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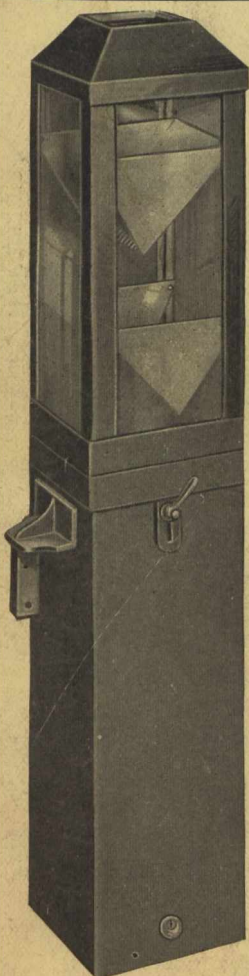
Canadian Railway AND Marine World

ESTABLISHED 1898.

Number 213

TORONTO, CANADA, NOVEMBER, 1915

Subscription Rates, Page 433



No. 4 Type Coleman Fare Box

Our new number 4 type stationary fare box will appeal to electric railway officials for all P. A. Y. E. operating conditions.

Being but five inches square it occupies a minimum amount of space on the car platform and is especially suitable where platform space is limited and also for one man operation.

It is suspended by two brackets to the car railing and the cash box telescopes into the outside casing.

There is only one working part to the box so that there is nothing to get out of order and this feature also insures low maintenance.

Should a glass become broken or should it be desired to clean the glasses this can be accomplished in a few minutes by a very simple means.

When you are considering purchasing fare boxes investigate this number 4 fare box carefully, it will save you money both in first cost and subsequent maintenance.

Coleman Fare Box Co., Ltd.

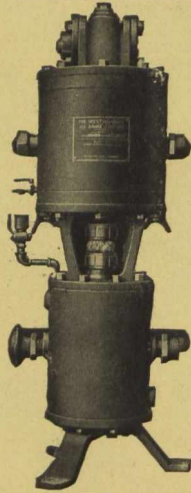
Manufacturers of Portable and Stationary Fare Boxes

Works :
Tottenham, Ont.

Head Office :
70 Bond St., Toronto

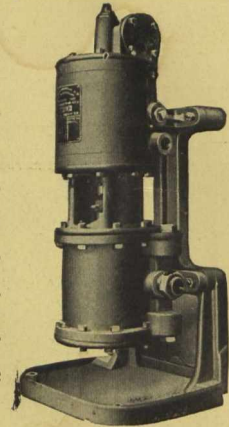
It is easy to have a simple and reliable air-compressing plant by installing —

Westinghouse Steam-Driven Compressors



Portable Compressor for High Delivery Air Pressure.

THEY occupy the smallest possible space, yet are designed with ample proportion of all wearing parts, insuring durability and low maintenance cost. Any substantial floor is a sufficient foundation for installing these compressors. They can be mounted direct on a boiler, or to any post, column or wall, or a stand is provided making it easy to move the compressor about. A sufficient guarantee of their absolute reliability is the fact that they are the accepted standard for railway air brake systems.



Compressor on Stand.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO MONTREAL OTTAWA HALIFAX FT. WILLIAM WINNIPEG CALGARY EDMONTON VANCOUVER
Traders Bank Bldg. 52 Victoria Square Ahearn & Soper, Ltd. Telephone Bldg. Telfer Bldg. 158 Portage Ave. E. Grain Exchange Bldg. Dominion Bldg. Bank of Ottawa Bldg.

GENERAL SERVICE CARS

OTIS DUMP CARS

— PATENTED —

—PAMPHLET No. 16 TELLS ABOUT THEM—

Always Ready For Use

One Man Operation

Simplest, Safest and Best Door Operating Gear

Largest Unobstructed Door Opening

Dumps Clear of the Rail



THE STANDARD COAL CAR ON CANADA'S LEADING RAILROADS.

Built in Any Size or Capacity

All Steel, Wood or Composite

For Standard or Special Service

Thousands in Use

THE MOST PRACTICAL CAR FOR ALL BULK FREIGHT.
A DUMPING GONDOLA FOR ALL SERVICES.

DESIGNED AND BUILT BY

THE HART-OTIS CAR CO., LIMITED : MONTREAL

—SOLE PATENTEES FOR GENERAL SERVICE CARS FOR CANADA—

Galena-Signal Oil Company

Works

Franklin, Pa., and Toronto, Ont.

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

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

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

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

STREET RAILWAY LUBRICATION A SPECIALTY

USE

Galena Railway Safety Oil

in Headlights, Marker and Classification Lamps, to secure Efficiency of Service, Maximum Candle Power, Clearness of Light.

Galena Long Time Burner Oil

for use in Switch and Semaphore Lamps, and all lamps for long time burning, to avoid smoked and cracked chimneys and crusted wicks.

Tests and Correspondence Solicited.

S. A. MEGEATH,
PRESIDENT.

The Steel Company of Canada, Limited

HAMILTON, CANADA

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

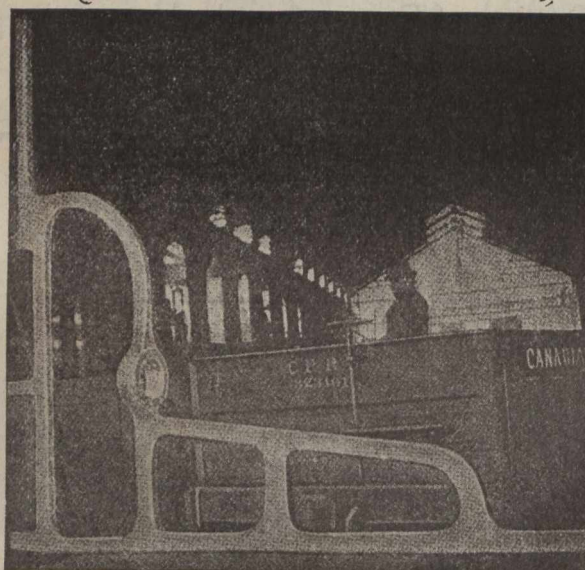
Eccentric or
Cam Forgings

Marine Engine
Forgings

Piston Heads

Piston Rods

Shafting



Stern Frame of Steamship Hamonic

Rounds

Squares

Rudder Frames

Stern Frames

Side Rods

Steam Engine
Forgings

District Sales Offices:

HAMILTON

MONTREAL

TORONTO

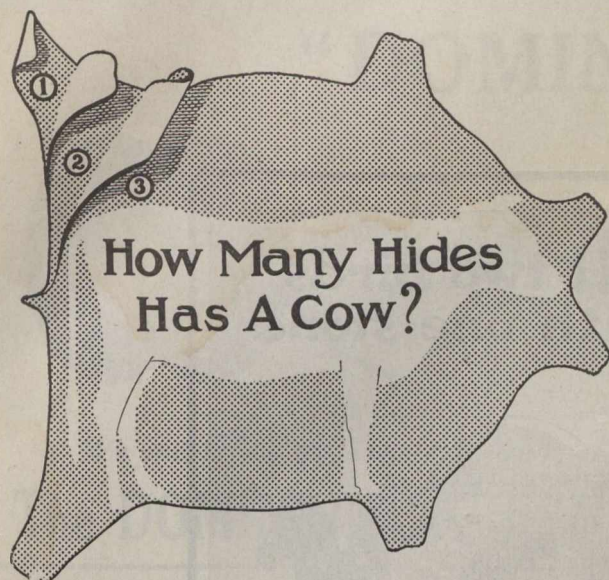
WINNIPEG

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

J. B. H. Rickaby, Victoria, B.C.

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

Geo. D. Hatfield, Halifax, N.S.



A Very Pertinent Question

To buyers of upholstery this IS a pertinent question; and it should call attention to a very important fact about upholstery material.

We all know that whole hides are too thick for upholstery purposes. The under, fleshy, spongy portion must be split away from the grain side to make the latter thin enough for use.

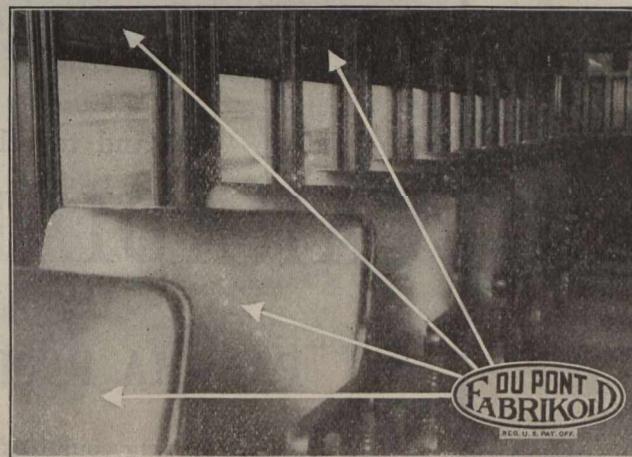
Now, the question is, why should the two or three sheets in which this wastage is split be called leather? The splits are artificially coated and embossed to look like natural grain leather. When it is new it often has the appearance of the genuine article—but as for wear and durability, it is an inferior substitute.



is an upholstery material of the leather type. It does not pretend to be natural grain leather as do the coated splits. FABRIKOID is marketed solely on its real merits—appearance, strength, wear and sanitary features.

FABRIKOID is guaranteed **superior** to coated splits. Its base is a strong, closely-woven, cotton fabric; the coating and graining process is much the same as in the manufacture of splits—only the coating is much heavier.

The fabric base is a strong material that will not give nor stretch. That's why FABRIKOID doesn't crack and peel like ordinary leather. FABRIKOID is a superior product in every way—and it has all of the appearance of the finest grained leather.



A FABRIKOID product, coated on both sides, is made for car curtains. It is as ideal for that purpose as for upholstering.

Before specifying the finishings for those new cars, you should investigate DU PONT FABRIKOID. A comparison with the ordinary "genuine leather" upholstery material will be a veritable revelation—and maybe a disillusionment.

Let us prove to you that what we say about disillusionment.

Full information about it and a sample will be sent upon request

Du Pont Fabrikoid Company

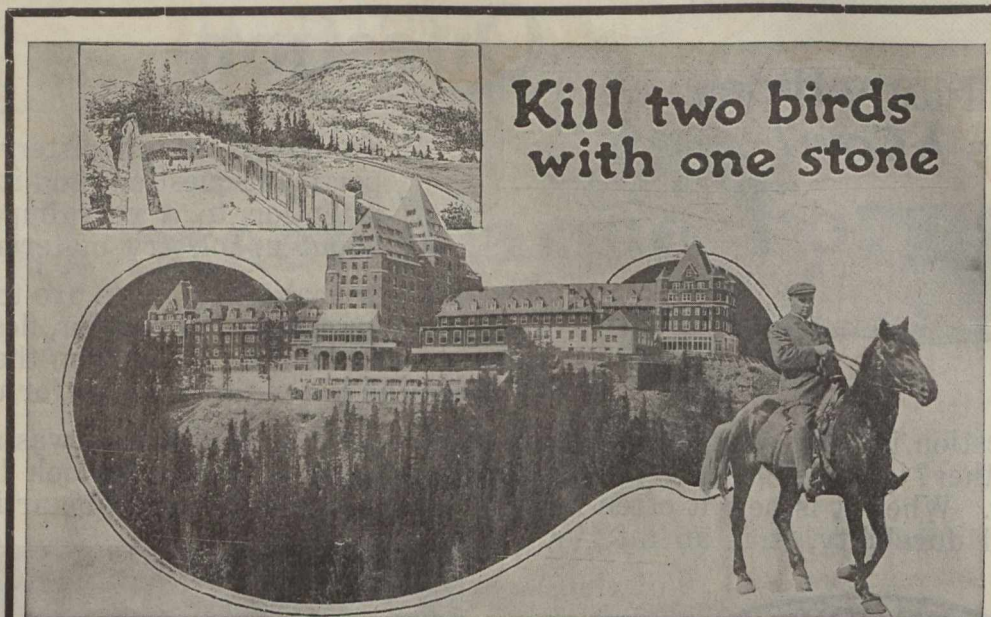
Du Pont Building, WILMINGTON, DELAWARE

Canadian Office and Factory, TORONTO, CANADA

WENDELL & MACDUFFIE CO.

R. R. Department Representatives

63 Broadway, New York, N. Y.



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.

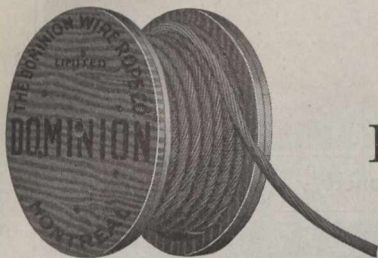
W. FULTON

Asst. Dist. Passenger Agent
Toronto.

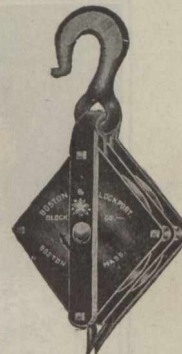
M. G. MURPHY

Dist. Passenger Agent
Toronto.

“DOMINION WIRE ROPE” PRODUCTS

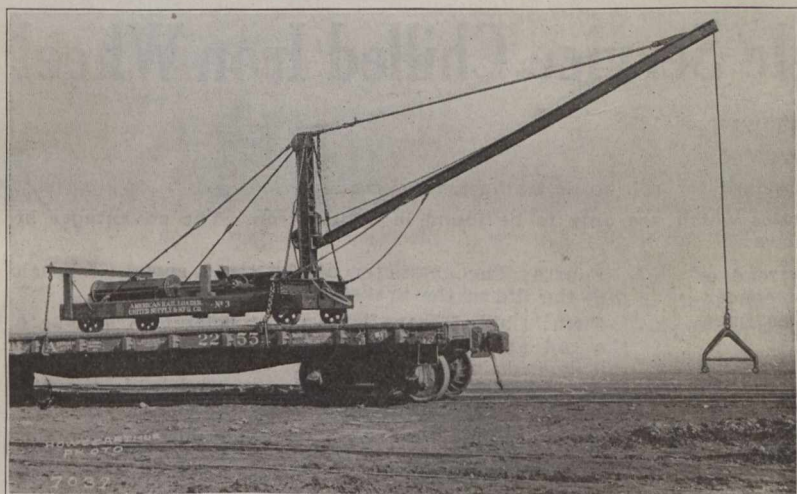


Minimize Your Troubles by Buying Our
BLOCKS, CLIPS, THIMBLES
and **WIRE ROPE**



We specialize in the manufacture of AMMUNITION BOX HANDLES

The DOMINION WIRE ROPE CO., LIMITED, MONTREAL



When In Need of a
Rail Loader

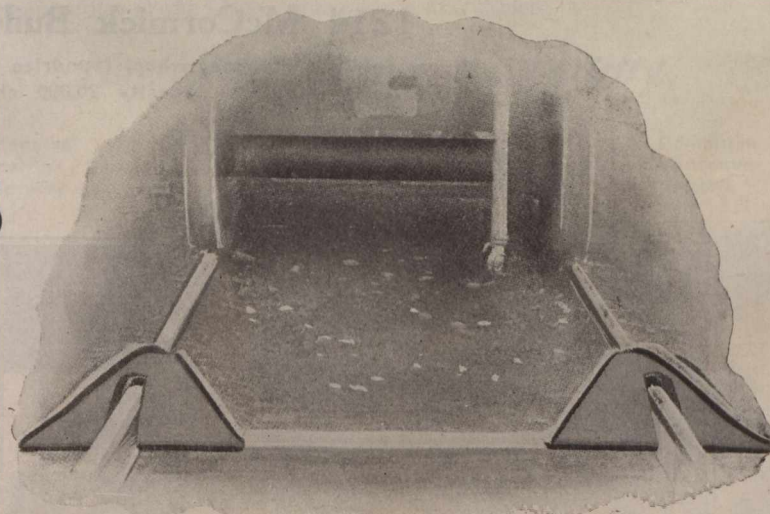
Let us quote you for one
which has been
adopted by

The Largest Canadian
and American Roads

Adapted for handling rails. Nothing cheap about it except price.
No skilled labor required. Cheaper to operate than a steam hoist.

“JOHNSON” WRECKING FROGS

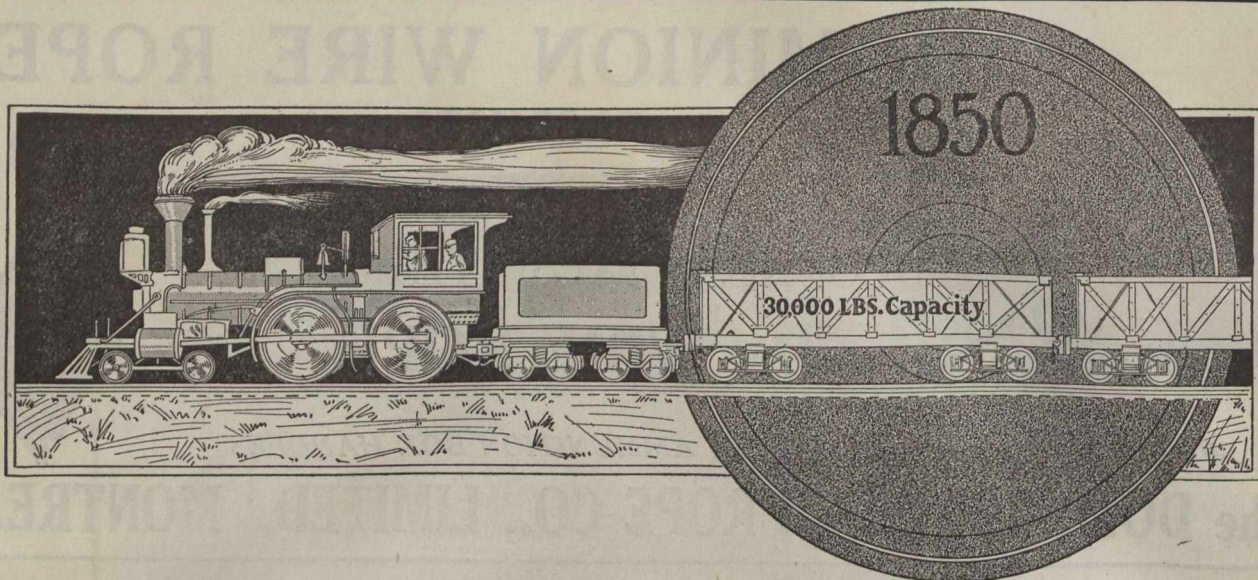
will replace wheels on both
sides of the rail at one setting.
Once placed in position will
not move or turn over.



BRANCHES
ST. CATHARINES, ONT.
1206 Union Trust Bldg., Winnipeg, Man.
VANCOUVER, B.C.

F. H. Hopkins & Co

HEAD OFFICE
MONTREAL



The Wonderful Single Service Chilled Iron Wheel

The Chilled Iron Wheel was Standard in the year of 1850.

The Chilled Iron Wheel is Standard To-day.

The Chilled Iron Wheel has been the Standard for rail borne traffic for 65 years.

This is because of certain inherent properties which are only to be found in chilled iron. The advantages of chilled iron wheels over other types are as follows:

First: The Chilled Iron Wheel has a hard tread or wearing surface which will carry the heaviest concentrated load without excessive deformation over irregular tracks at high speeds.

Second: Chilled Iron Wheels yield the maximum of service per unit of metal worn away.

Third: Chilled Iron Wheels have the greatest coefficient of friction when in contact with the brake shoe.

Fourth: The character of the tread surface is such that the life of the brake shoe is prolonged.

Fifth: Chilled Iron Wheels are least destructive to the rail and the intensity of internal stresses in the rail depend on the character of the metal in the wheel, which transmits the heavy concentrated loads through a small surface of metal.

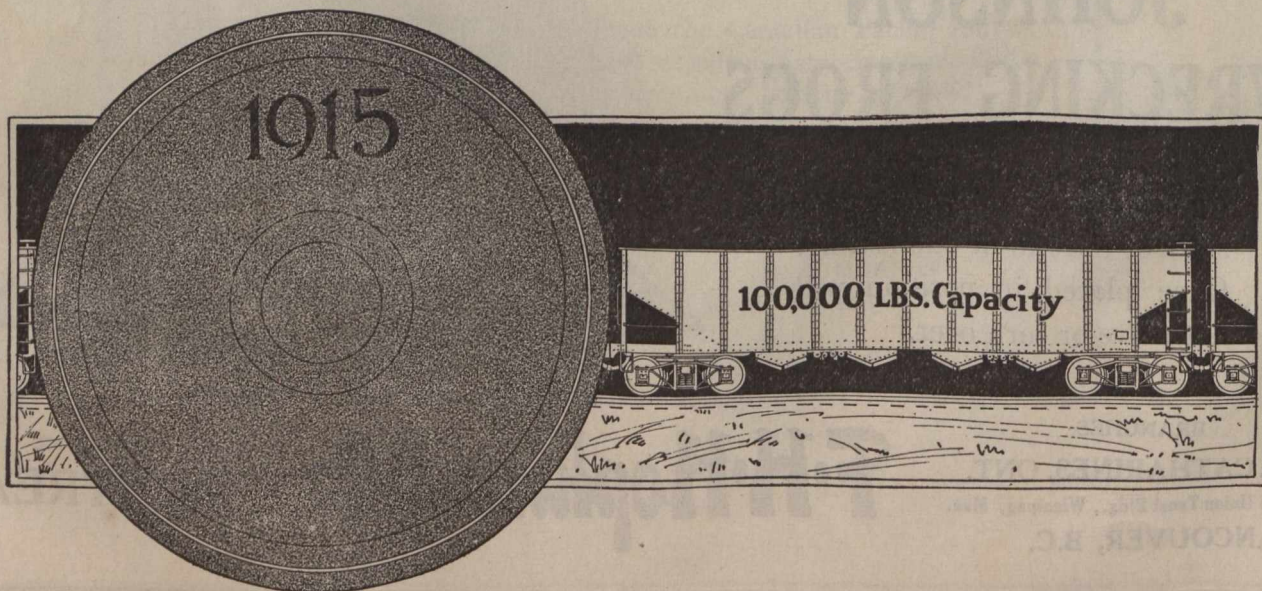
Sixth: Chilled Iron Wheels produce the least amount of rail abrasion.

THE WONDERFUL SINGLE SERVICE CHILLED IRON WHEEL—25,000,000 now running.

Association of Manufacturers of Chilled Car Wheels

1214 McCormick Building, Chicago

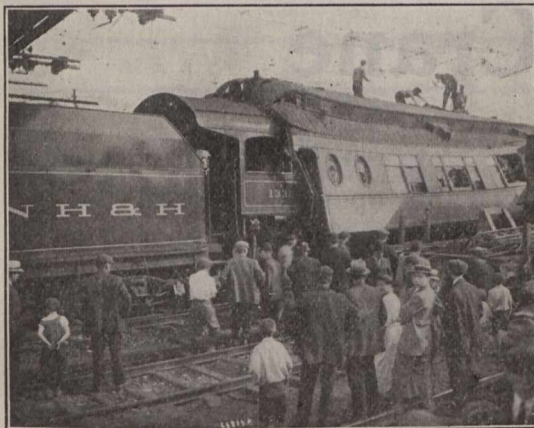
Representing forty-eight wheel foundries located through the United States and Canada. Capacity 20,000 chilled iron wheels per day.





Photograph copyright, International News Service.

WHY These Signal Failures ?



Photograph copyright by Brown & Dawson of Underwood & Underwood, New York.

When a signal fails to operate anything may happen. These photographs show what often does happen. But a signal failure is not always due to the signal—it may be in the wire, because that is the most vital part of any railway signalling system.

Northern Electric "R. S. A." Wire

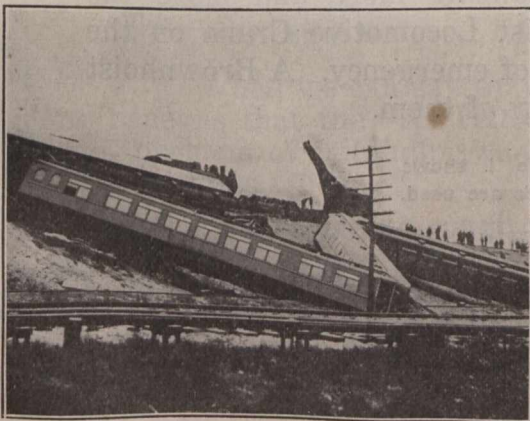
will meet every requirement. Its lasting qualities are the result of experience and skill acquired during many years' knowledge in the manufacture of the highest class wires and cables.

Northern Electric Company LIMITED

Montreal
Halifax
Toronto

Winnipeg
Regina
Calgary

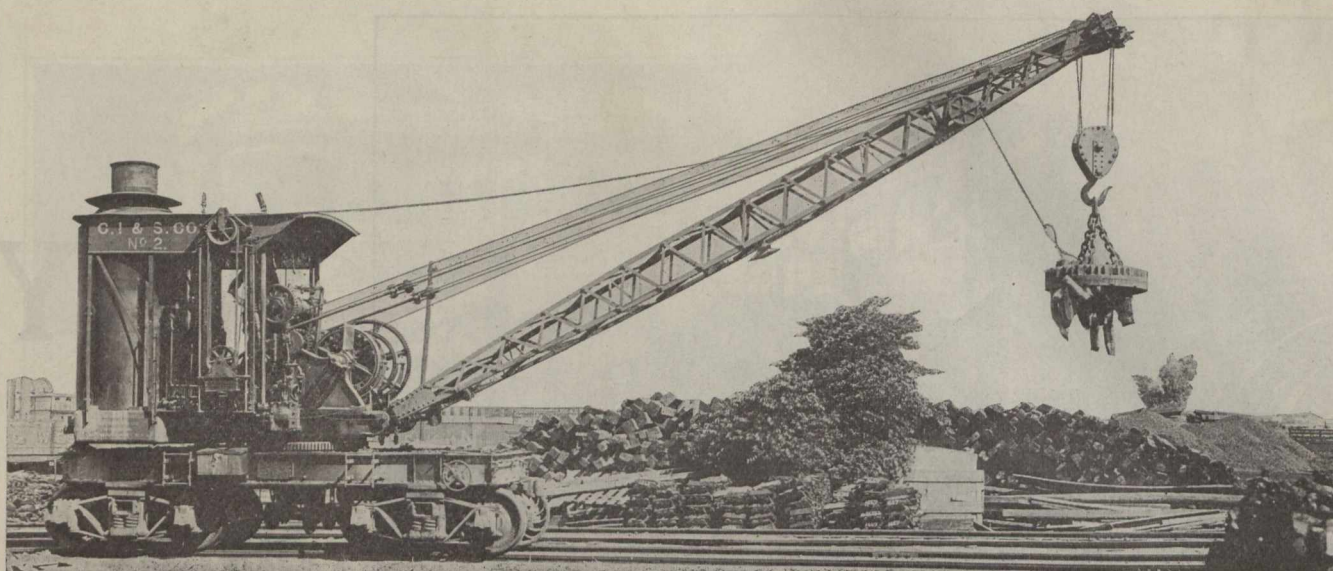
Edmonton
Vancouver
Victoria



Photograph copyright, International News Service.



Photograph copyright, International News Service.



Why employ 20 to 40 men to handle your material? A

BROWNHOIST Locomotive Crane

will do the same amount of work with a decided saving to you. Its cost, including 6% interest on investment, depreciation, and operating costs, is only \$6.00 to \$10.00 per day. It is one man operated, powerful, quick-acting, and built to withstand hard and continuous service. Records prove this.

ADAPTABILITY. The equipment is interchangeable. It only takes a short time to apply the Grab Bucket, Bottom Block, Drag-Line Bucket, Pile Driving Attachment, Lifting Magnet, or Shovel Equipment. This makes practically six machines in one.

RAILROADS all over the country are realizing more and more the advantage and economy of having a Brownhoist Locomotive Crane on the job, because it is always ready to work in case of emergency. A Brownhoist Crane can be relied upon. One road uses thirty of them.

INVESTIGATE TO-DAY. Catalogue I shows how and where some of these cranes are used.

THE BROWN HOISTING MACHINERY CO.
CLEVELAND, OHIO

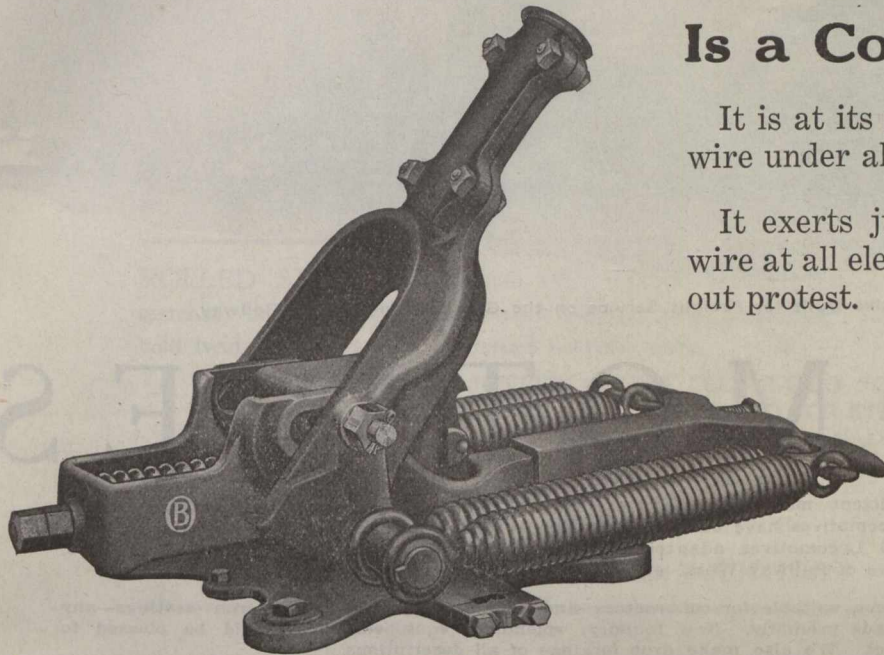
MONTREAL OFFICE, 145 St. James Street

The O-B Trolley Base

Is a Consistent Worker

It is at its job of keeping the wheel on the wire under all conditions.

It exerts just the needed pressure on the wire at all elevations and follows curves without protest.

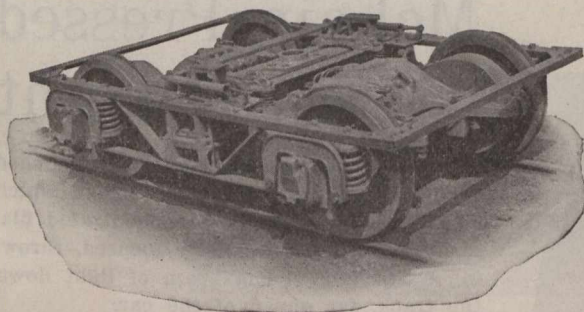


Another thing — O-B Bases are usually found on top of cars, instead of in repair shops.

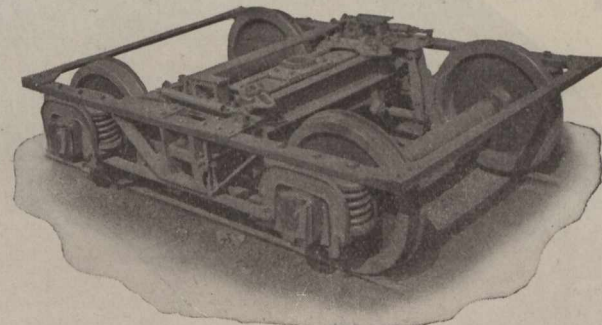
Page 508-512 give full details and listing. A free service demonstration will be made gladly.

THE OHIO BRASS COMPANY, Mansfield, Ohio, U.S.A.

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.

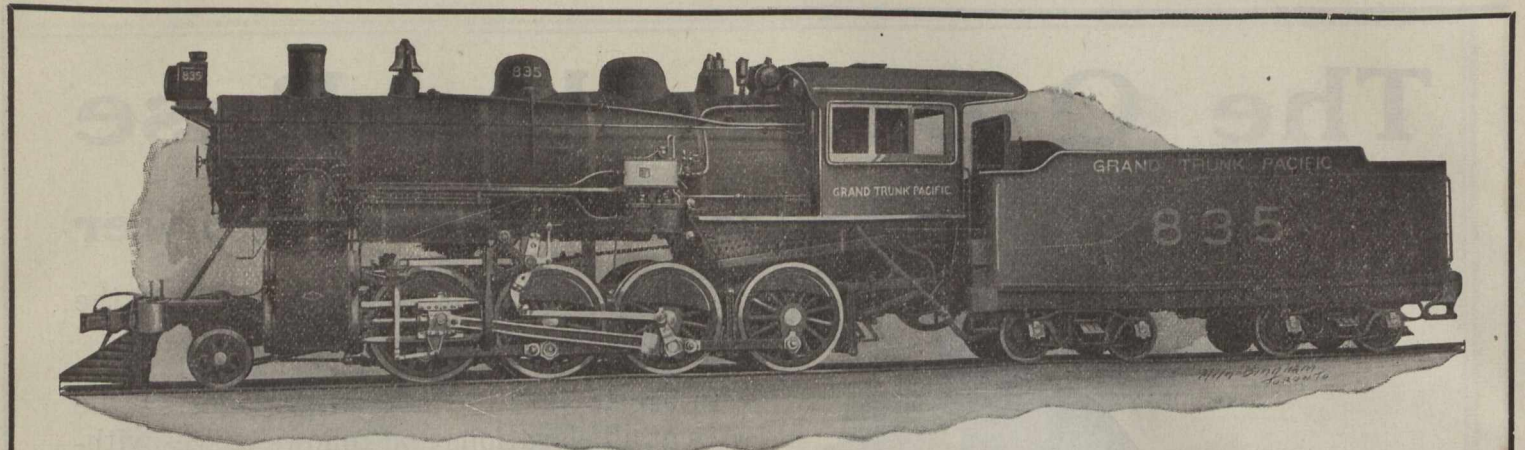
"There are no rough spots on the road that uses the "NATIONAL" Truck.

National Steel Car Company, Limited

Montreal Office
Shaughnessy Building

ADDRESS INQUIRIES TO HAMILTON

Works and Operating Offices
Hamilton, Ontario



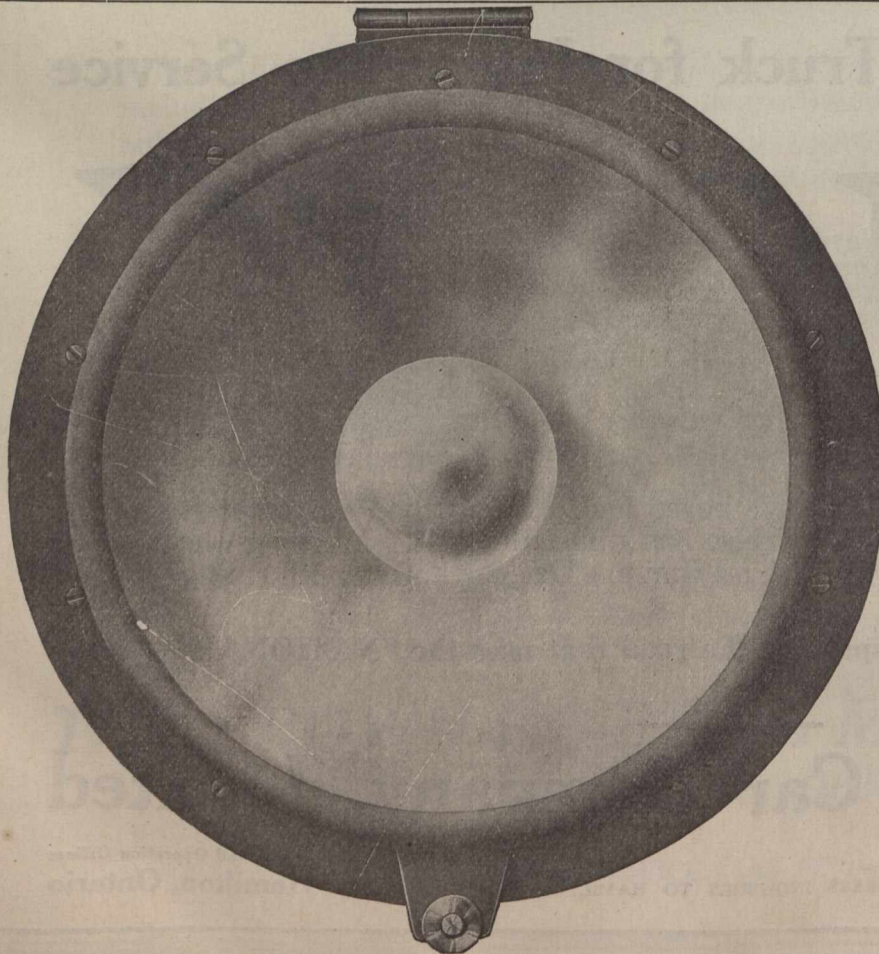
Consolidated Type Locomotive Built for Freight Service on the Grand Trunk Pacific Railway.

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



The No. 25 McLain Pressed Steel Headlight

is equipped with triple nickel-plated polished reflector of special parabolic design which centralizes the rays of a concentrated filament Mazda bulb perfectly focused, throwing a straight, strong beam of light down the track, far ahead of the car.

Extremely light—weighing three pounds less than any other Headlight.

No sacrifice has been made to attain this lightness of weight for the McLAIN No. 25 is as strong as any Headlight made, and has an illuminating power in excess of other Headlights employing an incandescent globe.

Has extended dash—Dust and waterproof.

Guaranteed to give good service.

Write for booklet and prices.

The Trolley Supply Co.
Canton, Ohio

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.

Collieries, Iron and Steel
Furnaces:
SYDNEY MINES, C. B.

Coal Shipping
Piers:
NORTH SYDNEY, C. B.

Finishing Mills, Forge, and
Engineering Shops:
NEW GLASGOW, N.S.

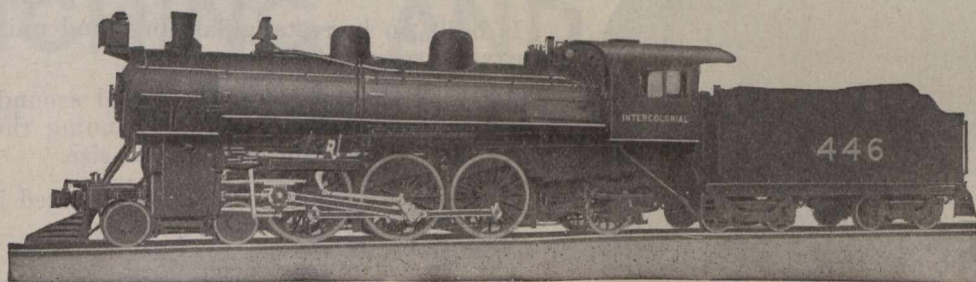
ENQUIRIES SOLICITED

Western Steel Sales Office
Room 14, Windsor Hotel,
Montreal, Que.

Western Coal Sales Office:
219, Board of Trade Bldg.,
Montreal, Que.

Head Office:
NEW GLASGOW, N.S.

Heavier Trains—Less Coal and Water Per Trip



PACIFIC TYPE LOCOMOTIVE — INTERCOLONIAL RAILWAY.

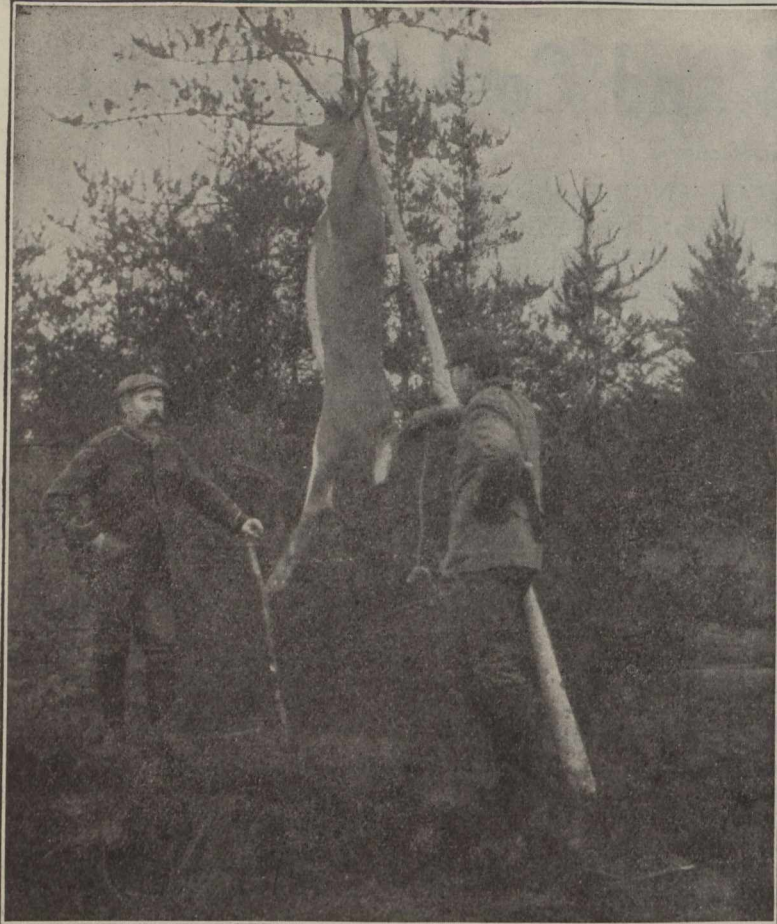
Total weight of engine, 243,500 pounds; weight on drivers, 154,000 pounds; diameter of drivers, 73 inches; boiler pressure, 180 pounds; cylinders, 23½ x 28 inches; maximum tractive power, 32,400 pounds.

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

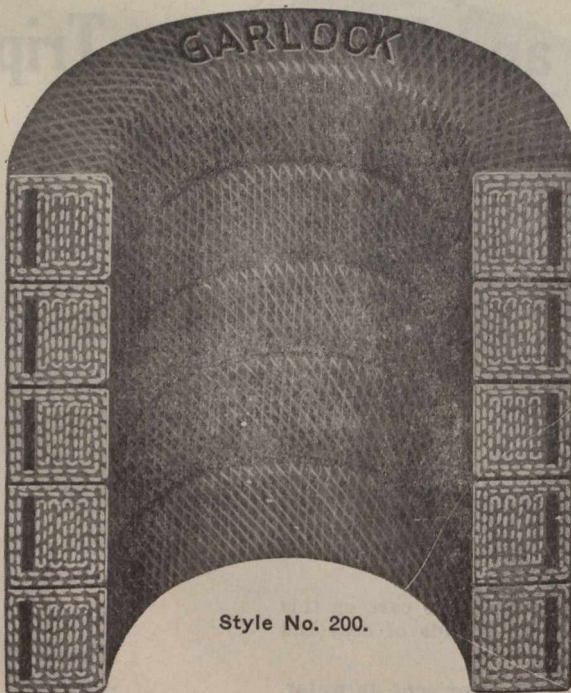


Good Hunting

on Canadian Northern Railway Lines for Moose and Deer

North of Quebec, in Central Ontario and North of Parry Sound. Also along the south shore of Nova Scotia.

Further particulars are obtainable in our booklet, "Where to Fish and Hunt," or from the General Passenger Departments, 68 King Street East, Toronto, Ontario; 226 St. James Street, Montreal, Quebec; and 123 Hollis Street, Halifax, N.S.



Garlock High Pressure Piston Rod Packing

Is built up in rectangular form and uniform shape and exact sizes are thereby obtained.

Asbestos packing, which is rolled around a rubber core and afterwards distorted by running through a square die, does not retain its shape or size.

The best materials we can buy are used in the manufacture of our high pressure packing.

The length of service obtained from it is greater than that secured from other makes, therefore the labor cost of applying and adjusting is less.

Our packings are sold at net weights; weights of tubes and boxes are not included.

Every pound of our high pressure packing carries with it the Garlock guarantee of satisfactory and economical service.

We will promptly replace or refund the cost of any of our packings which may prove unsatisfactory to our customers.

THE GARLOCK PACKING COMPANY

Hamilton, Ontario



Montreal, Quebec :
 Toronto, Ontario :
 Winnipeg, Manitoba :

Branches:

342 St. James St. East
 Continental Life Bldg.
 Galt Building



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.

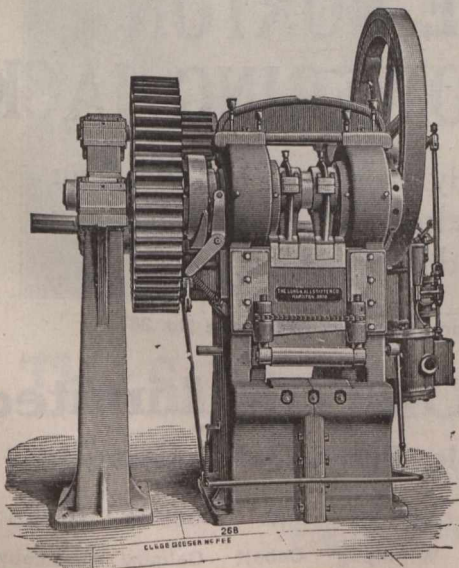
There is absolutely no wear to them, and we guarantee that they will not fade or be affected by the weather in any way.

We will be pleased to quote you prices on request.

Acton Burrows Limited

70 Bond Street, Toronto, Ont.

POWER PUNCHING AND SHEARING MACHINERY



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

Armature Disc Notching Machines

Tire Bending Rolls

Beam Coping Machines

Bending and Forming Machines

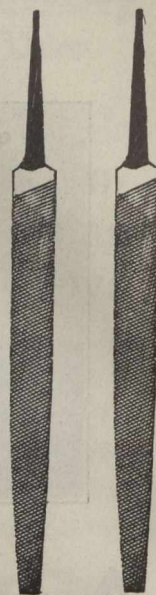
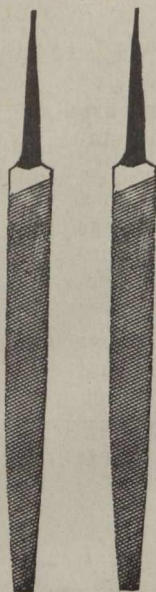
Write for Catalogue if interested. Correspondence invited.

Gate Shear—Steam-Driven

Efficient Files

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

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



MADE IN CANADA

For 50 years we've made files only. To-day we make sixty million each year. From raw steel to finished file we supervise every step. When any improvement is possible you'll find it first in the "Famous Five."

To cut filing cost—replace all half-worn files. At that point they lose efficiency. They require more time and more effort to remove less stock less accurately. You save money by using more files.

What you save in time, labor and money more than pays for the extra files.

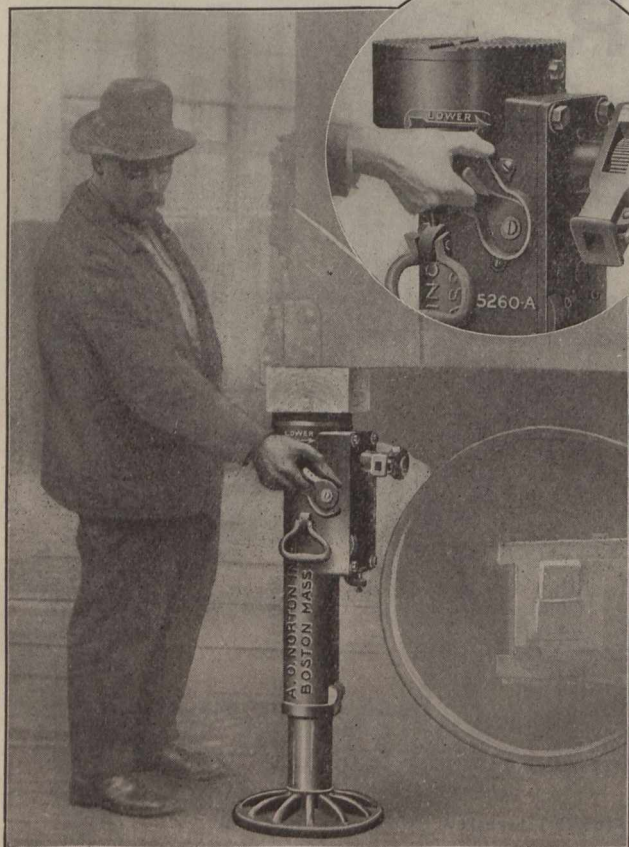
NICHOLSON FILE COMPANY

Port Hope

Dealers
Everywhere

Ontario

"File Filosofy"—the first and only hand-book on files. Send for your free copy now.



Don't Pump Your Jack Down

Lower the Load by "Pressing the Button"

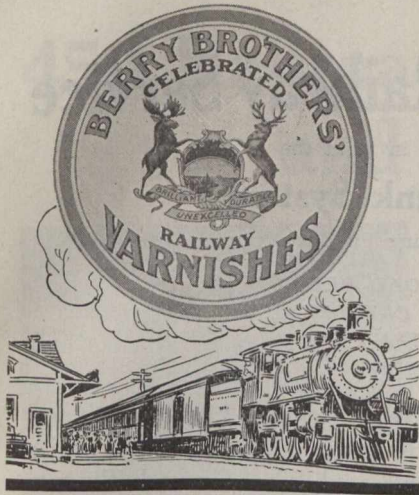
THE NORTON SELF LOWERING JACK

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

Send for Illustrated Catalogue No. 28

A. O. NORTON, Limited
Coaticook, Prov. Que., Canada

Stock Carried by Canadian Agents: **MUSSENS LIMITED**
Montreal Toronto Winnipeg Cobalt Calgary Vancouver



Appearance is an Outward Sign of Prosperity

A farm, with rich soil, may have nothing but unpainted, rambling looking buildings. It brings a small price. A farm with poorer soil may have new buildings and everything looking UP-TO-DATE and bring a higher price. Looks please or displese—create prejudice for or against.

BERRY BROTHERS' RAILWAY and MARINE VARNISHES supply a means of continuing good appearance.

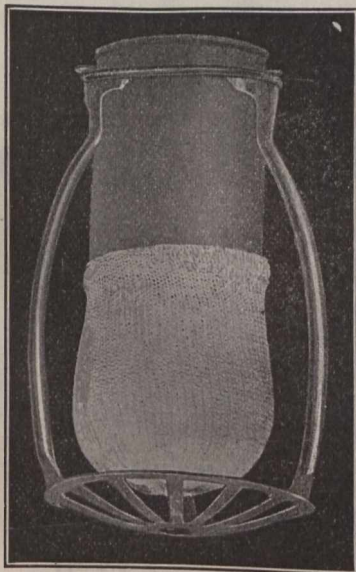
BERRY BROTHERS' VARNISHES have given over half a century's satisfaction to users. Their rich tone and wonderful wear resisting qualities have demonstrated their superiority wherever used.

Let us send you some interesting literature on varnish problems

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers

WALKERVILLE

ONTARIO



Pintsch Mantle Light

No other system of car lighting gives clean, safe and efficient light without intricate mechanism, subject to defects and failures. Pintsch Mantle Light is the only absolutely dependable method of lighting railway cars.

The Safety Car Heating and Lighting Company

2 RECTOR STREET, NEW YORK

718 TRANSPORTATION BUILDING, MONTREAL



GRAND TRUNK HOTELS

The Chateau Laurier, Ottawa, Ont.

