0	153	Dominion Contracting Co., Vancouver, B.C.

under the many requirements of the Dominion and U. S. Governments, the accounting regulations and the necessity for completeness in one ticket to cover all classes.

The Russian-American Line's s.s. Czaritza has been added to that company's service, and was announced to make her maiden trip to Archangel, Russia, May 22. She has recently been completed at Glasgow, Scotland, and is a twin screw vessel with quadruple expansion engines with a speed of about 18 knots an hour. She is a thoroughly up to date vessel with accommodation for about 60 first class, 350 second class and 1,400 third class passengers. Pickford and Black, Ltd., Halifax, N.S., act as Canadian agents.

The C.P.R. s.s. Metagama arrived at Quebec, May 1, and Montreal, May 2, being the first trans-Atlantic vessel to arrive at these ports for the present St. Lawrence navigation season. This was also the Metagama's first trip up the St. Lawrence, her maiden voyage to Canada having been made in April. Capt. Webster, who was in charge, was presented with an umbrella by the harbor master, on behalf of the Harbor Commissioners. The sailings of the steamships Metagama and Missanabie for May were cancelled, both vessels having been requisitioned by the Government. Passengers booked by these vessels were transferred to other lines.

Maritime Provinces and Newfoundland.

Anthracite coal rates coastwise from New York to Maritime Province points are quoted as follows: To Halifax, \$1.25 and free discharge; to St. John, N.B., \$1.25; to Fredericton, \$2 to \$2.25; to Moncton, \$2 to \$2.25; to Dartmouth, \$1.47; Wolfville, \$1.50.

The Department of Public Works received tenders to May 20, for dredging at Buctouche Beach and Lower Derby Beach, N. B. One of the conditions on which any tenders are considered is that the dredges proposed to be employed on the work, shall have been registered in Canada prior to the sending in of the tender, or shall be built in Canada after the filing of the tender.

In addition to the vessels which Canada Steamship Lines, Ltd., has chartered out for the St. Lawrence Gulf, and coasting trade, as mentioned in previous issues, it has several which will make a few trips to Sydney, N.S., on a per trip basis. The charterers have the option of using any of the vessels on charter for the Gulf trade for trans-Atlantic service on increased payments, which have been arranged.

The C. P. R. is reported to have sold its s. St. George, to the British Government, by whom it is said, it will be used as a hospital vessel. The St. George was purchased, in 1913, from the Great Western Ry., of England, for operation on its Bay of Fundy service, between St. John, N. B., and Digby, N. S. For six years prior to the purchase, she had been operated by the G. W. R. between Rosslare, Ireland and Fishguard, Wales, in connection with the fast trans-Atlantic mail service to London. She was built at Birkenhead, Eng. in 1906, and is equipped with three sets of turbine engines, some renewal to which has been made since she has been on this side. Her dimensions are, length between perpendiculars 350 ft., breadth of beam 41 ft., depth moulded to main deck 17 ft. 8 ins., and to shelter deck 25 ft. 11 ins. On account of the vessel being built for short runs, the bunker capacity is limited, and when brought to Canada she was towed all the way. She sailed from St. John May 3 for England.

Province of Quebec Marine.

An order in council has been passed confirming the pilotage laws for the pilotage district of Quebec, and repealing all previous bylaws.

The Public Works Department is receiving tenders for the construction of an extension to the training pier at Cap Chat, Gaspé county.

The Montreal Transportation Co.'s s.s. Rosemount, in passing through the Lachine Canal, May 3, carried away the lock gates at Cote St. Paul. They were replaced and traffic was resumed May 5.

The Quebec Board of Trade is negotiating with Canada Steamship Lines, Ltd., for the calling of the company's vessels at St. Pierre des Becquets, in Nicolet county, and if this can be arranged for the Dominion Government is to be urged to build a wharf there for the accommodation of the traffic.

The old lighthouse on White Head at Perce in the Gulf of St. Lawrence, is being replaced by a reinforced concrete structure, and while construction is proceeding a temporary fixed white light is being exhibited from an anchor lens lantern on a pole 20 ft. high set close to the site.

The small steamboat Ludivica, owned by H. T. LeBlanc, Tusket Wedge, N.S., is reported sold to the St. Simeon Lumber Co., St. Simeon, Que. She was built at Tusket Wedge in 1906, and is screw driven by engine of 6 n.h.p. Her dimensions are, length 45 ft., breadth 11.2 ft., depth 5.4 ft.; tonnage, 17 gross, 11 register.

Canada Steamship Lines s. s. Louis Phillippe, made her first trip in the ferry service between Montreal and Longueuil, May 1. She was built at Levis last year, her dimensions being, length 169½ ft., beam 43 ft. 2½ ins., depth moulded 12¼ ft. The propelling machinery was transferred from the company's s. s. Dundurn, which was dismantled.

The s.s. Canada, registered at Quebec, no. 117146, has had her name changed to Percésien. She is owned by the Gaspé and Baie des Chaleurs Steamship Co., Quebec, and appeared in Canadian Railway and Marine World's list of coast, lake and river officers for 1915, in the April issue, under the name Acadian, which it was first de-

cided to adopt. She was built in Scotland in 1892, and was then named Pro Patria.

The Quebec Harbor Commission is continuing the work of widening the Louise Embankment and deepening the St. Charles River, which was begun last year. The embankment will be widened about 300 ft. for about 1,300 ft. of its length. The crib foundations 200 by 60 ft. are being built at Indian Cove and floated down to the site on completion, and towed into position at high tide.

The steamboat Christine, formerly owned by Lord Strathcona, and now by J. S. Thom, Quebec, Que., and under charter to the Dominion Government for patrol purposes in the St. Lawrence River, was run down and sunk by an unknown steamship, off the Isle of Orleans, May 18, with the loss of eight out of a crew of 14. She was built at Glasgow, Scotland, in 1881, and was screw driven by engine of 40 n.h.p. Her dimensions were, length 126 ft., breadth 17.2 ft., depth 9.9 ft.; tonnage, 140 gross, 95 register.

Reports from New York state that a plot was being arranged there by some German subjects to purchase a steamship, load it with heavy ballast and cement, take it to the St. Lawrence on the excuse that it is to enter the Atlantic trade, and sink it at the narrowest part of the channel near Three Rivers, so as to effectually block the channel. Montreal shippers state that nothing has been heard of such a plot there, but it is stated that a German named Von Novelli, was in Montreal recently negotiating for the purchase of a vessel, but without success.

Ontario and the Great Lakes.

Press reports from Hamilton state that the Public Works Department is arranging to make a complete survey of all the shores of Hamilton harbor.

The Algoma Steamship Line s. s. J. Frater Taylor, which grounded on Blake Point, Isle Royale, towards the end of April, was drydocked at Port Arthur during May, and had considerable repairs made.

The Imperial Oil Co. is reported to have placed an order at Collingwood, for the construction of a steam barge, to cost about

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during April.

ARTICLES	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper..... Eastbound	Short tons	5,740	5,740
Grain..... "	Bushels	4,696,707	6,151,055
Building stone..... "	Short tons		
Flour..... "	Barrels	263,490	305,370
Iron ore..... "	Short tons	411,845	411,845
Pig iron..... "	"		
Lumber..... "	M. ft. b.m.	4,641	
Silver ore..... "	Short tons	907	5,548
Wheat..... "	Bushels	1,512,450	16,493,824
General merchandise..... "	Short tons	9,946	866
Passengers..... "	Number	35	32
Coal, hard..... Westbound	Short tons	8,459	121,652
Coal, soft..... "	"		149,455
Flour..... "	Barrels		
Grain..... "	Bushels		
Manufactured iron..... "	Short tons	120	8,460
Iron ore..... "	"		
Salt..... "	Barrels	13,370	37,567
General merchandise..... "	Short tons	11,599	37,368
Passengers..... "	Number	113	48,967
			113
Summary.			
Vessel passages.....	Number	200	434
Registered tonnage.....	Net	192,553	1,041,292
			1,233,845
Freight—Eastbound.....	Short tons	93,596	996,481
—Westbound.....	"	22,088	322,570
Total freight.....	"	115,684	1,319,051
			1,434,735

The Canadian Canal opened April 13, and the U. S. Canal, April 17.

\$200,000, for delivery in March, 1916, for use on the Upper Lakes and St. Lawrence route.

The Great Lakes Transportation Co.'s s.s. Glenfinnan while upbound with package freight, grounded on the Vidal shoals above the Sault locks on the Canadian side, Apr. 30, and had to have her cargo removed before being released.

A press report states that the Trent Valley Canal will probably be opened for traffic in the spring of 1916. It is stated that the opening would have taken place during the current year, but there are a quantity of obstructions yet to be removed.

The Owen Sound Board of Trade is negotiating with the Great Lakes Transportation Co., for one of the company's vessels to call there weekly. It is stated that if there is some guarantee of about 250 tons of freight weekly, a vessel will call there.

The Calvin Co., Kingston, Ont., is offering for sale, its s.s. Frontenac, which was built at Garden Island, Ont., in 1901. She is screw driven by engine of 75 n.h.p., and is of the following dimensions,—length 89 ft., breadth 21.8 ft., depth 7.8 ft.; tonnage 111 gross, 64 register, and has a draught of 7 ft. at the after end.

The steamboat Newminko, owned by W. Hanna and Co., Port Carling, was destroyed by fire there recently, the loss being estimated at \$12,000. She was built at Gravenhurst, Ont., in 1909, and was screw driven by engine of 13 n.h.p. Her dimensions were: length 84 ft., breadth 16.5 ft., depth 5.7 ft.; tonnage, 128 gross, 81 register.

The Merchants Mutual Line s.s. Mapieton when leaving the Welland Canal, Apr. 30, bound from Ashtabula, Ohio, to Quebec with coal, struck a submerged boulder, right in the channel about 800 ft. from the end of the pier. Temporary repairs were made and she proceeded on her voyage, and after unloading was to dry dock for examination.

The steamships F. M. Osborne and Valcartier, collided on the Corsica Shoal in Lake Huron, May 13, during a dense fog. Both vessels sank in 19 ft. of water and were reported to be resting on a good bottom, but considerably damaged. The F. M. Osborne is owned by the Davidson Steamship Co., Bay City, Mich., and the Valcartier, by Lake Commerce, Ltd., Toronto.

