

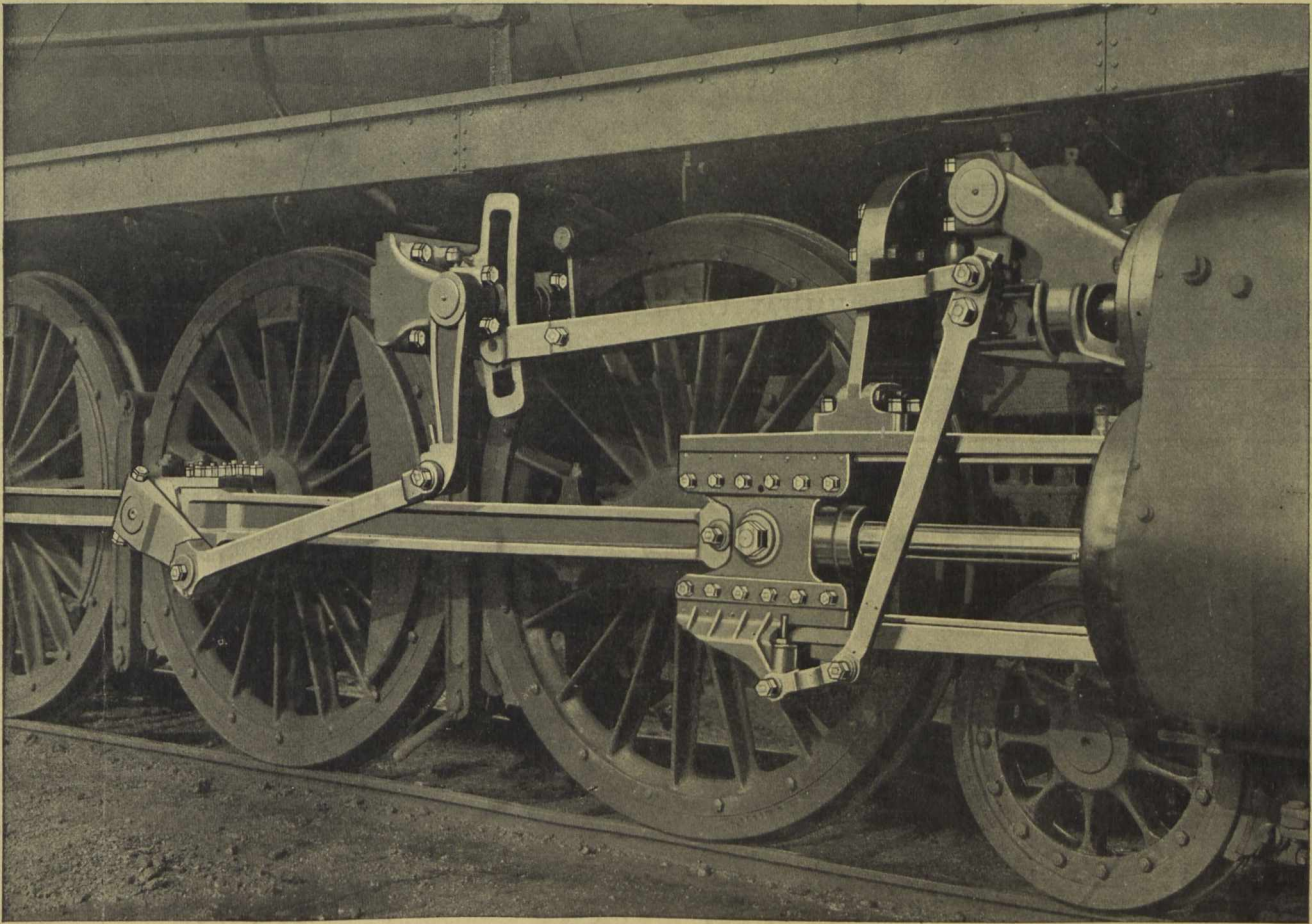
# Canadian Railway AND Marine World

ESTABLISHED 1898.

Number 206

TORONTO, CANADA, APRIL, 1915

Subscription Rates, Page 139



*Made safe with GRIP NUTS.*

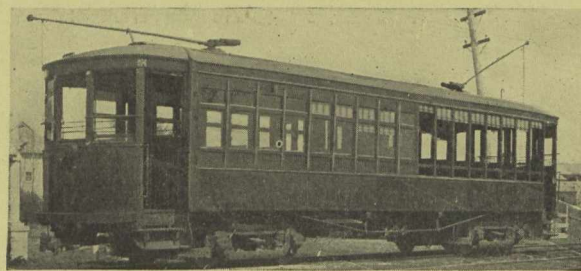
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**GRIP NUTS**

**Canada Grip Nut Company, Limited**  
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The frequent starts and stops in city service necessitate a brake equipment instantly responsive to application and release and sufficiently rugged to withstand hard continuous usage.



## The Westinghouse SME Straight-Air Brake With Emergency Feature

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THE MOST PRACTICAL CAR FOR ALL BULK FREIGHT.  
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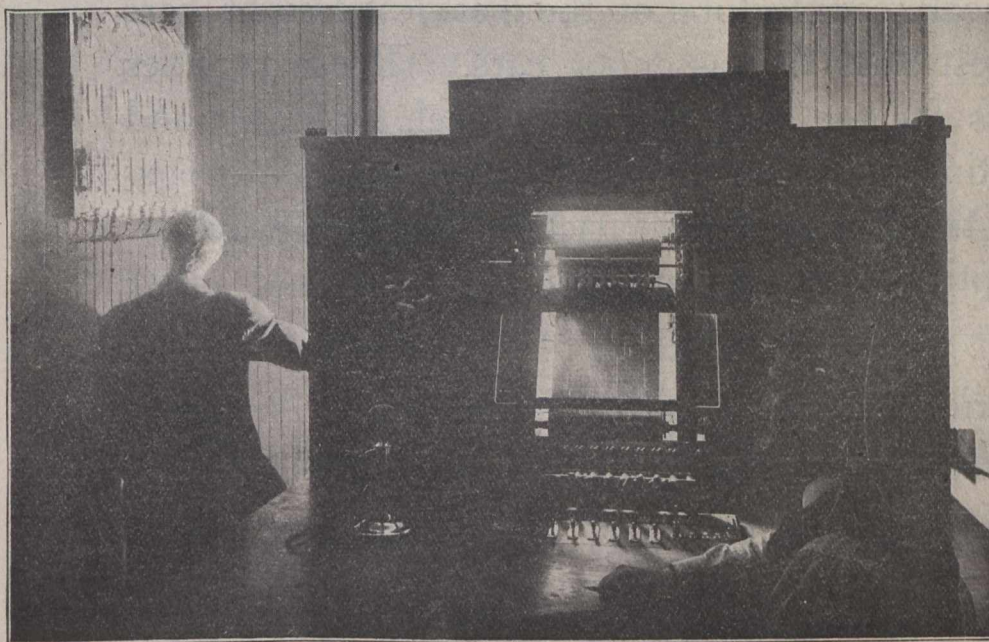


# Meeting One Financial Obstacle to Adequate Signal Protection

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

The advantage in this respect of

## Simmen Automatic Block Cab Signals



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

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

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

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

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

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

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We are prepared to produce, upon a large scale, articles of metal and wood.

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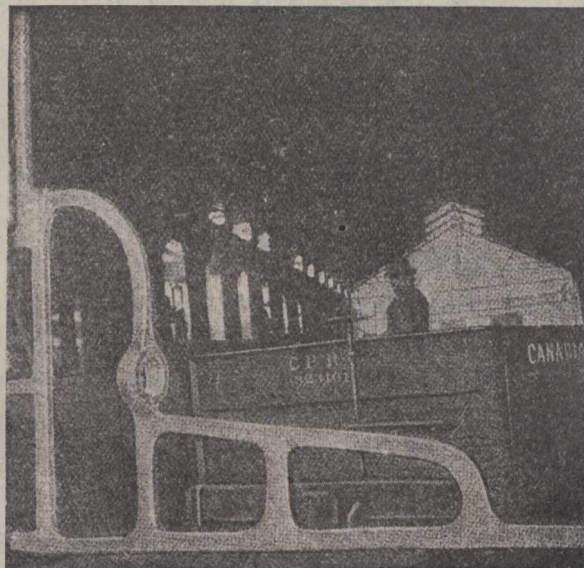
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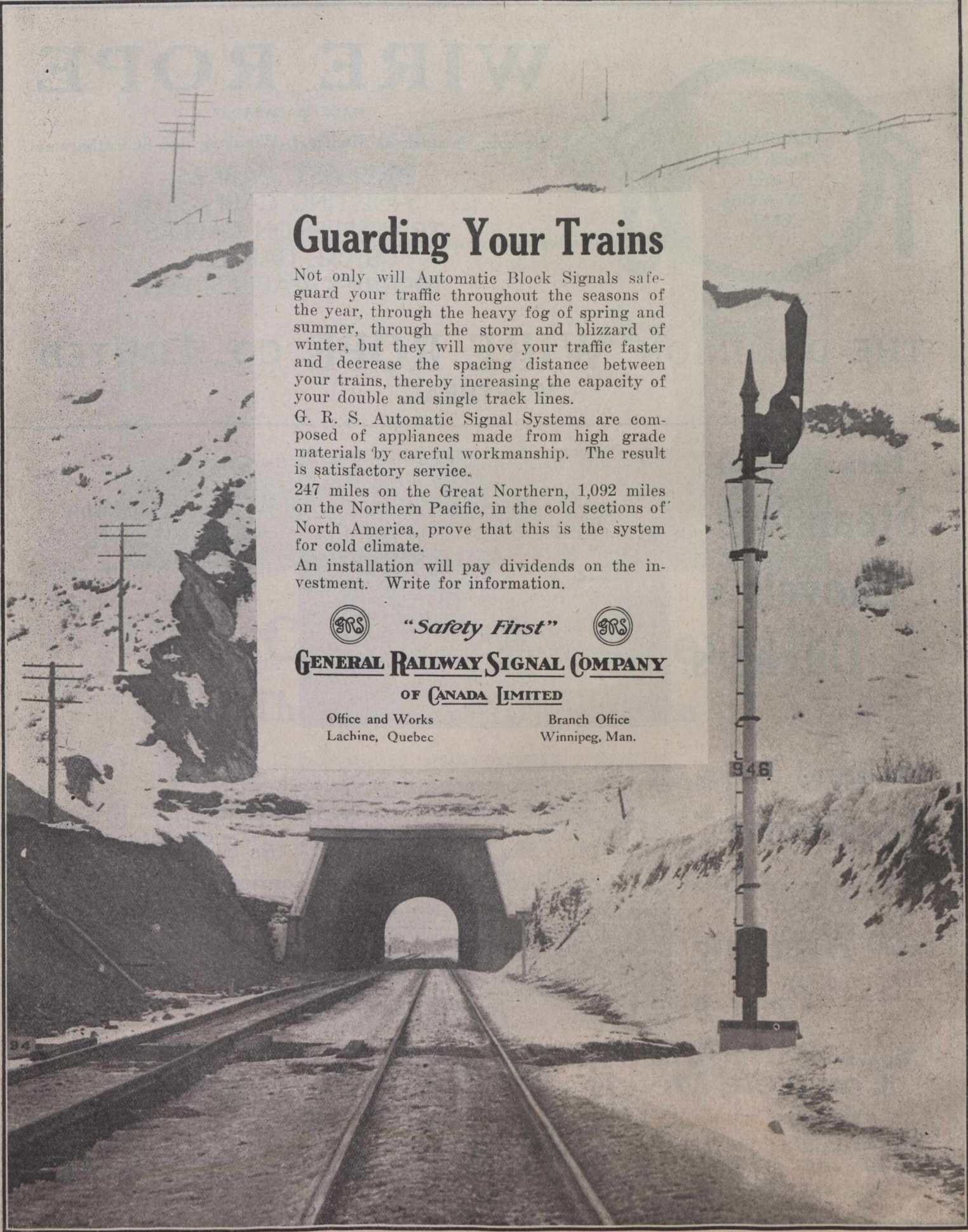
**GENERAL RAILWAY SIGNAL COMPANY**

**OF CANADA LIMITED**

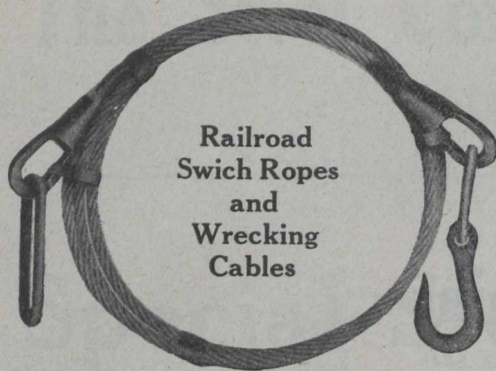
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846







Railroad  
Switch Ropes  
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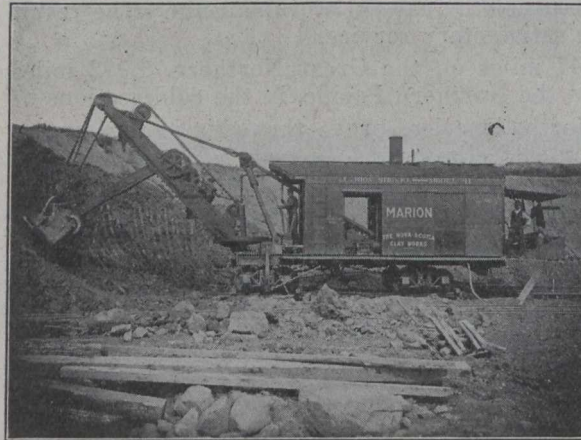
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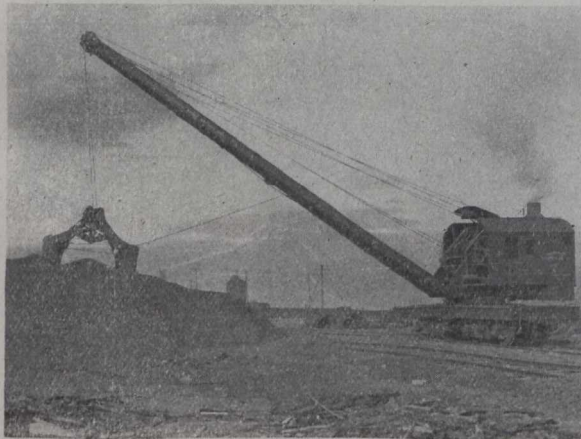
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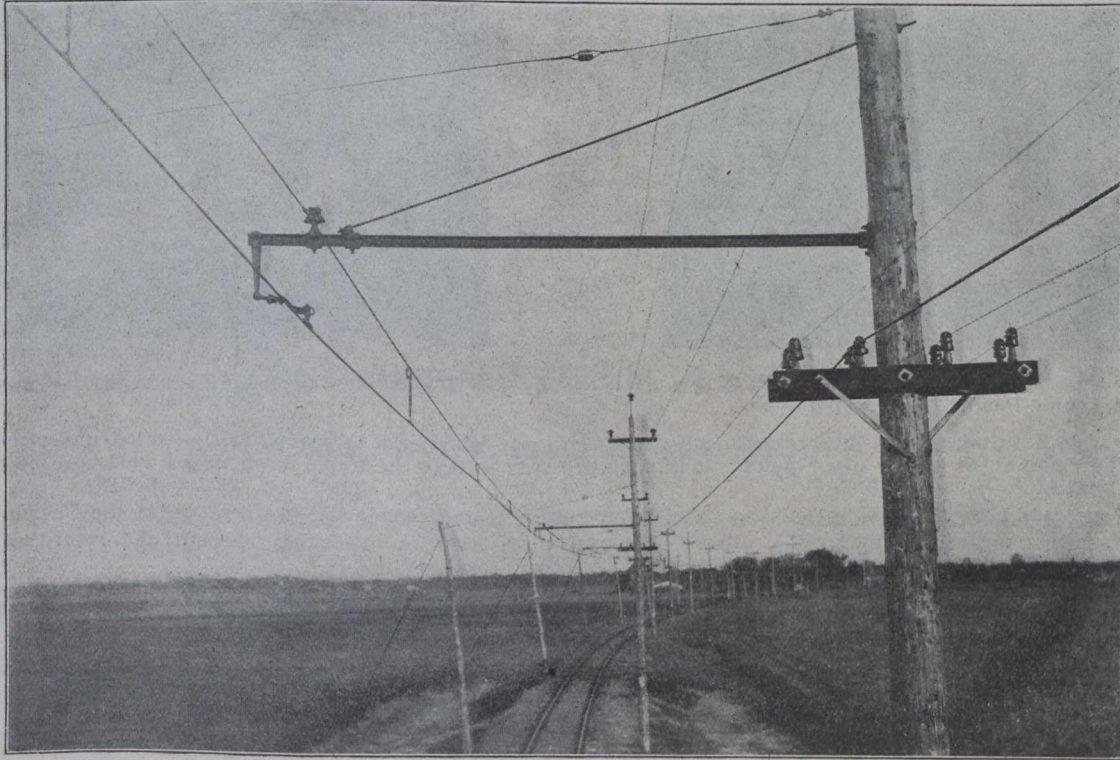
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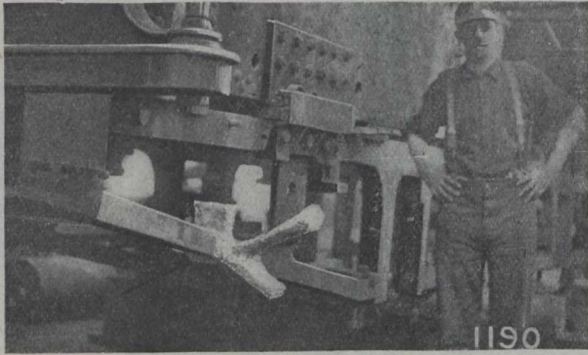
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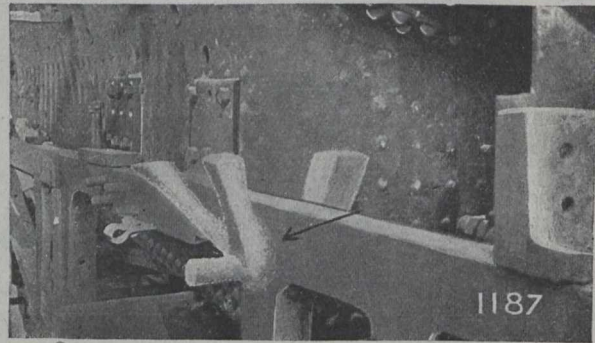
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Finished Thermit Weld on Engine No. 802 of the Grand Trunk Pacific, Transcona, Man.



Frame Welded with Thermit by the Illinois Central, Centralia, Ill.

You can weld a frame quickly and economically with Thermit, whether it is broken in the splice, under the fire box, close up to the cylinder, or at any other point. It is not necessary to take the frame down, as all welds can be made with the frame in place.

No other process of welding is so quick and uniformly efficient and economical in operation as the Thermit Process.

The proof is in the fact that to-day 435 railroad shops in North America are using Thermit and returning their engines to service in from 10 to 24 hours.

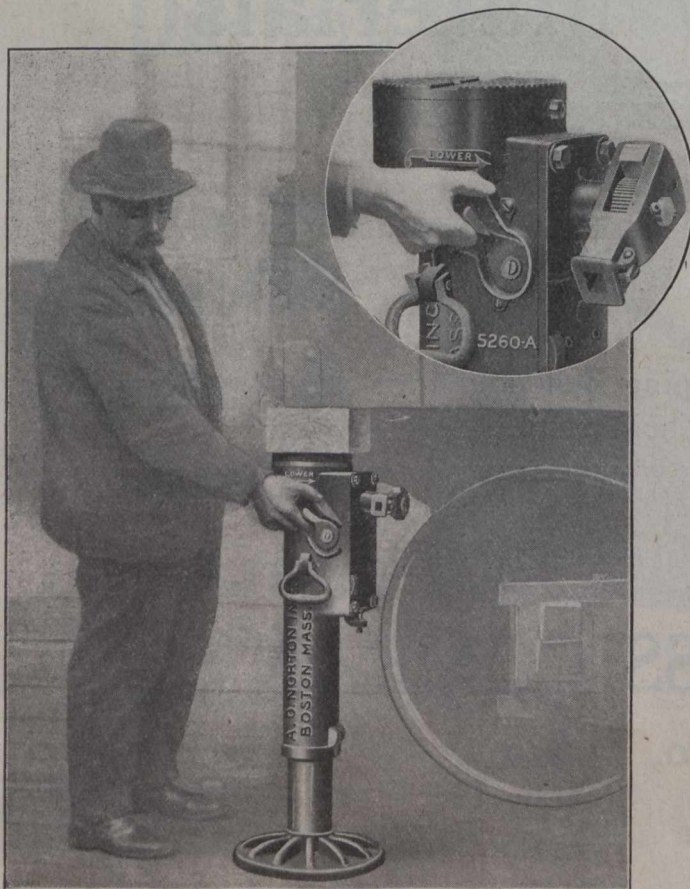
We have just issued a new pamphlet of instructions for the use of Thermit in railroad shops, known as Pamphlet No. 2144. This should be in the hands of every railroad man, as it tells how and why the Thermit Process of welding will save thousands of dollars every year in repair costs. Write for it to-day.

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*Lower the Load by "Pressing the Button"*

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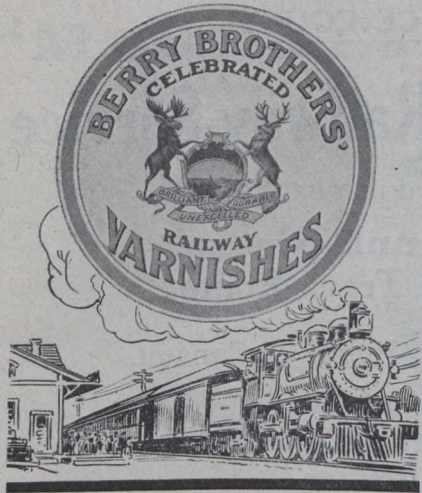
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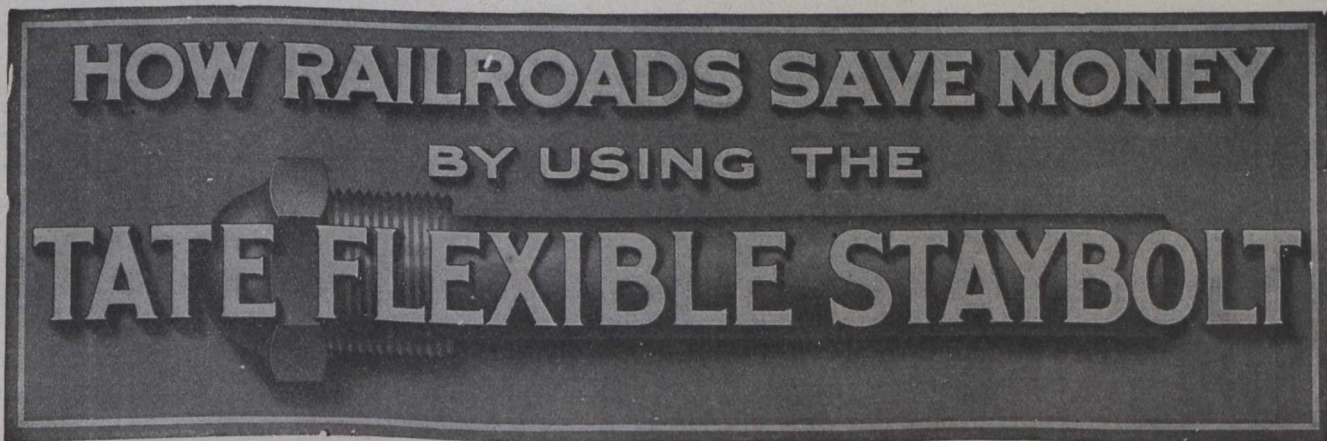
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## Excellence in Railway Service

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### Grand Trunk System The Double Track Route

is offering the Travelling Public of Canada.

**Unexcelled Road Bed**  
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**Modern Equipment**

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

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MODERN HIGH-CLASS

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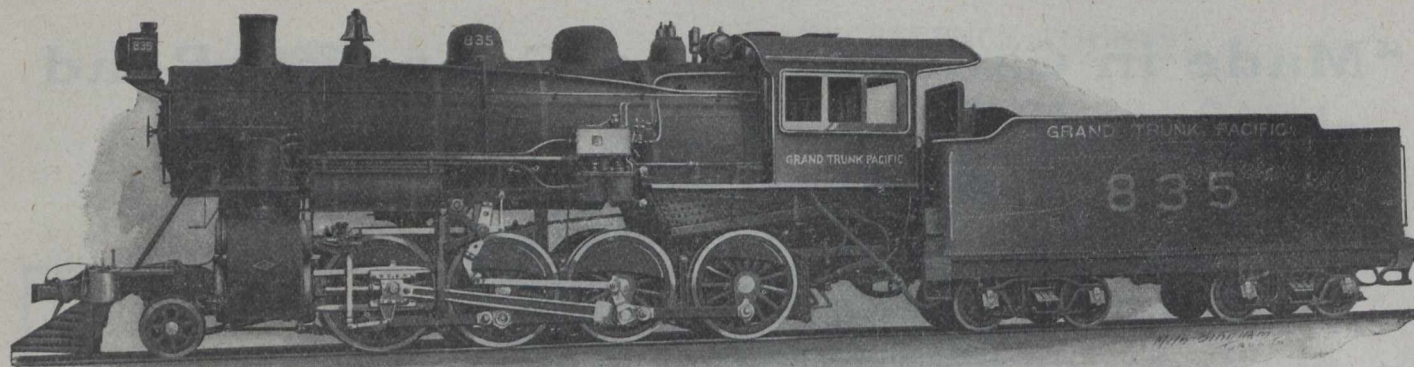


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HIGH CALIFORIC VALUE—LOW ASH—UNEXCELLED FOR STEAM-RAISING PURPOSES.  
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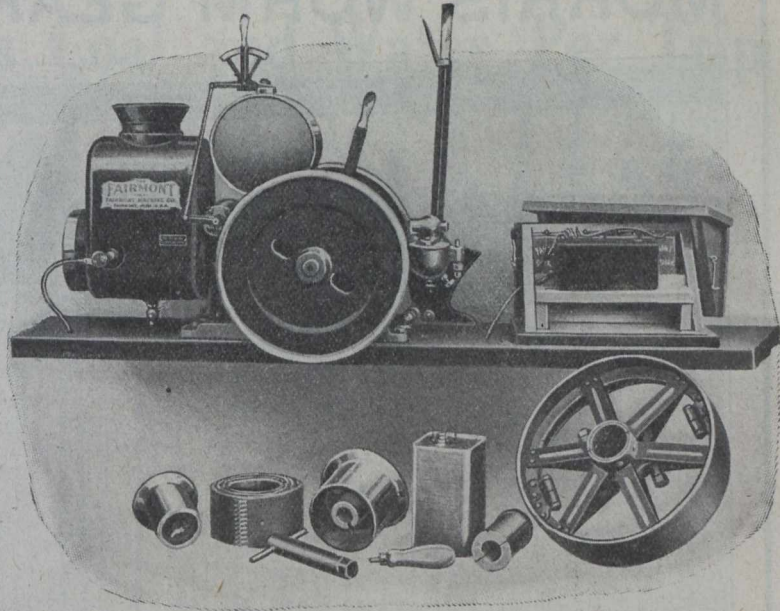
This new 4 H.P. engine uses less gasoline than our previous 3 H.P. "Hit and Miss" which used a third less than any other engine made.

It has no governor parts to wear out.