Accommodation 350 Rooms. Rates
\$2.00 per day and upwards. Euro-
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G. T. BELL,
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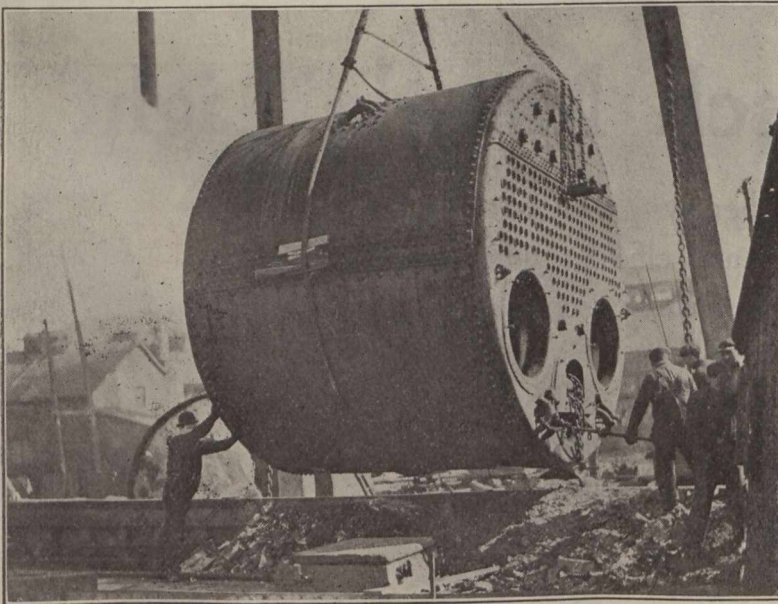
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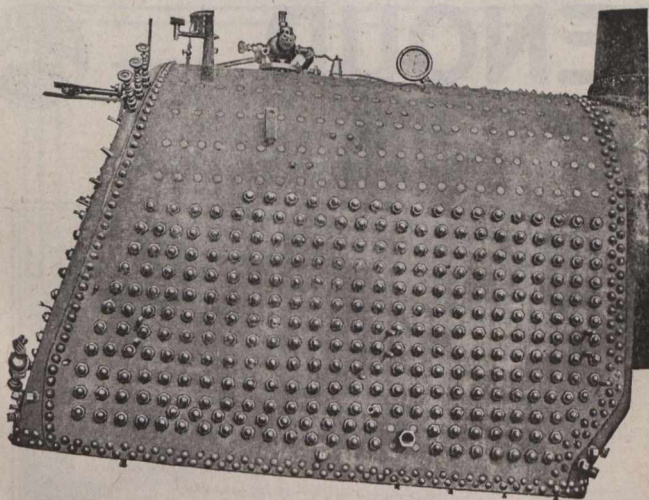
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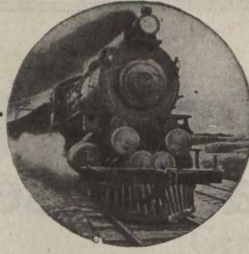
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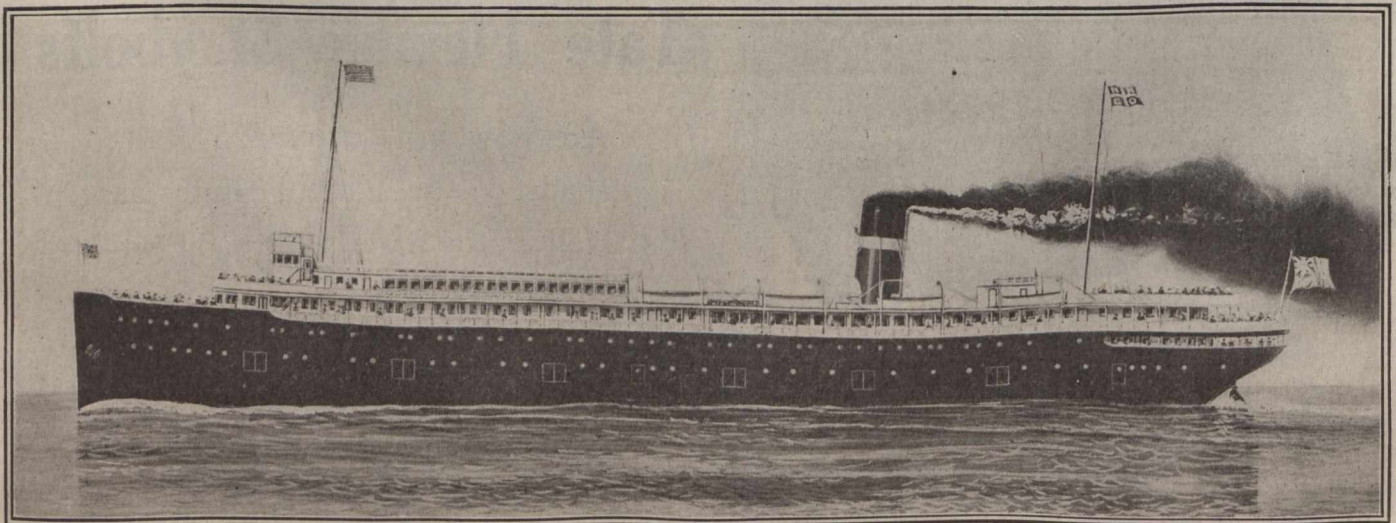
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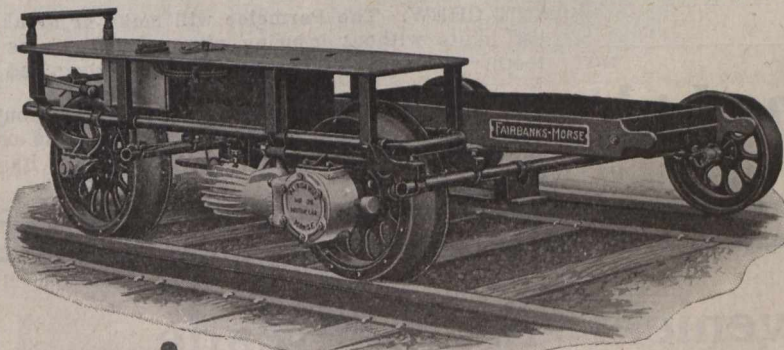
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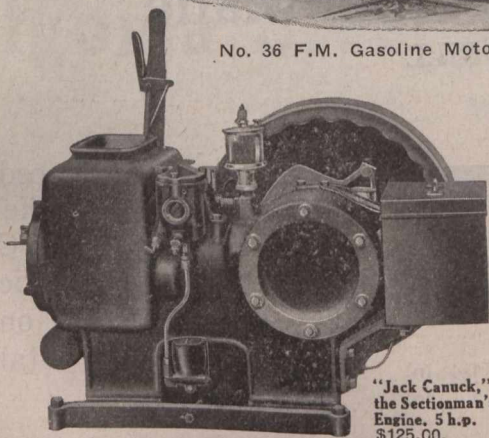
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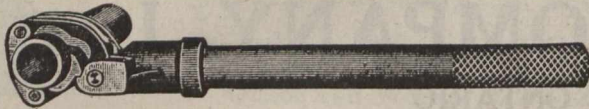
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PRICE LIST C

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10 in.	1	$\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 in.	\$5.00	\$2.25	$\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 in. \$.75
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POSITIVE GRIP instantly taken. Operates without lost motion in stroke of handle. Can be locked or released easily in any position on the pipe.

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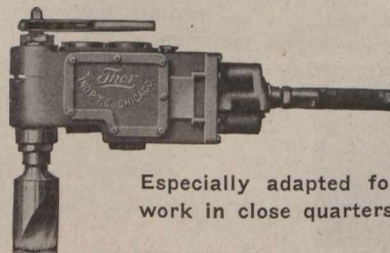
CAN'T CRUSH. The Parmelee will grip, without crushing pipe that has become weakened by long use or exposure and separate hopelessly rusted joints, saving its cost many times over.

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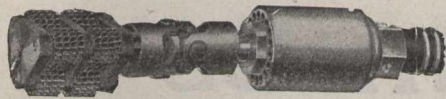
No. 8. For Drilling up to 1 $\frac{1}{4}$ in.
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The neat and compact construction, together with the design of the mechanical parts, makes it possible to drill holes in places where it would be absolutely impossible with an ordinary centre spindle drill.

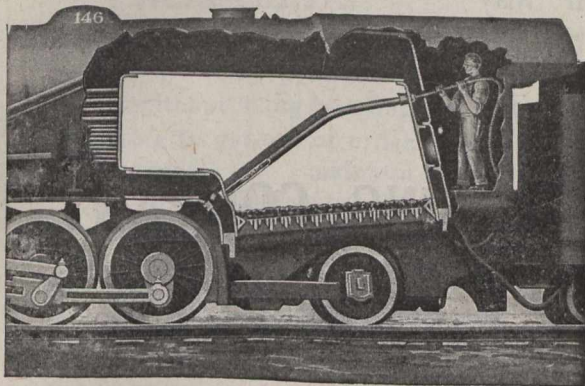
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Other Lagonda Boiler Room Specialties are described in our General Catalogue L-8. Send for Copy.

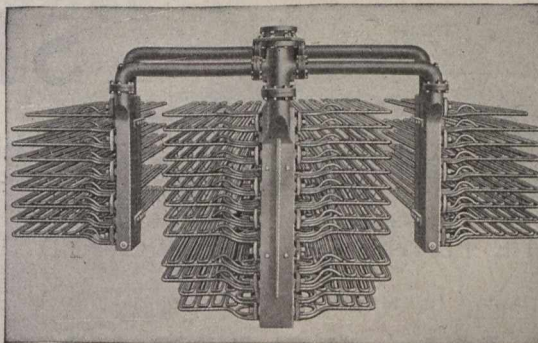
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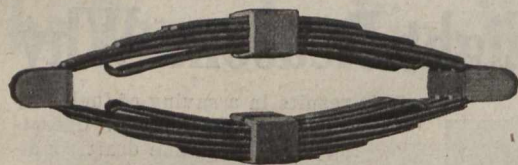
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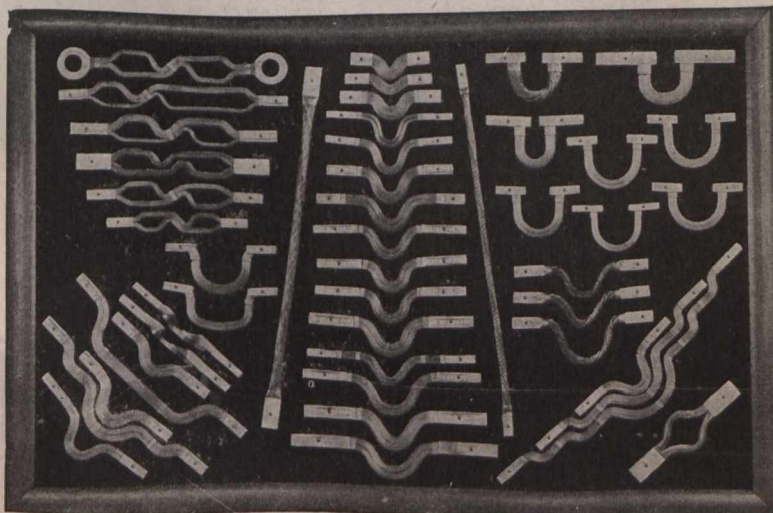
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Canadian Railway and Marine World

November, 1915.

Canadian Pacific Railway's Passenger Terminal Improvements at Winnipeg.

The C.P.R. has recently completed extensive improvements and additions to its passenger terminal and hotel at Winnipeg. The general waiting room and such station facilities as ticket office, parcel room, news stand, telephone office and restaurant have been enlarged and re-arranged; the tracks have been raised 6 ft., and a spacious midway, second class waiting room and baggage room have been provided underneath. A new steel and concrete viaduct over Main St., to carry the tracks at the higher elevation, and an addition to the Royal Alexandra

vide for the future extension of the station tracks to the north, without interfering with the established roadway grade and clearances of Main St. passing under the tracks at the west end of the station. The old station track facilities comprised three stub end and three main line tracks for passenger service, and in addition there were two tracks for main line freight service, paralleling the passenger tracks, or eight tracks in all. The main line freight service through the station has since been abandoned, and all except local freight is

service. Permanent platforms have been installed only on the sections where there is a steel substructure; temporary wooden platforms have been laid on the filled sections and will be replaced by permanent platforms later when the new fill has settled. The tracks and platforms over the undertrack rooms are supported by structural steel and concrete, over which there is a waterproofing mat, made up of five layers of asphalt saturated felt and burlap, with an overlay of asphalt mastic 1½ ins. thick, which serves as a protection to the



Passenger Tracks and Platforms, Canadian Pacific Railway Station, Winnipeg, Looking West.

Hotel, are also included. These improvements and additions have cost approximately \$2,500,000, and were made necessary by the rapid growth of Winnipeg and of all Western Canada, which so far exceeded the most sanguine expectations, that in 1912 the railway company found its Winnipeg terminal and hotel, completed in 1906, wholly inadequate to handle its increased business.

The object of raising the station tracks was three fold: first, to provide a midway under them and thus avoid the necessity of crossing the tracks at grade; second, to provide space for a baggage room, second class waiting room and other station facilities beneath the tracks; and third, to pro-

vide for the future extension of the station tracks to the north. The new station track layout provides four platforms, served by two stub end and six main line tracks, four of which tracks will each accommodate a 15 car train. Adjoining tracks are on 13 ft. centres, while the spacing between track centres, across platforms, is 26 ft.; the platforms are normally 15-13 ft. wide.

Although passengers and baggage must use the same platforms, little inconvenience is experienced. The passengers move toward the midway stairs, while all lengthwise shifting of baggage is done below on the baggage room floor level, to a point near the end of each platform, where a lift is located, eight lifts being provided for this

waterproofing under the tracks and as a wearing surface on the platforms. The passenger stairways to the midway under the tracks are 5 ft. wide and are enclosed with ornamental iron and glass kiosks. For the present, no other shelter will be provided over the platforms, but provision for shelter supports has been made in the platform structure, and foundations are provided on the filled sections.

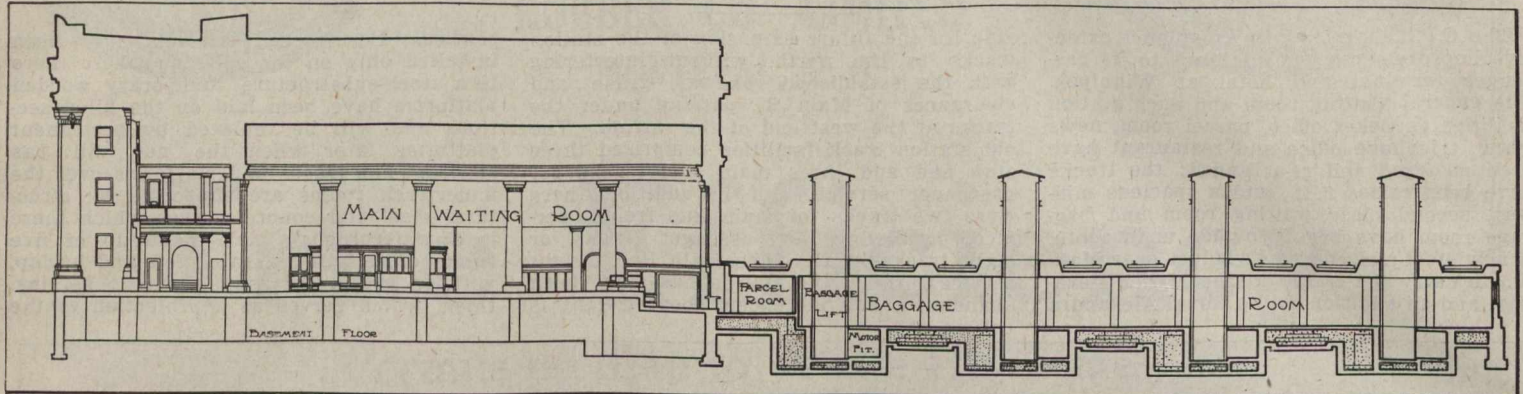
The new interior arrangement of the station is believed to be equal to the best in Canada, from the standpoint of the travelling public, as well as from an operating viewpoint, and combines safety and convenience. As a passenger enters the general waiting room from Higgins Ave., the

ticket office, having 10 ticket booths, is located on the east, or his right hand side, and he faces the baggage and parcel checking rooms and offices of Canadian and U.S. Customs, which are under the tracks between the waiting room and the baggage room. The waiting room in front of these facilities is depressed about 4 ft. to the level of the floor in these rooms and the midway; a broad stairway near the entrance

room of much congestion. Passengers who have secured their tickets in advance will find this a convenient entrance.

The old station restaurant and lunch room, located on the east side of the general waiting room, was abandoned to make room for the new ticket office, and is replaced by a new restaurant and lunch room, entered from the west side of the waiting room, and which occupies the space in

three 9 ft. doorways, equipped with sliding bronze doors, connect the waiting room with the midway under the tracks. Normally, outgoing passengers are held at this point until their train is ready. The midway, 48 ft. wide, extends under all four platforms and is finished with white glazed tile walls and white chip terrazzo floor. Two stairways are provided to each of the four platforms above.



Canadian Pacific Railway Station, Winnipeg. Section through main waiting room and baggage room.

to the midway, and three smaller stairways opposite the checking facilities, connect the two levels. On the Maple St. side a new entrance to the station has been provided, near the baggage room receiving platform, for the convenience of passengers bringing or taking away baggage in a conveyance with them.

A new street exit is located west of the

connecting office building which was formerly the baggage room. This new restaurant and lunch room has a U shaped counter with 57 stools, and tables are arranged along the outside wall. The new lunch room is operated in conjunction with the Royal Alexandra Hotel; the food is prepared in the hotel kitchen and delivered in bulk through a private passage way to a

A large second class waiting room is conveniently located on the west, or left hand side, of the midway. On this side are also rooms for Station Master, Dispatcher, conductors, trainmen, Advertising Agent, C.P.R. police, and the caretaker. Ventilation in these rooms is provided by motor driven supply and exhaust fans, with the necessary distributing ducts, and provides



Canadian Pacific Railway Hotel and Part of General Offices, Winnipeg, from the South.

broad stairway and directly in front of the midway. The sidewalk at this point is sheltered by a marquee 50 ft. long, overhanging the curb about 4 ft., permitting passengers to enter a conveyance in rainy weather without exposure. This exit also serves as an entrance for special excursion crowds, which are permitted to pass directly to the trains, purchasing their tickets at a portable ticket booth on the way, thus relieving the general waiting

room which adjoins the lunch room on the west end.

A corridor has been provided connecting the station with the Royal Alexandra Hotel. This corridor, from its entrance at the west side of the waiting room, ramps down through the connecting office building and continues level through the basement to the hotel elevators, and a new stairway to the hotel rotunda.

Directly opposite the new street exit,

a complete change of air in each room every 10 minutes.

The new baggage room, 160 x 130 ft., occupies the space on the east, between the midway and the Maple St. concourse. At the end adjoining the midway are rooms for bonded baggage, company mail service, lavatories and lockers; of these, the mail room only has access from the midway. At the east end of the station Maple St. has been depressed and extended under the

tracks to provide a wagon concourse for team delivery to the baggage room; a loading platform, 10 ft. wide and 3 ft. above the roadway, connects with the baggage room through eight doorways, each 8 ft. wide by 7½ ft. high, equipped with vertical bi-folding doors. Three baggage weighing scales are located just inside the room between doorways. The eight electric lifts, each with a capacity of 6,000 lbs., and a car 5 x 15 ft. handle the baggage and mail between the baggage room and the track level. Four of them are located in the rear of the baggage room and serve the easterly ends of the platforms above; the other four serve the westerly ends of the platforms, and are connected, by a trucking subway, with the baggage room. An unclaimed baggage room has been provided in the basement of the station, under the general waiting room, and a reversible wood apron conveyor handles baggage between it and the baggage room. This conveyor also carries packages of stationery between the baggage room and the company's general stationery stores, which adjoin the unclaimed baggage room. Outbound baggage is classified, as received, and arranged in groups on the south side of the baggage room; these groups are numbered to correspond with train numbers. The north side of the room is used for incoming baggage, which is classified in 10 groups, numbered 0 to 9, the next to the last figure in the check number determining the group. This arrangement of grouping incoming baggage facilitates locating pieces by check number, and in cases where one person checks more than one piece,

depression under the viaduct; the C.P.R. also furnished the fill to raise the street grade. As a consideration, the city gave the company the privilege of placing two temporary freight tracks across Main St. and on Point Douglas Ave., an unused street, on condition that the railway company would remove them as soon as it had completed raising the permanent tracks. The new viaduct is of structural steel, with ornamental concrete covering, and the street level underneath has been raised 5½ ft., but in order to provide for probable future extension of the trackage, the grade on the approaches has not been changed.

As the station track facilities were already overtaxed, the work of raising the tracks had to be carried on without reducing the number of passenger tracks in service and in a way that would permit traffic to continue uninterrupted. This was accomplished by replacing the two freight tracks with the two previously mentioned temporary tracks, which were placed at the new high level, on a pile and timber trestle, on Point Douglas Ave., just north of the old tracks and connecting into them several hundred feet beyond the terminal area. The construction work was divided into six stages; each, except the last stage, comprising one track, the first and alternate stages including a platform. The removal of the two freight tracks made room for the first stage work, comprising the northerly track and platform, without disturbing any of the passenger tracks. The second stage work was commenced when the first stage was completed and its track put in service; the remaining stages

The addition to the Royal Alexandra Hotel was completed about a year ago and having already been described in a previous issue of Canadian Railway and Marine World, the following brief outline will suffice. It adjoins the old hotel on east and north sides, covering about 20,000 sq. ft. of ground. On the east side it has a frontage of 100 ft., facing south on Higgins Ave., and on the north, or track side, extending from the west wing of the old hotel to the west end of the connecting office building, a distance of 240 ft. The addition is of the same height as the old hotel, and provides 185 additional bedrooms, also a ball room 46 x 96 ft., a banquet room about the same size, a grill room 38 x 46 ft., and 11 private dining rooms. The old kitchen has been newly equipped and more than doubled in size by extending it into the addition. In order to have a rear entrance for the use of the hotel servants and for receiving hotel supplies, a new subway has been provided under the tracks, connecting Point Douglas Ave. with an entrance to the hotel basement; this subway has a 17 ft. driveway, with a 15 ft. sidewalk at the side, which also serves as a trucking way to the baggage lifts previously mentioned.

The work was designed and executed by Westinghouse, Church, Kerr & Co., engineers and constructors of New York and Montreal, in co-operation with and under the direction of J. G. Sullivan, Chief Engineer, and Frank Lee, Principal Assistant Engineer, Western Lines, Canadian Pacific Ry. Construction work on the addition to the hotel was started in June, 1913; and the track elevation work and



Canadian Pacific Railway Station and Part of General Offices, Winnipeg, from the South.

they will be found in one or, at most, two adjoining groups. More than 1,200,000 pieces of baggage are handled at this station in a year.

At the west end of the station area, the former eight tracks and platforms were carried over Main St. on a reinforced concrete arch viaduct of five spans. This structure was removed and replaced by the C.P.R. at an expense of over \$100,000, in order that the city might reduce the street

were carried on in the same order until the sixth, or final stage, when all three stub end tracks were abandoned and replaced by three new tracks. For handling passengers and baggage across the stage under construction, between the old and the new high level platforms, temporary ramps and stairways were provided, which were relocated and re-arranged as each new track was completed, and the work was carried on with scarcely any inconvenience to the public.

station improvements in Aug., 1913.

An illustration of the interior of the waiting room is given on pg. 416.

Employees of the Grand Trunk Motive Power Department, Point Charles, Montreal, sent a cheque, Oct. 7, for \$1,388.40 to the Canadian Overseas Red Cross Fund to provide comforts for men at the front, and a cheque for a smaller amount to the Christmas Gift Fund for Soldiers.

The Canadian Northern Railway's Use of Toronto Union Station.

Sir Henry L. Drayton, Chief Commissioner, Board of Railway Commissioners, gave the following judgment, Sept. 24, which was concurred in by Commissioners McLean and Goodeve:

The question of the facilities that the Grand Trunk Ry. must provide the Canadian Northern Ry. in Toronto union station has been several times before the Board. Apparently the underlying cause of the present difficulty, or at least the reason why the present issue was raised, is the non-pay-

An agreement was arrived at on Nov. 7, 1906, between the companies. Paragraph 5 of the memorandum which evidences it is as follows:

"5. The following is made as a temporary arrangement, viz.: The Canadian Northern Ontario to have the right to run its passenger trains to and from the union station, Toronto, on the Grand Trunk track from and to the said point of connection between the lines at the Canadian Northern Ontario freight yards under the usual terms relating to similar rights given by one company to another. For this right the Canadian Northern Ontario shall pay the Grand Trunk as follows, viz.: For use of tracks of

The memorandum also makes the provisions of the Winnipeg agreement between the Canadian Northern and the Grand Trunk Pacific Railway Companies relative to liability in case of accidents and damages, applicable to the Toronto situation.

A joint application was subsequently made by the Grand Trunk and Canadian Pacific requiring the Board to settle the amount of money to be paid by the Canadian Northern and other terms and conditions. The Board's judgment on this appli-



General Waiting Room, Canadian Pacific Railway Station, Winnipeg.

ment of and disputes as to rendered accounts.

The rights of the Canadian Northern appear in the first instance to have been secured by order 356, Feb. 23, 1905, paragraph 6 being as follows:

"That the applicant company make provision in the present union station for the passenger trains and traffic of the James Bay Ry. Co. as soon as the said company requires the use thereof, and until the proposed new union station hereby authorized is completed and ready for use, which provision and accommodation shall be paid for by the James Bay Ry. Co. on such terms as may be agreed upon between it and the applicant company; and, in case the interested companies cannot agree on the amount to be paid, or on other terms and conditions, the points in dispute shall be settled by order of the Board."

Grand Trunk for said temporary arrangement the charge shall be \$1 for each baggage, mail, express coach and sleeping car entering the union station, and the same amount for each such car departing from the station, and subject to the consent of the Canadian Pacific there shall be another charge of \$1 for each such car to cover the use and service of the station, the total charge to the Canadian Northern Ontario being \$2 per each such car to cover use of tracks and use and service of said station, each way on cars arriving and departing from station."

"6. The payments above mentioned shall cover all charges against the Canadian Northern Ontario under this temporary arrangement, including share of maintenance, operating expenses, station use, including switchmen, ticket agent, and other employees, rental, and for such payments the Canadian Northern Ontario shall be entitled to all proper services and accommodation."

cation, delivered June 1, 1909, refused the application, which was to increase the payments to be made by the Canadian Northern; and directed that the agreement of Nov. 7, 1906, should govern. The Board did not pass upon the issue one way or the other as to whether the prices fixed by the agreement were just; but, recognizing that the whole arrangement was merely of a temporary character, determined to continue it until such time as the union station was completed. The judgment was carried into effect by order 7199, which provides that the Canadian Northern shall continue to pay the Grand Trunk for the use of the present union station and yards, the amount

agreed upon between these companies under the agreement of Nov. 7, 1906.

No further application was made to the Board until March, 1915, when the Canadian Northern complained that the Grand Trunk had notified it that on and after March 26 it would not take care of the Canadian Northern equipment and locomotives arriving on passenger trains at the union station. The Board thereupon made an ex parte direction that the services and facilities extended to the Canadian Northern at the union station and yards in the past should be continued until after a hearing, which took place in Toronto March 30, 1915. At this hearing, the claims advanced by the Grand Trunk were that the Canadian Northern had not paid a bill since March or April of 1907. On the other hand, the Canadian Northern claimed that the Grand Trunk Pacific had not paid the Canadian Northern a cent of rental at Edmonton since Nov. 22, 1909. Mr. Fritch (Assistant to President and now also General Manager, Eastern Lines, Canadian Northern) stated that as a railway, the Canadian Northern did not owe the Grand Trunk as much as the Grand Trunk owed the Canadian Northern. He also said: "We are willing to pay their bills promptly as soon as accounts are rendered," and a direction was made at the hearing for a temporary continuance of the service, until such time as the Board's Chief Engineer and Chief Operating Officer could go into the whole question of the actual operation at the union station.

The Chief Operating officer on April 15 made his report as to the conditions, which was concurred in by the Chief Engineer. This report states that, after going into the matter carefully with the companies, he finds that the Grand Trunk makes no complaint as to the question of the service in the union station or in the movement of Canadian Northern trains between Don Jct. and the union station, and points out that as this is the case there is no question of a public service being affected; and, therefore, recommends that the case is one which the railway companies should settle between themselves. Copies of the report were sent to both companies, and on April 27 the Grand Trunk requested that the case should be set down for hearing on May 4, claiming that no overtures had been made by the Canadian Northern. The case was accordingly listed for hearing. On receipt of a letter from Mr. Fritch stating that his company was prepared to meet the Grand Trunk, with a view to adjusting the differences, the case was struck off the list.

No negotiations apparently took place between the companies, nor was anything done beyond the fact that both companies wrote to the Board complaining that each owed the other large sums of money; but, on Sept. 3, the matter was again brought to a head by the Grand Trunk refusing to supply the Canadian Northern with water for cleaning cars, or to permit the Canadian Northern to lay pipes on Grand Trunk property through which water could be brought for cleaning purposes; and the Canadian Northern asked for a direction that the water service be continued. The Board's direction to continue the service was given on Sept. 10, and the case set down for hearing on Sept. 14. At this hearing, Mr. Fritch stated that a meeting had taken place between the officials of the two companies and that statements were gone into, with the result that it was found that the indebtedness of the Canadian Northern to the Grand Trunk was \$1,364,912, and the indebtedness of the Grand Trunk to the Canadian Northern \$1,104,955, leaving a balance in favor of the Grand Trunk of \$259,957, subject to further reductions and adjustments arising out of the Edmonton

situation. Mr. Fritch further stated:

"A promise was made to the Grand Trunk people that shortly after Aug. 1 we would make them a substantial payment on account. Mr. Hanna, our Vice President, went west a few weeks ago and had just returned, and it is his purpose to carry out that promise. That is as far as the financial arrangement is concerned."

The report of the Chief Operating Officer was not challenged by the Grand Trunk, so that the Canadian Northern's right to run its trains along the front and into and out of the union station is not in question. On the other hand, it is confirmed by the arrangement which the Grand Trunk is now willing to enter into, as evidenced by the following telegram from Mr. Kelley (Vice President, G.T.R.) to Mr. Fritch:

"We will permit without trackage charge the movement of your passenger equipment made empty at union station, Toronto, to your proposed coach yard at Rosedale, and also movement of your empty passenger equipment from your proposed coach yard at Rosedale to the union station when destined for passenger trains leaving that station, this to continue as a temporary arrangement the same as your present use of the union station and subject to the same limitations."

This telegram was in reply to a telegram from Mr. Fritch to Mr. Kelley asking if free trackage would be given on deadhead equipment in and out of the union station.

It appeared to the Board that it would be very much cheaper for the Canadian Northern, and prevent the different street crossings and railway tracks being subjected to an unnecessary use, if all the work incidental to cleaning cars, coaling locomotives, and making up trains, was continued to be done by the Grand Trunk, under the verbal arrangement which it was stated that the companies had entered into. Although the position was taken by Mr. Chisholm, who appeared for the Grand Trunk, that the Board had never taken the position that it could order one company to supply another with coal or even water, a direction was made that the supply of water should be continued, on the payment by the Canadian Northern of \$10 a month for the service; and the Canadian Northern was asked to define exactly what work it would like the Grand Trunk to perform for it and at what prices; and at the same time give the Board information on the question of payments and what instalments on account would be furnished. Mr. Fritch has since supplied the Board with details of the service required, including a tariff at which the work should be done. This service includes, not only cleaning of cars of all kinds and trucks, but ice, water, lubricating and illuminating oil, waste, lamp wicks, lamp chimneys, supplies, and inspection and air brake testing. It also includes certain repairs to equipment. The communication, however, did not make any reference to the matter of payment of arrears, which are, although considerably less than originally claimed, substantial. Mr. Fritch, on being written to requiring that his company should submit a statement of what it proposed to do regarding the payments to the Grand Trunk, advised the Board that he was unable to state the exact date or amount that his company was able to pay, but that it was the intention to do everything possible in the near future to make a substantial payment on account of the union station yard indebtedness. Under these circumstances, it is impossible for the Board to do anything further in relief of the Canadian Northern. The result is that the Canadian Northern trains will continue to run into and out of the union station as heretofore, but that the services which the Grand Trunk has been giving the Canadian Northern apart from any order of the Board, such as the furnishing of water supplied for the cleaning of equipment, and repairs, will no longer continue. I regret the result, as the Grand Trunk would be able to do the work cheaper than the Canadian Northern

will be able to do it, but, in view of the Canadian Northern's neglect, or perhaps inability, to make the Grand Trunk at least a substantial payment on account of its indebtedness, I am of the opinion that it is impossible for the Board to add to any of the orders already made. A further result is that the deadhead equipment of the Canadian Northern will be moved from the union station to its own yards on the terms agreed to by Mr. Kelley in his telegram.

Suits Respecting the Building of the Great Northern Railway of Canada.

Judgment has been reserved by the Quebec Appeal Court in the action of Smith, Barry and McRae against John Hyde, liquidator of the Great Northern Construction Co. The plaintiffs built 88 miles of this line easterly from Hawkesbury, Ont., towards Joliette, Que., on which they claimed there was a balance of about \$200,000 due. In Nov., 1914, the courts awarded them \$63,886. Against this decision both parties appealed, and the Appeal Court after hearing arguments reserved judgment.

An action is before the Quebec Supreme Court, in which John Hyde, liquidator of the Great Northern Construction Co., is the plaintiff, and J.G.Scott is the defendant. This is a test case, several other actions of a similar character having been entered. The plaintiff company was formed in West Virginia, for the purpose of constructing a railway in extension of the old Laurentian Ry. from near Joliette, Que., to Hawkesbury, Ont. The contract was entered into with the Great Northern Ry. in May, 1899, and subsequently a contract was entered into by the construction company, by which Smith, Barry and McRae were to build the line. The construction company received cash, bonds and stock from the railway company, and after having paid considerable sums to the actual builders of the line, distributed the balance among its shareholders. The actual builders claimed further sums, and the construction company having no funds, went into liquidation. The liquidator claims that the shareholders of the construction company wrongfully received the railway company's bonds, and now seeks to recover them. The face value of the bonds in the case against J.G.Scott, is \$6,000.

The line in question now forms part of the Canadian Northern Ry. System.

Inspection of Grand Trunk track.—The officials of the G.T.R. maintenance, operation and construction departments began an inspection trip over the company's lines on Oct. 7, leaving Toronto by a special train having at its rear end an observation car fitted with electric indicators and other appliances for recording the decisions of the experts as they journeyed over the lines. This car was fully described and illustrated in Canadian Railway & Marine World for April 1915. H.R.Safford, Chief Engineer, was accompanied on the trip by M.S.Blaiklock, Engineer of Maintenance of Way, the general superintendents, superintendents of divisions, track supervisors, inspectors of bridges and buildings, signal engineer, supervisors of signal, track foremen, and others. Each division on the system was carefully scrutinised and a record kept of the results.

The busiest passenger station in England is said to be the Liverpool St. terminus of the Great Eastern Ry., in London. During the 24 hours there are over 1,400 passenger trains handled in and out; no less than 278 trains carrying over 75,000 passengers being handled inward, between 6 and 9.30 every morning.

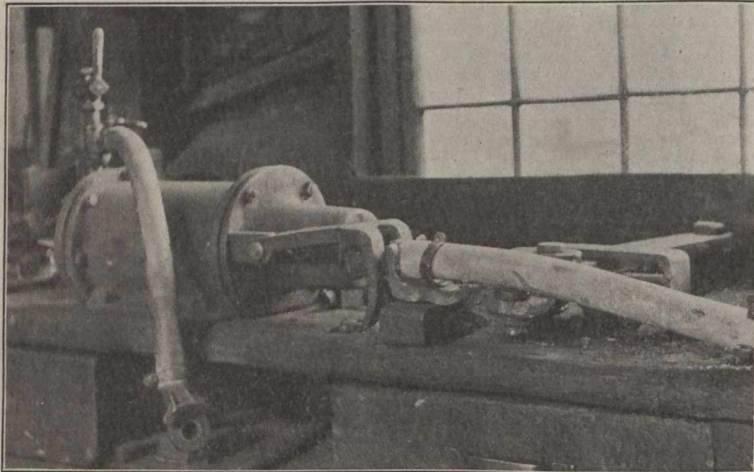
Railway Mechanical Methods and Devices.

Milling Shoes and Wedges in Grand Trunk Railway Shops at Stratford.

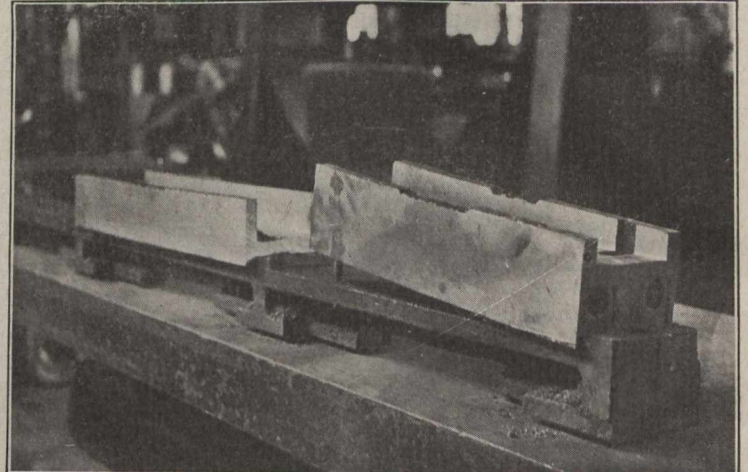
All the shoes and wedges made in the G.T.R. shops at Stratford, Ont., are manufactured on a horizontal milling machine, the jig shown in the accompanying illustration being used for both. The jig, it will be observed, is a double decked casting, the lower face planed and with a longitudinal

much superior to the older practice from the standpoint of tool renewal. The body is brass shell, cast with the central pin hole and roller cavities as cores. The body is turned on the outside, and the central core reamed out, but the roller cavities are left as cored, and as a perfect fit is not essential, they answer the purpose quite as satisfactorily as the usual type. Instead of the spring band around the outside, there is a cast band, with a 1-16 in. slot over each of

of vertical fingers, knife-edged on the inner face, into which the hose and coupling are depressed, with the knife edges entering the slight space between the hose end and coupling shoulder. Turning on the air forces the plunger out, stripping the hose from the coupling. The other coupling at the opposite end is handled in the same manner, only no auxiliary nut is required, as the shape of the coupling lends itself to gripping in behind the folding arm.



Removing Air Hose Couplings.



Jig for Milling Shoes and Wedges.

rib to fit in the miller table, and with bolt holes, while the upper face is also finished with cross ribs to act as stops for the shoes and wedges placed thereon. For the wedges there are three pairs of adjustable studs to raise the wedge end for the requisite taper. The practice is to first mill off the back of the shoes and wedges, then place in this jig, which will hold three, placing two jigs end for end to take a total of six. A combination cutter will then finish the three inside faces and four outside ones in one pass. This jig has been found to be a great

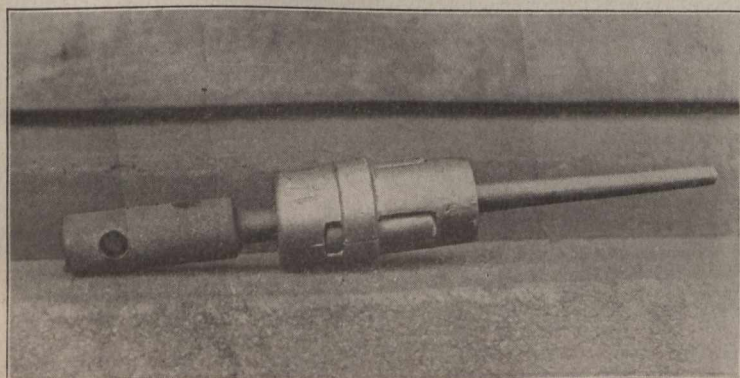
the rollers to clear the dirt, which maintains the rollers in position. The rollers are inserted in the tool from the inside in the usual manner.

Removing Air Hose Couplings in Michigan Central Rd. Shops, St. Thomas.

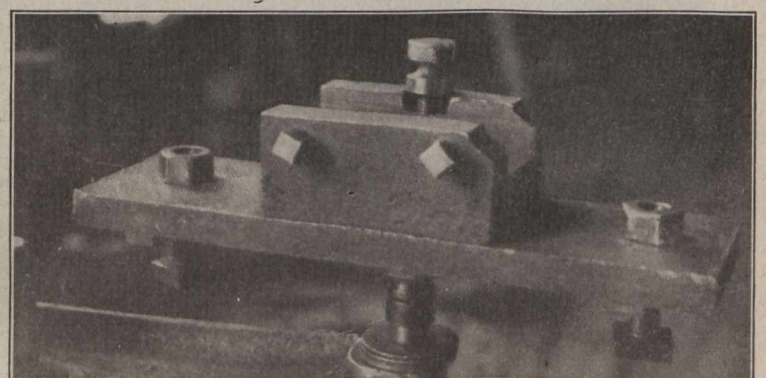
There is in use in the M.C.R. car shops at St. Thomas, Ont., a handy air operated machine for removing the couplings of air

Milling Valve Strips in the Grand Trunk Railway Shops at Stratford.

A jig for holding valve strips while having the cross slots for mortising at the corners, and which is of simple design, is in use in the G.T.R. shops at Stratford, Ont., and is illustrated herewith. From the very nature of their lightness and small section they do not offer themselves to rapid handling on the machine, requiring under ordinary conditions to be set up separately for



Tube Expander With a Cast Brass Body.



Jig for Holding Valve Strips for Mating Slots.

time saver, as well as making possible rapid production of interchangeable shoes and wedges.

Tube Expander in Pere Marquette Railroad Shops at St. Thomas.

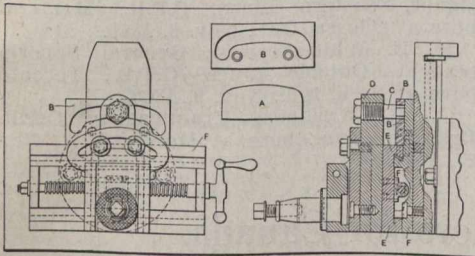
The conventional tube expander, consisting of a shell containing 3 rollers with central tapered pin is in almost universal use for fitting tubes into the tube sheets. It is usually made from a solid body, cut from bar stock, with the three roller cavities drilled and reamed out. The P.M.R. shops at St. Thomas, Ont., have a wrinkle that is

hose when the latter require replacement, and which is shown in the accompanying illustration. The power for the machine is obtained from an old air cylinder, mounted on a work bench, adjoining the machine for mounting air hose couplings, which was described in Canadian Railway and Marine World two years ago. On the threaded coupling of the hose, a nut is loosely screwed on, which fits in behind the hinged arm attached to the cylinder head on the left side of the cylinder as shown. The plunger is attached through a head to a fulcrum arm, pivoted at the rear of the table, the free end of which has an arm with a pair

each piece, and correctly aligned. This jig overcomes many of these difficulties of rapid production. It consists of a forged base for attaching to the milling machine table, cross keys on the under face fitting the table slots. On this base is the strip vise, consisting of a channeled section, in which the strip is set, and secured in place horizontally by two set screws, and vertically by the flange screw in the rear, the flange of which bears on the side of the strip, holding down in place. The milling cutter passes over the strip at the right end, which is shown bevelled in conformity to the cutter.

Radius Attachment for the Shaper.

The accompanying illustration shows a radius attachment fastened to a shaper head, and the same attachment can be used on a planer. It was designed for use in cutting the required profile on the work A,



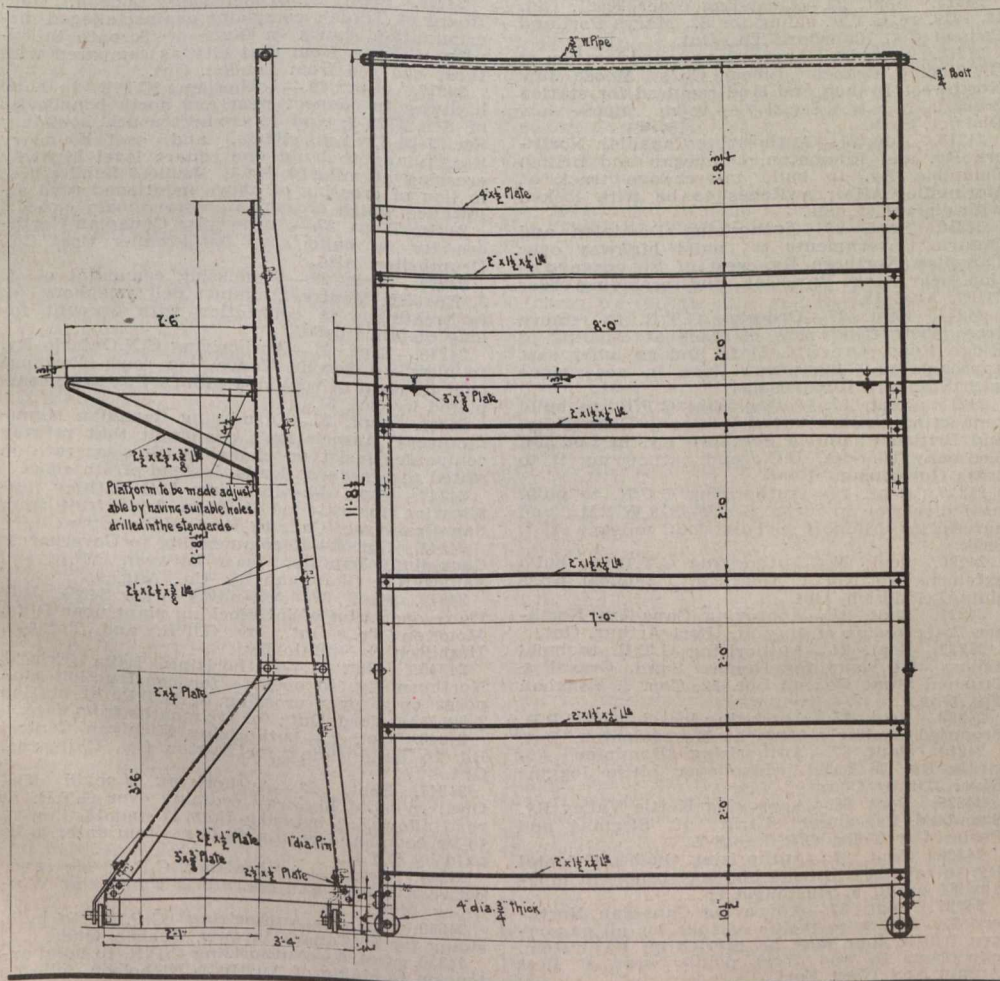
Radius Attachment for Use on Shaper.

which is made of tool steel and 1/2 in. thick. A number of these pieces are set up in the vise and the tool is guided by the master form B. A hardened bushing carried on the stud C runs in this form, the stud on which the bushing is carried being screwed

Portable Shop Scaffold in Canadian Northern Railway Shops.

The Canadian Northern Ry. has developed a standard portable shop scaffold in its mechanical department, which is illustrated herewith. A large number of shops have scaffolding of various kinds attached to the shop columns or to posts specially provided for that purpose. This type of scaffolding is portable, and is readily moved from place to place on its own wheels.

The vertical frame at each end consists of two 2 1/2 x 2 1/2 x 3/8 in. angles, fastened together near the top, and braced midway, with a longer cross brace at the bottom, giving a back to back distance at that point of 40 ins. At the base of each upright there is a 4 in. wheel, 3/4 in. thick. Between the back uprights there are cross members of 2 x 1 1/2 x 1/4 in. angles, at 24 in. centres, which serve as steps to the platform on the opposite side. This latter is of 1 3/4 in. planking, supported on a knee braced piece of 2 1/2 x 2 1/2 x 3/8 in. angle from the front vertical member.



Portable Shop Scaffolding Made of Structural Shapes.

into the slide D which carries the tool. A master form of any shape could be used on the same attachment to machine similar work of various shapes. The slide D works freely in the slide E, which is moved along the small crosshead by means of a screw, as shown in the illustration. The whole attachment can be secured to the shaper by merely tightening three screws.—P. Siebold, in Machinery, New York.

The Latest Feature in the English Railway field is the introduction of third class Pullman cars between London and Brighton, and London and Eastbourne.

Ontario Railway and Municipal Board.

The ninth annual report for the year ended Dec. 31, 1914, which has been issued recently shows that 618 formal applications were made during the year, upon which orders were made. Of these orders 61 affected street railway interests, the more important being dealt with in Canadian Railway and Marine World at the time they were made.

The C.P.R. is erecting a kiosk on the station platform at Moose Jaw, Sask., in which samples of western products will be exhibited. A press report states that similar kiosks will be built at Calgary, Vancouver and other points.

Birthdays of Transportation Men in November.

Many happy returns of the day to—

F. W. Alexander, A.M. Can. Soc. C.E., Division Engineer, Alberta Division, C.P.R., Calgary, born at Fredericton Jct., N.B., Nov. 22, 1878.

J. O. Apps, General Baggage Agent, C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.

A. B. Atwater, Assistant to President, lines west of Detroit and St. Clair Rivers, G.T.R., Detroit, Mich., born at Sheffield, Ohio, Nov., 1845.

H. E. Beasley, General Superintendent, Esquimalt and Nanaimo Ry., Victoria, B.C., born at Hamilton, Ont., Nov. 10, 1862.

O. H. Becker, District Freight Agent, C.P.R., Portland, Ore., born in Norfolk County, Ont., Nov. 19, 1873.

G. B. Burchell, General Manager, Colonial Coal Co., North Sydney, N.S., born at Sydney, N.S., Nov. 1, 1877.

J. R. Cameron, Assistant General Manager, Canadian Northern Ry., Winnipeg, born at Truro, N.S., Nov. 5, 1865.

L. D. Chetham, City Passenger Agent, C.P.R., and District Passenger Agent, Esquimalt and Nanaimo Ry., Victoria, born at Matlock, Eng., Nov. 5, 1869.

F. H. Clendenning, Division Freight Agent, B.C. Coast Service and Ocean Steamship Lines, C.P.R., Vancouver, B.C., born at Montreal, Nov. 9, 1881.

F. Conway, City Freight and Passenger Agent, C.P.R., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

A. S. Cook, Inspecting Engineer, National Transcontinental Ry., Ottawa, born at Penobscus, N.B., Nov. 20, 1873.

W. L. Crighton, Advertising Agent, Canadian Government Railways, Moncton, N.B., born at Derby, Eng., Nov. 9, 1871.

A. C. Douglas, acting Assistant General Purchasing Agent, C.P.R., Montreal, born at Montreal, Nov. 10, 1881.

W. Downie, ex-General Superintendent, Atlantic Division, C.P.R., now of Whitby, Ont., born at Rock Currie, Ireland, Nov. 12, 1850.

Jos. Dubrulle, jr., Manager, Canadian Pacific Car and Passenger Transfer Co., and President, Prescott and Ogdensburg Ferry Co., Ltd., Prescott, Ont., born at Spencer-ville, Ont., Nov. 14, 1872.

R. L. Fairbairn, General Passenger Agent, Canadian Northern Ry., Toronto, born at Stillwater, Minn., Nov. 24, 1880.

W. A. Fitch, Assistant Superintendent, District 3, Intercolonial Ry., Moncton, N.B., born at Kentville, N.S., Nov. 25, 1867.