The Northern Navigation Co.'s s.s. Noronic, which was built at Port Arthur, had the following dimensions:—Length 362 ft., breadth 52 ft., depth 28¾ ft. Last autumn she was put in dock at Lorain, Ohio, and her beam increased 6 ft., giving her an increased speed of 1½ miles an hour and increased stability. She was given a test run May 6, which is said to have proved satisfactory.

The Department of Marine has authorized the change in the name of the s.s. Howard M. Hanna Jr., wrecked during the storm of 1913, to Glenshee. She was salvaged by the Reid Wrecking Co., Sarnia, and purchased from the underwriters, and after being repaired and refitted, was sold to the Great Lakes Transportation Co., being now operated on the Great Lakes with other of that company's vessels.

The s.s. Glenshee, formerly Howard M. Hanna Jr., made her first trip from the head of the lakes during the first week of May. She was one of the victims of the big storm of 1913, and was declared a total loss. She was subsequently salvaged, repaired and sold, not to Canada Steamship Lines, as stated in Toronto daily papers, but to the Great Lakes Transportation Co., of which Jas. Playfair is President and General Manager.

The Lake Simcoe Navigation Co. is operating the steamboats Monarch and Otonabee, this summer, on a daily schedule

from Barrie to Peninsular Park, Jackson's Point, etc., making connection at Barrie with G.T.R. trains. These vessels were purchased from the liquidator of the Peterborough and Lake Simcoe Navigation Co., and are owned by H. Waddington, Toronto. The head office of the company is at Toronto, and there is a local office at Barrie.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above tidewater, for April, as follows,—Superior 601.34; Michigan and Huron 579.48; Erie 571.45; Ontario 245.04. Compared with the average April levels for the past ten years, Superior was 0.30 ft. below; Michigan and Huron 0.91 ft. below; Erie 0.97 ft. below, and Ontario 1.44 ft. below. It was anticipated that during May, Superior, Michigan and Huron would be 0.3 ft. higher, and Erie and Ontario 0.4 ft. higher.

The Algoma Central Steamship Line s. s. E. D. Carter is reported to have been sold to Boland and Cornelius, Buffalo, N. Y., for \$250,000. It is also stated that a contract for the carriage of ore and coal is included in the deal. She was built at Wyandotte, Mich., in 1906, and is of steel, equipped with triple expansion engines with cylinders 22½, 36 and 60 by 42 ins., supplied with steam by 2 Scotch boilers with induced draught. Her dimensions are, length 504 ft., breadth 54 ft., depth 30 ft.; tonnage, 6,359 gross, 5,063 register. She was purchased by the Algoma Central Steamship Line from E. D. Carter, Erie, Pa., about a year ago, for the same amount, it is said, as she is being sold for now.

The Marine Department has issued a warning to mariners relative to the use of the rifle ranges at Long Branch, near Toronto, and at Niagara on the Lake, where rifle practice is taking place. Owing to the extreme range of the rifles used, it has been found necessary to demarcate more clearly the area of water lakeward. At Long Branch seven spar buoys have been placed to mark the limits of the area likely to be struck by spent or ricochet bullets, 2,500 yards from the shore, and at Niagara on the Lake, seven spar buoys mark the area, from 1½ miles from Fort Massassauga at the mouth of the Niagara River, to 1½ miles north from the shore. Vessels should not cross the areas marked off when red flags are flying from the butts.

The s.s. Turrett Chief, formerly owned by Canadian Lake and Ocean Navigation Co., and abandoned to the underwriters after being wrecked during the storm of Nov., 1913, on Lake Superior, is reported sold to A. B. Mackay, of Hamilton, Ont. She has been lying on the bottom at Port Arthur since she was salvaged, and it is stated that she is to be repaired and then placed in trans-Atlantic service. Reports state that she has been chartered for a trip from the head of the lakes to Great Britain, with grain. She was built at Sunderland, Eng., in 1896, and is of steel construction with double bottom for water ballast. She is equipped with triple expansion engines with cylinders 20, 34 and 57 by 39 ins. of 1,100 i.h.p., supplied with steam by two water tube boilers 12¼ by 10 ft., by Babcock and Wilcox. Her dimensions are, length 253 ft., breadth 44 ft., depth 19 ft. 7 ins.; tonnage, 1,881 gross, 1,197 register. She was operated in ocean service before being brought to the lakes.

The Wallaceburg Steamship Co., of which H. B. Smith is General Manager, has chartered the s.s. Olcott from the Peninsular Steamboat Co., Sandusky, Ohio, for operation on the Wallaceburg and Detroit route daily from June 10, during the summer. The Olcott was built at Toledo, Ohio, in 1901, when she was named Lakeside, and was lengthened in 1906 and renamed. She is of

steel construction with six bulkheads, four of which are watertight, steel boiler house, complete electric light plant, the bow strengthened for ice operation, and can carry both freight and passengers. She is equipped with fore and aft compound engines with cylinders 18 and 42 by 24 ins., of 800 i.h.p., at 150 r.p.m. There are two Scotch boilers 13¼ by 11½ ft. supplying steam at 180 lbs. Her dimensions are, length 148 ft. 5 ins., breadth 28 ft., depth 12 ft.; tonnage, 337 gross, 229 register. There is accommodation for about 1,000 passengers and her speed is 15 miles an hour. She is excellently furnished, a special feature being made of the men's combined smoking and observation room, and in addition to the ordinary dining accommodation, a modern lunch counter has been installed. She will call at Windsor and Walkerville, each way.

Manitoba, Saskatchewan and Alberta.

An order in council has been made fixing the rates at which the repair slip which is maintained at Selkirk, Man., for the repair and upkeep of the Government dredging fleet, may be utilized by vessel owners, when it is not engaged in Government work.

The Peace River Navigation Co.'s s.s. Northland Call, which was completed recently at Peace River Crossing, Alta., made her first trip to Fort St. John, May 10. She is 100 ft. long by 18 ft. beam and of 40 tons capacity. Her speed up stream is about 6 miles an hour.

The Northland Transportation Co., Ltd., which is being formed at Saskatoon, Sask., to carry on a general navigation business, is in process of organization, but it has not yet been decided whether the company will commence operations this year or not, much depending on the general state of business, which is suffering from war conditions.

Peace River Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with \$50,000 capital and office at Peace River Crossing, Alta., to carry on the general business of carriers of merchandise and passengers by land and water, and in connection therewith to own and operate steam and other vessels, railway terminals, telegraph lines, telephone lines, hotels, elevators, etc. The incorporators are, J. K. Cornwall, C. Young and A. L. Sawle, Edmonton; G. Magar and L. M. Powers, Peace River Crossing.

British Columbia and Pacific Coast.

The Vancouver Harbor Commissioners have deposited with the Dominion Public Works Department, plans and description of a bulkhead and fill to be built in the portion of False Creek known as the Granville St. mud flats, at Vancouver.

The Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince George has completed her overhaul of hull and machinery, and has returned to service to northern ports. She will operate on a bi-weekly service until June 8, when a tri-weekly service will be put on.

Greer, Coyle and Co., tug owners, Vancouver, have purchased the tug Freno from A. Wallace, North Vancouver. She was built at North Vancouver in 1912, and is screw driven by engine of 24 n.h.p., burning oil as fuel. Her dimensions are, length 79.2 ft., breadth 18.8 ft., depth 8.3 ft.; tonnage, 94 gross, 64 register.

The Grand Trunk Pacific Coast Steamship Co.'s new dock at Seattle, Wash., to replace the one destroyed by fire last year, will be completed and ready for traffic in July. Every precaution against fire has been

taken in the new structure. The new dock will have greater capacity than the old one, in order to take care of the company's increasing costal trade from that port. An unusual feature of the dock is a hardwood driveway the entire length of the superstructure, composed of Australian ironwood.

Navigation on the Yukon River was reported to have been opened May 5, the earliest of which there is any record, by the Side Streams Navigation Co.'s s.s. Vidette, which left Lake Lebarge on that date for Dawson. It was stated that owing to low water, the trip would take much longer than customary. The management of the White Pass and Yukon Route, which operates the British Yukon Navigation Co. and the American Yukon Navigation Co., announces that navigation on the Yukon River between the headwaters of the river at Whitehorse, Yukon and the mouth of the river at St. Michael, Alaska, will open June 1.

The Canadian North Pacific Fisheries Co., with which the Mackenzie and Mann interests are associated, has ceased business, and the entire plants and vessels are being offered for sale. The company was originally formed several years ago by the incorporation of a number of small whaling concerns owing to the failure of the sealing business. Some new whaling vessels were acquired, and subsequently the company sold out to the Mackenzie and Mann interests and the present company was formed with a capital of \$3,000,000. New vessels were added and the plants extended, but it is stated locally that the actual business done did not compensate for the increased capital and other expenditures.

The Water Levels in Montreal Harbor.

In an interview with a representative of a Montreal daily paper, L. L. Henderson, General Manager, Montreal Transportation Co., and a past President of the Dominion Marine Association, is reported to have said: "Representations are being made to the Government regarding the situation, which is very serious. Well known vessel owners in Montreal are preparing to lay off some of their vessels and we are following suit. One factor in the causing of low river levels is the use to which canals are being put. They were built primarily for navigation purposes and now are being handed over to manufacturers as power propositions. The manufacturers along the banks of the Cornwall canal are taking too much water to permit of large draught vessels passing through lower down. That situation must be faced. Either the levels of the river must be restored or freight rates must be increased."

The interview continues, that Mr. Henderson pointed out that three of his company's vessels, the Northmount, Rosemount and Westmount, were stopped at Kingston and 6,000 bush. of grain lightered from each, and the vessels sent through the rapids and the Cornwall canal, and that the lightering operations had taken all the profit from the trip, the expenses between Fort William and Montreal not being covered.

A Motor Ship of 450 h.p. equipped with reversible propeller blades to avoid reversing the engine has been built by the Nederlandsche Fabriek, of Amsterdam, Holland. It is an oil tank vessel 185 ft. long and 36½ ft. beam, with a capacity of 835 tons of oil. The reversing of the propeller is effected by rotating the three blades around a central axis, hence the pitch of the propeller can be changed and it can be thrown into neutral position as well as into fore and aft position, when desired.

Mainly About Marine People.

The marriage is announced to take place at Woodlands, Que., June 3, of Miss E. M. Ross, daughter of W. G. Ross, Chairman, Montreal Harbor Commissioners, to H. McD. Brown.