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have a Ball Valve which admits tiny charges at the points of Spark Plug where they are un-  
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Throttles down to three miles per hour, with-  
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Leave OTTAWA	12.15	..... Arrive TORONTO	9.15
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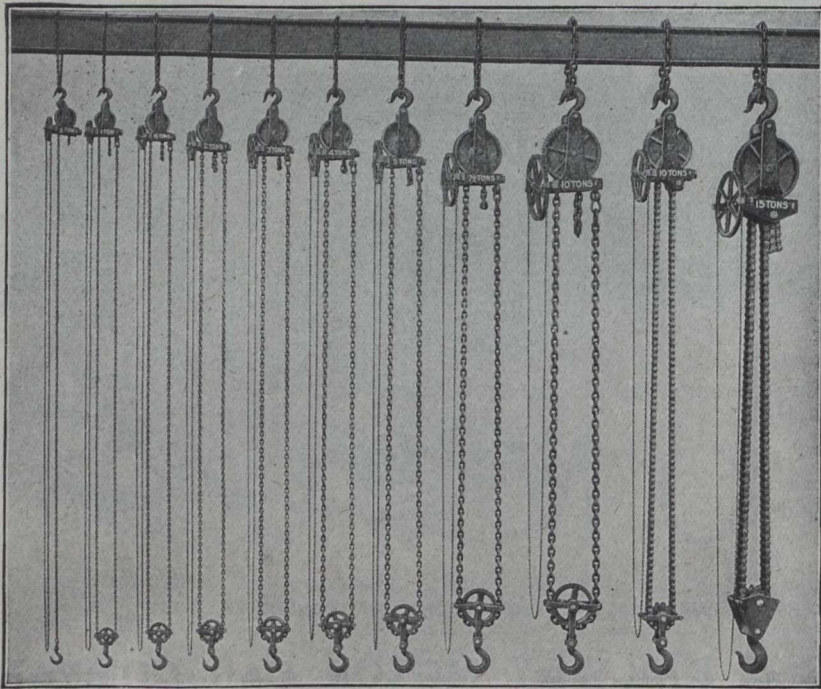


Day trains leave at hours particularly attractive  
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## MORRIS WORM GEAR CHAIN BLOCKS.



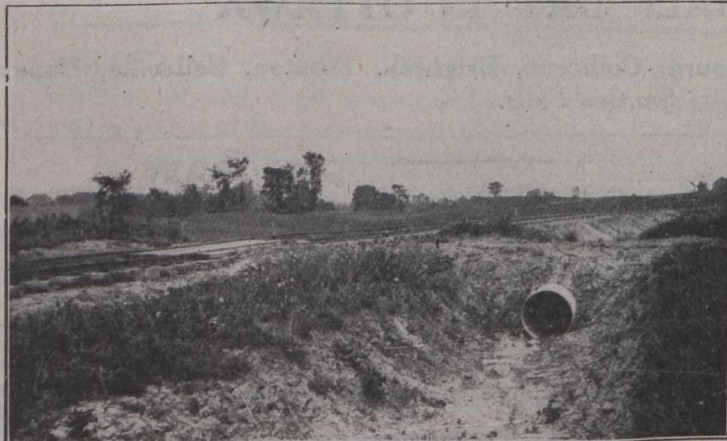
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IN ALL CANADA

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### Permanent Construction On Railway Right-Of-Way



Pedlar's "Perfect" Rivetted Culvert at Highway Crossing intersecting a railway.

is assured by the installation of Pedlar's "Perfect" Rivetted Culverts, which may be graded, bedded and permanently placed with a few hours' labor.

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are made to specifications in sizes from 8 to 84 inches in diameter. They have the double advantage, over concrete, of being frost-proof and elastic, allowing the desirable "springy" road bed to be preserved and doing away with maintenance cost.

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Write for complete Culvert Reference Book No. 4, giving drainage tables and all necessary data. Address branch nearest you.

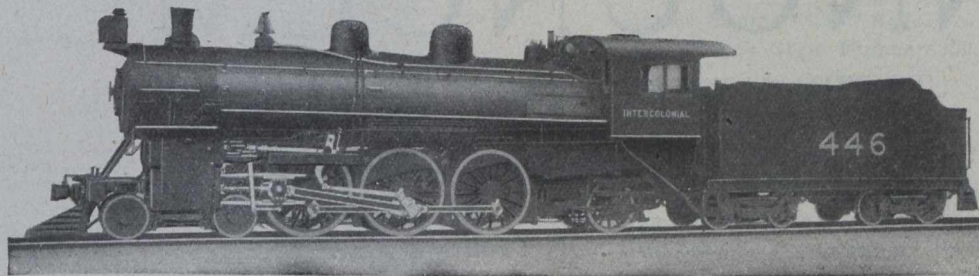
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## Heavier Trains—Less Coal and Water Per Trip



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.

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

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## 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.



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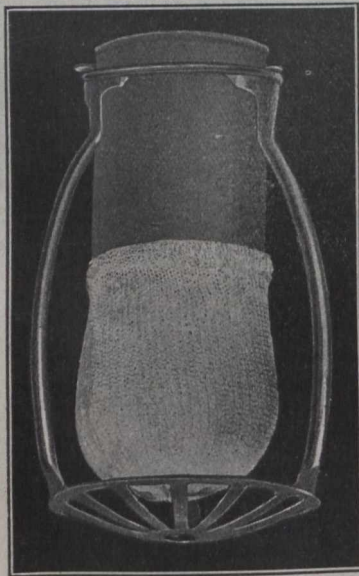
TO THE CANADIAN STREET RAILWAY COMPANIES

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

**KNUTSON Trolley Retriever**  
**IDEAL Catcher**  
**Pressed Steel Headlight**  
**SIMPLEX Trolley Base**

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

**THE TROLLEY SUPPLY CO., Canton, Ohio**



## Pintsch Mantle Light

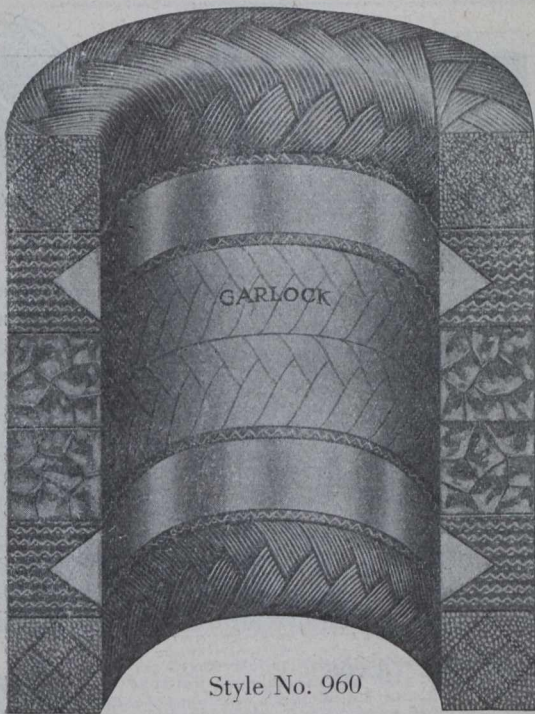
No other system of car lighting gives clean, safe and efficient light without intricate mechanism, subject to defects and failures. Pintsch Mantle Light is the only absolutely dependable method of lighting railway cars.

**The Safety Car Heating and Lighting Company**

2 RECTOR STREET, NEW YORK

718 TRANSPORTATION BUILDING, MONTREAL





Style No. 960

# FOR PACKING

Marine Engine Piston Rods.  
Use Garlock Style Number 200.

Cold Water Piston Rods  
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High Pressure Cold Water  
Use Garlock Style Number 960.

Outside Packed Plungers,  
High Pressure Hot Water  
Use Garlock Style Number 1907.

These packings are guaranteed to give satisfactory service under the above conditions.

Write for our new Catalogue.

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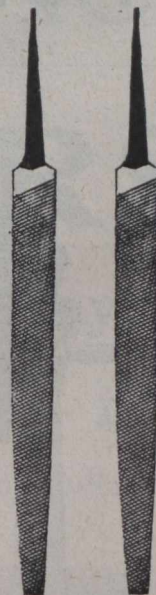
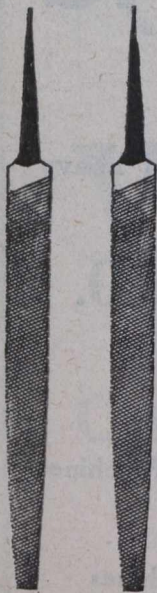
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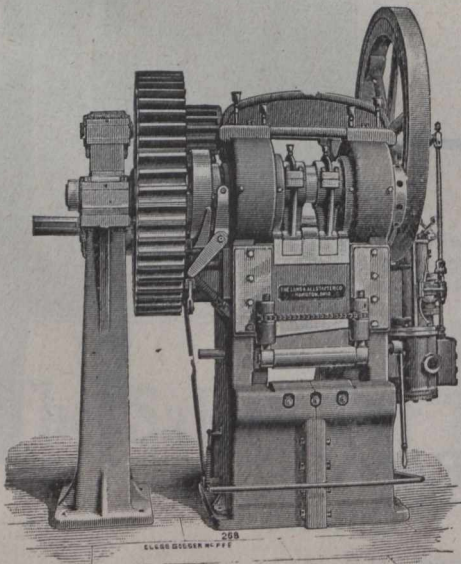
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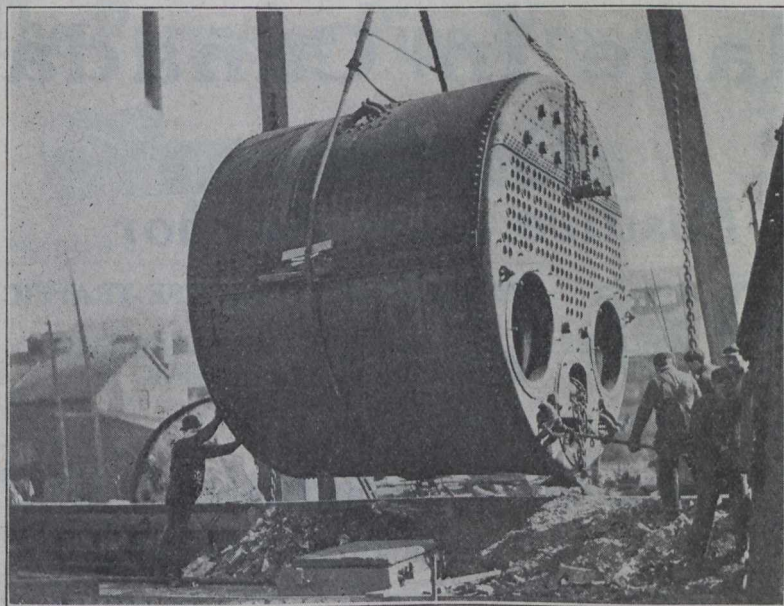
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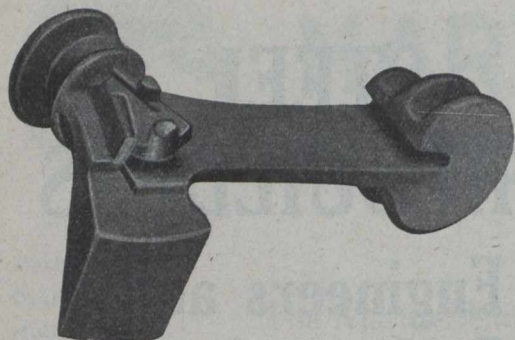
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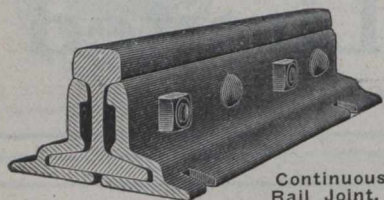
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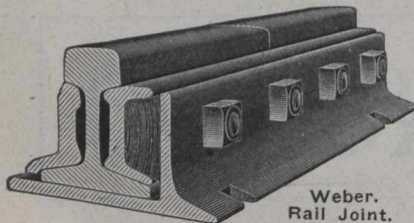
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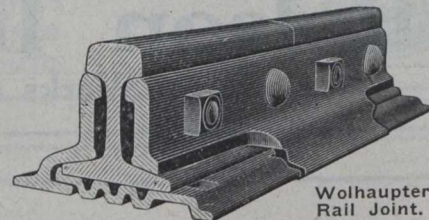
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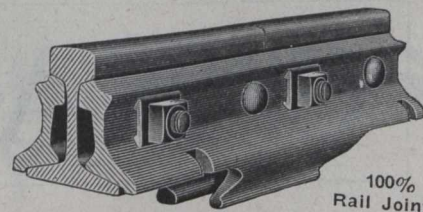
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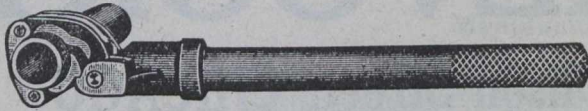
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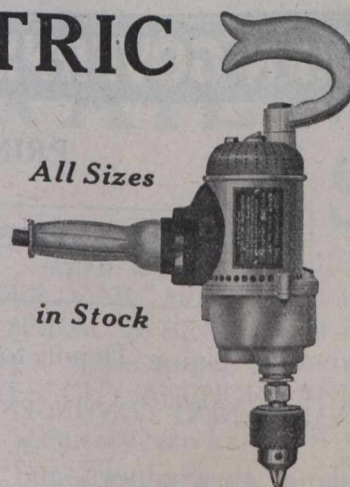
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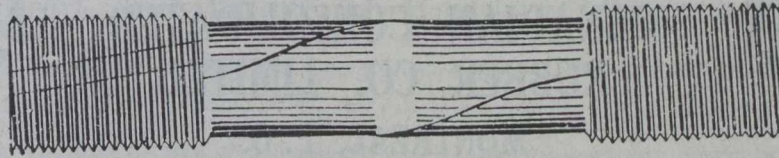
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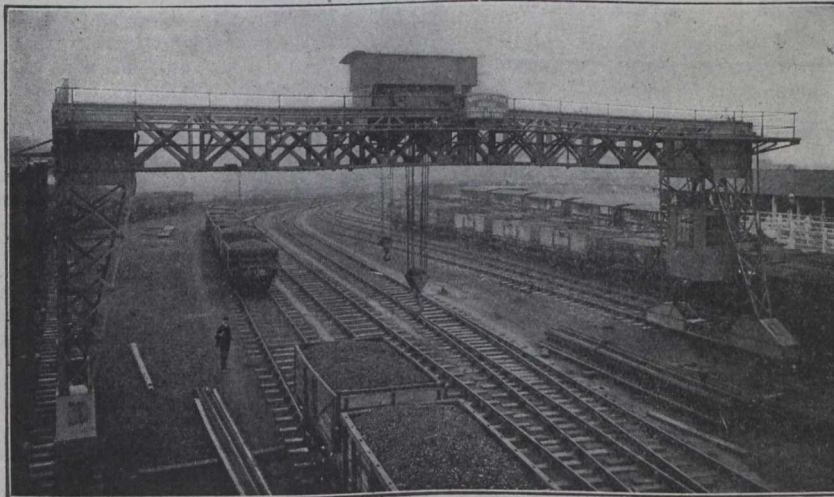


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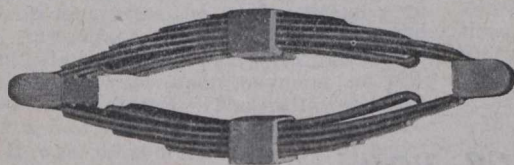
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# Canadian Railway and Marine World

April, 1915.

## Development and Effect of Railway Operating Standards.

By Geo. Bradshaw, Safety Engineer, Grand Trunk Railway and Grand Trunk Pacific Railway.

A standard is a principle promoted from the ranks on its own merits and given extensive jurisdiction with ample authority. Its first official act consists in removal from the service of all unfortunate fellow principles who contended for preference. A standard represents, in the survival of the fittest, nature's law applied to business affairs.

When we consider that the first railway spike was driven on the American continent within the memory of men still living, we are prepared to appreciate the wonderful progress made. We shall, however, get but an incomplete understanding of that progress if we consider only outward appearances and content ourselves with a comparison of the roadway, structures and equipment of today, with models of years ago. The really great achievements in railway history have been the solution of problems relating to administration and management. To the railways of Canada and the United States is conceded the proud distinction of being the most progressive in the world. While to England, we owe the wheel flange, the locomotive and the Bessemer process, we have contributed the telegraph, the airbrake, the automatic coupler, the electric signal, and the steel car. The natural explanation for the enviable record we have attained is found in the combination of two facts. First, a precedent with us has no sacred significance. Our standards of yesterday are found in the scrap heap of today. We never have been, and never intend to be, satisfied with anything we do. Secondly, we have developed the principle of cooperative action. We operate the railways of this continent—almost 300,000 miles—practically as one system. This result has been brought about by the evolution of standard methods, devices and appliances.

**The Standard Gauge.**—The first railways of England consisted of beams placed end to end, and were constructed solely for carrying coal. Neither the locomotive nor the car was known at that time, and the principle of common carrier was not introduced till long after the first railways were built. Any person owning a coal wagon and the animals to draw it was permitted to use the early railways upon payment of prescribed rates of toll. The railways were simply a new form of toll roads for public use. It was, of course, necessary to make the gauge of the first railways conform to the trackage width of wagons in common use at the time. That happened to be 4 feet 8½ inches, and to that circumstance we owe the standard gauge of this day which prevails on about three-fourths of the railways of the globe.

The Liverpool and Manchester Ry.—at first a toll road—adopted the locomotive in 1829, and other lines followed; but the uniform gauge of the toll roads was maintained till the opening of the Great Western. That line had a gauge of 7 ft.; the Great Eastern, 5 ft., and the Caledonian, 5½ ft. It was contended that the broad gauge permitted greater speed and economy of operation. This conflict of opinion was responsible for the "battle of the gauges," which had an indirect but important effect upon the ad-

vancement of railway construction. This was because it gave an impetus to locomotive development, which otherwise would have remained dormant till a much later date. In this day of speed records, it may serve as a healthy curb upon our vanity to bear in mind that in 1846, a locomotive on the Great Western attained a speed of 78 miles an hour, and in the following year one on the London and North Western (standard gauge) made 79 miles an hour. The "battle of the gauges" was ended in 1846 by an act of Parliament requiring all future constructed roads for carrying passengers in England to have a gauge of 4 ft. 8½ ins. It was not, however, till 1892 that the Great Western—the last of the broad gauge lines—completed the change to standard gauge, which it commenced in 1872 by laying a third rail.

Before railway construction was seriously undertaken on this continent, two principles had been discovered and developed in England, for which the world must ever remain in debt to the pioneers of that day. One was the wheel flange. It would perhaps be impossible, in the whole history of applied mechanics, to find another device so simple and insignificant in appearance to which the world owes so much as it does to this humble contrivance, the conception of an equally humble person. A coal miner, noting the excessive friction of the flange rail, simply transferred the flange to the wheel. When this was done, the owners of ordinary wagons could no longer use the railways, and it became necessary to devise special wagons, which were the forerunners of the freight car, known in England to this day by the name of wagons. The use of the special wagon, or car, brought an end to the existence of railways as public toll roads, and introduced the principle of common carrier. Following these fundamental developments, came the locomotive, the one instrumentality absolutely necessary to make possible the practical value of all that had preceded. We had the benefit of these developments and hence, with a few insignificant exceptions, railways never existed as toll roads in this country. The locomotive and the principle of common carrier were at once transplanted from England.

Little consideration, however, seems at first to have been given on this continent to uniformity in gauges. That this should have been so, especially after the experience of England had proved the importance of the matter, is explainable in part by the fact that the early roads were intended only for local and sectional purposes, and were authorized by special charters of the various provinces and states, instead of by one body as in England, and partly by the circumscribed ideas prevailing, even to a comparatively late date, as to the true functions of railways. We had as many as eight different gauges—3 ft.; 3 ft. 6 ins.; 4 ft. 8½ in.; 5 ft.; 5 ft. 6 in.; 5 ft. 9 in.; 5 ft. 10 in., and 6 ft. The Grand Trunk's gauge in Canada was 5½ ft., said to have been determined upon because the British Government adopted that standard for the railways of India. The Erie, for almost 50 years, main-

tained a 6 ft. gauge. The Pennsylvania, on some of its lines, had a gauge of 5¾ ft., which was retained for many years after the general adoption of the standard gauge. Most of the roads south of the Ohio River were built to a 5 ft. gauge.

It was maintained that the broad gauge permitted the movement of greater load in proportion to the dead weight of equipment. Where this lack of uniformity existed, it constituted an obstacle to through traffic. Passengers changed cars when they came to "the break in gauges," and freight was transferred at such points piece by piece, or the bodies of cars lifted from the trucks of one gauge and set upon those of another. To realize what this meant, unless one recalls from experience, he should undertake to make a trip, or to ship a package of freight over the various electric roads between distant cities.

Our "battle of the gauges" lasted for 30 years, instead of 10 as in England, and was terminated here by voluntary action of the roads instead of by legislative enactment. The Grand Trunk changed to standard gauge in 1874. On May 31 and June 1, 1886, most of the lines south of the Ohio River changed. The record made by those lines, time considered, must be regarded as one of the great feats in railway history. The change involved almost 25,000 miles of track, 1,800 locomotives and 45,000 cars. One of these roads—the Louisville and Nashville—on May 30, 1886, changed over 1,800 miles.

With the adoption of the standard gauge the history of systematic railway operation on this continent really begins. In the same year of its consummation, the two distinct bodies of operating officers, representing the northern and the southern railways, were amalgamated, forming the organization now known as The American Railway Association, representing practically the entire mileage of the North American continent, and constituting the greatest body of railway men on earth. Without the standard gauge, the Master Car Builders' Association—although organized 19 years before—could never have reached its present state of development, which entitles it to rank as one of the most remarkable organizations of modern times.

**Standard Time.**—The affairs of even the most primitive people demand some means of computing time, and to devise the various means suitable to the advancing stages of society has been a perplexing problem in all ages. The sun dial, the hour glass, the burning candle, the wooden wheel clock and the watch represent successive steps in the solution of the problem. The watch and the devices that preceded it were simply instruments for recording time, and it was in the perfection of this instrument only that society was concerned prior to the advent of railways. As the computation of time is based upon the rotation of the earth with reference to the sun, all places located on different meridians must actually have different time. In other words, it is noon (solar time) at each place when the meridian of that place is brought, by the earth's



rotation, directly under the sun. Before the appearance of railways, each community, to a great extent, lived to itself and was a law unto itself and, therefore, had its own local or solar time. This served well enough the purposes of that day, but railways, extending for the most part east and west, through many communities, found this variation the source of the greatest annoyance and confusion. More than fifty different standards of time prevailed, each road taking as its standard the local time of some city in its territory. This condition existed till November 18, 1883, when the railways adopted "standard time," which is simply an arbitrary method whereby every place in Canada and the United States, instead of taking the solar time of its own meridian, adopts the time of one of five meridians—60°, 75°, 90°, 105°, 120° west of Greenwich. These meridians mark five different times—Atlantic, Eastern, Central, Mountain and Pacific—each varying from the other by an even hour added to the east and subtracted from the west. Railway time is not, therefore, really correct time; but an arbitrary standard adopted from necessity. It affords the anomalous example of a demand for a standard being so great as to justify its adoption at the sacrifice of correctness. Standard time has now been almost universally introduced, and the people generally depend upon the railways to furnish them the time in all localities. The subject cannot, however, be considered as finally settled. At the last meeting of the American Railway Association standard time was made the subject of a lengthy and learned report. While the meridians, already mentioned, are supposed to fix the points for changes in time, there is a wide departure among the various roads in adhering to such points. For example, the New York Central changes from Eastern to Central time at Buffalo, (located approximately at the 79° meridian) while the parallel Canadian roads change at Windsor, Sarnia and Fort William. The latter place is approximately on the 89° meridian and, therefore, has an actual difference from Buffalo time of 40 minutes. This variation is illogical and, to a considerable extent, unnecessary. While it does not occasion any great practical inconvenience, a greater degree of uniformity is desirable.

**Standard Signals.**—In the matter of hand and audible signals there prevails an almost absolute uniformity on all railways of Canada, the United States and Mexico. Perhaps in no other one method of operation has there been adopted a more exact and general standard than that known as the Uniform Train Signals put into effect on Nov. 16, 1884. Prior to the adoption of uniform signals each road had its own code, with the result that there was great confusion, involving risk of train accidents, at all junction points, terminals and roads used by two or more companies, and especially when employes trained on one road, entered the service of another. The uniform signals were the result of much investigation and discussion by the representatives of the two Time Conventions, (the bodies which in 1886 formed the General Time Convention, later known as the American Railway Association) and, with slight modifications dictated by subsequent experience, these signals may now be considered almost perfect in their conception and application.

If I may be permitted to offer a suggestion on a subject which the thought of able men has left so little open to further discussion, I would recommend, in the interest of safety, that the signal for starting a passenger train—two blasts of the air whistle—be eliminated, so that a passenger train may

be started only on hand signal from the conductor. The objection to the air signal for this purpose is threefold. 1st. It permits trainmen to be upon passenger car platforms, or inside the cars, at the time the train is started. Considerations of public safety demand that the conductor and trainmen of a passenger train should stand upon the station platform as the train starts. 2nd. As two blasts indicate "start" when the train is standing, and "stop" when the train is moving, confusion may, and often does, result. The locomotive man, not being prepared to start exactly upon receiving the signal, may be just starting when a second signal is received. That signal may be intended as a repetition of the first, and prompted by impatience at the failure to act promptly upon the first. It may also be intended as a stop signal, made necessary to prevent injury to some person in the act of getting on or off the train or in other hazardous positions. A misinterpretation by the locomotive man in one way will result in an unnecessary delay, and in another way may mean personal injury or damage to property. 3rd. Formerly, one blast of the air was the signal to start. This was changed to two blasts, because it was thought that, while the cord might by mistake or design of a passenger or other person, be given one pull, it would hardly receive two in the proper succession, and for the further reason that one blast was produced in the locomotive cab when a valve was opened and the air extended in the signal line. But the change has by no means removed danger from these two contingencies, especially from the latter. Suppose that in making coupling between cars—as when an extra car is put upon a train, or in coupling up after making a switch—the trainman or carman first opens the valve of the signal line at the rear end of the forward car and then opens the valve at the forward end of the rear car, there will be two distinct reports in the cab which a driver may naturally take as the signal to start. I personally witnessed an actual occurrence of this nature where a trainman was dragged a considerable distance, with his body across the rail, before the train, started on this unintentional signal, could be brought to a stop.

**Standard Rules.**—The Standard Code of Rules was adopted by the American Railway Association in 1887, and in 1889 was divided into Rules for single and double track operation. This code has been put into effect on most of the railways in Canada and the United States, but with so many modifications and additions to meet local conditions and individual opinions that, with the exception of hand and audible signals, already referred to, which were incorporated as a part of the Standard Code, and the methods of movements by train orders and block signals, there prevails a considerable divergence in methods. The American Railway Association has a permanent committee, styled The Train Rules Committee, for the consideration of changes in the Standard Code, and for answering inquiries and giving interpretations upon any rule. The rules of the Standard Code relate almost entirely to the operation of trains, and are intended to be of such general nature as to permit their adoption by all roads.

In Canada the Railway Act gives the Board of Railway Commissioners power to pass upon rules for the "operation of trains"—see sections 30, 268 and 269—and in July, 1909, the Board, by order 7563, approved what is termed the Uniform Code, which is based upon, and follows very closely, the Standard Code. Owing to the authority exercised by the Board of Railway Commissioners, there is in Canada a far greater

uniformity in operating rules than in the United States, where neither the Interstate Commerce Commission, nor the state commissions approve rules of the railways.