P. J. Flynn, Superintendent, Districts 2 and 3, Central Division, Canadian Northern Ry., Winnipeg, born at Fishers, N.Y., Nov. 22, 1872.

J. E. Gibault, A.M. Can. Soc. C.E., Resident Engineer, District 2, National Transcontinental Ry., Cochrane, Ont., born at St. Jerome, Terrebonne County, Que., Nov. 16, 1887.

Grant Hall, Vice President and General Manager, Western Lines, C.P.R., Winnipeg, born at Montreal, Nov. 27, 1863.

John L. Hodgson, General Car Foreman, National Transcontinental Ry., Transcona, Man., born at Simcoe, Ont., Nov. 15, 1858.

N. B. Jones, Car Foreman, C.P.R., Kenora, Ont., born at St. John, N.B., Nov. 9, 1869.

W. E. Ladley, Superintendent of Motive Power, Reid Newfoundland Co., St. John's, Nfld., born at Leeds, Eng., Nov., 1875.

C. E. Legg, General Agent, Winnipeg, C.P.R., Fort William, Ont., born in Illinois, Nov. 15, 1864.

F. T. Leversuch, Traffic Manager, London and Port Stanley Ry., London, Ont., born at Shrewsbury, England, Nov. 24, 1884.

J. McGillivray, Receiver and Manager, Inverness Ry. and Coal Co., Inverness, N.S., born at Nairn, Scotland, Nov. 13, 1867.

J. McMillan, Manager of Telegraphs, C.P.R., Montreal, born at Liverpool, Eng., Nov. 2, 1866.

A.B. McNaughton, General Yardmaster, Ottawa Terminals, G.T.R., Ottawa, Ont., born at Arnprior, Ont., Nov. 10, 1877.

A. S. Munro, Commercial Agent, G.T.R., London, Ont., born at Hamilton, Ont., Nov. 10, 1880.

C. Murphy, General Superintendent, Manitoba Division, C.P.R., Winnipeg, born at Prescott, Ont., Nov. 20, 1865.

A. C. O'Neil, Travelling Freight Agent, G.T.R., London, Ont., born at Point Edward, Ont., Nov. 30, 1866.

W. J. Quinlan, District Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Montreal, Nov. 21, 1883.

F. E. Rutland, Agent, C.P.R. Stockyards, Winnipeg, born in Essex, England, Nov. 17, 1868.

H. P. Sharpe, General Agent, Dominion Express Co., Toronto, born at Brockville, Ont., Nov. 24, 1864.

G. H. Shaw, General Traffic Manager, Canadian Northern Ry., Toronto, born at Smiths Falls, Ont., Nov. 25, 1859.

J. G. Sutherland, Car Service Agent, Alberta Division, C.P.R., Calgary, born at Aulac, N.B., Nov. 24, 1882.

L. C. Thomson, General Storekeeper, Eastern Lines, Canadian Northern Ry., Toronto, born at Kingston, Ont., Nov. 25, 1882.

H. P. Timmerman, Industrial Commissioner, Eastern Lines, C.P.R., Montreal, born at Odessa, Ont., Nov. 6, 1856.

H. E. Whittenberger, General Superintendent, Ontario Lines, G.T.R., Toronto, born at Peru, Ind., Nov. 9, 1869.

C. G. Washbon, Trainmaster, C.P.R., Brandon, Man., born at Morris, N.Y., Nov. 27, 1887.

Orders by the 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.

24191. Sept. 17.—Ordering C.P.R. to give up possession of land necessary to enable G.T. Pacific Ry. to build interchange track with C.P.R. near Globe elevator, Calgary, Alta.

24192. Sept. 20.—Authorizing St. John Ry. to cross St. John Bridge & Ry. Extension Co.'s tracks on Douglas Ave., St. John, N.B.; crossing to be protected by half interlocking plant.

24193. Sept. 21.—Authorizing Delburne Village, Alta., to build highway, between n.e. and n.w. $\frac{1}{4}$ Sec. 21-37-23, w. 4 m., across G.T. Pacific Ry. Tofield-Calgary Branch.

24194. Sept. 21.—Approving Boston & Maine Rd. bylaw Sept. 7, re tariffs of tolls; and rescinding order 14244, July 18, 1911.

24195. Sept. 22.—Approving C.N. Ontario Ry. proposed passenger and freight stations at North Bay.

24196. Sept. 20.—Authorizing Saskatchewan Highway Commissioners on behalf of Canadian Northern Ry. to build highway crossing over station grounds at Turtleford, to be paid by C.N.R.

24197. Sept. 21.—Approving Oshawa Ry. bylaw Sept. 13, re tariffs of tolls.

24198. Sept. 13.—Ordering C.P.R. to build passenger shelter station at Hatzic, B.C., consisting of waiting room not less than 12 x 15 ft.; and office for agent; to maintain agent there during June, July, August and September each year, and during remainder of year to keep waiting room clean, heated and lighted, for passengers.

24199. Sept. 20.—Providing for cost of building Canadian Northern Ry. Birds Hill line across power transmission line and patrol road of City of Winnipeg.

24200. Sept. 20.—Approving Canadian Northern Ry. Standard Mileage Tariff C.R.C. no. W862, cancelling C.R.C. no. W793.

24201. 24202. Sept. 21, 20.—Approving London & Port Stanley Ry. plan R.C.15-56, and authorizing it to build siding to McClary's under Bell Telephone Co.'s wires; and also to cross London St. Ry. and its overhead structure at South St., London, Ont.

24203. Sept. 21.—Authorizing C.P.R. to open for traffic its Coronation Northwest Branch, mileage 0 to 18.6, Alta., speed of trains limited to 15 miles an hour over first 12 miles, and 10 miles an hour over the remainder.

24204. Sept. 21.—Authorizing C.P.R. to build spur for Graves Bigwood Co., at mileage 52.6, Sudbury Subdivision, Ont.

24205. Sept. 21.—Approving Thousand Island Ry. bylaw Sept. 13, re tariffs of tolls.

24206. Sept. 22.—Amending order 23968, July 14, re farm crossing over G.T.R. on Lot 15, Broken Front Concession, Tilbury North Tp., Ont.

24207. Sept. 22.—Authorizing Kettle Valley Ry. to open for traffic its line from mileage 31, west of Coquihalla Summit to mileage 39.53 at connection with C.P.R. near Hope, B.C.; and rescinding order 24133, August 30.

24208. Sept. 22.—Ordering C.P.R. to fence its right of way from mileage 32.5 to 32.7, Kingston Subdivision, at Folger, Ont.; and rescinding order 17667, Oct. 4, 1912.

24209. Sept. 23.—Authorizing London & Port Stanley Ry. to take Lot 1 on south side of Philip St., and Lot 1 on north side of Trafalgar St., London, Ont., for railway purposes.

24210. Sept. 22.—Extending to Oct. 15, time within which G.T.R. shall complete siding and freight shed at Ratho, Ont.

24211. Sept. 23.—Authorizing Kettle Valley

Ry. to cross C.N. Pacific Ry. at Hope, B.C., for construction purposes only, until Nov. 30, the trains to be flagged over crossing by flagman appointed by C.N.P.R. at expense of K.V.R.

24212. Sept. 24.—Approving Edmonton, Dunvegan & British Columbia Ry. revised location through Tps. 77 and 78, R. 23 and 24, w. 5 m., Alta., between mileage 286.34 and 297.24.

24213. Sept. 22.—Amending order 20621, Oct. 18, 1913, re G.T.R. siding for St. Marys Portland Cement Co., Blanshard Tp., Ont.

24214. Sept. 23.—Approving revised location of G.T. Pacific Branch Lines Co.'s Moose Jaw Northwest Branch and land required for station grounds in s.w. $\frac{1}{4}$ Sec. 21-21-4, w. 3 m., Moose Jaw District, Sask.

24215. Aug. 21.—Authorizing Canadian Northern Ry. and Edmonton, Dunvegan and British Columbia Ry. to build interchange track at Morinville, Alta.; switches to be wire locked with distant signals.

24216. Sept. 23.—Authorizing Dominion and Ontario Governments to build highway over Canadian Northern Ry. west of Beauceage station, near North Bay, Ont., and rescinding order 24109, Aug. 19.

24217. Sept. 25.—Ordering G.T.R. to remove trees obstructing view of track at crossing of Ridge Road, Oro Tp., Ont., and to build east approach on Concession Road in accordance with Standard Regulations.

24218. Sept. 27.—Authorizing C.P.R. to build connecting track between Kootenay Central Ry. and British Columbia Southern Ry. in Lot 324, Kootenay District, B.C.; and authorizing it to cross Government Road.

24219. Sept. 27.—Authorizing C.P.R. to build road diversion in n.e. $\frac{1}{4}$ Sec. 28-19-3, W. 2 M.; and across its Neudorf Subdivision, mileage 95.1, Sask.

24220. Sept. 24.—Authorizing G.T.R. to build extension to North American Chemical Co.'s siding, Goderich, Ont.

24221. Sept. 27.—Approving Canadian Northern Ry. crossing of May St., Port Arthur, Ont.

24222. Sept. 27.—Authorizing G.T.R. to build siding with spur for Empire Sand, Gravel & Crushed Stone Co., on Lot 22, Con. 3, Vaughan Tp., Ont.

24223. Sept. 27.—Approving location of C.P.R. proposed shelter station at Moredolphton, Ont.

24224. Sept. 27.—Authorizing Dominion Atlantic Ry. to build bridge over Little Joggins River, Digby County, N.S.

24225. Sept. 28.—Approving Kettle Valley Ry. Standard Passenger Tariff of Sleeping and Parlor Car Tolls, C.R.C. no. S-2.

24226. Sept. 27.—Authorizing Quebec Oriental Ry. to rebuild overhead highway bridge at mileage 64 on R. 5, Richmond Tp.

24227. Sept. 27.—Approving Canadian Northern Ry. bylaw re tariffs of tolls for all passenger traffic that may be carried on its system, excepting to and from points west of Port Arthur and West Fort.

24228. Sept. 27.—Ordering Canadian Northern Ry. to build farm crossing at station 268-50, on s.w. $\frac{1}{4}$ Sec. 25-53-8, w. 5 m., at mileage 75 west of Edmonton, Alta.

24229. Sept. 28.—Amending order 24175, Sept. 15, re C.P.R. extension to siding for Cataract Jct. Sand & Gravel Co., Cataract Jct., Ont.

24230. Sept. 28.—Amending order 24203, Sept. 21, re opening for traffic of C.P.R. Coronation Northwest Branch, Alberta.

24231. Sept. 28.—Authorizing C.P.R. to build sidings for Canadian Explosives, Ltd., at Nobel, Ont.

24232. Sept. 28.—Authorizing C.P.R. to build sidings for Aetna Chemical Co. of Canada, Ltd., at Drummondville, Que.

24233. Sept. 28.—Ordering C.P.R. to install hand operated gates, known as "jackknife" style, at crossing of Talbot Ave., Winnipeg; to be operated by day and night watchmen; cost of installation and maintenance to be paid by City of Winnipeg.

24234. Sept. 28.—Amending order 24168, Sept. 3, re G.T. Pacific Ry. road diversion in Saskatchewan.

24235. Sept. 28.—Ordering London & Port Stanley Ry. within 60 days to install improved type of automatic bell at first crossing north of Port Stanley, Ont., 20% of cost to be paid out railway grade crossing fund.

24236. Sept. 27.—Dismissing London, Ont., Board of Trade's complaint against alleged discrimination shown in favor of Toronto in express charges from that city as compared with those charged from London, Ont.

24237. Sept. 29.—Authorizing C.P.R. to build highway to connect west and north boundaries of Sec. 21-20-7, and to connect south boundary Sec. 29-20-7, w. 2 m., Sask., and east boundary Sec. 29; and to build one square level highway crossing at mileage 122.1, Neudorf Subdivision, in lieu of crossing of above mentioned road allowance which crossings are to remain closed.

24238. Sept. 27.—Authorizing Canadian Northern Ry. to build spur for Premier Coal Co., Drumheller, Alta.

24239. Sept. 29.—Dismissing complaint of N. J. Epstein, Montreal, against Bell Telephone Co. re treatment in connection with account for long distance calls.

24240. Sept. 28.—Authorizing C.N. Ontario Ry. to open up Second Concession road allowance over its right of way in Goulburn Tp., to be completed by Oct. 31.

24241. Sept. 27.—Dismissing Canadian Manufacturers' Association's complaint that railway companies insist on charging 4th class rate on salted meats, in carloads, instead of 5th class.

24242. Sept. 30.—Refusing D.G. Mathias' application for rate of \$1.10 on dried fruit from San Francisco, Cal., to Fort William, Ont.

24243. Oct. 1.—Recommending to Governor in Council for sanction, lease between C.P.R. and Shuswap & Okanagan Ry. Co., Aug. 9.

24244. Sept. 30.—Amending order 24031, July 19, re operation of interlocking plant near Diltz, Moncton Tp., Ont., by G.T.R. and Toronto, Hamilton & Buffalo Ry.

24245. Oct. 1.—Authorizing Lake Erie & Northern Ry. to operate for construction purposes only, over crossing of G.T.R. at station 7-23, Brantford, Ont., for six months from date.

24246. Oct. 1.—Authorizing Michigan Central Rd. to build siding for Norton Co., Chippewa, Ont.

24247. Sept. 23.—Authorizing Lochill Tp., Ont., to build highway crossing over G.T.R. at road allowance between Lots 17 and 18, Con. 2, to be completed within 60 days from date, to be paid by G.T.R.

24248. Oct. 1.—Authorizing C.P.R. clearance between tracks and operator's window at Winnipeg, Man.

24249. Oct. 1.—Authorizing C.P.R. to build siding for F. Canac-Marquis, Quebec, Que.

24250. Oct. 1.—Authorizing C.P.R. to build extension to siding of Austin & Nicholson, mileage 24.1, White River Subdivision, Ont.

24251. Sept. 28.—Ordering C.P.R., G.T.R., and C.N. Ontario Ry. to prohibit whistling by those in charge of any locomotive operating within Toronto city limits; whistling to be allowed only where deemed necessary by those in charge, as a danger signal; any person offending against this regulation to be liable to penalty of \$10 for each offence, and rescinding order 24062, Aug. 3.

24252. Sept. 29.—Amending order 24206, Sept. 22, re farm crossing over G.T.R. on Lot 15, Broken Front Concession, Tilbury North Tp., Ont.

24253. Oct. 1.—Relieving G.T. Pacific Branch Lines Co. from erecting fences, gates and cattle-guards on certain portions of its Biggar-Calgary Branch, mileage 0 to 104, Sask.

24254. Oct. 2.—Approving Canadian Northern Ry. Standard Passenger Tariff, C.R.C. no. W-1283, showing rate of 3c a mile, Edmonton to and including Tollerton, Alta., and 4c a mile west of Tollerton, to and including Vancouver, B.C.

24255. Sept. 30.—Ordering Halifax & South Western Ry. to replace board along tops of posts, or string new wire in lieu of board on fence along right of way from Lower Argyle, to Argyle, N.S., mileage 223.9 to 229.3, to be completed by Nov. 30.

24256. Sept. 28.—Authorizing C.N.Ontario Ry. to cross Timiskaming & Northern Ontario Ry. at North Bay, Ont.; C.N.O.R., under supervision of T.&N.O.R. engineer, to insert diamonds in T. & N.O.R. tracks; crossing to be protected by interlocking plant; derails and home and distant signals to be placed on both lines on each side of crossing; derails to be interlocked with signals; normal position of signals to be at danger.

24257. Sept. 30.—Amending order 23864, June 15, re watchman at Erie & Ontario Ry. (T.H.& B.R.) and M.C.R. crossing at Attercliffe, Ont.

24258. Oct. 2.—Authorizing residents of Fallis, Alta., to build highway over G.T.Pacific Ry., 200 ft. east of Main St.

24259. Sept. 30.—Authorizing Canadian Northern Ry. to remove regular agent at Laframboise station, Ont., station to be kept clean and heated for passenger accommodation.

24260. Oct. 4.—Authorizing Canadian Northern, Alberta Ry. to open for traffic its line from St. Albert to summit of Yellowhead Pass, 251 miles.

24261. Oct. 4.—Authorizing Canadian Northern Ontario Ry. to build spur for National Explosives, Ltd., and to cross side road between Lots 30 and 31, Con. A. Tyendinaga Tp.

24262. Oct. 4.—Authorizing Bank of British North America, Hamilton, Ont., to pay to G.T. R. \$2,526.40, and balance of \$5,000 deposited to the Board's credit, viz., \$2,473.60, together with accrued interest, to Hamilton and Toronto Sewer Pipe Co.

24263. Sept. 30.—Ordering G.T.Pacific Ry. to fence ballast pit, in Souris River valley, on its Regina-Boundary Branch, by Oct. 31.

24264. 24265. Oct. 4.—Authorizing Lake Erie Northern Ry. to build, at grade, across Machanic, and across Leonard Streets, Waterford, Ont.

24266. Oct. 4.—Amending order 24030, July 28, re operation of interlocking plant by Toronto, Hamilton & Buffalo Ry. and G.T.R., at Dunnville, Ont.

24267. Oct. 4.—Authorizing Village of Rock Island, Que., to build highway crossing over Boston and Maine Rd., and to open public highway from Morel and Tilton Sts., making a 40-ft. roadway.

24268. Oct. 4.—Approving plan and specifications by Southwold Tp., Ont., of Braddon drain under Lake Erie & Detroit River Ry., (P.M.R.) between Talbot Road and its north branch.

24269. Oct. 4.—Authorizing Three Rivers TrACTION Co., (Shawinigan Water & Power Co.), to cross C.P.R. loop line at St. Maurice St., Three Rivers, Que., its cars to be flagged over crossing.

24270. Oct. 5.—Authorizing C.P.R. to carry traffic over its Stirling East Branch, mileage 49.2 to 74.5, Alta., until Dec. 31, speed limited to 15 miles an hour.

24271. Oct. 4.—Authorizing Fort Garry Rural Municipality, Man., to build highway crossing over Canadian Northern Ry. at Clarence Ave.

24272. Oct. 5.—Approving revised location G.T.Pacific Branch Lines Co.'s Biggar-Calgary Branch through s. 1/2 Sec. 10-35-17, w.3.M. Sask.

24273. Oct. 5.—Authorizing London—Port Stanley Ry. to build siding across St. Thomas Street Ry. at Wellington St., St. Thomas, Ont.

24274. Oct. 6.—Extending 15 days from date time within which G.T.R. shall install derail at siding at Killaloe, Ont.

24275. Oct. 6.—Ordering that cost of building and maintaining crossing of First St. North across Canadian Northern Ry., west of west switch at Dummer, Sask., be paid by Caledonia rural municipality 99.

24276. Oct. 7.—Amending order 24171, Sept. 11, re crossing of G.T.R. near Dixville station, Que.

24277. Oct. 5.—Dismissing complaint of B.J. Ostrander & Co., Winnipeg, Man., that railway companies refuse to divert cars containing grain from one lake front elevator to another after cars have reached yards at lake front.

24278. Oct. 4.—Authorizing St. Michel de Vaudreuil Parish, Que., to build highway over C.P.R. at l'île Cadieux, switchstand to be moved back 30 ft., cost of same, not exceeding \$200, to be paid by applicant.

24279. Oct. 5.—Ordering that half interlocking plant to be installed at crossing on Douglas Ave., St. John, N.B., be operated by watchman operating gates; wages to be paid divided by St. John Ry. and C.P.R.

24280. Oct. 5.—Authorizing G.T.Pacific Ry. to build spur for Great West Coal Co. in n.e. 1/4 Sec. 6, and s.e. 1/4 Sec. 7-53-23, w.4.m., North Alberta District.

24281. Oct. 5.—Relieving G.T.Pacific Branch Lines Co. from erecting fences, gates and cattleguards on certain portions on its Battleford Branch, Sask., between mileage 0 and 48.5.

24282. Oct. 5.—Relieving G.T.R. from providing further protection at Queen St., Penetanguishene, Ont.

24283. Oct. 7.—Ordering that, owing to exigencies of movement of explosives during the war, the G.T.R. and C.P.R. build interchange

track at west end of Vaudreuil bridge cost to be paid by G.T.R.; track to be built within 30 days and removed when war is over.

24284. Oct. 8.—Authorizing Consolidated Mining & Smelting Co. of Canada to build tunnel under C.P.R., in its yard, between smelter and new zinc plant at Trail, B.C., detail plans of structure to be submitted for approval of the Board and C.P.R.

24285 to 24292. Oct. 5, 6.—Approving Bell Telephone Co.'s agreement with Warwick Telephone Co., Aug. 27, Schomberg Telephone Co., Sept. 29, Widdfield Tp., Sept. 7, Prescott Rural Telephone Co., Aug. 30, Colborne Tp., Sept. 1, Russell Rural Telephone Co., Sept. 1, Belmont Telephone Co-operative Association, Sept. 24, and Mount Forest, Wellington & Grey Telephone Co., Sept. 17.

24293. Oct. 5.—Authorizing London and Port Stanley Ry. to build siding across St. Thomas Street Ry. siding at Wellington St., St. Thomas, Ont.

24294. Oct. 7.—Authorizing C.P.R. to build spur for Canadian Explosives, Ltd., on Lot 182, Ste. Jeanne de l'Isle Perrot Parish, Que., to be completed within 3 months.

24295. Oct. 7.—Approving specifications and plans of Big Creek drain, in so far as they affect lands of Canada Southern Ry. (M.C.R. and C.P.R.) in Tilbury North Tp., Ont.

24296. Oct. 9.—Approving location and details of Montreal & Southern Counties Ry. proposed station at Abbotsford, Que.

24297. Oct. 9.—Authorizing C.P.R. to build spur and siding for J. Brodie & Son, at mileage 121.8, Laurentian Subdivision, Que.

24298. Oct. 9.—Amending order 24216, Sept. 23, re Dominion and Ontario Governments highway over Canadian Northern Ry. at Beaucauge station, near North Bay, Ont.

24299. Oct. 9.—Amending order 24219, Sept. 27, re C.P.R. road diversion at mileage 95.1, Neudorf Subdivision, Sack.

24300. Oct. 9.—Authorizing Dominion Atlantic Ry. to use bridge over Little Jogins River, Digby County, N.S.

24301. Oct. 13.—Authorizing British Columbia Government to build highway crossing over G.T.Pacific Ry. west of west switch at Vanarsdol.

24304. Oct. 6.—Authorizing Toronto Hydro-Electric System to erect wires across G.T.R. at corner of Carlaw Ave. and Gerrard St.

24305. Oct. 12.—Relieving Michigan Central Rd. from providing further protection at Park St. crossing, east of St. Thomas, Ont.

24306. Oct. 12.—Authorizing G.T.Pacific Branch Lines Co. to carry train over portion of its Cutknife Branch, Battleford, mileage 0 to 50, Sask.; speed limited to 15 miles an hour; and rescinding order 20513, Oct. 7, 1913.

24307. Oct. 12.—Approving Canadian Northern Ry. Standard Tariff of Sleeping and Parlor Car Tolls, C.R.C.No.S-2.

24308. Oct. 9.—Authorizing C.P.R. to build siding for Corrugated Paper Co., North Toronto.

24309. Oct. 9.—Authorizing C.P.R. to build highway across its Neudorf Subdivision, Sask., at two points, at mileage 9.5 and mileage 69.9, and to close portion of road allowance along north and east boundaries of Sec. 11, which lies within limits of railway right of way.

24310. Oct. 9.—Relieving G.T.Pacific Branch Lines Co. from erecting fences, gates and cattleguards on its Tofield-Calgary Branch, Alta., mileage 11.36 to 194.39.

24311. Oct. 15.—Extending to Nov. 30, time within which C.P.R. shall complete branch for Empire Waterworks Supply Co. of Canada, Winnipeg.

24312. Oct. 14.—Authorizing G.T.R. to build sidings and spurs, to serve Toronto and Hamilton Highway Commission, along and across certain highways in Port Credit, and extending to Port Credit Land Co.'s premises, leased to the Commission.

24313. Oct. 16.—Suspending, pending hearing by Board, advanced rates on apples and potatoes to Halifax for export, as published in Dominion Atlantic Ry. Tariffs, C.R.C. 454 and 455, to become effective Oct. 25.

24314. Oct. 15.—Authorizing British Columbia Public Works Department to build highway crossing over G.T.Pacific Ry. east of east switch at Usk.

24315. Oct. 15.—Ordering Toronto, Hamilton and Buffalo Ry. to provide farm crossing, with gates, for T.Embury, Jerseyville, Ont., applicant to do grading and pay \$10 toward cost of crossing.

24316. Oct. 15.—Ordering Campbellford, Lake Ontario & Western Ry. (C.P.R.) to build farm crossing for E.H.Armstrong, Camden Tp., Ont., half cost, excepting gates, to be paid by applicant.

24317. Oct. 15.—Authorizing Town of Radville, Sask., to build highway crossing over Canadian Northern at First St. East, crossing between Sec. 7-6-17, and Sec. 12-6-18, w.2.m., to be closed, cost of maintaining crossing to be paid by C.N.R.

24318. Oct. 15.—Approving agreement between Bell Telephone Co. and Southwold & Dunwich Telephone Association, Ltd., Sept. 7.

24319. Oct. 15.—Authorizing Canadian Northern Ontario Ry. to open for traffic its line from Pembroke to Capreol; and from Ruel to Port Arthur.

24320. Oct. 18.—Authorizing G.T.R. to build

siding for Toronto Furniture Co., Mowat Ave., Toronto, and approving clearances there.

24321. Oct. 16.—Ordering Michigan Central Ry. to build proper approach to station at Shedden, Ont., from north and south.

24322. Oct. 16.—Authorizing Canadian Northern and C.P.R. to operate over crossing in n.w. 1/4 Sec. 13-2-8, w.2.m., Sask., without first stopping.

24323. Oct. 16.—Dismissing application of L. H. Congreave, Sicamous, B.C., for order directing C.P.R. to designate suitable place on platform for receiving guests for his hotel.

24324. Oct. 15.—Ordering C.P.R. to install improved type automatic bell at crossing in Mono Road, Ont., and to maintain bell; work to be completed as soon as weather conditions permit in spring; 20% of cost to be paid out of railway grade crossing fund.

General Order No. 149, Sept. 14.—Approving terms and conditions of telephone connection by Bell Telephone Co., with municipal corporations, independent telephone companies or systems.

Canadian Northern Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, or decreases, compared with those of 1914-15, from July 1, 1915:

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$1,206,100	\$921,000	\$285,100	x\$145,400
Aug.	1,192,800	954,000	238,800	x5,900
Sept.	2,014,600	1,358,000	661,600	1,900
	\$4,413,600	\$3,227,000	\$1,186,600	x\$79,300
Decr.	\$ 658,300	\$ 579,000	\$ 79,300	.....

x Decrease.
Mileage in operation at Sept. 30, 1915, 4,965, against 4,670 at Sept. 30, 1914.

Commencing with Oct. 1, the figures quoted represent the earnings of the entire system instead of those of the western lines only.

Approximate earnings of the system for three weeks ended Oct. 21, \$2,407,100, against \$1,871,300 for same period 1914.

Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, or decreases, compared with those of 1914-15, from July 1, 1915:

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$7,805,375.47	\$5,094,972.85	\$2,800,403.12	x\$978,042.71
Aug.	8,801,451.52	5,359,196.80	3,442,314.72	79,157.02
	\$16,606,826.99	\$10,454,169.65	\$6,242,717.84	x\$988,885.69
Dec.	\$3,702,909.11	\$2,804,023.42	\$ 898,885.69	.....

x Decrease.
Approximate earnings for September, \$9,995,000, and for three weeks ended Oct. 21, \$8,971,000, against \$10,479,000 and \$6,539,000 respectively for same periods in 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. from Jan. 1 to Sept. 30:

	1915	1914	Incr.	Decr.
G.T.R.	\$29,451,799	\$32,029,026	.....	\$2,577,287
G.T.W.R.	5,458,799	5,368,626	\$90,173	.....
D.G.H. & M.R.	1,978,770	1,852,241	126,529	.....
Totals	\$36,888,867	\$39,249,893	.....	2,351,066

Approximate earnings for September, \$4,605,041, and for three weeks ended Oct. 21, \$3,130,733, against \$4,671,561 and \$2,990,076 respectively for similar periods in 1914.

Grand Trunk Pacific Railway Earnings

The approximate earnings of the Prairie Section, 916 miles, for September were \$403,888, against \$506,012 for Sept., 1914. Aggregate earnings for three months ended Sept. 30, \$884,976, against \$1,213,073 for same period 1914.

Railway Lands Patented.—Letters patent were issued respecting Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, during September, as follows,—

	Acres.
Calgary and Edmonton Ry.	480.00
Canadian Pacific Ry.	342,158
Edmonton, Dunvegan and British Columbia Ry.	60.67
Grand Trunk Pacific Branch Lines Co.	6.38
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	1,920.00
Total	2,809,208

Canadian Pacific Railway Company's Annual Meeting.

The 34th annual meeting was held at Montreal, Oct. 6. Sir Thos.G.Shaughnessy, President and Chairman of the company, who presided, in moving the adoption of the report, which was printed in Canadian Railway and Marine World for September, said:

The annual statement of your affairs now before you for consideration and approval is, in some respects, the most unsatisfactory that has been submitted for a number of years past. The shrinkage of \$31,000,000 in the gross earnings of your railway system as compared with the previous year is very marked; indeed it is in excess of your entire gross earnings in the year 1901, but the fact that notwithstanding this great falling off in revenue your regular dividend was earned is unquestionable evidence of your foresight and wisdom in having made such expenditures during the past 10 or 12 years as to enable you to make a saving in your working expenses representing such a substantial offset to the loss of gross revenue.

The physical condition of your property has never been better than it is at this time, the reduction in the cost of maintenance of way for the year being due very largely to a favorable winter and to the fact that works of betterment, chargeable in considerable part to working expenses, were completed before unfavorable business conditions appeared, and the additional facilities for the conduct of your business provided by your expenditures made it possible for you to handle your traffic more expeditiously and economically. As an illustration, the number of tons of freight traffic hauled one mile in the year covered by the report was 82% greater than in 1905, but it required only 17% additional train miles to perform the service. Improved gradients, double tracks, better terminal facilities, larger locomotives and cars, enabled you to earn \$3.17 per freight train mile in the last year as against \$1.93 in 1905, an improvement of 64%, although there had been a substantial reduction of freight rates in the meantime. Taking everything into account I feel that we may accept the outcome of the year as evidence of the strongly entrenched position of the company, and may look forward to the future with buoyant confidence.

In these days, when so many nations are engaged in a bloody and expensive war, when the financial machinery of the world is out of gear and general business conditions are disturbed, it is not wise to make predictions, but everything points to marked improvement in your revenue during the current fiscal year. The country has been blessed with a most bountiful harvest, and while the price of wheat is lower than it was a year ago it is still above the average, and conditions prevailing abroad should cause a continued demand for this and many of our other products. Conservatively estimated, the field crops harvested this autumn in the four provinces west of Lake Superior will yield per capita to the rural population in these provinces more than twice as much money as the rural population of the eight states directly south of them received per capita for their field crops in 1914. With agriculture as the most important pedestal of our prosperity any substantial addition to the income, and therefore to the buying power of the agricultural community, is reflected in every line of trade, so that we have reason to anticipate a decided betterment of the westbound merchandise traffic.

A substantial improvement in your land sales, 77,000 acres in the last three months as compared with 41,000 acres in the same months last year, increased activity in the

mining and smelting industries of Southern British Columbia, larger shipments of lumber from the western mills to the interior, are all encouraging signs, indicating as they do a partial restoration of confidence and a step in the direction of normal times.

It is to be hoped that in anticipation of the close of the war and the new conditions that will come with it, an organization will be perfected for unity of action by the Dominion and provincial governments and the important business interests of the country, looking not only to the largest possible immigration of agriculturists, but to the development, on a more comprehensive scale than ever before, of the vast natural resources of the country, so that the position of Canada may be strengthened to meet the financial obligations of the country resulting from the war and from other causes with which everybody is familiar.

Until the market improves no special effort will be made to dispose of any portion of the 4% consolidated debenture stock, amounting to about \$40,000,000, representing advances made from your treasury for the construction of additional railway mileage, as there is in hand at present sufficient money to meet all your requirements for a considerable period.

The company has suffered severe loss by the death of two of its most valued and esteemed directors. Sir Sandford Fleming, who died July 22, was associated with the Canadian Pacific before the organization of the present company, as Chief Engineer of the Dominion Government, and he became a member of the board of directors of the company in 1885. He attended the meetings of the board with great regularity and took keen interest in the company's affairs until he was seized with the illness that finally proved fatal.

Sir William Van Horne, who passed away Sept. 11, joined the company as General Manager at the end of 1881, and from that time until he retired from the Presidency in 1899 he devoted himself to the administration of the company's affairs with a whole heart and with unbounded confidence. During the period that the through line of railway was under construction and when its early completion was a matter of vital importance, his energy, ability and indomitable courage were of a value that could not be over estimated. He lived to see the enterprise attain proportions quite beyond the most ambitious anticipations of the earlier days. The shareholders as well as his associates on the board of directors will, I am sure, always cherish his memory.

A resolution was passed authorizing the transfer to the Canadian Pacific Ocean Services, Ltd., of the C.P.R. Co.'s holding of shares in the Allan Line Steamship Co., Ltd., and of the C.P.R. Atlantic and Pacific ocean fleets. It is given in full in the Marine Department, farther on in this issue.

It having been announced that three directors, R. B. Angus, Sir Edmund Osler and Sir Herbert Holt retired in rotation and that the vacancy caused by Sir William Van Horne's death required to be filled, the three retiring directors were re-elected for four years and Brigadier General F. S. Meighen, President Lake of the Woods Milling Co., was elected for the same period. The vacancy caused by Sir Sandford Fleming's death was not filled.

The board met immediately after the shareholders' meeting and re-elected Sir Thos. G. Shaughnessy President, and George Bury, Vice President. The following were

appointed as the Executive Committee: R. B. Angus, George Bury, Sir Herbert Holt, Sir Edmund Osler, Sir Thos. G. Shaughnessy.

Railway Rolling Stock Notes.

The G.T.R. has received 3 automobile cars from its Elsdon, Ill., shops.

Canadian Government Railways have received 10 consolidation locomotives from Canadian Locomotive Co.

The Canadian Northern Ry. has received 7 first class, steel underframe, passenger cars from Canadian Car and Foundry Co.

Canadian Government Railways, between Sept. 14 and Oct. 18, received the following additions to rolling stock: 288 box cars from Canadian Car and Foundry Co.; 188 box cars from National Steel Car Co.; 46 steel flat cars from Nova Scotia Car Works; 11 consolidation locomotives from Canadian Locomotive Co., and one 100 ton wrecking crane from F.H.Hopkins and Co.

Since the commencement of the operation of the National Transcontinental Ry. by the Canadian Government Railways, considerable Intercolonial Ry. rolling stock has been transferred for N.T.R. use. We are officially advised that up to Oct. 11 the following had been so transferred: Locomotives, 52 consolidation, 9 ten-wheel, 10 Pacific, 6 switching and 5 eight-wheel; 41 passenger cars, 2 baggage cars, 3 box-baggage cars, 40 vans, 16 boarding and cook cars, 30 cinder cars, 17 flat cars and 2,050 box cars.

The Union Government of South Africa has ordered 2 steel under frame flat cars for its railways from Canadian Car and Foundry Co. They will be equipped with standard type diamond arch bar trucks, and each car will be fitted with 6 drop bottom coal delivery buckets each of 7 tons capacity. Following are chief details:

Gauge	3 ft. 6 ins.
Capacity	60 tons
Length over end sills	40 ft.
Width over side sills	7 ft.
Width over floor	8 ft.
Height from rail to floor	3 ft. 7 $\frac{3}{4}$ ins.
Top of rail to centre of drawbar ..	2 ft. 11 ins.
Truck centres	26 ft.
Wheel base	5 ft. 3 ins.

Transfer of Quebec and Saguenay Ry. Foreshadowed.—Sir Rodolph Forget, M.P., was credited with having stated at the Quebec Railway, Light & Power Co.'s annual meeting in September that he expected to make an announcement shortly thereafter in regard to the sale or transfer of the Quebec & Saguenay Ry. Press reports have since foreshadowed that the line would be taken over either as part of the Canadian Government Railways system or by the Canadian Northern Ry., but up to October 20 no announcement had been made by Sir Rodolph. We were, however, informed on that date by his office that he had left with the Minister of Railways and Canals, and with the General Manager of the Canadian Government Railways, for a tour of inspection of the Quebec & Saguenay Ry. and of all the other subsidiary companies of the Quebec Railway, Light, Heat & Power Co.

Right of Way at Crossings.—The Quebec Court of Review has decided that railways have the superior right of way at unprotected crossings. The decision was given in an appeal by the G.T.R. against an award of damages for an accident at a railway crossing near St. Johns, in which two men were killed. The lower court awarded \$7,000 damages in one case and \$5,000 in the other, but the Court of Review held that the persons driving should have "stopped, looked and listened."

Changes in Canadian Pacific Railway's Ottawa—Toronto Service.

The C.P.R., with the introduction of new time tables on Nov. 1, will inaugurate a new Ottawa-Toronto service by the addition of two new trains to run from the Grand Trunk Central Station at the intersection of Sparks and Rideau Streets, Ottawa. The new service, which will be daily except Sunday, will consist of a train, "The York," leaving Ottawa at 1.15 p.m. and reaching Toronto Union Station at 9.30 p.m. The east bound train, "The Rideau," will leave Toronto Union Station at 1.45 p.m. reaching Ottawa at 10 p.m. These trains will run over the Lake Ontario shore line between Agincourt and Glen Tay, over the Toronto-Montreal main line between Glen Tay and Kempton and over the Prescott subdivision between Kempton and Ottawa. The equipment will consist of baggage car, smoking car, first class car and library observation car with a broiler service.

The ordinary morning train for Toronto will leave Ottawa Central Station at 9.35 daily, going over the Interprovincial Bridge and through Hull, leaving Broad St. Station, Ottawa, at 10 a.m. and running via Carleton Place to Smiths Falls, where it will connect with "The Canadian," from Montreal, running via the Lake Ontario shore line from Glen Tay, and reaching Toronto Union Station at 6 p.m. It will also connect at

Falls will arrive at Ottawa Central Station at 7.40 a.m. via Kempton.

There will also be a greatly improved service between Ottawa and Kingston, two trains daily each way, leaving Ottawa 9.35 a.m., via Carleton Place, Smiths Falls and Tichborne, reaching Kingston at 2.30 p.m.; also leaving Ottawa Central Station at 1.15 p.m. via Kempton, Smiths Falls and Tichborne, reaching Kingston at 8.45 p.m. From Kingston there will be a train leaving at 10.45 a.m. via Carleton Place, reaching Ottawa at 5.40 p.m. and another leaving Kingston at 5.40 p.m. via Kempton reaching Ottawa at 10 p.m. The Ottawa-Kingston trains in both directions will use the Ottawa Central Station.

Inverness Railway and Coal Company's Receivership.

The following circular was issued by the bondholders' committee—J.H. Plummer, President, Dominion Steel Corporation; Z. A. Lash, Senior Counsel, Canadian Northern Ry.; and D.B. Hanna, Third Vice President, Canadian Northern Ry., Oct. 7:—

A meeting of the bondholders of Inverness Railway & Coal Co. was held in accordance with the notice calling same, at the office of the company, Toronto, on June 30, at which W.E. Rundle, General Manager, National Trust Co., Ltd., occupied the chair. Substantially more than 5% of the bonds were represented at the meeting. Repre-

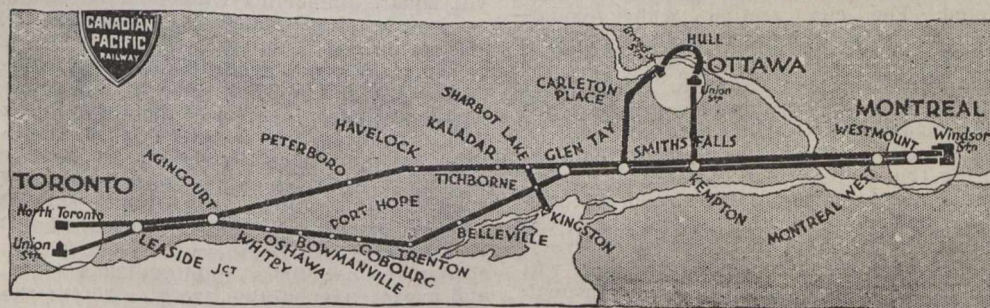
In the absence, therefore, of a definite plan by which the bondholders could now see their way to an ultimate solution of the company's financial problems, it was not considered advisable to authorize the creation of prior lien securities, or to pass any of the resolutions referred to in the notice convening the meeting, but in view of the disastrous effect the closing down of the mine would have on the company's properties, the trustees were instructed to apply in Nova Scotia for the appointment of a Receiver and Manager to continue operations till further order and a committee of bondholders was appointed to advise with the trustees respecting any matters which may arise in connection with the receivership and management, or with the duties of the trustees or the course of action which they should take. J. McGillivray, Inverness, N.S., was on July 6 appointed Receiver and Manager by the Nova Scotia court. It is anticipated that the operations of the company will meet expenses during the continuance of operations. The committee will issue further statements for the information of the bondholders as occasion may require.

Alleged Claim Against the C.P.R.—Controller Hebert asked the Montreal Board of Control, Oct. 5, to direct an enquiry to be made by the City Solicitor into the question of an alleged indebtedness of the C.P.R. to the city of \$600,000, under an agreement of 1893, and of \$25,000 for repairs on streets used by the railway. The first claim arises out of the taking over of the old Quebec, Montreal, Ottawa and Occidental Ry., and the erection of the Place Viger Station and Hotel. In 1901 a claim was made that the company had not lived up to its obligations, and the matter was apparently settled in 1903 by a report of a special committee covering a report of the then City Solicitor that the money could not be recovered. The company then claimed that it had done more than it was obliged to do under the agreement. No details are given respecting the \$25,000 claim. The matter is still under consideration.

National Transcontinental Ry. Shops for Munition Works.—In speaking before the Canadian Manufacturers' Association's Montreal branch, Oct. 10., D.A. Thomas, representative in Canada of the British Minister of Munitions, said, among other things: "The Dominion Government had placed the National Transcontinental Ry. shops at the disposal of the Government for making shells at cost price. I take this opportunity of thanking the Canadian Government for the spirit shown in placing these shops at our disposal. We understand that some shells are already being made at the National Transcontinental shops at Transcona, Man., and that it is possible some will be made at the Intercolonial shops at Moncton. The National Transcontinental shops at Quebec are not yet completed."

Toronto Terminals Ry. Co.—Work is in progress on the site of the new union station in Toronto, gangs of men having started cleaning up Oct. 4. A statement that the work will be continued until completed is reported to have been made by J.R.M. Ambrose, Chief Engineer in charge of the work. The building is expected to be ready for the steel workers Mar. 1, 1916; to be ready for occupation in 1917, and to be finally completed in the following year. (Oct., pgs. 384 and 393).

Railway Construction in South Africa.—The South African Premier stated recently that since the formation of the Union Government there, 1,449 miles of railway had been built to July 31, 1915, and that by the end of the current year a further 950 miles would be completed.



Canadian Pacific Railway Routes between Toronto, Ottawa and Montreal.

Smiths Falls with train 35 from Montreal going via Peterboro and reaching Toronto Union Station at 6.25 p.m.

There will be two east bound morning trains for Montreal, one leaving Toronto Union Station at 8.50 a.m. daily except Sunday, via Peterboro, and the other leaving Toronto Union Station at 9.15 a.m. daily over the Lake Ontario shore line. The Ottawa passengers from these two trains will be carried on a train leaving Smiths Falls at 3.45 p.m. running via Carleton Place, reaching Broad St. Station, Ottawa, at 5.15 p.m. and Ottawa Central Station at 5.40 p.m.

At night the Ottawa-Toronto train no. 33, which now leaves Broad St. Station, Ottawa, will leave Ottawa Central Station daily at 11.10 p.m., reaching Kingston at 12.10 a.m. and there being consolidated with the Montreal-Toronto trains reaching Toronto Union Station via Peterboro at 7.20 a.m. and North Toronto at 8 a.m. and via the Lake Ontario shore line reaching Toronto Union Station at 7.35 a.m. The Toronto-Ottawa train no. 34, which now leaves Toronto Union Station at 11.10 p.m., will leave at 11 p.m. daily, running via Peterboro to Smiths Falls, where it will take on Ottawa sleeping cars from train 24 leaving North Toronto at 10 p.m. for Montreal via Peterboro, and will also take on Ottawa sleeping cars from train 22 which will leave Toronto Union Station for Montreal via the Lake Ontario shore line at 11.30 p.m. instead of 11.40 as at present. The consolidated train no. 34 from Smiths

representatives of the company addressed the meeting and pointed out that the company was and had been unable to meet its obligations in respect of its bonds for the following reasons:—There is insufficient market for coal of the quality produced; there is much slack in the coal produced, only a portion of which could be marketed at the time; high boat freights, resulting from war conditions, has restricted the present market for the company's output to Nova Scotia and New Brunswick or to local consumption.

The company has been investigating processes whereby its slack coal could be converted into saleable briquettes, but its efforts in that direction have so far been unsuccessful. A representative of the company was, at the outbreak of the war, making investigations in Austria, where the briquetting of coal is carried on successfully, but such investigations were necessarily terminated at the commencement of hostilities, and similar investigations in Great Britain, where experiments were being conducted in the same direction, had also to be abandoned for the same reasons. A survey and investigation of the coal deposits on the properties controlled by the company has been made, but such survey does not disclose coal of a higher quality than that which the company is at present mining, and until a solution of the difficulty of making saleable briquettes has been found, further expenditures in the development of other coal areas would not be warranted.

Grand Trunk Pacific Railway Company's Annual Meeting.

At the adjourned annual meeting in Montreal, Oct. 12, the President, E.J. Chamberlin, stated that as the railway was nearing completion construction work during the past year had been confined to necessary ballasting and bridging, principally on the Mountain Division, and no new extensions had been undertaken. In consequence of the adoption of fuel oil for locomotives between Prince Rupert and McBride, oil fuel plants had been completed at Jasper, McBride, Prince George, Endako, Smithers, Pacific and Prince Rupert, the last mentioned including plant for unloading from ships and loading cars for shipment inland. The oil dock at Prince Rupert and the bridge across the yard to the fuel oil tanks were also completed. The passenger train service between Edmonton and Prince Rupert was increased during the past season in consequence of the increasing travel, especially in connection with the exposition at San Francisco. In connection with the great development which is taking place in Alaska in consequence of the railway construction undertaken by the United States Government, the G.T.P.R. is rapidly becoming recognized as the route of quickest access to that section of the continent more or less remote from the eastern and central portions of the country, as it can be reached by the new railway within at least 48 hours less time than is required in travelling via any other route. This feature was also utilized immediately following the completion of the railway by the large fishery industries operating in North Pacific waters. Prince Rupert is the centre of very large fisheries which have scarcely begun to be developed because of the lack hitherto of adequate transportation facilities. These have been provided by the construction of the G.T.P.R., and tons of fish are being transported daily over the new line to the eastern markets of Chicago, Montreal, Boston, New York and Philadelphia. The future development of the industry promises a valuable and rapidly growing traffic for the railway. While the development in the portion of British Columbia through which the railway passes has not been as great as it otherwise would have been, consequent on the war and the financial situation, nevertheless development is going on through that section and a number of settlers have taken up land in the Nechako and Buckley valleys, and the outlook for mineral development is also very good. In Manitoba, Saskatchewan and Alberta, increased acreage of new land is being broken each year and put under crop, and this activity has continued during the past year along the G.T.P.R. and its branch lines. Large areas of new land are being plowed for next year's crop, and the present large crop will tax all of the railways in its transportation. The present year has been marked by the inauguration of the National train, which forms the first regular connection between the G.T.R. in the east and the G.T.P.R. in the west, and is operated via the Grand Trunk, the Temiskaming & Northern Ontario and the National Transcontinental Railways, and has proved very popular. There has also been completed the company's new floating dry dock at Prince Rupert, which has been under construction for several years for the accommodation of shipping in a part of the world hitherto remote from facilities of this character. The company's new hotel MacDonald at Edmonton was completed and opened for guests July 5.

The directors elected for the current year are: E.J. Chamberlin, President; W.H. Big-

gar, K.C., Vice President and General Counsel; J.E. Dalrymple, Vice President; Frank Scott, Vice President and Treasurer; W.H. Ardley, Comptroller; A.W. Smithers, Sir H. M. Jackson, Col. Firebrace, Geo. Von Chauvin, W.M. Macpherson, E.B. Greenshields, Hon. R. Dandurand, H.G. Kelley, H.R. Saffora and J.R. Booth. Jules Hone is the Dominion Government representative on the Board. The other officers are: Morley Donaldson, Vice President and General Manager; H. Philips, Secretary.

The Grand Trunk Pacific Branch Lines Co. is a subsidiary company of the Grand Trunk Pacific Ry. Co., which was organized for the construction of branch lines in the Western provinces tributary to the G.T.P.R. main line. About 1,000 miles of branch lines have been built and the company has powers to build additional lines.

Its adjourned annual meeting was held at Montreal Oct. 13. The directors for the current year are: E.J. Chamberlin, President; M. Donaldson, Vice President and General Manager; W.H. Ardley, Vice President and Auditor; Frank Scott, Treasurer; W.H. Biggar, K.C.; H.G. Kelley. The Secretary is H. Philips.

Canadian Northern Railway Construction, Betterments, Etc.

Montreal Tunnel and Terminal Co.—The work of excavating the tunnel under Mount Royal is reported to be practically completed. The city section, which extends from the McGill campus to the terminal site at Cathcart St., is said to have been the most difficult part of the work. At the back of the Mountain considerable progress has been made, and it is hoped to get some of the electric and other equipment installed during the winter. The power house building at the western portal is reported completed and ready for the installation of the machinery which is in course of delivery. The 80-ton electric locomotives which will be used for the operation of trains through the tunnel are reported to be ready for delivery.

Canadian Northern Ontario Ry.—The Hamilton Board of Health has ordered the C.N.O.R. to instal sanitary conveniences in the houses situated on the company's land in the city. The company has declined to do this and except in some cases has arranged for the wrecking of 28 of the houses. The conveniences ordered will be installed in the remaining houses. The land was acquired for railway construction purposes.

The Board of Railway Commissioners has declined to set aside either in whole or in part an agreement made with the municipality of North Bay, and has approved plans for the erection of a passenger and freight station there.

The section of the company's line between Rideau Jct., just outside Ottawa, and Port Arthur, Ont., has been opened for freight traffic, and will be opened for passenger traffic early in November.

A press report states that construction is being rushed on a short piece of track which will join up the C.N.R. track to the C.P.R. at the Port Arthur station and allow of a transfer of trains from the east without running them down to the yards. There is a considerable amount of rock work on the line.

Canadian Northern Ry.—Canadian Northern Pacific Ry.—The opening of the C.N.R. westerly from Edmonton to the Yellowhead Pass, and the extension, known as the C.N. Pacific Ry., to the Pacific Coast, is referred to further on. A list of stations with distances on the latter part of the line was given

in Canadian Railway and Marine World for October. The line west of Edmonton has been operated for some time as far as Onoway. Following is a list of the stations on the section of the line from Onoway to Yellowhead Pass in the order in which they are located going west:—Lake Isle, Evansburg, Chiplake, Dayson, Fulstow, Horner, Scriven, Dandurand, Marlboro, Berks, Everest, Obed, Dalehurst, Bliss, Entrance, Errington, Brule, Bedson, Snarling, Henry House, Maligne, Jasper, Mount Gelkio.