L. J. Pyette, who, until three years ago, was master of the s.s. Assiniboia, of the C. P.R. Great Lakes Steamship Service, when he retired owing to ill health, died at Owen Sound, May 13, aged 55.

The marriage of Miss M. L. Weller, daughter of J. L. Weller, M.Can.Soc.C.E., Engineer in Charge, Welland Ship Canal, to E. P. Muntz, Toronto, is announced to take place during June.

Hon. J. D. Hazen, M.P., Minister of Marine and Fisheries, underwent a slight operation for throat trouble in the Royal Victoria Hospital, Montreal, May 4, which we are advised was entirely successful.



J. S. Byrom,
Superintendent, Great Lakes Steamship Service,
Canadian Pacific Railway.

Sir William Price, whose resignation as Chairman, Quebec Harbor Commission, was announced in our last issue, has reconsidered the matter at the request of the Prime Minister, and will retain the position for the present navigation season.

W. H. Rowlands, heretofore Assistant Port Steward, has been appointed Port Steward, British Columbia Coast Steamship Service, C.P.R., Victoria, vice J. S. Byrom, whose appointment as Superintendent, Great Lakes Steamship Service, C.P.R., Port McNicholl, Ont., was announced in our last issue.

H. A. Bayfield, heretofore Superintendent of Dominion Government dredges in British Columbia, has been appointed Assistant Engineer in connection with the Government terminal works at Port Nelson, Hudson Bay. He has served with the Intercolonial Ry. and the Great Northern Ry., and was for some time Mechanical Superintendent of the Montreal harbor works. He is a member of the Canadian Society of Civil Engineers, and of the American Society of Civil Engineers.

C. E. Croft, who has been appointed General Agent, Passenger Traffic Department (Commissary), Canada Steamship Lines, Yonge St. Wharf, Toronto, was born at Cobourg, Ont., Aug. 26, 1882, and entered transportation service in 1904, since when he has been, to 1909, secretary to Traffic Manager, Richelieu and Ontario Navigation Co., Montreal; 1909 to 1913, chief clerk to Traffic Manager, same company, Montreal; 1913 to 1914, chief clerk to Manager, Eastern Lines, same company, Montreal; 1914 to 1915, chief clerk, Superintendent of Operation, Passenger Steamers, Canada Steamship Lines, Ltd., Toronto.

J. S. Byrom, whose appointment as Superintendent of Great Lakes Steamers, C.P.R., Port McNicoll, Ont., was announced in our last issue, was born in Jersey City, N.Y., Feb. 10, 1872, of British parentage, and on the death of his father, six months after, was taken to Scotland, where he was educated. At the age of 15 he went to sea, before the mast, and for two years sailed in ships of various rigs round the British coast. In 1889 he came to Halifax, N.S., on the Allan Line Sardinian, and entered the service of the Canadian Pacific Navigation Co., at Vancouver, B.C., serving as coal trimmer, sailor and steward, successively. From the autumn of 1890 to the spring of 1895, he served as assistant and chief steward on various Pacific steamships running out of San Francisco, after which he entered the Kootenay Lakes Steam Navigation Co.'s service as steward, and remained in that service on the absorption of the company by the C.P.R. In 1901 he returned to the Pacific coast, the C.P.R. having acquired the Canadian Pacific Navigation Co., in the previous year, and was appointed shore steward and storekeeper, including a general supervision of all marine stores and labor, of the C.P.R. British Columbia Coast Service, which position he retained until his present appointment. Prior to leaving Victoria, B.C., for Port McNicoll, he was entertained to dinner at the Empress Hotel, by his associates and close personal friends.

Prison Ships. The Financial Secretary to the Admiralty stated in the British House of Commons recently, that nine vessels had been utilized for prisoners of war, at a cost of £86,000 a month, varying from £7,000 to £12,000 a month according to tonnage. Three of these vessels have been liberated, leaving the following in the service,—Allan Line s. s. Scotian, 1,132 prisoners; Canadian Northern Steamships s. s. Royal Edward, with 1,200; C. P. R. s.s. Lake Manitoba, 1,242; Cunard Co.'s steamships Ascania, 1,397; Ivernia, 1,575, and Saxonia, 2,300. The cost of fitting each of these vessels for the purpose was from £1,000 to £1,500, clothing and boots are supplied as required, while the cost of provisioning the men is under discussion with the owners. It was stated that possibly the vessels would all be liberated for other Government service by the end of April, as other accommodation was being arranged for.

The Allan Line s.s. Grampian was reported to have been in collision with the s.s. Kingsway and in clearing to have fouled the s.s. Moltkefels, in the River Mersey, near Liverpool, Eng., May 17. She was slightly damaged and put back to dock for examination.

The value of imports at St. John, N.B., for the fiscal year ended Mar. 31, were \$9,112,916, and the exports \$43,872,932, against \$9,433,220 and \$21,359,760 respectively for the previous year.

The Welland Canal's Great Engineering Features.

For years the interest of those who follow the engineering of waterways has been centered in the Panama and the New York State Barge canals. They were tremendous projects, replete with details of the greatest interest to engineers, both in design and construction. Now that the work of building them is drawing to a close, interest will probably shift to the construction of the Welland Ship Canal, on which the Canadian Government will spend \$50,000,000. And well will it deserve the attention previously given to Panama and the New York work. Only those who have had occasion to look into the Welland designs carefully appreciate fully the magnitude of the enterprise. In length it is not notable. Its locks, however, will stand with the great ones of the world. They are to have clear inside dimensions of 80 x 800 ft., with 30 ft. of water on the sills, while each of them will have the great lift of 46½ ft. At Thorold will be constructed a flight rivalling that at Gatun, for though the locks themselves will not accommodate as big a vessel the lift will be greater. At this point there will be three of them in flight, each with a lift of 46½ ft., or a total lift of 139½ ft. Moreover, as at Gatun, the flight is double, one for upbound and the other for downbound vessels. In details the locks will be very interesting. The most unusual feature will be the use of swinging single leaf gates. The adoption of this design followed only after a most careful study of all other alternatives. It would not be surprising if the Canadian peninsula just west of the Niagara River should become a Mecca for canal engineers during the next few years.—Engineering Record.

An Alaska River Opened to Commerce.

The United States Secretary of Commerce has just announced that a practicable navigable channel from Behring Sea into the mouth of the Kuskokwim River has been discovered by Capt. Lukens, of the U.S. Coast and Geodetic Survey. This river is the second greatest in Alaska. It is 9 miles wide at its mouth and navigable for over 600 miles inland. The great submerged flats of its delta extend 100 miles out to sea, and it was through this dangerous delta that the surveying steamer Yukon made the discovery of the channel, which hitherto had not been charted. It is expected that the newly discovered channel will make it possible for steamship companies to send vessels up into the Kuskokwim and thus initiate the development of the latent mining, fishing and agricultural resources of the region. In making the survey, Captain Lukens reports that he took 14,256 soundings, covering an area of over 100 sq. miles, in some instances locating soundings by observations on mountain peaks more than 60 miles distant. The whole working season was confined to 83 days, and in July alone 29½ of these days were lost on account of bad weather.

Plans are being made at Seattle for the construction by different companies of two light draught steamships designed especially for the navigation of the Kuskokwim. They will be ready at the opening of navigation next spring.—Engineering News.

The various insurance companies concerned with the salvage of silver bars from the wrecked C.P.R. s.s. Empress of Ireland, have had their appeal dismissed, the award of \$59,257 to the Canadian Salvage Association being confirmed.

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 distinctly to 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 & Steel Co., Sydney, N.S., has received an order from the South African Government Railways, for 35,000 tons of steel rails.

Canadian Consolidated Rubber Co., Ltd.—Lt. Col. A. E. Massie, the company's Manager for the Maritime Provinces, with headquarters at St. John, N. B., left recently for Europe in command of the divisional train, Army Service Corps, second Canadian contingent. W. R. Stewart is acting as Division Manager during his absence.

Henry J. Coles Ltd., London Crane Works, Derby, Eng., have issued a catalogue of cranes of more or less standard design including steam travelling, fixed base, shunting, stacking, permanent way, gantry or portal, double barrel and navy cranes, also petrol and oil motor driven, electric and overhead travelling cranes and single and double chain grabs.

Canadian Locomotive Co., Kingston, Ont., A. W. Wheatley, Vice President and General Manager, who returned recently from Russia, has given out the following statement: "In order to take care of additional shell orders, consisting of 4.5 and 60 pounders, we are proceeding with the erection of our new blacksmith shop, intending to use it in connection with the shell manufacture and to take care of the new orders—at the same time permitting us to go ahead with locomotives, should we secure orders for same. The new shop will be on the water front on the south side of the plant, being 233 x 67 ft. The steel is on the ground, and we hope to have this shop ready for occupancy in six weeks. We are placing orders for the necessary machinery. At present we have 400 employes, and with the new orders, this number should be increased to between 600 and 700, with a prospect of still greater increase should we be fortunate enough to secure locomotive orders. While we are putting all of our old employes to work, we anticipate a shortage of skilled mechanics, which must necessarily be taken care of by going outside. We have sufficient work on hand to keep us going for a year at least."

The Dominion Bridge Co., Ltd., Montreal, has issued catalogue S1, 108 pages, 11½ by 8½ ins., describing and illustrating a number of its most important erections. The foreword states that the company was incorporated in 1883 and that its first large contract was for the cantilever bridge at St. John, N.B., one of the next being the C. P.R. bridge over the St. Lawrence River at Lachine. Among the principal bridge structures described and illustrated and which are of special interest to transportation men are the C.P.R. ones over the Lachine Canal, Montreal, and over various rivers at Vaudreuil, St. Rose and Three Rivers, Que., Mud Lake, Ont., Kildonan, Man., Surprise Creek, Salmon River and Pitt River, B.C.; G.T.R. ones over Lachine Canal and at Rockfield and Beloeil, Que.; Canadian Northern Ry. ones at Bout de L'Isle, Riviere des Prairies and St. Maurice, Que.; Lytton, Ashcroft and several other points in B.C.; Intercolonial Ry. ones at Mirimachi, N.B., and Grand Narrows, N. S.; Canada Atlantic Ry. at Coteau, Que.;

Dominion Atlantic Ry. ones at Windsor, Jaspereaux and Bear River, N.S.; National Transcontinental Ry. viaducts at Cap Rouge and Little Salmon River, Que.; the Alexander interprovincial bridge, Ottawa, and the British Columbia Government bridge over Fraser River; the Intercolonial Ry. ferry landing at Port Mulgrave, N.S.; C.P.R. subways at Montreal; C.P.R. train shed at Windsor St. Station, Montreal; Canadian Vickers Co.'s ship-building berth, Montreal; Montreal Harbor Commissioners' sheds; National Transcontinental Ry. locomotive shops, Quebec, and lift locks on Trent Valley canal at Peterborough and Kirkfield, Ont.