### Application for Establishment of Cartage Service at Fort William Refused.

In dealing with the Fort William Board of Trade's application to the Board of Railway Commissioners for an order requiring the establishment of a cartage service at Fort William, Ont., or the abolition of the railway companies' custom of collecting the consignor's cartage from the consignees, the Assistant Chief Commissioner, D'Arcy Scott, gave the following judgment recently:—

The railway companies have agreements with cartage companies in a number of cities and towns in Canada whereby the cartage company undertakes to call for and deliver freight for the railway companies on a schedule of charges. These cartage companies are not under the board's jurisdiction, and it is purely optional with a railway company to have such a service. This board has no jurisdiction to order a railway company to establish a cartage service, and therefore we cannot grant the request of the applicants for an order directing the railway company to establish a cartage service at Fort William. With regard to the practice which the railway companies have been following in some places of collecting the consignor's cartage charges from the consignees when collecting the freight for the railway haul, it seems to me the remedy for this evil is in the hands of the consignees themselves. If they do not want to pay the consignor's cartage to the railway company, I see no obligation on them to do so. The railway company has no right to withhold delivery of the freight because the consignees refuse to pay the consignor's cartage; and, as the cartage appears as a separate item on the freight bill, it would be a simple matter for the consignee to deduct that amount from the total amount demanded by the railway company.

The matter came before the board some years ago, and a memorandum of Commissioner McLean, concurred in by the Chief Commissioner, Sept. 25, 1913, was issued to the railway companies and a number of boards of trade, a copy being sent to the Secretary of the Fort William Board of Trade. A notice having been issued by the railway companies to the effect that it was their intention to discontinue the practice of collecting the consignor's cartage charges from the consignee, a strong protest was made to the board by delegates of a number of western shippers at a conference at Regina, Dec. 18, 1913, against the withdrawal of this practice by the railway companies. A number of boards of trade of western cities joined in the protest. As a result of this protest, representatives of the Grand Trunk Pacific and the Canadian Pacific Railway Companies, by memorandum dated Dec. 19, 1913, agreed to continue the practice of collecting consignor's cartage charges from consignees in cases where the railway companies had recognized cartage agents at the point of shipment.

I entirely agree with the views expressed by Mr. Commissioner McLean in his memorandum already referred to, when he said:—"The question as to whether the consignees should, or should not, pay advanced cartage to the railway is one entirely of contract between the parties. The board has nothing to do with it, nor is the work done by the railway in any manner a railway service or facility within the meaning of the Railway Act." That being so, I do not see that the board can take action in this matter.



## General Inspection Car on the Grand Trunk Railway.

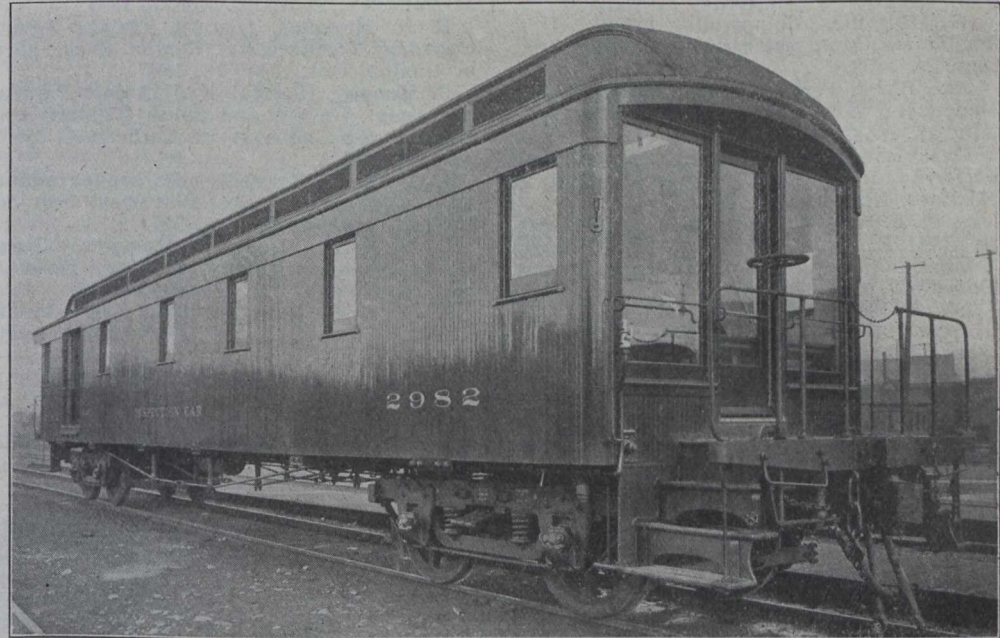
As mentioned in Canadian Railway and Marine World for November, a general inspection of G.T.R. was made during October by 50 officials from all parts of the lines. A specially designed car, which is illustrated herewith, was built for the inspection. It is about the same size as one of the company's old open vestibuled baggage cars, with the observation end completely glazed, similar to the rear end of the observation cars used at the back of some of the passenger trains. The glazed end consists of a central door with large window panel, and two side windows, all the windows being of nearly full depth.

Back from the observation end, the floor was tiered, with a rise of 4 ins. in each tier, the tiers being spaced with the usual car seat spacing. Eight tiers carried this arrangement back to about the centre of the car. On each level of the tiers, there were placed two old passenger car seats, one on each side in the usual manner, with a central aisle. This provided 16 seats, or an observation seating capacity of 32. From the highest tier level, a flight of 4 steps leads down to the car level. In the rear or lower floor section of the car, there is a table between two car seats, and along the walls, there are 9 arm chairs.

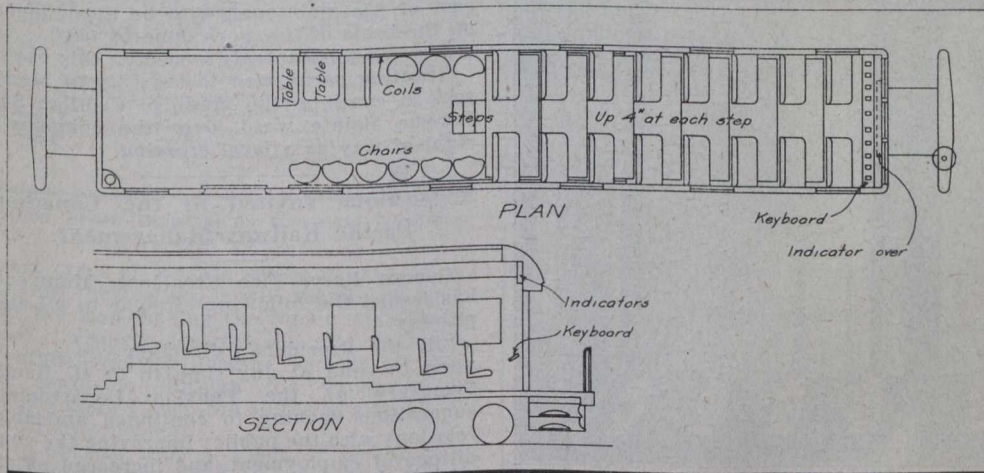
In front of the observation end windows, there is a narrow table running the width of the car, on which there are 10 sets of keys, arranged in pairs, each pair to be

tion, which is 5 miles long for single track, and 4 miles for double, an average of the

observations was struck. The summation of these observations for the division is a measure of its standing. The committees were arranged so as to produce impartial judgments.



Inspection Car, Grand Trunk Railway, Showing Observation Window.



Floor Plan and Section of Inspection Car, Grand Trunk Ry.

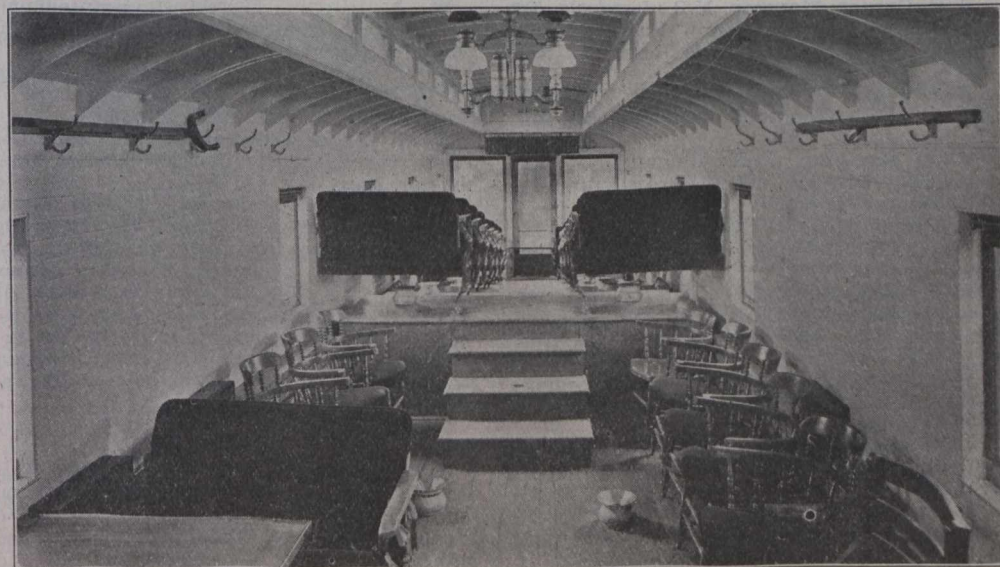
manipulated by one observer. The several sets of keys are named respectively, Line, Surface, Joints, Tie Spacing, Drainage Banks, Ditches, Ballast, Station Grounds, Policing, Fencing, Buildings, Spikes, Side Tracks. Under the several headings is divided all the work that comes under the care of the maintenance of way departments. Immediately over the keyboard, under the decking, there is a large 10 unit annunciator indicator, correspondingly marked with the above lettering in larger type that can be seen from the rear of the car. The annunciator units are electrically operated from the keyboard below.

Along the front row of seats before the keyboard desk, five officials observed the line, and outlined their judgments on the different conditions of the track on the annunciator above. The party on its trip each day appointed a special committee of five track and bridge and building supervisors, each of whom was delegated to operate two keyboards, at the end of each mile, registering the judgment of that mile on the annunciator above. In the rear of the car, clerks placed at the desk, noted these observations, and at the end of each sec-

The car covered the entire system from Portland, Me., to Chicago, in a train of 9 cars. The 50 officials comprised representatives from all sections of the maintenance of ways departments, among whom, not only will a friendly rivalry be instilled, but from observations of other men's work, higher ideals will be developed, and the men at the same time brought into closer touch with their superiors.

**Valcartier Transportation Charges.**—Replying to questions in the House of Commons, Feb. 15, the Minister of Militia stated that \$19,098.89 had been paid to the Canadian Northern Ry. for transportation and all other services in connection with Valcartier Camp, and of this amount, \$7,965.24 was represented by express charges.

**Canadian Railway Club.**—E. Hungerford, Advertising Manager, Wells Fargo & Co.'s Express, read a paper on railway advertising before the club in Montreal, Mar. 9.



Interior of Inspection Car, Grand Trunk Ry., Showing Tiered Observation Seats.



## Birthdays of Transportation Men in April.

F. G. Adams, Commercial Agent, G.T.R. and Division Freight Agent, G. T. Pacific Ry., Winnipeg, born at St. John's, Nfld., Apr. 6, 1878.

W. H. Ardley, Comptroller, G.T.R., G. T. Pacific Ry., Montreal, born at London, Eng., Apr. 24, 1858.

Jas. Black, Freight Claim Agent, C.P.R., Vancouver, B.C., born near Seaforth, Ont., Apr. 19, 1858.

C. G. Bowker, General Superintendent, Eastern Lines, G.T.R., Montreal, born at Medford, N.J., Apr. 21, 1871.

S. P. Brown, M. Am. Soc. C. E., M. Am. Soc. M. E., Chief Engineer, Mount Royal Tunnel and Terminal Co., Montreal, born at Dover, Me., Apr. 29, 1877.

W. J. Camp, Assistant Manager Telegraphs, C.P.R., Montreal, born at Oakville, Ont., Apr. 22, 1855.

A. V. Collins, Canada Steamship Lines, Ltd., Toronto, born at Island Pond, Vt., Apr. 21, 1868.

A. E. Edmonds, General Agent, C.P.R., Detroit, Mich., born at Woodstock, Ont., Apr. 8, 1866.

born at Renfrew, Ont., Apr. 15, 1871.

J. A. Macgregor, Superintendent, District 4, Alberta Division, C.P.R., Edmonton, born at Dufftown, Scotland, Apr. 5, 1873.

B. R. Marsales, District Freight Agent, Canadian Northern Ry., Regina, Sask., born at Guelph, Ont., Apr. 13, 1887.

P. Mooney, General Freight and Passenger Agent, Halifax and South Western Ry., Halifax, N.S., born at St. Catherines, Que., April 19, 1871.

J. O. Norrie, Travelling Passenger Agent, Cunard Steamship Co., Winnipeg, born at Belfast, Ireland, Apr. 20, 1879.

G. D. Perry, General Manager, Great North Western Telegraph Co., Toronto, born at Whitby, Ont., April 19, 1858.

R. A. Pyne, Superintendent of Shops, C.P.R., Winnipeg, born at Toronto, April 10, 1874.

R. S. Richardson, Assistant Superintendent, Intercolonial Ry., Moncton, N.B., born at Napanee, Ont., April 9, 1865.

F. Rioux, Assistant to President, Reid Newfoundland Co., St. John's, Nfld., born at Trois Pistoles, Que., April 18, 1867.

## Quebec Public Utilities Commission's Orders

The following orders have recently been issued:

Asbestos and Danville Ry.—Approval of tariffs of tolls on line from Asbestos to Danville, about five miles, and charges for switching service. J. R. Pearson, Asbestos, Que., Manager.

Quebec and Saguenay Ry.—Extending to May 15, 1915, time fixed for installing gates at grade crossing at Pointe-au-Pic, Que.

Canada and Gulf Terminal Ry.—Ordering company to fix the minimum weight for car load lots of pulpwood shipped over its line at 40,000 lbs., for cars 35 ft. or over in length, instead of 50,000 lbs.

Quebec Central Ry.—Granting permission to the town of East Angus to open a crossing over Q. C. R. tracks, to connect Bernard St. with St. John St.

Authorizing the opening for traffic of the extension of the Chaudiere Branch from St. Sabine to 10 miles east.

Montreal Tramways Co.—The Montreal City Council applied for an order to regularize the crossings over the M. T. Co.'s right of way at eight streets. The President of the Commission was requested to view the crossings. He subsequently reported favoring certain crossings, and disapproving of others, and recommended that the work on the crossings approved should be put in to within 18 ins. of the tracks by the city, and the remaining width by the M. T. Co., the cost of the maintenance to be apportioned on the basis of the work done by each. An order was subsequently issued on this basis.

Granting permission to the City of Montreal to continue the grade of Cadillac St., Longue Pointe ward, over the company's right of way as a level crossing.

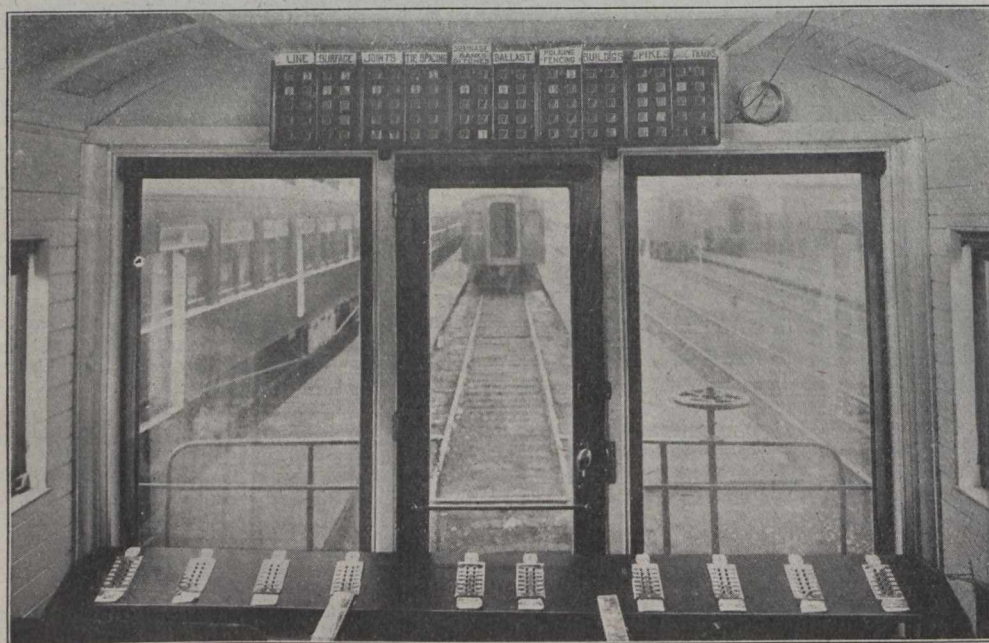
## Suggestions Invited by the Canadian Pacific Railway Management.

George Bury, Vice President, Montreal, has issued the following circular to all employees:—

"By the President's direction you are invited to send at any time to C. H. Buell, Secretary of the Pension Department, suggestions looking to continued amicable relations with the public; improving the conditions of employment, and increased efficiency of our operations. It is believed that there is much talent in such a vast organization as ours that never has had an opportunity of coming to the front, and this method is to be tried in an endeavor to bring such talent to light. Letters will be treated as confidential and will be passed upon periodically by a committee, so that anything of worth may be fully recognized. It is my hope, needless to say that the object is to obtain the benefit of the ideas of those working with us, and not a means for airing grievances, which if they exist should go through the usual channels as they do in all successful organizations."

In hardening high speed steel taps, threading dies, reamers and milling cutters, it is good practice to insist on slow pre-heating in a furnace at 1,500 degrees Fahr., and then submit to a temperature of 2,200 degrees Fahr., or move to an adjacent furnace.

Rail ingots have small surface flaws, which, on rolling, draw out into long lines or seams, leaving an incipient weakness in the finished rail, that may or may not extend, depending on the extent of the seam and the service to which the rail is subjected.



Observers' Keyboard and Overhead Indicators, Inspection Car, Grand Trunk Ry. See pg. 121.

B. C. Gesner, Moncton, N.B., formerly Air Brake Inspector, I.R.C., now Eastern Sales Agent, Galena Signal Oil Co., born at Cornwallis, N.S., April 23, 1850.

J. Murray Gibbon, General Publicity Agent, C.P.R., Montreal, born at Udewella, Ceylon, Apr. 12, 1875.

V. A. Harshaw, Superintendent, District 1, Atlantic Division, C.P.R., Brownville Jct., Me., born at Mono, Ont., Apr. 26, 1865.

A. Hatton, General Superintendent of Car Service, C.P.R., Montreal, born at London, Eng., Apr. 12, 1869.

J. M. Horn, District Freight Agent, Canadian Northern Ry., Edmonton, Alta., born at Allanton Mills, Lanarkshire, Scotland, Apr. 12, 1880.

B. S. Jenkins, ex General Superintendent, C.P.R. Telegraphs, Winnipeg, born Apr. 8, 1859.

J. H. Johnston, Superintendent of Bridges and Buildings, Eastern Lines, G.T.R., Montreal, born at Uxbridge, Ont., Apr. 22, 1866.

J. Kyle, Master Mechanic, Western Division, Canadian Northern Ry., Edmonton, Alta., born at Toronto, Apr. 11, 1877.

G. W. Lee, Commissioner, Timiskaming and Northern Ontario Ry., North Bay, Ont.,

W. A. Ritchie, District Superintendent, Pullman Co., Montreal, born at Edinburgh, Scotland, Apr. 13, 1854.

E. W. Smith, Superintendent, Dining and Parlor Car Service, G.T.R., Toronto, born at North Bridge, Mass., Apr. 21, 1869.

W. S. Tilston, Chief of Montreal Board of Trade Transportation Bureau, born at Manchester, Eng., Apr. 14, 1877.

E. D. Toye, Storekeeper, Ontario Grand Division, Canadian Northern Ry., Toronto, born at Dalston, Ont., Apr. 27, 1891.

W. Woollatt, General Manager, Essex Terminal Ry., Walkerville, Ont., born at Weedon, Hertfordshire, Eng., Apr. 2, 1855.

H. J. White, General Foreman, Car Department, Quebec Grand Division, Canadian Northern Ry., Joliette, Que., born at Brownington, Vt., Apr. 1, 1871.

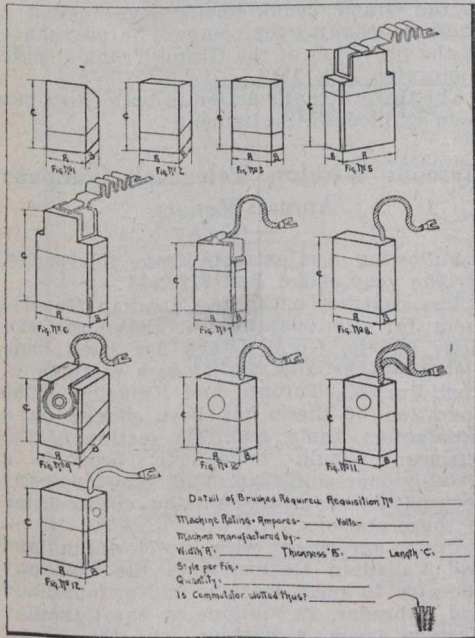
That watertight concrete is possible is demonstrated by a concrete water tank on the Baltimore and Ohio Rd., made with a 1:1½:3½ mixture, to which was added slaked lime while mixing, the inner and outer surfaces being finally coated twice with a cement coating.



# Railway Mechanical Methods and Devices.

## Lighting Generator Carbon Brush Diagrams for Canadian Northern Equipment.

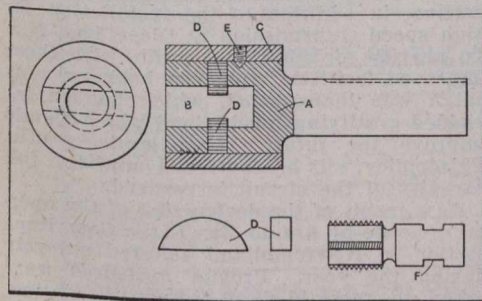
In view of the difficulty experienced by the C.N.R. mechanical department in supplying the correct carbons for generator repairs, owing to the insufficiency of the information supplied from the places where the repairs were being made, another system of describing the brushes became necessary. From an inspection of the several dif-



Carbon Brush Diagram on Canadian Northern Railway.

ferent types of brushes shown in the accompanying illustration, it will readily be seen that the man making the repair might very readily wrongly describe the size and kind of brush required, leading to loss of time and confusion through the wrong brush being supplied from the stores as a result of incorrect ordering.

To obviate this, a sheet of perspective views of all the different types of brushes in use on the system, as shown in the



Tap and Reamer Holder for Turret Lathe.

accompanying illustration, was prepared, the sheet also containing blanks to be filled in with additional necessary identification data. Blueprints of these sheets are supplied all the repair points, and when it becomes necessary to order a new brush of a particular type from the stores, instead of a wordy description being required, it is only necessary to tick off the kind of brush required, as shown in the blueprint, and fill in the data required. No other information is required. This requisition sheet forms an excellent record for the

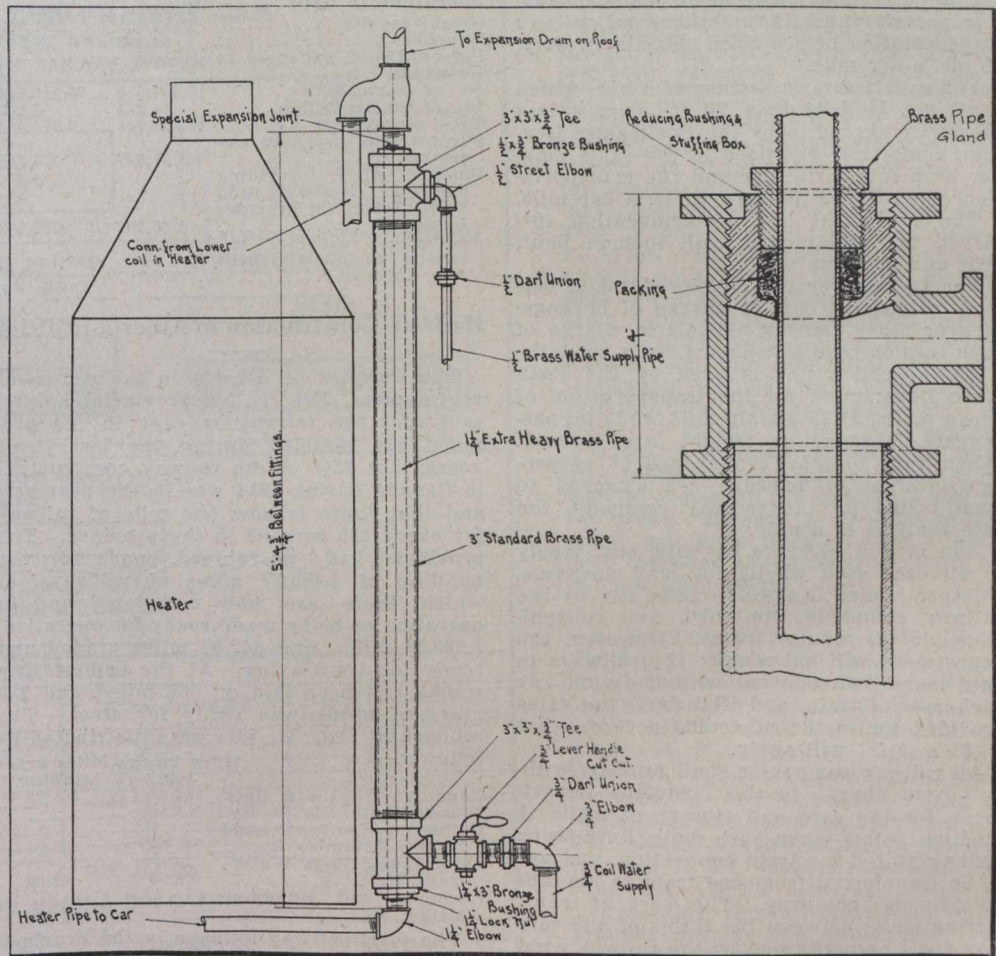
mechanical department, showing the several types that have the best characteristics, etc.

## Tap and Reamer Holder.

The tap and reamer holder described in the following has been found very useful on turret lathe work, as it is of simple though rigid construction, and there is practically nothing to get out of order. It will be seen that there are no set screws or other projecting parts on the holder which can injure the operator's hands or cause accidents through catching loose sleeves or other parts of his clothing. The body and shank of the holder are made of a single piece of soft steel, the shank being turned

## Expansion Joint in Car Heater Coil on Canadian Northern Passenger Cars.

The C.N.R. mechanical department had so much trouble with the inner pipe of its passenger car hot water jackets in the heating coils breaking, that a different method of installing became most desirable. The hot water jacket layout is shown in the accompanying illustration. In the former method of installing, the inner pipe was secured in the 3 x 3 x 3/4 in. T's, both top and bottom, by means of reducing nipples, making a rigid connection. In consequence of the difference in lengthwise expansion of



Hot Water Jacket with Expansion Joint and Connections to Car Heater.

to fit the turret hole and milled flat on one side to form a bearing for the set screw in the turret. The socket B is bored out about 0.008 in. larger than the shank of the tap to provide the necessary float.

As taps used in turret lathes are frequently made special, their shanks can be made to suit the holder. The taps for this holder have two flats milled across their shanks as shown at F; this allows the shanks to be made short and effects an economy in tool steel. It will be seen that two slots are milled in the holder to receive two steel blocks D. In assembling the tool, the shank of the tap is inserted in the socket B, after which the blocks D are dropped into place, and the collar C is then slipped on and held by a headless set screw. The holder can be made with one block D and one flat on the shank of the tap, but as described, the strain will be more evenly distributed.—Machinery, New York.

the inner and outer pipes, due to the difference in temperatures, the outer pipe, being the stronger, would frequently cause the rupture of the inner one. This was a most fruitful source of heater breakdown.