M.H. MacLeod, General Manager and Chief Engineer, arrived in Vancouver, Oct. 9, having made his first official trip of inspection over the line since its completion. The Provincial Minister of Railways, and other Provincial officers, started from Port Mann, and travelled over the line, meeting at Yellowhead Pass, Mr. MacLeod, and the Dominion Government inspecting engineer. The object of this trip was to pass the line for its opening for traffic.

Vancouver Terminals.—Tenders for the seawall construction at False Creek, the site of the Vancouver terminals, are under consideration by the engineering staff, and an announcement is expected at an early date as to the awarding of a contract. The specifications for this work are reported to include the following quantities: foundation excavation (wet) 450 cu. yd., concrete 4,950 cu. yd., reinforcing steel 305,000 lb., concrete piles 15,900 1. ft., creosoted fir piles 12,200 1. ft., asphalt 2,820 sq. yd., rock fill 15,500 cu. yd., square timber no. 1 common 19,500 f.b. m., iron in timber including U-bolts 5,500 lb., 255 spring coils.

Temporary freight sheds and other facilities will be installed at once in Vancouver on the reclaimed portion of the False Creek flats. These will be situated on the south side near the production of Front St., east of Main St. The connection from the end of steel of the C.N.P.R., at the south side of New Westminster bridge, with this shed will be over the Great Northern Ry. The freight shed plans call for a building 193 x 40 ft., and a passenger station 120 ft. x 30 ft.; the construction to be of wood. A spur line will be built to give connection with the Great Northern Ry. lines. (Oct., pg. 395.)

Railway Payments on Queen St. Bridge, Toronto.—The City of Toronto applied to the Board of Railway Commissioners, Oct. 13, in connection with arrears of payments by the railways concerned in the construction of the high level bridge carrying Queen St. East, Toronto, over railway tracks, which took place nearly five years ago. The city claimed to have paid the whole cost of construction, amounting to about \$720,000, and to have received \$100,000 from the C.P.R. and \$28,000 from the G.T.R., on account. The cost of construction was assessed as follows: C.P.R., 35%; G.T.R., 10%; Canadian Northern Ry., 25%; Toronto Ry., 15%, and the city, 15%. The Board ordered that the companies must pay a portion of the accounts forthwith.

Railway Men and the War.—It is shown by an official list published in England recently, that up to Aug. 31 the total number of men engaged on the railways in the United Kingdom, who have enlisted, was 92,658, or 14.9% of the total men engaged in railway work at the commencement of the war.

The American Association of Travelling Passenger Agents held its annual convention at Boston, Mass., Oct. 4 and 5. At the close of the convention several of the members, accompanied by their wives and daughters, visited several Canadian cities, including Quebec, Montreal, Ottawa and Toronto, where the party disbanded.

Canadian Northern Passenger Service Between Sydenham and Harrowsmith.

J.W. Edwards, M.P., filed the following application with the Board of Railway Commissioners some little time since:—"In 1892 Loughboro Township passed a bylaw granting a bonus of \$5,000 to the Kingston, Napanee, and Western Ry. Co., which was to extend its line from Harrowsmith to Sydenham, Ont., a distance of three or four miles. The agreement between the township and the company required the company to run a train for passengers and freight from Sydenham to Harrowsmith in the forenoon and another in the afternoon, these trains to connect with trains going to and coming from Kingston. This was to be daily, Sundays excepted. It was further agreed that the company could only fail in carrying out this service, upon the repayment of the bonus to the township. Since this agreement, the road has been taken over and now forms a part of the Canadian Northern Ry. About the first of the year, the railway company took off the morning train, so that the people of Sydenham have no connection whatever with the trains running to Kingston. This is, of course, a very great inconvenience to that place, which is the largest village in the County of Frontenac."

The Chief Commissioner, Sir Henry L. Drayton gave judgment Sept. 30, Commissioner McLean concurring. After reciting the complaint the judgment says:—

The company in its reply submits that the bylaw the basis of the complaint reads as follows,—“The said company are to run a train for passengers and freight from said station (Sydenham) in the forenoon and one back to it in the afternoon, making connection with the trains at Harrowsmith every day in the week except Sunday.”

The company further states that the bylaw had been complied with, as train 7 left Sydenham at 1.59 a.m. and arrived at Harrowsmith at 2.09 a.m.; and that a train left Kingston at 2.45 p.m. arriving at Harrowsmith Jct. at 3.40 p.m. connecting with train arriving at Sydenham at 3.50 p.m. The company's answer proceeds,—

“There is no doubt that at the time the bylaw referred to was passed, the people in Sydenham did not contemplate being on an important trunk line between Ottawa, Toronto, and Montreal, and Sydenham being now on the main line of our railway between these points is, we think, of very much greater advantage to the community than the local service at Harrowsmith, the distance between Harrowsmith and Sydenham being 4.3 miles. Sydenham now gets the benefit of all through trains, and when business improves and the line opens through to Montreal we expect to have a local service between Ottawa and Kingston, in addition to the present main line service. Sydenham now being on the main line has a day and night service east to Ottawa and west to Toronto and intermediate points, and while the morning connection to Kingston is at an awkward hour and involves a wait at Harrowsmith Jct., we still feel that it is a technical compliance with the bylaw and that the only question that should be decided is whether Sydenham gets a reasonable service from the railway at present.”

Sydenham lies about four miles east of Harrowsmith, and the Inspector reports that there is a good stage service between Harrowsmith and Sydenham by which connection can be made for Kingston. The discontinuance of train 71, of course, gives rise to the complaint. It was a local from Deseronto to Sydenham and return. The receipts at Sydenham station have been gone into by the Board, with a view to ascertaining whether or not, under the general provisions of the Act, the Board could order the service to be re-instated. Taking the six months period commencing on Oct. 1, 1914, and ending March, 1915, it was found that the total passenger earnings were \$130.00; the total freight earnings \$650.61; and the

total express earnings \$31.30; resulting in gross earnings of about \$811.91 for the period. The Inspector, dealing with the question of course as entirely a matter of reasonable service for traffic offered, proceeds in his report as follows,—

“After going carefully into this matter with the agent and making full inquiries, there would seem to be little or no room for complaint, as Sydenham is on the main line of the C.N.R. between Toronto and Ottawa, and all trains stop at this station. The service between Sydenham and Kingston is not so good as it might be, but there is an up to date stage coach or motor, which runs between Sydenham and Harrowsmith and makes the connections for Kingston. The handling of freight at Sydenham is the same as it always was, and it would be unfair to the railway company to ask it to put on a train, or run train 71 through from Yarker to Sydenham, a distance of about 10.6 miles, which could not be done except at a great loss to the company. It would cost at least \$20 or \$25 a day to do this, and you will note by the earnings for the three months when the train was on, that it was a losing proposition. The fact that Sydenham is now located on the C.N.R. main line between Toronto and Ottawa, and gets the benefit of all the through service, should form some compensation for the slight inconvenience of the poor connections to Kingston. I have no doubt that when business increases, the proper service will be put on and better connections made for Kingston; but, under the present strenuous conditions, it would be unfair to ask the company to run train 71 to Sydenham.”

The company also filed a statement showing freight and passenger business between Sydenham and Kingston which covers the period from June 1, 1910, to June 5, 1911. At this time Sydenham had no service on the main line, and the railway was not operated by the Canadian Northern. The return shows that 1007 passenger tickets were issued at a gross return of \$798.90, and 481,764 lbs. of freight handled at a gross return of \$270.38. Under such circumstances, it is clear that no order can be made directing the company to maintain the service, which, in view of the total earnings shown, was entirely unremunerative, resulting in losses to the company which could only be made up from earnings supplied by other localities. Adequate service under the provisions of the Railway Act is a service which it is the duty of the Board to see furnished; and, so far as service is concerned, under the circumstances of this case, no order can be made.

The right of the municipality under its bonus bylaw stands, however, on a different basis. A hearing by the Board was had in Toronto, at which the company was called on to show cause why the bylaw should not be carried out. The clauses of the bylaw applicable are,—

“The said company are to run a train for passengers and freight from said station (Sydenham) in the forenoon and one back to it in the afternoon, making connection with trains at Harrowsmith every day in the week except Sunday.”

“Should the said company at any time hereafter fail to maintain said road and station or run said trains they can only do so upon repaying said bonus of \$5,000 to said municipality.”

The company is maintaining the station. It is giving Sydenham, owing to the fact that it is now on the main line of the Canadian Northern, greater railway accommodation than that called for by the bylaw, in that the company runs two eastbound trains and two westbound trains between Toronto and Ottawa daily, all stopping at Sydenham and at Harrowsmith,—the westbound trains leaving Sydenham at 1.59 a.m. and 3.10 p.m., and the eastbound trains arriving at Sydenham at 4.18 a.m. and 4.10 p.m. Before the installation of the Canadian Northern service, through east and west traffic, either from or to Sydenham, was carried by the Kingston, Napanee & Western by way of

Harrowsmith to Kingston. So far as this service is concerned, there is no doubt that it is much better looked after so far as Sydenham is concerned under the present train service, carried as it is east and west direct, than by what was formerly practically a transfer to Kingston. While no doubt the east and west traffic is something which Sydenham was interested in and probably one of the reasons why the township agreed to give the bonus of \$5,000 to the construction of the line, undoubtedly, however, the local service between Sydenham and Kingston was a matter of moment; and it is a service, between Kingston and Sydenham, which is without any reservation covered by the bylaw. The company does not dispute that its predecessors pledged themselves to observe the terms of the bylaw. There is no doubt that the \$5,000 was accepted, and accepted subject to those terms. Under it, the company has to run a train in the forenoon and one back in the afternoon connecting with the trains at Harrowsmith. This connection at Harrowsmith is a Kingston connection. The only morning train from Sydenham to Harrowsmith is the 1.59 a.m. train, arriving at Harrowsmith at 2.09 a.m.; and the morning train from Harrowsmith to Kingston on the C. N. R. leaves Harrowsmith at 9.15 a.m., entailing a wait of seven hours at Harrowsmith. At Harrowsmith both railways run into the same station, and trains on the Canadian Pacific can conveniently be taken from Harrowsmith to Kingston. The first train from Harrowsmith on the C.P.R. leaves at 6.55 a.m., making a wait of four hours.

Apart from any question of connections, however, I am of the opinion that an obligation to supply a train in the forenoon is not met by supplying one 1 hour and 59 minutes after midnight. The bylaw, accepted by the company's predecessors as it was, is one, which as I construe it, was intended to provide, and did provide, for a service which could be used by the people of Sydenham, a service which would enable them to leave Sydenham in the morning and not at night, and return in the afternoon. There is no difficulty about the afternoon train, as one leaves Harrowsmith at 3.55. I am of the opinion, therefore, that the company has not provided the morning service, which, under the bylaw, it is obliged to do; and that, again under the bylaw, unless this service is given, the bonus of \$5,000 has to be repaid. I have no doubt that the people at Sydenham would sooner that a proper morning service to Harrowsmith with proper connection to Kingston would be given than that the township should recover this \$5,000. In view of the earnings, however, as already pointed out, the Board cannot order that to be done. The company, however, will be given the option of restoring the service within one month, and thereafter maintaining it, or of repaying the \$5,000 bonus. No order will, therefore, issue, until Nov. 1, when, in the absence of the restoration of the service, an order will go directing repayment of the \$5,000 by the Canadian Northern to the municipality.

The Brule Lake Coal Co. has been incorporated under the Dominion Companies Act, with a capital of \$200,000 and office in Toronto, to carry on a coal mining business, and in connection therewith to construct tramways, and to operate steam and other vessels. The provisional directors are G. Ruel, R.H.M. Temple, A.J. Reid, G.N. Limpicht, F.C. Allen, Toronto.

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa, copy of a collateral trust agreement between the C.N.R. and the Columbia Trust Co., dated Sept. 1, securing the company's two year 5% collateral trust gold notes.

Grand Trunk Ry.—A dividend of 11-2% has been declared for the half year ended June 30, on the 4% guaranteed non-cumulative stock. This is the same amount as declared for the previous half year.

Lake Superior Corporation.—The following constitute the board for the current year, as elected at the recent annual meetings,—W.K.Wigham, Chairman; W.E.Stavert, President; H.Copell, Vice President; A. Taylor, Secretary; Jas.Hawson, Treasurer; F.McOwen, J.T.Terry, J.S.Dale, H.I. Underhill, W.C.Franz, A.H.Chitty and T.Gibson.

Ottawa and New York Ry.—The following are the directors for the current year,—A.H.

Frank Scott, Secretary and Treasurer; J.E. R.R.Logan.

Pere Marquette Rd.—P.H.King, Operating Receiver, announced Oct. 19, that a dividend of 10% would be paid on Dec. 1 to all creditors holding open accounts for materials and supplies. \$70,000 a month is being paid on defaulted equipment notes. It is expected to clear off these notes in another twelve months.

Pere Marquette Rd.—A decree of foreclosure and an order for the sale of the property were filed in the U.S. Courts, Oct. 5. The order directs that no bid of less than \$14,000,000 shall be received. All the cases against the P.M.R. are to be consolidated and the date for the sale of the property is to be fixed by the Master of the Court.

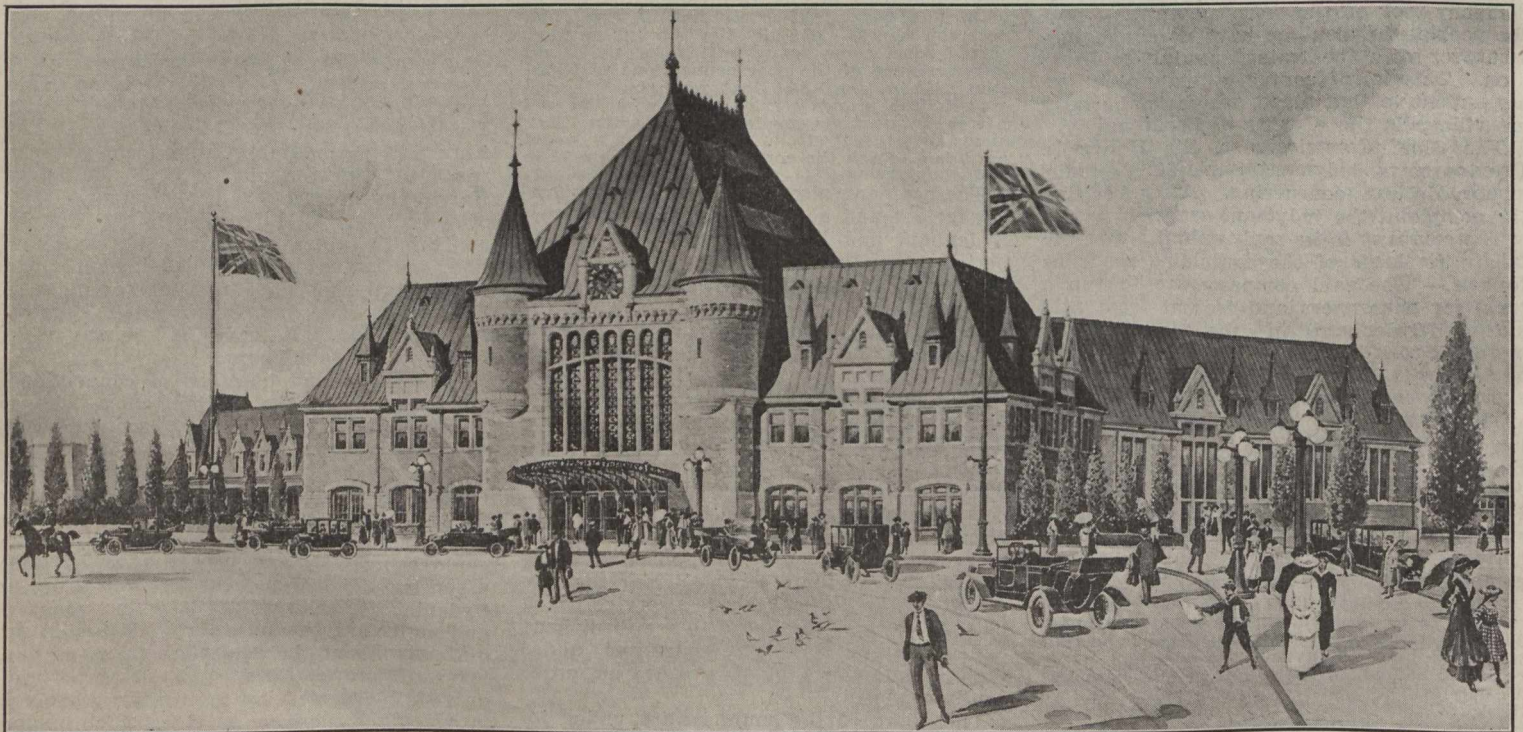
Temiscouata Ry.—Net earnings for July, \$3,801, against \$6,208 for July, 1914.

Temiscouata Ry.—The directors elected at the recent annual meeting are:—J.H.Walsh, President; E.O.Grundy, Vice President; A.

Information About A. F. Dillinger Wanted.

The Forester, the Independent Order of Foresters' official organ, published in Toronto, had in its last issue a portrait of A.F. Dillinger, respecting whom it said:—"Brother A.Frank Dillinger, a member of Court Ottawa, no. 41, has been absent from home over a year. His wife and aged mother, and the members of Court Ottawa are extremely anxious to hear from him. The brother is 45 years old, 6 ft. high, weighs about 155 lbs., of slender build, walks erect, dark complexion, dark hair mixed with gray, brown eyes, prominent features, wears no. 8 glove and a no. 8 shoe, a scar across nose and forehead, dimple in chin. In addition to being a Forester, he is a Mason and Knight of the Golden Eagle. He will probably be employed as operator or train despatcher. Please address the Editor."

The A.F.Dillinger referred to was in the Canadian Pacific service, in various capaci-



The Canadian Pacific Railway's new Union Station at Quebec.

A complete description of this station was published in Canadian Railway and Marine World for September and a ground plan showing the location was published in the October issue.

Smith, President; W.K.Vanderbilt Jr., Vice President; F.W.Vanderbilt, W.Rockefeller, W.L.Scott, G.D.Kelley, J.S.Ewart, W.P.Torrance and D.W.Saunders. The other officers are,—John Carstensen, I.W.Place and C.F.Daly, Vice Presidents; D.W.Pardee, Secretary; E.F.Stephenson, Assistant Secretary; E.L.Rossiter, Treasurer; L.Bender and G.W.Porter, Assistant Treasurers.

Ottawa and New York Ry.—St. Lawrence and Adirondack Ry.—Application is being made by the Ottawa and New York Ry., and the St. Lawrence and Adirondack Ry., to the Board of Railway Commissioners for a recommendation to the Governor-in-Council for the sanction of leases of their lines and properties to the New York Central Rd., upon the terms and conditions named therein. The Dominion Parliament last session authorized the two companies named to lease their lines to the N.Y.C.R., for 21 years.

Ottawa Terminals Ry.—The directors for the current year are:—E.J.Chamberlin, President; H.G.Kelley, Vice President;

H.Cook, A.Laurie, Fergus Murphy, W.N. Campbell, T.J.Maguire. The Secretary and Manager is C.A.Stewart.

Toronto Terminals Ry.—There was filed with the Secretary of State at Ottawa, Oct. 5, a mortgage deed dated May 31, between the Toronto Terminals Ry., the Grand Trunk Ry., and the Canadian Pacific Ry., in which the latter two companies are indemnified as mortgagees upon the terms recited therein.

White Pass and Yukon Route.—Gross earnings from Jan. 1 to Sept. 21, \$1,283,477 against \$1,340,865 for same period, 1914.

Prince Rupert's Fishing Industry.—John Pullen, President, Canadian Express Co., who has returned to Montreal recently from a trip to the Pacific Coast, says the fishing industry at Prince Rupert has assumed considerable importance. The average monthly receipts of fish there are 1,723,000 lbs., mostly halibut, and 73 vessels touched at the port in 30 days. The business has increased so much that the company will have to add more refrigerator equipment.

ties some years ago, being stationed at Regina, Sask.; Brandon, Man.; Fort William, Ont.; and Kitchener, B.C. About 1898 he was appointed operating Assistant to the Chief Traffic Officer, Board of Railway Commissioners, at Ottawa, but resigned in 1911. In August of that year he was reported to have been arrested at Kansas City, Mo., with a Mrs. Rose Morgan, in whose company he was said to have been. Mrs. Dillinger, who had gone to Kansas City from Ottawa, was present when the arrests were made.

Free Transportation for Threshing Machines.—The Canadian Northern and the Grand Trunk Pacific Railways are reported to have issued orders, Oct. 5, under which second hand threshing machines may be shipped to any point in Manitoba, Saskatchewan or Alberta up to Dec. 31, full freight rates being charged, but upon presentation of the original bill of lading and the return of the outfit to the starting point by Mar. 1, 1916, no charge will be made for the return journey.

The Canadian Pacific Railway's Roll of Honor.

Following the lists of C.P.R. officers and employes killed or wounded in action in Europe, which were issued by C.H. Buell, Staff Registrar and Secretary, Pension Department, on Aug. 3 and 25, two more lists, nos. 2 and 3, were issued, Oct. 4, as below, prefaced by the following remarks: "Several thousand officers and employes of this company enlisted for active military duty with the Canadian Expeditionary Forces, and the majority of them are now in Europe, bravely battling for Canada and the Empire. As particulars of army reservists are not available, these lists of those who have given up their lives for their country, or been wounded in action, are necessarily incomplete, and do not therefore indicate fully the extent to which the company's officers and employes have participated in the great struggle."

List 3.

Austin, Kenneth G., yardman, Fort William, wounded.
 Bachelder, Dell A., yardman, Lethbridge, wounded.
 Bedford, Percy, waiter, Montreal, wounded.
 Blades, Ernest R., clerk, Winnipeg, wounded.
 Button, Alex. M., trainman, Kenora, wounded.
 Cockle, Robert S., sectionman, La Riviere, wounded.
 Cope, William, clerk, Windsor, killed in action.
 Crouch, J., porter, Port McNicoll, died of wounds.
 Daniel, Wm.T., resident engineer, Regina, gas poisoning.
 Day, Harry, waiter, Montreal, wounded.
 Dickinson, Chas.E., apprentice, Winnipeg, wounded.
 Dumais, J.B., fireman, Fort William, killed in action.
 Fletcher, Charles, waiter, Victoria, wounded.
 Gillespie, H.S.B., trainman, Atlantic Division, wounded.
 Godley, John, second cook, Montreal, wounded.
 Goodrich, F.E., locomotive man, West Toronto, wounded.
 Gregory, Richard A., checker, Calgary, wounded.
 Hatcher, Chas.F., fireman, Calgary, suffering from shock.
 Hay, Adam C., clerk, Winnipeg, wounded.
 Hesketh, James A., assistant engineer, Winnipeg, wounded.
 Hogg, James E., fireman, Calgary, wounded.
 Hughes, Wm., machinist, Angus, killed in action.
 Hustwayte, Harry, carpenter, Winnipeg, wounded.
 Johnson, Geo.A., laborer, Revelstoke, wounded.
 Linington, Alf.W., constable, Toronto, killed in action.
 McCarthy, Herbert, laborer, Arcola, suffering from shock.
 McIlroy, John, clerk, Calgary, wounded.
 Miller, Thos., clerk, Field, wounded.
 Muncaster, Art.J., yardman, Outremont, wounded.
 Spurgeon, Chris., constable, Winnipeg, wounded.
 Storrier, Melville, constable, Montreal, wounded.
 Thrasher, John M., fireman, Kenora, wounded.
 Toyne, Joseph, wiper, East Calgary, wounded.
 Ware, Alfred James, constable, Montreal, wounded.

Young, S.E.B., fitter, Angus, wounded.

List 4.

Ballock, John, frt. handler, Fort William, killed in action.
 Batchelor, Thos.E., constable, Winnipeg, wounded.
 Biggam, Andrew, clerk, Moose Jaw, wounded.
 Boothby, Geo.W., clerk, Montreal, wounded.
 Bratt, S.W., silver cleaner, Quebec, wounded.
 Burns, Edward, specialist, Angus, wounded.
 Burrells, F.H., bell boy, Winnipeg, wounded.
 Crosby, Geo.C., fireman, Alyth, wounded.
 De LaCour, E., houseman, Winnipeg, wounded.
 Dixon, Julian, fireman, Calgary, killed in action.
 Duncan, David, helper, Glen Yard, killed in action.
 Evans, Edwin, helper, Angus, wounded.
 Farnworth, Percy, brass filer, Angus, wounded.
 Fisher, Harry R., fireman, Eastern Division, died of wounds.
 Gray, Wm.E., conductor, Brandon, wounded.
 Hall, Harry C., clerk, Winnipeg, wounded.
 Haynes, Thos.R., clerk, Cranbrook, wounded.
 Holloway, Wm., wiper, Brandon, wounded.
 Holmes, Jas.S., wiper, Medicine Hat, wounded and missing.
 Howlett, H.B., checker, Fort William, wounded and missing.

Hyslop, Jas., car repairer, Hochelaga, gas poisoning.
 Knox, Harvey, wiper, Moose Jaw, wounded.
 Lavender, James, checker, Fort William, wounded.
 Lewis, Arnold, second cook, Montreal, wounded.
 MacAuley, Murdo, fireman, Cranbrook, wounded.
 McKay, Charles, checker, Fort William, killed.
 Maxwell, A.W., clerk, Winnipeg, suffering from shock.
 Morrow, Robt.F., locomotive man, Winnipeg, died of wounds.
 Mason, Wm.J., stower, Fort William, wounded.
 Naylor, Herb.V., clerk, Winnipeg, killed.
 Oke, Richard G., brakeman, Souris, wounded.
 Pratt, Clifford, clerk, Montreal, wounded.
 Rafferty, Thos.P., brakeman, Cranbrook, wounded.
 Robinson, Alfred, linen handler, Montreal, wounded.
 Sellick, Wm., pipe fitter, Hochelaga, wounded.
 Shaw, Wm., stat'y. engine man, Vancouver, died of wounds.
 Shiers, Frank, bridgeman, Moose Jaw, wounded.
 Taylor, C.S., clerk, Montreal, wounded and prisoner.
 Walker, Wm.G., clerk, Montreal, wounded.
 Wheelhouse, C., wiper, Assiniboia, killed in action.
 Williams, A.G., fireman, Medicine Hat, wounded.
 Wiman, E.L., fireman, Smith's Falls, died of wounds.

Grain in Store at Terminal Elevators, Interior Terminal Elevators and at Public Elevators in the East.

	Wheat, bushels.	Oats, bushels.	Barley, bushels.	Flax, bushels.	Totals, bushels.
Fort William:—					
C.P.R.	1,580,404	82,573	37,533	24	1,700,534
Consolidated Elevator Co.	761,871	65,099	19,800	41,289	888,059
Empire Elevator Co.	848,523	63,876	28,246	83,379	1,024,024
Ogilvie Flour Mills Co.	758,999	27,705	10,179	.....	796,883
Western Terminal Elevator Co.	1,193,946	61,985	3,156	160,759	1,419,846
G.T. Pacific	1,066,764	111,047	14,871	59,654	1,252,336
Grain Growers' Grain Co.	1,031,534	43,458	16,752	.....	1,091,744
Fort William Elevator Co.	797,986	70,557	18,580	95,660	982,783
Eastern Terminal Elevator Co.	595,970	105,498	19,559	.....	721,027
Port Arthur:—					
Port Arthur Elevator Co.	1,815,173	174,603	115,032	225,981	2,330,789
D. Horn & Co.	16,325	936	871	22,429	40,561
Dominion Government Elevator ..	1,138,108	98,584	21,320	39,680	1,297,692
Grain afloat .....	.....	.....	.....	.....	.....
Total Terminal Elevators					
Saskatoon Dominion Government Elevator	11,605,603	905,921	305,899	728,885	13,546,278
Moosejaw Dominion Government Elevator	28,541	.....	.....	37	28,578
.....	23,140	260	344	612	24,356
Total Interior Terminal Elevators					
Depot Harbor	51,681	260	344	649	52,934
Midland:—	50,000	.....	.....	.....	50,000
Aberdeen Elevator Co. ....	.....	259	.....	.....	259
Midland Elevator Co. ....	.....	.....	.....	.....	.....
Tiffin, G.T.P.	262	.....	.....	.....	262
Port McNicol	34,379	25,637	2,723	.....	62,739
Collingwood	41	.....	.....	*65,752	65,793
Goderich	78,970	.....	.....	.....	78,970
Kingston:—					
Montreal Transportation Co. ....	.....	.....	.....	.....	.....
Commercial Elevator Co. ....	.....	.....	.....	.....	.....
Port Colborne					
Prescott .....	.....	.....	.....	.....	.....
Montreal:—					
Harbor Commissioners No. 1 ...	411,139	.....	73,442	.....	484,581
Harbor Commissioners No. 2 ...	562,220	22,315	73,534	19,685	677,754
Montreal Warehousing Co.	218,485	87,180	.....	.....	305,665
Quebec Harbor Commissioners ...	3,509	4,923	.....	.....	8,432
West St. John, N.B.	6,212	.....	.....	.....	6,212
Halifax, N.S. ....	.....	.....	.....	.....	.....
Total Public Elevators					
.....	1,365,217	140,314	149,699	*65,752	1,740,667
Total quantity in store					
*Corn.	13,022,501	1,046,495	455,942	749,189	15,339,879

Mainly About Railway People Throughout Canada.

A.W.Smithers, Chairman of the Board, G.T.R. and G.T.Pacific Ry., arrived in Montreal, Oct. 23, for his annual inspection of the system.

H.C.Grout, General Superintendent, Atlantic Division, C.P.R., St. John, N.B., has been granted leave of absence and has gone to California.

A.O.Norton and Harry A.Norton, of Coaticook, Que., have each contributed a machine gun to the 5th Canadian Mounted Rifles.

Capt.C.H.Crowdy, of the 13th Royal Highlanders, Montreal, son of G.J.Crowdy, of Jas.Hutton & Co., was killed in action in France, Oct. 21.

Sir Sandford Fleming, K.C.M.G., director, C.P.R., who died recently, left an estate valued at \$238,534, most of which had been distributed prior to his death.

J.G.Sullivan, M.Can.Soc.C.E., Chief Engineer, C.P.R., Winnipeg, represented Canada at the Congress of Engineers at San Francisco, Cal., recently.

F.W.Peters, General Superintendent, British Columbia Division, C.P.R., Vancouver, spent a short holiday in October, hunting in Alberta.

Sir Thomas Skinner, who is a director of the C.P.R., has resigned from the Hudson's Bay Co. committee, and has been succeeded by his son, T. Hewitt Skinner.

M.P.Davis, of M.P. and J.T.Davis, railway contractors, Ottawa and Quebec, has given \$1,000 to the fund being raised for the benefit of returned wounded soldiers.

A.Copony, Master Car Builder, G.T.R., Chicago, Ill., has been elected a member of the Master Car Builders' Association standing committee on specifications and tests for materials.

Hon.Samuel Barker, M.P., who died at Hamilton, Ont., recently and was at one time General Manager, Northern Ry. of Canada, left \$210,847 to his widow, four daughters and son.

G.C.Martin, General Freight and Passenger Agent, Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., attended the national convention of safety first committees at Philadelphia, Pa., Oct. 20.

Lieut.William Wallace, who has joined the 58th Battalion, at Brantford, Ont., recently for overseas service; was formerly one of the engineers on the construction of the Lake Erie and Northern Ry.

C.R.Hosmer, one of the C.P.R. directors, is stated in a press report to be the second largest private holder of Canadian bank stocks. It is said that his yearly income from that source alone is \$36,300.

Capt.L.H.Curry, 42nd Highlanders, formerly Assistant to the Vice President, Canadian Steel Foundries Ltd., Montreal, and third son of Hon.N.Curry, was reported, Oct. 21, to have been killed in action.

G.McLaren Brown, European Manager, C.P.R., London, Eng., is one of the first directors of the Institute of Industry of Great Britain and Ireland Ltd., which has been registered in London recently.

Jas. Coleman, Superintendent Car Department, G.T.R., Montreal, has been elected a member of the Master Car Builders' Association standing committees on arbitration and specifications and tests for materials.

E.Moore, chief clerk to I.G.Ogden, Vice President, Finance and Accounting Department, C.P.R., Montreal, was presented with a case of silver and a purse of money, by

his associates, Oct. 15, on the occasion of his recent marriage.

W.W.Kibbie, formerly town ticket and telegraph agent, C.P.R., Carleton Place, Ont., died there, Oct. 10, aged 56, from paralysis. He occupied the position for about 30 years, and retired in July on account of ill health.

J.E.Quick, General Baggage Agent, G.T.R. and G.T.Pacific Ry., Toronto, was re-elected, for the 31st consecutive year, Secretary of the American Association of General Baggage Agents, at its annual convention at Kansas City, Mo., Oct. 13 and 14.

L.W.Mitchell, Treasurer, Canadian Northern Ry.; Purchasing Agent, Eastern Lines, Canadian Northern Ry.; and Purchasing Agent, Mackenzie, Mann & Co. Ltd., has



H. Hulatt.
Manager of Telegraphs, Grand Trunk Railway and Grand Trunk Pacific Railway.

been elected by acclamation as a town councillor of Leaside, a Toronto suburb.

W.M.Kirkpatrick, Assistant Freight Traffic Manager, Eastern Lines, C.P.R., Montreal, whose leave of absence for active service was mentioned in our last issue, has been appointed Captain in the Canadian Grenadier Guards, 87th Overseas Battalion.

Capt.H.Wellwood, of the Canada Overseas Railway Construction Corps, whose home is at Kingston, Ont., and Sergeant-Major Wood, of St. John, N.B., have, according to a press dispatch, arrived in Montreal from England, to get drafts of men for the corps.

J.S.Dennis, Assistant to the President, C.P.R., who is in charge of the Department of Natural Resources at Calgary, Alta., has been elected First Vice President of the International Irrigation Congress, which held its 22nd annual session recently at Stockton, Sacramento and San Francisco, Cal.

Daily press reports stated recently that **Sir Henry Drayton**, Chief Railway Commissioner, and **D'Arcy Scott**, Assistant Chief

Railway Commissioner, would visit England shortly to discuss with officials there a number of transportation matters. We are officially advised that the press report was incorrect. D'Arcy Scott recently returned from England, where his two sons are at school.

Frederic Nicholls, director Canadian Northern Ry., and Toronto Ry., and President Canadian General Electric Co., has been appointed acting President of the Dominion Iron & Steel Co., in consequence of the illness of the President, J.H.Plummer. The board vacancy caused by Sir William Van Horne's death has not yet been filled.

W.B.Mackenzie, formerly Chief Engineer and afterwards Right of Way and Lease Agent, Canadian Government Railways, Moncton, N.B., has received information that his son, **Capt.B.H.Mackenzie**, who is on active service in Europe with the 24th Battalion, was officially reported wounded in action, Oct. 14.

Geo. Chahoon, Jr., heretofore Vice President and Manager, Laurentide Co., Ltd., having been elected President to succeed the late Sir William Van Horne, **C.R.Hosmer**, one of the Canadian Pacific Ry.'s directors, has been elected Vice President, and **J.K.L.Ross**, another C.P.R. director, has been elected a director to fill the vacancy caused by Sir William Van Horne's death.

W.J.Rooney, who has been appointed Division Superintendent of Telegraphs, Alberta and British Columbia Lines, G.T.Pacific Ry., Edmonton, Alta., was, from 1896 to 1902, in Toronto Electric Light Co.'s service; 1902 to 1905, in construction department, Great North Western Telegraph Co.; 1905 to Jan. 1913, General Foreman of Telegraph Construction, G.T.Pacific Ry.; Jan. 1913 to Oct. 25, 1915, Superintendent of Telegraph Plant, G.T.Pacific Ry., Winnipeg.

Rowland F.Hill, who has been appointed Assistant General Freight and Passenger Agent, Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., was born there, Dec. 14, 1889, and entered T.H.& B.R. service in July, 1906, since when he has been, to Sept. 1906 to Sept. 1909, stenographer, General Freight and Passenger Agent's office; Sept. 1909 to Nov. 1911, Soliciting Freight Agent, Hamilton; Nov. 1911 to May 1915, rate clerk; May to Sept. 1915, chief clerk to General Freight and Passenger Agent and General Traffic Manager.

W.R.Fitzmaurice, who has been appointed acting Superintendent, District 2, Intercolonial Ry., Campbellton, N.B., in consequence of Evan Price's death, was born at Bedford, N.S., Mar. 19, 1870, and entered I.R.C. service May 21, 1886, since when he has been, to 1889, operator at various stations in Nova Scotia; 1889 to 1897, assistant agent, Springhill Jct., N.S.; 1897 to 1898, agent, Oxford Jct., N.S.; 1898 to Aug. 12, 1913, agent, Amherst, N.S.; Aug. 12, 1913, to Sept. 28, 1915, Assistant Superintendent, Moncton-Ste.Flavie District, Newcastle, N.B.

H.LeJeune, formerly of the C.P.R. Hotel Department, who was stricken with paralysis at Winnipeg, Sept. 9, as mentioned in Canadian Railway and Marine World for October, was removed, Oct. 19, from the Royal Alexandra Hotel, where he had lived for some years, to the St. Boniface Hospital. His right side is completely paralysed, and though conscious and recognising people, he was at that date unable to speak. It is hoped that it will be possible to remove him to the east early in November.

Lieut. Herrick S. Duggan, B.Sc., McGill University, Jr. Can.Soc. C.E., who was in the Royal Engineers, Imperial Army, and whose death is announced, was the son of G.Herrick Duggan, M.Can.Soc. C.E., First Vice-President, Dominion Bridge Co., Montreal. When war broke out he was in the Dominion Bridge Co.'s service in Toronto, and went to England to obtain business for the company. While there he obtained a commission in the Royal Engineers. In writing late in September he said he was chiefly engaged in laying and repairing telegraph and telephone communications.

Edward Hall Drew, who has been appointed Inspector Sleeping, Dining and Parlor Car and News Department, Western Lines, Canadian Northern Ry., Winnipeg, was born at Newark, N.J., Aug. 12, 1878, and entered transportation service in 1902, since when he has been, to 1906, sleeping car conductor, Pullman Co., New York City; 1906 to 1907, General Yard Foreman, Pullman Co., Chicago, Ill.; 1907 to 1908, Inspector and Second Assistant Superintendent, Pullman Co., Chicago, Ill.; 1908 to 1914, Assistant Superintendent, Pullman Co., Chicago, Ill.; 1914 to Sept. 1915, dining car conductor, G.T.Pacific Ry., Winnipeg.

John Harold Valleau, whose appointment as Secretary-Treasurer, Thousand Islands Ry., and Oshawa Ry., Gananoque, Ont., was announced in our last issue, was born at Selby, Ont., Oct. 14, 1889, and was educated at Deseronto, Ont. He commenced service with the Rathbun Co., Oct. 1904, and acted as messenger and clerk until Apr. 1906. From Apr. 1906 to Aug. 1910, he was clerk in the Audit Department, Bay of Quinte Ry., Thousand Islands Ry. and Oshawa Ry., Deseronto, Ont.; Aug. 1910 to July 1912, Travelling Auditor and Assistant to Auditor, same roads; July to Oct., 1912, Accountant, Thousand Islands Ry. and Oshawa Ry., Deseronto, Ont.; Oct. 1912 to Sept. 1915, Accountant, same roads, Gananoque, Ont.

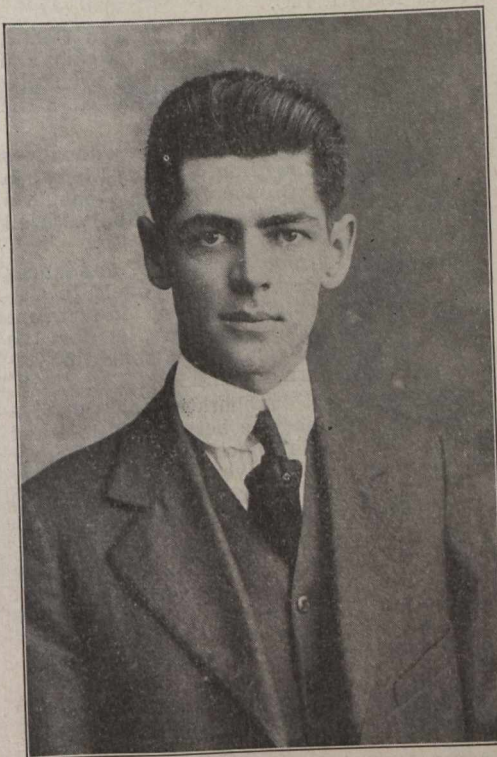
Percy Gifkins, who has resigned the General Managership of the Dominion Atlantic Ry., as referred to under "Transportation Appointments Throughout Canada" on another page of this issue, was born at Harpenden, England, Dec. 25, 1850, entered railway service in 1871 as audit clerk and was subsequently paymaster, Windsor & Annapolis Ry., now the Dominion Atlantic Ry., since which he has been consecutively 1872 to 1875, station master, same road, at Annapolis and Halifax; 1875 to 1889, Auditor; 1889 to 1893, Auditor and General Passenger Agent; 1893 to Jan. 1896, General Passenger Agent; Jan. 1896 to July 1897, Traffic Superintendent; July 1897 to May 1, 1911, Superintendent; May 1, 1900 to Oct. 31, 1915, General Manager, same road.

Capt. T.C. Irving, Jr., A.M.Can.Soc.C.E., of Toronto, Vice President, Robert W.Hunt & Co. Ltd., bureau of inspection, tests and consultation, who went overseas with the first Canadian Expeditionary Forces, has been appointed temporary Major. He left Toronto in command of the 2nd field company, Canadian Engineers, and continued in that position at Valcartier, but in the re-adjustment of officers Major Lindsay was appointed to the command, with Capt. Irving second in command. About a week before the first contingent left Salisbury for France, Major Lindsay was thrown from a horse and had to stay behind in England, Capt. Irving again assuming command until the middle of May, when Major Lindsay rejoined in France. Since Major Lindsay's promotion to Colonel in command of the 1st division, Capt. Irving has again been in command of the 2nd company.

C.T. Delamere, who has been appointed acting Engineer Maintenance of Way, Eastern Lines, C.P.R., Montreal, was born at

Brainerd, Minn., Mar. 18, 1881, and graduated in civil engineering from Minnesota University in 1903. He entered railway service in 1903, since when he has been, to 1904, transit man, Northern Pacific Ry.; 1904 to 1905, Resident Engineer, same road; 1905 to 1908, Division Engineer, same road; 1908 to 1909, Locating Engineer, Western Dakota Ry.; 1909 to 1911, Division Engineer, same road; 1911 to July, 1912, Resident Engineer and Division Engineer, Canadian Northern Ontario Ry.; July, 1912, to Sept., 1913, Assistant District Engineer, C.N.Ontario Ry., Port Arthur; Sept., 1913, to Feb., 1915, Assistant Engineer of Construction, Eastern Lines, C.P.R., Montreal; Feb., 1915, to date, acting Engineer of Construction, Eastern Lines, C.P.R., Montreal. He also continues in the latter position.

H.J. White, whose appointment as Supervisor of Car Work, Eastern Lines, Canadian Northern Ry., Toronto, was announced in a previous issue, was born at Brownington, Vt., Apr. 1, 1871, and entered railway service



J. H. Valleau,
Secretary-Treasurer, Oshawa Railway and
Thousand Islands Railway.

in May 1893, since when he has been, to Sept. 1894, car repairer and joint car inspector, C.P.R. and Boston and Maine Rd., Newport, Vt.; Sept. 1894 to May 1900, joint Car Inspector, C.P.R. and Canada Atlantic Ry., St. Polycarpe Jct., Que.; May 1900 to Feb. 1903, Car Inspector, C.P.R., Toronto; Feb. 1903 to Sept. 1906, leading hand carpenter, C.P.R., Outremont, Que.; Sept. 1906 to May 1911, Car Foreman and Wrecking Foreman, C.P.R., North Bay, Ont.; May 1911 to Nov. 1913, Car Foreman and Wrecking Foreman, C.P.R., West Toronto, Ont.; Nov. 1913 to Aug. 10, 1915, General Foreman Car Department, Quebec Grand Division, Canadian Northern Ry., Joliette, Que.

Evan Price, Superintendent, Moncton and Mont Joli District, Intercolonial Ry., Campbellton, N.B., who died there Sept. 27, after having been ill for some time, was a son of the late William Price, a Montreal contractor, and was born at New York, Nov. 19, 1852. He entered the I.R.C. service April 3, 1876, as train dispatcher. On Oct. 1, 1881, he was appointed Chief Train Dispatcher and on Aug. 15, 1902, Superintendent, the

whole of his service being performed at Campbelltown. He leaves a widow, a son and a married daughter. Frederick Price, Superintendent, Car Service, Grand Trunk Ry., Montreal, is one of his brothers. The late H.A. Price, who at the time of his death was District Passenger Agent, Canadian Government Railways, Montreal, was another brother. The funeral at Campbelltown was attended by J.K. McNeillie, General Superintendent, Canadian Government Railways, and some other general officers and a number of I.R.C. officials.

Albert H. Eager, whose appointment as Assistant Superintendent of Rolling Stock, Canadian Northern Ry., Winnipeg, was announced in our last issue, was born at Waterloo, Que., July 15, 1868, and entered railway service June 1, 1885, since when he has been, to June 1, 1893, apprentice machinist, South Eastern Ry. and C.P.R., Farnham, Que.; June 1, 1893, to Aug. 10, 1899, machinist, C.P.R., Farnham, Que.; Aug. 10, 1899, to Nov. 1, 1901, Locomotive House Foreman, C.P.R., Farnham, Que.; Nov. 1, 1901, to Mar. 1, 1903, Locomotive Foreman, C.P.R., Megantic, Que.; Mar. 1, 1903, to May 1, 1906, Locomotive Foreman, C.P.R., Cranbrook, B.C.; May 1, 1906, to June 1, 1907, General Foreman, C.P.R., Calgary, Alta.; June 1, 1907, to Nov. 1, 1908, District Master Mechanic, C.P.R., Kenora, Ont.; Nov. 1, 1908, to May 1, 1910, Locomotive Foreman, C.P.R., Calgary, Alta.; May 1, 1910, to Aug. 1, 1915, Superintendent of Shops, Canadian Northern Ry., Winnipeg.

A.B. Smith, heretofore Manager, Grand Trunk and Grand Trunk Pacific Railway's Telegraphs, who has resigned on account of ill health, was born in Montreal. As a youth in 1862 he entered the Montreal Telegraph Co.'s service at Montreal. In Aug. 1869 he was appointed chief operator at Hamilton, Ont., and in 1872 was appointed General Inspector. In 1889 he was appointed Superintendent of Construction, Great North Western Telegraph Co., which had in 1881 taken over the maintenance and operation of the Montreal Telegraph Co.'s lines. In Nov. 1905 he was appointed Manager of Telegraphs, G.T.Pacific Ry., with office at Montreal. Subsequently, in order to maintain direct supervision over all construction and development work in the west, his office was transferred to Winnipeg, and under his management not only was the construction of all telegraph lines on the G.T.Pacific accomplished but a commercial telegraph service was organized. On Jan. 1, 1913, his jurisdiction was extended to include the entire G.T.R. system, with office at Montreal. He acted for many years as electrical inspector for the Underwriters' Association, and was one of the original promoters of the Canadian Electrical Association and was its President in 1893.

Henry Hulatt, who has been appointed Manager of Telegraphs, Grand Trunk Ry. and Grand Trunk Pacific Ry., Montreal, and whose portrait appears in this issue, was born in London, England, Feb. 15, 1883, and after being engaged in commercial and journalistic work in England he came to Canada and entered railway service May 3, 1907, since when he was, to Mar. 1, 1908, clerk in stores department, Canadian Northern Ry., Winnipeg; Mar. 1, 1908 to Jan. 1, 1910, Secretary to the Manager of Telegraphs, G.T.Pacific Ry., Winnipeg. He was appointed chief clerk Jan. 1, 1910, and was the Manager's principal assistant in the organization of the G.T.P. railway and commercial telegraph service, and of the railway time service department. On Jan. 15, 1913, consequent on the Manager's jurisdiction being extended over the entire G.T.R. system, the head office was transferred to

Montreal, and he was appointed Commercial and Traffic Superintendent of Telegraphs, at Winnipeg, in charge of telegraph lines west of Fort William, and at the same time was also appointed Superintendent of Time Service, which positions he held until his present appointment, Oct. 1, 1915. Under his direct supervision the commercial telegraph service has been extended to reach the principal cities in the Prairie Provinces and also to some important points in British Columbia, particularly Prince George and Prince Rupert.

Association of Manufacturers of Chilled Iron Wheels.

At the annual meeting in New York Oct. 12, the directors were re-elected, G.W.Lyndon, continuing as President. J.A.Kilpatrick, President of the Dominion Wheel and Foundries Ltd., Toronto, and of the Albany Car Wheel Co., Albany, N.Y., is one of the Vice Presidents, and W.S.Atwood, Chief Engineer and General Manager of Works, Canadian Steel Foundries Ltd., Montreal, is one of the directors.

In submitting the annual report, the President said, among other things:—

It is gratifying to know that the chilled iron wheel has not only been able to maintain itself as the wheel standard of the United States and Canada, but it is beginning to supplant the European standards, as evidenced by the fact that several manufacturers of this association are supplying chilled iron wheels in large quantities to the French and Russian Governments. That our flange recommendations are in the line of improvement is fully demonstrated by the fact that we have at present over 500,000 wheels running that are finding their way through the present track construction without any complaints. The flange used on special wheels is 3-32 of an inch thicker than M.C.B. flange, and the flange as shown in our final argument is 3-16 of an inch thicker at the gauging point than the M.C.B. flange.

It is our purpose to have a sufficient amount of metal in reserve in order to enable us to design a chilled iron wheel of 950 lbs. or heavier; in other words, we are building for the future. We do not want the limits of the possibilities of the chilled iron wheel confined by the limitations of flange design. We want no unreasonable restrictions in the use of the chilled iron wheel. In March of this year we submitted to the chairman of the M.C.B. Association's wheel committee a new set of standard specifications recommending the following:

650 lb. wheel-brake pressure	19,000 lbs.
750 lb. " " "	32,200 lbs.
850 lb. " " "	40,000 lbs.

and detailed drawings of M.C.B. types of wheels and arch plate types of wheels. There is absolutely no limit of weight in the case of steel wheels, but when it comes to a design of chilled iron wheels, all sorts of restrictions follow. We all know what an additional 25 lbs. of iron will do to any of the Standard M.C.B. wheels in the matter of drop and thermal test, and the proof of this is manifest in our 625 lbs. M.C.B. pattern which we were enabled to re-design in 1909 by the additional allowance of only 10 lbs. of metal.