Telegraph, Telephone and Cable Matters.

G. Smith, inventor of the duplex and quadruplex systems of telegraphy, died at Amityville, N.Y., May 4, aged 77.

G. Scott, chief of the Pacific Cable Board's office at Vancouver, B.C., died after a short illness, at English Bay, May 14, aged 38.

The Great North Western Telegraph Co. has installed a 16-circuit selector concentration unit of the standard Western Union type, in its Montreal office.

The Great North Western Telegraph Co. has opened offices at Beaumaris, Cardinal Canal, Wheatley, Ont., and Joliette station, Que., and has closed its offices at Devlin and Southwold, Ont.

The Association of Railway Telegraph Superintendents will hold its 34th annual convention at Rochester, June 22 to 25. The programme includes a number of interesting papers for discussion, and the social features include an automobile ride, a dinner and a steamship trip on Lake Ontario.

W. Marshall, who was appointed Assistant Manager, C.P.R. Telegraphs, Western Lines, Winnipeg, recently, was presented with an address, a cabinet of silver and a gold watch, by the Toronto staff, May 12. Prior to going to Winnipeg he had for some time been Superintendent of Telegraphs, Ontario Division, C.P.R., Toronto.

Major J. C. N. Kennedy, R.E., who died in Queen Alexandra's Hospital, London, Eng., Apr. 20, as the result of an operation, was born in Peterborough, Ont., and was in the British Army for nearly 30 years. During the developing period of the wireless telegraph system as invented by W. Marconi, he was appointed by the British Government to assist in the experiments and tests.

Among the Express Companies.

The Board of Railway Commissioners has passed an order amending the terms and conditions endorsed on the express merchandise receipt. It is given in full on another page under Traffic Orders by Board of Railway Commissioners.

H. Conybeare, Canadian Ex. Co.'s messenger at Lindsay, Ont., who decamped with about \$3,000, and was arrested at Edmonton, Alta., was convicted at Lindsay, May 1, but sentence was suspended, and he was placed under a bond of \$400, on the understanding that he enlist for service with the Canadian expeditionary forces, which he did.

The National Elevator Co.'s elevator at Port Arthur, Ont., with a capacity of 500,000 bush, was burned, May 3. There was only a small amount of grain in it. The loss is estimated at \$100,000, covered by insurance for \$60,000.

Transportation Conventions in 1915.

June 9-11.—American Railway Master Mechanics' Association, Atlantic City, N.J.
 June 14-16.—Master Car Builders' Association, Atlantic City, N.J.
 June 15.—Train Despatchers' Association of America, Minneapolis, Minn.
 June 16.—Freight Claim Association, Chicago, Ill.
 June 22-25.—Association of Railway Telegraph Superintendents, Rochester, N.Y.
 June 23-25.—Association of Transportation and Car Accounting Officers, Niagara Falls, N.Y.
 July.—American Railway Tool Foremen's Association.
 July 14-17.—International Railway General Foremen's Association, Chicago, Ill.
 Aug. 17.—International Railroad Master Blacksmiths' Association, Philadelphia, Pa.
 Aug. 19, 20.—American Association of Railroad Superintendents, San Francisco, Cal.
 Sept. 14-16.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.
 Sept. 14-17.—Master Car and Locomotive Painters' Association of the United States and Canada, Detroit, Mich.
 Sept. 21-24.—Railway Signal Association, Salt Lake City, Utah.
 October.—American Association of Dining Car Superintendents.
 Oct. 4, 5.—American Association of Traveling Passenger Agents, Boston, Mass.
 Oct. 4-8.—American Electric Railway Association, San Francisco, Cal.
 Oct. 5-7.—Railway Fire Protection Association, Chicago, Ill.
 Oct. 13-15.—American Association of Railway Surgeons, Chicago, Ill.
 Oct. 19-21.—Maintenance of Way and Master Painters' Association of the United States and Canada, St. Louis, Mo.
 Oct. 19-21.—American Railway Bridge and Building Association, Detroit, Mich.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:
 Canadian Car Service Bureau—J. Reilly, Manager, 401 St. Nicholas Building, Montreal.
 Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.
 Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.
 Canadian Freight Association (Western lines)—W. E. Campbell, 805 Boyd Block, 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, 176 Mansfield St., Montreal.
 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.
 Dominion Marine Association—F. King, Counsel, Kingston, Ont.
 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 Street West, Toronto.
 Express Traffic Association of Canada—W. H. Burr, Chairman, Toronto.
 Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.
 Hydro-Electric Railway Association of Ontario, T. J. Hannigan, Guelph, Ont.
 International Water Lines Passenger Association—M. R. Nelson, New York.
 Niagara Frontier Summer Rate Committee—James Morrison, Montreal.
 Nova Scotia Society of Engineers—A. R. McCleave, Halifax, N.S.
 Quebec Transportation Club—A. F. Dion, Quebec.
 Ship Masters' Association of Canada—Capt. E. Wells, 45 St. John Street, Halifax, N.S.
 Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.
 Western Canada Railway Club—Louis Kon Box 1707, Winnipeg. Meetings at Winnipeg, 2nd Monday each month, except June, July, and August.

Accommodations in Jasper Park. The Grand Trunk Pacific Ry. has decided to establish a summer tent city in Jasper Park in the Rocky Mountains with sleeping tents and marquees for meals. The Dominion Government is also providing shelter houses. It is the intention to build a large hotel in the park some time in the future.



DEPARTMENT OF THE NAVAL SERVICE.

Tender for 30 Ton Steam Wharf Crane—Halifax Dockyard.

TENDERS addressed to the undersigned at Ottawa, and endorsed "Tender for Steam Wharf Crane, Halifax Dockyard," will be received up to noon of the 1st of July, 1915, for the manufacture, supply, and erection of a 30 ton Steam Wharf Crane, of the Derricking Jib Type, for the above mentioned Dockyard.

The tender should be accompanied by an accepted cheque in favor of the Deputy Minister of the Naval Service, on a chartered Canadian bank, for \$1,600.00, which cheque will be forfeited should the successful tenderer decline to enter into the contract as agreed, or fail to complete the work in accordance with the conditions of the contract and specification.

Representatives of firms desirous of tendering are to state in making application for specification the name of the firm manufacturing and erecting the crane, observing that subletting any portion of the contract is inadmissible.

The specification and conditions of contract may be seen at the office of The Consulting Naval Engineer, Ottawa.

Newspapers copying this advertisement without authority will not be paid for same.

The Department does not bind itself to accept the lowest or any tender.

G. J. DESBARATS,

Deputy Minister of the Naval Service.

Department of the Naval Service,
—79499. Ottawa, April 30th, 1915.

THE VICTORIA ROLLING STOCK AND REALTY CO. OF ONTARIO, LIMITED.

NOTICE is hereby given that a dividend of 3½% on the paid-up capital stock of the Company for the six months ended May 31st, 1915, has been declared payable June 1st, 1915, to the shareholders of record as of the 31st of May, 1915.

By order of the Board,

G. T. CHISHOLM, Secretary.

Toronto, May 8th, 1915.

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 31st March last, being at the rate of seven per cent. per annum from revenue and three per cent. per annum from Special Income Account, was declared payable on 30th June next to Shareholders of record at 3 p.m. on 1st June next.

By order of the Board,

W. R. BAKER,
Secretary.

Montreal, 10th May, 1915.

FOR SALE,

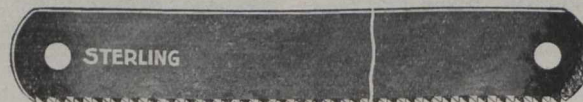
Steamer "Frontenac," length 89 feet, beam 21½ feet, draft (about) 7 feet. Inspection invited. May be seen in Kingston, Ont. Ask for particular, The Calvin Co., Ltd., Kingston, Ont.

GRIFFIN & BRINKERHOFF

P.O. Box 97, Windsor, Ont.

Canadian manufacturers of the Celebrated Wheel Truing Brake Shoe. Best Wheel Grinders in the World.

"STERLING" Hack Saws



Sterling
HIGH SPEED POWER SAW

A Combination that will save money for you.

Manufactured by

DIAMOND SAW & STAMPING WORKS,
BUFFALO, N.Y., U.S.A.



*Loading
Northern Electric
Railway Signal Wire
from one of the big shipping
platforms of the Company's new
plant at Montreal*

Northern Electric RAILWAY SIGNAL WIRE AND CABLE

There are no second or third or fourth grades of Northern Electric Railway Signal Wire or Cable for sale. We do not make them. We make only the one grade, and that embodies the best of all our engineering knowledge and a manufacturing experience extending over many years.

When you consider our unequalled facilities for turning out "Made Better in Canada" products, you will ask us to figure on all your requirements.

Northern Electric Company
LIMITED

Montreal Halifax Toronto Winnipeg Regina Calgary Edmonton Vancouver Victoria



Go to Chicago With Your Ad Man

Attend with him the big Convention of Associated Advertising Clubs of the World, June 20 to 24, 1915

You will assimilate more knowledge of modern methods of Advertising, Selling, Distribution, and Management during these five days than could be obtained in a lifetime of book study.

You will be brought in touch with the men who have done and are now doing the big things of business. You will participate in the biggest business meeting the world has ever known. You will listen to the expressed thoughts of distinguished Americans concerning present day and future business movements.

You will enjoy Chicago's wonderful park system, boat rides on Lake Michigan, modern hotels, theatres, and other amusements, including the big street pageant, and the Gridiron Show given at the Auditorium Theatre by 150 Chicago Advertising men.

Distinguished Speakers. President Wilson, State conditions permitting, will head the notable

array of speakers. Hon. William Jennings Bryan, George Horace Lorimer, Arthur Brisbane, John H. Fahey and Henry Watterson are among the others who will be heard.