In the layout shown herewith, the lower T connection is left as formerly, but the upper connection is made into an expansion joint with expansion bushings. A detail of the upper connection is shown to the right of the heater. In place of the reducing nipples in the T, reducing from 3 to 1 1/4 in., there is screwed into the T a reducing bushing and stuffing box, the hole through the centre being a clearance fit for the 1 1/4 in. pipe. In the packing recess packing is placed, with a brass pipe gland above, screw fitted into the bushing, whereby a tight joint may be secured. This permits expansion, or contraction, of the inner pipes, independent of the outer casing, and consequently eliminates the rupturing strains.



### Compensation for Carrying Mails on Railways.

A subscriber has asked us for information as to the rates paid railways for carrying mails. For a number of years the railway companies have complained to the Dominion Government that the rates they have been paid for this service are altogether inadequate. Towards the end of 1913 they pressed the matter very strongly on the Postmaster General. Representatives of the principal lines had interviews with him, but no arrangements could be agreed on, and, exercising the arbitrary power conferred by the Post Office Act, he had the rates fixed by Order in Council on Jan. 27, 1914, as follows:

For a full postal car, which shall not be less than 60 ft. long, unless otherwise agreed to by the Postmaster General, equipped for the sorting and handling of mails, including parcels, and the accommodation and transportation of postoffice officials on duty, 16 cts. a car mile.

For a half car, or section of a car, which shall not be less than 30 ft. long, unless otherwise agreed to by the Postmaster General, completely equipped in the same manner as a full postal car and the transportation of postoffice officials, 9 cts. a car mile.

The equipment and accommodation furnished for postal cars shall include light, heat and drinking water.

For the conveyance of closed mails carried in baggage cars in charge of baggage-men or other railway officials in charge of such cars on regular trains, 4 cts. a car mile.

For special trains ordered by the Post-office Department for the transportation of ocean mails, \$1.25 a train mile when no passengers, baggage or freight are carried. When cars for the conveyance of passengers, freight or baggage are attached to such trains by the railway company, the rate shall be \$1 a mile.

The rate of 16 cts. a car mile shall apply to all cars used wholly for mail purposes, whether hauled in special trains run by the railway companies for their own convenience, or on regular trains. However, the department will not require the railways to haul more than one car with mails on any such special train, and if it does, the rates provided for in the preceding section—that is, \$1 a mile—will apply.

All railway companies shall provide, without extra charge to the Postoffice Department, for the care and storage of mails at junction points when such mails have to be held or stored for train connection, and are to be transferred from one train to another of the same company. The work of transferring mails between the trains of any railway shall be performed by the railway company, except at points where the department has already provided for such transfers, or may hereafter agree to provide for them owing to growth or development.

In writing on March 3, 1914, to the Chairman of the Mail Transportation Committee at Washington, D.C., the Canadian Postmaster General said: "No special arrangements have been made for the transportation of parcels, which have to be conveyed in the same manner and paid for at the same rate as other mail matter. Under the arrangements above described, the Postmaster General will simply require the railways to furnish whatever car space may be necessary for the accommodation of mails of every description, and will pay accordingly. The increase that the railways will earn under the new schedule of rates, calculated on the basis of the service as it existed last year, will amount to about \$786,000. If it is found, however, that the increased amount of mail to be handled, owing to the introduction of parcel post,

will make it necessary for the railways to furnish extra accommodation, they will, of course, be paid a larger amount than that above mentioned."

### Electric vs. Steam Operation of Tunnel Railways.

The report of the Mersey Ry., operating the line under the Mersey at Liverpool, Eng., for 1913, gives some interesting comparisons of the results obtained under the two systems. The last year of operation under steam was 1902. In the intervening years there has been a steady increase in the receipts and of the number of passengers, and a decrease in the percentage of operating expenses to gross receipts, although the rate of wages has been substantially increased. Following is a comparison of the electric operation in 1913, and of steam operation in 1902:—

	Electric.	Steam.
Gross receipts .....	£122,631	£61,252
Expenses .....	64,285	57,537
Percentage of expenses to receipts .....	52½	94
No. of passengers .....	13,241,615	5,942,002
No. of season tickets .....	14,231	3,266
Total passengers .....	16,524,741	6,991,982
Surplus over working expenses .....	£58,347	£3,715
Balance after providing for rent, renewal fund and interest on first debentures .....	£20,202	£22,662
Additional surplus required to meet debenture interest .....	£6,707	£50,887

### Railway Construction in Alberta in 1914.

The Premier of Alberta in the course of a statement, Feb. 11, on provincial affairs, said that the railway mileage in the province had doubled during the last three years, that 22% of the railway construction in Canada during 1914 was in the province, and that there is now one mile of railway for every 125 persons in the province. The province had guaranteed bonds for the building of 2,435.97 miles of railways, of which there are now completed and in operation or being made ready for operation, 1,230.79 miles, and 347.02 miles graded and ready for tracklaying. At the end of 1913 tracks had been laid on 988 miles, and 280 miles of grade was ready for steel. The mileage at Dec. 31, 1914, was distributed as follows:—

	Miles track laid.	Miles extra grading.
Canadian Northern lines	656.29	198.02
Grand Trunk Pacific Ry.	259.50	.....
Edmonton, Dunvegan and British Columbia Ry. . .	240.00	50.00
Alberta and Great Waterways Ry. . . . .	75.00	62.00
Lacombe and Blindman Valley Ry. . . . .	.....	37.00

The total railway mileage in the province is 4,097, distributed as follows:—Canadian Pacific Ry., 1,887 miles; Canadian Northern Ry. lines, 1,188 miles; Grand Trunk Pacific Ry., 907 miles; Edmonton, Dunvegan and British Columbia Ry., 240 miles; Alberta and Great Waterways Ry., 75 miles. In 1905 there were only 1,060 miles of railway in the province, owned by the C.P.R. and its subsidiary, the Alberta Ry. and Irrigation Co.

**Richard Marpole's War Contribution.**—London, Eng., cablegram to Montreal Star, Mar. 3:—"Twenty Welsh volunteers from British Columbia, got together by Richard Marpole, General Executive Assistant C.P.R., were given a hearty welcome at Colwyn Bay, where they joined Sir Hamar Greenwood's battalion of South Wales Borderers. They were met at Liverpool by Lieut. Long, formerly of Vancouver, also Sergt.-Major Edford, formerly of the Scots Guards. The whole battalion escorted them to their billets amid much enthusiasm."

### Government Advances to C.N.R. and G.T.P.R.

Under the authority of orders in council, dated Sept. 5 and 26, and Oct. 24, 1914, the Dominion Government advanced to the Canadian Northern Ry. \$10,000,000 in the form of an issue of Dominion notes against a pledge by the company of its guaranteed securities issued in pursuance of the provisions of the Canadian Northern Railway Guarantee Act, 1914, by placing the sum so advanced to the credit of the Minister of Finance for payment out under the provisions of the trust deed securing the issue of these securities.

A similar advance of \$6,000,000 was made to the Grand Trunk Pacific Ry., against a similar pledge by the company in pursuance of the provision of the Grand Trunk Pacific Guarantee Act, 1914.

The Government's action in both cases has been ratified by Parliament.

### Marconi Wireless Telegraph Company Annual Report.

Following are extracts from the report for the year ended Jan. 31, 1914:—

The contract with the Canadian Government for the operation of the coast stations on the Great Lakes has been completed by the addition of new stations at Port Burwell, Toronto and Kingston. The operation of these has been placed on a satisfactory basis, and this section of the business should henceforth produce a steadily increasing revenue. The company secured the contract for the construction of these stations.

Under agreement with the Newfoundland and Canadian Governments the company operates 10 small stations in Newfoundland and Labrador, 22 stations on the Canadian Eastern Coast, 8 stations on the Great Lakes. The Newfoundland stations are subsidized \$4.63\$ a year, and the Canadian stations \$89,200 a year.

According to the latest government return covering steamships of Canadian register there were 93 vessels equipped with wireless telegraphy, of which 90 are equipped with the Marconi system. The policy of systematically improving the contracts for steamship operation is being successfully carried out.

With the completion of the duplex system the transatlantic receiving station at Louisburg, N.S., has been brought into operation, in addition to the installation for high speed transmission at Glace Bay, N.S. To provide for additional traffic with these improved facilities, a special business campaign was inaugurated, which has so far yielded gratifying results, and which should improve the future transatlantic traffic. This policy will be continued until the full capacity of the circuit is reached.

As a result of the destruction of the operating house by fire on May 5, the Cape Race station in Newfoundland suffered severely during the year. Prompt measures were taken to reestablish a temporary station, which was in operation within two days, but owing to the isolation of Cape Race it was not until Sept. 30 that a full commercial service could be resumed. Improved equipment has been installed, adding to the capacity of the station. The necessity for increasing the height of the masts has been strongly urged on the Government, and action has been taken for such construction, which will be completed before the end of this year. Thus equipped Cape Race will be the most important coast station on the North Atlantic Ocean, and the increase in earnings that can be expected is indicated by the results already apparent since the



installation of the improved plant. Owing to this unfortunate occurrence the ship traffic receipts show only a small increase over the previous year. Transatlantic traffic shows improved receipts for the year, and the revenue from the operation of the Marconi system on steamships and sales of apparatus shows decided progress.

Important legislation covering equipment of Canadian steamships with wireless telegraphy has been enacted. This law became operative on Jan. 1, 1914, and since the close of the past fiscal year a number of contracts have been made with shipowners covering vessels affected by the act.

A convention to consider means for increasing the safety of life and property at sea was held in London in Nov., 1913, one of

the results of which was a strong recommendation to the various governments participating to adopt still more stringent regulations concerning the equipment of vessels with wireless telegraphy.

Work on the contract with the Department of Railways and Canals for the construction of stations at Pas, Man., and Port Nelson, Hudson Bay, has been pushed forward and will be completed during this year. Owing to exceptional difficulties encountered by the Government through lack of terminal and transportation facilities, the company was unavoidably delayed in completing its portion of the work, but will not thereby be subjected to any financial loss. Owing to the isolation of the localities these difficulties had been anticipated.

Communication between the two stations was established in Feb., 1914, which was a source of gratification to the Government.

The balance sheet shows a profit of \$7,158.62 on the year's operations, leaving a balance of \$15,335.75 in deficit account. The capital stock is \$5,000,000.

**Amendment to Railway Act re Workmen's Injuries.**

H. B. Morphy, M.P. for North Perth, Ont., in introducing a bill in the House of Commons, Mar. 1, to amend the Railway Act, Revised Statutes of Canada, chap. 37, sec. 2, clause 34, par. e, said the act as it stands includes, under the head of "working expenditure" of railways "(e) all rates, taxes, insurance and compensation for accident or losses." The bill which I ask leave to introduce extends the language of paragraph e to make it read in this way:

(e) all rates, taxes, insurance and compensation for accident or losses, including any such compensation payable under the provisions of any act of the Parliament of Canada or of any provincial legislature providing for the payment of compensation to workmen for injuries or in respect of industrial diseases.

The object of the bill is to extend to the workingman who is injured the privilege of having his claim come under sec. 141 of the Railway Act in the same way as rates, taxes, insurance and compensation for accident or losses. It will give the claim of a workman who may suffer accident and loss priority as against a mortgage or bonding deed covering the railway's assets in the same way as rates, taxes and insurance now have a prior claim. This will bring the Railway Act into line with Ontario's new legislation dealing with compensation to workmen for injuries sustained. It is merely to extend the law as it stands, and it seems to be an amendment that is necessary in the case of a railway company which may be insolvent and unable to pay claims for losses. In such a case the workman's claim will have priority over a mortgage deed the same as the other elements now in the law have priority.

**Boiler Code.**—The American Society of Mechanical Engineers' boiler code committee has made a final report, which has been accepted by the society's council. The report is the result of the work of the original committee, of which J. A. Stevens was chairman, and an advisory committee of engineers representing various phases of the design, installation and operation of boilers. Among the railway representatives on the committee was H. H. Vaughan, Assistant to Vice President, C.P.R., Montreal. The code is considerably shorter than when originally brought out by the committee; and the rules laid down in it do not apply to boilers which are subject to U.S. federal inspection and control. The original committee and the advisory committee have been continued as one, and will meet once a year in order to make any changes that advances in practice may make necessary. At these meetings will also be taken up any change which may seem necessary in a rule because it works unnecessary hardship on any particular class of boiler makers or users.

Each class of service on French railways has its locomotive fuel carefully divided as to lump and slack, or briquettes and slack, by weight. Passenger service uses 20% slack and 80% lump or briquettes; fast freight, 40% slack; yard locomotives, 80% slack, etc.

Walter White, Trainmaster, G.T.R., Palmerston, Ont., in remitting his renewal subscription, writes:—"I could not very well get along without Canadian Railway and Marine World."

**CANADIAN PACIFIC RAILWAY COMPANY.**  
EASTERN LINES.

Circular No 19

**THE STORY OF THE FREIGHT CAR**  
ITS DEVELOPMENT ON THE  
CANADIAN PACIFIC RAILWAY SYSTEM

The 1903 Average Car

Tare 16.0 Tons  
Capacity 26.1 Tons

The 1908 Average Car

Tare 17.0 Tons  
Increase 6.3%  
Capacity 29.8 Tons  
Increase 14.2%

The 1913 Average Car

Tare 18.3 Tons  
Increase 14.2%  
Capacity 34.8 Tons  
Increase 33.3%

**THE USE MADE OF IT BY THE RAILWAY CO'S PATRONS ON ITS EASTERN LINES**

in 1903

16.2 Tons Freight per loaded car

in 1908

17.9 Tons Freight per loaded car

in 1913

20.15 Tons Freight per loaded car

**HOW TO SAVE \$800,000<sup>00</sup> IN 1915**

23.15 Tons Freight per loaded car

**THE STATISTICS**

	Actual Figures 1913	Proposed Figures based upon same amount of Business 1915
Average weight of Car	18.3 Tons	18.3 Tons
Contents	20.15 "	23.15 "
Average size of Train	19 loaded 6 empties 25 Cars	18 loaded 5-19 empties 23.19 Cars
Average weight of Train Tare	457 Tons	424 Tons
Contents	385 "	416 "
Caboose	840 "	840 "
	17 "	17 "
<b>Total</b>	<b>857 Tons</b>	<b>857 Tons</b>

**EFFECT OF THE ABOVE UPON 3 OPERATING ITEMS**

	SAVING IN MILEAGE	
	Per Day	Per Year
Locomotive Mileage	2462	898,630
Car Mileage	113600	41,464,000
Ton Mileage	2,018,881	758,791,565

	SAVING IN DOLLARS & CENTS	
	Per Day	Per Year
Locomotive Mileage	\$272.90	\$99,608.50
Car Mileage	773.61	282,367.65
Ton Mileage	1171.24	427,502.60
<b>Total</b>	<b>\$2217.75</b>	<b>\$809,478.75</b>

In the above no account is taken of the savings effected in :-  
Per diem Account  
Switching Service in Yards  
Track expenses, &c., &c.

If Agents, Conductors, Yardmasters & others will secure the co-operation of Shippers & Consignees, and thereby succeed in increasing the average load in loaded cars by 3 Tons, it will result in an increase in the Co's net earnings in accordance with the figures given above.

Office of the Asst. Gen. Manager  
Montreal, November 18<sup>th</sup> 1914

*W. White*  
Asst. Gen. Manager

Circular Issued by Canadian Pacific Railway respecting car loading.

A paper on "Some Maximums and Minimums in Train Operation," by Alfred Price, Assistant General Manager, Eastern Lines, C.P.R., was published in Canadian Railway and Marine World for February. The above is a reproduction of a circular he issued in Nov., 1914, to secure an increase in the average loading of cars.



## Orders by Board of Railway Commissioners for Canada.

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

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

General order 134. Jan. 25.—Requiring that railway companies making application to open for traffic under Sec. 261 of Railway Act, (as amended, of Sec. 261, leave to carry traffic where, because of needs of settlers or other urgent condition, public convenience will be served thereby) before opening for traffic any extensions of their existing railway systems west of Lake Superior, publish and file appropriate supplementary special class or town tariffs, mileage commodity tariffs, and special tariffs on grain to Lake Superior terminals and on lumber from British Columbia, as these may be applicable to territories to be served by said new lines, in addition to standard mileage tariffs therefor.

23170. Jan. 15.—Authorizing Canadian Northern Ry. to build spurs for Helendale Gravel Co. and J. G. Mitchell, in Secs. 30 and 19-19-22, w. 2 m., Sask.

23171. Jan. 16.—Authorizing C.P.R. to remove agent from station at Tache, Ont.

23172. Jan. 18.—Approving re-location of C. P.R. station at Glasnevin, Sask.

23173. Jan. 15.—Approving proposed location of C.N. Alberta Ry.'s combined stations and section houses at Borlan, Chip Lake, Fulstow, Dayman, Lobstick and Calahoo, Alta.

23174. Jan. 16.—Rescinding order 19928, July 30, 1913, authorizing Vancouver, Victoria and Eastern Ry. and Navigation Co. (G.N.R.) to take lands in New Westminster District, B.C., for diverting Gunn and Brunette Roads and providing overhead crossing at North Road.

23175. Jan. 16.—Authorizing G.T.R. to operate over junction of its eastbound and westbound tracks at St. Henri, Que., without first stopping trains.

23176. Jan. 16.—Authorizing C.P.R. to build spur for The Cardston Milling Co., Cardston, Alta.

23177. Jan. 15.—Dismissing Canadian Northern Ry. application to remove connection between C.P.R. and Winnipeg Joint Terminals railway at Higgins Ave., Winnipeg, Man. certain firms to continue to have switching service from C.P.R.

23178. Jan. 15.—Authorizing Canadian Northern Ry. to build highway crossing between Secs. 2 and 11, w.2 m., at Invermay, Sask.; municipality to pay cost of maintaining crossing.

23179. Jan. 16.—Dismissing City of Calgary's application for order compelling Canadian Northern Ry. to carry out agreement with city, dated Oct. 24, 1912, re entrance of railway into Calgary; and ordering C.N.R. to provide a 5% grade at approaches to crossings at Thistle, Pine and Hungerford Sts., and Spruce and Poplar Aves.

23180. Jan. 19.—Authorizing Kettle Valley Ry. to cross C.N. Pacific Ry. at Hope, B.C.

23181. Jan. 20.—Relieving C.P.R. from providing further protection at crossing of highway at mileage 52.09, between Lots 15 and 16, Eaton Tp., Que.

23182. Jan. 16.—Approving revised location of G.T.R. siding to Pilkington Bros.' premises, North Cayuga Tp., Ont.

23183. Jan. 21.—Extending to June 1, time within which G.T.R. shall complete highway over its line in Tay Tp., Ont., required under order 22344, Aug. 5, 1914.

23184. Jan. 19.—Exempting Canadian Northern Ry. from erecting fences, gates and cattle-guards along its right of way at certain points in North Bay and Sudbury Districts, Ont.

23185. Jan. 21.—Authorizing Town of Walkerville, Ont., to build Lincoln Road across Essex Terminal Ry., at grade.

23186. Jan. 20.—Authorizing Kettle Valley Ry. to build bridges at mileage 20.0 over Ladner Creek; 14.84, Coquihalla Section; and 9.1 over Slide Creek, B.C.

23187. Jan. 18.—Authorizing Esquimalt & Nanaimo Ry. to build transfer track to connect Canadian Collieries (Dunsmuir), Ltd., track at Royston, B.C.

23188. Jan. 21.—Relieving G.T. Pacific Ry. and Canadian Northern Ry. from maintaining night signalman at crossing at South Saskatoon, Sask.

23189. Jan. 20.—Authorizing Canadian Northern Ry. to discontinue station agent at Margaret, Man., until Apr. 1.

23190. Jan. 20.—Authorizing Nelson & Fort Sheppard Ry. (G.N.R.) to discontinue stopping its trains on flag at Benson & Ross spur, B.C.; to stop on flag at Benton Pole Co.'s spur, and build short platform and small shelter there.

23191. Jan. 22.—Approving G.T. Pacific Telegraph Co.'s bylaw 3, passed Jan. 16, and rescind-

ing order 8016, Sept. 8, 1909, re issuing tariffs of tolls.

23192. Jan. 21.—Authorizing C.N. Ontario Ry. to build bridge across Beaver River, Thorah Tp., mileage 64.1 from Toronto; bed of river to be deepened 1 ft. for 100 ft. above and below bridge.

23193. Jan. 22.—Recommending to Governor-in-Council for sanction lease, dated Oct. 8, 1914, respecting New Brunswick Coal and Ry. Co.

23194. Jan. 22.—Approving plans and specifications of Moore Drain, to be built under Michigan Central Rd., Metcalfe Tp., Ont.

23195. Jan. 22.—Authorizing G.T.R. to use bridges over Birch Ave., Hamilton; over Grand River, Brantford; over Clubine's Creek, Aurora; over Holland River, near Newmarket; near Barrie; over Big Creek, Hawkestone; and over Kashee River, near Severn, Ont.

23196. Jan. 21.—Rescinding order 16070, March 5, 1912, authorizing G.T. Pacific Branch Lines Co. and Canadian Northern Ry. to operate over crossing in n.w. ¼ Sec. 18-48-25, w. 2 m., East Saskatchewan District, Sask., without first stopping trains.

23197. Jan. 23.—Approving Bell Telephone Co. agreement with Emsley South Rural Telephone Co., Dec. 17, 1914.

23198. Jan. 23.—Exempting Canadian Northern Ry. from erecting fences, gates and cattle-guards between mileage 4.5 and 23.5, McGregor Tp., Ont., until land becomes settled or improved.

23199. Jan. 23.—Authorizing Michigan Central Rd. to rebuild pile trestle bridge 11.60 across Long Marsh Drain, Malden Tp., Ont.

23200 to 23204. Jan. 25.—Authorizing G.T.R. to use 12 bridges at different points on its Ontario lines.

23205. Jan. 23.—Authorizing C.P.R. to use 17 bridges on its London Subdivision, Ont.

23206. Jan. 25.—Authorizing G.T.R. to use bridges near Woodstock and near Weston, Ont.

23207. Jan. 26.—Authorizing Canadian Northern Ry. to build spur for North Battleford Mfg. Co., North Battleford, Sask.

23208. Jan. 26.—Authorizing C.P.R. to build siding for H. & H. Box Co., between Pembroke and Stafford, Ont.

23209. Jan. 26.—Approving plan of Edmonton, Dunvegan & British Columbia Ry. class A station house.

23210. Jan. 26.—Authorizing G.T.R. to build extension of siding for Lord & Burnham Co., St. Catharines, Ont.

23211. Jan. 25.—Authorizing Canadian Northern Ry. to build spur to stock yards at Calgary, Alta.

23212. Jan. 25.—Extending to May 26, time within which Canadian Northern Ry. shall complete spur for J. H. Carleton, Winnipeg, authorized by order 22086, May 26, 1914.

23213. Jan. 26.—Ordering C.P.R. and Western Canada Power Co., jointly to file supplements to C.P.R. Special Joint Tariffs, C.R.C. nos. W-1615 and 1806, providing joint rates from Stoltze Mfg. Co.'s mill to destinations shown in tariffs, via Ruskin, B.C., which shall not exceed rates from Ruskin by more than 2c. per 100 lbs.; Western Canada Power Co. to receive 3c. per 100 lbs. as its proportion.

23214. Jan. 26.—Ordering Esquimalt & Nanaimo Ry. to stop its passenger trains on flag at Admiral's Road, Esquimalt Tp., B.C., and build flag station shelter there.

23215. Jan. 27.—Authorizing Edmonton, Dunvegan & British Columbia Ry. to build across 16 highways in Tp. 78, R. 21, 22 and 23, w. 5 m., Alta.

23216. Jan. 27.—Authorizing Lake Erie & Northern Ry. to build at grade, across Toronto, Hamilton and Buffalo Ry. in Brantford, Ont.; to insert diamond in T.H. & B.R. at crossing, to be protected by interlocking plant; and rescinding order 22199, July 3, 1914.

23217. Jan. 25.—Authorizing Kettle Valley Ry. to cross C.N. Pacific Ry. temporarily, for construction purposes only, for 6 months from date, at Hope, B.C.

23218. Jan. 26.—Amending order 23180, Jan. 19, re Kettle Valley Ry. crossing of C.N. Pacific Ry. at Hope, B.C.

23219. Jan. 27.—Ordering Hamilton Radial Electric Ry. to relocate its tracks on ground provided for it on Sherman Inlet, Hamilton, Ont., and that Hamilton Cataract Power, Light, Traction Co. remove its transmission line to new location; work to be completed by May 1st, 1915; H.R.E. Ry. to use 10-ft. ties for tracks; cost of relocating and maintenance other than ordinary maintenance to be paid by city, until, in opinion of Board, it should be relieved.

23220. Jan. 29.—Authorizing British Columbia Public Works Department to build highway crossings over C.P.R. at two points near Malakwa.

23221. Jan. 28.—Approving Edmonton, Dunvegan & British Columbia Ry. location, mileage 307 to 331.89.

23222. Jan. 29.—Authorizing Canadian Northern Ry. to build across and divert highway between Secs. 15 and 16-28-2, w. 4 m., Alta.

23223, 23224. Jan. 28.—Relieving G.T.R. from

providing further protection at crossings 3 miles west of St. Thomas, and at Sundridge, Ont.

23225. Jan. 27.—Relieving C.P.R. from providing further protection at crossing at mileage 107.4, West Nissouri Tp., Ont.

23226. Jan. 30.—Approving location of Canadian Northern Ry. third class station at Dinsmore, Sask.

23227. Feb. 1.—Ordering G.T.R. to stop train no. 1 at Kerwood, Ont., to discharge passengers from London, or points beyond.

23228. Feb. 1.—Rescinding order 20630, Oct. 22, 1913, re operation by Canadian Northern Ry. and G. T. Pacific Ry. over crossing at Camrose, Alta., with leave to either of them to apply for permission to operate interlocking plants there.

23229. Feb. 1.—Extending, to Apr. 15, time within which Esquimalt & Nanaimo Ry. shall install bell at crossing of Victoria and Campbell River trunk road, south of Duncan Station, B.C., as required by order 23038, Dec. 23, 1914.

23230. Jan. 28.—Authorizing Imperial Bank of Canada, Niagara Falls Branch, to pay to G.T.R. \$2,000, with accrued interest, in connection with building of spur for Standard Crushed Stone Co., Windmill Point, Ont.

23231, 23232. Feb. 2.—Suspending until further ordered, 12 tariffs of New York Central Rd., 7 tariffs of Ottawa & New York Ry., 2 tariffs of Boston & Maine Rd., and 3 tariffs of Maine Central Rd., in so far as they increase rates between stations in Canada.

23233. Jan. 30.—Authorizing City of Montreal to extend Cadillac St. across C.N. Quebec Ry.

23234. Feb. 2.—Amending order 23013, Dec. 18, 1914, re Saskatchewan Government road over Canadian Northern Ry. in n.e. ¼ Sec. 33-43-16, w. 3 m.

23235. Feb. 1.—Authorizing C.P.R. to build branch for P. Lariere, Montreal.

23236. Feb. 1.—Certifying correction in plan of C.P.R., Regina-Saskatoon and North Saskatchewan Branch, mileage 43.2 to mileage 132.69.

23237, 23238. Feb. 1, 2.—Authorizing C.P.R. to remove regular agents at Flower and Newtownville stations, caretakers to be appointed.

23239. Feb. 1.—Amending order 23091, Jan. 7, re C.P.R. siding for American Tar Products Co., La Salle, Que.

23240, 23241. Feb. 3.—Authorizing G.T.R. and Erie and Ontario Ry. (T.H. & B.R.) to operate over crossings in Moulton Tp. and Dunnville, Ont., without first stopping trains.

23242. Feb. 1.—Recommending to Governor-in-Council for sanction lease dated Oct. 4, 1914, between Fredericton & Grand Lake Coal & Ry. Co. and C.P.R.