There are some tests which would establish the chilled iron wheel on a much firmer basis and I believe would be advantageous to all manufacturers. The tests that I refer to are comparative tests of the chilled iron wheel and the steel wheel. 1. Relative wearing values when rotating on a steel rail under various loads, the tread wear and flange wear to be observed separately. 2. Abrasion of rail under various conditions of

loading. 3. Determination of the intensity of heating stresses in all parts of the chilled iron wheel, namely, single plate, intersection of plates, front plate, back plate, brackets, etc. 4. Analysis of the thermal test. Intensity of stresses in various parts of the wheel, and effect of thickening the thermal ring, increasing and decreasing the tempera-

ture of the iron, etc. The thermal test should be made an intelligent one instead of the present crude affair that is supposedly alike for all weights of wheels. 5. Determination of stresses in the hub and plates of the chilled iron wheel due to pressing on axles. Variation in stresses due to various classes of machining.

Freight and Passenger Traffic Notes.

The National Transcontinental Ry. is operating a freight service seven days a week, in and out of Winnipeg, owing to increased business.

The Vancouver Board of Trade proposes to ask the transportation companies for longer stopover privileges for through passengers from northern points.

The Grand Trunk Pacific Ry. has added a new parlor observation buffet car to the train leaving Edmonton, Alta., at 10.35, on Mondays, Wednesdays and Saturdays, for Prince Rupert, B.C.

The Grand Trunk Pacific Ry., on Oct. 3, put on an extra train between Calgary and Edmonton, Alta. A train leaves each city at 10 p.m., arriving at destination at 8 the following mornings.

The Grand Trunk Pacific Ry. announces that passengers may now be routed between Prince Rupert, B.C., and Seattle, Wash., via the Pacific Coast Steamship Co., as well as by the G.T.Pacific Steamship Co.

The Grand Trunk Pacific Ry. announces that the free side trip from Tofield to Calgary and return, authorized in current tariffs to through passengers, is for the future authorized from either Tofield or Edmonton and return.

The C.P.R. put in operation on Oct. 4 a tri-weekly train service between Wilkie and Kelfield, Sask., in place of the biweekly service heretofore given. The biweekly service between Wilkie and Cut Knife, Sask., was also made a tri-weekly one Oct. 5.

The Canadian Northern Ry. put in operation a train service on the following new sections of line, Oct. 3:—From Elrose Jct. to Dumblane, tri-weekly; from Laura to Carleton, one train each way per week. These new sections of line are in Saskatchewan.

The Industrial Bureau conducted by the Winnipeg city officials is, among other things, selling ocean tickets to aid in relieving the non-employment in the city. To this activity the city ticket agents have made objection, and the matter is under consideration.

A press report states that to facilitate the operation of the completed portion of the Kettle Valley Lines, the C.P.R. has leased to the K.V.R. its Nicola branch, which was built as the Nicola, Kamloops and Similkameen Ry., and extends from Spence's Bridge to Nicola, B.C., 47.1 miles.

The Grand Trunk Pacific Ry. put in operation, Oct. 3, a new train service between Winnipeg and Calgary, Alta., via Edmonton. Trains leave Winnipeg at 6 p.m., and Calgary at 10 p.m., reaching their destination on the second morning, so that passengers are only one business day on the trip. The trains have standard sleeping cars.

J.G.Taylor, General Superintendent, Saskatchewan Division, C.N.R., is reported to have said, Oct. 8, that consideration was being given to a proposal to put on a through train between Shaunavon, Sask., on the Weyburn-Lethbridge line, and Winnipeg as soon as conditions warrant, giving the Weyburn people a night service to Winnipeg.

Press reports state that a regular freight

and passenger service on the Canadian Northern Ry. will be started from Edmonton, Alta., to Vancouver, B.C., Nov. 1, and that a tri-weekly passenger service each way will be given. The service from New Westminster Bridge into Vancouver will be operated under an arrangement with the Great Northern Ry., which company's Vancouver terminals will be used.

The Edmonton, Dunvegan and British Columbia Ry. is operating two trains a week in either direction from Edmonton to McLennan, 261.7 miles. Train 1 leaves Edmonton at 7.30 a.m. on Tuesdays and Fridays, arriving at McLennan at midnight, and train 2 leaves McLennan at 5.15 p.m. on Wednesdays and Saturdays, arriving at Edmonton at 9.45 a.m. on Thursdays and Sundays. There are 39 stations and other stopping places on the line.

The C.P.R. has equipped its night trains between Calgary and Edmonton, Alberta, with the same type of electrically lighted and modern sleeping cars as are in use on the transcontinental trains. There are morning, afternoon and night trains in each direction, the day trains having as their special feature observation cars, with women's parlor, and men's smoking sections, with buffet department between the two, and an observation platform at the end of the car.

The Grand Trunk Pacific Ry. has inaugurated a through tourist car service in connection with the recently started through service on the National Transcontinental Ry. Tourist cars leave Calgary on Fridays, Sundays and Tuesdays, eastbound, and Toronto, on Tuesdays, Thursdays and Saturdays, westbound. The cars run over the G.T.R. from Toronto to North Bay; the Temiskaming and Northern Ontario Ry. from North Bay to Cochrane; the National Transcontinental Ry. from Cochrane to Winnipeg, and the G.T.Pacific Ry. from Winnipeg to Calgary.

The Board of Railway Commissioners has approved of a standard freight mileage tariff for the Canadian Northern Ry. from Port Arthur, Ont., westward to the Pacific Coast. The tariff is divided into two sections; Prairie standard covering the lines between Port Arthur and Tollerton, Alberta, and including interchange traffic between stations on the C.N.R. in Minnesota, and between all stations west of West Fort, Ont., to and including Tollerton, and stations east of Port Arthur to, and including, Sudbury. Pacific standard, covering lines between Tollerton, Alberta, westerly, also interchange between stations west of Tollerton and all stations east thereof to and including Sudbury, Ont. It is also specified as follows: "In the handling of traffic under this tariff between stations in sections A and B as specified above, it will sometimes be found that a combination of rates to and from Tollerton, Alta., using section A between Tollerton and stations east thereof and Section B between Tollerton and stations west thereof will make a lower through rate than would result from the application of the through mileage rate under Section B, in which event the combination to and from Tollerton may be applied."

Cross Ties Purchased by Railways in 1914.

A total of 19,403,646 cross ties valued at \$8,664,914 were purchased during 1914 by Canadian railways for use in Canada. These companies consisted of 47 steam railways and 31 electric railways. Of this total 1,447,576 ties were treated with preservatives to retard decay. This is about 7% of the total, against 10% in 1913.

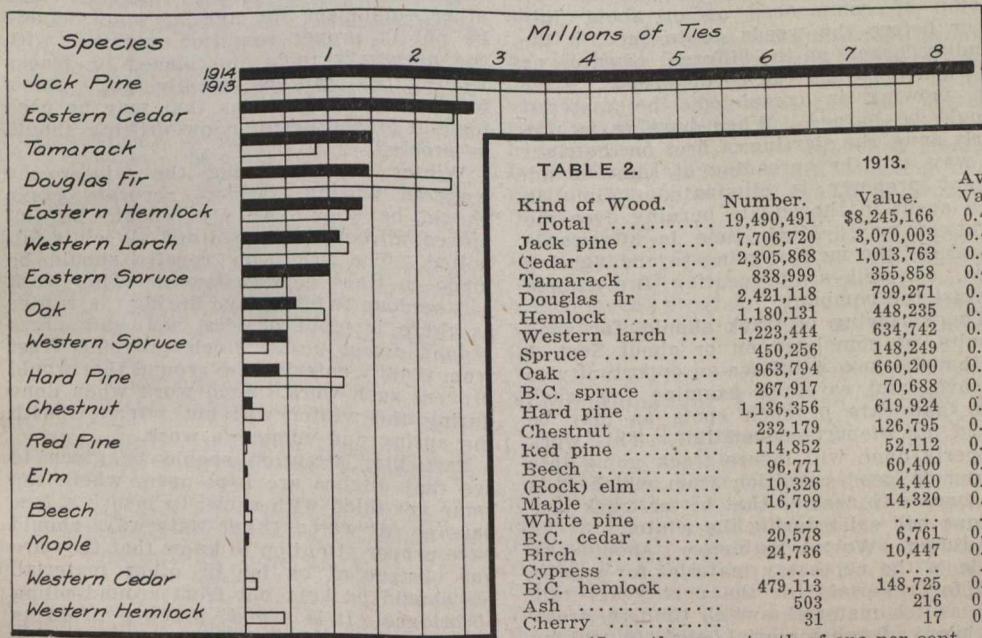
Table 1 gives details of the ties bought in Canada in 1913 and 1914, by kinds of wood. The cross tie purchases in 1914 showed a slight decrease of 2.4% from those of 1913, while the decrease from 1912 to 1913 was 6.7%. The diagram inserted in this bulletin shows the purchases increasing steadily up to 1912 when they amounted to over 21,000,000 ties. The greatest decreases from 1913 to 1914 were with the western species. Douglas fir, western larch, cedar and hemlock, and the imported woods such as oak, hard pine and chestnut. Of the 21 woods

TABLE 1.

Kind of Wood.	Number.	1913.		1914.	
		Value.	Av. Val.	Value.	Av. Val.
Total	19,881,714	\$8,740,849	0.43	19,403,646	\$8,664,914
Jack pine	7,773,674	3,103,140	0.40	8,379,064	3,624,151
White cedar	2,451,527	1,090,436	0.44	2,651,319	1,279,100
Tamarack	866,281	369,666	0.43	1,507,902	661,717
Douglas fir	2,427,100	801,710	0.33	1,456,388	539,249
Hemlock	1,199,699	455,662	0.38	1,390,885	576,440
Western larch	1,225,956	636,631	0.52	1,121,347	459,643
Spruce	458,256	151,049	0.33	1,020,667	379,841
Oak	978,554	673,244	0.69	617,449	483,496
B.C. spruce	267,917	70,685	0.54	547,919	202,234
Hard pine	1,138,351	621,032	0.55	378,983	263,215
Chestnut	232,179	126,795	0.55	104,980	69,091
Red pine	114,852	52,112	0.45	81,979	30,923
Elm	13,674	6,421	0.47	33,307	27,030
Beech	96,923	60,552	0.62	32,637	25,331
Maple	16,860	14,381	0.85	22,449	19,995
White pine	.....	.....	.....	14,165	6,446
B.C. cedar	115,578	77,328	0.67	13,817	4,554
Cypress	.....	.....	.....	13,246	5,873
Birch	24,736	10,447	0.42	11,018	5,293
Western hemlock	479,113	148,725	0.31	4,019	1,246
Ash	503	216	0.43	106	46
Cherry	31	17	0.55	.....	.....

*Less than one tenth of one per cent.

Table 2 shows the ties bought by steam miles of steam railway right of way. On



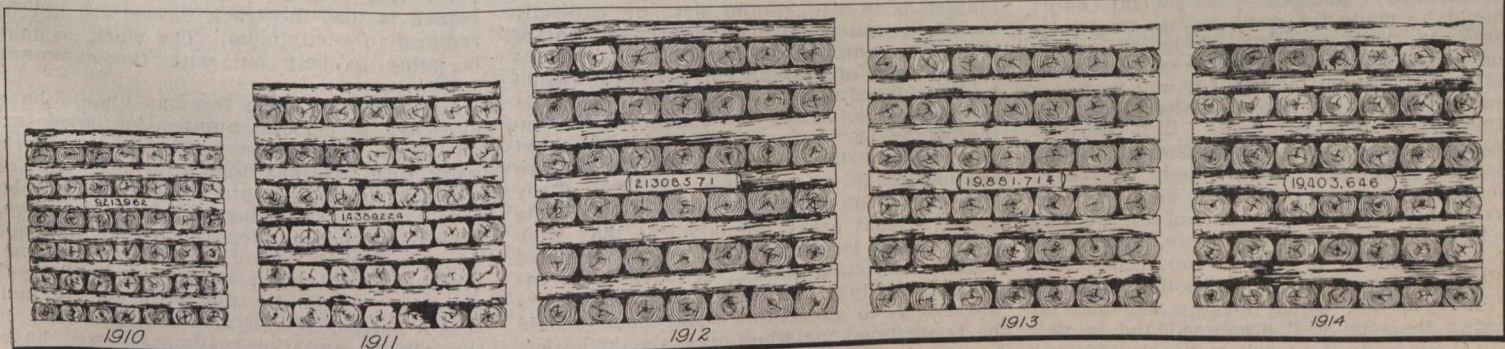
railways in Canada in 1913 and 1914. In June 1914 there were in Canada about 38,000 over 32,000 miles of this trains were in operation, and on the remainder ties at least were laid. The steam railways bought in that year 19,196,208 ties, being about 500 to

TABLE 2.

Kind of Wood.	Number.	1913.		1914.	
		Value.	Av. Val.	Value.	Av. Val.
Total	19,490,491	\$8,245,166	0.42	19,196,208	\$8,545,057
Jack pine	7,706,720	3,070,003	0.40	8,355,518	3,610,885
Cedar	2,305,868	1,013,763	0.44	2,574,920	1,232,925
Tamarack	838,999	355,858	0.42	1,478,512	646,674
Douglas fir	2,421,118	799,271	0.33	1,452,238	537,374
Hemlock	1,180,131	448,235	0.38	1,369,376	566,502
Western larch	1,223,444	634,742	0.52	1,121,347	459,643
Spruce	450,256	148,249	0.33	1,019,249	378,989
Oak	963,794	660,200	0.69	602,291	469,828
B.C. spruce	267,917	70,688	0.26	547,919	202,234
Hard pine	1,136,356	619,924	0.55	356,473	250,614
Chestnut	232,179	126,795	0.55	104,980	69,091
Red pine	114,852	52,112	0.45	81,979	30,923
Beech	96,771	60,400	0.62	32,637	25,331
(Rock) elm	10,326	4,440	0.85	28,973	24,627
Maple	16,799	14,320	0.85	22,449	19,995
White pine	.....	.....	.....	14,165	6,446
B.C. cedar	20,578	6,761	0.33	12,609	4,035
Birch	24,736	10,447	0.42	11,018	5,293
Cypress	.....	.....	.....	5,430	2,356
B.C. hemlock	479,113	148,725	0.31	4,019	1,246
Ash	503	216	0.43	106	46
Cherry	31	17	0.55	.....	.....

*Less than one tenth of one per cent.

Cross Ties Purchased in 1913 and 1914.



Cross Ties Purchased in Canada in Five Years, 1910-1914.

reported in 1914 eleven showed decreases.

Jack pine makes the most suitable tie material of the cheaper, more abundant woods of Canada. It has headed the list since 1911 when it took the place of white cedar, a more durable wood, but one of which the supply is rapidly becoming exhausted. These two woods have formed the greater part of the ties purchased in past years, and together formed over half the total in 1914.

The average prices paid for ties by the railways in 1914 showed only a slight increase over 1913. The prices in the last five years have been as follows,—1910, 38 c.; 1911, 39 c.; 1912, 44 c.; 1913, 43 c.; 1914, 45 c.

TABLE 5.

Kind of Wood.	Number.	1913.		1914.	
		Value.	Av. Val.	Value.	Av. Val.
Total	391,223	\$225,086	0.58	207,438	\$119,857
Cedar	145,659	76,673	0.63	76,399	46,175
Tamarack	27,232	13,808	0.51	29,390	15,043
Jack pine	66,954	33,137	0.49	23,546	13,266
Hard pine	1,995	1,108	0.55	22,510	12,601
Hemlock	19,563	7,427	0.38	21,509	9,938
Oak	14,760	13,044	0.88	15,158	13,668
Cypress	.....	.....	.....	7,816	3,517
Elm	3,348	1,981	0.59	4,334	2,403
Douglas fir	5,982	2,439	0.41	4,150	1,875
Spruce	8,000	2,800	0.35	1,418	852
B.C. cedar	95,000	70,567	0.74	1,208	519
Western larch	2,512	1,889	0.75	.....	.....
Beech	152	152	1.00	.....	.....
Maple	61	61	1.00	.....	.....

*Less than one tenth of one per cent.

the mile. A large proportion of these were used for new construction at the rate of about 3,000 ties to the mile, and the remainder for maintenance of established lines. These companies paid an average of 45c. each for their ties against 58c. by the electric railways. The steam railways with 98.9 per cent. of the total for 1914 purchased all the ties of western larch, western spruce, chestnut, red pine, beech, maple, white pine and birch.

Table 3 shows the ties bought in 1913 and 1914 by electric railways. These lines bought 207,438 ties or about 1.5% of the total. These roads had a mileage of 1,561 in June 1914,

and therefore bought ties at the rate of 133 per mile. These purchases were mostly used for renewals, for which the demand is not so heavy as in the case of steam railways. The total number in this case is a decrease of 47% from 1913, while the average price per tie is the same. The greatest decreases were with western and eastern cedar and jack pine. Eleven woods were reported in 1914, and 15 in 1913, western larch, beech, maple and white pine being dropped from the list.

The foregoing bulletin was prepared by the Interior Department's Forestry Branch, R. H. Campbell, Director of Forestry.

An Outline of a Year's Work for Roadmasters.

By T. Hickey, Roadmaster, Michigan Central Railroad, St. Thomas.

Since methods of arranging track work vary by reason of the extremes in climate and other conditions, it is necessary to fully consider methods that will best serve different conditions.

Summer Work.—It is good practice to hire and take on the summer forces on sections as early as conditions will allow. By so doing a better class of labor can be secured than could be later, as good men are sure to find employment elsewhere. The efficiency obtained from doing work early in the season is to be noted with marked results.

After first getting the track in reasonably good condition for surface and line, the work of tie renewals is begun. The constantly increasing cost of new and suitable ties, coupled with their growing scarcity, makes it imperative that they be handled with the greatest circumspection and care. To reduce the waste should be encouraged. A matter of great importance in the renewal of ties is to fully determine what ones should be taken out and what ones can safely be left in track for another year. Much can be done during the process of renewal to shorten or lengthen the life of the tie.

Tie tongs should be used instead of picks; if placed heart side down the fibres of the timber tend to shed water away from the inner timber. Spike holes should be carefully plugged. A special effort should be made for good results to get tie renewals made as early in the season as possible. By doing so they will have a better bearing in track and it will be found that track will remain in better condition after being surfaced.

After the work of tie renewals is completed, surfacing track should be commenced and continued. It is best to begin surfacing at the further end of the section and work towards headquarters. The secret of putting track in good condition, that will so remain for a reasonable length of time is one which largely depends on having the men well organized and in getting them to do the work as nearly alike as possible. Foremen when surfacing should test their level boards before commencing work every morning and know that they are accurate.

Ties should be tamped with tamping picks on stone ballast and with tamping bars on other ballast. The ends of the ties, and for 18 ins. inside of the rail and well under the rail, should be thoroughly tamped and the centre of the tie tamped with shovel blade. All spikes should be tamped down tight to the rail ahead of the surfacing. This will insure having ties tight to the rail when tamping and will eliminate creeping of rails. Foremen should see that all joints are full bolted and that they are tight as they proceed with the surfacing.

The track surfaced each day should be lined and trimmed and finished.

The work of mowing the right of way should be commenced on or about July 1, or before the weeds go to seed, it depending largely on the different climates, as to when the work can be done best. After the mowing is completed, the material should be burned. When burning is properly done, the starting of fires on the right of way and the spreading of same to adjacent property is eliminated. Time is well spent in thoroughly burning over the right of way. Much time is afterwards saved for the men in going to and fighting fires, as well as preventing fire claims against the company.

The surfacing of track should, for good results, be completed on or about Sept. 1 so that the men will have an opportunity to go over and carefully examine the track and take care of such spots as may be found out of surface and line. This work properly done will insure track going into winter in good condition from which it is reasonable to assume that better track conditions will exist during the winter.

Autumn Work.—Estimates should be made of the necessary material for repairs and for renewals for the next year; rail, ties, switch material, switch timbers, crossing plank, fence material, etc. In making this estimate, the condition of the different materials in use should first be carefully and fully examined, particularly so that of ties. The number of ties for tie renewals at the time of making the estimate should be considered as well as at the time of making renewals. Each tie condemned or intended to be taken out of track the next year should be marked. This mark can best be made by an axe or an adze. They should be all marked in about the same place so that other officials who may wish to examine may know where to look and readily find such marks. A matter of great importance in the inspection of ties for renewals is to determine what ones should be condemned, or what ones should be left in track with safety that would last another year. Several weak ties should not be allowed to remain together in track. Decayed ties should not be allowed to remain in curved track. A tie partly decayed in a tangent will sometimes last much longer with safety than on a curve. Thus a tie may be considered safe for one more year in one place where it would not be so considered in another. This matter is one that should be considered and care should be exercised not to injure good ties when testing for renewals.

Thoroughly good drainage is one of the most essential features of first class track. To accomplish it ditches should be well constructed and so maintained. Where an open ditch cannot be properly maintained,

tile should be used. When tile is used, grade stakes should be set in order to obtain the required depth. They should be covered with cinders or other porous material. Branch tiling should be laid at intervals from the main line of tile extending toward the track and be so laid as to be below the track ballast. Tile drains should be used in yards and at all points where necessary for proper drainage of tracks and switches, and be provided with catch basins securely covered with metal gratings. It is important that yards be provided with proper and perfect drainage. The saving in labor and delay to traffic during the winter in keeping switches and interlockings in working order would soon pay for a proper drainage system.

General cleaning up of station grounds and right of way should be done and all material and scrap picked up and placed in proper places assigned for same before snow falls. Snow plow markers should be got ready and erected at points where required. Snow plows, flangers and other equipment for fighting snow should be put in proper condition, together with the necessary tools and placed on tracks where they can be readily got. Snow fences and other means that may be used for the preventing of snow drifting should be erected.

Winter Work.—During the winter the work of putting track to accurate gauge should be done. All ties should be full spiked, all bolts tightened and all joints full bolted. The necessary repairs should be made to right of way fences. This work can be done to advantage during the winter as there is more or less sod and grass around fence posts which prevents frost from readily entering the ground that would prevent such work. Such work when done during the winter will not interfere with the spring and summer's work.

Particular attention should be given to see that ditches are kept open, where the same get filled with snow, to insure a free passage for water. Other waterways should have proper attention to know that they are not obstructed by ice or other material. Ice should be kept out from around piling at bridges. It is a good practice to do as much work during the winter as can be done with economy. The advantage to be gained is that the track forces will not be reduced to a minimum. The work so done is going to help out with the summer's work.

In the spring each foreman should have at least a certain number of good experienced men to commence his summer's work with. He has done a large amount of work during the winter which he will be free from in the spring. He can, therefore, proceed with less men than if he had not done such work during the winter. Another marked advantage in working an additional man to help to do this work is the fact that a better class of men will be found in the service and the roadmaster will have much better material from which to select foremen. The selection of good foremen is getting to be quite a problem. I feel that this method would be an encouragement to get and hold good men in the service and get efficiency.

We cannot be reminded too often of the necessity of extra precautions for the protection of the traveling public, our fellow workmen and ourselves. Safety of the track is all important, but we must have intelligent safety or safety that is not wasteful either in labor or material.

Spring Work should begin as soon as the frost is out of the roadbed. The condition of the track where shimmed should have close attention and be closely watched while the frost is coming out. In order to

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keep the track in good condition, the thick shims should be replaced by thinner ones as fast as the heaved roadbed settles. This work should be continued until the shims have all been removed from the track.

When the snow has disappeared, each foreman should make a general and thorough search for scrap which has accumulated during the winter from the different sources, much of which has been covered with snow. It should be carefully sorted and that which is found to be serviceable for use should be taken care of and that which is only fit for scrap should be collected and placed in scrap pile.

As soon as the ground becomes dry enough the work of cleaning up station grounds, yards and right of way should be proceeded with, and the refuse material disposed of to best advantage. Pile up neatly all track and other material in proper places. All refuse material that has accumulated during the winter, including cinders, should be removed from tracks and from around buildings and from company's stock yards.

All switches, leads and guard rails should be carefully examined and properly secured. Many parts may be found to be slightly out of adjustment and may not be readily noticed while being partly covered by snow and ice. Close inspection should be made of all foot guard blocking and repairs found necessary should be promptly made.

The different kinds of work mentioned above, when taken care of at this time of the year, will enable the track force to make much progress when the summer work begins.—Maintenance of Way Bulletin.

Nominations for Canadian Society of Civil Engineers' Officers.

G.H.Duggan, First Vice President, Dominion Bridge Co., Montreal, has been nominated as President of the society for 1916. J.G.Legrand, Bridge Engineer, Grand Trunk Pacific Ry., Winnipeg, and T. H. White, Chief Engineer, Canadian Northern Pacific Ry., Vancouver, have been nominated for the vice presidency. The following nominations have been made for councillors:— District 1—J.Duchastel, W.J.Francis, H.R. Safford, Chief Engineer, Grand Trunk Ry., J.C.Smith, Montreal. District 2—J.L.Allan, Halifax and Eastern Ry., Dartmouth, N.S.; H.Donkin, Halifax, N.S. District 3—A.E. Doucet, ex District Engineer, National Transcontinental Ry., Quebec; L.A.Vallee, Engineer and Director of Railways, Province of Quebec. District 4—E.D.Lafleur, Chief Engineer, Public Works Department, Ottawa; W.P.Wilgar, Kingston, Ont. District 5—J.R.W. Ambrose, Chief Engineer, Toronto Terminals Ry. Co.; A.L.Hertzberg, Division Engineer, C.P.R., Toronto. District 6—C.H.Dancer, D.A.Ross, Winnipeg. District 7—D.O.Lewis, District Engineer, Canadian Pacific Ry., Victoria, B.C.; A. O'Meara, Victoria, B.C. Two members of council are to be elected for district 1, and one member for each of the other districts.

A Windsor Freight Case.—The American Coal & Coke Co. complained in May last that the Michigan Central Rd. unjustly discriminated against it and unduly prejudiced it by refusal to extend credit to it with respect to freight and demurrage charges accrued on carloads of coal held at Windsor, Ont., and Detroit, Mich., while extending credit to competitors under like circumstances. The Commission has decided that the evidence fails to show that complainant is discriminated against or prejudiced within the meaning of the act.

Alberta Public Utilities Commission Appointed.

An Edmonton press dispatch, of Oct. 20, states that an order-in-council has been passed appointing G.H.V.Bulyea, ex-Lieutenant-Governor of the Province, Chairman of the Alberta Public Utilities Commission, at a salary of \$7,200 a year; and John Stocks, heretofore Deputy Minister of Public Works, and Judge Carpenter, of the District Court, Calgary, as members of the Commission at salaries of \$6,000 each. J.E.Riley, Calgary, has been appointed Secretary.

The Alberta Public Utilities Act was passed last session of the Legislature, but was not to come into force until the appointment of the Board. A summary of its provisions was given in Canadian Railway and Marine World for June, pg. 220.

Canadian Northern Railway's Through Service From Toronto West.

The C.N.R. will, on Nov. 1, inaugurate a passenger train service between Toronto and Winnipeg, the most important intermediate points being Parry Sound, Sudbury, Nipigon, Port Arthur, Fort William, Fort Frances, and Rainy River. The service will be tri-weekly, the west bound train leaving Toronto Union Station Monday, Wednesday and Friday at 10.45 p.m., arriving at Winnipeg Union Station, Wednesday, Friday and Sunday at 5.45 p.m., and connecting there with the Alberta Express leaving 10.30 p.m. daily for Edmonton and intervening points, and with the Capital Cities Express leaving 8 p.m. daily for Prince Albert and intervening points. The east bound train will leave Winnipeg Union Station, Monday, Wednesday and Saturday at 5.15 p.m., reaching Toronto Union Station, Monday, Wednesday and Friday at 2.30 p.m. The new trains, it is announced, will have electric lighted standard sleeping cars, dining cars, first and second class cars, and electric lighted tourist sleeping cars will be added about Nov 25.

A freight service has also been established between Quebec, Montreal and Toronto and other eastern points and Winnipeg.

Progress of Rogers Pass Tunnel Construction, Canadian Pacific Railway.

The following table, for which we are indebted to J. G. Sullivan, Chief Engineer, C.P.R., Winnipeg, shows the progress made from Sept. 2 to Sept. 30, also the total progress to Sept. 30.

	Progress.	Total.
EAST END.		
Main heading	1,381 ft.	9,380 ft.
Main tunnel	672 ft.	6,578 ft.
WEST END.		
Main heading	1,151 ft.	10,020 ft.
Main tunnel	706 ft.	5,411 ft.

A Railway Superintendent's Appreciation.—R.S.Richardson, Superintendent, National Transcontinental Ry., Fort William, Ont., writes: "I have been a subscriber to Canadian Railway and Marine World since 1901. Both myself and my staffs have been considerably benefited by your many articles of information, and I feel sure that all officials appreciate the arrival of the paper. Proof of this is why it is on every official's desk."

Western Canada Railway Club.—At a meeting of the club in Winnipeg, Oct. 12, C.Murphy, General Superintendent, Manitoba Division, Canadian Pacific Ry., spoke on the operation of railways, and J.B.Hugg, lecturer on municipal law at the Manitoba Law School, dealt with the regulation of public utilities by commissioners.

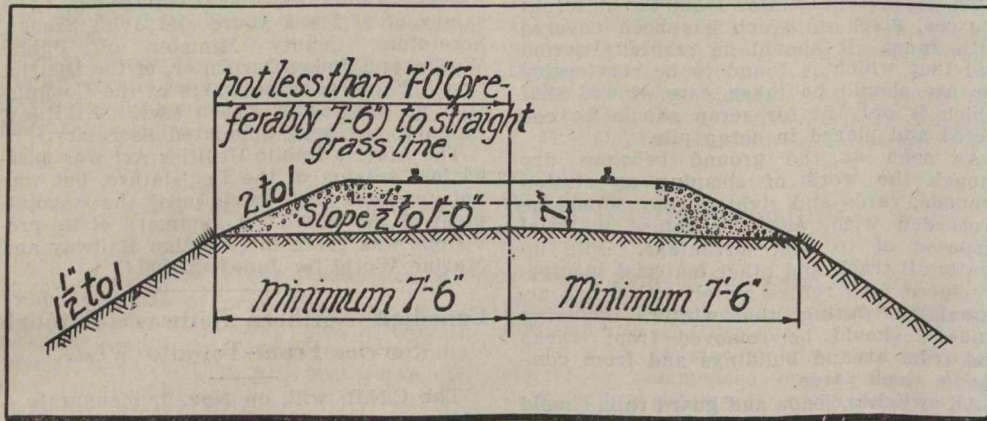
**Change in Standard Ballast Sections.
Canadian Pacific Railway.**

In the new standard plan of ballast sections just issued, by the Canadian Pacific Ry.'s Engineering Department, there are a number of changes from the previous

tion, which will enable trackmen to surface up track from time to time without having to deplete their ballast section for that purpose. The amount of ballast under the tie is 7 ins. and the section contains 3,000 cu. yds. of gravel per mile of single track and 5,300 cu. yds. per mile of double track. The branch line gravel section has also

**National Transcontinental Constructio
Suit.**

Ottawa press dispatch, Oct. 18.—Action has been instituted in the local courts by O'Brien, McDougall and O'Gorman to recover \$220,000 from the Nipigon Construction Co. in connection with National Transcontinental Ry. contracts. In a counter action the Nipigon Co. claims 5% on all extras the O'Brien firm got from the N.T.R. Commission. The contract for 75 miles of the line north of Lake Nipigon, costing about \$3,000,000, was originally awarded to E.F. and G.E. Fauquier in 1908 and by them turned over to the Nipigon Co. on a 4% basis. The Nipigon Co. reserved to itself the building of the road to grade level and sublet to O'Brien, McDougall and O'Gorman the work from grade level to completion, on a further 5% basis. The latter's claim is based on an alleged delay of two years by the Nipigon Co. in bringing the line to grade level, and it is further claimed that some of the work was not properly done, the subcontractors having to carry out much of what should have been constructed by the Nipigon Co.



Branch lines gravel ballast sections, C.P.R.

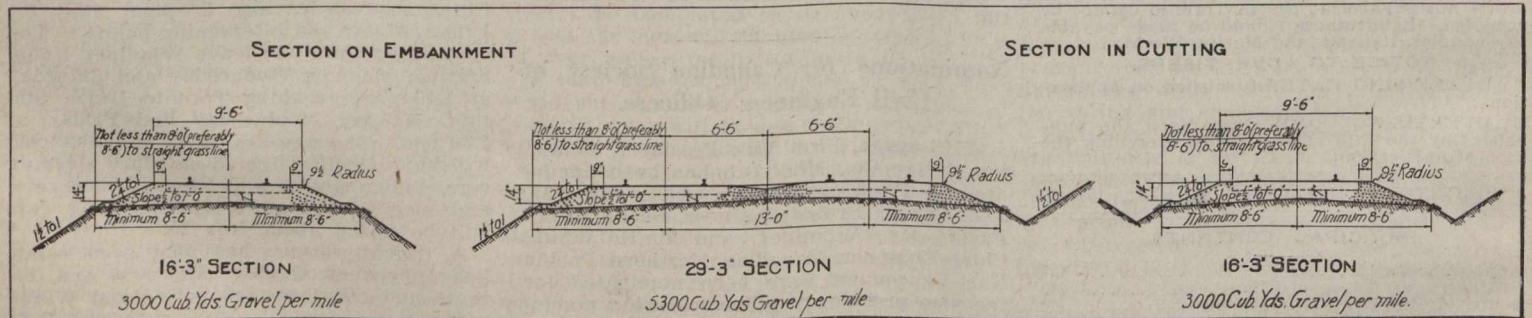
standard that are of interest. The broken stone ballast section remains the same as the old standard, except that the subgrades have been widened to a minimum of 17 ft. instead of 16 ft. as formerly for single track, and to 30 ft. instead of 29 ft. for double track. The amount of ballast under the tie is 7 ins., the side slopes 1 1/2 to 1, and the shoulder at the tie is 6 1/4 ins. The section contains 2,500 cu. yds. broken stone

been changed from a rounded to a straight line section with a 2 to 1 slope, and the subgrade has been increased from 14 to 15 ft. in width.

We are indebted to J. M. R. Fairbairn, Assistant Chief Engineer, Eastern Lines, C.P.R. for the foregoing information.

Canadian Government Ry.'s Operating Results.—F.P. Gutelius, General Manager, is

Twin Cities Local Freight Agents' Association has been organized, embracing officials of Canadian Northern, Canadian Pacific and National Transcontinental Railways in Port Arthur, Fort William and West Fort William. The officers are G.H. Drowley, Agent, Canadian Northern, Port Arthur, President; C.E. Legg, General Agent, Canadian Pacific, Fort William, Vice Presi-



Gravel ballast sections, Canadian Pacific Railway.

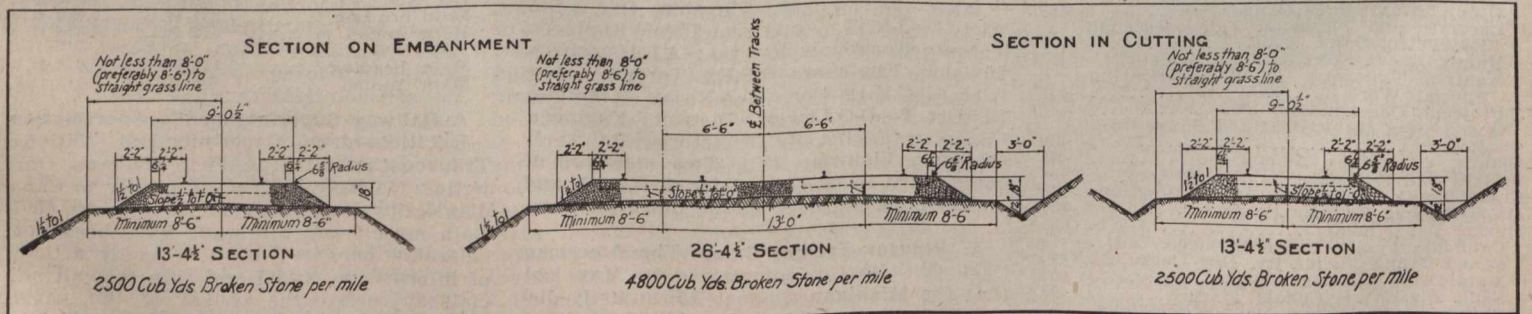
per mile for single track and 4,800 cu. yds. per mile for double track.

The gravel ballast section has been changed from a rounded to a straight line section, having a slope of 2 1/4 to 1 with a 9 in. shoulder against the tie and 7 ins. of ballast under the tie. The subgrade has been increased 1 ft. in width, making a 17 ft.

reported to have stated at Ottawa, Oct. 15, that the Intercolonial Ry. is doing better than last year, both freight and passenger earnings showing a considerable increase. In regard to the National Transcontinental Ry. he is reported to have said that while for the first few months it had run behind, the receipts from the grain traffic promised

dent; E.J. Travers, Fort William, Ont., Secretary-Treasurer.

The ninetieth anniversary of the opening of the first railway in the world was celebrated Sept. 27. On that date in 1825, the Stockton and Darlington Ry. was opened for public traffic between Stockton and Darlington, Eng. The locomotive was a four wheel-



Broken stone ballast sections, Canadian Pacific Railway.

base for single track and 30 ft. for double track, in place of 16 ft. and 29 ft., as formerly. The great advantage of this new form of section is that it allows a certain flexibility in the width of embankments to suit existing conditions, and also allows for a certain amount of storage on top of the embankment at the base of the ballast sec-

to equalize the revenue and operating expenses.

Government Employees on the harbor and terminal works at Port Nelson, Hudson Bay, in connection with the Hudson Bay Ry., have contributed \$3,650 to purchase machine guns at the discretion of the Minister of Militia.

ed one with a four wheeled tender, built by Stephenson and called Locomotion. It weighed about 14,675 lbs., and travelled at from 6 to 8 miles an hour. It is still in existence, but was put out of service in 1841, and has since been used for exhibition purposes, being shown in Philadelphia, Pa., in 1876.

Transportation Appointments Throughout Canada.

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

Canadian Northern Ry.—W.J.CURLE, heretofore Superintendent, Lake Superior District, Capreol, Ont., has been appointed Assistant Superintendent, Toronto District, vice W.R.Kelly, promoted. Office, Rosedale, Toronto.

W.R.KELLY, heretofore Assistant Superintendent, Toronto District, Toronto, has been appointed Superintendent, Lake Superior District, including the Nipigon Subdivision to Current, vice W.J.Curle transferred to Toronto. Office, Capreol, Ont.

R.J.KELLY, heretofore Trainmaster on construction, has been appointed Trainmaster with jurisdiction over Ruel, Oba, Long Lake and Nipigon Subdivisions, Lake Superior District, vice A. J. Gayfer, Division Engineer and Trainmaster, who has been relieved of the duties of Trainmaster, and who, as Division Engineer, will have his office at Capreol, Ont. Office, Hornepayne, Ont.

E.H.DREW, heretofore dining car conductor, G.T.Pacific Ry., Winnipeg, has been appointed Inspector Sleeping, Dining and Parlor Car and News Department, Western Lines, C.N.R. Headquarters, Winnipeg.

W.A.WHITE, Assistant Freight Agent, Calgary, Alta., is reported to have been appointed District Freight Agent, Regina, Sask., vice B.R.Marsales, transferred.

C.H.WORBY, heretofore Inspector, Sleeping and Dining Cars, Winnipeg, has been appointed Sleeping and Dining Car Agent, Saskatoon, Sask.

B.R.MARSALES, District Freight Agent, Regina, Sask., is reported to have been appointed District Freight Agent, Calgary, Alta.

A. BROSTEDT, heretofore District Passenger Agent, Calgary, Alta., has been appointed District Passenger Agent, Vancouver, B.C.

Canadian Government Railways.—W.D. STEWART, whose appointment as Assistant to General Storekeeper, Transcona, Man., was announced in our last issue, was mentioned as having previously been foreman of erecting shop, Intercolonial Ry., Moncton, N.B., but we are officially advised that prior to his present appointment he was Stores Inspector, Intercolonial Ry. and branch lines of the Canadian Government Railways.

(See also Intercolonial Ry. and National Transcontinental Ry.)

Canadian Pacific Ocean Services Ltd.—J. A.MARTIN, heretofore Agent, Allan Line Steamship Co., Glasgow, Scotland, has been appointed Assistant Manager, Canadian Pacific Ocean Services Ltd. Office, Liverpool, Eng.

Canadian Pacific Ry.—A.C.MACKENZIE, heretofore Engineer Maintenance of Way, Eastern Lines, Montreal, has been appointed acting General Superintendent, Atlantic Division, vice H.C.Grout, who has been granted leave of absence. Office, St.John, N.B.

C.T.DELAMERE, heretofore acting Engineer of Construction, Eastern Lines, Montreal, has been appointed acting Engineer Maintenance of Way, Eastern Lines, vice A. C.Mackenzie appointed acting General Superintendent Atlantic Division, and will also continue to handle the Construction Department work. Office, Montreal.

A.DOBSON, heretofore storekeeper, Havelock, Ont., has been appointed storekeeper, Trenton, Ont., vice J.Fairbairn enlisted for overseas military service.

J.HARVEY has been appointed storekeeper, Havelock, Ont., vice A.Dobson transferred.

C.LAVENDER has been appointed storekeeper, John St., Toronto, vice W.H.Bainbridge transferred.

W.H.BAINBRIDGE, heretofore storekeeper, John St., Toronto, has been appointed storekeeper, West Toronto, Ont., vice A. D.BAKER enlisted for overseas military service.

F.RONALDSON, heretofore Locomotive Foreman, Lambton, Ont., has been appointed District Master Mechanic, Farnham, Que., vice H.Pepler.

J.M.CAMPBELL, heretofore Resident Engineer, District 1, Manitoba Division, Kenora, Ont., and who was appointed Roadmaster, District 2, Manitoba Division, Winnipeg, recently, has joined the force of engineers which has left Canada to work on railways in Russia.

T.D.RUGGLES, who was appointed recently Resident Engineer, District 1, Manitoba Division, Kenora, Ont., vice J.M.Campbell, transferred, has resigned and E.L.LANDORPH, heretofore Resident Engineer, District 2, Manitoba Division, Winnipeg, has been appointed in his place. Office, Kenora, Ont.

D.J.HAGERTY, heretofore Trainmaster, Northern Pacific Ry., Missoula, Mont., is reported to have been appointed to a position in the Traffic Department, C.P.R., Saskatoon, Ont.

F.GRIFFIN, heretofore storeman, Winnipeg, has been appointed storekeeper, Ignace, Ont., vice A.Stanfield transferred to Swift Current, Sask.

A.STANFIELD, heretofore storekeeper, Ignace, Ont., has been appointed storekeeper, Swift Current, Sask., vice J.M.Coles, who has enlisted for overseas military service.

The position of Assistant General Freight Agent, Vancouver, B.C., heretofore held by R.ELARMOUR, whose appointment as General Agent, Freight Department, New York, was announced in our last issue, has been abolished, and the duties have been assumed by H.A.PLOW, Division Freight Agent, Vancouver, for the rail lines, and by F.H.CLENDENNING, Division Freight Agent, Vancouver for the steamship lines.

We are officially advised that no appointment will be made to fill the position of Assistant Division Engineer, Vancouver, B.C., formerly held by H.B.SIMS, who is at present in Europe with the Canadian Overseas Railway Construction Corps, the position having been abolished.

Dominion Atlantic Ry.—George Bury, Vice President, issued the following circular, Oct. 25:—"P.GIFKINS, who has with so much zeal occupied the position of General Manager of the Dominion Atlantic Railway for the past 15 years, and who has been associated with the service of that Company for a full period of 44 years, having expressed a desire to relinquish the arduous duties connected with the important position now held by him, the company has yielded to his expressed wish, and effective Nov. 1 next, he will be placed on the retired list in order that he may secure well merited leisure."

GEO.E.GRAHAM, formerly on the Western Lines, C.P.R., and laterly General Manager, Coquitlam Terminal Co., Ltd., Vancouver, B.C., has been appointed General Manager, D.A.R. Office, Kentville, N.S.

Grand Trunk Ry.—H.HULATT, Re appointment of as Manager of Telegraphs. See above under Grand Trunk Pacific Ry.

W.WALKER has been appointed Assistant Land Commissioner, Montreal.

The following station agents have been appointed,—Uxbridge, Ont., A.M.St.John; Komoka, Ont., J.H.Stuart.

Grand Trunk Pacific Ry.—H.HULATT, heretofore Commercial and Traffic Superintendent of Telegraphs, and Superintendent of Time Service, G.T.P.R., Winnipeg, has been appointed Manager of Telegraphs, G.T.R. and G.T.P.R., vice A.B.Smith, who has resigned on account of ill health. For the G.T.R. he will report to, and receive instructions from, the Vice President in Charge of Operation, Montreal, and for the G.T.P.R., he will report to, and receive instructions from, the Vice President and General Manager, Winnipeg. Office, Montreal.

The position of Commercial and Traffic Superintendent of Telegraphs, Winnipeg, heretofore held by H.HULATT, now Manager of Telegraphs, Montreal, has been abolished.

F.T.CALDWELL has been appointed Division Superintendent of Telegraphs, Lines Cochrane and west in Ontario, Manitoba, and Saskatchewan, with jurisdiction over all matters pertaining to construction and maintenance of telegraph and telephone lines and the operation of railway and commercial telegraphs. Office, Winnipeg.

F.T.CALDWELL, Division Superintendent of Telegraphs, Winnipeg, has also been appointed Superintendent of Time Service, vice H.Hulatt promoted.

W.J.ROONEY, heretofore Superintendent of Telegraph Plant, G.T.Pacific Ry., Winnipeg, has been appointed Division Superintendent of Telegraph, Lines in Alberta and British Columbia, with jurisdiction over all matters pertaining to construction and maintenance of telegraph and telephone lines, and operation of railway and commercial telegraphs, and his former position has been abolished. Office, Edmonton, Alta.

The following station agents have been appointed,—Waldron, Sask., G.A.Swan; Cudworth, Sask., M.Thornton; Springwater, Sask., J.T.Kerr; Trochu, Alta., J.B.Frevel.

Intercolonial Ry.—W.H.PIERIE, heretofore charge hand, has been appointed Car Foreman of Shops, Halifax, N.S., vice D.W. Murray assigned to other duties.

J.W.COADY, heretofore passenger car carpenter, has been appointed charge hand, Halifax, N.S., vice W.H.Pierie promoted.

W.R.FITZMAURICE, heretofore Assistant Superintendent, Moncton-Ste.Flavie District, Newcastle, N.B., has been appointed acting Superintendent, District 2, vice Evan Price deceased. Office, Campbellton, N.B.

C.D.BOVARD, heretofore station agent, Moncton, N.B., has been appointed acting Assistant Superintendent, District 2, vice W.R.Fitzmaurice promoted. Office, Campbellton, N.B. See also Canadian Government Railways.

National Transcontinental Ry.—H.M.BIRD has been appointed acting Trainmaster, District 3. Office, Graham, Ont.

H.J.BLACK, heretofore Resident Engineer, C.P.R., Sudbury, Ont., has been appointed Resident Engineer, District 2, N.T.R., between O'Brien and Superior Jct., vice J.E. Gibault, transferred. Office, Cochrane, Ont.

J.E.GIBAULT, heretofore Resident Engineer, District 2, Cochrane, Ont., has been appointed Resident Engineer, District 1, vice A.Babin. Office, Quebec.

See also Canadian Government Railways. **Quebec Central Ry.**—GEORGE BURY, Vice President, Canadian Pacific Ry., has also been elected President of the Q.C.R., vice D.McNicol.

Toronto, Hamilton and Buffalo Ry.—R.F. HILL, heretofore chief clerk, General Freight and Passenger Agent's office, has been appointed Assistant General Freight and Passenger Agent. Office, Hamilton, Ont.

Winnipeg Joint Terminals.—J.W.GLOVER, heretofore Night Yardmaster, has been appointed General Yardmaster, vice W. McAuley, whose appointment as Trainmaster was announced in our last issue.

W.B.OATES has been appointed Night Yardmaster, vice J.W.Glover promoted.

The Eastern Canadian Passenger Association has changed its constitution by providing for a general baggage agents' committee to consider all matters pertaining to baggage or traffic that may be referred to it by the Association. For the current year the committee is composed of the general baggage agents or other officers in charge of baggage departments of the Canadian Government, Canadian Northern, Canadian Pacific, Grand Trunk, Michigan Central and New York Central Railways. The Chairman is R.L.Fairbairn, General Passenger Agent, Eastern Lines, Canadian Northern Ry.

The American Association of General Baggage Agents' annual convention was held at Kansas City, Mo., Oct. 13 and 14, when the main subject discussed was the matter of baggage rules. Five standing committees were appointed to consider the subjects of standard baggage rules, arbitration, baggage checks, standard forms for office methods and accounting, and telegraph code. The officers for the current year are,—J.F.Dugan, Baltimore and Ohio, President; J.E.Quick, Grand Trunk and Grand Trunk Pacific, Toronto, Secretary-Treasurer. The next annual convention will be held at Boston, Mass., June 21, 1916.

Milk Shippers applied to the Board of Railway Commissioners recently for a reconsideration of the order requiring shippers to supply a man to assist in unloading empty milk cans and the question of general handling of the same by railways. In notifying the railway companies of this the Board of Railway Commissioners stated that the companies would be required to show cause why a general order should not issue fixing the minimum number of milk cans requisite, or the minimum car load rate necessary, to entitle a shipping station to a separate car.

Three informations were laid Oct. 6, against Canadian Northern Ry. officials at Regina, Sask., under sec. 90 of the Sales of Liquor Act passed last session of the Legislature. The informations charge the company with running its trains through the province without showing the necessary signs provided for in the regulations made under the Act.

Taxing U. S. Railways Offices.—The Toronto Court of Revision affirmed the business assessment of several United States railway companies having offices in the downtown district. It was contended on behalf of the companies that the offices were only information bureaus for the convenience of the public and that no business was done in them.

Machinery Freight Rates to Espanola.—The Spanish River Pulp and Paper Mills, Saulte Ste. Marie, Ont., complained to the Board of Railway Commissioners recently that the C.P.R. refused to apply the Sault Ste. Marie, Mich., commodity rate of 25% per 100 lbs. on machinery from Massachusetts points to Espanola, Ont.

The Caledonia Springs Hotel, Caledonia Springs, Ont., which has been operated for some years by the Canadian Pacific Ry., has been closed permanently.

Express Rates From London Confirmed by the Board of Railway Commissioners.

Commissioner McLean has given the following judgment, which was concurred in by the Chief Commissioner, Sir Henry L. Drayton:—

In the complaint launched by the London Board of Trade, it was alleged that discrimination was shown in favor of Toronto in express charges from that city in comparison with those charged from London. In support of this contention, the following examples of rates were given: Toronto to Brantford, 63 miles 50c; London to Brantford, 50 miles, 60c. At the hearing, supplemental detail with reference to the discrimination complained of was submitted in the following statement of rates:

Toronto to Brantford	58 miles	—50c.
London to Brantford	56 "	—60c.
Toronto to Woodstock	88 "	—60c.
London to Woodstock	27 "	—40c.
Toronto to Ingersoll	97 "	—75c.
London to Ingersoll	20 "	—40c.
Toronto to Tilsonburg	96 "	—75c.
London to Tilsonburg	40 "	—50c.
Toronto to Berlin	63 "	—60c.
London to Berlin	59 "	—60c.
Toronto to Paris	71 "	—60c.
London to Paris	48 "	—50c.