Advertisers in and publishers of trade and technical journals will hold special Departmental meetings to discuss their own problems and learn how they can co-operate to better advantage. Other departmental meetings will take up such subjects as catalogues, engraving, printing, mailing lists, sales plans and kindred subjects.

The ladies are wanted too. Special entertainment—teas, luncheons, automobile trips, etc., is being arranged for them by Mrs. Chas. H. Porter and her committee.

Clear up your desk. Take a five days' vacation in a lake-cooled city. Mix with the business builders. You will return a better business man; a better physical man; and a better thinking man.

For further information, programme, rates, etc., address Convention Bureau, Advertising Building, Chicago, Ill.

Canadian Railway and Marine World

70 Bond Street, Toronto, Can.

STANDARD At The Exposition

A fairly representative display of STANDARD Wires and Cables and Cable Accessories is on exhibit at the Panama Pacific International Exhibition at San Francisco.

If you are there we will be glad to welcome you at our booth in the Palace of Machinery and would request that you give your name to the attendants.

Standard Underground Cable Co. of Canada, Limited
Hamilton, Ontario

Montreal Que. Winnipeg Man. Seattle Wash.

ESTABLISHED 1849.

BRADSTREET'S

Capital and Surplus, \$1,500,000.
Offices throughout the Civilized World.
Executive Offices:
NOS. 346 and 348 BROADWAY,
N.Y. CITY, U.S.A.

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

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

Correspondence Invited.
OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Edmonton, Alta.; Winnipeg, Man.; Victoria, B.C.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

IMPERIAL BANK

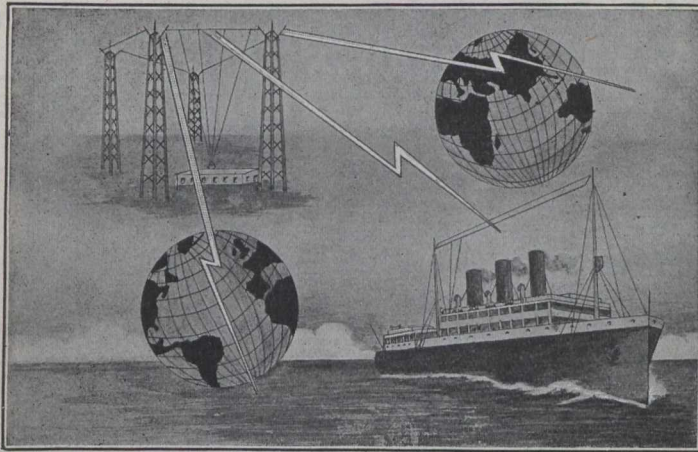
Established OF CANADA 1875
Capital Authorized\$10,000,000
Capital Paid-up 6,925,000
Reserve and Undivided Profits. 8,100,000
Head Office: Toronto.

Letters of Credit, Travellers' Cheques and Drafts issued, available in all parts of the world.

Sterling and New York Exchange bought and sold.

Savings Department: Interest allowed on deposits at best current rates.

Branches throughout the Dominion of Canada.



OF THE WORLD'S WIRELESS STATIONS 80% ARE ON THE MARCONI SYSTEM.
LET US SUBMIT SUGGESTIONS!

MARCONI WIRELESS TELEGRAPH APPARATUS

MADE IN CANADA.

Wireless equipment of all kinds supplied: Land, ship, railway and aeroplane sets with ranges of from 50 to 2,000 miles.

Have you considered the advantages of connecting up factory or mine to head office by wireless telegraphy?

SHIP SETS—Suitable for liners, yachts, tugs and freight boats and scows—our specialty.

Our stations may be hired or bought outright.

THE Marconi Wireless Telegraph

Company of Canada, Limited

Shaughnessy Building,

Montreal

JAMES THOMSON,
Pres. and Mang. Director.

J. G. ALLAN,
Vice-President.

JAMES A. THOMSON,
Secretary.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

MANUFACTURERS OF

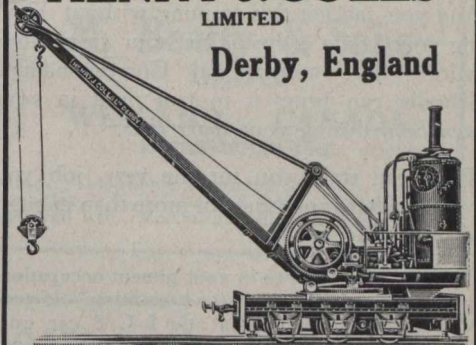
LIMITED



3 inches to 60 inches diameter
FLEXIBLE AND FLANGE PIPE AND SPECIAL CASTINGS
FOR WATER, GAS, CULVERT AND SEWER
HAMILTON, ONT.

HENRY J. COLES LIMITED

Derby, England



Makers of Steam and Electric Travelling Cranes, Overhead Electric Cranes, Single and Double Chain Grabs, Steam Navvies, Petrol and Oil Motor-driven Cranes, Shunting and Breakdown Cranes.
Telegrams: "Coles, Derby."

FIRTH'S TOOL STEELS

Can be depended upon. They represent Crucible Steel in its highest stage of development, and are recognized as Standard Brands in every country where steel is used.

We carry the largest stock of High Grade Tool Steel in Canada.

All principal sizes Annealed and Unannealed.

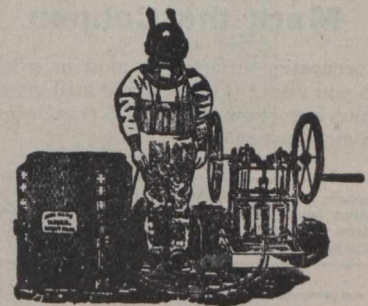
THOS. FIRTH & SONS, LIMITED

Norfolk Works and Tinsley Works, SHEFFIELD, England.
Works also at Riga, Russia; McKeesport, Pa., and Washington, D.C.

MONTREAL
507 St. Paul St.

J. A. SHERWOOD
Canadian Manager

TORONTO
79 Adelaide St. W.



JOHN DATE

Manufacturer of

Diving Apparatus

For Sale or Hire

Brass Founder and Coppersmith
13-15 Concord St., Montreal

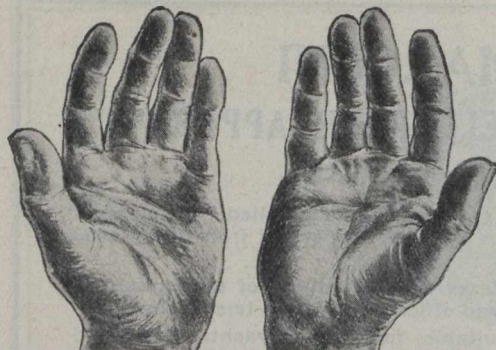
Sessions-Standard Friction Draft Gear

Simplest and Best

Both Made by
Standard Coupler Co.
30 CHURCH STREET, NEW YORK

Standard Steel Platforms

Used by all Canadian Railway



Your Hands Can't Earn the Money You Need

You'll have to work for low wages all your life if you depend upon your hands to make your living. To earn more money you've got to learn how to work with your head—you must have *special training* for some particular line of work.

And you can get this training without leaving your home or losing an hour from your work—the International Correspondence Schools can bring it to you right in your *own home* during your *spare time*.

They can train you for the very job you want—where you can earn more than enough to meet your needs.

If you want to advance in your present occupation, the I. C. S. can train you for promotion. If your present work is not pleasant, the I. C. S. can qualify you for a good position in the kind of work you like best.

Every month more than 400 I. C. S. students of all ages and occupations voluntarily report getting better jobs and bigger pay as a *direct* result of I. C. S. training. What these men did *you* can do.

Mark the Coupon

What occupation attracts you most or what position do you want? Mark it and mail the coupon now, and learn how the I. C. S. can help YOU to earn more money.

All lessons for Canadian students are corrected at the Canadian Instruction Department in Toronto by instructors who are thoroughly familiar with conditions in Canada.

INTERNATIONAL CORRESPONDENCE SCHOOLS

Box 1072, SCRANTON, PA.

Please explain, without obligation to me, how I can qualify for the position before which I mark X:

- | | |
|---|---|
| <input type="checkbox"/> Locomotive Engineer | <input type="checkbox"/> Marine Engineer |
| <input type="checkbox"/> Air-Brake Inspector | <input type="checkbox"/> Ocean Navigation |
| <input type="checkbox"/> Air-Brake Repairman | <input type="checkbox"/> Lake Navigation |
| <input type="checkbox"/> R. R. Shop Foreman | <input type="checkbox"/> Coastwise Navigation |
| <input type="checkbox"/> R. R. Traveling Engin'r | <input type="checkbox"/> Motor Boat Running |
| <input type="checkbox"/> R. R. Traveling Fireman | <input type="checkbox"/> Electrical Engineer |
| <input type="checkbox"/> R. R. Construction Eng'r | <input type="checkbox"/> Electric Car Running |
| <input type="checkbox"/> R. R. Accounting | <input type="checkbox"/> Electric Railways |
| <input type="checkbox"/> Bookkeeper | <input type="checkbox"/> Tel. and Tel. Engineer |
| <input type="checkbox"/> Stenographer | <input type="checkbox"/> Mechanical Engineer |

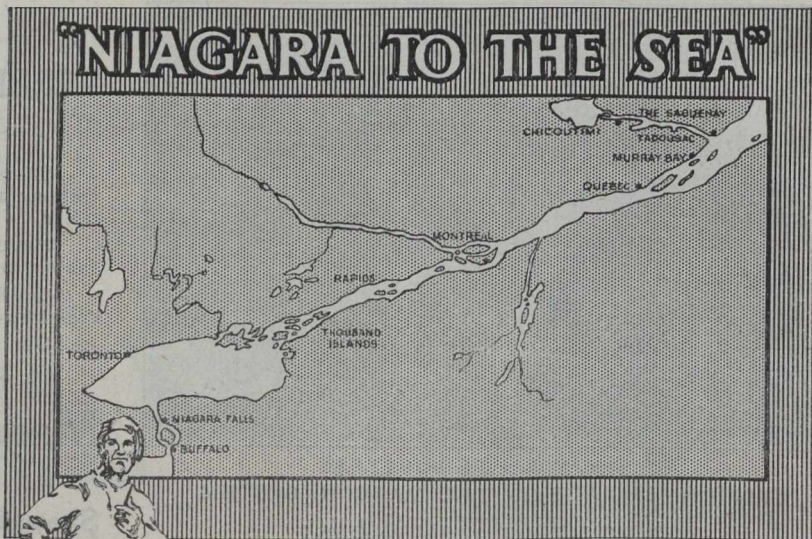
Name _____

Street and No. _____

City _____ Prov. _____

Present Occupation _____

Employed by _____



A HABITANT TYPE

The folder entitled "Niagara to the Sea" freely sent to all who write.