23243, 23244. Feb. 1.—Approving agreements between Bell Telephone Co. and the Kingston, Ont., Roman Catholic Diocese, Jan. 2; and Plummer, Aberdeen and Galbraith Rural Telephone Association, Jan. 15.

23245. Feb. 3.—Authorizing C.P.R. to use bridge 9.3, Edmonton Subdivision, near Red Deer, Alta.

23246. Feb. 4.—Approving agreement between Bell Telephone Co. and Apsley Telephone Co., Jan. 21, and rescinding order 11926, Oct. 11, 1910.

23247. Feb. 3.—Approving C.N. Ontario Ry. revision between mileage 89.22 and 90.47, North Orillia Tp., Ont.

23248. Feb. 3.—Relieving Canadian Northern Ry. from providing further protection at highway crossing between Secs. 21 and 22, Crozier Tp., Ont.

23249. Feb. 2.—Ordering G.T.R., within 60 days, to install improved type of automatic bell at crossing near Oakville, Ont., 20% of cost to be paid out of railway crossing fund.

23250. Feb. 1.—Ordering that C.P.R. and G.T.R. at Arnprior, Ont., be connected to provide reasonable receiving, forwarding, delivering and interswitching of traffic, work to be done by G.T.R., cost to be paid, half by G.T.R. and half by Gillies Bros.; cost of maintenance and protection to be paid by G.T.R.; work to be commenced by May 1 and completed within 30 days.

23251. Feb. 3.—Authorizing G.T.R. to build or rebuild bridges 69, near Harrisburg, Ont.; 28 and 27, near Paris, Ont.; 26 and 22, over Clarence St., Brantford, Ont.

23252. Feb. 6.—Approving clearances between poles already erected and nearest rail of London and Port Stanley Ry., and authorizing with respect to poles to be erected, a clearance of 7½ ft.

23253. Feb. 5.—Authorizing London St. Ry. and G.T.R. to operate half-interlocking plant on Dundas St., London, Ont.

23254. Feb. 5.—Authorizing Canadian Northern Ry. to open for traffic its line from junction with Camrose-Strathcona Line to junction with Edmonton, Yukon & Pacific Ry., at Strathcona, Alta., 0.6 miles.

23255. Feb. 5.—Establishing collection and delivery limits of Canadian Northern Express and American Express Cos., in Fort Frances, Ont.

23256. Feb. 5.—Approving agreement between Bell Telephone Co. and Thamesville Telephone Co., Jan. 25, and rescinding order 6892, Apr. 26, 1909.



23257. Feb. 5.—Authorizing C.P.R. to use bridges 24, near Jasper; and 3.6, near Chauquere Jct., Ont.
23258. Feb. 5.—Relieving G. T. Pacific Branch Lines Co. from erecting fences, gates and cattle-guards from mileage 0 to 97, Melville-Regina Branch, Sask.
23259. Feb. 8.—Authorizing Edmonton, Dunvegan & British Columbia Ry. to build across highways between Tp. 78-26, w. 5 m. and Tp. 78-1, w. 6 m.; and between s. e. ¼, Sec. 13-78-3, and unsubdivided portion Tp. 78-2, w. 6 m., Alta.
23260. Feb. 8.—Authorizing Wabash Rd. to operate over crossing of Erie & Ontario Ry. (T. H. & B. R.) in Moulton Tp., Ont.
23261. Jan. 29.—Authorizing C.P.R. to build two sidings for J. Aybram, St. Elizabeth Parish, Joliette County, Que.
23262. Feb. 8.—Relieving C.P.R. from providing further protection at crossing of first public highway west of Lake Shore Jct., Ont.
23263. Feb. 8.—Approving agreement between Bell Telephone Co. and Katevale Telephone Co., Jan. 28.
23264. Feb. 9.—Approving location of C. N. Alberta Ry. proposed station and section house at Carrot.
23265. Feb. 9.—Approving Ottawa & New York Ry. bylaw re preparing tariffs of tolls, and rescinding order 13555, May 2, 1911.
23266. Feb. 9.—Approving St. Lawrence & Adirondack Ry. bylaw re preparing and issuing tariffs of tolls, and rescinding order 13815, June 1, 1911.
23267. Feb. 15.—Authorizing Hydro-Electric Power Commission of Ontario to erect wires across C.P.R. track and telegraph wires at Adelaide St., Chatham, Ont.
- 23268.—Feb. 9.—Authorizing clearance at Windsor Sand & Gravel Co.'s siding at Viney, Ont.
23269. Feb. 9.—Approving location of Canadian Northern Ry. freight and passenger shelter at Entwistle, Alta.
23270. Feb. 9.—Ordering C.P.R. to restore train service between Lindsay and Bobcaygeon, Ont., commencing with opening of navigation.
23271. Feb. 11.—Extending, to Apr. 14, time within which Great Northern Ry. shall complete station building at New Westminster, B.C., as required by order 23016, Dec. 14, 1914.
23272. Feb. 10.—Rescinding order 23232, Feb. 2, in so far as it relates to Maine Central Rd. tariff, C.R.C. no. C. 832, effective Feb. 15.
23273. Feb. 10.—Extending, until Sept. 1, time within which Campbellford, Lake Ontario & Western Ry. (C.P.R.) may operate siding across G.T.R. at mileage 89.9, Murray Tp., Ont.
23274. Feb. 11.—Relieving C.P.R. from providing further protection at crossing of public road, Grand Cote Concession, Berthier Parish, Ont.
23275. Feb. 11.—Approving proposed changes in Edmonton, Dunvegan & British Columbia Ry. right of way, to afford sufficient width for station at Morinville, Alta.
23276. Feb. 11.—Authorizing C. N. Ontario Ry. to build bridge across McCarthy Creek, mileage 268.11 west of Ottawa, Gibbons Tp., Nipissing District, Ont.
23277. Feb. 11.—Ordering G.T.R., by June 1, to install improved type of automatic bell at crossing of Concession St., Casselman, Ont.; 20% of cost to be paid out of railway grade crossing fund; G.T.R. to remove section house east of Sealey St., so line of vision when approaching crossing from northwest may not be blocked.
23278. Feb. 8.—Ordering C.P.R., by June 1, to install improved type of automatic bell at crossing of highway in n. w. ¼ Sec. 7-12-23, w. 3 m. Piapot municipality, Sask.
23279. Feb. 5.—Authorizing C. N. Ontario Ry. to build across St. Laurent Road, Cartierville, Que.; and rescinding order 18384, Dec. 23, 1912.
23280. Feb. 10.—Dismissing application of Fort William Board of Trade for order requiring establishment of cartage service at Fort William; or for abolition of railway companies' custom of collecting consignor's cartage from consignees.
23281. Feb. 9.—Dismissing application of Fort William Board of Trade for abolition of charge of 1c. per 100 lbs., minimum \$5 per car, for switching goods for or from steamships between sidings and docks at Fort William.
23282. Feb. 10.—Dismissing application of Fort William Board of Trade for order requiring railway companies to lower all rates from head of lakes to points west by 2½c. per 100 lbs., and make tariffs read, "Rates are exclusive of wharfage at Fort William, Port Arthur and West Port."
23283. Feb. 11.—Authorizing Canadian Northern Ry. to build spur to serve Dominion Government terminal elevator at Saskatoon, Sask.
23284. Feb. 11.—Authorizing Canadian Northern Ry. to build spur near Rosetown, Sask., to connection with C.P.R.; Drumheller Mines to deposit to the Board's credit in a chartered bank at Moose Jaw \$2,500; C.N.R. to refund to Drumheller Mines by way of rebate, \$2 a car, until \$2,500 is repaid.
23285. Feb. 10.—Authorizing St. Jerusalem d'Argeuville municipality, Que., to build New Monty Road across C.P.R. and C. N. Quebec Ry. at points as shown on plans on file with the Board; provided brushwood at crossing of C.P.R. is removed.
23286. Feb. 12.—Authorizing C.P.R. to build spur for Crow's Nest Stone Co. in s. e. ¼ Sec. 12-7-2, w. 4 m., and rescinding order 19482, June 6, 1913.
23287. Feb. 12.—Authorizing Alberta Public Works Department to build highway over C.P.R. in n. w. ¼, Sec. 36-39-23, w. 4 m.; cost of crossing to be paid by C.P.R.
23288. Feb. 15.—Amending order 13993, June 12, 1911, re location of Lachine, Jacques Cartier & Maisonneuve Ry. (G.T.R.), and authorizing L. J. C. & M. Ry. to cross Montreal Tramways Co.'s line overhead, with a clearance of 15 ft., so that use of M. T. Co.'s track will not be interfered with.
23289. Feb. 12.—Authorizing C.P.R. to build road diversion in Sec. 17-8-17, w. 2 m., and build its Weyburn-Stirling Branch across same at mileage 19.61.
23290. Feb. 15.—Authorizing C.P.R. to build extensions to Provincial Reformatory siding, Guelph Tp., Ont.
23291. Feb. 13.—Authorizing C.P.R. to use bridges 24.2, 7.17 and 10.8, Port Burwell Subdivision; 103.25, Hamilton and Goderich Subdivision, and 33.6, Bobcaygeon Subdivision, Ont.
23292. Feb. 15.—Relieving Canadian Northern Ry. from providing further protection at crossing of highway near Elgin, Man.
23293. Feb. 13.—Authorizing G.T.R. to use bridges 278, over Nottawasaga River; 274, near Palgrave station; 265, near Inglewood station; 263a, near Georgetown station, and 262, and Stewarton viaduct, in Ontario.
23294. Feb. 13.—Prohibiting Windsor, Essex and Lake Shore Rapid Ry., until further order, from operating its cars over crossing of Gravel Road, near Windsor, Ont., when gates are down on Michigan Central Rd. crossing.
23295. Feb. 15.—Approving location C.N. Alberta Ry. combined station and section house at Bilby, Alta.
23296. Feb. 15.—Approving plans of Edmonton, Dunvegan and British Columbia Ry. station B.
23297. Feb. 15.—Approving location of G.T. Pacific Branch Lines Co.'s station at Gerrond, Sask.
23298. Feb. 12.—Authorizing C.N. Ontario Ry. to build across and divert Petit Bois Franc Road, Cartierville, C.N.Q.R. to pay to Town of Cartierville \$12,000 as soon as road is legally closed, when all its responsibility shall cease; remainder of cost of diversion to be paid half each by Towns of Cartierville and St. Laurent.
23299. Feb. 15.—Amending order 12321, Nov. 18, 1910, re electric bell installation by C.P.R. at Cote des Niegues Road, Hochelaga County, Que.
23300. Feb. 15.—Extending to May 15, time within which G.T.R. shall install bell at crossing of highway, near Oakville station, Ont., as required by order 23249.
23301. Feb. 18.—Authorizing C.P.R. to build trestle over its main Branch, Toronto, at mileage 2, from Leaside Jct., provided vertical clearance be 22½ ft.
23302. Feb. 18.—Relieving Canadian Northern Ry. and G.T. Pacific Ry. from maintaining night signalman at crossing at Camrose, Alta.
- 23303 to 23305. Feb. 8.—Relieving G.T. Pacific Branch Lines Co. from erecting fences, gates and cattle guards on its Melville-Canora Branch between mileage 0 and 54.72; and on its Moose Jaw Northwest Branch, mileage 0 to 66.6; and on its Regina-Moose Jaw Branch, mileage 0 to 43.3, Sask.
23306. Feb. 18.—Dismissing application of City of London, Ont., for order directing G.T.R. to provide electric bell at crossing of Dundas St.; speed of trains limited to 10 miles an hour.
23307. Feb. 19.—Approving order by Exchequer Court of Canada appointing T. J. Kennedy and V. Harcourt, Receivers of Algoma Central and Hudson Bay Ry. Co.
23308. Feb. 19.—Approving revised location of C.P.R. Swift Current Northwesterly Branch, from Sec. 17-23-29, w.3.m., mileage 111.95, northwesterly to Sec. 24-23-1, w. 4 m., mileage 112.56.
23309. Feb. 19.—Amending order 23274, Feb. 11, re C.P.R. highway crossing in Grand Cote Concession, Berthier Parish, Ont.
23310. Feb. 18.—Relieving C.N. Ontario Ry. and Canada Cement Co., from maintaining night signalman to operate interlocking plant at Belleville, Ont.
23311. Feb. 19.—Relieving Canadian Northern Ry. from providing further protection at crossing south of Mount Albert station, Ont.
23312. Feb. 22.—Authorizing C.P.R. to use bridge 814, Winnipeg Beach Subdivision, Man.
23313. Feb. 19.—Authorizing Erie & Ontario Ry. and Michigan Central Rd. to operate trains over crossing near Attercliffe, Ont., without first stopping.
23314. Feb. 19.—Relieving Canadian Northern Ry. from erecting fences, gates and cattle guards along portions of its line, between North Bay and Port Arthur, Ont.
23315. Feb. 19.—Relieving C.P.R. and Canadian Northern Ry. from maintaining night signalman to operate interlocking plant in Lot 101, St. Paul's Parish, Man.
- 23316, 23317. Feb. 20, 22.—Authorizing C.P.R. to use bridge 42.2, Drummondville Subdivision, Que., and bridges at Main St., Parkside St., Scotia St., and East Kildonan Road, Kildonan, Man.
23318. Feb. 20.—Authorizing Esquimalt and Nanaimo Ry. to build spur for Weeks Dunnel Cedar Co., Fanny Bay, Vancouver Island, B.C.
23319. Feb. 20.—Approving plan of Smith Patterson Drain under Michigan Central Rd., Brooke Tp., Ont.
- 23320, 23321. Feb. 22.—Approving location of Edmonton, Dunvegan & British Columbia Ry., through Tps. 78, R. 6 and 10, w. 6 m., Alta., mileage 359.416 to 385, and through Tps. 78 and 79, R. 10 and 13, w. 6 m., Alta., mileage 385 to 410.45.
23322. Feb. 20.—Rescinding orders 16181, Mar. 26, and 17763, Oct. 16, 1912, in so far as they authorize Lachine, Jacques Cartier and Maisonneuve Ry. (G.T.R.) to be built across Iberville and De Fleurimont Sts., Montreal; and authorizing it to cross Iberville St. by bridge 50 ft. wide, carrying highway in straight line over railway, bridge to be so built as to serve De Fleurimont St. as well; dismissing application to divert Comte St.; order 16181 to be amended to provide for bridge, 40 ft. wide, for vehicular and pedestrian traffic only, over Comte St.; rescinding order 16181, in so far as it authorizes level crossing at Poupart St., with leave to applicant to divert Poupart St. along east side of right of way into Comte St., or, at its option, to build bridge carrying said street over railway.
23323. Feb. 22.—Approving Great Northern Express Co.'s resolution authorizing Ronald Stewart, Vice President and General Manager, to prepare tariffs for traffic over its lines in Canada.
23324. Feb. 22.—Dismissing C.P.R. application to remove regular agent at Lavant Station, Ont.
23325. Feb. 22.—Authorizing Canadian Northern Ry. to discontinue its agents at Lavoy, Alta.; Devlin, Ont.; Homewood, Man.; Ridpath, Sask.; Brunkild, Rosebank, Underhill, Man.; St. Gregor, Sask.; Neelin and Warren, Man.
23326. Feb. 22.—Dismissing Canadian Northern Ry. applications to remove agents at Mafeking, St. Laurent, Cardale, Decker, Woodnorth and Fairfax, Man.; Mikado, D'Arcy, Norquay, Beadle, Weldon, Waseca, Pinkham, Willmar and Brooking, Sask.; Minburn, Alta.; and Sleeman, Ont.
23327. Feb. 22.—Authorizing C.P.R. to discontinue agents at Purple Springs, Alta.; Beverly, Sask.; and Tilley, Alta.; caretakers to be appointed.
23328. Feb. 22.—Relieving G.T. Pacific Branch Lines Co. from erecting fences along portions of its Regina-Boundary Branch, mileage 0 to 155, Sask.
23329. Feb. 22.—Approving revised location of C.P.R. Weyburn-Stirling Branch from mileage 316.63 to 358.31, Sec. 25-3-1 to Sec. 12-6-7, w. 4 m., Alta.
23330. Feb. 22.—Rescinding order 15911, Feb. 5, 1912, and authorizing C.P.R. to build road diversion in n. e. ¼ Sec. 13-18-17, w. 3 m., Sask.; and build its Swift Current Northwesterly Branch at grade across same at mileage 21.03.
23331. Feb. 22.—Authorizing C.P.R. to discontinue agents at Appin, Brechin and Bethany, Ont.; caretakers to be appointed.
23332. Feb. 23.—Ordering C.P.R. and Western Canada Power Co. jointly to file supplements to C.P.R. Special Joint Tariffs, C.R.C. nos. W-1615 and 1806; also C.R.C. nos. W-1790, 1812 and 2000, being respectively, Transcontinental Freight Bureau's S.R. 1019, 17-A, and 18-B, providing joint rates from Stoltze Mfg. Co.'s mill to destinations shown in said tariffs, via Ruskin, B.C., which shall not exceed rates from Ruskin to same destinations by more than 2c per 100 lbs.; Western Canada Power Co. to receive 3c per 100 lbs. as its proportion, and rescinding order 23213, Jan. 26.
23333. Feb. 23.—Authorizing C.P.R. to build extension to spur for British Sand and Gravel Co., St. Felix de Valois Parish, Que.
23334. Feb. 24.—Approving proposed location C.N. Alberta Ry. combined station and section house at Bliss.
23335. Feb. 23.—Approving proposed location of Canadian Northern Ry. standard freight and passenger shelter at Anerley, Sask.
- 23336 to 23340. Feb. 24, 23.—Approving proposed location C.N. Alberta Ry. combined stations and section houses at Bedson, Darwall, Obed, Mount Gelkie and Scrivan.
- 23341 to 23345. Feb. 23.—Authorizing C.P.R. to remove agents at Jeanette, Ont.; Chelsea, Que.; West Montrose, McAlpin, and Grasshill, Ont.
23346. Feb. 22.—Authorizing Canadian Northern Ry. to discontinue agents at Beaver, Man.; Hawky, Alta.; Berton and Ladysmith, Man.; Chandler, Sask.; and Banning, Ont.
23347. Feb. 24.—Authorizing Swift Current Rural Municipality, No. 137, Sask., to build highway over C.P.R. through Sec. 9-15-15, w. 3 m.; after construction, municipality consenting. C.P.R. may close portion of original road allowance north of n. e. ¼ Sec. 9-15-15, w. 3 m., within its right of way.



23348. Feb. 24.—Approving location C.P.R. station at Govenlock, Sask., mileage 307.5, Weyburn-Stirling Branch, station to be C.P.R. standard structural plan A2.
- 23349, 23350. Feb. 24.—Approving proposed location of C.N. Alberta Ry. combined stations and section houses at Brule and Henry House.
- 23351, 23352. Feb. 23.—Approving agreements between Bell Telephone Co. and Sunderland Telephone Co., Stroud Telephone Co., Johnson Tp. municipality; and Tarbutt and Tarbutt Additional Tp. municipality.
23353. Feb. 25.—Approving clearance on C.P.R., at conveyor, to be installed by William Neilson Co., at Beachville, Ont.
23354. Feb. 24.—Relieving G.T.R. from providing further protection at crossing near Rideau Station, Ont.
23355. Feb. 24.—Approving proposed location of Canadian Northern Ry. standard freight and passenger shelters at Surbiton, Sask.
23356. Feb. 25.—Authorizing Western Canada Power Co. to build extension of its line from Slave Falls, B.C., over power house dam to Stave River, about 800 ft. above power house dam.
23357. Feb. 25.—Authorizing G.T.R. to use bridge 15 across Welland Canal, between St. Catharines and Port Dalhousie, Ont.
23359. Feb. 26.—Relieving Canadian Northern Ry. and G.T.R. from maintaining night signalman near Washago, Ont.
23360. Feb. 26.—Ordering C.P.R. fencing of portion of right of way, between mileage 58.6 and 103.6, Thompson Subdivision, and mileages 0.2 and 39.75, Cascade Subdivision, B.C.; be commenced by Apr. 1 and completed within 30 days.
23361. Feb. 26.—Extending to Dec. 31 time within which C.P.R. shall equip cabooses with marker sockets in lower position, as required by general order 127, July 6, 1914.
23362. Feb. 25.—Approving agreement between Bell Telephone Co. and Village of Blyth, Ont., Feb. 19.
23363. Feb. 27.—Approving revision in Edmonton, Dunvegan and British Columbia Ry. through Sec. 28-56-55, w. 4 m., mileage 29.
23364. Feb. 27.—Approving Bell Telephone Co. agreement with Laird Tp., Ont., and rescinding order 9653, Feb. 21, 1910.
23365. Feb. 26.—Authorizing G.T.R. to use bridge, mileage 330.11, over Carlaw Ave., Toronto.
23366. Feb. 26.—Authorizing G.T.R. to suspend operation of half-interlocking plant for 8 weeks from date pending completion of repairs required at crossing of London St. Ry., on Dundas St., London, Ont.
23367. Feb. 27.—Authorizing C.P.R. to use bridge 52.3, near Ardendale, Ont.
23368. Mar. 1.—Approving Bell Telephone Co. agreement with Tarentorus Telephone Co., Feb. 19, and rescinding order 12251, Nov. 11, 1910.
23369. Feb. 27.—Authorizing City of Lachine, Que., to build foot subway under G.T.R., at intersection of 6th Ave. and 7th Ave.
23370. Mar. 3.—Dismissing complaint of Quebec and St. Maurice Industrial Co., Berlin, N.H., against discontinuance by Quebec and Lake St. John Ry. of through train service between La Tuque and Riviere a Pierre Jct., Que.
23371. Feb. 27.—Amending order 22845, Nov. 7, 1914, re farm crossing of Dominion Atlantic Ry. at Deep Brook, N.S.
23372. Mar. 3.—Approving location of C.P.R. station at Robsart, Sask.
23373. Feb. 27.—Relieving C.N. Ontario Ry. and C.P.R. from maintaining night signalman at crossing near Hurdman's Bridge, Nepean Tp., Ont.
23374. Feb. 27.—Relieving C.N. Ontario Ry. and C.P.R. from maintaining night signalman at Tweed, Ont.
23375. Feb. 26.—Ordering G.T.R. and Canadian Northern Ry. jointly to publish and file tariff of joint rates to apply on coal in carloads, minimum of 15 gross tons, shipped from Prescott, Ont., to all points on the portion of C.N.R. formerly known as Brockville, Westport and Northwestern Ry., via Lyn; G.T.R. proportion of rates to be 56c a gross ton, including switching from Ogdensburg ferry dock; C.N.R. proportion thereof to be less than its local mileage rates on coal by amounts corresponding to reduction made by G.T.R. from its local mileage rate, having regard to mileage in each case.
23376. Mar. 2.—Ordering City of Fort William, Ont., to pave and drain subway where C.P.R. crosses Syndicate Ave., work to be completed by Aug. 1.
23377. Mar. 5.—Ordering G.T. Pacific Ry. to carry freight to and from St. Louis, Sask.; to supply freight box car at point convenient to public highway leading to St. Louis, to be used as receptacle for less than carload freight; such service to be inaugurated forthwith.
23378. Mar. 4.—Extending to Aug. 1, time within which Campbellford, Lake Ontario and Western Ry. (C.P.R.) may use crossing by its ballast pit spur under Canadian Northern Ry. in e. ¼ Lot 12, Con. 4, Scarborough Tp.
- 23379, 23380. Mar. 5.—Approving plan and specifications of improvement to Gernhelder drain under C.P.R. Guelph and Goderich Branch on Lots 33 and 34, Con. 17, Elma Tp., Ont.
23381. Mar. 4.—Authorizing C.P.R. to remove agent from Hawk Lake, Ont.
23382. Mar. 3.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect transmission line across G.T.R. on Lot 34, Con. 1, Saltfleet Tp., Ont.
23383. Mar. 5.—Extending to Apr. 15 time within which Great Northern Ry. shall install bell at crossing of Front St., near intersection of Columbia St., New Westminster, B.C.
23384. Mar. 5.—Authorizing C.N. Ontario Ry. to build across public road between Lots 230 and 232, St. Eustache Parish, and rescinding order 13061, Feb. 20, 1911.
23385. Mar. 5.—Relieving C.P.R. from providing further protection at crossing of Dundas Road, mileage 7, Lambton, Ont.
23386. Mar. 4.—Authorizing C.P.R. to build extensions to sidings of Cataract Jct. Sand and Gravel Co. in Lot 4, Con. 3, Caledon Tp., Ont.
- 23387, 23388. Mar. 4, 5.—Authorizing C.P.R. to make alterations to spurs for Laidlaw Lumber Co., Guelph, Ont., and Godson Contracting Co., Darlington Tp., Ont.
23389. Mar. 2.—Authorizing C.N. Ontario Ry. to build across Monkland Boulevard, Cartierville, Que.
23390. Mar. 2.—Authorizing C.N. Quebec Ry. to build sidings across Stadacona and Marlboro Sts., Montreal.
23391. Mar. 4.—Suspending, pending Board's decision in general application of railway companies operating in Eastern Canada for increased freight rates, Supplement 6 to C.P.R. Tariff, C.R.C. no. E-2919, in so far as it proposes to cancel Item 136.
23392. Mar. 4.—Ordering C.P.R. to accept shipments of such perishable freight as beer, fruit and vegetables, for carriage in heated cars to stations on such days of each week as are duly announced by company, subject to conditions, that shipper sign release waiving all claim for damages by frost, unless shown heating appliances were in fact missing, or heaters were allowed to fail of their purpose as a result of negligence of C.P.R. employees; damages recoverable against company limited to half freight tolls charged; order to apply only to shipments of Fernie-Fort Steele Brewing Co., and Elk Valley Brewing Co., and any others who may apply for same service on C.P.R. west of Port Arthur, during winter of 1915-1916.
23393. Mar. 4.—Relieving C.P.R. and C.N. Ontario Ry. from maintaining night signalman at Brechin, Ont.
23394. Mar. 5.—Authorizing C.P.R. to use bridge over Westminster Road, Lethbridge, Alta.
23395. Mar. 8.—Authorizing C.P.R. to build extension to siding for I. Desormeau, St. Martin Parish, Que.
23396. Mar. 8.—Approving change in location of C.P.R. Swift Current Northwesterly Branch from mileage 6.61 to 7.52, n.e. ¼ Sec. 17, and s.e. ¼ Sec. 20-37-11, w. 4 m., Alta.
23397. Mar. 9.—Amending order 23375, Feb. 26, re G.T.R. and Canadian Northern Ry. tariffs relating to case shipments from Prescott, Ont.
23398. Mar. 8.—Ordering C.P.R. to build and divert highway between Secs. 22 and 23-21-12, w. 2 m., west of Balcarres, Sask.
23399. Mar. 9.—Relieving G.T.R. from providing further protection at crossing near Brampton, Ont.
23400. Mar. 9.—Rescinding order 14446, July 31, 1911, re C.P.R. road diversion along south boundary of Sec. 27-32-17, w. 2 m., Sask.
23401. Mar. 8.—Ordering International Bridge and Terminal Co. to appoint day and night watchmen to protect crossing of Church St., Fort Frances, Ont., pending rearrangement of tracks.
23402. Mar. 10.—Approving C.P.R. clearances at tie loading platform and loading jack on siding at mileage 79.37, Sudbury Subdivision, Mowat Tp., Ont.
23403. Mar. 10.—Approving location of C.N. Alberta Ry. combined station and section house, n.w. ¼ Sec. 19-53-15, w. 5 m.
23404. Feb. 8.—Amending order 21753, May 2, 1914, re highway crossing by G.T.R. at Stoney Creek, Ont.
23405. Mar. 12.—Approving location of C.N. Alberta Ry. combined station and section house at Marlboro.
23406. Mar. 12.—Authorizing C.P.R. to build highway over its right of way on regular road allowance east of Sec. 21-12-28, w. 3 m., Sask.
23407. Mar. 12.—Rescinding order 23294, Feb. 13, and ordering Windsor, Essex and Lake Shore Rapid Ry. flag its cars over crossing at Gravel Road near Windsor, Ont., when gates are down on M.C.R. crossing.
23408. Mar. 11.—Ordering Esquimalt and Nanaimo Ry. to build highway crossing at Waterloo, near mileage 64, Bright and Cranberry Districts, B.C.; cost to be paid by British Columbia Public Works Department.
23409. Mar. 11.—Authorizing Niagara, St. Catharines and Toronto Ry. to build spur for W. A. Griffis, Lot 7, Con. 1, Grantham Tp., Ont.
23410. Mar. 11.—Authorizing C.P.R. to divert road allowance between Secs. 12 and 13, and between Secs. 11 and 12-41-26, w. 3 m., Sask.
23411. Mar. 15.—Approving revised location G.T. Pacific Branch Lines Co., Cutknife Branch, in s. ½ Sec. 29-44-22, w. 3 m., Sask.
23412. Mar. 11.—Authorizing C.P.R., pending further order, to remove regular agent at Vermillion Bay station, Ont., and to appoint caretaker.
23413. Mar. 15.—Ordering C.P.R. to install improved type of automatic bell at crossing at Martinon station, N.B.; 20% of cost to be paid out of railway grade crossing fund.
23414. Mar. 13.—Approving agreement between Bell Telephone Co. and West Garafraza Telephone Co-operative Association, Ltd., Feb. 19.
23415. Mar. 12.—Ordering C.P.R. to build farm crossing over its Stobie Branch on Lot 4, Con. 5, McKim Tp., Ont.; 300 ft. north of south boundary of R. A. Waite's property; cost to be paid by R. A. Waite; work to be completed by Apr. 1.
23416. Mar. 12.—Dismissing Esquimalt and Nanaimo Ry.'s application to remove its regular station agent at Cowichan, B.C.
23417. Mar. 16.—Authorizing C.P.R. to build spur for Canada Ingot Iron Culvert Co., Calgary, Alta.
23418. Mar. 16.—Relieving C.N. Ontario and G.T.R. from providing signalman at crossing of G.T.R. spur to Edwards' Mill, Rockland, Ont.
23419. Mar. 16.—Amending order 23353, Feb. 25, re C.P.R. clearances at Beachville, Ont.
23420. Mar. 18.—Relieving Brantford and Hamilton Electric Ry. from providing further protection at highway near Ancaster station, Ont.
23421. Mar. 16.—Approving revised location of G.T. Pacific Branch Lines Co.'s Moosejaw Northwest Branch through n.e. ¼ Sec. 19-18-28, w. 2 m., Sask.
23422. Mar. 16.—Ordering C.P.R. to install, by June 1, improved type of automatic bell at main highway crossing between Ketepec and Acamac, N.B.; 20% of cost to be paid out of the railway grade crossing fund.
23423. Mar. 17.—Authorizing Kettle Valley Ry. to build bridge 20.3 over Twenty Mile Creek, Coquihalla Section, B.C.
23424. Mar. 20.—Authorizing Campbellford, Lake Ontario and Western Ry. (C.P.R.) and G.T.R. to operate trains over crossings at mileage 119.90, 119.91 and 120.02, Cobourg, Ont., without stopping, and rescinding order 23111, Jan. 11.
23425. Mar. 20.—Authorizing Glengarry and Stormont Ry. (C.P.R.) and G.T.R. to operate trains over crossing near Cornwall, Ont., without stopping.
23426. Mar. 20.—Ordering C.N. Ontario Ry. to restore certain passenger train service from Trenton to Bancroft and Maynooth.
23427. Mar. 17.—Authorizing C.N. Ontario Ry. to operate two spurs for Haight & Dickson Lumber Co., Capreol Tp., Ont.
23428. Mar. 16.—Approving location C.N. Alberta Ry. second class station at Tollerton.
23429. Mar. 16.—Approving location of Canadian Northern Ry. third class station at Forgan, Sask.
23430. Mar. 17.—Approving clearances of C.P.R. new standard three car stockyard and loading chute.
23431. Feb. 23.—Ordering C.P.R. to appoint agent at Mozart station, Sask., during grain shipping season.
- 23432 and 23433. Mar. 22.—Authorizing C.P.R. to use bridge 62.8 over Magnetawan River, near Byng Inlet, Ont., and bridge 18.1, Moosejaw Subdivision, Sask.