In the complaint as launched it was stated that the express companies claimed that the rate from Toronto was lower because they obtained more business from Toronto. The express companies in their answer said that the rate has not been made lower from Toronto than from London because of difference in amount of business involved. In the Board's investigation in the Express Case, a revision of the rates was made. The revision of the standard rate brought down those in excess of the standard. In a considerable number of instances, the rates actually in operation were because of special conditions or some accident in the development of the rate lower than the standard rates as approved. The tariffs have been checked and show that there are a large number of rates which on account of special conditions are lower than the standard. At the time the standards were approved the express companies desired to level up the existing rates, but the Board took the position that existing rates should not be increased. There is, therefore, a disparity in the rates charged as shown in the statement above set out. The express companies stated their willingness to remove the alleged discrimination by restoring all the rates in the section in question to standard. The result of this would be to increase a large number of existing rates affecting places whose positions have not been developed before us.

While there is in respect of particular places the difference in regard to rate basis which has been shown, it is not established that the merchants of London, on whose behalf the complaint is launched, are injured thereby. A mere statement as to rates is not conclusive as showing the existence of unjust discrimination or undue preference. There must be evidence of the traffic moving and the effect thereon. Further, the discrimination must be one creating an actual detriment. In the tabular statement furnished, the complaint turns on the Toronto rate basis being lower for a longer distance. It was not, however, in any way established that business which was naturally tributary to the London merchants had been taken away from them because of the lower rate basis enjoyed by Toronto. In other words, it has not been shown that business which would naturally go to London has been taken to Toronto by a difference in rates. The rates for equivalent distances out of Toronto and London have been checked, and it would appear from the

following statement that the rates are the same for the same distances:

Toronto to Woodstock	88 miles	—60c.
London to Hornby	87 "	—60c.
Toronto to Ingersoll	97 "	—75c.
London to Belle River	95 "	—75c.
Toronto to Tilsonburg	96 "	—75c.
London to Streetsville	94 "	—75c.
Toronto to Berlin	63 "	—60c.
London to Guelph	73 "	—60c.
Toronto to Paris	71 "	—60c.
London to Hamilton	75 "	—60c.

Reference has been made to the fact that in a very considerable number of cases the rates charged are below what would apply if the standard rates were charged. As indicative of this the following summaries show cases where on the movement out of London, London may reach various points on rates below the standard rates:

Where the rate charged is 75c. and the standard rate is 90c.—Summerville, Islington, Lambton, West Toronto, Parkdale, North Toronto, Toronto, Snelgrove, Mooretown, Corunna, Courtright, Watson, Sombra, Windsor, Cooksville, Dixie.

Where the rate charged is 60c. and the standard rate is 75c.—Guelph, Campbellville, Christies, Milton, Hornby, Lisgar, Fergus, Elora, Moffatt, Corwhin, Arkell, Prison Farm, Guelph, Harriston.

Where the rate charged is 50c. and the standard rate is 60c.—Dumfries, Galt, Chatham, Leslie.

Where the rate charged is 40c. and the standard rate is 50c.—Woodstock, Innerkip, Blandford, Drumbo, Wolverson, Putnam, Harrietsville, Glencoe, Newburg.

To bring up to standard all rates now below standard would dislocate the rate situation; and it does not appear that this would be of appreciable advantage to shippers. In the absence of any evidence that the existing rate situation works to the detriment of London merchants by taking from them business which would normally go to them and by transferring it on account of the rate difference to Toronto merchants, the Board is unable to find that the existing situation works an unjust discrimination.

Russian Military Railway Construction.—

About 100 men left Winnipeg, Oct. 9, to meet others at various points en route to Montreal, where it was estimated there will be altogether between 500 and 600 men. Thence they were to proceed to New York; and sail for Archangel, Russia. They have been engaged for railway construction work by the Russian Government.

The C.P.R. freight department at Winnipeg notified agents Oct. 13 to at once cease accepting package freight to the east via Fort William when routed via steamships of lake lines, viz., Canada Steamship Lines, Great Lakes Transportation Co., Mutual Transit Co., on account of the close of the navigation season.

In an action in the Alberta Courts, Justice Stewart has decided that the C.P.R. has no lien on the crops of lands sold by it under deferred payments. The interim injunction obtained against three persons was dismissed and the company ordered to pay the costs.

Canadian Pacific Ry. Employees in Toronto and district, who organized recently for the purpose of making monthly contributions for patriotic purposes, have subscribed \$500 to the Toronto and York County Patriotic Association.

The Grand Trunk Pacific Ry. is about to remove its Winnipeg city ticket office from 260 Portage Ave. to the corner of Portage Ave. and Main St., at present occupied by the Gordon-Mitchell Drug Co.

Railway Development.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—R. W. Jones, Chief Engineer of the Alberta Department of Railways, returned to Edmonton, Oct. 4, after an inspection of the railways under construction in the northern part of the Province. He is reported to have said that tracklaying had been completed on the A. and G.W. Ry. to mileage 135, or 21 miles north east of Lac La Biche, and that grading had been completed on 141 miles of the distance between Lac La Biche and Fort McMurray. The uncompleted grading is between mileage 203 and 215, and some miles on the Clearwater Valley. The work on the latter section is rather heavy. The route from the present end of steel runs northeasterly to the west end of Clearwater Lake, and thence in a generally northerly direction, crossing the Christina River and passing west of Sharp Point until it reaches the confluence of the Christina and Clearwater rivers. The line then gradually descends, on a 1% gradient, the valley of the Clearwater River, the banks of which are 200 ft. high, the valley being from two to three miles wide, until it reaches Fort McMurray. It is expected that grading will be completed early in November. Ballasting has been completed to Lac La Biche, and it was expected to have the ballasting to the present end of steel completed by Oct. 31. (Oct., pg. 392).

Athabasca and Fort Vermillion Ry.—A. C. Galbraith, Chief Engineer, is reported to have said at Athabasca Landing, Alberta, Oct. 1, that the engineering party engaged in making the reconnaissance survey left Wabiscaw, Aug. 26, and was expected to reach the proposed terminus at Fort Vermillion, Oct. 31. From the partial reports sent in the work has proceeded satisfactorily. (Oct., pg. 392).

The Burrard Inlet Tunnel and Bridge Co.'s directors were informed by the British Columbia Government, Oct. 15, that the question of the building of the projected bridge across the Second Narrows at Vancouver would be taken up as soon as J.W. Stewart, of the Pacific Great Eastern Ry. returned to Vancouver. (Oct., pg. 392.)

Dominion Government Railway to Hudson Bay.—A couple of bad sink holes are reported to have developed at mileage 208, and to have delayed the progress of work. Otherwise it is said to be proceeding satisfactorily.

Owing to reported gold discoveries in Northern Manitoba, a suggestion has been made that a line be built from Pas, and it is stated that the 15 mile branch could be built for \$150,000. The Provincial Government will, it is said, consider the building of the line if the Dominion Government decides not to undertake it. (Oct., pg. 392).

Edmonton, Dunvegan and British Columbia Ry.—The branch line from Spirit River to the Grande Prairie Settlement starts at the Spirit River Settlement, crosses the Burnt River, Bad Seal River, and the wagon road from Dunvegan to Lake Saskatoon, and passes by Lake Clermont to Grand Prairie City on the Beaver River, 60 miles. The maximum gradient is 1%, and the maximum curvature six degrees. We are officially advised that the construction is easy, the only difficult piece of work being at the crossing of the Saddle Mountain. The grading is 60% completed and should be finished by Nov. 30. Tracklaying is expected to be completed by Feb., 1916. J. Timothy is the contractor, and W. R. Smith, Edmonton, Chief Engineer.

On the main line from the Big Smoky River to the Spirit River, some delays have been experienced owing to slides on the east bank, but it is confidently expected that steel will be laid on the 67 miles early in 1916. While a regular passenger service is being operated between Edmonton and McLennan, a contractor's service is being operated from McLennan to Smith's Settlement. (Oct., pg. 392).

Farnham and Granby Ry.—Application is being made to the Dominion Parliament for an extension of time for the building of the projected line from the C.P.R., near Farnham, easterly to Granby, and thence northeasterly to Windsor Mills or Richmond, Que. Major C.L. Hervey, M.Can.Soc.C.E., Montreal, who is now in England with the Canadian Overseas Railway Construction Corps, is one of the provisional directors. The solicitors for the applicants are Pringle, Thompson, Burgess and Cote, Ottawa. (April, 1914, pg. 165.)

Grand Trunk Pacific Ry.—Collingwood Schrieber, General Consulting Engineer to the Dominion Government, left Winnipeg, Sept. 28, to make one of his periodical trips of inspection over the line to Prince Rupert, B. C.

The trestle bridge over the Minnewastie River, near Uno, Man., which was blown down by a cyclone early in September, has been rebuilt and was reopened for traffic, Sept. 29. It is 1,700 feet long, and 135 feet high. Pending reconstruction the regular train service was operated over the C.P.R.

E.J. Chamberlain, President, is reported to have stated that it is expected to proceed with the construction of the terminal facilities at Regina, and three other points in Saskatchewan, under the agreement with the Provincial Government, early next spring. (Aug., pg. 307).

Grand Trunk Ry.—The question of the elevation of the tracks in Montreal came before the Board of Railway Commissioners at Montreal, Sept. 28. After hearing statements from the city and the company, Sir Henry Drayton, Chief Commissioner, intimated that if it could be shown how funds could be raised for the purpose the company would be glad to go on with the work. In the present financial situation it was impossible to order the company to proceed. The Chamber of Commerce meeting in Montreal, Sept. 30, suggested that the Dominion Government guarantee a bond issue for the greater part of the amount.

The company proposes, according to press reports, to rebuild at once the burned station at Eganville, Ont.; to rebuild portions of its wharves at Owen Sound, Ont., and to extend a spur line in Norwich tp., Ont., to a condensed milk factory located on lot 10, con. 1 of the township. (Oct., pg. 392).

Intercolonial Ry.—A press report states that the Intercolonial and the National Transcontinental tracks are being consolidated for about 10 miles west from Moncton, N.B. The two lines parallel each other for this mileage, and in order that there may be only one track to keep in repair, the Intercolonial track is, it is said, being taken up.

Intercolonial Ry.—A press report states that engineers are making surveys at Painsec, N.B., through Baie Verte, Tignish, Pugwash and on to Truro, N.S., for a revised location for portions of the line. The report adds that the surveys between Truro and the Nova Scotia-New Brunswick bound-

ary are practically completed, and that the work in New Brunswick will be finished in December. (Oct., pg. 392).

Kettle Valley Lines.—Tracklaying is reported to have reached to eight miles beyond Ladner Creek, having been carried over the creek on a temporary structure. It is expected to connect up with the rest of the line at Coquehalla summit Nov. 30. Satisfactory progress is reported to have been made with the building of the permanent steel bridge over Ladner Creek. (Oct., pg. 392).

National Transcontinental Ry.—F.P. Gute-lius, General Manager, Canadian Government Railways, is reported to have said, Oct. 6, that the entire line is in splendid shape, both physically and as regards rolling stock.

A press report states that preparations are being made at Neelands, 30 miles west of Cochrane, Ont., for the erection of a large pulpmill, and that it will require the building of about three miles of line to give the mill connection with the N.T.R. (May, pg. 183.)

Canadian Pacific Railway Construction, Betterments, Etc.

Eastern Division.—The Board of Railway Commissioners has authorized the company to build an industrial spur for the Hull Iron and Steel Foundries Co., Hull, Que.

At a sitting of the Board of Railway Commissioners at Belleville, Ont., recently, application was made for an order to elevate the tracks within the city to allow of the construction of subways, and for the building of an interswitching track with the Canadian Northern Ontario Ry.

Ontario Division.—A press report states that a contract has been let to the Foundation Co., Montreal, for the construction of a bridge at Darling, Ont., on the Toronto-Sudbury line, 114.8 miles from Toronto, at a cost of about \$50,000.

Manitoba Division.—A press report states that the company is about to build an industrial spur to the Western Terminal Elevator Co.'s site, Fort William, Ont.

Alberta Division.—It is reported that the C.P.R. is planning to spend about \$7,000 in making improvements in the sanitary conditions at the Alberta stockyards in East Calgary.

The City of Calgary is reported to have reached an agreement with the company under which the cost of the erection of any subway ordered to be built under the company's tracks to the Dominion Government grain elevator at Calgary, should be divided between the city and the company.

British Columbia Division.—The company is reported to have transferred its waterfront property at Arrowhead, B.C., to the Dominion Government for wharf construction purposes. (Oct., pg. 393.)

Progress of Quebec Bridge Construction.

The north anchor arm of the bridge across the St. Lawrence River at Quebec, being built by the Dominion Government, was completed last year and the north cantilever arm and the south anchor arm are under construction. It is expected that by the end of the year the erection of these two arms will be completed. It is also expected that, during 1916, the south cantilever arm will be erected, and the suspended arm will be put together at a site about three miles below the bridge. This member of the bridge will be erected on pontoons and floated into position, and it is hoped to complete this work also next year. The steel work is being manufactured and erected by the St. Lawrence Bridge Works.

Traffic Orders by the Board of Railway Commissioners.

Kettle Valley Railway Sleeping and Parlor Car Fares.

24225. Sept. 28. Re application of the Kettle Valley Ry. for approval of its Standard Passenger Tariff, C.R.C. no. S-2, covering standard sleeping and parlor car tolls: It is ordered that the said tariff be approved.

Preparing Canadian Northern Passenger Tariffs.

24227. Sept. 27. Re application of Canadian Northern Ry. for approval of bylaw authorizing R.L.Fairbairn, General Passenger Agent, to prepare and issue tariffs in respect of tolls upon passenger traffic to be charged by the company for all passenger traffic that may be carried upon its railway, or any part of the Canadian Northern Ry. system, excepting to and from points west of Port Arthur or West Fort upon its railway, or any part of its railway system, and to specify to whom, the place where, and the manner in which such tolls shall be paid: It is ordered that the said bylaw be approved.

London, Ont., Express Rates.

24236. Re complaint of the London, Ont., Board of Trade, against the alleged discrimination shown in favor of Toronto in express charges from that city as compared with those charged from London: Upon hearing the complaint in London, July 15, 1915, the London Board of Trade being represented at the hearing, and what was alleged; and upon reading the submissions filed—it is ordered that the complaint be dismissed.

Carload Rates on Salted Meats.

24241. Sept. 27. Re complaint of Canadian Manufacturers Association that the railway companies insist on charging 4th class rates on salted meats, in carloads, instead of 5th class, as provided in Canadian Freight Classification item 54, page 113. Upon hearing the complaint at Ottawa, Sept. 21, in the presence of representatives of the Canadian Manufacturers Association, the Canadian Freight Association, the Canadian Pacific, Grand Trunk, and Canadian Northern Railway Companies, and the Pere Marquette Railroad Company, and what was alleged: It is ordered that the complaint be dismissed.

Dried Fruit Rates From San Francisco to Fort William.

24242. Sept. 30. Re application of D. G. Mathias for a rate of \$1.10 on dried fruit from San Francisco, Cal., to Fort William, Ont., upon hearing the application at Fort William, June 14, the Canadian Pacific, Canadian Northern, and Grand Trunk Pacific Railway Companies being represented, the applicant appearing in person, and what was alleged; and upon reading what has been submitted by the railway companies mentioned it is ordered that the application be refused.

Canadian Northern Passenger Rates in Alberta and British Columbia.

24254. Oct. 2. Re application of Canadian Northern Ry., under sec. 331 of the Railway Act, for approval of its Standard Passenger Tariff, C. R. C. no. W-1283, covering a rate of 4c. a mile over the Mountain Division and 3c. a mile east thereof: Upon the report and recommendation of the Chief Traffic Officer it is ordered that said tariff, showing a rate of 3c. a mile, Edmonton, Alta., to and including Tollerton, Alta., and 4c. a mile west of Tollerton, to and including Vancouver, B. C., be approved.

Diverting Cars to Fort William Elevators.

24277. Oct. 5. Re complaint of B. J. Ostrander & Co., of Winnipeg, that the railway companies refuse to divert cars con-

taining grain from one lake front elevator to another after the cars have reached the yards at the lake front: Upon hearing the complaint at Fort William, Ont., June 14, the complainant and the Canadian Pacific, Canadian Northern, and Grand Trunk Pacific Railway Companies being represented, it is ordered that the complaint be dismissed.

Rates on Apples, etc., to Halifax for Export.

24313. Oct. 16. Re complaint of United Fruit Growers, Nova Scotia Fruit Growers, and King's County Board of Trade against the advanced rates on apples and potatoes to Halifax for export, as published in Dominion Atlantic Ry. tariffs, C.R.C. no. 454 and C.R.C. no. 455, respectively, to become effective Oct. 25. It is ordered that the said advanced rates be suspended, pending a hearing by the Board.

Canadian Northern Flag Stations.

General order 150, Oct. 19, re application of Canadian Northern Ry. for an order amending General Order 54, Jan. 6, 1910, repairing construction of flag stations in Manitoba, Saskatchewan, and Alberta, from or to which l.c.l. freight and passenger traffic is carried: Upon reading what is filed in support of the application, and its appearing that the wording of the order does not clearly carry out its intention, it is ordered that the said order be amended by striking out the words "All freight traffic" in the first line of clause 3, and substituting therefor the words, "All l.c.l. freight traffic."

Quebec Central Railway Company's Annual Report and Meeting.

The report for the year ended June 30 presented at the annual meeting in Montreal, Oct. 20, over the signature of David McNicoll, President, states that the company's property is leased to the Canadian Pacific Ry. Co. for 999 years, from Jan. 1, 1913. Interest on the ordinary stock at 4% per annum for four years from July 1, 1912, and 5% per annum in perpetuity thereafter, and interest and principal on the 4% first mortgage debenture stock, 3½% second mortgage debenture stock, and 5% third mortgage bonds, is guaranteed.

REVENUE ACCOUNT.

Freight revenue	\$903,397.77
Passenger revenue	354,407.26
Mails	31,106.59
Express, miscellaneous, etc.	56,817.52
	<hr/>
	\$1,345,729.14

Maintenance of way and structures	\$181,026.44
Maintenance of equipment	136,365.30
Traffic expenses	27,340.92
Transportation expenses	506,947.90
General expenses	49,022.80
Taxes	19,180.13
Expenses outside operations	8,363.86

Total operating expenses	\$928,247.35
Balance carried to Net Revenue Account	417,481.79
	<hr/>
	\$1,345,729.14

NET REVENUE ACCOUNT.

Balance brought forward from June 30, 1914	\$ 75,770.82
Balance from revenue account	417,481.79
Other income	8,615.89
	<hr/>
	\$501,868.50

Interest on 4% debenture stock 12 months	117,741.60
Interest on 3½% debenture stock 12 months	57,572.66
Interest on 5% third mortgage bonds 12 months	82,246.66
Dividend on share capital stock (4%)	135,264.12
Balance	109,043.46
	<hr/>
	\$501,868.50

Out of the net revenue balance of \$109,043.46 an appropriation of \$25,000 was made to additional equipment and betterments and improvements to property, leaving \$84,043.46 carried forward.

The directors for the current year are:—

George Bury, President; I.G.Ogden, Vice President; J.H.Walsh, General Manager; E.W.Beatty, K.C., Montreal; C.D.Brassey, and Thos.Lindley, London, Eng. L.A.Carrier represents the Quebec Government.

Among the Express Companies.

Dominion Ex. Co.'s employes on the Pacific Division have contributed \$1,000 for the purchase of a machine gun for use as the Minister of Militia may direct.

The Prince Edward Island act to amend the acts regarding the imposition of taxes on companies in the Province, passed at the last session of the Legislature, provides that there shall be levied on every express company doing business within the Province, and not having its principal office or organization therein, a tax of \$150.

Stephen Tingley, who died at Vancouver, B.C., Oct. 9, aged 76, was, in his early days, closely associated with Barnard's Express, running between Yale and Cariboo, and was actively engaged in the business from 1864 to 1897. Barnard's Express was the forerunner of the British Columbia Ex.Co.

A first distribution of the accumulated proceeds of the liquidation of the United States Ex.Co., will be made to stockholders during November. D.I.Roberts, formerly General Manager, Quebec, Montreal and Southern Ry. and Napierville Jct.Ry., Montreal, as liquidator of the U.S.Ex.Co., has disposed of the various operating contracts, express equipment, etc., but has not yet cleared up the bonds and stocks of other companies. These represent a par value of \$5,076,800, and consist of stock in nine railway companies, bonds in some 200 other companies, and some mortgages.

A press report from Ottawa states that the question of express delivery and collection limits in cities and towns will come before the Board of Railway Commissioners shortly, to be dealt with in a general way. Applications have been made to the Board from time to time for certain extensions of these limits in various cities and towns, and each application has been dealt with on its merits. The report indicates that it is proposed to hear both sides of the matter, and if possible adopt some general plans to be applied to cities and towns as a whole, with the view of avoiding numerous individual applications for extensions without reasonable grounds.

The Canadian Ex. Co.'s operating statistics for May, and for 11 months ended May 31, compared with those for similar periods in 1914 are as follows: May 1915. May 1914.

Mileage of all lines covered	8,876.50	7,080.31
Charges for transportation	\$273,231	\$271,973
Express privileges, Dr.	127,623	126,930
Operations other than transportation	5,125	10,802
Total operating revenue	150,733	155,846
Operating expenses	127,533	130,933
Net operating revenue	23,199	24,913
Uncollectible revenue from transportation	6	6
Express taxes	4,000	3,000
Operating income	19,193	21,913
	<hr/>	<hr/>
	11 months 11 months	to May 31 to May 31
	1915.	1914.
Charges for transportation	\$2,844,241	\$2,910,153
Express privileges, Dr.	1,417,936	1,380,318
Operation other than transportation	55,119	102,864
Total operating revenue	1,481,424	1,632,699
Operating expenses	1,411,289	1,530,443
Net operating revenue	70,135	102,256
Uncollectible revenue from transportation	95	95
Express taxes	44,000	31,700
Operating income	26,040	70,556

The Marquis and Marchioness of Aberdeen and Temair had a Canadian Pacific private car placed at their disposal for their trip from Toronto to San Francisco.

Electric Railway Department

Petrol Hydraulic Motor Car for Lacombe and Blindman Valley Railway.

A car of a type that is novel in this country has been delivered to the Lacombe and Blindman Valley Ry., which is under construction from Lacombe to Rimby, Alberta. The car embodies the feature of a semi-direct drive, that has the advantage of flexibility. It is typically English in design, weighs 20 tons, is 33 ft. long overall, and 8¼ ft. wide overall. The truck centres are 18 ft., and the wheel base of the truck wheels 5½ ft. The seating capacity is 36, provided in rattan covered cross seats, with a central aisle.

The power transmission is on the Hele-Shaw system, wherein a variable stroke oil pump, directly driven by an engine, forces oil through pipes to an oil motor, which in turn, drives the axles of the car. The power of the driving engine is thus converted into movement of oil under pressure, and as the quantity of oil pumped is variable through the variable stroke pump, the speed of the oil motor, which is directly dependent on the quantity of oil delivered to it, can be directly regulated. By a suitable movement

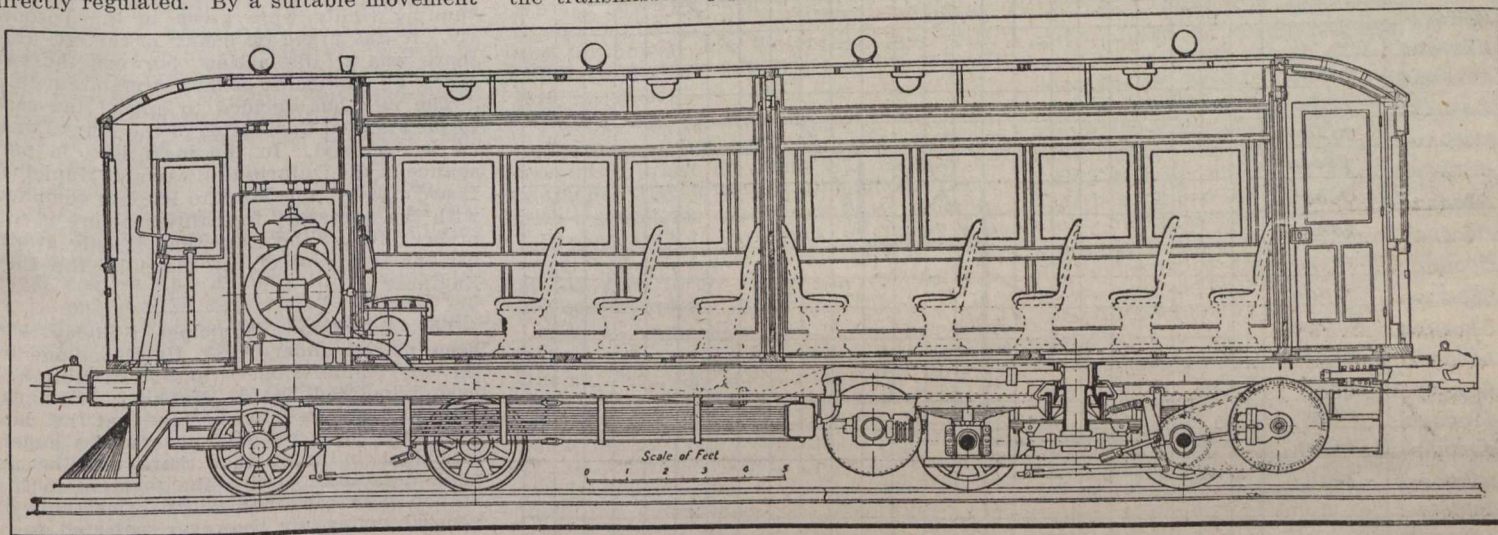
in which the plungers reciprocate. Inside the fixed casing, there is a guide frame, which is normally and when the pump is running idle, concentric with the outer casing and cylinder body. In this guide frame is cut a circular guide channel, and the plungers are connected to this by slipper blocks. As soon as the guide frame is moved in either direction so that its centre becomes eccentric to the outer casing, the plungers are caused to reciprocate in the cylinders, the amount of stroke varying with the amount of eccentricity. Oil is drawn in and discharged through the hollow central shaft, around which the plungers rotate. The special feature of the pump is that its capacity and direction in which it forces the oil can be varied at will by simply altering the position of the guide frame.

The oil under a pressure of upwards of 2,000 lbs. per sq. in., is transmitted from the central shaft of the pump, through a heavy steel pipe, to the two hydraulic motors on the rear truck. The oil is delivered from the transmission pipe to the piping of the

and Co., London, Eng., with whom an order has also been placed for a locomotive operating on the same system.

The Canadian Autobus Company's Franchise in Montreal.

The Supreme Court of Canada gave judgment at Ottawa, Oct. 12, dismissing the petition of D. Robertson, Montreal, who sought the reversal of two judgments of the Quebec courts, holding that the City of Montreal had acted legally when it passed bylaw 483 on June 10, 1912, granting a 10-year franchise to the Canadian Autobus Co. The original action was tried in Sept., 1912, before Justice Demers, who held that the City Council was acting within its powers when it passed the bylaw, which Mr. Robertson desired to have declared ultra vires. This view was upheld in the Quebec Court of Appeal. The bylaw granted the Canadian Autobus Co. an exclusive franchise for the operation of motor bus traffic in Montreal for ten years. In addition to the question of the bylaw itself, there was also involved in the case the question whether an individual ratepayer had the right to bring such an action, without the



Petrol-Hydraulic Motor Car for Lacombe and Blindman Valley Railway, showing Interior Arrangement and Transmission.

of the control spindle, the direction of flow of the oil, and therefore the direction of motion of the motor, may be reversed at will. It will thus be seen that the oil motor rotates at a speed directly proportional to the amount of oil it receives, its speed being varied and reversed at will. Likewise, when the pump is at full stroke, it is delivering a large amount of oil at moderate pressure, but when the stroke is reduced, the same power in the motor delivering a smaller amount of oil, will deliver it at a higher pressure, giving a greater effort at the motor, or a high initial starting torque.

The motor driving the pumps is a 6 cylinder engine, with cylinders 140 by 156 mm., designed to give 103 b.h.p. at 1,150 r.p.m. on gasoline and 85 b.h.p. on oil. This engine is situated across a front compartment of the car, and is operated from that end only, by the operator, who is situated directly in front of the engine. Directly connected to the engine shaft, is the variable stroke pump mentioned. In it, oil is the working fluid. This pump has a fixed outer cylindrical casing, and an internal rotating part carrying the radial cylinders

rear truck through an arrangement of packed valve in the centre pin connection of the truck to the underframe. The motors are situated front and rear of the truck, and connect with the truck axles through heavy chain gearing.

As the hydraulic fluid used is ordinary lubricating oil, the claim is made that all the working parts are thus perfectly lubricated, reducing wear to a minimum. There are no piston rings, packing or parts, requiring renewal, and any oil that may leak past the plungers of the pump or motors, is returned to the system by means of a small auxiliary pump. Safety valves are fitted on the pipe system, so that if any undue stress is thrown on the gear, the pressure is relieved automatically, and the risk of breakage obviated. There is also a by-pass for the oil, actuated automatically by means of an air cylinder when the air brakes are applied, thus preventing damage to the hydraulic motors. The engine is controlled automatically by the operation of the hand wheel, which actuates the pump, effecting the opening and closing of the pump throttle.

This car was supplied by McEwan, Pratt

intervention of the Attorney General or some other official. The majority of the Supreme Court judges concurred in dismissing the petition, with costs, Justices Idington and Anglin dissenting.

There is another somewhat similar case concerning the same bylaw pending in the Quebec courts, in which a ratepayer named Shepherd is plaintiff.

Radial Railways and Their Entrance Into Toronto.—A commission of three engineers appointed respectively by the Toronto City Council, the Toronto Harbor Commission and the Hydro Electric Power Commission of Ontario, to consider and report upon the radial railway system as far as it relates to entrances into Toronto, has completed its investigations, and it is said that its report will be submitted early in November. The commissioners are R. C. Harris, Works Commissioner, representing the City Council; E. L. Cousins, representing the Harbor Commission, and F. A. Gaby, representing the Hydro Electric Power Commission of Ontario. The expenses are stated to have been about \$30,000.

Quebec Railway Light, Heat and Power Company's Annual Report.

The figures given in Canadian Railway and Marine World's last issue as for the year ended June 30 were taken from a press report. The annual report has since been distributed and the following particulars are taken from it:—

The gross earnings from operation for the year were \$1,548,096.35 compared with \$1,531,221.44 in 1914. Adding miscellaneous income \$235,977.97, makes a total revenue from all sources of \$1,784,074.32. The operating and maintenance expenses were \$924,817.22, against \$913,101.60. The fixed charges and taxes of all kinds were \$739,482.05, leaving a net surplus of \$119,775.05, which, added to that of last year, leaves a total surplus to date of \$347,499.45. The properties and plants have been maintained in the same high state of efficiency as heretofore, as evidence of

The Jitney Situation in Canada.

The jitney in Canada came and flourished extensively for some months, but except in one or two cities it has practically disappeared in the east, and even in those cities where it continues it is reported that the number of vehicles in use has considerably diminished. In North Toronto, which was a happy hunting ground for the jitney driver, it was reported, Oct. 18, that there were only about half the number in operation that there were three months ago. The putting in force consistently of the regulations made by the municipalities has had a considerable effect in reducing the number of jitney men, and the Hamilton authorities announced, Oct. 14, that any driver convicted of a violation of any of the provisions of the bylaws will have his license cancelled.

In the west, however, particularly in the Pacific Coast cities, the jitney men are reported to be holding their own pretty well.

penalty of not less than \$10 or more than \$100.

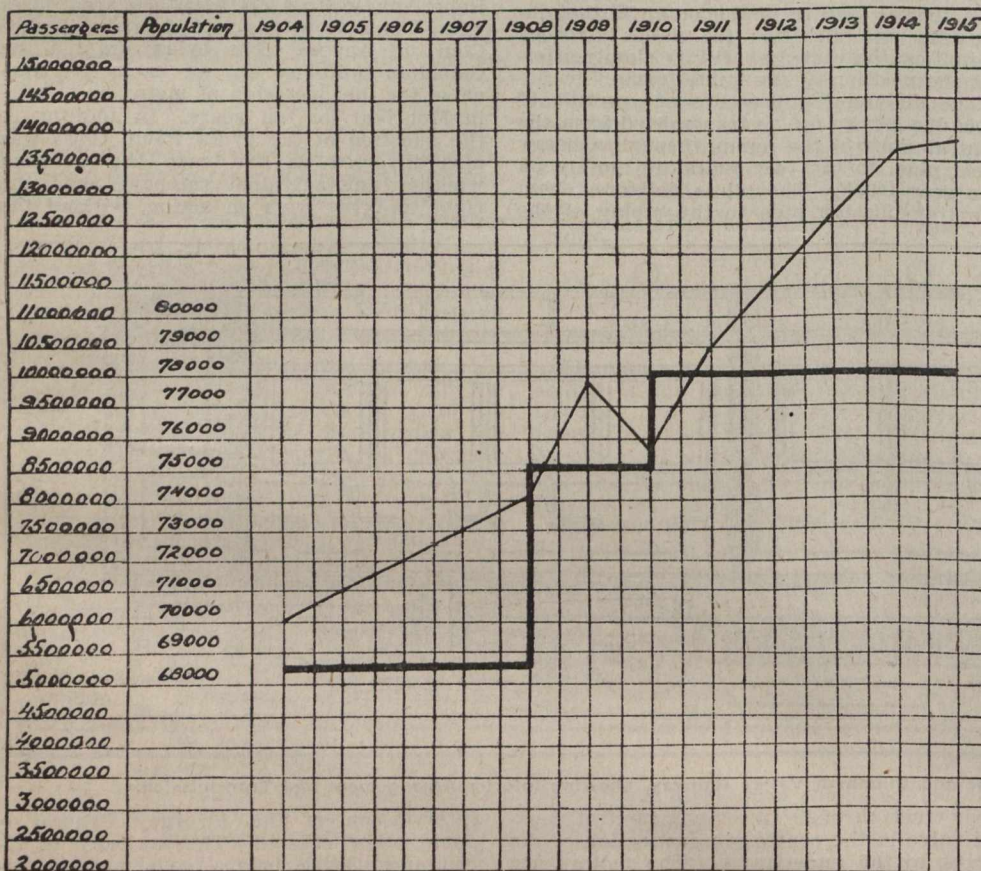
The Toronto Railway Extension on North Yonge Street.

The Ontario Court of Appeal on Oct. 6, announced the reasons for dismissing the appeal of the City of Toronto against the Ontario Railway and Municipal Board's order directing the Toronto Ry. to extend its tracks on Yonge St. from its present terminus, northerly to Farnham Avenue, information respecting which has been given in previous issues. The Court holds that it is bound by a decision of a similar case which occurred on the expiry of the Toronto and York Radial Ry.'s franchise for its Mimico line on Queen St. west of Dufferin St., when Chief Justice Moss decided that the Toronto Ry. was entitled to operate over the portion of the line within the city limits of 1891, on the expiry of the old franchise granted by another municipality before the street in question was taken into the city. At the time of the Toronto Ry.'s agreement with the city in 1891, Queen St., west of Dufferin St., and Yonge St., north of the C.P.R. tracks, although within the city limits, were covered by lines operated under franchises to other lines than the Toronto Ry., and the portions of these streets so covered were excepted from the city streets over which running rights were given to the Toronto Ry. It was urged on behalf of the city that there was a distinction between the two cases, but the court could not maintain this.

The city has decided to appeal the case to the Judicial Committee of the Privy Council in England. In the meantime, in pursuance of the Ontario Railway and Municipal Board's order, the Toronto Ry. has complied with the necessary formalities before it can proceed to lay the track, and is only awaiting the approval of the plans by the City Engineer.

The Edmonton Municipal Railway has been placed under A. G. Harrison, one of the city commissioners, and J. H. Moir has been appointed Traffic Manager. Commissioner Harrison advises us that he has given Mr. Moir the full powers of a superintendent in order that there may be no misunderstanding with the men as to his authority in certain matters. Questions of general policy are, however, referred to a committee of the City Council in conjunction with the city commissioners as an advisory board in connection with municipal railway matters. We were further officially advised that a schedule was put into effect recently, utilizing the belt lines and giving a better service at about the same expenditure. The results are stated to show an improvement in receipts and an increase of 2,000 passengers per day. A proposition to the City Council to abandon the straight five cent fare and to restore the old rate of 6 tickets for 25c is, we are advised, being held in abeyance, as from the experience of other electric railways it does not appear that the increased revenue derived from a reduction in fares justifies such reduction.

The Ontario West Shore Ry. Fiasco.—Goderich, Ont., press dispatch, Oct. 15:—At a meeting today at Kintail of representatives of municipalities affected by the defunct Ontario West Shore Electric Railroad, it was decided to institute legal proceedings against the Toronto General Trusts Co. to recover \$218,000, which was shown to have been paid to J. W. Moyes, promoter of the road, the amount being, it is claimed, more than the progress certificates called for.



Quebec Railway, Light and Power Co.'s City Division.

The light line shows the passengers, including transfers; the heavy line shows the population.

which there was expended during the year on maintenance account, \$193,896.78.

Diagrams attached to the report show that the carloads of freight hauled on the Montmorency Division increased from between 2,000 and 2,500 in 1903-4 to nearly 8,500 in 1914-15. The passengers carried on the same division increased from between 800,000 and 900,000 in 1903-4 to between 1,700,000 and 1,800,000 in 1914-15. The passengers carried on the city division increased from 6,000,000 in 1903-4 to between 13,500,000 and 14,000,000 in 1914-15.

The accompanying diagram shows the passenger traffic on the city division for a term of years.

Canadian Railway Club.—E.S.M. Macnab, Engineer of Electric Car Lighting, C.P.R., read a paper on electric lighting of railway cars, at the Club's monthly meeting in Montreal, Oct. 12.

The New Westminster, B.C., bylaw makes the Chief of Police the chief examiner for the granting of licenses, and authorizes him to call in any dealer in automobiles to give advice on technical matters. In Victoria a bylaw regulating the traffic was adopted, but it has not been put in force as this is written, the Board of Examiners of cars and drivers not having been appointed.

New regulations of various kinds are being adopted in U.S. cities to further regulate the traffic. In San Diego, Cal., it has been found necessary to require jitneys to maintain the same terminals that street cars maintain, and to operate for 18 hours a day. The State of Wisconsin has passed a general law requiring that motor vehicles being operated for hire must furnish a reasonable and adequate service at just rates; must be labelled "common carrier," and that a bond must be provided, under a

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—F.R. Glover, General Executive Assistant, had a conference with the Mayor of New Westminster recently in connection with the laying of permanent tracks on Columbia St West, and on Sixth St. The city is pressing for the work to be done, but the company's present policy is against undertaking any new work. (Oct., pg. 404.)

Hydro Electric Power Commission of Ontario.—In reference to the statement made at the Ontario Municipal Association's annual meeting in Toronto, Sept. 2, by Chief Engineer Gaby, of the Commission, to the effect that reports would be ready shortly thereafter for presentation to the various municipalities interested, showing the estimated cost of the network of electric railways through the western portion of the Province, we are officially advised that it is the intention to have delegates from the various municipalities interested in these proposed lines assemble by districts in Toronto for the purpose of discussing the routes and estimates that have been prepared. The final lines on which the ratepayers will be asked to vote have not yet been fixed and until this has been done it is not likely that reports will be available for general distribution. However, it will be necessary to prepare descriptions of routes and give figures showing the assessment against each municipality for the various lines before the project can be voted upon. (Oct., pg. 404.)

Hydro-Electric Power Commission of Ontario.—In connection with the plans prepared by the commission for the building of a system of electric railways under municipal control, the municipalities interested were, on Sept. 29, requested to appoint representatives to meet the commission to discuss the matter. Chief Engineer Gaby advises that nothing as to the plans of the projected railways, or their probable cost, can be made public until after the representatives of the municipalities interested have considered them.

T.J.Hannigan, Secretary of the Ontario Hydro-Electric Railway Association of Ontario, is reported to have stated, Oct. 19, that the municipalities through which hydro-electric lines are surveyed will be called upon to approve of the routes, plans, etc., at the civic elections in January, and that the amount of passenger traffic, estimated on three miles from each side of the road, would be submitted, together with the freight prospects, etc., would be submitted at a series of group conferences which were to be held in Toronto commencing about Oct. 27, invitations to which were sent out some time ago. The western part of the Province has been grouped as follows for this purpose:

The municipalities from Toronto to Guelph; Guelph and Berlin to Stratford; Stratford to St. Marys and London; London to Sarnia via Arkona and Petrolea; Toronto to Collingwood; Niagara District, as far as Hamilton; Hamilton to Guelph and north to the Georgian Bay.

London and Port Stanley Ry.—The London Railway Commission decided, Sept. 28, to proceed immediately with the erection of car barns on the west side of the line south of Philip St., London, Ont.

We are officially advised that the erection of a car barn on the west side of the line south of Phillips St., London, is being proceeded with. Hyman and Son have the contract for \$27,000.

Montreal and Southern Counties Ry.—We are officially advised that satisfactory progress is being made with the construction of

the extension of the line from St. Cesaire to Granby, Que., 15 miles. A passenger station is being built at Abbotsford. Orders have been placed with the Canadian Westinghouse Co., and with the Northern Electric Co., for substation equipment. W.B.Powell, Montreal, is General Manager. (Sept., pg. 359.)

Montreal Tramways Co.—The Outremont, Que., City Council on Sept. 30 called upon the company to lay tracks from Mount Royal Ave., along St. Jean Baptiste, Rockland and Maplewood avenues in the spring of 1916. (Oct., pg. 404.)

Oshawa Ry.—We are officially advised that the company has under construction about half a mile of pavement betterment on Simcoe St., just north of Oshawa Junction, Ont. D.A.Valleau, Oshawa, Ont., is Superintendent. (Aug., pg. 318.)

Peterborough Radial Ry.—We are officially advised that the company is reconstructing the track on Charlotte, Park and George Streets, as permanent routes. W.G.Ferguson is Local Manager. (Oct., pg. 414.)

Sherbrooke Ry., Light and Power Co.—We are officially advised that the company is contemplating the building of a substation for power at Waterville, Que. J.H. Trimmingham is Superintendent. (April, 1913, pg. 186.)

Toronto Civic Railway.—We are officially advised that the city is replacing the temporary track on Bloor St., Dundas St. to Quebec Ave., 0.746 of a mile, double track, with a permanent paved track construction. It is proposed to lay track on Lansdowne Ave., from St. Clair Avenue to the C.P.R., in the near future. D.W.Harvey, Toronto, is Superintendent. (Aug., pg. 359.)

Toronto Suburban Ry.—Track has been laid on the extension from Lambton to Guelph, Ont., 46 miles, over the Humber River bridge, to the junction with the present line on Dundas St. at Lambton Park, and ballasting and other finishing up operations are in progress. Small gangs of men only are being employed. Work is in progress upon the substations at Georgetown and Guelph, and at the car barn at Lambton Park. It is expected to let contracts for the catenary line equipment in the near future. G.C.Royce, West Toronto, is General Manager.

The construction of the new car barn at Lambton is in the hands of the Suburban Construction Co. The material details for the catenary line are not yet settled, but it will probably be a steel messenger wire suspending a 4% copper trolley wire, American standard grooved.

Sandwich, Windsor and Amherstburg Ry.—The ratepayers of Walkerville, Ont., refused by a majority of nearly three to one, on Oct. 16, to grant an extension of the franchise of the Windsor and Tecumseh Electric Ry. a subsidiary of the S., W. and A.Ry., in return for the construction of a belt line to serve the factory and residential districts. The Town Council desired to have the mile and a half belt line built to suit local requirements, and asked the company under what conditions it would undertake to build it. The company offered to do the work if its franchise, which will expire in 1922, was extended until 1934. The company was not anxious to build the line, and there was no special effort made to have the bylaw carried. The deciding factor in the voting was the proposal under consideration by the Hydro Electric Power Commission of Ontario for building an extensive system of municipally owned lines.

Sir Adam Beck, Chairman of the Commission, addressed a public meeting upon the question, Oct. 15. (Oct., pg. 404.)

Winnipeg Electric Ry.—We are officially advised that the company is laying 750 ft. of double track line, on concrete base, on Webb St., Winnipeg, Man. Wilford Phillips is Manager. (July, pg. 277.)

Flange Bearing Special Work on Montreal Tramway Co.'s Lines.

By W. F. Graves, Chief Engineer, Montreal Tramways Co.

Some years ago it was our practice to design the throattways of our frogs and crossings with a depth that was equivalent to normal depth of the flange, so that flange and tread wear were simultaneous. During the past two years we have experimented with the solid manganese work of a local manufacturer in decreasing the depth of throatway in the frogs and crossings by 1-16 in., on two different occasions making the total decrease on the last special work which we had 1/8 in. This permitted flange bearing across the intersecting gauge lines, the ramp in the floor being 18 in. long. This intersection was installed about a year ago and was built of solid manganese, and the tread wear has not shown on the head of the rail. This company uses entirely chilled cast iron wheels. There has been no undue chipping of wheel flanges that I can ascertain that is directly due to the shallow throatway. On a layout of hard centre work, where the ramp of the floor was short, we have built up the throatway in the adjacent rolled rail by means of an electric weld. This has worked out very well, but unfortunately, owing to the manner in which it is built up, it does not last very long. We have also tried this on drawbridge ends where grooved rail has been laid both on the bridge and on the abutment. This lasted about nine months before becoming tread ridden and tended to preserve the ends of the rails.

I question the policy of building up throatways in solid manganese or hard centre special work for the purpose of raising the floor, except where the steel work at the intersection of the gauge lines has signally failed, as the application of the intense heat necessary to make the addition to the throatway tends, without a doubt, to damage the manganese steel at a very vital point.

My judgment is that a flange bearing throatway is desirable. To what extent the throatway should be built up, I am not prepared to say, as on one of the suburban lines on which we handle freight cars with M.C.B. wheels, we installed a frog with a throatway 1/2 in. in depth. We were handling gondola class of cars of 100,000 lb. capacity, which belonged to a very large industry on this line, and after several months of service over this frog, the industry complained about the chipping of its flanges, and an examination by the division roadmaster and the superintendent of track indicated that this frog was the cause, although the ramp was very easy. The wheels on the gondola were all chilled iron. This would seem to indicate that there is a limit to which the throatway can be raised. I think this subject is worth a great deal of attention from electric railway track men.—Electric Railway Journal.

Edmonton Radial Ry.—We are officially advised that there is under way the reconstruction of 0.25 mile of permanent track on Jasper Ave., and the construction of 0.75 mile of track on Portage Ave. from Norwood Boulevard to 111th St. J. H. Moir is Superintendent. (Oct., pg. 404.)

Mainly About Electric Railway People.

W.H.Stapleton is acting as Superintendent, Niagara, Welland and Lake Erie Ry., Welland, Ont., during the illness of the Superintendent, **F.J.Boyd**.

George L.Guy has been appointed Engineer of the Manitoba Public Utilities Commission, and will deal with matters pertaining to electric railways in the Province, as well as performing other duties.

R.F.Hayward, General Manager Western Canada Power Co., read a paper before the Canadian Society of Civil Engineers, at Montreal, Oct. 8, on the company's Stave Falls power development.

Hon. David MacKeen, who has been appointed Lieutenant-Governor of Nova Scotia, was for some years connected with the Caledonia Coal and Ry.Co., and is a director of the Halifax Electric Tramway Co.

Lt.-Col.D.R.Street, Secretary - Treasurer, Ottawa Light, Heat & Power Co. Ltd. and Moose Jaw Electric Ry., is in command of the 77th Battalion, Canadian Expeditionary Forces, which is training at Rockcliffe Camp, Ottawa.

Patrick Dubee, Secretary-Treasurer, Montreal Tramways Co., was reported, Oct. 16, to have practically recovered from the effects of injuries to his head and right leg, due to a fall from a street car at the beginning of the month.

The Ottawa Electric Ry. is represented in the Canadian Overseas Expeditionary Forces by one of its directors, **T.F.Ahearn**, by a clerk and an electrician, 17 conductors, and two motormen. The electrician, **F.G.Blewden**, was killed in action.

Col.H.H.McLean,K.C.,M.P., for Queen's-Sunbury,N.B., and President of the St.John Ry., who has been in command of a brigade at Valcartier, Que., for the past few weeks was, according to a press dispatch, in Ottawa recently interviewing the Minister of Militia and asking that he be given a chance to get to the firing line. The dispatch adds that **Col.McLean** has done excellent work at Valcartier, and has high hopes of obtaining a command at the front.

In addition to the changes in the Chatham, Wallaceburg & Lake Erie Ry.'s organization mentioned in Canadian Railway and Marine World for October, **L.C.Fritch**, General Manager, Eastern Lines, Canadian Northern Ry., has been appointed General Manager in addition to his other duties. **L.W.Mitchell**, Toronto, Treasurer and Purchasing Agent, Canadian Northern Ry., and also heretofore Treasurer, C.W.& L.E.R. has also been appointed Purchasing Agent for the latter line.

Capt.S.A.Dion, younger son of A.A.Dion, President Moose Jaw Electric Ry., and brother of A. H. Dion, Superintendent of that company, joined the 23rd Regiment in Montreal, but while training at Shorncliffe was drafted into the 3rd Battalion and went to France where he was for some months. He was wounded in a charge at Festubert, May 24, by machine gun bullets, was in a hospital in England for three months and then started for home on the s.s.Hesperian, which was torpedoed. He lost everything he had with him, except the clothes he wore, and returned to London for a few days, then sailing on the s.s.Corsican, and reached home safely. His left arm is useless and probably will be for some months, but it is hoped he will ultimately regain the use of it. He has several months leave of absence.

William Henry Nix, who died at the Wellesley Hospital, Toronto, after a short illness, Oct. 14, was born in London, England, in 1840. He came to Canada about 30 years ago, prior to which he had spent some time

in a law office in England, where he acquired a knowledge of certain points of law, which was of considerable service to him during the last few years. He entered the old Toronto St. Ry. Co.'s service May 8, 1886, at the time of a strike of employes, as a driver of a one-horse car, and two years later was promoted to be timekeeper in charge of the one-horse cars, and remained in that position until the system was taken over by the City, about March, 1891. During the short time the railway was operated by the City, between March and September, 1891, the organization remained practically as it was. On Sept. 1, 1891, when the present company obtained possession, the old title of timekeeper was done away with, and on the electrification of the lines, he was appointed roadmaster, and eventually head roadmaster, of all lines, which position he retained until his death. Latterly he was in charge of the disciplining of the employes, and was official examiner of conductors and motormen, and from 1894 to 1896 he acted as secretary of the company's claims committee. For some years past, in addition to his ordinary duties, he has looked after the company's claims against persons and firms in respect of damage to its cars and other property, and also of the enforcing of its bylaws against offending passengers, etc. He was well known amongst electric railway men throughout Canada, and some years ago was a regular attendant at electric railway meetings.

Manitoba Public Utilities Commission.—**H.A.Robson**, Commissioner of Public Utilities for Manitoba, whose resignation was foreshadowed in Canadian Railway and Marine World for October, has assumed his new position as General Counsel, Union Bank of Canada. We were advised Oct. 22, that no successor had then been appointed, but that the Commission's work was proceeding as heretofore, and that in the meantime **Mr.Robson** was available for voluntary consultation and advice. **A.W.Smith** continues as Secretary of the Commission, **Hugh McNair** continues to look after the gas utilities and general inspection and **Geo.L.Guy** has been appointed Electrical Engineer.