Quaint Quebec

—historically interesting and delightfully reminiscent of old France—forms one feature of a magic chain of experiences, included in the "Niagara to the Sea" trip.

The tranquil St. Lawrence, with its Thousand Islands; the marvellous "rapids"; the brief sojourn in the land of the French-Canadian habitant; the wonderful Saguenay River trip, and stupendous Cape Trinity—

All these attractions offer a holiday unequalled in diversity of interest, and with comfort supreme on these splendid steamers.

Round Trip,
Niagara Falls to
Chicoutimi and
Return,

\$34.55

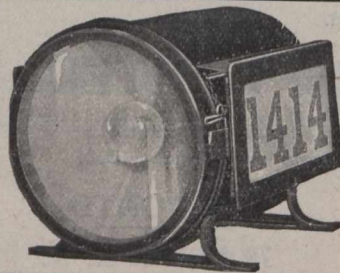
Any portion of
the Trip at
Correspondingly
Low Rates.

Thos. Henry, Passenger Traffic Manager

Canada Steamship Lines Limited

134 Victoria Square

Montreal, Que.



THE LIGHT THAT'S RIGHT

The Schroeder Sunbeam Incandescent Headlights are giving unparalleled service.

REFLECTOR WILL NOT TARNISH SAFETY FIRST, lights track 1000 feet. The Shroeder Generator is simple, compact and thoroughly efficient.

The HIRAM L. PIPER CO., Limited

MONTREAL, Sole Agents for Canada
Send for Circular and full particulars

CANADIAN BRONZE LIMITED

Brass Wearing Parts for Locomotives. Journal Bearings for Freight and Passenger Service. BABBITTS. Miscellaneous Brass Castings for Railroads.

Works and Office: 69 DELORIMIER AVENUE, MONTREAL, QUE.

Your Summer Holiday!

This Year The Maritime Provinces

LA BAIE DE CHALEUR

An arm of the Gulf of St. Lawrence. The estuary of the Restigouche, is one of the most fascinating and superb panoramic views in America. Smooth, sandy beaches tempt the bather. Many coves and harbors where boating is alluring and shorn of its risks.

CAPE BRETON

An island wherein are other isles innumerable. Bras d'Or Lakes, an inland sea dividing the island in twain, provides a spacious waterway through the interior. Nature has made Cape Breton an ideal land for a summer holiday.



ABEGWEIT

(Cradled on the Waves)

Prince Edward Island

Sweet pastoral scenery, fragrant groves, almost tropical foliage, health-giving breezes, atmosphere marvellously clear. Sky as blue as sunny Italy.

Summer Excursion Fares

gives in comprehensive form summer fares from important centres to the numerous resorts reached by Canadian Government Railways, circular tours, list of hotels and summer homes and their rates.

Write for free copies of illustrated descriptive folders and any other information to

H. H. MELANSON,
General Passenger Agent

Canadian Government Railways,
Moncton, N.B.

Rapid Loose Material Unloading



For unloading Sand, Gravel, Crushed Stone and Coal from cars and scows use the

"Faivrette" Clam Bucket

All Steel Construction, Simplicity of Design, Powerful Closing Arm, Unobstructed Opening insure

Low Upkeep, Rapid Action, Capacity Bucket Loads, Effectual Cleanup.

Write for Booklet

**M. Beatty & Sons
LIMITED**

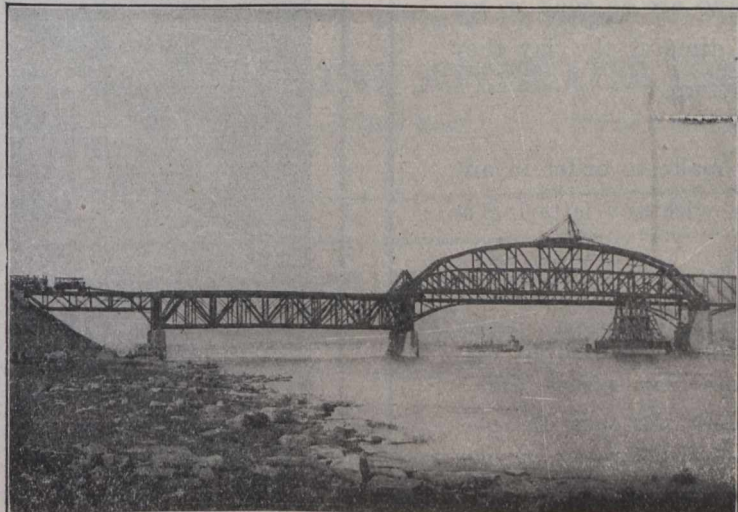
**WELLAND, CANADA
ESTABLISHED 1862**

TORONTO BRANCH: Goodyear Building. Telephone, Adelaide 208.
AGENTS: H. E. Plant, 1790 St. James St., Montreal; E. Leonard & Sons, St. John, N.B.; Robt. Hamilton & Co., Vancouver; Kelly-Powell Ltd., McArthur Bldg., Winnipeg.

DOMINION BRIDGE COMPANY, LIMITED

Head Office and Works,
MONTREAL, P.Q.

Branch Offices and Works,
TORONTO, OTTAWA AND WINNIPEG.



Lachine Bridge.

Engineers, Manufacturers and Erectors of Steel Structures.

CAPACITY 135,000 TONS.

Railway and Highway Bridges, Swing and Bascule Spans, Buildings of all kinds, Hemispherical Bottom and other Tanks, Transmission Poles and Towers, Riveted Pipe, Caissons, Barges, Turntables, Electric and Hand Power Cranes, Hoisting Appliances, Lift Locks, Hydraulic Regulating Gates, etc. Gear Cutting and General Machine Work.

LARGE STOCK OF STANDARD STRUCTURAL MATERIAL AT ALL WORKS.

SAFETY FIRST

The best way to educate your employes to the safety habit is by signs.

The "SAFETY FIRST" sign will be before them many times each day and warn them of the constant danger they are subject to in the course of their duties.

Enamelled iron signs, on account of the brilliancy of their colors, attract immediate attention. They never fade and are as good in ten years' time as the day they are put up.

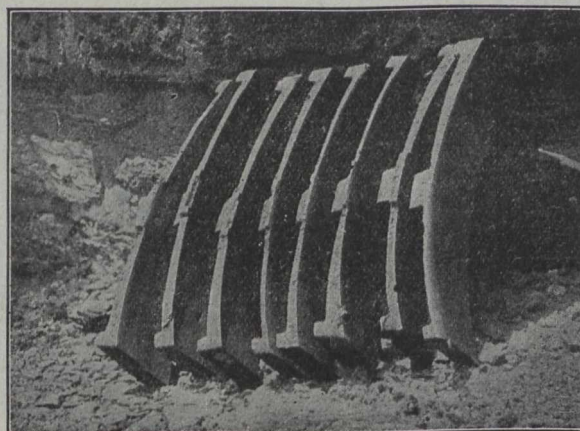
We make to order in any colors, with any lettering or design.

We will be pleased to quote you prices and submit sketches on request.

Acton Burrows
Limited

70 Bond Street, Toronto

STEEL BACK BRAKE SHOES



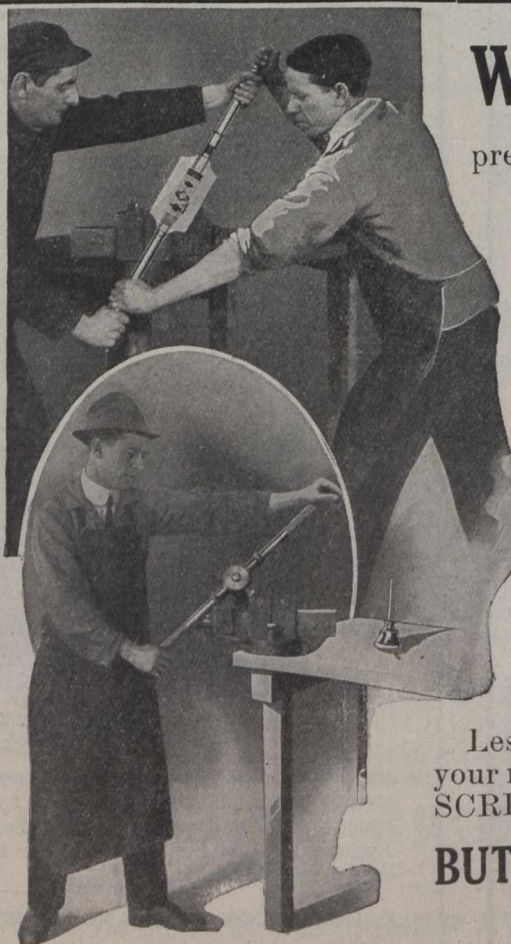
wear as shown above, before they are scrapped and they wear safely, too. You get your full money's worth in satisfactory service from them always.

Steel Back Car, Coach and Driver Shoes are absolutely essential for safe and economical operation in heavy and high-speed service.

Manufactured in Canada.

AMERICAN BRAKE SHOE & FOUNDRY CO.

The HOLDEN CO., Ltd., Agents, 354 St. James St., Montreal.



Which Method

prevails in your plant? Does it take two men to do one man's work.

Why don't you replace that old antiquated tool with a new up to date

Reece's New Screw Plate

These pictures do not exaggerate conditions as you can actually see them, if you will visit Machine Shops throughout the country.

Lessen your cost by giving your mechanics a REECE'S NEW SCREW PLATE.

BUTTERFIELD & CO., Inc.
ROCK ISLAND, QUE.