F. P. Gutelius, M. Can. Soc. C.E., who was appointed General Manager, Canadian Government Railways, Moncton, N.B., Mar., 1912, became a British subject Feb. 23, 1912, the naturalization certificate being granted by a judge of the Circuit Court of Montreal on that date. This information was given in the House of Commons recently by the Secretary of State in reply to the member for Temiscouata.

A Quebec Court has decided in the case of Couture against the G.T.R., that the company is responsible for accidents to employees, when it does not enforce its safety rules. Couture met with an accident when coupling cars which were in motion. The company pleaded contributory negligence, and the plaintiff retorted that the regulation against coupling cars while in motion was not enforced by the company.

National Transcontinental Ry. Temporary Service.—Senator Lougheed stated in the Senate, Mar 16, that the Government is paying at the rate of \$5.35 a mile for the weekly train service on the N.T.R. west of Cochrane, Ont.



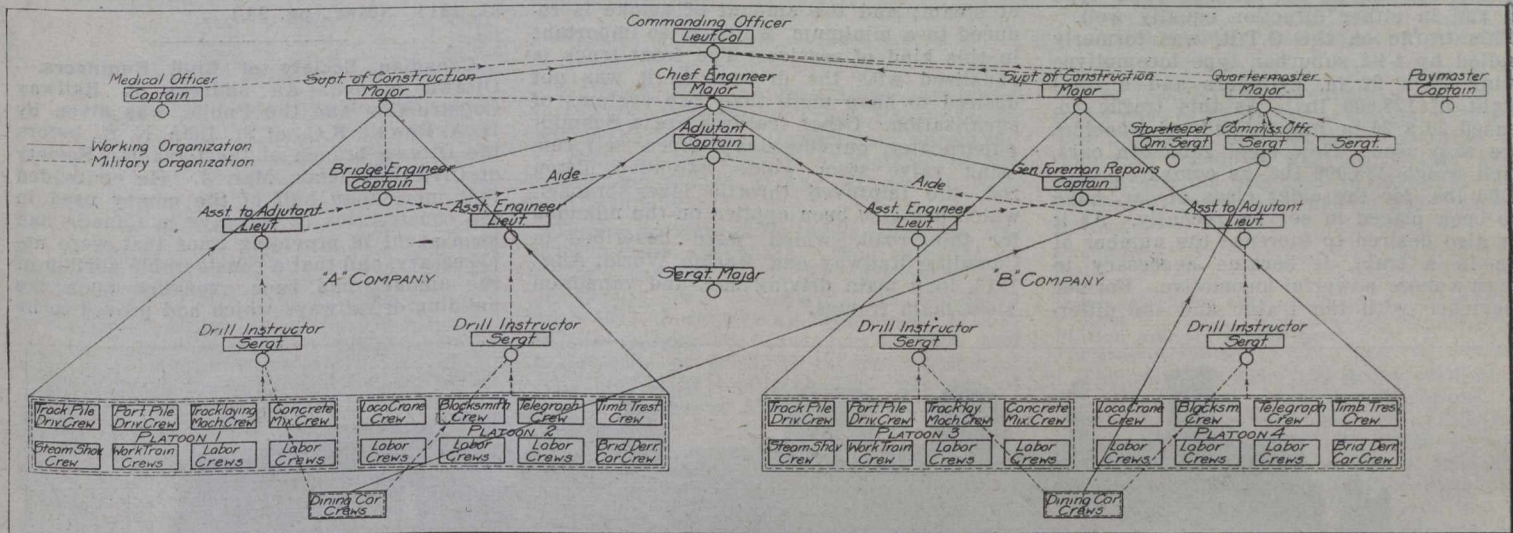
### Organization of Canadian Overseas Railway Construction Corps.

The British War Office asked the Dominion Government recently to arrange for the recruiting in Canada of a force of a little over 500 men for railway repair and reconstruction work in Europe during the continuance of the war. At the request of the Dominion Government the C.P.R. management, through the President, Sir Thos. G. Shaughnessy, undertook the organization of such a corps and to name the officers and select the men. The organiza-

tion will rank as captain; a paymaster, who will rank as captain, and a medical officer, who will rank as captain.

The corps will be divided into two companies, A and B, each under the command of a major, who will be superintendent of construction, with a captain as a second in command, the captain of A company being bridge engineer, and the captain of B company being general foreman of repairs. Each company will be divided into two pla-

toons. For working purposes each company will be directly under the command of the company major, who, as above stated, will be superintendent of construction. The right platoon of each company will consist of a locomotive crane crew, blacksmith crew, telegraph crew, timber trestle crew, bridge derrick car crew and three labor crews. The left platoon will consist of track pile driver crew, portable pile driver crew, track laying machine crew, concrete mixing crew, steam shovel crew, work train crew and two labor crews. Each company will have a dining car crew.



Organization Chart, Canadian Overseas Railway Construction Corps.

tion is in progress under C. W. P. Ramsey, Engineer of Construction, Eastern Lines, C. P.R., Montreal, who has been granted extended leave of absence and who will rank as lieutenant colonel in command.

The force, which is to be mobilized at St. John, N.B., will have a regimental staff comprising the commanding officer, who will rank as lieutenant colonel; a chief engineer, who will rank as major; a quartermaster, who will rank as major; an adjutant, who

will rank as lieutenant, one of whom in each company will be assistant engineer and the other assistant to the adjutant. The strength of each company outside of the officers will be 252 men. The organization is shown in the accompanying chart. Each company will be identical in its makeup. Under each platoon commander there will be a sergeant drill instructor, who will provide for the military instruction under the supervision of the platoon

The C.P.R. has given official notice that the 507 skilled railway constructors to be enlisted will be apportioned as shown in the accompanying table. In addition to the regular rates of pay named in the table, certain working allowances will be made for the various classes of skilled men in accordance with position and ability. Complete information can be obtained at 143 St. Antoine street, Montreal, and at the headquarters of the C.P.R. general superintendents at St. John, N.B., Toronto, North Bay, Winnipeg, Moose Jaw, Calgary, and Vancouver. Recruiting will not be confined to men in C.P.R. service.

Position.	Rank.	No.	Regimental pay per day	Field allowance if married per day, per month.	Separation allowance if married per day, per month.
Bridge engineer	Captain	1	\$3 00	75 cts.	\$40
Mechanical engineer	"	1	3 00	75 "	40
Assistant engineer	Lieutenant	2	2 00	60 "	30
Instrumentman	"	2	2 00	60 "	30
Foreman	"	4	2 00	60 "	30
Chief clerk	Sergeant	1	1 60	20 "	25
Drill instructor	Sergeant major	2	2 00	30 "	30
Storekeeper	Quarter mas. sergt.	2	1 80	20 "	25
Track foreman	Sergeant	2	1 35	15 "	25
Trestle foreman	"	2	1 35	15 "	25
Steel bridge foreman	"	2	1 35	15 "	25
Grade foreman	"	2	1 35	15 "	25
Trainmaster	Corporal	2	1 10	10 "	20
Masonry foreman	"	2	1 10	10 "	20
Telegraph foreman	"	2	1 10	10 "	20
Rock foreman	"	2	1 10	10 "	20
Track foreman	"	4	1 10	10 "	20
Grade foreman	"	2	1 10	10 "	20
Trestle foreman	"	2	1 10	10 "	20
Steel bridge foreman	"	2	1 10	10 "	20
Shovel runner	"	4	1 10	10 "	20
Conductor	"	4	1 10	10 "	20
Firemen	"	4	1 10	10 "	20
Master mechanic	"	2	1 10	10 "	20
Clerk	"	4	1 10	10 "	20
Cook	"	2	1 10	10 "	20
Locomotive engineer	Sapper	4	1 00	10 "	20
Trainman	"	4	1 00	10 "	20
Hoistman	"	12	1 00	10 "	20
Blacksmith	"	4	1 00	10 "	20
Fireman	"	8	1 00	10 "	20
Mechanics	"	8	1 00	10 "	20
Fireman	"	12	1 00	10 "	20
Blacksmith	"	8	1 00	10 "	20
Cook	"	18	1 00	10 "	20
Clerk	"	6	1 00	10 "	20
Rodman	"	2	1 00	10 "	20
Chainman	"	4	1 00	10 "	20
Carpenter	"	70	1 00	10 "	20
Bridgeman	"	30	1 00	10 "	20
Teamster	"	38	1 00	10 "	20
Track and grademan	"	200	1 00	10 "	20
Batman	"	14	1 00	10 "	20
Bugler	"	2	1 00	10 "	20
Drummer	"	2	1 00	10 "	20

**Alberta Expenditure on Railways.**—The Minister of Railways for Alberta informed the Legislature, Mar. 8, that in respect of the various lines for the building of which the Province had guaranteed bonds, \$33,692,541 had been realized on the securities issued, the total bonds authorized to be issued being \$40,600,450. Out of the proceeds of these bonds \$20,318,972 had been paid out to the several companies, viz., Canadian Northern Ry., \$7,389,548; Canadian North Western Ry., \$2,730,614; Grand Trunk Pacific Ry., \$3,293,067; Edmonton, Dunvegan and British Columbia Ry., \$4,902,740; Alberta and Great Waterways Ry., \$1,886,280; Lacombe and Blindman Valley Ry., \$116,623.

**Free Right of Way for Railways.**—By an order in council, dated Mar. 6, the provisions of the order in council of July 15, 1886, under which the Minister of the Interior may grant free right of way to railway companies in Manitoba, Saskatchewan and Alberta, are extended so that the Minister may grant free right of way to railways incorporated by the legislatures of either of the three provinces, but which have been taken over by companies holding Dominion charters. The order is made retroactive, so as to cover the past practice of the department, such rights of way having been invariably granted.



### Suburban Type Locomotives, Grand Trunk Railway.

Six suburban type locomotives, one of which is shown in the accompanying illustration, have been delivered recently to the G.T.R. by the Montreal Locomotive Works. They have been put in service between Montreal and Vaudreuil, 24 miles, and between Montreal and St. Hyacinthe, 37 miles. Where this kind of traffic is frequent, the suburban type locomotive can be used to good advantage, for delays caused by turning are eliminated, as the suburban type can run in either direction equally well.

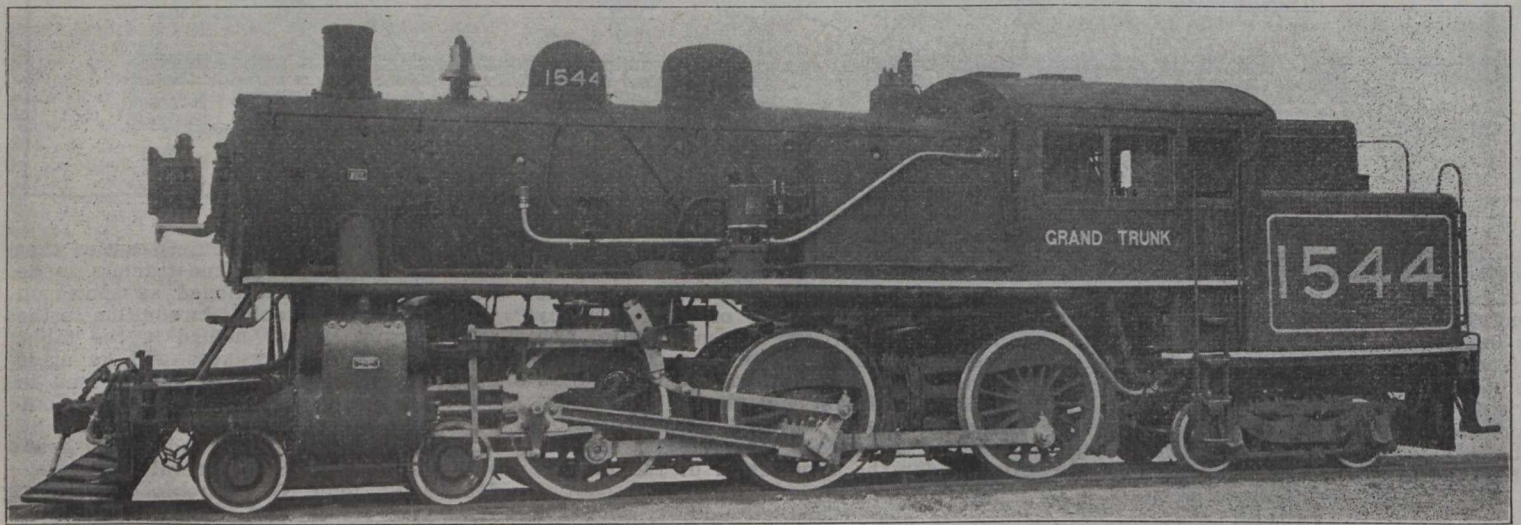
This traffic on the G.T.R. was formerly handled by 4-4-2 suburban type locomotives having 17 x 22 in. cylinders and a total weight of 128,600 lbs. As this traffic increased 20 x 26 in. moguls and ten wheelers were also used. New steel suburban cars, which weigh 138,000 lbs. as compared with 75,000 lbs. for the older class of car, have also been placed in service recently. As it was also desired to increase the number of cars in a train, it became necessary to design a more powerful locomotive. Former experience with the traffic and the differ-

Tank, capacity water ..... 3,500 U.S. gals.  
 Tank, capacity coal ..... 5 tons.

The design in general follows the standards of the builders. An interesting feature is the combination of the Gaines combustion chamber and a Security brick arch. This combination is claimed to secure a very complete deflection of the gases, whereby better combustion is obtained; the back end of the firebox is more fully utilized, with a resulting increase in the generation of steam; and the amount of smoke is reduced to a minimum, which is so important in this kind of service. The front truck is equalized with the drivers, as it was not desired to have more than two systems of equalization. Other features are a Schmidt superheater, outside steam pipes, self centring valve stem guide, extended piston rod, the improved throttle lever bracket, which has also been applied on the mikados for this road, which were described in Canadian Railway and Marine World, Aug., 1913, long main driving box, and vanadium steel main frames.

line to Jan. 31 was \$9,768,869.23, of which \$1,009,063.15 was expended in 1912-13; \$4,498,717.25 in 1913-14, and \$4,261,088.83 to Jan. 31, 1915. It was stated in the House of Commons in answer to further questions, Mar. 4, that the total expenditure in connection with the project during 1914 had been \$4,188,879.17, of which \$2,344,891.57 had been expended on the railway proper, and \$1,843,987.60 on the Port Nelson terminals and harbor. The Marine Department expended \$45,676.77 on the project during the same period. \$40,164.98 was expended in surveying Hudson Bay and Strait between April 1 and Dec 31, 1914. (Mar., pg. 94.)

**Canadian Society of Civil Engineers.**—Ottawa branch.—An address on Railway Construction and the Public, was given by H. A. Powell, K.C., of St. John, N. B., before the Ottawa branch of the Canadian Society of Civil Engineers, Mar. 4. He contended that more than half of the money used in the construction of railways in Canada had been spent in providing lines that were unnecessary, and that a considerable portion of the amount had been expended upon the building of railways which had proved to be



Suburban Type Locomotive for Montreal Suburban Lines, Grand Trunk Railway.

ent types of locomotives used, influenced the G.T.R. officials in deciding on the suburban type for the new power. The new locomotives are handling an average train of 7 cars, whereas trains of 5 cars were the average with the former power. Following are the principal particulars:—

Tractive power .....	30,940 lbs.
Factor of adhesion .....	4.7
Wheel base, driving and rigid ...	15 ft. 8 ins.
Wheel base, total .....	38 ft. 11 ins.
Weight, working order .....	262,000 lbs.
Weight, on drivers .....	146,000 lbs.
Weight, on trailers .....	67,000 lbs.
Weight, on engine truck .....	49,000 lbs.
Boiler, type .....	Straight top, radial stay.
Boiler, o.d. first ring .....	71 9-16 ins.
Boiler, pressure .....	200 lbs.
Firebox, type .....	Wide.
Firebox, length and width .....	129 x 75 1/4 in.
Crown staying, type .....	Radial.
Tubes, material .....	Cold drawn seamless steel.
Tubes, number and size .....	191 2 in.
Flues, material .....	Cold drawn seamless steel.
Flues, number and size .....	26 5 3-8 in.
Heating surface, tubes and flues ...	1,604 sq. ft.
Heating surface, firebox .....	173 sq. ft.
Heating surface, arch tubes .....	31 sq. ft.
Heating surface, total .....	1,808 sq. ft.
Superheater surface .....	347 sq. ft.
Grate area .....	47 sq. ft.
Wheels, engine truck .....	30 1/2 in. solid steel.
Wheels, driving .....	63 in. cast steel.
Wheels, trailing .....	31 in. solid steel.
Journals, driving, main and others ..	9 1/2 x 20 and 9 1/2 x 12 in.
Journals, engine truck .....	6 1/2 x 10 1/4 ins.
Journals, trailing truck .....	6 x 11 ins.
Cylinders, size .....	21 x 26 ins.
Valves, type .....	Piston.
Tank, type .....	Water bottom.

### Dominion Government Railway to Hudson Bay.

A press dispatch from Pas, Man., Mar. 8, says the frost is rapidly leaving the ground in the country through which the line passes, and an early start on construction is expected. The right of way has been cleared to within 40 miles of Port Nelson. The steel work for the bridge across Manitou Rapids is being taken in. It is expected that 3,000 men will be at work by the end of April along the route, and that the grading will be completed to Port Nelson by the next winter.

A press telegram from Pas, Man., credits J. W. Porter, Chief Engineer, with stating that the contract for the steel cantilever bridge across the Nelson River at Manitou Rapids has been let to Canadian Bridge Co., Walkerville, Ont.

Replying to questions in the House of Commons recently the Minister of Railways said the roadbed is completed and fully ballasted to mile 56, and is partially ballasted to mile 175. Track has been laid on 214 miles of the grading. It is expected that the line will be completed by the autumn of 1917, by which time it is expected also that it will be possible to ship grain from Port Nelson. It will require a couple of year further work on the terminals before they will be completed. The total expenditure on the

actually injurious to the trade of the country. The question was whether it was advisable to go ahead with railway construction slowly and economically or rapidly and extravagantly. He claimed that the system prevailing since Confederation had favored the latter, and advocated the formation of a new railway board, independent of political and other considerations, to report on applications for railway charters and subsidies.

**Rogers Pass Tunnel Suit.**—The action brought by J. McIlwee and Sons, Denver, Col., against Foley, Welch and Stewart, for damages on account of breach of contract, was terminated at Vancouver, B.C., Mar. 3, when judgment was given for the plaintiffs for \$31,000, with costs, which are estimated at \$30,000. The plaintiffs had a sub-contract from Foley, Welch and Stewart for boring the pioneer tunnel at Rogers Pass, on the C.P.R. After considerable work had been done and certain premiums were alleged to have been earned, disputes arose, as a result of which the contract was terminated and the McIlwee firm entered suit for breaches of contract, claiming over \$500,000 as damages, etc. The court sat for 16 days hearing evidence, most of which was of a highly technical character. In fixing the damages at \$31,000 the court held that the plaintiffs should have gone back to work when they were offered a chance to do so after the first dispute.



### Railway Statistics for Year Ended June 30th, 1914.

The following abstract of the railway statistics for the year ended June 30, 1914, as compiled in the Railways Department at Ottawa, has been prepared by the Comptroller of Statistics, J. L. Payne:—

Operating mileage was increased by 1,491 miles during the year, bringing the total up to 30,795. By ten year periods the growth of railway mileage has been as follows—

1864	2,189	1894	15,627
1874	4,331	1904	19,431
1884	10,273	1914	30,795

By provinces, the following was the mileage on June 30, 1914, and the increases over June 30, 1913:—

	Miles.	Increase.
Nova Scotia	1,365	5
Prince Edward Island	279	.....
New Brunswick	1,839	295
Quebec	4,044	57
Ontario	9,255	255
Manitoba	4,075	82
Saskatchewan	5,089	438
Alberta	2,545	332
British Columbia	1,978	28
Yukon	102	.....
In the United States	223	.....
<b>Total</b>	<b>30,794</b>	<b>1,492</b>

The mileage in the United States relates entirely to Canadian lines which, for geographical reasons, pass over U.S. territory in forming a continuous system between points in Canada.

By official inquiry it was ascertained that on June 30, 1914, there were 22,891 miles of railway under construction, as follows:—

	Surveyed.
Manitoba	354.00
British Columbia	3,577.69
Quebec	439.00
Ontario	531.84
New Brunswick	57.00
Saskatchewan	3,458.00
Alberta	3,054.47
Nova Scotia	.....
<b>Total</b>	<b>11,472.00</b>

309 miles of second, or double, track were laid in 1914, bringing the total up to 2,293 miles. Combining single, double and yard track and sidings there was a total of 40,605 miles.

**Capitalization.**—The capital liability of operative railways stood at \$1,808,820,761 on June 30, 1914—an increment of \$276,990,069 for the year. This capitalization was divided as follows:—Stocks, \$853,110,653; debenture stock (C.P.R.), \$173,307,470; funded debt, \$782,402,636. Stocks increased by \$107,844,383 during the year, and bonds by \$169,145,686. There were also outstanding on June 30, 1914, \$64,637,500 of stocks and \$88,669,809 of bonds attached to railways under construction, making the final aggregate of capitalization \$1,962,128,070. Dividends on stocks in 1914 amounted to \$30,434,601. The interest charges on bonds were met in full.

**Aid to Railways.**—Cash aid to railways in 1914 reached a total of \$16,106,319, of which the Dominion contributed \$15,583,059. These payments brought the account up to the following position:—

By the Dominion	\$178,834,529
By the provinces	37,023,275
By municipalities	17,914,836
<b>Total</b>	<b>\$233,772,640</b>

Land grants up to June 30, 1914, were as follows:—

	Acres.
By the Dominion	31,864,074
Province of Quebec	1,198,650
British Columbia	8,119,221
New Brunswick	1,647,772
Nova Scotia	160,000
Ontario	624,232
<b>Total</b>	<b>43,613,949</b>

The account with respect to guarantees stood as follows on June 30, 1914:—

Dominion	.....
Manitoba	.....
Alberta	.....
Saskatchewan	.....
New Brunswick	.....
Ontario	.....
Quebec	.....
British Columbia	.....
<b>Total</b>	<b>.....</b>

Included with the guarantees authorized is \$33,116,000 of Grand Trunk Pacific bonds which the Dominion Government purchased in order to prevent the application of the implement clause of the agreement with that company.

**Public Service of Railways.**—For the statistical year 1913-1914, the railways of Canada carried 46,702,280 passengers and 101,393,989 tons of freight. As compared with 1913 there was an increase of 471,515 in the number of passengers carried, and a decrease of 5,598,721 in the number of tons of freight hauled. The growth of freight traffic is shown in the following statement:—

	Tons.	1904	Tons.
1884	13,712,269	1904	48,097,519
1894	20,721,116	1914	101,393,989

The number of passengers carried one mile was 3,089,031,194, against 3,265,656,080

	Under Contract.	Completed.	In Operation.	Total.
Manitoba	108.33	133.85	102.70	698.88
British Columbia	1,234.98	698.08	598.20	6,108.95
Quebec	945.63	43.29	1.70	1,429.62
Ontario	1,841.06	835.71	465.20	3,673.81
New Brunswick	167.55	.....	.....	224.55
Saskatchewan	340.37	555.40	587.19	4,940.96
Alberta	804.95	1,188.93	688.23	5,736.58
Nova Scotia	78.02	.....	.....	78.02
<b>Total</b>	<b>5,520.89</b>	<b>3,417.26</b>	<b>2,443.22</b>	<b>22,891.37</b>

in 1912-1913. Per mile of line the number of passengers carried was 1,516—a decrease of 60 as compared with 1912-1913. The average receipts per passenger per mile were 2.007 cents. The average of ticket sales was \$1.328 per passenger. There was an average of 59 passengers per train, against 62 in 1912-1913. The average journey was 66 miles. The average number of passenger cars per passenger train was 4.2. There was an average of 14 passengers per car.