Constitution of Freight Train Crews.—In answer to a question addressed to the American Electric Railway Association's question box, asking what are the practices of member companies regarding freight train crews, and how many brakemen are carried, when train consists of package motor car and trailing load of not over 250 tons is hauled without caboose car, and when train consists of locomotive and from 200 to 500 ton train with caboose, and when train is over 500 tons with caboose, **G.Gordon Gale**, General Manager, Hull Electric Co., Hull, Que., writes that the train crew consists of motorman, conductor, trolley man and brakeman.

Montreal and Southern Counties Ry.—The annual meeting was held at Montreal, Sept. 30. The following directors were elected for the current year: **E.J.Chamberlin**, President; **Frank Scott**, Vice President and Treasurer; **J.A.Yates**, Secretary; **W.H.Ardley**, Comptroller; and **W.H.Biggar**. **J.E.Dalrymple** is Vice President in charge of traffic, and **W.B.Powell** is General Manager.

The Toronto and York Radial Ry.'s Terminal Connection on Yonge St., Toronto.—The appeal of the City of Toronto against the Ontario Railway and Municipal Board's order allowing the Toronto and York Radial Ry. to connect its tracks on Yonge St. with its new terminal station on Farnham Ave., came before the Appellate Division, Toronto, Sept. 29, judgment being reserved.

Electric Railway Notes.

A new time table and schedule of rates was put in force on the London and Port Stanley Ry., Oct. 4.

The Toronto Street Railwaymen's Union announced recently that 270 of its members had enlisted for active service.

The Commissioner of Works for the City of Toronto has been authorized to buy a reciprocating track grinder for \$1,710 f.o.b., Philadelphia, Pa.

The Six Nations Council of Indians on the reserves near Brantford, Ont., Oct 1, expressed themselves as being favorable to the building of an electric railway through the reserve.

The Toronto City Council invites tenders for 13 double truck cars, 47 ft. long, for the Toronto Civic Railways. Four single truck cars have been received from the Preston Car and Coach Co.

According to press reports a project is under consideration for the erection of a joint terminal station in Brantford, Ont., for the Brantford and Hamilton Ry., and the Lake Erie and Northern Ry., the latter of which is now being electrified.

The Brantford City Council, passed a resolution, Oct. 12, directing the preparation of a bylaw for providing for the election in Jan., 1916, of three commissioners for the management of the Brantford St. Ry., and the Grand Valley Ry.

The cost of the investigation made by the Manitoba Public Utilities Commission in 1914, into the electrolysis of water mains, etc., in Winnipeg, amounting to \$7,671.50, was ordered to be paid by the Winnipeg Electric Ry. by Oct. 31.

Calgary Municipal Ry. employes have contributed \$800 towards the purchase of a machine gun for the 56th Battalion. The amount was collected and dealt with by the Calgary Municipal Railway Social Insurance and Sick Benefit Association.

The Regina, Sask., City Council is considering the rearrangement of the car schedule for the Sunday service. Owing to the heavy loss on the service it was proposed to abolish it, but upon representations made it was decided to cut down the service to the minimum.

Wilford Phillips, Manager, Winnipeg Electric Ry., is quoted as saying, Oct. 7, that as soon as the town of Stonewall, Man., was ready to approach the company with an agreement for the running of Sunday cars within its area the company was ready to put on a service.

A decision was given in a Quebec court, Oct. 14, refusing to allow Controller Hebert to inscribe an appeal against Justice MacLennan's decision throwing out his motion for particulars in the action of St. Martin against Hebert, respecting the litigation arising out of the Board of Control-Montreal Tramways Co. situation.

The Toronto Board of Control discussed, at the end of October, the question of taking over the operation of the Mimico and Scarboro Divisions of the Toronto and York Radial Ry., as part of the civic railway. These sections are already owned by the city, and operated by the T.& Y.R.R. for public convenience.

The new Sunday car schedule on the Regina, Sask., Municipal Ry. was put in operation Oct. 17. The cars run on a 15 minute headway between 10 a.m. and 10 p.m. It is hoped that by thus cutting off 3½ hours of service it will be possible to do away with the average loss of \$45 a Sunday resulting hitherto.

The British Columbia Electric Ry. em-

ployes have been organized for first aid instruction during the coming winter. W. G. Murrin, General Superintendent, has offered a trophy or individual medals for teams of five men which show superiority at a practical demonstration of first aid work at the close of the session. Five teams have already been entered.

The British Columbia Electric Ry. carries on a technical school during the winter months for the benefit of its employes. The school was established in Jan. 1904. The school in Vancouver opened its 12th season, Oct. 6, under the charge of J.G. Lister and G. Porter, the company's Chief Electrical Engineer, has offered prizes for the best sets of notes of the lectures for the current season.

The advisory committee appointed by the Edmonton, Alberta, City Council to investigate matters connected with the Edmonton Radial Ry., decided, Oct. 18, to recommend that an independent commission be appointed for its management. The report of the citizens' special committee, together with the recommendations of the Council's advisory committee thereon, is under consideration by the Council.

The City Treasurer reported to the Montreal City Council, Oct. 13, that the Montreal Tramways Co. had failed to pay a balance of \$20,000 alleged to be due for snow cleaning last winter, and that it had also failed to file with the city, in accordance with bylaw 210, a statement showing its gross receipts for the year ended Sept. 1, upon which is based the percentage it is obliged to pay to the city.

One of the cars of the Quebec Ry., Light and Power Co., ran on to the Victoria Park bridge, Quebec, Oct. 1, while the swing span of the bridge was partly open. The car fell over, but was held in a vertical position, caught fast between the pier and the end of the bridge. The passengers, together with the motorman and conductor, escaped with but slight bruises, a rather remarkable and providential escape.

The Hamilton, Grimsby and Beamsville Electric Ry.'s appeal against the Ontario Railway and Municipal Board's order directing the company to provide sanitary conveniences upon its cars, and at Grimsby station, and to file plans for the same has been heard at Osgoode Hall, Toronto. The company contends that the Board has no power to make the order, inasmuch as the H.G. and B.E. Ry. connects with Dominion chartered railways, and it further denies the necessity for such conveniences, which it says will be objected to by passengers and others. The court reserved judgment.

The City of Edmonton, Alberta, is agitated over a proposition by the Wabamun Power and Coal Co., to finance a company with the title of the Edmonton Power Co., to supply electric energy in the city. The company promises to give much cheaper rates than are now being charged by the city power plant, and claims if its project is taken up, that the Edmonton Radial Ry. will be able to save considerably upon its power. The City Solicitor, Sept. 28, advised the Council that it could not enter into any agreement with the company. The Council, however, is in favor of preparing a bylaw, and submitting it to the ratepayers, and then, if it is approved, going to the Legislature for the necessary powers. If the proposition is adopted it will practically mean the abandonment of the existing city power plant.

Brantford Municipal Ry.—The earnings of the street railway in Brantford, Ont., for three weeks ended Oct. 16, were \$2,841.98 against \$1,655.42 for same period 1914.

Attempts to Reduce the St. Thomas Municipal Railway Deficits.

St. Thomas, Ont., press dispatch, Oct. 1: "As a drop in the big bucket of deficits in the management of the municipal railway the committee has decided to cut off the service of all the station cars. The Manager reported that the revenue from the station cars during September was \$69.53 and the wages of the men \$154.98, leaving a deficit of \$85.45, or over \$1,000 annually, for this service alone. This will mean the dismissal of a car crew, but two of the men will be given employment in the department. This deficit does not include the cost of power or wear and tear of the equipment. The hours of two extra belt cars were also cut down 4½ hours each day, making a saving of \$83.16 a month; and to popularize the service the committee ordered the sale of 8 and 10 tickets for 25c. Chairman Webster, to save the city a further annual shortage of \$18,000, which is coming at the end of the year, would abolish the system altogether."

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry., and allied companies:

	Aug. 1915	Aug. 1914	July 1 to Aug. 31, 1915	July 1 to Aug. 31, 1914
Gross earnings	\$507,126	\$674,812	\$1,017,849	\$1,364,835
Expenses	487,392	512,174	971,273	1,039,178
Net Earnings	19,734	162,638	46,576	325,657

The percentages paid to the City of Vancouver for the first nine months of the current year are \$28,224.36 less than for the same period last year. The amount paid for September was \$3,140.75, against \$7,003.31 for Sept., 1914. The passengers carried on the Vancouver city and suburban lines in September was 2,139,217, against 2,951,980 for Sept., 1914. The passengers carried for the nine months of the current year shows a decrease of about 11,000,000 from the same period of 1914.

Cape Breton Electric Co.—

	Aug. 1915	Aug. 1914	July 1 to Aug. 31, 1915	July 1 to Aug. 31, 1914
Gross earnings	\$33,225.71	\$32,742.16	\$64,545.51	\$64,208.66
Expenses	18,159.39	17,484.69	35,825.68	37,150.26
Net earnings	15,066.32	15,257.47	28,719.83	27,058.40

Detroit United Ry.—The ratepayers of Detroit, Mich., will vote Nov. 2 upon the City Street Railway Commission's plan for acquiring the D.U.Ry.'s city lines. A three-fifths majority is required.

Edmonton Radial Ry.—From a statement of the finances for the half year ended June 30, prepared by city officials for the Edmonton, Alberta, Property Owners' Association, it appears that the total deficit on the E.R.R. is \$706,677.59. A note to the table states that "the various deficits are being carried on open account in the entral books."

Lethbridge Municipal Ry.—Earnings for September, \$2,859.45; passengers carried, 57,165.

Levis County Ry.—The annual general meeting of shareholders was held at Levis, Que., Oct. 20, when the report for the year showed that considering the general decrease in business, the cost of renewing all the overhead lines and the ordinary expenses of maintenance, there was a satisfactory surplus. The directors for the current year are:—S.H. Ewing, President; Hon. R. Turner, Vice President; E.A. MacNutt, Secretary-Treasurer; John Forman, J. Blouin and Col. G.E. Allen-Jones. A.K. MacCarthy is Manager, and J.W. Brown, Assistant Secretary-Treasurer.

London St. Ry.—

	Sept. 1915	Sept. 1914	Jan. 1 to Sept. 30, 1915	Jan. 1 to Sept. 30, 1914
Gross earnings	\$38,791.55	\$33,736.90	\$296,120.72	\$282,735.37
Expenses	23,192.87	22,037.32	205,408.18	199,607.93
Net earnings	15,598.68	11,699.58	90,712.54	83,127.44

Regina Municipal Ry.—The revised estimates of the Regina, Sask., City Council for the coming financial year include the following items respecting the Municipal Railway: Cash loss to Dec. 31, 1914, \$16,312.92; estimated loss, 1915, \$123,295.96; total \$139,608.88. The surplus from other public utilities is estimated at \$34,483.31, leaving \$105,125.57 to be provided for. It is proposed to provide \$50,000 of this deficit from general taxation, and the balance out of property sales.

Toronto Ry., Toronto and York Radial Ry., and allied companies:

	Aug. 1915	Aug. 1914	Jan. 1 to Aug. 31, 1915	Jan. 1 to Aug. 31, 1914
Gross earnings	\$762,627	\$850,639	\$6,345,703	\$6,742,786
Expenses	365,093	432,906	3,280,047	3,447,359
Net earnings	397,534	417,733	3,065,656	3,295,427

Toronto Ry.—The receipts from Jan. 1, and the percentages paid to the city, for 1915, compared with those for 1914, are as follows:

	1915		1914	
	Receipts	City percentage	Receipts	City percentage
January.....	\$471,226	\$70,486	\$501,844	\$75,277
February....	440,324	67,047	461,274	72,060
March.....	488,468	94,141	530,751	102,159
April.....	467,702	93,540	501,455	100,287
May.....	468,953	93,790	534,405	106,893
June.....	450,582	90,116	525,033	105,106
July.....	449,086	88,821	495,882	103,772
August.....	447,968	89,953	507,912	101,582
September...	489,573	39,166	525,255	42,021
	\$4,173,872	\$725,700	\$4,583,851	\$809,148

Winnipeg Electric Ry.:

	Aug. 1915	Aug. 1914	July 1 to Aug. 31, 1915	July 1 to Aug. 31, 1914
Gross earnings	\$251,189	\$322,762	\$2,251,467	\$2,760,944
Expenses	182,512	187,535	1,481,593	1,595,653
Net earnings	68,677	135,167	769,874	1,165,291

Calgary Municipal Railway Bylaw.—A new bylaw for the control of the Calgary Municipal Ry. is under consideration. It defines clearly the differences between questions of executive management and questions of policy. All matters of policy must be passed upon by the commissioners as a whole, and by the City Council in accordance with the provisions of the charter of incorporation. The duties and responsibilities of Superintendent T. H. McCauley are also defined, and A. G. Graves, one of the commissioners, is given wide powers, which practically puts him in control of the executive management. Superintendent McCauley has the right to employ men and to suspend employes for cause, but before anyone can be discharged Commissioner Graves must approve. All rules and regulations governing the working of the lines must be submitted to Mr. Graves for approval before being put in operation, and no bulletins governing the employment of men are to be posted by the Superintendent without Mr. Graves' approval. The bylaw also provides that there must be no discrimination against any employee who desires to join a trades union.

The Toronto Ry. and the Outside Running Board on Summer Cars.—The Ontario Railway and Municipal Board concluded a series of hearings, Oct. 1, respecting the proposed elimination of the outside running board from the Toronto Ry.'s summer cars. Several suggestions had, at various times been received, details of which were given in Canadian Railway and Marine World for September, together with some particulars of a type of car which the Board considered had better be adopted. This car has a total seating capacity of 42 persons, and has a longitudinal seat on the inner side of the car and cross seats on the other side. After considerable discussion, the Board decided that the company must build and have in operation 25 of these cars by Dec. 1. The experimental car which was arranged along these lines, is being altered to conform to the views of the Board's Consulting Engineer, J.C. Royce, after which a plan will be prepared and submitted to the Board for formal approval.

Hydro Electric Power Commission of Ontario's Report on Electric Railways

Following are extracts from the report for the year ended Oct. 31, 1914, issued recently:

London & Port Stanley Ry.—Preliminary plans for two substations, for the electrical equipment of the London and Port Stanley Electric Ry., which are to be located at the Horton St. substation of the London Water and Light Commission, and in an extension to the Commission's high-tension transformer station at St. Thomas were prepared and specifications issued covering the purchase for each station of two 500-kw., 1,500-volt d.c., 25-cycle rotary converters with the necessary transformers and 13,200-volt a.c. and 1,500-volt d.c. switchboard equipment. Tenders were received for this apparatus, and the contract for the rotary converters, the necessary transformers, and the switching equipment for the two substations was placed with the Canadian Westinghouse Co. Provision is made in the design of the stations for addition, rotary converters, and feeders in order to take care of further developments in the railway's business. The Horton St. station in London is already constructed and plans and specifications are being prepared for the necessary extension to the Commission's transformer station at St. Thomas. The equipment will be installed by the Commission under the supervision of the contractor's engineer.

London St. Ry.—For the purpose of supplying direct current power to this railway the London Board of Water and Light Commissioners called for tenders on two 500-kw., 600-volt rotary converters with two banks of 13,200-volt, 25-cycle transformers and the necessary direct-current and alternating-current switching equipment. These tenders were referred to the Commission for their recommendation, and after checking them carefully the Commission recommended that the contract be awarded to the Canadian General Electric Co. The contract was prepared and the apparatus inspected during the process of manufacture by the Commission. The rotary converters, transformers and the switching equipment were installed in the extension to the Horton St. substation by the local staff.

Brantford Municipal Ry.—The City of Brantford having taken over the lines and equipment of the Grand Valley Ry., and the contract for its power being about to expire, negotiations were entered into to obtain this load for the local hydro-electric department. A study was made of the load conditions of the railway, and of the cost of giving the required service. It was apparent that it would be advantageous to shut down a steam plant supplying power to this road near Paris, and to purchase power from Paris at this point. An agreement has been drawn up and submitted, covering the delivery of this power. There is every possibility of this railway also taking power from Brantford on the expiration of the present agreement.

Electric Railway Projects.—The work carried on by the electric railway department during the past year may be summarized as follows:—Advice to municipalities, routes, etc., of proposed lines. Reconnaissance and rough reports on various lines. Preliminary surveys of desired routes. Preparation of plans and profiles of preliminary surveys and projection and taking out of quantities on lines along such surveys. Estimates of cost of construction and equipment of proposed lines. Collection of traffic data from the various districts showing the amount and distribution

of business both inbound and outbound. Estimates of the annual revenue and expenses that might be expected from the construction and operation of various lines. Reports and advice to municipal committees and representatives as to the most profitable routes of those surveyed through various districts. Assistance to municipalities in the preparing of bylaws and presentation of such to the ratepayers for ratification. Preparation of standard estimating costs of each portion of the work entering into the construction of the complete line. Preparation of standard rules and specifications with drawings covering the forms of construction proposed for these lines. Preparation of specifications and plans covering standard materials such as rails, concrete pipe, etc., required for roadbed construction. Selection of a system of electrification. Compiling statistics of traffic, revenue and expenses of existing railways for the purpose of comparison with proposed lines. Preparation of specifications for electrical equipment for substations, cars and locomotives. To carry on the above work in all its details required a very careful and complete study of plans, costs and operating statistics of existing railways now in operation in Canada, United States and Europe.

To date, resolutions have been received from 138 townships, 38 villages, 42 towns, 11 cities, 4 police villages, and 7 miscellaneous committees, such as boards of trade, etc., asking for surveys, reports and estimates on proposed lines. Two survey parties have been at work for almost the entire year making preliminary surveys of some 1,200 miles of line. The information so obtained has been plotted and used for the purpose of preparing estimates on the cost of roadbed construction. In making the surveys topography was taken for approximately 400 ft. on each side of the traverse line. When this information was plotted the proposed lines were then projected and quantities figured along such lines.

Traffic men have been sent into the various districts for the purpose of collecting information showing the amount of freight and passenger business that is obtained by the present railways in the district, and whose duties are to estimate on the business that may be done by the proposed lines. Full information is now being taken by these men, showing not only the amount of business, but the revenue that is derived therefrom and the destination or shipping point of freight business; thus the information may be used for other lines that may be proposed in the future without requiring the traffic men to return to the district.

The most important work done during the year was in the Toronto-Northeastern district. Meetings with the representatives of the municipalities in this district were attended during the year, and it was decided by the representatives during the summer that the councils of the municipalities should pass bylaws to cover the construction, equipment and operation of the line, and that these bylaws should then be placed before the people on Oct. 19 for ratification. Agreements between the Commission and the municipalities covering construction and operation of the line were prepared and a number of meetings were held in all centres throughout the district, for the purpose of explaining the proposition to the ratepayers. Representatives of the Commission were present at practically all of these meetings to assist in giving this in-

formation, and the result of the voting on Oct. 19 showed that the municipalities as a whole were very anxious for the construction of the line along the route recommended by the Commission. Eleven out of the 13 municipalities that voted on that date passed their bylaws by very substantial majorities.

Judgment re Sandwich, Windsor, and Amherstburg Ry.—In the Appellate Division of the Ontario High Court of Judicature at Toronto, Oct. 16, judgment was given on the City of Windsor's appeal from an order of the Ontario Railway and Municipal Board of April 20, 1915. The Sandwich, Windsor, and Amherstburg Ry. applied under sec. 250 of the Ontario Railway Act for an order approving the construction of applicant's railway along Ferry St., Chatham St., and Victoria Ave., Windsor; and also for an order approving the construction of a double track railway along London St., Windsor. At the hearing the board made an order approving of the application. Appeal argued and order of board varied by making it without prejudice to the right of the appellant to contest the right of the company to construct the lines that are in question and the validity of the by-law. If an action is brought within three months, costs of the appeal to be costs in the cause of that action. If no action brought, appellants are to pay the costs of the appeal.

System of Paying Toronto Civic Railway Employees' Wages.—The Toronto City Works Commissioner was instructed recently to report to the Works Committee regarding the method of paying the civic railway employees. Formerly the City Treasurer handed the wages to the Works Department, and they were delivered to the individuals, but the Treasurer objected to the Department acting as a paymaster, and instituted a system of paying the men while on duty, which did not work satisfactorily. He then placed cash in certain banks, and the men were required to call there when off duty for their pay. The Treasurer objects to reverting to the first system, and suggests that he send a cheque for the full amount required, to the Works Commissioner, who will be responsible for the payments to the men. The Works Commissioner states that he is not prepared to assume the function of the Treasurer in this regard.

Toronto Ry. and Overcrowding.—The appeal of the Toronto Ry. against a conviction made in 1911, for permitting overcrowding on its cars, was dismissed by the First Divisional Court, Toronto, Oct. 13, and the conviction confirmed. In the course of the appeal the jurisdiction of the Courts to deal with the matter was questioned, it being claimed that the Ontario Railway and Municipal Board was in duty bound to do so, but it was ruled that that might apply between the company and private persons, but not between the Crown and the company.

The Canadian Bridge Co. has been incorporated under the Dominion Companies' Act, with an authorised capital of \$2,000,000, and office at Walkerville, Ont., to take over the assets and business of the Canadian Bridge Co. there, at present carried on under Ontario laws, to pay for the same in shares of the new company, and to assume the outstanding liabilities, contracts, orders and obligations of the Ontario company. The provisional directors are:—F.C. McMath, W. Pope, G.E. Roehm, C.M. Gooderich, engineers, Detroit, Mich.; A.L. Colby, engineer, and C. T. Miller, Secretary, Walkerville, Ont.

Guelph Radial Ry.—The company is repairing the permanent roadway on Wyndham St., and Elora Road, Guelph, Ont., about 3,000 ft. A.H. Foster is Manager. (Feb., pg. 70.)

Marine Department

Transfer of C.P.R. Ocean Steamship Interests to the Canadian Pacific Ocean Steamships, Limited.

At the C.P.R.Co.'s annual meeting in Montreal, Oct. 6, the following resolution was adopted:—Whereas the company is the owner of 57,637 fully paid shares of the par value of £10 each of the Allan Line Steamship Co., Ltd., and is also the owner of the several steamships engaged in Trans-Atlantic and Trans-Pacific service, a list whereof, with their respective ports of registry, is attached hereto marked schedule A.

[The vessels named in the list are: Empress of Britain, Missanabie, Metagama, Lake Manitoba, Mount Temple, Lake Michigan, Montreal, Montfort, Monmouth, Milwaukee, Medora, Empress of Russia, Empress of Asia, Empress of Japan, Monteagle, Melita, Minnedosa.]

And whereas the company is desirous that its said steamers and those of the Allan Line, of which it has control through its holdings of the said shares in the Allan Line, shall be operated under the management and control of a separate company, and it has accordingly procured the formation of a steamship company under the name The Canadian Pacific Ocean Services, Ltd., incorporated under the Companies Acts, 1908 and 1913, of the United Kingdom, with a capital of £2,000,000 divided into 200,000 shares of £10 each, and having its registered office at 8 Waterloo Place, in the County of London (hereinafter called "the Steamship Company"), inter alia for the purpose of acquiring and operating the said steamships and acquiring the said shares; and whereas, the company is by statute empowered to sell its steam or other vessels engaged in ocean service to the steamship company upon such terms and for such consideration as may be determined by the boards of directors of the steamship company and this company, and is further empowered to guarantee payment of the principal and interest of and acquire and hold stock, bonds, debentures, debenture stock, or other securities of the steamship company; therefore be it resolved that the company do sell to the steamship company the said 57,637 fully paid shares of the Allan Line Steamship Co., Ltd., do transfer to the steamship company the several steamships named in the schedule attached, and the good will pertaining thereto, together with their several boats, machinery, gear, tackle, apparel, furniture and other equipment, including all stores and bunker coal, and do contemporaneously with the transfer of the shares of the Allan Line, execute in favor of the steamship company absolute bills of sale of the said steamships in the form required by the Merchant Shipping Acts, 1894 to 1914, the consideration for the sale of the said shares of the Allan Line Steamship Co., Ltd., being £576,370, which shall be paid and satisfied by the allotment and issue to this company of 57,637 shares of the steamship company, fully paid up and non assessable, and the consideration for the transfer of the said steamships and goodwill pertaining thereto, being the payment by the steamship company to this company of £4,252,400, which shall be paid and satisfied by the allotment and issue to this company of 138,654 shares of the steamship company, allotted and issued as fully paid up and non assessable, and by the delivery to this company of first de-

bentures or debenture stock of the steamship company, bearing interest at the rate of 5% per annum, to the amount of £2,865,860, which, together with such first debentures or debenture stock as may be issued by the steamship company ranking pari passu therewith, shall be secured as a first floating charge upon the whole of the undertaking, property and assets of the steamship company, present and future, the deed securing such first debentures or debenture stock to contain all usual and appropriate provisions for the protection of the holders of the said first debentures or debenture stock secured thereby and to be approved of by the company's counsel.

Be it further resolved—That the agreement between the company and the Canadian Pacific Ocean Services, Ltd., dated Aug. 9, 1915, now submitted to this meeting, be, and the same is hereby approved, and the execution thereof by the President and Secretary of the company be, and the same is hereby ratified and confirmed, the said agreement to be effective from Nov. 1 next, or from such later date as the directors may determine, and be it further resolved, that pursuant to the statutory authority in that behalf, this company do guarantee payment of the principal and interest of such bonds, debentures, debenture stock or other securities of the steamship company as may be from time to time issued by the steamship company, with the consent of this company in writing under its corporate seal.

Unsatisfactory Work on Toronto Harbor Contracts.

The Minister of Public Works, when interviewed at Toronto, Oct. 21, respecting complaints as to the work on certain contracts in connection with the Toronto harbor improvements, is reported to have stated that the contractors had not fulfilled their obligations. Certain defects were discovered and the contractors admitted that such a condition was due to lack of proper inspection. They subsequently brought forward a plan for remedying the defective work, and to satisfy the Government along certain lines, two of the subcontractors agreed to experiment on two stretches of 100 ft. each. This experimental work, when completed, was condemned by the Government and Harbor Commission's engineers, whereupon the contractors agreed to act in accordance with the original plans. He had, in company with the engineers representing the Government and the Harbor Commissioners, inspected the faulty work, and had made it known to the contractors and subcontractors that if they were not prepared to comply with the stipulated conditions, their deposits would be estreated and utilized by the Government for remedying defects. The contractors have been asked to continue the work until forced to shut down by weather conditions, and if there is any branch of the work which can be continued throughout the winter, it will be proceeded with.

The work in the harbor was shut down in July, and certain difficulties were experienced in connection with the work of one of the subcontracting firms, which attempted to remove its plant, when called upon by the general contractors to make defects good. The Canadian Stewart Co., the general contractors, admit responsibility for the work of subcontractors, and state that any defects will be made good, and the original plans adhered to.

Submarine Chasers Being Built in Canada.

"The Canadian Vickers Co., of Montreal, is said to have an order to build 300 submarine chasers for Great Britain. It is further reported that 25 have been delivered and have played an important part in the destruction of German submarines, and that eight of the small craft crossed the Atlantic Ocean under their own power. The submarine chasers, which are proving an increasingly important factor in minimizing the potentiality of Germany's submarine campaign, are 75 ft. long and have a surface speed of 20 knots and a submerged speed of 15. They draw 14 ft. of water. They carry no torpedoes but are armed fore and aft with two 3-in. guns. The chasers are designed to co-operate with aeroplanes in sighting submarines. Once a submarine is sighting the chaser speeds so swiftly to the attack and describes circles with such rapidity that the larger submersible is placed at a distinct disadvantage in retaliating. Whether the chaser succeeds in damaging the submarine or not it has little difficulty in escaping because of its higher speed, its superior control and the relatively small surface of exposure it presents to a torpedo. All the steel for a big chaser contract is the product of the Bethlehem Steel Co., the Crucible Steel Co. and the Canada Steel Co. of Hamilton, Ont. The engines are of a Diesel type, closely corresponding to those the Electric Boat Co. of New London, Conn., built for the 10 submarines that crossed the Atlantic in July and August. Like the larger craft, the chasers are equipped with both heavy oil engines and electric motors."

The foregoing is reproduced from Shipping Illustrated, New York. We have abstained from referring to the matter hitherto, in deference to the Canadian press censorship regulations, but now that it has been dealt with in a United States paper it has been passed by the Chief Press Censor for Canada for publication here.

The Grand Trunk Pacific Railway Dry Dock at Prince Rupert, B.C.

A number of official tests of the dry dock at Prince Rupert, B.C., which was completed recently, were made during the early part of October, in the presence of Dominion Government engineers, the designer and the contractors.

The dock is built in three sections, and has a total length of 604 ft. 4 ins. on the keel blocks. It is capable of taking the largest vessels at present operating on the Pacific Ocean, and to enable it to handle smaller vessels economically, it is built in three sections. One section consists of 6 pontoons, and is 269 ft. overall, and there are two sections of 3 pontoons each, 164 ft. long.

During the tests the three sections were joined, and the whole dock sunk to 26 ft. below the keel blocks, giving a total depth of 30 ft. from the pontoons to the surface. This was accomplished without any hitch, and 45 mins. after the starting of the pumps the dock was brought to its normal position.

The first vessel to use the dock was the s.s. Delhi, which was wrecked on the Alaska coast about a year ago, and towed to Prince

Rupert and docked during September for examination.

A full description of the dock and other properties connected therewith, with details and plans, was given in Canadian Railway and Marine World for Feb., 1912.

Regulations for Trans-Atlantic Shippers.

The British Government has recently issued a few recommendations to shippers by Atlantic steamships, with a view to minimizing risk of delay when vessels are boarded for search whilst en route.

Shipments to neutral European, or Russian ports in the Baltic: In the case of goods shipped by a vessel which is to call at a neutral European port, it is recommended that bills of lading should never be made out "to order," but that they should be made out either to a named consignee, or to a bank or financial house of high standing with the remark "notify —", giving the name of the person or firm for whom the goods are ultimately designed. Goods shipped to Holland should be consigned to the Netherlands Overseas Trust.

Shipments to British, French or Italian ports, or to Russian ports not in the Baltic:—It is not necessary that goods shipped to a British, French or Italian port or to a Russian port not in the Baltic, should be consigned as above described, provided that it is clearly indicated in the bill of lading and in the manifest that the ultimate destination is as stated, and provided that the vessel is not to call at a neutral European port on her voyage.

Shipments to neutral ports outside Europe:—It is desirable in cases where the use of another form of consignment might lead to an interruption of the voyage, that goods shipped to neutral countries outside Europe should be consigned in the same manner as those shipped to neutral countries in Europe, but when this course is not adopted, it should be clearly indicated in the bill of lading that the destination of the goods is outside Europe, and is not in Asiatic Turkey, nor adjacent to that enemy possession.

In all cases it is essential that the bill of lading or a certified copy of it should be on board the vessel.

Canada Steamship Lines' Prospects.

J.W.Norcross, Vice President and Managing Director Canada Steamship Lines, Ltd., is reported to have stated at Montreal, Oct. 16, that the rates prevailing for the transportation of grain on the Great Lakes and the Atlantic will have a favorable influence on the company's earnings this year. The present rates from the head of the lakes to Buffalo, Port Colborne and Montreal are considerably in excess of the normal rates at this time of year, ranging from 5½c to 5¾c to Buffalo, and 5½c to Georgian Bay ports. The dispatch received by vessels loading and unloading has been very good, and elevators have a large amount of space for the reception of grain, as up to the present the bulk of the grain had been moved via Buffalo, from whence it has been rushed by rail to the seaboard.

He announced that arrangements have been made for the chartering of 17 of the company's vessels for the entire winter.

The Quebec Steamship Co., a subsidiary of Canada Steamship Lines, Ltd., operating entirely on the Atlantic, has benefited by the extraordinary conditions existing in shipping generally, and its earnings are said to have been far in excess of those for any previous year.

The Sir Hugh Allan-De Levis Collision.

An investigation into the causes which led to a collision between the Montreal Harbor Commissioners' tug, Sir Hugh Allan, and the Dominion Government s.s. De Levis, at Point Citrouille in the St. Lawrence River, Aug. 21, was held at Montreal, Sept. 30, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and J.O.Grey, as nautical assessors.

R. Chevrier, master of the Sir Hugh Allan, stated that he holds a master's certificate for a passenger steamer in the minor inland waters. He left Montreal, Aug. 20, at 8.30 p.m., for Three Rivers and Quebec, having on board as passengers the Minister of Public Works, the Secretary of State, and two others. The night was clear and the usual courses were followed until when off Champlain, or a little lower down he noticed the green light of a vessel westward bound, on his port side, which crossed over to his starboard, and upon seeing this he starboarded his helm in order to have more room to pass; the green light and the Champlain lights were nearly in one. We noticed suddenly that the green light disappeared and the red light of the oncoming vessel was shown, and he therefore hard a starboarded his helm. His vessel was going at about 12 knots, and he subsequently ordered full speed astern; but the collision happened within a few seconds of this order. He noticed some of the crew of the De Levis on his vessel, but was not sure who they were. The vessels parted from each other, and he ordered the starboard engine ahead, but failed to keep close to the De Levis, as she was circling around, her engines going ahead. In the meantime the order to lower the boats was given, which was executed in fairly good time, and men who were seen struggling in the water were picked up, and the rescue of the remainder of the crew and passengers was effected without loss of life. Meanwhile the De Levis had stranded on the south shore. He was on duty from the time the vessel left Montreal until after the collision, which occurred at 3 a.m., Aug. 21. The Sir Hugh Allan is a twin screw, steel ship, of 10.37 tons net and 354.23 tons gross, with triple expansion engines. She carried a crew of 21 all told.

J. B. Blais, master of the De Levis, stated that his vessel was wooden built, with twin screws, having a crew of 19, and that she carried two boats, one small and one medium size—the latter capable of carrying 18 persons—and some 50 life belts. He left Batis-can carrying the crew of some of the government dredges, and had 78 persons on board, including the crew, at the time of the collision. Before rounding Point Citrouille he kept constantly passing well to the northward of the channel, some 300 ft. north of the gas buoy, when in order to get the Champlain lights he had to haul more to his right, exhibiting his red light to oncoming vessels, two of which he saw, the first being the Sir Hugh Allan. Upon seeing the Sir Hugh Allan he ported and the collision happened shortly after, but not before the order to stop was given. He then came out of the pilot house and gave the order to lower the boats and see to the passengers. He fell on to the deck of the Sir Hugh Allan through a broken rail, caused by the collision, and in falling hurt his back. There was no lookout, no officer other than himself being on duty, and three of the passengers were in the wheel house with him. He admitted that his vessel was going ahead after the collision, and made one and a half circles before she stranded, and stated that he had tried to steady his helm, but found it would not answer. He

has been in command for eight years, and holds a certificate as master of a steam tug in minor inland waters, and never had an accident before.

The mate of the Sir Hugh Allan, E. Carpentier, produced his certificate as mate of a passenger steamer in minor inland waters. He stated that he was engaged as mate, not as pilot, and corroborated the master's evidence, but added that he had no sleep since 6 o'clock of the morning before that on which the accident happened. Shortly before 3 o'clock he took the wheel from the wheelsman, the latter remaining in the wheelhouse; he noticed the green light of a small vessel on his port bow, crossing over to starboard, and thought it was a tug going toward a dredge which was anchored in the vicinity, but upon seeing the red light he knew his surmise was not correct, and operated the wheel according to the instructions he was receiving from the master.

The second engineer of the De Levis, Leon Crepeau, stated that he was on duty at the time, the first engineer being in his room; that the moment the impact occurred he immediately left his engine room and jumped on to the deck of the Sir Hugh Allan, without stopping his engines, which were going full speed ahead at the time of the collision, and after. He swore that he saw Capt. Blais, the steward and fireman and watchman on the deck of the Sir Hugh Allan when he looked about.

The first engineer of the De Levis described how, when the impact took place, he was in his room in bed, although awake, and how he succeeded in getting his window opened, went on deck and closed the steam of the boiler, the engines stopping and the fires being eventually put out.

The court came to the conclusion that the collision, which was providentially without loss of life, was due to the default of the master of each vessel in failing to carry out article 25 of the Rules of the Road, in which it is said that when vessels are in sight of each other they shall indicate the course about to be taken, by one blast, meaning, "I am directing my course to starboard"; two blasts, "to port," or three blasts, "My engines are going full speed astern." Article 25, requiring vessels in narrow waters to keep to their own side of the channel, was broken by the Sir Hugh Allan. The master of the Sir Hugh Allan had no right whatever to starboard his helm when he saw the green light of the De Levis crossing his bow from port to starboard, as he was leaving his own side of the channel. He should have hard a ported and at the same time ordered full speed astern. Moreover, he must have known, if at all acquainted with the River St. Lawrence, that a vessel going west at that part of Point Citrouille must necessarily show her green light, then in rounding the point, in order to get Champlain lights in one, the red light must become visible. The reason given by his mate, who acted the part of pilot, that he thought it was a tug serving the dredge, cannot be accepted. It was only a supposition, and such being considered in the light of an uncertainty, precautionary measures should have been adopted either by stopping his vessel, or which is more in accordance with the rules of the road concerning narrow waters (article 25), he should have sounded one blast and ported his helm, taking his own side of the channel, which he failed to do. Instead, at the appearing of the red light which he had brought broader on his starboard bow by starboarding his helm, he continued to starboard, hard to starboard,

without giving any signal of his intention, maintaining his full speed until the collision was inevitable. When, according to the second engineer, the stop order was received, the impact occurred almost immediately. When his attention was called to the statement he had made to the Harbor Commissioners, which differed in many respects from his evidence, he stated that the evidence he was now giving was true, and that the statement made in writing was done in a hurry. As to his work in rescuing the crew and passengers of the De Levis, the evidence shows that he did all that could be done under the circumstances. For failing to observe the rule of the road, which contributed to the collision, his certificate is suspended for one year; but the court recommends that a mate's certificate for passenger steamer in minor inland waters be issued to him. This recommendation is due to his past good services, and to the aid he rendered in rescue work. The mate, who only obeyed the master's instructions, is not found to blame.

With regard to the captain of the De Levis, J.B. Blais, it is found that he also failed to signal his alteration of course when turning Point Citrouille and finding the Sir Hugh Allan was constantly showing its green light to his red, the court is of opinion that he should have sounded one blast, showing that he intended to keep his side of the channel. Moreover, his engines should have been stopped and his ship brought to a standstill when he found the other vessel acting strangely. The court is astonished to learn that he left his wheelhouse and post without ringing to the engine room the order to stop the engines, and that he found himself on board of the Sir Hugh Allan. We cannot accept the explanation that he fell through a space of 3 ft., due to a broken rail, on to the deck of the Sir Hugh Allan. The collision happened on the port side, and if it was his intention, as he avers, to give orders to lower boats, he would naturally have gone to the starboard side, which was uninjured, and allowed access to all parts of the top deck. He also stated that in falling he hurt his back, yet in some part of his evidence he said that if the boats of the Sir Hugh Allan had not been lowered he intended to jump and swim for his vessel. This contradicts his story of being injured by the fall. By his action in leaving his ship and crew to their fate he has shown himself unfit to be in charge of a vessel and in command of a crew. This court has always adopted stern measures in such cases, and on this occasion will not modify them, and therefore it considers that in the interests of the shipping public, and for the safety of the navigation of the River St. Lawrence, he be relieved from further responsibilities as a ship master, and hereby cancels his certificate.

We also cancel the fourth class certificate of the second engineer of the De Levis, Leon Crepeau, who, on his own evidence, abandoned his post to flee on to the deck of the Sir Hugh Allan. The steward was not called to give evidence, but the second engineer stated that he saw him on the deck of the Sir Hugh Allan. If such is the case, he, the steward, deserves the epithet applicable in such a case. If the duties of the steward on board of the De Levis are similar to those on board of every well disciplined vessel, he should have been at his post, attending and helping the passengers, especially the four women who happened to be on board. This court wishes to express itself as being absolutely opposed to a system prevailing on small craft of having no one on the look out, likewise entertaining passengers or anyone in the wheelhouse, the entrance to which should be prohibited

to all but those who have duties to perform. We also wish to suggest that some system of faithfully keeping a record of movements of these vessels, to be entered either in a log or journal, be inaugurated and enforced. This applies to both deck and engine room.

(Editor's Note.—In mentioning this collision in our September issue, the name of the Government vessel was given as Levis, which is the name under which she was registered, and as she appears on the Canadian register under no. 133904. We are, however, officially advised that her correct name is De Levis, and that it was through an error that she was registered as Levis.)

Harbor Improvements at Vancouver.

S. M. McClay, one of the harbor commissioners for the port of Vancouver, B.C., in speaking at the American Association of Port Authorities' convention at San Francisco recently dealt with the improvements which the harbor commissioners are making and proposing for Vancouver. He stated candidly that the general equipment of the harbor and the facilities generally are not all they should be, considering the size and importance of the harbor, and announced that in the near future the harbor will be equipped with all the necessary facilities for handling vessels and loading cargoes with the utmost dispatch.

He said: "A new reinforced concrete wharf 800 ft. long, with a frontage of 300 ft. and a depth of 35 ft. at low water, is nearing completion. It is situated in the central section of the harbor and is of a construction new to the Pacific Coast, consisting of cribs reinforced with concrete and a heavy mass wall of concrete on top. This wharf will be furnished with two sheds 800 x 80 ft. Adjoining is a grain elevator now under construction and expected to be ready in time for at least part of this year's crop. There is every reason to believe that, with proper facilities for handling it, grain will come to Vancouver in steadily increasing measure from the western wheat growing provinces, more particularly as it is an open port all year round. In recognition of this the elevator is being constructed. It has a total storage capacity of 1,250,000 bush., a receiving capacity of 20,000 bush. an hour and a loading capacity of 60,000 bush. an hour, which can be loaded at the same time either to two boats at the rate of 30,000 bush. an hour or to four boats at the rate of 15,000 bush. an hour. The sacking plant is capable of sacking from 3,000 to 5,000 bush an hour. This elevator is the first large grain elevator to be built on the Pacific coast of Canada, and it is confidently expected that its usefulness will justify the building of others at an early date.

"In False Creek, which is a small arm of the sea opening off the outer harbor, there are about 42 acres of tide flats which are uncovered at low water. These flats were crown granted to the commissioners, who have completed arrangements for their reclamation. When the work is completed this area will be used for industrial and warehouse sites with trackage and waterfront, which will be rented on long leases at low rentals. More applications for these sites have already been received from industrial concerns than the area will accommodate. This work is really only the first instalment of a larger project which is planned, but has not sufficiently materialized for public announcement.

"Last but not least among the important acquisitions to which Vancouver is looking forward is a drydock and shipbuilding industry, for which arrangements have been completed. The need for such a concern

has been frequently demonstrated, and in subsidizing the company which has received the contract the Government was careful to look ahead, as is indicated by the facts that the price is \$5,458,416.37, and the site secured comprises 60 acres. Proud as we are of our harbor, we realize that there are many respects in which it is capable of improvement—better fire fighting appliances, better policing and so forth—and although it will mean much time and labor it is the determination of my colleagues and myself to continue our efforts for the realization of our ideal—a port second to none."

Proposed Additional Lake Steamships For Atlantic Ocean Service.

A Montreal press dispatch states that as a result of efforts initiated by the Dominion Government, Canada Steamship Lines, Ltd., is having five of its lake vessels overhauled to make them entirely suitable for trans-Atlantic service. The company has a number of vessels, built in Great Britain, some of which are already in service on the Atlantic. The report states that the five vessels which are being overhauled have capacity for carrying 100,000 bush. each, and that they will make two round trips to Europe before the close of navigation.

J.W. Norcross, Vice President and Managing Director, Canada Steamship Lines, Ltd., is reported to have said that there are already 21 of the company's vessels engaged in ocean and Gulf service, and that probably more of them will be used during the coming winter. We are officially advised that the press reports mentioned have misquoted certain remarks, and that anything which could be published at present would only be guess work.

The heavy demands which are being made on shipping and the high rates for freight, will probably draw a considerable number of vessels which are suitable for ocean travel, from the Great Lakes, but it is not anticipated that there will be a heavy transfer of vessels from the lakes to ocean service, as the majority of them have been specially designed and built for lake traffic only, and would not be suitable for ocean service.

New Channel in St. Lawrence River.—The Public Works Department has laid out a new channel through the Thousand Islands from Grenadier Island upward to the wide stretch between Wolfe and Howe Islands, is the St. Lawrence River. This channel is to be known as the Canadian Middle Channel, and is 300 ft. wide with at least a depth of 20 ft. It has been dredged where necessary, and swept to 18 ft. From Grenadier Island westerly it follows the old Canadian channel through the Raft narrows midway between the shores. At Wood Island two channels are provided, the Fiddlers Elbow for up-bound vessels, and the dredged cut south of Wood Island for downward vessels. From Lindoe Island lighthouse the channel extends in an almost straight line to 200 ft. south of the middle of Dumfounder Island and thence for 2,520 ft. to 430 ft. south from the west end of the small group of islands west of Dumfounder Island and thence to 730 ft. from the north extreme of The Puntis and on to 320 ft. from Bass Rock Island and into the wide space between Wolfe and Howe Islands.

Schooner Viola Pearl Co., Ltd., has been incorporated under the Dominion Companies Act, with \$1,000 capital and office at St. John, N.B., to acquire the schooner Viola Pearl, register no. 100,330 at port of Yarmouth, N.S., and to carry on a general shipping business.

Atlantic and Pacific Ocean Marine.

The C.P.R. s.s. *Empress of Britain*, under requisition by the British Admiralty, was reported to be on fire in the Mersey, near Liverpool, England, Oct. 7. It took several hours to get the fire under control.

The Allan Line s.s. *Pomeranian* was reported to have run ashore near Havre, France, Oct. 21. She was released without damage on the same day, and proceeded to Havre under her own steam.

The Allan Line Steamship Co. has issued a writ against the s.s. *Kansan* for \$20,000 damages sustained by the s.s. *Pretorian* in collision on Sept. 15, in the St. Lawrence River, between the mouth of the Saguenay River and Cape Dogs.

The C.P.R. s.s. *Monteagle* was considerably damaged by fire, and a large quantity of cargo was destroyed while she was tied to her berth at Vancouver, B.C., Oct. 11. A press report states that in clearing out the burnt and damaged cargo, a large quantity of opium was discovered hidden in various parts of the hold.

The Blue Funnel Line s.s. *Calchas* was reported ashore off Point Wilson, near Port Townsend, Wash., Oct. 9, while downbound with cargo from Victoria and Vancouver, B.C. The freight was lightered and the vessel released and towed to port.

A press report from the Pacific coast, states that the Great Northern Steamship Co.'s s.s. *Minnesota*, which has been withdrawn from the Trans-Pacific trade on account of the drastic legislation respecting U. S. shipping, which comes into effect Nov. 1, is being sent to Great Britain, with a large cargo of grain, lumber and fish, and that she will be sold there.

The British Admiralty has released the C.P.R. s.s. *Empress of Japan* from further service for the present. She was requisitioned at the commencement of the war, and has been used in various services, chiefly in the transporting of troops. She is now at Hong Kong, being refitted for her customary service between Canada and the Orient, and is expected to sail about Dec. 1 for Vancouver.

The China Mail Steamship Co., incorporated in San Francisco recently, is reported to have purchased from the Atlantic Transport Co. a subsidiary of the International Mercantile Marine Co., the s.s. *China*, formerly owned and operated by the Pacific Mail Steamship Co. in the Pacific trade. This is

one of the five vessels which the International Mercantile Marine Co.'s receiver was authorized to purchase from the Pacific Mail Steamship Co., by the Federal District Court of New York, for \$250,000. She was built in 1889 and has a gross tonnage of 5,060.

Maritime Provinces and Newfoundland.

The s.s. *Easington*, under charter to the Dominion Coal Co., which sailed from Sydney, N.S., during the last week in September for St. John, N.B., with coal, is reported to have been lost with all hands.

The Reid Newfoundland Co. chartered the s.s. *Durley Chine* from the Dominion Government recently, to take freight from Sydney, N.S., to St. John's, Nfld., as the accumulation at Sydney was greater than could be handled by the company's steamships *Kyle* and *Meigle*.

The s.s. *Kron Prinz Olav*, under charter to the Dominion Coal Co., which sailed from Sydney, N.S., Sept. 27, for Montreal, with coal, has not been heard of since, and it is feared that she has been lost with all hands. The Dominion Government s.s. *Montcalm* spent some time in searching the route but without success.

Various press reports indicate that the Newfoundland sealing steamships *Beothic*, *Bellaventure*, *Bonaventure* and *Nascopie*, will be sold to the Russian Government for ice breaking service at Archangel. These vessels are all of recent construction, specially adapted for the sealing trade and for service in ice.

The Nova Scotia Steel and Coal Co.'s s.s. *Wasis* is reported to have been sold to an English firm and to have sailed from Halifax, N.S., Oct. 17. She was built at Meadowside, Scotland, in 1883, and at different times has been named *West Coast*, *Val de Travers* and *Kampocus*. She is screw driven by engine of 53 n.h.p. and is of the following dimensions,—length 160.4 ft., breadth 25.1 ft., depth 13.5 ft.; tonnage, 480 gross, 255 register.

The electrically operated submarine fog bell, which was placed eastward of Harbor shoal, off the entrance to Louisburg harbor, N.S., has been discontinued, and a steel cylindrical bell buoy, surmounted by a pyramidal steel frame with an open framed bell shaped topmark, having dependent from it a submarine bell which will be rung at irregular intervals by the motion of the buoy

on the waves, has been placed about 500 ft. from the Louisburg gas and whistling buoy.

Among the provisions of the act to amend the acts imposing taxes on certain companies, passed by the Prince Edward Island Legislature, recently, is one which imposes on all companies carrying on the business of common carriers for the transportation of freight and passengers by steamships, which have their head offices or organizations in the province, \$100 each, and on the Charlottetown Steam Navigation Co., \$200; on all persons, firms or companies, whether incorporated or not, carrying on the business of common carriers, between Prince Edward Island and any other Province of Canada, or with any British possession, or any foreign country, \$100.

The Department of Public Works received tenders, Oct. 6, for the construction of extensions to the wooden shed at berth 15, and for the construction of a wooden shed between Rodney slip and Sand Point slip, at West St. John, N.B. The extensions to the shed at berth 15 will consist of two additional sheds, one being 199 ft. long, 80 ft. wide and 11 ft. 11 ins. from top of floor to eaves. The second extension will be 4 ft. higher than the first one. The wooden shed to be built near Rodney slip will be 155 ft. long, 70 ft. wide at one end, and 42 ft. wide at the other end, and 15 ft. 11 ins. from top of floor to eaves. The work is to be completed by Dec. 1, under a penalty of \$50 a day for each day in default.

Province of Quebec Marine.

The Danish barque *Sostream*, which was driven ashore at Ile Barnabe, near Rimouski, recently, has been abandoned as a total wreck.

The Dominion Government has awarded a contract to the Levis Wrecking Co., for \$27,000 for the raising of the s.s. *Montmagny*, which was rammed and sunk by the s.s. *Lingan* last year, near Grosse Isle.

The Gaspé Steamship Co.'s s.s. *Lady of Gaspé*, while bound from Montreal to Quebec and Gaspé ports, ran aground, near the Quebec Bridge site, Oct. 13. She was reported to be still aground, Oct. 23, but it was expected that she would be released with comparatively little damage.

McLean, Kennedy Ltd., has been incorporated under the Dominion Companies Act, with \$20,000 authorized capital and office at Montreal, to carry on a general steamship

List of Steam Vessels Registered in Canada During September, 1915.