DROP FORGINGS

Made in the Champion Way

Also Steam Hammer and Heading Machine Forgings

Let us have your Blue Prints

— Foundry Chaplets —

THE CHAMPION MACHINE & FORGING COMPANY CLEVELAND, OHIO

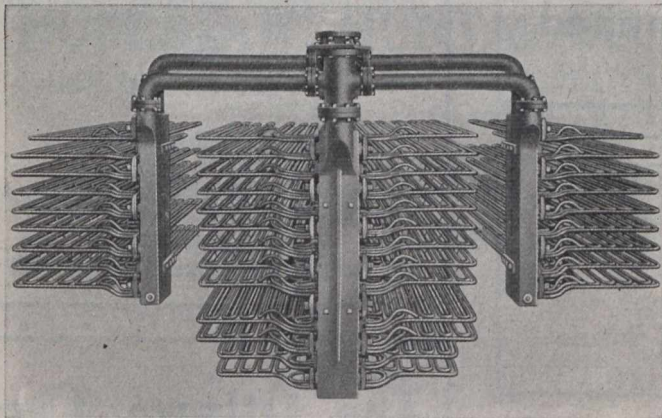
New York Office:
30 Church St.

Philadelphia Office:
Bouse Building.

Detroit Office:
H. B. Kendal,
56 Cadillac Sq.

Chicago Office:
1623 Monadnock Block.

LESS BUNKER SPACE = GREATER CARGO CAPACITY



Bunker space is fixed by the amount of coal burned between desirable coaling ports.

Any reduction in coal burned between these ports means that bunker space may be converted into revenue cargo holds. From 10% to 20% less coal is burned, and the same speed maintained by steamers whose boilers are equipped with our

FIRE TUBE MARINE SUPERHEATERS

than would be possible with the same steamers using saturated steam.

You need not wait for new steamers before availing yourself of these advantages, as the superheater may readily be installed in existing boilers.

Let us submit designs.

LOCOMOTIVE SUPERHEATER COMPANY

30 Church Street, New York

Peoples Gas Bldg., Chicago

The Travelling Public is
a Critical Public

DREWRY'S AMERICAN STYLE RICE BEER

Meets the most critical taste.
Better, and costs less than Imported.

In cases of Pints or Quarts.

E. L. Drewry, Ltd., Winnipeg

Revised and New Edition

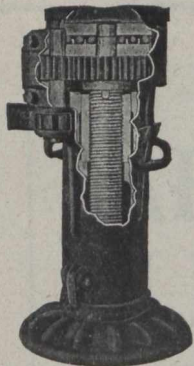
STOVEL'S COMMERCIAL ROUTING AND SHIPPERS MAP of Western Canada

Showing All Towns on Railway Lines.

Most efficient routing and record map published

STOVEL COMPANY, LIMITED,
Engravers and Publishers, WINNIPEG, MAN.

IT PAYS to carry an advertisement in the CANADIAN RAILWAY AND MARINE WORLD every issue of the year because you obtain proportionately better **RESULTS**



Showing the construction of our geared jacks.

Celebrated "H & E" Lifting Jack

Our Patent Ball-Bearing Geared Jacks are Ideal in Railroad and heavy Construction Work.

These Jacks are built for heavy service in bridge, roundhouse and wrecking work, are made with great care from the very best material and will be found the most satisfactory jacks for the purpose on the market.

Canadian Brakeshoe Company, Limited

SHERBROOKE, QUE.

Sole Agents for Brakeshoes for Canada outside of B.C., Messrs. Taylor & Arnold, Limited, Montreal and Winnipeg. Sole Agents for B.C., The B.C. Equipment Co., Vancouver, B.C. Sole Agent for Lifting Jacks for Canada, F. H. Hopkins & Co., Montreal.

High Grade Electric STEEL CASTINGS MANGANESE STEEL

For Crusher Jaws and Heavy Wear Parts

BRONZE

M.C.B. Standard Journal Bearings and Engine Bearings

Improved Reinforced Steel-Backed BRAKESHOES

Locomotive Driver and Truck Shoes. Freight and Passenger Car and Electric Car Shoes.

*Rails, Cars,
Locomotives
and Contractors' Equipment*

*IMMEDIATE
SHIPMENT*

John J. Gartshore

58 FRONT ST. WEST

TORONTO

MALLEABLE IRON CASTINGS

Our experience and unexcelled equipment assure you the best service in high class castings.

We also manufacture a full line of malleable cast iron and flanged pipe fittings.

International Malleable Iron Co., Limited

GUELPH, ONTARIO



MORROW Twist Drills

Your aim is economy in shop practice, with accuracy of results; therefore best tools obtainable are none too good. It will pay you to buy Morrow's.

John Morrow Screw & Nut Co., Limited, - Ingersoll, Ontario

"MORROW DRILLS ARE GOOD DRILLS"

NICKEL SHOT—HIGH AND LOW CARBON INGOTS—TWO SIZES, 25-LB., 50-LB.

Electrolytic Nickel—99-80%

Prime Metals for the manufacture of Nickel Steel, German Silver, Anodes, and all remelting purposes. Our Nickel is produced as rods, sheets, strip stock and wire.

METAL We are Sole Refiners of this natural stronger than steel, non-corrosible alloy. Produced as rods, flats, castings, sheets, strip stock and wire. Ask for descriptive booklet.

Send inquiries direct to us.

THE INTERNATIONAL NICKEL COMPANY, - 43 Exchange Place, New York

FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock
or special design, apply to

The Canadian Office and School Furniture
Co., Limited
Preston : Ontario

Car Closets

FLUSH OR DRY

DUNER CO. 101 S. CLINTON ST.
CHICAGO

The Ottawa Car Manufacturing Co., Limited

Builders of

**ELECTRIC CARS, FINE
CARRIAGES, WAGONS,
SLEIGHS, ETC.**

Office and Works

Slater St. - Ottawa

C. W. Sherman, Pres. and Gen. Mgr.

F. W. Baillie, Vice-Pres.

J. E. Hammond, Secy.-Treas.

Dominion Steel Foundry Company, Limited, Hamilton, Ont.

Locomotive Frames

Car Bolsters

Car Castings

Heavy Machinery Castings

Professional Cards

JACOBS & DAVIES, Inc.
Consulting Engineers

MONTREAL LONDON NEW YORK
Foundations, Subaqueous and Land Tunnels, Subways, Railways, Harbours, Waterpower Development, Examinations, Reports.
Montreal Office: Eastern Townships Bank Building

C. E. A. CARR CO.

RAILWAY SUPPLIES
Reports on Electric Railways and Electric Light Properties.
ESTIMATES PREPARED.
Telephone Main 2986.
2 Toronto Street, Toronto.

THE ARNOLD COMPANY

ENGINEERS—CONSTRUCTORS.
ELECTRICAL—CIVIL—MECHANICAL
Reports, Design and Construction
Complete Railway Shop and Terminal Properties—
Electrification of Steam Railroads.
Our Experience Covers Thirty Five Plants
Chicago, Illinois

Patent Solicitors

PATENTS

HERBERT J. S. DENNISON,
Mechanical Engineer. Patent Attorney and Expert.
Patents, Trade Marks, Designs, Copyrights, and Infringements.
20 yrs. experience in Patents and Practical Engineering
Star Building, 18 King St. West, Toronto.
Write For Booklet

THE TORONTO, HAMILTON AND BUFFALO RAILWAY COMPANY.

Hamilton, Ont., May 1st, 1915.

NOTICE is hereby given that the Annual General Meeting of the Shareholders of this Company, for the election of a Board of Directors, and for the transaction of such other business as may be brought before the meeting, will be held at the office of the Company, in the City of Hamilton, Province of Ontario, on Tuesday, June 1st, 1915, at 11 o'clock in the forenoon.

DWIGHT W. PARDEE,
Secretary.

WANTED NEW INVENTIONS

Send Inventions Direct to Ottawa—Save Time and Money.

Send for full list of inventions wanted by Manufacturers. Get a copy of our new Booklet, "Reference Guide for Inventors." It gives full particulars about Patent. Every inventor should have a copy. If you have any inventions worked out, make a sketch and number the parts. Write a description, referring to the parts by numbers. Tell how it works, and state its advantages. If you send model, be sure that it bears your name, so that we can tell by whom it is sent. Free Search of Patent Office Records and Patentability Report. It may mean your fortune. Patents secured or our fees returned. Write us at once.

THE PATENT REVIEW
Largest circulation of any publication devoted entirely to Patents.
Get a free copy at once.

HAROLD C. SHIPMAN & CO., Registered Patent Attorneys,
PATENT PROMOTERS. 71 Hope Bldg., Ottawa, Can.

ROBERT W. HUNT,
President.

THOS. C. IRVING, JR.,
Vice-President.

JAS. W. MOFFAT,
Secretary.

CHARLES WARNOCK,
Treasurer & Manager.

ROBERT W. HUNT & CO., LIMITED

BUREAU OF INSPECTION TESTS AND CONSULTATION

Expert examination and tests of material. Inspection of Steel Rails and Fastenings, Cars, Locomotives, Bridges, Structural Material, Cast Iron Pipe, etc. Resident inspectors located at all important manufacturing centres.

HEAD OFFICE, LABORATORIES:

McGill Building, - - - MONTREAL, QUE.