The number of tons of freight hauled one mile was 22,063,294,685, and the average receipts per ton per mile were .742 cent. The average number of tons per freight train was 353—a betterment of 11 tons over 1912-1913, and of 75 tons over 1908-1909. There was an average of 18.4 loaded cars per train, with an average of 19.18 tons per car. The average freight haul was 217 miles, which was the longest of any country in the world. The average revenue per ton was \$1.614, against \$1.636 in 1912-1913. The division of freight traffic in 1914 by classes was as follows:—

	Tons.	Per Cent.
Products of Agriculture	18,370,480	18.11
Animals	3,433,500	3.29
Mines	38,260,170	37.73
the Forest	16,012,097	15.79
Manufactures	16,834,126	16.62
Merchandise	5,113,603	5.43
Miscellaneous	3,397,697	3.03

From the United States railways 23,553,833 tons were received, or 22% of the total.

**Earnings and Operating Expenses.**—Gross earnings aggregated \$243,083,539, or \$13,619,164 less than in 1912-1913. The decline was equal to 5.6%. This decrease followed

a long period of advances, as the following statement shows:—

1884	\$33,421,705	1904	\$100,219,436
1894	49,552,528	1914	243,083,539

Operating expenses amounted to \$178,975,259, or 73.63% of gross earnings. There was a decrease of \$3,036,431 as against 1912-1913. The difference between gross earnings and operating expenses was \$64,108,280, which was \$10,582,733 less than in 1912-1913. The sources of gross earnings in 1914 were as follows:—

	Authorized.	Executed.	Earned.
	\$188,965,063	\$127,965,063	\$127,965,063
Manitoba	25,221,580	25,221,580	24,589,057
Alberta	55,810,450	40,200,450	17,561,778
Saskatchewan	41,625,000	21,651,459	21,651,459
New Brunswick	6,063,000	6,063,000	4,806,955
Ontario	7,860,000	7,860,000	7,860,000
Quebec	392,000	392,000	392,000
British Columbia	80,322,072	39,357,072	30,647,072
<b>Total</b>	<b>\$406,259,165</b>	<b>\$268,710,264</b>	<b>\$235,473,394</b>

Passengers ..... \$ 62,012,296  
 Mails ..... 2,500,176  
 Express ..... 6,444,214  
 Baggage, parlor cars, etc ..... 1,607,517  
 Freight ..... 165,753,731  
 Station and train privileges ..... 1,044,737  
 Telegraphs, rents, etc ..... 3,720,868

The railways also had gross earnings of \$23,882,142 from outside operations, to which operating expenses of \$19,784,804 attached. Per mile of line gross earnings were equal to \$7,893.60—a loss of \$856.90 as compared with 1913. In this connection it should be remembered that during the past three years 5,395 miles of new line have been put into operation, and new mileage does not yield the same volume of traffic as does established mileage. Operating expenses were equal to \$5,811.83 per mile of line. Per train mile, all trains, earnings were equal to \$2.253, and the cost of operation was \$1.659. Per ton, freight earnings were equal to an average of \$1.614. An analysis of operating expenses shows that there was a high ratio of expenditure on the upkeep of roadbed and equipment. This has been a satisfactory feature of railway development in Canada for a number of years past.

**Equipment.**—The additions to equipment in 1914 were: Locomotives, 328; cars in passenger service, 306; cars in freight service, 21,969; cars in company's service, 827. It is significant that during the past three years 77,032 cars have been added to freight equipment. Complaints of car shortages have ceased. Not only has there been a large increase in numbers, but there has also been a material advance in the capacity of hauling and carrying units. Following is a comparison, as between 1906-1907 and 1913-1914, of the number of locomotives and cars per 1,000 miles of line:—

	1907.	1914.
Locomotives	156	176
Freight cars	4,783	6,636
Passenger cars	162	195

**Employees.**—On June 30, 1914, there were 159,142 employees in the service of Canadian railways, and the aggregate of salaries and wages paid was \$111,762,972. Salaries and wages were equal to 62.43% of the total operating expenses. The average rates of remuneration, which have been steadily ascending for a considerable number of years, made further slight advances.

**Accidents.**—Railway operations for the year resulted in death to 600 persons and injury to 4,037. Of the deaths 565 were caused by the movement of trains. The classes of persons affected were as follows:—

	Killed.	Injured.
Passengers	27	415
Employees	224	3,161
Trespassers	289	279
Non trespassers	48	114
Postal clerks, etc.	12	70

One passenger in every 1,868,091 was killed, and one in every 116,175 injured.



Eighty-one persons were killed and 122 injured at highway crossings. Of the killed, 44 were trespassers at the time, presumably at protected crossings in cities and towns.

[Editor's note.—It will be noticed that at the commencement of the foregoing article the railway mileage at June 30, 1914, is given as 30,795 miles, while the distribution of the same by provinces totals only 30,794. We are advised that this is due to the elimination of the fractional mileage in the abstract. In the report the decimal point is used, but for abstract purposes the fractions are omitted. The difference between the 1,491 miles of increase in 1914 and the 1,492 miles shown in the column headed "Increase" in the second table is further accounted for by the intentional omission in the abstract of a small decrease in the case of mileage in the United States of Canadian lines which for geographical reasons pass through U.S. territory in forming a continuous system between Canadian points.

In reference to the third table showing 22,891.37 miles under construction at June 30, 1914, we are advised that the 2,443.22 miles shown as "In Operation" have nothing to do with the 1,491 miles added to mileage in operation in the year ended June 30, 1914. They are over and above that mileage, and represent lines, which although actively in operation in most instances by the contractors, have not been officially brought into operation. From time to time the Board of Railway Commissioners gives permission to railways under construction to operate certain sections under prescribed conditions, and it may be that such mileage does not come under the Department's jurisdiction for statistical purposes until the whole line is completed. Such mileage is always classified by the Department as being under construction.]

### Canadian Northern Railway Earnings, Etc.

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

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$1,594,300	\$1,163,800	\$430,500	x \$83,800
Aug.	1,367,700	1,123,000	244,700	x 163,900
Sept.	2,109,000	1,519,000	590,000	65,800
Oct.	1,895,300	1,332,100	563,200	x440,900
Nov.	1,670,200	1,123,100	547,100	x417,700
Dec.	1,329,100	998,000	423,100	200,900
Jan.	950,800	773,000	177,800	x175,100
Feb.	1,105,100	823,700	281,400	42,800
	\$12,022,400	\$8,763,900	\$3,258,500	x\$1,373,700
Decr.	\$4,238,000	\$2,864,300	\$1,373,700	.....

x Decrease.

Approximate earnings for three weeks ended Mar. 21, \$881,900, against \$980,900 for the same period 1914.

### Canadian Pacific Railway Earnings, Etc.

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

	Gross Earnings	Expenses	Net Earnings	Increase or Decrease
July	\$10,481,971.72	\$6,703,525.89	\$3,778,445.83	\$338,347.85
Aug.	8,917,764.33	6,554,606.68	3,373,167.70	597,981.54
Sept.	10,754,139.67	6,387,091.28	4,367,048.39	48,530.30
Oct.	9,282,928.49	5,361,600.13	3,921,328.36	2,281,529.43
Nov.	8,057,358.89	5,413,867.72	2,644,072.17	2,244,173.89
Dec.	7,443,962.43	5,244,438.62	2,199,523.81	2,027,297.90
Jan.	6,109,026.94	4,968,793.64	1,140,233.30	140,059.24

\$62,047,152.52 \$41,233,342.96 \$20,813,809.56 x\$7,397,801.17

Dec. \$19,155,225.76 \$13,757,424.59 \$7,397,801.17 .....  
xDecrease.

Approximate earnings for February, \$6,503,000, against \$7,365,000 for Feb., 1914, and for two weeks ended Mar. 14, \$3,398,000, against \$4,070,000 for same period 1914.

### Grand Trunk Railway Earnings, Etc.

Subject to audit, the G.T.R. accounts, including the Canada Atlantic Ry., show the following results for the year ended Dec 31, 1914:

Gross receipts	\$41,866,172
Working expenses	33,320,053
Net receipts	\$8,546,119
Income from rentals, outside operations, and car mileage balances	\$ 1,592,490
Total net revenue	\$10,138,609
Net revenue charges for the year, less credits	\$ 6,903,955
Balance	\$3,234,654
Deduct G.T.W.R. deficiency	\$659,154
D.G.H. & M.R. deficiency	505,263
	1,164,417
Surplus	\$2,070,237
Less interim dividend on 4% guaranteed stock	\$ 1,217,500
Balance	\$852,737

which, added to \$81,329 from Dec., 1913, makes a total of \$934,066, which will admit of a further payment for the year of 1½% on the 4% guaranteed stock, making 3½% for the year, and leave a balance of about \$21,000 to be carried forward.

Following are the earnings and expenses for the G.T.R., including the C.A.R., the G.T.W.R. and D.G.H. & M.R. for January:—

<b>Grand Trunk Railway:—</b>	
Earnings	\$2,659,300
Expenses	2,431,800
Net earnings	\$227,500
<b>Grand Trunk Western Railway:—</b>	
Earnings	\$559,500
Expenses	538,900
Deficit	29,400
<b>D.G.H. &amp; M. Railway:—</b>	
Earnings	\$192,000
Expenses	219,300
Deficit	27,300

Traffic Receipts of the System.				
Aggregate from Jan. 1 to Feb. 28:—				
	1915	1914	Incr.	Decr.
G.T.R.	\$5,287,379	\$5,922,436		\$ 635,057
G.T.W.R.	1,087,245	1,039,828	\$47,417	
D.G.H. & M.R.	370,874	353,693	17,181	
Totals	\$6,745,498	\$7,315,957		\$ 570,459

Approximate earnings for February, \$3,325,036; against \$3,544,016 for Feb., 1914; and for two weeks ended Mar. 14, \$1,709,293, against \$1,916,794 for same period, 1914.

### Grand Trunk Pacific Railway Earnings.

The approximate earnings of the Prairie Section and Lake Superior Branch, 1,104 miles, for February, were \$281,783, against \$313,491 for Feb., 1914, and for two months ended Feb. 28, \$528,794, against \$681,809 for same period, 1914.

### Railway Route Maps Approved.

The Minister of Railways has approved of the following route maps:—

Western Dominion Railway, Mar. 1. — From the international boundary to about 5 miles north of Cardston; and from Pincher Creek to Kootenay Pass, Alta., about 61 miles.

Hudson Bay, Peace River and Pacific Ry., Mar. 1.—From Sec. 11, Tp. 11, Range 5, east of the Principal Meridian, to Sec. 10, Tp. 18, Range 9, east of the Principal Meridian, about 50 miles.

Montreal Warehousing Co.—The annual meeting was held at Montreal, Mar. 1. The following directors were elected for the current year:—E. J. Chamberlin, President; H. G. Kelley, Vice President; J. E. Dolrymple, F. Scott and J. Pullen; C. J. Smith, formerly General Manager, Richelieu and Ontario Navigation Co., and latterly Vice President and General Manager, North Ry., Montreal, was appointed Manager and Secretary, succeeding the late G. H. Hanna.

### Quebec Legislation Respecting Freight Rates.

The Quebec Legislature has amended article 6607 of the Revised Statutes of 1909, relative to rates on railways. The third paragraph of that article, which provides that "The Railway Committee may approve such bylaws in whole or in part, or may change, alter or vary any of the provisions therein," is struck out, and is replaced by three paragraphs which provide: (1) for the approval by the railway committee of such bylaws in whole or in part, the amending of the same, or delaying the coming into force of the same until the interested parties are heard; (2) that bylaws to increase rates cannot be approved until they have been posted up for 30 days before the date fixed for application for approval, and that bylaws for the reduction of tolls must be posted up for three days before application for approval; (3) where freight is to pass over any continuous route operated by two or more companies, the committee may require, on application by the parties interested, the railway companies to agree upon a joint tariff, and may approve of such tariff with or without amendments. A new section is added giving the Quebec Public Utilities Commission jurisdiction in the matter. The act comes into force at once.

### Burrard Inlet Tunnel and Bridge Co. —

Early in 1914 a design made by Sir John Wolfe Barry, Lyster & Partners, of London, Eng., was accepted for a long and heavy bridge across the Second Narrows of Burrard Inlet, connecting Vancouver and North Vancouver, B.C. The accepted design for a bridge to cost \$2,500,000, included the longest swing-span in existence, 581½ ft. between end bearings. In Aug., 1914, this design was rejected as too expensive and bids asked for a cheaper design. In response to this request, three designs were submitted: by Dominion Bridge Co., associated with Armstrong-Morrison & Co., of Vancouver, \$1,916,000; by Canadian Bridge Co., \$1,846,000; and by C. A. P. Turner, associated with Western Foundation Co. of Vancouver, \$1,744,331. On these designs Ralph Modjeski, of Chicago, was asked to report. This report recommended that none of the bids should be accepted but that the bidders be allowed to revise their designs to meet certain requirements prescribed by Mr. Modjeski. However, the company has accepted C. A. P. Turner's design and has awarded the contract to him and his associates to erect the bridge in accordance with that design, as corrected to meet Mr. Modjeski's suggestions, for the bid price noted. The carrying out of the contract is contingent upon the raising of additional funds from the City of Vancouver and from the B. C. Government. (Mar., pg. 94.)

Montreal Ammunition Co., Ltd., has been incorporated under the Dominion Companies Act with an authorized capital of \$250,000 and head office in Montreal. The directors are:—President, H. H. Vaughan, Assistant to Vice President, C.P.R.; Vice President, G. H. Duggan, First Vice President, Dominion Bridge Co.; Secretary-Treasurer, T. Arnold, of Taylor and Arnold, Ltd., railway supplies, etc, Montreal. Other directors:—Phelps Johnson, President and Managing Director, Dominion Bridge Co.; F. L. Wanklyn, General Executive Assistant, C.P.R., and W. F. Angus, Vice President and Managing Director, Canadian Steel Foundries. The company has a large contract from the British Government for shells and cartridge cases and is establishing a plant at Dominion, near Montreal, for their manufacture.



## Timiskaming and Northern Ontario Railway Operations for 1913-14.

The total mileage of track operated by the T. & N.O.R. Commission, as shown in the report for the year ended Oct. 31, 1914, was 438.32 miles, distributed as follows:—Main line, North Bay to Cochrane, 252.19; branch lines:—Charlton branch, 7.80; Porcupine branch and line to Iroquois Falls, 40.11; Elk Lake branch, 28.50; total branch mileage, 76.41; yards and sidings, 108.02; second track, North Cobalt to Haileybury, 1.70. The lines owned also include the Nipissing Jct. spur, 2.10 miles, which is leased to the G.T.R.; and the Nipissing Central Ry. (electric), representing an additional mileage of track owned of 12.64 miles, or a total of 453.06 miles of track owned by the Province of Ontario and managed for it by the commission.

The report of the operation of the Nipissing Central Ry., which is an electric line, will be found on another page of this issue. The main features of the report on the operations of the T. & N.O.R. follow:—

the line are as low, and in many instances lower than on other railways in Canada for a similar service, and it is also stated that the rates for telegraph service on the railway were reduced 20% on Aug. 1, 1914, and the telephone rates on the lines operated in the area served by the line were reduced from 20 to 40% on Nov. 1. The telephone rates are stated by the Ontario Railway and Municipal Board to be the lowest in Canada. Attention is also called to the fact that during the year all-steel passenger trains were put in operation on the line, and that out of the 4,716,331 passen-

of loaded freight cars north and east, 3,036,177; mileage of loaded freight cars, south and west, 1,749,903; mileage of empty freight cars north and east, 364,244; mileage of empty freight cars south and west, 1,615,159; average number of freight cars per train mile, 17.13; average number of loaded freight cars per train mile, 11.44; average number of empty freight cars per train mile, 4.73; average number of tons of freight per train mile, 206.32; average number of tons of freight per loaded car mile, 18.03.

**Train mileage.**—Mileage revenue passenger trains, 385,575; mileage revenue mixed trains, 79,299; mileage revenue freight trains, 338,973; total revenue train mileage, 803,847.

The freight tonnage was distributed as follows:—

	Originating on road.	Received from		Total tons.
		Can. lines.	U.S. lines.	
Products of agriculture .....	7,670	28,785	49	36,504
Products of animals .....	1,268	3,508	.....	4,776
Products of mines .....	106,329	43,601	69,683	219,613
Products of forests .....	355,334	4,172	331	359,837
Manufactures .....	12,001	43,636	1,614	57,251
Miscellaneous .....	24,435	32,140	878	57,453
Other commodities .....	4,154	2,698	80	6,932
<b>Total .....</b>	<b>511,191</b>	<b>158,540</b>	<b>72,635</b>	<b>742,366</b>

	1914.	1913.
Freight revenue .....	\$ 952,090.35	\$ 906,476.16
Passenger revenue .....	544,820.08	576,049.37
Other revenue from transportation .....	83,757.85	84,702.90
Revenue from other sources than transportation .....	90,230.59	88,926.42
<b>Total operating revenue .....</b>	<b>\$1,670,898.87</b>	<b>\$1,656,154.85</b>
Maintenance of way and structures .....	\$ 408,046.15	\$ 430,820.04
Maintenance of equipment .....	284,935.87	242,633.93
Traffic expenses .....	18,872.65	16,857.36
Transportation expenses .....	651,687.20	680,480.08
General expenses .....	105,032.36	106,758.60
<b>Total operating expenses .....</b>	<b>\$1,468,574.23</b>	<b>\$1,477,550.01</b>
<b>Net operating revenue .....</b>	<b>\$ 202,324.64</b>	<b>\$ 178,604.84</b>
Ore royalties, etc. ....	58,687.38	90,046.18
<b>Total income .....</b>	<b>\$261,012.03</b>	<b>\$268,651.02</b>
Deductions from income .....	32,034.80	13,327.30
<b>Net income .....</b>	<b>\$228,977.23</b>	<b>\$255,323.72</b>
Paid to Treasurer of Ontario .....	\$ 225,000.00	
<b>Balance .....</b>	<b>\$3,034.23</b>	

The general balance sheet shows liabilities of \$20,927,532.02, of which \$20,246,451.99 represents the sums loaned by the Ontario Government on construction account, and \$681,080.03 represents the working liabilities. The assets total \$21,337,247.92, made up as follows:—Cost of road to Oct. 31, 1913, \$17,373,118.75; cost of road for year ended Oct. 31, 1914, \$373,934.90; total, \$17,747,053.65; cost of equipment to Oct. 31, 1913, \$2,003,622.49; cost of equipment for year ended Oct. 31, 1914, \$223,938.78; total cost of equipment, \$2,227,561.27; Nipissing Central Ry., \$464,677.97; working assets, \$801,573.21; deferred debt items, \$24,040.79; land agent, \$72,341.03. The balance at credit of profit and loss account is \$409,715.90.

While freight receipts increased \$45,614.19, there was a decrease of \$31,229.29 in passenger receipts. There were also small decreases from other transportation sources, and from other than transportation sources, the net operating revenue showing an increase of \$14,744.02. The operating expenses were 89.8% of the revenue, against 88.7 in the year ended Oct. 31, 1913. The expenditures in all departments, except maintenance of equipment, show decreases; in that department the increase was \$42,301.94 or 2.9%, but it is explained that this is mainly due to the setting aside of \$33,883.92 to a reserve fund to cover depreciation on rolling stock, and to provide for the renewal of cars and locomotives retired, sold or destroyed. The great disappointment on the year's operations was the drop of \$25,546.75 in ore royalties. It is pointed out that the freight charges on

gers carried since 1905, not one had been killed or seriously injured. The road bed, rolling stock and operating equipment are all being kept in a high state of efficiency, and the safety first campaign is being emphasized.

The traffic and mileage statistics follow:—

**Passenger Traffic.**—Total revenue passengers carried, 535,869; number of passengers carried one mile, 22,471,533; number of passengers carried one mile per mile of road, 68,303; average distance carried, 41.93 miles; average amount received from each passenger, \$1.01; average receipts per passenger per mile, 2.42 cents; passenger train service per mile of road, \$1,881.07; passenger service train revenue per train mile, \$1.62.

**Freight traffic.**—Number of revenue tons carried, 742,366; number of tons carried one mile, 86,295,945; number of tons carried one mile per mile of road, 262,298; average distance of haul of one ton, 116.21 miles; average amount received per ton, \$1.29; average amount received per ton per mile, 1.12 cts.; revenue per mile of road, \$2,764.20; revenue per train mile, \$2.28.

**Total traffic.**—Operating revenue per mile of road \$5,061.10; operating revenue per train mile, \$2.07; operating expenses per train mile, \$4,448.32; operating expenses per train mile, \$1.82; net operating revenue per mile of road, \$612.84; net operating expenses per train mile, 25 cts.

**Car mileage.**—Average number of passengers per car mile, 10; average number of passengers per train mile, 49; average number of passenger cars per train mile, 4.87; mileage of passenger cars, 2,239,856; mileage

## The Attempt to Destroy the St. Croix River Bridge.

Werner Horn, the man who damaged the bridge over the St. Croix River, between St. Croix, N.B., and Vanceboro, Me., and who claimed that he did it in his capacity as an officer of the German army "as an act of war against Great Britain," and who was sentenced to 30 days imprisonment by a Maine court for damaging glass in Vanceboro by explosion, was, on Mar. 7, taken into custody at Machias jail by the U. S. authorities under federal warrants, charged with transporting dynamite in contravention of the interstate commerce laws. The federal grand jury, sitting at Boston, Mass., found three bills against him, alleging the illegal transportation of 60 lbs. of dynamite from New York to Boston, over the New York, New Haven and Hartford Rd.; from Boston to Vanceboro, over the Boston and Maine and Maine Central Rds.; and with carrying dynamite in a suitcase without notifying the officials of those railways. The maximum penalty for the offence is 18 months imprisonment and a fine of \$2,000. At the hearing at Bangor, Me., Mar. 17, it was contended for the prisoner that what he did was "an act of war against Great Britain." On the previous day a motion to have the prisoner's private papers returned to him was refused by the court. These proceedings will postpone the proceedings instituted by the Canadian Government for the extradition of the prisoner to answer the actual charge of dynamiting the bridge.

It was decided by the United States Commissioner at Bangor, Me., Mar. 18, that the accused must be removed to Boston, Mass., for trial under the federal warrants. The Commissioner stated that Horn could be released on \$10,000 bail.

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

	Acre.
Calgary and Edmonton Ry. ....	5,284.95
Canadian Pacific Ry. ....	47.29
Edmonton, Dunvegan and British Columbia Ry. ....	6.04
Grand Trunk Pacific Branch Lines Co. ....	149.19
Grand Trunk Pacific Ry. ....	1,438.81
Kootenay Central Ry. ....	8.59
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co. ....	10,016.48
<b>Total .....</b>	<b>25,951.35</b>



## Canadian Northern Railway Construction, Betterments, Etc.

**Montreal-Ottawa-Port Arthur Line.**—It was stated in the Ontario Legislature recently that no application had been made to the Department to designate any part of the lands to be granted to the C.N.O. Ry. under the provisions of chap. 71 of the statutes of 1909. This act provides that the Government may grant 4,000 acres of land per mile as a subsidy in aid of the building of a line from Sellwood Jct. to Port Arthur, not exceeding 500 miles, subject to certain provisions as to location, selection, etc.

Sir Wm. Mackenzie is reported to have stated in Winnipeg, Mar. 14, that freight service on the line east from Port Arthur will be started May 1, and passenger service June 1.

**Canadian Northern Ontario Ry.**—The bill asking for confirmation of an agreement with the Campbellford, Lake Ontario and Western Ry. respecting certain lines to be constructed as joint lines in Belleville, Ont., and the confirmation of an agreement with the Georgian Bay and Seaboard respecting certain lines to be considered joint lines in the vicinity of Orillia, was withdrawn from consideration in the House of Commons, Mar. 2. R. Blain, M.P., who had charge of the bill, said there were some points about which the companies desired to negotiate further.

The bill to confirm an agreement with the C.P.R. for the construction and operation of joint terminals at North Toronto was also withdrawn. For full particulars see under "Canadian Pacific Ry. Construction, Betterments, etc."

Engineers were in Hamilton recently, making certain investigations, and subsequently the City Engineer was in Toronto in consultation with the Secretary of the C.N.R. Nothing is definitely known of the matters discussed, but the Mayor of Hamilton stated that there appeared to be good ground for thinking that preparations were being made for the building of the Toronto-Hamilton-Niagara line.

**Canadian Northern Ry.**—A press report says that plans have been prepared for large additions to the yards at Port Arthur, Ont., and that about 40 miles of tracks will be added.

Announcement was made in Winnipeg recently that the new lines to Grand Marais and Fisher River would be opened for traffic at once.

The Manitoba Legislature has increased the Winnipeg River Ry. Co.'s authorized capital from \$50,000 to \$500,000. The company has power to build a railway from Lac du Bonnet along the Winnipeg River Valley for 10 miles.

The Board of Railway Commissioners has authorized the C.N.R. to build a spur line to connect with the C.P.R. at Rosetown, Sask.

In the Alberta Legislature, Mar. 9, the Minister of Railways said only partial construction had been done on the line projected from Blackfalds, on the Brazeau line to Calgary, and on the line from Calgary to Macleod. Both of these lines were being built under provincial guarantee of bonds.

Application is being made to the Dominion Parliament for the confirmation of an agreement between the C.N.R. and the G. T. Pacific Ry., respecting the use of terminals at Edmonton, Alberta. Each company contributes certain areas of land, together with tracks, buildings and terminals, which are to be administered as a joint section for terminal purposes. The joint property is to be managed by a terminal board consisting of one representative from each company, and is to be operated by a superintendent to be appointed by the

board. In case of difference between the members of the board, and the failure of the companies to agree, appeal may be made to the Board of Railway Commissioners. The G. T. P. R. shall have the right to erect its own freight shed at a point indicated on the plans annexed to the agreement. The cost of maintenance shall be borne equally by the two companies, but capital expenditures shall be borne by the company upon whose land it is expended. The rights of the G.T.P.R. under its agreement with the city of Edmonton, dated Mar. 6, 1906, are protected. The value of the property brought into the joint premises by the C.N.R. in excess of that brought in by the G.T.P.R. is declared to be \$743,084.70, and on one-half of this the G.T.P.R. agrees to pay interest at the rate of 5% a year. The agreement is for 99 years, from May 1, 1912.

**Lines on Vancouver Island.**—In the British Columbia Legislature recently, the Minister of Railways said the line from Victoria to Port Alberni will have a total length of 135.5 miles. Grading is completed on 128.5 miles of this, but no track has been laid. It is estimated that it will require an expenditure of \$889,624 to complete the grading and bridging, and \$1,346,563 to lay the track and put the line in operation so far as now graded. The C.N.P.R. has paid \$2,893,088 to the contractors on account of the work. On the branch to Patricia Bay, 94% of the grading has been completed, but no track has been laid. The estimated cost of completing the branch, including all sidings, stations, freight sheds, telegraph lines, etc., is \$358,700. The contractors had been paid \$127,628 on account of work done to Feb. 1. (Mar., pg. 102.)