No.	Name	Port of Registry	Where and When Built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc.	Owner or Managing Owner	
124258	Acadian	Montreal	Glasgow, Scotland	1908	248 5	43 0	23 7	2,305	1,457	162 sc...	Canada Interlake Line, Ltd., Toronto.
137983	Captain Visger.	Kingston, Ont.	Alexandria Bay, N.Y.	1895	81 8	12 4	4 4	30	21	13 sc...	D. W., and H. Munro, Gananoque, Ont.
129479	D. A. Gordon	Montreal	Glasgow, Scotland	1910	249 3	43 0	23 7	2,301	1,434	162 sc...	Canada Interlake Line, Ltd., Toronto.
133077	x Fordonian	Montreal		1912	250 0	42 6	23 6	2,368	1,905	21 sc...	"
137978	Ontario No. 2.	Montreal	Toronto	1915	307 5	54 0	20 2	5,568	3,376	294 sc...	Ontario Car Ferry Co., Montreal,

x Equipped with internal combustion engine.

List of Sailing Vessels and Barges Registered in Canada During September, 1915.

No.	Name	Port of Registry	Rig	Where and When Built	Length	Breadth	Depth	Reg. Tons	Owner or Managing Owner	
133083	Hopper Scow No. 1.	Quebec, Que.	Scow	Lauzon, Que.	1910	99 0	25 0	10 2	135	La Cie. Generale d'Enterprises Publiques, Levis, Que.
133084	" " No. 2.	"	"	"	1910	99 0	25 0	10 2	135	"
133085	" " No. 3.	"	"	"	1911	99 0	25 0	10 2	135	"
133086	" " No. 4.	"	"	"	1911	131 0	30 1	11 0	239	"
133087	" " No. 5.	"	"	"	1911	131 0	30 1	11 0	239	"
1031 6	xFreddie A. Higgins	Charlottetown, P.E.I.	Schr.	Kennebunk, Me.	1882	80 6	24 2	6 2	78	J. M. Doucette, St. Louis, P.E.I.
133082	Grue No. 1.	Quebec, Que.	Scow	Quebec, Que.	1912	58 3	23 9	6 9	86	La Cie de Sable Union, Quebec, Que.
134573	W. C. P. No. 1.	New Westminster, B.C.	Barge	Blaine, Wash.	1914	63 0	21 0	3 0	40	A. J. Engvick, Vancouver, B.C.

x A recovered wreck.

management and agency business, to own and operate steam and other vessels, render salvage and towing services, etc.

Ontario and the Great Lakes.

The Farrar Transportation Co.'s s.s. Meaford grounded near the Detour lighthouse, Oct. 18, and was released with small damage the same day.

F. E. Hall and Co.'s s.s. Byron Whitaker, while bound to Montreal, with grain, broke her rudder, lost her wheel and grounded at Cardinal, Ont., Oct. 18.

An order in council has been passed establishing regulations for the governance of the ferry across the St. Lawrence River between Prescott, Ont., and Ogdensburg, N.Y., respecting rates on automobiles.

The Cleveland and Buffalo Transit Co., which has been paying 5% annually, has passed its dividend, the directors stating that this is necessary owing to decreased passenger traffic.

Canada Steamship Lines s.s. W. Grant Morden, Oct. 18, took what is stated to be the largest single cargo of grain carried by any boat on the Great Lakes, from Port Arthur to Port Colborne. The actual quantity is given as 476,315 1-3 bush.

The Shenango Steamship Co., of Cleveland, Ohio, is suing the Soo Dredging Co. for \$20,000 for damage sustained by the s.s. William P. Snyder in the Sault Ste. Marie Canal by striking a boulder, alleged to have been placed by the dredging company.

The Canadian Lake and Ocean Navigation Co.'s s.s. Turret Cape, when down bound from Fort William, Oct. 23, became disabled through trouble with her steering gear near Iroquois Point, and was towed to Sault Ste. Marie for repairs.

The s.s. North King, owned by Canada Steamship Lines, Ltd., and operated in the neighborhood of Kingston for some time, by the present company as well as by its predecessor, the Richelieu and Ontario Navigation Co., was taken to Sorel, Que., Oct. 21. It is stated that she will in future be used as a ferry around Montreal.

F.F. Wood, of Niagara Falls, who died there, Oct. 12, was one of the chief promoters of the Owen Sound Drydock and Shipbuilding Co., which was in process of formation prior to the war, with the object of constructing a dry dock and shipbuilding plant at Owen Sound, which the municipality had entered into an agreement to subsidize.

The Toronto Towing Co., Ltd., has been incorporated under the Dominion Companies' Act, with \$100,000 authorised capital and office at Toronto, to build, own and operate all classes of vessels and to carry on a general towing and shipping business. The incorporators are W.H. Irving, H.H. Davis, J.D. Rumball, J.S. Batty and N. Boynes, Toronto.

The United States Lake Survey reports the levels of the Great Lakes in feet above tide water for September, as follows:—Superior, 602.49; Michigan and Huron, 579.96; Erie, 572.20; Ontario, 245.45. As compared with the average September levels for the past ten years, Superior was 0.21 ft. below; Michigan and Huron, 0.85 ft. below; Erie, 0.19 ft. below and Ontario 0.78 ft. below.

Canada Steamship Lines Ltd., was charged at the Toronto Police Court, Oct. 22, with a breach of the city bylaws by permitting black smoke to be emitted from the s.s. Cayuga, for 31 minutes, while the vessel was at her dock. The case has been before the court several times and has been adjourned from time to time. It is contended by the

company that it is not bound by the city by-laws. Decision was reserved.

The Ontario Car Ferry's Co.'s car ferry steamship Ontario No. 1, which was taken off the route between Cobourg, Ont., and Rochester, N.Y., for general overhaul, has returned to service. While out of service, her place was taken by Ontario No. 2, the company's new vessel built at Toronto recently. The latter vessel is now at Polson Iron Works, Toronto, where she was built, being prepared for her winter work.

The Northern Navigation Co. has been granted supplementary letters patent under the Ontario Companies Act, amending the letters patent incorporating the company by striking out the provision that the operations of the company be carried on in the waters of Georgian Bay and that portion of Lake Huron within Ontario, and on the various arms, bays and inlets of these waters and the rivers tributary thereto; also authorizing the company to hold meetings of shareholders, etc., outside Ontario, and to fix by bylaw the quorum of directors.

The construction of the southerly extension of the exterior breakwater in Chicago harbor is announced to commence shortly. It will be of rubble mound, beginning at the southeast or outer end of the present structure and extending due south toward the vessel course for entering the harbor. To mark the location during construction, a gas buoy painted red and showing a fixed red light will be placed about 1,050 ft. south from the end of the old breakwater and on a line with the northerly face of the new city pier, in 28 ft. of water. Between this buoy and the southeast end of the present exterior breakwater, it will be extremely dangerous for vessels to pass.

Tenders were received early in October for the refloating of the Cadillac Steamship Co.'s s.s. Western Star, which was wrecked off Manitoulin Island, Sept. 24. She struck on Robertson rock, near Clapperton Island, in the north channel of Georgian Bay, and is reported to be resting in 5 ft. of water forward and in 114 ft. at the stern, and is consequently standing almost on end. The tenders were submitted on the no cure no pay plan, the vessel to be delivered to a U.S. port where there is a dry dock. Two bids were received and will be passed on to the underwriters. The bid which it is reported may be the one accepted, is for \$58,000, or 65% of the value of the vessel.

In order to utilize all of the lake vessels which are suitable for ocean traffic, during the winter when lake navigation is closed, it has been suggested that such of them as are too large to pass through the canals be cut and refitted after clearing the canals. A Lloyd's agent is reported to have stated that this is perfectly feasible for vessels of 43 ft. beam and under, that most of the vessels are strong enough for ocean service, and that the changes required would be comparatively inexpensive. This method has been followed on more than one occasion, both for taking vessels built in Great Britain to the upper lakes, and also for taking vessels which were built on the Great Lakes for operation there, to the Atlantic coast.

British Columbia and Pacific Coast.

The Dominion Government has renewed its subsidy agreement for ten years, with the British Columbia Salvage Co., providing for the payment of \$10,000 a year for the maintenance of a wrecking and salvage plant in Pacific Coast waters.

The Vancouver Harbor and Dock Extension Co. consented recently to a judgment for foreclosure for \$53,000 due as a balance on certain lands on Lulu Island, the judgment carrying with it an allowance of four months for redemption.

The Imperial Oil Co. has deposited with the Minister of Public Works at Ottawa and at the local registry office at Vancouver, a description of site and plans for a wharf to be built in False Creek Vancouver, immediately west of Connaught Bridge.

The Vancouver Shipmasters' Association has protested against the work of reclamation being carried out on the False Creek flats, condemning it from a marine standpoint as damaging to the interests of the city as a port.

The s.s. Delhi, which was docked at Prince Rupert for examination after having been wrecked on the Alaska coast about a year ago, but which was found not to be in fit condition for repair, has been sold to Capt. Babington, Prince Rupert, for \$2,000.

The United States s.s. Mariposa ran ashore on Campbell Island, about 250 miles north of Vancouver, B.C., Oct. 8. She is reported to have slipped into deep water on the following day, and to be in such a con-

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during September.

ARTICLES	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper.....Eastbound.....Short tons	3,368	12,751	16,119
Grain.....".....Bushels	1,588,351	4,915,551	6,453,902
Building stone.....".....Short tons			
Flour.....".....Barrels	356,440	856,062	1,212,502
Iron ore.....".....Short tons	873,689	6,925,276	7,798,965
Pig iron....."....."	2,150	2,214	4,364
Lumber.....".....M. ft. b.m.	5,371	58,349	63,720
Wheat.....".....Bushels	10,503,477	14,970,491	25,473,968
General merchandise.....".....Short tons	11,391	27,151	38,542
Passengers.....".....Number			
Coal, hard.....Westbound.....Short tons	3,150	171,410	174,560
Coal, soft....."....."	59,600	1,493,836	1,553,436
Flour.....".....Barrels			
Grain.....".....Bushels			
Manufactured iron.....".....Short tons	5,020	13,307	18,327
Iron ore....."....."			
Salt.....".....Barrels	1,400	85,917	87,317
General merchandise.....".....Short tons	34,911	167,353	202,269
Passengers.....".....Number	1,339	1,326	2,665
Summary.			
Vessel passages.....Number	620	2,521	3,141
Registered tonnage.....Net	1,403,407	7,372,202	8,775,609
Freight—Eastbound.....Short tons	1,236,465	7,731,306	9,017,771
—Westbound....."....."	102,881	1,858,799	1,961,680
Total freight....."	1,339,346	9,590,105	10,979,451

dition that she will probably be abandoned as a total loss. She is valued at \$350,000.

The Grand Trunk Pacific Coast Steamship Co. has discontinued its tri-weekly summer service between Seattle, Wash., Victoria, Vancouver and Prince Rupert, and has substituted a bi-weekly service. The steamships Prince Rupert and Prince John will be utilized instead of the Prince Rupert and Prince George, the latter being laid up.

The s.s. Delhi, which was dry docked at Prince Rupert recently for examination, will, it is stated, be abandoned entirely, as it is considered that the damage to the hull is so extensive as to make it not worth repairing her. An offer of \$1,500 has been received for her, for the sake of the machinery, which is regarded as in very poor condition.

The Union Steamship Co.'s s.s. Capilano, when half way between Cape Mudge and Savary Island, Sept. 30, sank during heavy weather, the crew being saved by taking to the boats and making Savary Island. The Capilano was built at Vancouver in 1892, and was screw driven by engine of 28 n.h.p. Her dimensions were: length, 120 ft.; breadth, 22.2 ft.; depth, 9.6 ft.; tonnage, 231 gross, 157 register.

The Vancouver Harbor Commissioners have applied to the Vancouver City Council for a permit for their scheme to reclaim the mud flats under the Granville St. bridge for industrial purposes. The work is estimated to cost \$195,000, and will be under the supervision of C.C. Worsfold, Resident Engineer, Public Works Department. It is reported that work has been commenced, a system of creosoted wood piling having been adopted.

The Union Steamship Co. is reported to be negotiating for the purchase of the whale tender Gray for freight service. It is stated that as soon as the Gray has finished removing whale products from Kyuquot and Naden Harbor, she will be chartered to the Union Steamship Co., and then sold. The Gray was formerly known as Petriana, and was built in Scotland. After going to the Pacific coast she was run in freight service to Prince Rupert, and was later purchased by Canadian North Pacific Fisheries Ltd.

The s.s. Otter, in the C.P.R. British Columbia Coast Service, when going to assist in salvaging the s.s. Mariposa, Oct. 9, ran ashore in the channel between Darcy and James Islands. Attempts to release the vessel were unsuccessful, as she turned turtle and was abandoned as a total loss. Her value was placed at between \$30,000 and \$40,000. She was built at Victoria, B.C., in 1900, and was screw driven by engine of 24 n.h.p. Her dimensions are: length, 128 ft.; breadth, 24.5 ft.; depth, 11 ft.; tonnage, 366 gross, 232 register.

It is announced that the second unit of the North Fraser jetty across the sandheads at New Westminster is about half finished, and that the work will be completed about the end of Feb. 1916. The lower mattress, 190 ft. wide and 2 ft. thick, has been laid in position for the entire length of fill, 710 ft., and the upper mattress, which forms a rock slope, has been laid for 1,800 ft. The complete jetty will consist of three units, and a north jetty will be built, thus forming a permanent channel which, it is expected, will require a minimum of dredging.

The river flowing westerly into the Fraser River 60 miles above Fort George, B. C., formerly known as the north fork with its south branch of the Fraser River, has been named McGregor; the creek flowing westerly into the McGregor River about 27 miles from its mouth, formerly known as the north branch of the north fork of the Fraser River, has been named Herrick, and

the creek flowing southeasterly into Herrick creek about two miles from its mouth, formerly known as Bad River, has been named James, all in honor of Capt. James Herrick McGregor, the first President of the British Columbia Surveyors Association, who joined the 16th Battalion, Canadian Expeditionary Force, and was killed in action at Ypres,

Atlantic Ocean Tonnage for Canadian Trade.

The Minister of Public Works, Hon. Robt. Rogers, issued the following statement in Ottawa, Oct. 6: "Since Sir Robert Borden's return from London, the following additional ships have been added to the overseas transport service, plying to Canadian ports: Dunedin, Trankmere, Glenspear, Policastria, Horatius and Marquis Bacqueham. This brings the number of ships in this service up to a total of 20. These ships are for the transportation of supplies purchased by the Imperial authorities, and it is estimated that for the balance of the season over two thirds of their cargo space will be filled with Canadian agricultural products, such as hay, grain and flour. As a result of representations by the Canadian Government, an expert from the War Office is now in Canada to arrange for increased purchases of grain and flour and for the transportation of the supplies thus purchased. In addition to the above ships, a fleet for the transportation of horses, hay, etc., has been provided, seven of such remount transports having sailed from Montreal within the past two weeks.

"With regard to provision for the general commercial trade, the Imperial authorities have, during the past two months, refrained from requisitioning any ships on the Canadian routes, so that the increases made in the Imperial transport service to Canada are not additions to the transportation facilities for Canadian products. Further, the Imperial Government, when possible, is releasing, temporarily at least, Canadian liners already requisitioned. The Mount Temple, of the C.P.R. line, will in this way re-enter the commercial trade during the present week. Advices have also been received that the Kawack, Heligoland and Barenfels, ships not previously in the Canadian service, are being released to enter this service immediately. Military necessity must govern every movement made."

Manchester Liners, Ltd., is adding to its fleet a new vessel which was recently launched and named Manchester Hero. Orders have also been placed for the construction of two 13 knot vessels. It cannot be stated exactly when either of these vessels will be delivered, on account of the condition of shipbuilding in Great Britain, but it is hoped that they will be ready for service next spring. Arrangements have been made for an extension of the service to the United States, by joining with the Furness and Johnston Lines in instituting a regular service between Manchester, England, and Baltimore. This is now being operated under the name of the Furness-Johnston-Manchester Liners Joint Service, and the first vessel sailed from Baltimore, Oct. 2.

Canada Atlantic Transit Co.—The following directors were elected at the annual meeting recently: E.J. Chamberlin, President; H.G. Kelley, Vice President; Frank Scott, Secretary-Treasurer; J.E. Dalrymple and H.R. Safford.

The U. S. Engineering Department is considering the question of deepening the St. Clair River channel along the waterfront at Port Huron, Mich.

The Suggested Suspension of the Coasting Laws.

In Canadian Railway and Marine World for October, mention was made of the rumors that the Dominion Government had consented to suspend the coasting laws, and thus allow United States lake vessels to carry grain between Canadian ports. These rumors were persistent, and it was even stated that a U.S. trade commissioner at the head of the lakes had advised the U.S. Government that the suspension had been ordered by the Dominion Government. As we then stated, our advices from Ottawa up to the date of going to press with that issue, were to the effect that the Government had no intention of suspending the coasting laws.

Since then, vessel owners and agents at the head of the lakes, interviewed by various press representatives, state that there is no necessity for the suspension as the Canadian companies are quite capable of transporting the grain from the head of the lakes to lower lake points as fast as the receiving elevators at such points can take it. They claim that the suspension would be unfair to Canadian vessels, as for the past two years rates have been low and cargoes so scarce that in some cases vessels were operated at a loss.

Additional Elevator Suggested for Montreal.—In response to various suggestions, W.G. Ross, Chairman, Montreal Harbor Commissioners, is reported to have stated that the commissioners are prepared to build a special elevator for tramp steamships as soon as conditions warrant. An elevator with capacity for 1,500,000 bush., and with conveyors to four berths would cost approximately \$1,000,000, and the construction of the four berths with the necessary facilities would cost another \$1,000,000. The interest and upkeep would cost about \$200,000 a year, and on this basis the commissioners would be out of pocket unless the receipts of the suggested elevator reached 20,000,000 bush., and to make it any success it would be entirely dependent on an ample supply of tramp steamships. It is believed that the construction of such an elevator will not be long delayed, and the commissioners are prepared to ask the Government to consider the necessity of proceeding with it as soon as conditions make it possible.

Manchester Liners, Ltd., which operates a steamship line between Manchester, England, and Canada, has paid a dividend for the financial year 1914-15, recently concluded, of 7½%, and has also paid a bonus of the same amount. In the previous year the dividend paid was 6%. The profits for the past year exceeded those of the previous year by nearly £100,000. Furness, Withy and Co. are closely associated with this company.

Ocean Freight Charges and the Rate of Exchange.—A Montreal press dispatch of Oct. 20 states that at a meeting of the council of the Montreal Board of Trade, Oct. 19, it was announced that the Shipping Federation and the C.P.R. had responded to the council's suggestion, and had agreed to a fixed rate of exchange of \$4.86 2-3, for all steamship freight charges, to go into effect during the following week.

I. Schaefer, a naturalized Austrian, who has been acting as a steamship ticket agent at Montreal for some time, and who was charged shortly after the commencement of the war with high treason in attempting to assist a number of Austrian subjects to leave Canada for active service with the enemy, is to be placed on trial a second time, the jury having disagreed, Oct. 1. The extreme penalty for the offence is death.

Shipping Letters From the Head of the Great Lakes.

F. and W. Jones, shipping brokers, Fort William, Ont., have written as follows:

Oct. 9.—Arrivals of coal picked up during the past week. Eight cargoes being unloaded, all bituminous. Three were carried in United States steamships, the balance in Canadian. Three vessels are now under the rigs and four en route. Dispatch in unloading has been excellent, the docks starting on all vessels on arrival and working straight through. Car shipments to the west are still increasing and stocks are consequently being reduced, but there is no likelihood of any shortage.

Grain shipments from these ports are still on the increase, the total shipments during the week being 9,057,477 bush. of all grains, an increase of 1,500,000 bush. over last week. This was carried in 59 steamships, 32 cargoes went to Canadian ports and 27 to U. S. ports, but owing to the larger carrying capacity of the U. S. vessels more grain has been consigned to U. S. ports than to Canadian ports. Thirteen steamships are loading grain today, seven are en route light for grain and four coming with coal cargoes are lined up to take grain down. Dispatch in loading the past week has been seriously interfered with by heavy rains, and night work on Tuesday and Wednesday was practically impossible, although some houses where a boat was finishing worked through until about 10 p.m. High winds made shifting very difficult. Receipts from the west for the first four days of the week were exceedingly good but the past two days they have dropped off owing to the wet weather in the west. The weather probabilities, however, are for warmer weather and receipts should pick up again during the coming week.

Oct. 16.—Trade in coal at these ports brightened up considerably during the past week. Ten cargoes of bituminous coal have been unloaded. One cargo of coke and two cargoes of bituminous coal are now under the rigs, four cargoes are en route. Car shipments to the west have picked up greatly and are now considered normal, with the prospects of increasing greatly during the last half of the month. Docks are working on steamships to fullest capacity and boats are experiencing no holdup whatever. One cargo of ore went to Cleveland this week, one charter is reported to load this week.

Shipments of grain are still on the increase; those of this week are 12,712,862 bush., being 3,500,000 more than those of the previous week. This grain was carried in 69 vessels, 29 of which were billed to Buffalo and Erie side ports and 40 to Canadian points. In the same week last year shipments were 5,128,668 bush., so that the business this year is more than double that of last year. From the figures below it will be noticed that shipments exceed receipts by over 1,000,000 bush. and stocks this week are less than those of last week. Receipts from the west still continue to be of an embarrassing quantity, but the weather for the past two or three days has been decidedly more favorable and a large increase in receipts is expected. Dispatch in loading has been held up considerably on account of the lack of stocks, nearly all vessels having to wait. Stock in store at date, receipts and shipments during the week are as follows:

	Stocks.	Receipts.	Shipments.
Wheat	9,850,128	10,025,263	11,780,738
Oats	1,116,050	871,359	661,229
Barley	366,125	230,578	170,353
Flax	650,669	23,356	100,542

Oct. 23.—Coal receipts dropped again this week, there being only seven cargoes un-

loaded, all bituminous coal. Two steamships are now under the rigs and four are en route. Car shipments to the west have increased greatly and are steadily improving.

Grain shipments during this week were slightly below last but this by no means an indication of a falling off, as last week's shipments were far above the average. Total shipments of all grains were 12,157,027 bush., this is 555,835 less than last week. This grain was carried in 72 vessels, 20 cargoes went to Buffalo and Erie side ports and Port Huron, the balance going to Canadian ports. Grain has been coming down more freely the past week and stocks consequently have accumulated, there being 1,500,000 bush. more in store this week than last, total receipts being 13,873,681 bush. Threshing in the western provinces has been seriously delayed on account of adverse weather conditions; it is computed that little more than 5% of the crop in Alberta, 15% in Saskatchewan and 50% in Manitoba has been actually threshed, thus leaving a large percentage still to be shipped forward. The indications are that much of this will not be ready to come forward till later in the season or, possibly early in the spring. The deductions from these conditions are that the close of navigation will see a great rush forward of grain from the west, not only for lake shipments but also for vessel winter storage and still leave a large quantity for early shipment next year. Stocks in store at date, receipts and shipments during the week are as follows:—

	Stocks.	Receipts.	Shipments.
Wheat	10,938,208	11,949,331	10,861,251
Oats	1,710,672	1,514,041	919,417
Barley	645,067	363,183	75,241
Flax	396,677	47,126	301,118

Mainly About Marine People.

Capt. L. Jones, master of the s.s. Calcutta, fell from the gangway between his vessel and the wharf, at Montreal, Oct. 17, and was drowned.

A. T. Ross, who died at Cornwall, Ont., Oct. 18, aged 85, had lived all his life in the locality, and for six years prior to 1895 was Superintendent of the Cornwall Canal.

R. G. Allan, formerly of the Allan Line Steamship Co., whose death was announced in a recent issue, left an estate valued at £328,965 11s 1d.

Capt. C. H. Jenkin, a well known lake mariner, and for several years commanding G.T.R. car ferries, died at Detroit, Mich., recently after a long illness.

Sir Hugh Montagu Allan, of Montreal, formerly of the Allan Line Steamship Co., is now President of the Canadian Pensions and Claims Board, which has its offices at Folkestone, Eng., where he is living at present.

J. A. Martin, heretofore Agent, Allan Line Steamship Co., Glasgow, Scotland, has been appointed Assistant Manager, Canadian Pacific Ocean Services, Ltd., with office at Royal Liver Building, Liverpool, Eng.

Sir Thomas B. Bowring, head of the firm of C.T. Bowring and Co., shipowners, etc., of Liverpool, London, Eng., and St. John's Nfld., died in England, Oct. 19. He was born at St. John's in 1847 and was knighted in 1913.

Lady Allan, wife of Sir Montagu Allan, formerly of the Allan Line Steamship Co., is reported to have entirely recovered from the serious injuries she sustained when the Lusitania was sunk by a German submarine in May.

W. T. Payne, Manager, Trans-Pacific Steamships Service, C.P.R., Yokohama, Japan, was

a passenger, with his family, on the C.P.R. s.s. Monteagle, which arrived at Vancouver, B.C., from the Orient, Oct. 6. He proceeded to Montreal the same day.

Major Adolphe V. Roy, M. Can. Soc. C.E., graduate of Ecole Central, Paris, France, of the 22nd French Canadian Regiment, has been killed at the front. He was Vice President of the Sincennes-McNaughton Line, Ltd., forwarders and tug owners, and was for several years one of the Montreal Harbor Commissioners.

Capt. Main and the officers and crew of the Allan Line s.s. Hesperian were presented with the awards made by the War Risks Association, by the President of the Liverpool Board of Trade, at Liverpool, Eng., Oct. 9. The captain received 50 guineas and the men one month's pay and one month holiday with pay, in recognition of their efforts to navigate the vessel to Queenstown, Ireland, after she had been damaged by a torpedo or mine. The attempt made to reach Queenstown was unsuccessful.

Telegraph, Telephone and Cable Matters.

The Western Union Telegraph Co. is building three additional houses at Bay Robert, Nfld., for the married men of its staff there.

The Montreal Telegraph Co. paid its usual quarterly dividend of 2%, and its usual annual bonus of 1%, Oct. 15.

G. D. Perry, General Manager, and **C. E. Davis**, Traffic Manager, Great North Western Telegraph Co., Toronto, are on a trip of inspection through the west. While in Saskatoon, Sask., Oct. 6, they supervised the transfer of the company's office from 22nd St. East to 2nd Ave.

H. Hulatt, heretofore Commercial and Traffic Superintendent in charge of telegraph lines west of Fort William, Ont., and also Superintendent of Time Service, Grand Trunk Pacific Ry., Winnipeg, has been appointed Manager of Telegraphs, G.T.R. and G.T. Pacific Ry., Montreal, vice **A. B. Smith**, who has resigned on account of ill health.

John Trotter, who died at Victoria, B.C., Oct. 4, following an operation, was formerly in the C.P.R. Telegraphs service, and was connected with the construction of the telegraph line along the railway's Crownst Pass Branch, and was later transferred to line work on Vancouver Island. He retired about four years ago.

G. D. Perry, General Manager, Great North Western Telegraph Co., is reported to have stated in Vancouver, Oct. 16, that his company purposes stringing a double copper line between Montreal and Vancouver for commercial business, and that this will take about 6,000 miles of wire and cost about \$300,000.

The work of laying the Commercial Cable Co.'s underground cable from the submarine cable terminal at Cuckold's Cove to its new office building in St. John's, Nfld., has been completed. The office building is approaching completion, and it is expected to be finished by the end of the year, when the operation of the cables will be transferred from Cuckold's Cove to St. John's.

The U.S. Navy Department has announced the successful accomplishment of wireless telephony between the naval stations at Arlington, Va., and Mare Island, Cal., about 2,500 miles. A little later it was announced that the American Telegraph and Telephone Co. had carried on a conversation by wireless between New York and the Hawaiian Islands, nearly double the distance.

The Great North Western Telegraph Co.'s annual meeting was held at Toronto, Sept.

29. The directors for the current year are: Z.A.Lash, President; Adam Brown, Vice President; G.D.Perry, General Manager; Jas. Hedley, Hon. J.K.Kerr, Aemilius Jarvis, F.B.Hayes, D.B.Hanna and R.P.Ormsby. The Secretary and Auditor is A.C.McConnell, and the Treasurer, D.E.Henry.

C.P.R. telegraph operators have contributed over 100 men for overseas service, and are making arrangements whereby each man remaining at home contributes one day's pay a month, in order to provide regular and reasonable relief for dependent families and to relieve the general patriotic fund. The wife of each operator on active service will receive \$20 a month, with suitable allowances for children.

Transportation Conventions in 1915-16.

Nov. 17.—American Railway Association, Chicago, Ill.

Nov. 17-19.—International Association of Ticket Agents, New Orleans, La.

Dec. 7-10.—American Society of Mechanical Engineers, New York, N.Y.

Dec. 14.—Association of Transportation and Car Accounting Officers, St. Louis, Mo.

Jan. 18-20, 1916.—American Wood Preservers' Association, Chicago, Ill.

March 21-23, 1916.—American Railway Engineering Association, Atlantic City, N.J.

May, 1916.—International Railway Fuel Association, Chicago, Ill.

May 2-5, 1916.—Air Brake Association, Atlanta, Ga.

May 19, 1916.—Association of Railway Claim Agents, Atlantic City, N.J.

June 20-22, 1916.—Association of Railway Telegraph Superintendents, St. Paul, Minn.

June 20-23, 1916.—American Association of Freight Agents, Cincinnati, Ohio.

June 21, 1916.—Train Despatchers' Association of America, Toronto.

June 21, 1916.—American Association of General Baggage Agents, Boston, Mass.

June 28, 1916.—Association of American Railway Accounting Officers, Detroit, Mich.

August, 1916.—International Railroad Blacksmiths' Association, Chicago, Ill.

September, 1916.—Master Car and Locomotive Painters' Association of United States and Canada, Wilmington, Del.

September, 1916.—Railway Signal Association, Mackinac Island, Mich.

Sept. 19-22, 1916.—Roadmasters and Maintenance of Way Association, Chicago, Ill.

The Panama Canal has, it is officially announced, been closed for the remainder of the year, owing to landslides in the Culebra Cut blocking the passage. It is stated that the canal will probably not be opened again until all danger of landslides has been permanently removed.

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.

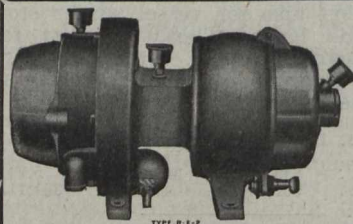
Twin Cities Local Freight Agents' Association—E. J. Travers, Fort William, Ont.

Western Canada Railway Club—Louis Kon, Box 1707, Winnipeg. Meetings at Winnipeg, 2nd Monday each month, except June, July, and August.

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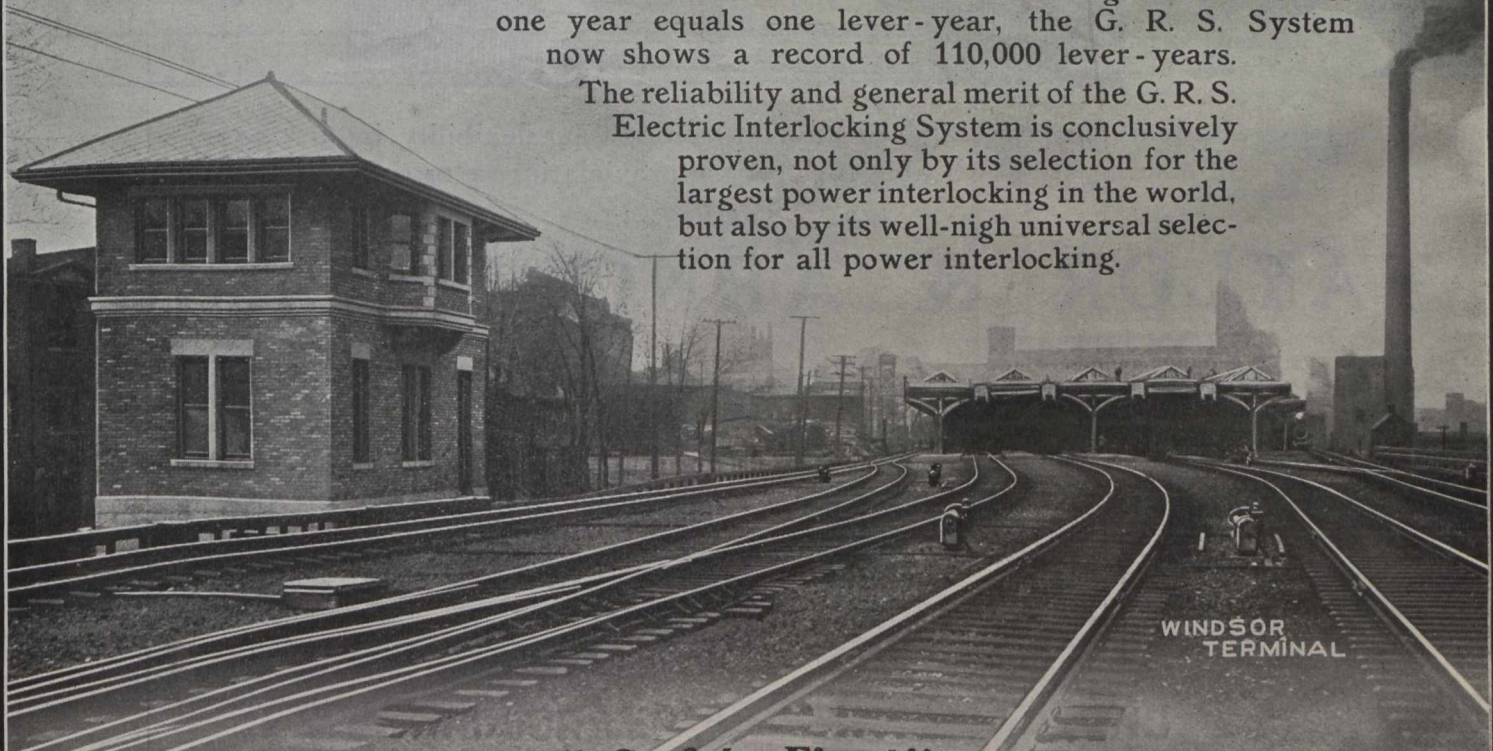
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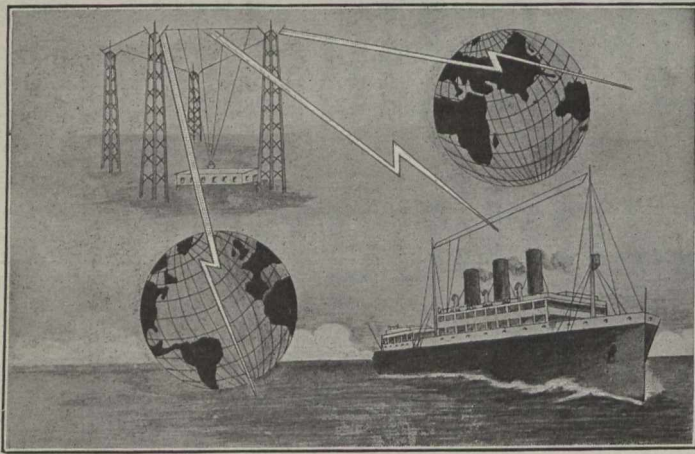
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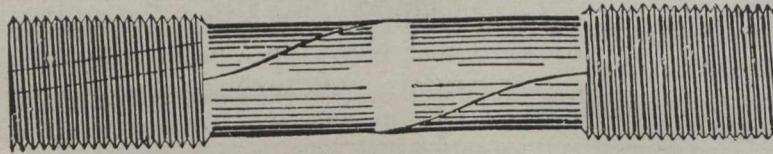
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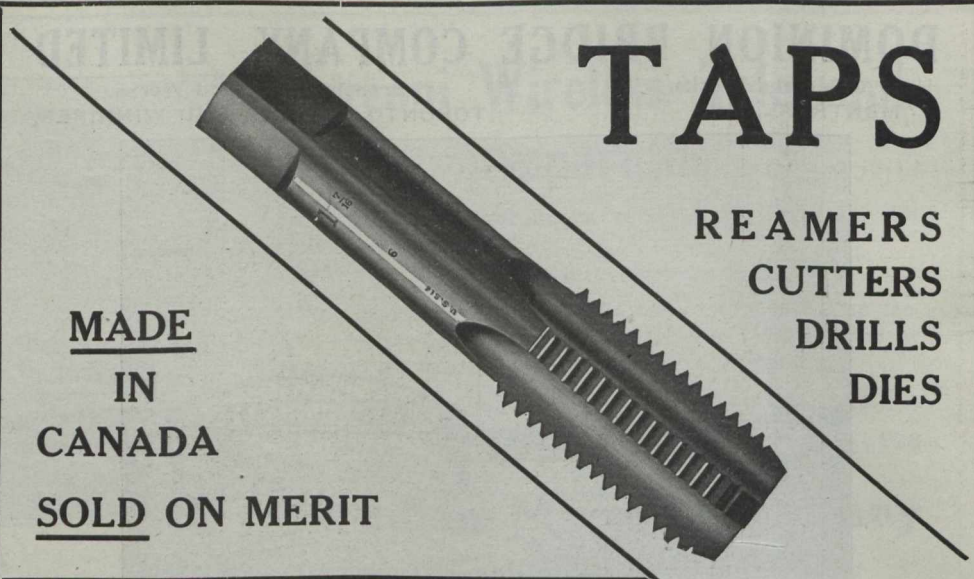
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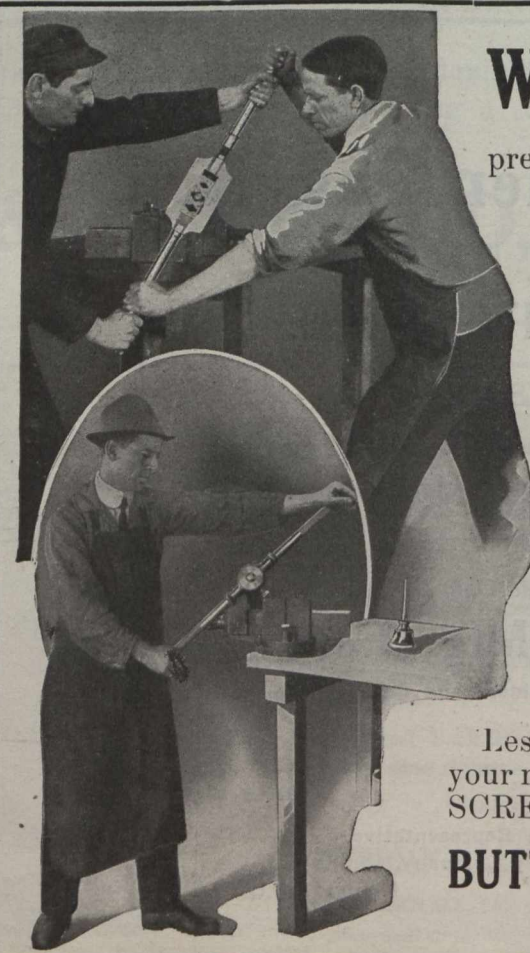
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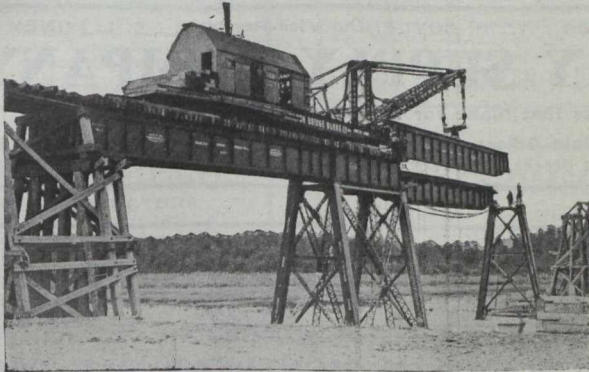
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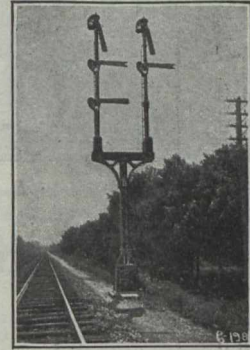
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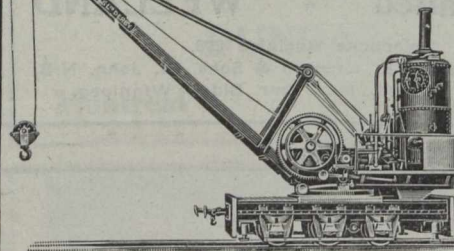
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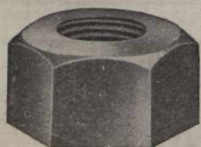
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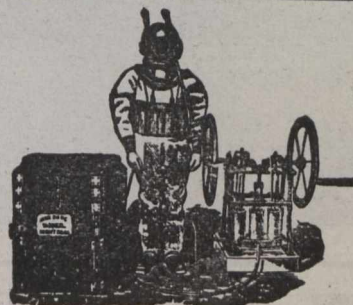
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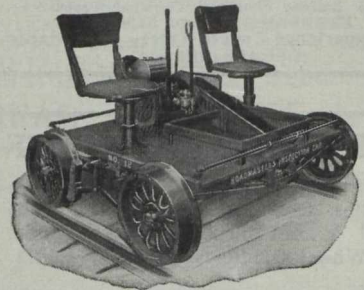
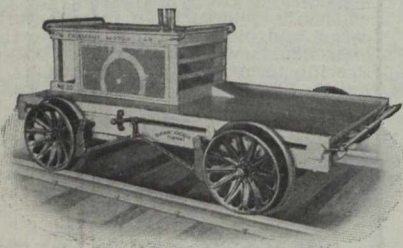
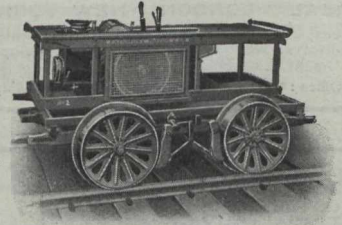
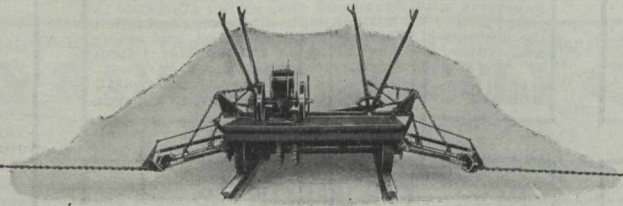
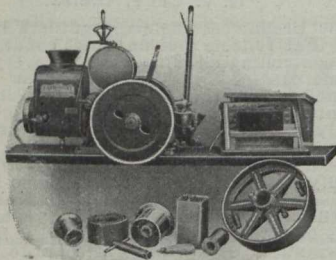
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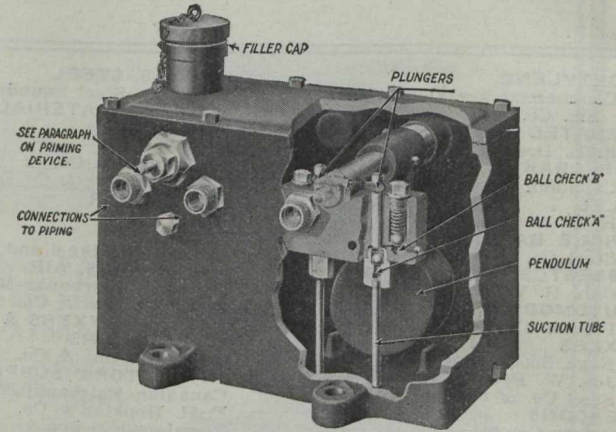
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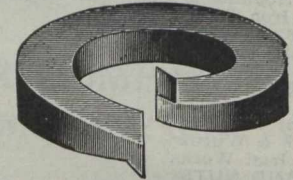
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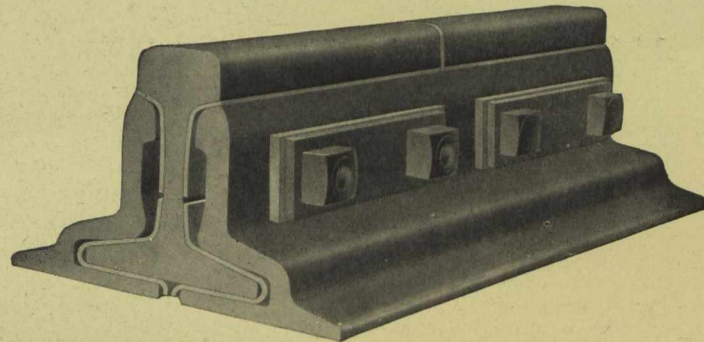
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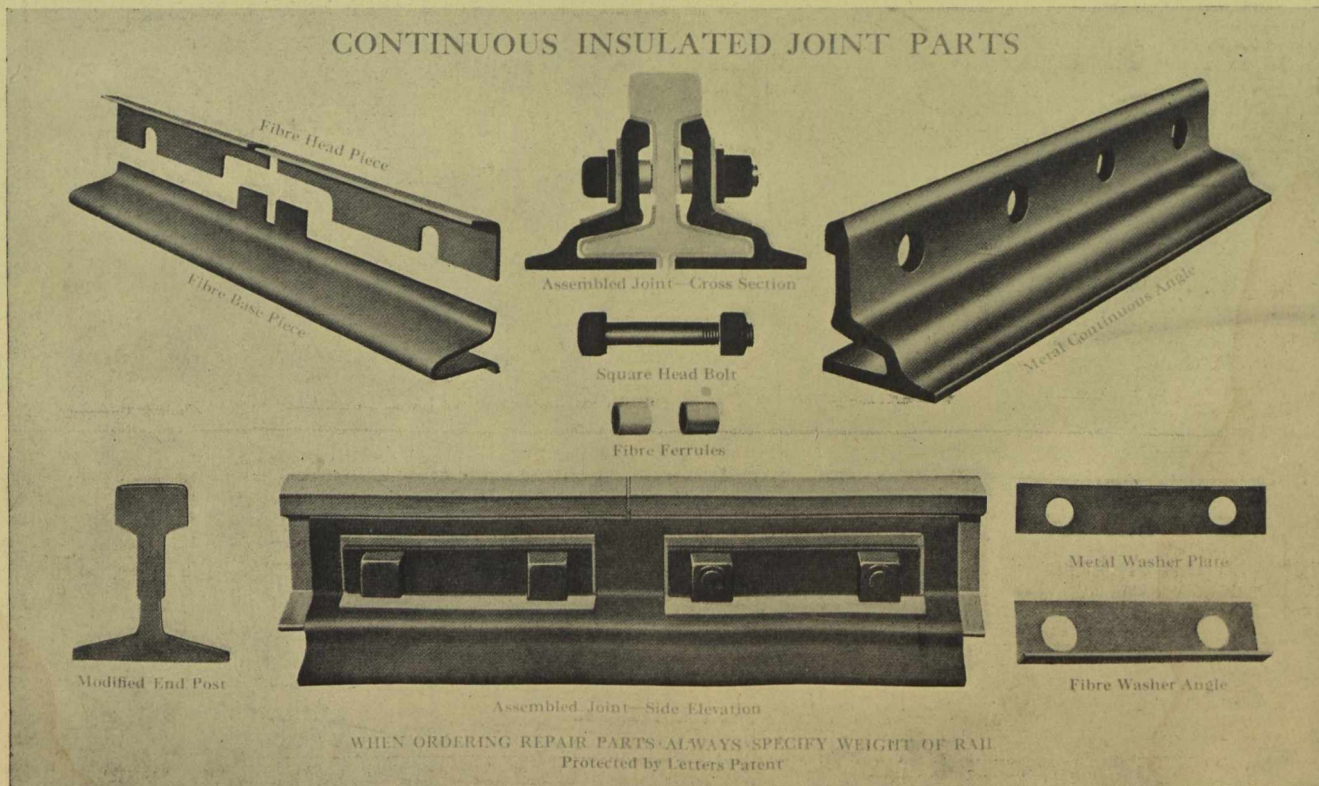
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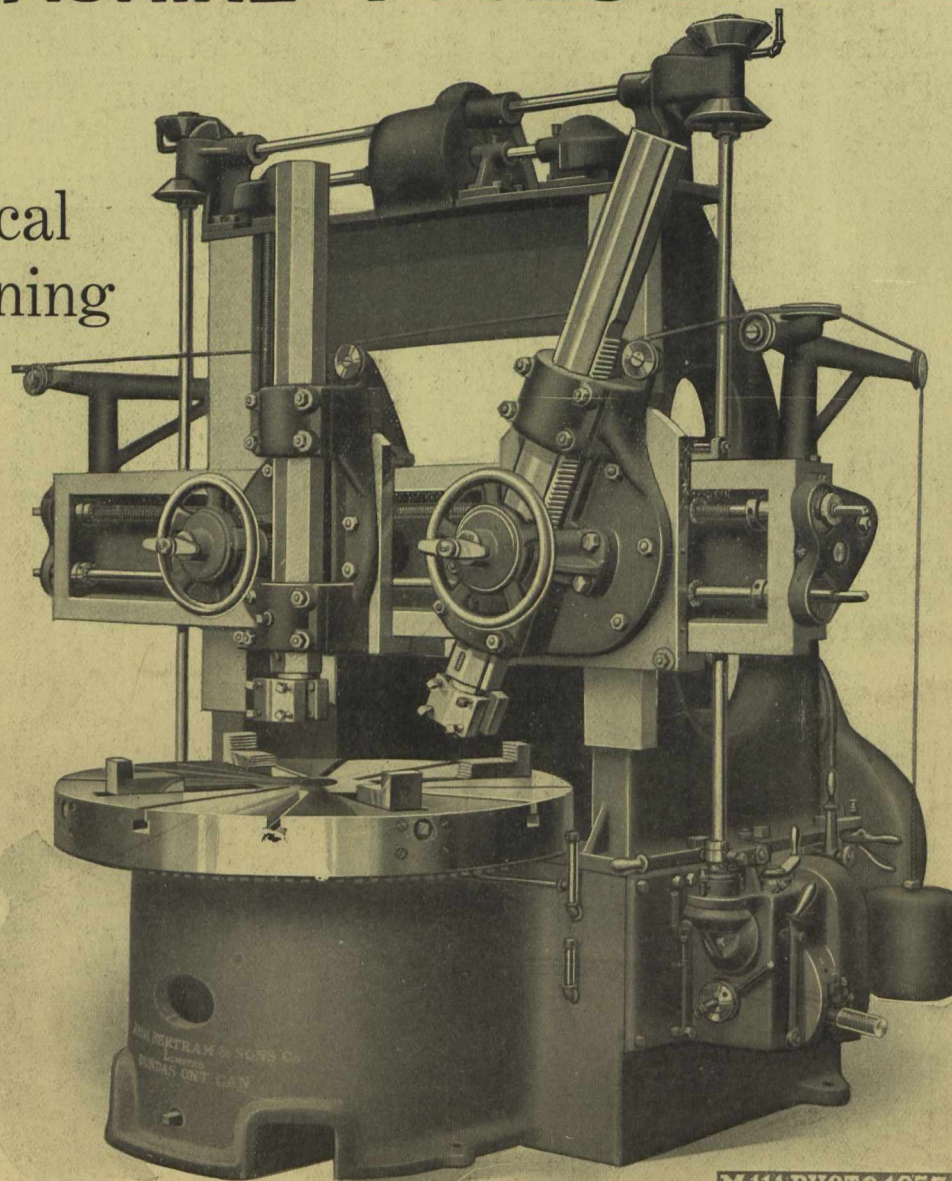
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