BRANCH OFFICES—Traders Bank Building, Toronto, Ont.
Standard Bank Building, Vancouver, B.C.
Norfolk House, Laurence Pountney Hill, London, E.C.
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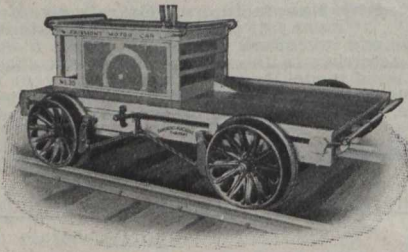
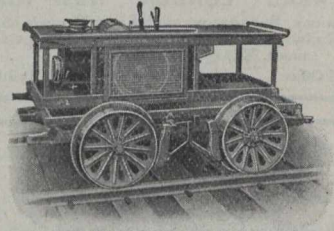
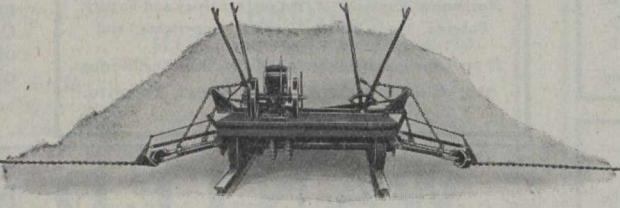
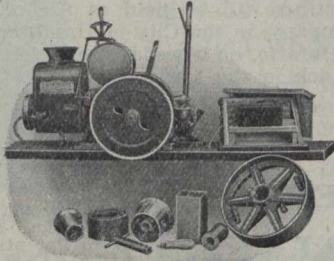
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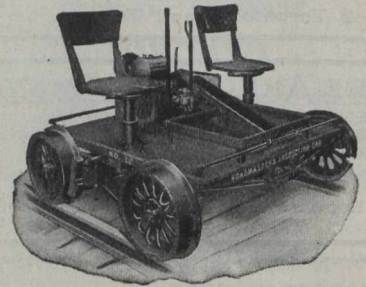
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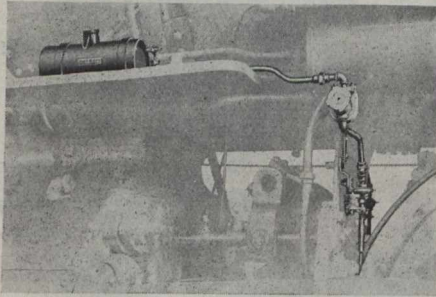
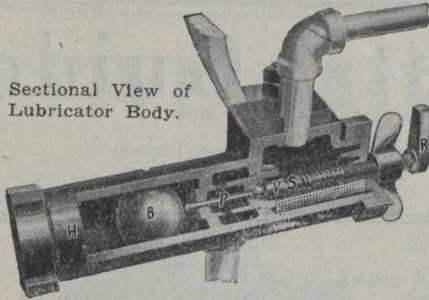
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Alphabetical List of Advertisers

A		Duner Co. 80	M		
Algoma Steel Corporation 22	American Brake Shoe & Foundry Co. . . 78	Du Pont Fabrikoid Co. 4	Marconi Wireless Telegraph Co. 75	Miller, F. W. Heating Co. 21	
Arnold Co. 81	Association of Advertising Clubs 74	E		Montreal Locomotive Works 16	
Association of Manufacturers of Chilled Car Wheels		Electric Railway Improvement Co. 25	Morrow, John, Screw & Nut Co. 80	Morton Manufacturing Co. 19	
B		F		N	
Babcock & Wilcox 24	Beatty, M. & Sons, Co. 77	Fairmont Gas Engine & Ry. Motor Car Co. 82	Firth, Thos. and Sons 75	National Steel Car Co. 14	Nicholson File Co. 20
Berry Bros. 12	Bertram, John & Sons, Co. 1	Flannery Bolt Co. 12	Franklin Railway Supply Co. 82	Northern Electric Co. 73	Northey-Simmen Signal Co. 5
Bradstreet Company 74	Brown Hoisting Machinery Co. 7	G		Norton, A. O., Inc. 2	Nova Scotia Steel and Coal Co. 16
Buffalo Brake Beam Co. 25	Burrows—Acton Burrows, Ltd. . . 19 and 78	Galena-Signal Oil Co. 9	Gardner, J. T. 80	O	
Butterfield & Co. 78		Garlock Packing Co. 17	Gartshore, J. J. 80	Ohio Brass Co. 11	Ottawa Car Manufacturing Co. 80
C		Gartshore-Thomson Pipe & Foundry Co. 75	General Railway Signal Co. of Canada. 88	P	
Canada Steamship Lines, Ltd. 76	Canadian Brakeshoe Co. 80	Goldschmidt Thermit Co. 8	Grand Trunk Railway 13	Pedlar People 18	Piper, The Hiram L., Co. 76
Canadian Bridge Co. 84	Canadian Bronze, Ltd. 76	Griffin and Brinkerhoff 72	Hart-Otis Car Co. 11	Polson Iron Works 18	Positive Lock Washer Co. 21
Canadian Consolidated Rubber Co. 26	Canadian Detroit Lubricator Co. 84	H		Pratt & Whitney Co. of Canada 24	Preston Car and Coach Co. 81
Canadian Government Railways 77	Canadian H. W. Johns-Manville Co. 81	Holden Co., The 24	Hopkins, F. H. & Co. 10	Pyke, J. W., & Co. 25	
Canadian Locomotive Co. 15	Canadian Northern Railway 17	Hunt, Robert W., & Co. 81	Hunt-Spiller Mfg. Corporation 21	R	
Canadian Office & School Furniture Co. 80	Canadian Pacific Railway 6	I		Rail Joint Co., of Canada 87	Railway Materials Co. 82
Canadian Westinghouse Co. 2	Carr, C. E. A. 81	Imperial Bank of Canada 74	*Imperial Guar. and Acc. Ins. Co. 84	Ross & McDonald 81	
Champion Machine & Forging Co. 79	Chicago Car Heating Co. 85	Independent Pneumatic Tool Co. 22	Intercolonial Ry. 77	S	
Coghlin, B. J., Co. 23	Coles, Henry J., Ltd. 75	International Correspondence Schools . 76	International Malleable Iron Co. 80	Safety Car Heating and Lighting Co. . . 21	Saxby and Farmer 84
Commercial Acetylene Ry. Lt. & Sig. Co. 86	Crossen Car Co. 14	International Nickel Co. 80	J		Shipman, Harold C., & Co. 81
D		K		Standard Coupler Co. 75	Standard Underground Cable Co. of Canada 74
Date, John 75	Dearborn Chemical Co. of Canada 13	Jacob & Davies 81	L		Steel Co. of Canada 3
Dennison, H. J. S. 81	Diamond Saw & Stamping Works 72	K		Stovel Co. 79	
Dominion Bridge Co. 77	Dominion Iron & Steel Co. 23	Kinnear Manufacturing Co. 82	T		
Dominion Steel Foundry Co. 80	Dominion Wire Rope Co. 10	L		Taylor & Arnold 23	Trolley Supply Co. 15
Drewery, E. L. 79		Lewis, Rice & Son 22	W		
		Locomotive Superheater Co. 79	Wood, R. D., & Co. 81	*Advertisements marked with an asterisk appear in alternate issues.	
		Long & Allstatter Co. 20			

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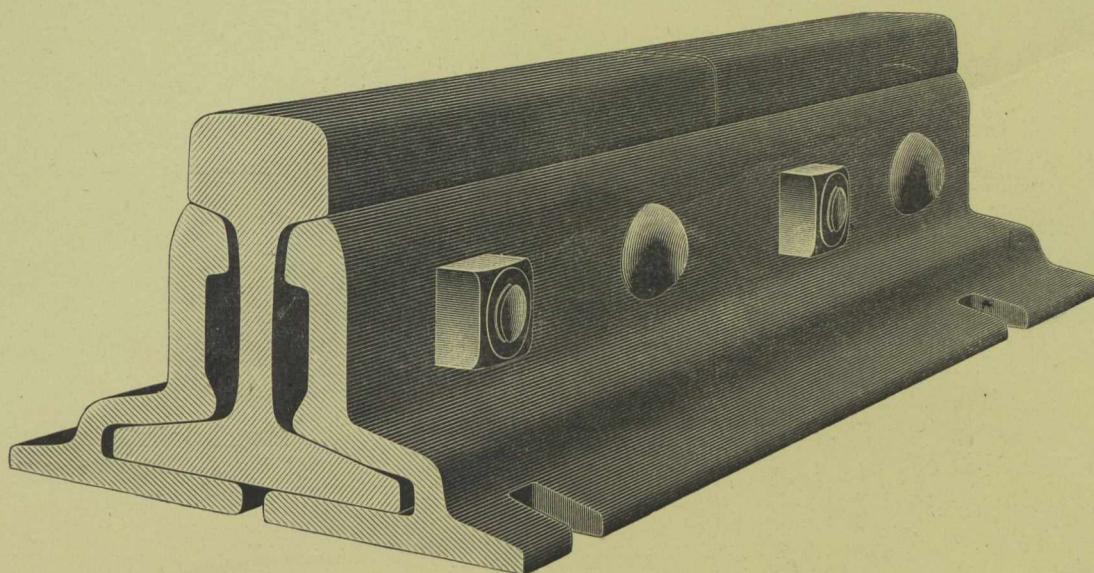
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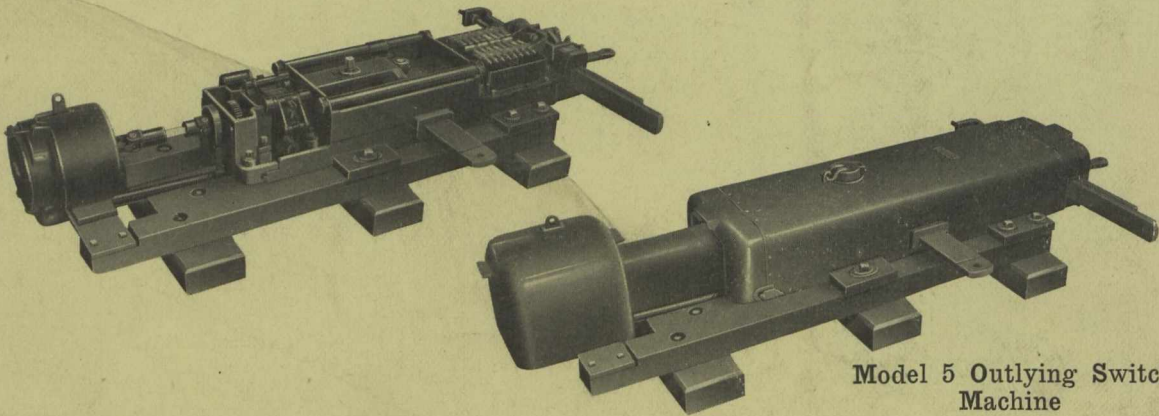
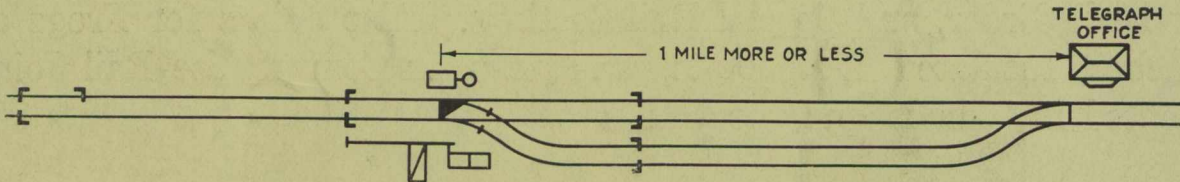
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