## Dominion Railway Expenditures for 1913.14.

The Minister of Finance in reply to a question in the House of Commons, Mar. 8, gave the following particulars of expenditures on capital and special account respectively from April, 1914, to Mar., 1915, as passed through the Finance Department books:

Railways and Canals capital:	
Canals .....	\$4,989,901.91
Intercolonial and connected rail-ways .....	4,964,867.79
Towards construction of a railway to connect Montreal with National Transcontinental Ry. ....	250,000.00
Hudson Bay Ry. ....	4,340,337.06
Quebec Bridge .....	2,963,616.58
National Transcontinental Ry. ....	6,777,255.98
Prince Edward Island Ry. ....	604,976.66
	\$24,890,955.98
Railway Subsidies:	
Fredericton and Grand Lake Coal and Ry. ....	\$ 111,579.96
Canadian Northern Ontario .....	2,343,335.80
Atlantic and Lake Superior .....	18,449.17
St. John and Quebec .....	59,581.32
Ha Ha Bay .....	16,158.72
Algoma Central and Hudson Bay ..	138,980.56
Esquimalt and Nanaimo .....	405,120.00
Kootenay Central .....	504,622.21
Canadian Northern Pacific .....	178,077.80
Canadian Northern Alberta .....	262,080.00
Algoma Eastern .....	13,022.87
Alberta Central .....	209,768.00
Kettle Valley .....	369,497.28
	\$4,630,273.69

**Foreclosure of a Mortgage of \$300,000 on the World Building, Vancouver, B.C.,** by J. J. Toomey, St. Paul, Minn., is being asked under proceedings instituted Mar. 13. Mr. Toomey is stated to be a confidential agent of J. J. Hill, and the writ was issued in his behalf by A. H. McNeill, K.C., the Vancouver solicitor of the Great North-ern Ry.

## Grand Trunk Railway Betterments, Construction, Etc.

**Southern New England Ry.**—Press reports state that work is to be resumed at an early date upon the construction of the line to Providence, R.I., the differences with the contractors having been adjusted. So far as regards the line to Boston, Mass., President Smith, of the Central Vermont Ry., informed the Legislative Committee on Railways recently that the project had not been abandoned, although it was not contemplated to proceed with it at present.

**Lachine, Jacques Cartier and Maisonneuve Ry.**—The Montreal City Council has decided to apply to the Board of Railway Commissioners for an order fixing gradients, etc., on this projected railway. The route of the line has been approved by the Commissioners, and the city is desirous of proceeding at once with the completion of roads and the construction of sewers in St. Denis and Rosemount wards, through which the line will pass. If the gradients were fixed the city could proceed at the minimum of cost with the work on the streets to be crossed by the railway.

**Bronson Ave. Viaduct, Ottawa.**—The question of the erection of a viaduct at Bronson Ave., which has been in abeyance since the order for its erection was obtained in 1912, was before the Ottawa City Council recently. The estimated cost, including land damages, is \$200,000, and the city engineer was directed to prepare detailed estimates. The Dominion elimination of grade crossings fund will contribute \$5,000 towards the cost, and the balance will be divided between the G.T.R. and the city. It is expected that when the viaduct is completed the line running under the Bell St. bridge will be abandoned. (Mar., pg. 100.)

**The Toronto Civic Transportation Committee,** composed of representatives of the Toronto City Council, Toronto Harbor Commission and the Hydro Electric Power Commission of Ontario, and of which T. L. Church, Mayor of Toronto, is chairman, is studying the transportation problem as applied to the radial railway entrances to Toronto, and the street railway situation. The board of engineers consists of R. C. Harris, Commissioner of Works, City of Toronto; F. A. Gaby, Chief Engineer, Hydro Electric Power Commission of Ontario; and E. L. Cousins, Chief Engineer, Toronto Harbor Commission, who is engineer in charge, having been temporarily relieved from his duties with the Harbor Commission for this purpose.

**Three Cent Fares Denied.**—The first application for three cent street railway fares to come before the Public Service Commission for the Second District of New York has been denied. The case was that of the City of Rochester vs. the New York State Rys. The city contended that the company could afford to make the reduction, that the increased traffic would bring up the revenues and that the city's large working population would establish itself outside the congested districts. The commission found that three cent fares with existing traffic would bring the company only 4.6% return on property within the city five cent zone, that a 20% increase of business would be necessary to reimburse the company for the cut, and that this increase would come at rush hours when the system was already overtaxed.

**Guelph not a divisional Point.**—We are officially advised that there is no intention of establishing a G.T.R. divisional point at Guelph, Ont., as stated in press reports recently.



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

**Ontario Division.**—The bill introduced in the House of Commons to confirm an agreement between the C.P.R. and the Canadian Northern Ry., respecting the construction of a joint passenger station at North Toronto, has been withdrawn. The bill was prepared in anticipation of the signing of the agreement, but as this has not been effected it had to be withdrawn, and the matter will probably be taken before the Board of Railway Commissioners, which has power to approve an agreement for 21 years.

The Edmonton City Council decided, Mar. 3, to carry out the old C.P.R. entrance agreement made between the company and the City of Strathcona. The latter city has since been incorporated with Edmonton.

**Rogers Pass Tunnel.**—A press report states that it is likely a system of forced air ventilation will be adopted for the Rogers Pass tunnel, now under construction, and that as a result it may not be found necessary to equip it for operation by electric power. (Mar., pg. 96.)

Balance at credit of profit and loss, Feb. 15, 1914 .....	\$ 91,189.60
Rents received and accrued on leases and interest on advances and bonds held by company .....	392,067.19
	\$483,256.79

Original cost of rolling stock held under existing leases .....	\$2,939,370.00
Amount paid in on account by railway companies in addition to interest .....	2,299,370.00

Total amount of company's debentures outstanding .....

The directors for the current year are:—Sir Edmund B. Osler, President; W. D. Matthews, Vice President; Duncan Coulson, His Honor J. S. Hendrie, Jos. Henderson, F. G. Osler, all of Toronto. G. T. Chisholm is Secretary.

**Victoria Rolling Stock and Realty Company, of Ontario, Limited.**

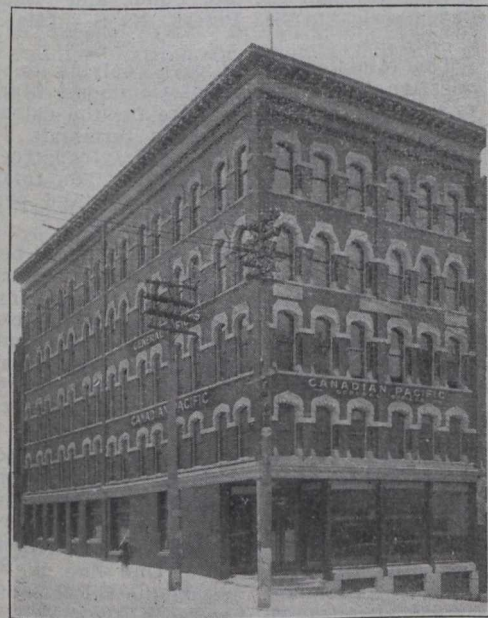
Following is the directors' report for the year ended Feb. 15, 1915, issued over the signature of the President, Sir Edmund B. Osler:—

The bonds shown in the last annual report as issued against the rolling stock lease series T to the C.P.R. Co. have been disposed of, part of the terms of sale being that this company should be released from any obligation in connection with these bonds. The bonds issued under the lease have been cancelled and the lease assigned. The company, therefore, has no further liability in connection with this lease. The company, however, will receive a commission from time to time as if the bonds were outstanding as agreed upon when the lease was made.

All payments maturing during the year have been promptly met. The profit on the year's business, after charging up directors' fees and expense account, is \$46,810.95. This includes a payment on account of special commission on the cancelled lease. A dividend of 6% per annum has been paid on the capital stock, and \$32,410.95 has been carried forward to profit and loss account, which now stands at \$123,600.55.

**ASSETS.**

Obligations on leases .....	\$ 596,075.00
Cash in bank .....	115,659.54
Call loan .....	295,000.00
Interest accrued on same .....	2,472.84
	\$1,009,207.38



New General Offices, Atlantic Division, Canadian Pacific Ry., St. John, N.B.

The draft agreement attached to the bill provided for the use by the Canadian Northern Ontario Ry. of certain lines and the terminal facilities at North Toronto belonging to the C.P.R. It provided that certain lines should be known as common tracks, certain others as joint tracks, and certain premises as joint premises. The agreement set out the work already done, the work to be done by the C.P.R. on the lines and premises common to both, at the joint cost, and the work to be done by each on other property which might be used by both. The operation of the trains over the joint lines and premises were to be under the control of the officials of each company, but the C.N.O.R. trains were to be subject to C.P.R. rules and regulations when on the C.P.R. North Toronto branch, which forms part of the joint tracks. The station was to be under the control of an agent appointed by the C.P.R. and approved of by the C.N.O.R. The construction work which each company was to do was defined. The C.N.O.R. was to pay to the C.P.R. a rental of 4½% on the value of the property brought in. The C.N.O.R. must not permit any other railway to use these facilities, but the C.P.R. might, in which case the rate of payment was to be readjusted. Differences as to the construction of any of the terms of the agreement were to be submitted to the Board of Railway Commissioners.

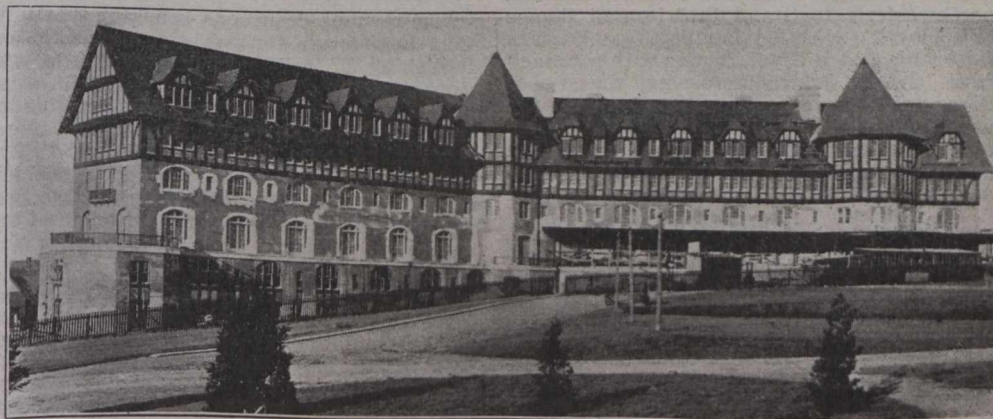
**Saskatchewan Division.**—The Board of Railway Commissioners has approved revised location plans of the Swift Current northwesterly line, mileage 111.95 to 112.56.

**Alberta Division.**—The Board of Railway Commissioners has approved revised location plans for the Weyburn-Stirling line, mileage 316.63 to 359.39, west of the 4th meridian, Alberta.

**Great Northern Railway Lines in Canada.**

**Vancouver Terminals.**—The Vancouver City Council was informed, Feb. 25, that the G.N.R. engineers were completing certain statistical information for the B.C. Government in connection with the plans for the development of the False Creek terminals, and that full plans would be submitted with these. The agreement is one to which the Provincial Government is a party, and the company cannot do anything definite until the province is satisfied. The company, it was stated, means business, and will go ahead with the work as soon as possible. The building of the station will involve the expenditure of \$1,000,000 instead of the \$500,000 originally suggested.

The question of the building of the three east end viaducts, which formed the subject of litigation at the invitation of the British Columbia Electric Ry., has been revived, and it is said that a plan is being arranged for the work to be financed. If the arrangements carry, the G.N.R. will have to apply to the Board of Railway Commissioners for the necessary order. The viaducts, which were eliminated from the order as a result of the litigation, are projected at Pender, Keefer and Harris Sts., and are estimated to cost \$67,250, \$66,723 and \$70,413 respectively. The fourth viaduct is at Hastings St., and is estimated to cost \$95,444. The contract for the erection of the four via-



The Canadian Pacific Railway's New Algonquin Hotel, St. Andrew's, N.B.

**LIABILITIES.**

Capital stock subscribed \$600,000.00	
Capital stock paid up .....	\$ 240,000.00
Debentures outstanding .....	640,000.00
Interest accrued on same .....	5,333.33
Commission account series T .....	273.50
Balance at credit of profit and loss .....	123,600.55
	\$1,009,207.38

Interest paid and accrued on debentures .....	\$342,789.50
Expense account .....	1,066.74
Directors' fees last year .....	1,400.00
Dividend account .....	14,400.00
Balance carried forward .....	123,600.55
	\$483,256.79

ducts was let to the Union Contracting Co., and the new arrangement is under consideration with a view of preventing that company entering an action for damages for breach of contract. (Mar., pg. 102.)

**G.T.R. Apprentices' Dinner.**—A number of former apprentices at the G.T.R. shops at Stratford, Ont., joined with this year's class of 110 at a dinner there, Mar. 18, at which Robt. Patterson, Master Mechanic, presided. W. D. Robb, Superintendent of Motive Power, was the principal speaker.



## Railway Development.

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

**Alberta and Great Waterways Ry.**—W. R. Smith, Chief Engineer, is reported to have stated recently there are 1,000 men at work on the line; that track has been laid to 16 miles beyond Lac la Biche, and that it is hoped to have the line completed to Fort McMurray by the end of the year. (Mar., pg. 94.)

**Alma and Jonquieres Ry.**—The Quebec Legislature has passed an act extending the time for the construction of this projected railway from Herbertville, on the Quebec and Lake St. John Ry., to Lake St. John, between Great and Little Discharge, 20 miles, and from St. Joseph de Alma easterly to Jonquieres, Que., 30 miles. (Feb., 1913, pg. 83.)

**Athabasca and Fort Vermillion Ry.**—The Alberta Legislature has incorporated a company with this title to build a railway from Athabasca northwesterly to Trout Lake, and on to Fort Vermillion, about 300 miles. The provisional directors and others interested in the incorporation of the company are: J. M. Kernan, F. R. Falconer, J. V. Rawle, A. C. McKay, I. Gagnon, L. Menard, W. R. Day, R. Vance, L. Willey, J. L. Lessard, H. F. Cull, A. E. Walsh, W. N. Pomeroy, C. E. Nanckivell, G. Hees, M. McKernan, S. Willey, J. Dalganeau, Dr. Oliver, Athabasca; N. Dusseault, S. Lawrence, F. E. Wilson, S. Clarke, Fort Vermillion; J. Keith, Edmonton.

**Bassano and Bow Valley Ry.**—The Alberta Legislature has amended the company's act of incorporation by authorizing it to use "steam, electricity or any other motive power," instead of "any motive power but steam," as before; by authorizing the building of the line to Coronation, instead of for 40 miles only from Bassano; to increase the company's power to issue bonds from \$14,000 to \$20,000 a mile, and to extend the time for the building of the line.

**Brule, Grand Prairie and Peace River Ry.**—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Brule Lake, Alberta, northwesterly to Grand Prairie, and thence to a junction with the Pacific Great Eastern Ry. in the Peace River Block; with a branch from Grand Prairie, crossing the Peace River near Dunvegan, to a junction with the projected Pacific, Peace River and Athabasca Ry. at the Montagneuse River. The provisional directors are D. R. McDonald, Alexandria, Ont.; C. L. Hervey, Montreal; R. H. Pringle, T. A. Burgess, L. Cote, Ottawa. (Feb., pg. 56.)

**Burrard Inlet Tunnel and Bridge Co.**—The amended plans for the erection of the projected bridge across the Second Narrows of Burrard Inlet, Vancouver, B.C., under the accepted Turner-Western Foundations tenders, were laid before the directors Mar. 10, and it was decided to forward them to the Provincial Government for approval. (Mar., pg. 94.)

**Central Canada Ry.**—It is reported that track has been laid from the junction with the Edmonton, Dunvegan and British Columbia Ry., at McLennan, Alberta, to Paul's stopping place, 30 miles. The grading on the remaining 22 miles to the Peace River Crossing is being pushed forward, but as it includes some heavy work it is not expected that any further tracklaying will be done until the autumn. (Mar., pg. 94.)

**Edmonton, Dunvegan and British Columbia Ry.**—W. R. Smith, Chief Engineer, is reported to have stated recently that about 1,000 men are at work on the line, of which

400 are employed on the right of way between the Big Smoky and the Spirit Rivers. Track is being laid between McLennan and Big Smoky River. A sub-contract has been let for the grading of the last 10 miles to this river. This is the heaviest piece of grading on the line. A temporary bridge will be built across the river and the work of putting in the substructure for the permanent steel bridge will be gone on with during the winter of 1915-16.

Objection was made before the House of Commons committee recently to the company's application for an extension of time for the completion of the line. The particular piece of line referred to is the section from Spirit River to the junction with the Pacific Great Eastern Ry. at the Alberta-British Columbia boundary. The committee approved of the extension of time upon receipt of assurance from the Premier of Alberta that the company is building as fast as possible, and that the Province has power under the act guaranteeing the bonds to use pressure if the construction is not proceeding at a satisfactory rate.

The company is asking power under another bill before the Dominion Parliament to build a branch line from tps. 77/78 or 79, ranges 3, 4, 5 or 6 west of the 6th meridian, southerly through the Grand Prairie district to Jasper House, Alberta. (Mar., pg. 94.)

**Entwistle and Alberta Southern Ry.**—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Entwistle, Alberta, southerly to the Saskatchewan River, on the boundary between tps. 57 and 58, west of the fifth meridian, 50 miles. The provisional directors are: C. L. Hervey, D. A. O'Meara, Montreal; T. A. Burgess, L. A. Cote, R. H. Pringle, Ottawa. (Mar., pg. 94.)

**Hudson Bay, Peace River and Pacific Ry.**—A bill is under consideration by the Dominion Parliament providing for the changing of the title of this company to that of the Winnipeg and Hudson Bay Ry.

The town of Transcona is asking the Manitoba Legislature for power to bonus the establishing of railways, railway yards, stations and terminals. When the bill came before the law amendments committee of the Legislature, Mar. 12, deputations representing the town, the H. B., P. R. and P. Ry., and other interests were present. Considerable opposition was manifested to the proposition and there was some criticism of the company's position and prospects. (Jan., pg. 10.)

**Huntingdon and Hemmingford Ry.**—The Quebec Legislature has extended the time for the building of this projected railway from Huntingdon, Que., via Hemmington, to the point where the Delaware and Huason Co.'s railway crosses the International boundary. (Jan., pg. 10.)

**Lake Huron and Northern Ontario Ry.**—The Minister of Lands, replying to a question in the Ontario Legislature, Mar. 3, said the company began construction on the extension of its line Nov. 1, 1913, and reported having expended \$22,256.20 during 1914, in securing right of way, clearing right of way and upon grading, and that within the same period \$56,000 had been expended upon the reconstruction of the original line from Bruce Mines to Rock Lake. The company cannot obtain any land from the Government under the terms of its agreement until 10 miles of the line have been completed. (Oct., 1914, pg. 468.)

**Intercolonial Ry.**—The Minister of Railways, replying to questions in the House of Commons recently, stated that no construction has been done on the projected spur line at Wallace, N. S., on account of which \$60,000 was voted in the fiscal year 1912-13. There has been expended \$74,568.84 on the construction of a spur line or siding to the brickyard at Pugwash, and the work is not yet completed.

Replying to questions in the House of Commons, Mar. 1, the Minister of Railways stated that the building of a branch railway to Guysboro, N. S., was under consideration. He made a similar reply, Mar. 3, to questions as to the building of a line from Sydney through the Big Pond and East Bay district to St. Peters, N. S. (Mar., pg. 94.)

The Minister of Railways replying to a question in the House of Commons, Mar. 8, said the total expenditure for the calendar year 1914 on the ocean terminals at Halifax, on account of the railway construction account, was \$1,181,355.78. The total expenditure on account of docks and per contract at Halifax was \$285,811.10.

**Kent Coal and Ry. Co.**—Application is being made to the New Brunswick Legislature for the incorporation of a company with this title to build a railway from Rexton to the Intercolonial Ry., between Kent Jct. and Adamsville, thence to Chipman, to Minto, and from Rexton to Richibucto Head, N.B. Inches and Hazen, Fredericton, N.B., solicitors for applicants.

**Montreal and South Western Ry. and Power Co.**—An extension of time has been granted by the Quebec Legislature, for the lines projected to be built by this company, and to be operated by steam, electricity or any other motive power. One line is to start at Adirondack Jct., on the C.P.R., and extend along the St. Lawrence River Valley to the International Boundary, and the other is to start at Adirondack Jct., on the New York Central Rd., and extend to Sunder, Que. (Mar., pg. 94.)

**Northern Pacific and British Columbia Ry.**—The Dominion Parliament is being asked to incorporate a company with this title, having power with the Northern Pacific Ry., to enter into agreements with the Great Northern Ry., and with the Vancouver, Victoria and Eastern Ry. and Navigation Co. for running rights over the latter company's lines between Huntingdon and New Westminster and Vancouver; and to acquire land, and lay out terminals for its own use along the V. V. and E. Ry. The provisional directors are: E. C. Blanchard, General Manager, Northern Pacific Ry., Tacoma, Wash.; G. T. Reid, Assistant to the President, N. P. Ry., Tacoma; A. H. McNeill, Vancouver, B. C. (Feb., pg. 57.)

**Pacific Great Eastern Ry.**—A train service was put in operation on the section of the line from Squamish to Lillooet, 120 miles, Mar. 7. Previously the service had only extended to Anderson Lake, 87 miles. The first train over the line to Lillooet was run Feb. 22, when the Premier of British Columbia and other members of the Legislature were taken for a trip by the contractors. From Squamish there is a gradual ascent to the summit at Alpha Lake, 2,100 ft. above sea level, the maximum gradient being 2.2%, with moderate curvature. Then comes the descent to Pemberton Meadows, which are at an elevation of 700 ft. Tracklaying, it was stated to the party, is expected to be completed to Clinton by the end of the summer, and there is a likelihood of the track being laid southerly from Fort George by the end of the year, and of the whole being ballasted and in operation early in the spring of 1916. (Mar., pg. 95.)



**Pacific, Peace River and Athabasca Ry.**—We are officially advised that, as the result of the reconnaissance survey completed at the end of 1914, it was found that a change would have to be made in the location of the terminals on the Pacific coast, and the Dominion Parliament is being asked to authorize the building of a line from Kitimat Arm to the Naas River, instead of the mouth of the Naas River, as formerly. It was intended to go on with the location surveys this year, but it has not been decided when the work will begin.

The company has acquired the charter of the Naas and Skeena River Ry., which was incorporated by the British Columbia Legislature in 1911, to build from Nasoga Gulf to the Skeena River. In the same year the Dominion Parliament voted a subsidy on the usual terms for the building of a railway from Portland Inlet, to the Skeena River, not to exceed 100 miles.

In connection with the Peace River Tramway and Navigation Co., which is owned by the P., P. R. and A. Ry., we are officially advised that it is expected to build a steamboat at Peace River Crossing, to build a tramway at Vermillion Falls, Alberta, and to drill for oil at the Falls, where discoveries of oil shales were made in 1914. (Mar., pg. 95.)

**Salisbury and Albert Ry.**—A petition has been forwarded to the Department of Railways asking that this railway extending from Salisbury, to Albert, N. B., 45 miles, be taken over by the Government and operated as a part of the Intercolonial Ry. The memorialists also ask in the event of the line being taken over that a diversion be built to run into Moncton, instead of to Salisbury, as at present. (Aug., 1913, pg. 377.)

**Smoky Valley and Peace River Ry.**—The Alberta Legislature is being asked to incorporate a company with this title to build a railway from the Canadian Northern Alberta Ry. near the junction of Solomon Creek with the Athabasca River, northerly and westerly to the junction of Sheep Creek with Smoky River, and continuing northerly to a junction with the Canadian Northern Western Ry. near Dunvegan. Short, Woods, Biggar and Collisson, Edmonton, Alberta, solicitors for applicant.

**Toronto, Hamilton and Buffalo Ry.**—Revised plans prepared by W. F. Tye, M. Can. Soc. C. E., for the depression of the company's tracks in Hamilton, Ont., were deposited with the City Engineer, Mar. 9. The estimated cost of carrying out the revised plans is \$931,100. The engineers interested in the several plans submitted met in Ottawa recently and discussed the merits of the proposals with G. A. Mountain, Chief Engineer, Board of Railway Commissioners. (Mar., pg. 95.)

**Vancouver Terminal Ry.**—The Dominion Parliament is being asked to incorporate a company with this title to lay out railway yards, terminals, with buildings for the storage and handling of traffic, the construction of tunnels, viaducts, bridges, etc.; the building of wharves and docks for the handling of traffic by water; the provision of workshops and plants capable of being used in connection with any of the foregoing; the construction of railways connecting its yards, terminals, wharves, docks, etc., with the lines of any railway now existing or hereafter to be built between Vancouver and New Westminster and the mouth of the Fraser River. The provisional directors are: C. F. Pretty, C. N. Pretty, T. T. Dauphinee, T. R. Pearson, J. B. Noble, Vancouver, B. C.

The Vancouver City Council had the matter before it Mar. 1, when J. R. Noble, on behalf of the company, submitted a plan showing a tunnel from Lulu Island, through

to False Creek, and a line from Lulu Island to New Westminster. The company, it was stated, would work in connection with the Vancouver Harbor and Dock Co., formed three years ago. This company proposed to build extensive docks on Lulu Island jutting out into the Gulf of Georgia. The city council desire to have more definite information and plans before they approve of the proposal, and a motion to oppose it before Parliament was defeated by only a narrow majority. The railway committee of the House of Commons, Mar. 11, threw out the bill.

**Western Dominion Ry.**—When the application for the extension of time for the building of this projected railway, which is projected to run from Calgary, via the Old Man River Valley, Pincher Creek, and Cardston, Alberta, to the International Boundary, was under consideration in the House of Commons, Mar. 1, it was stated that about 30 miles of grading had been completed and that work was at a standstill. The company, it was stated, had not settled for right of way taken, and the company's counsel promised that the amounts due would be paid at an early date. The Minister of Railways said landowners could obtain redress by going before the Board of Railway Commissioners, but he would see that the company paid what was due. (Dec., 1914, pg. 545.)

### Railway Rolling Stock Notes.

The C.P.R., between Feb. 15 and Mar. 15, received two class D4 locomotives from its Angus shops, Montreal.

The G.T.R. has received one dining car and one parlor buffet car from Canadian Car and Foundry Co.

The Alberta and Great Waterways Ry., Winnipeg, has bought two combined passenger and baggage gasoline motor cars, 55 ft. long, 200 horse power, for service in northwestern Alberta, from McKeen Motor Car Co., Omaha, Neb.

The private car Eatonia, owned by J. C. Eaton, President, the T. Eaton Co., Toronto, which was damaged by fire a short time ago, has been repaired by National Steel Car Co., Hamilton, Ont., and is for sale. Mr. Eaton has ordered an all steel private car from Preston Car & Coach Co., Preston, Ont., which will embrace all the latest improvements in its design. Preliminary plans for it have been prepared in the Canadian Northern Ry. Mechanical Department, Toronto.

J. D. McArthur Co., railway contractors, Winnipeg, have ordered 2 ten wheel passenger locomotives with superheaters, from Canadian Locomotive Co. Following are the chief details,—

Weight on drivers .....	102,000 lbs.
Weight, total .....	125,000 lbs.
Wheel base, rigid .....	11 ft. 10 ins.
Wheel base, total engine .....	21 ft. 7 ins.
Wheel base, engine and tender .....	49 ft. 4 1/4 ins.
Heating surface, firebox .....	123.5 sq. ft.
Heating surface tubes .....	1047.5 sq. ft.
Heating surface, arch tubes .....	15 sq. ft.
Heating surface, total .....	1,186 sq. ft.
Driving wheels, diar. ....	63 ins.
Driving wheel centres .....	Cast iron.
Driving journals, diar. and length .....	8 1/2 by 10 ins.
Cylinders, diar. and stroke .....	19 by 26 ins.
Boiler, type .....	Radial stay.
Boiler pressure .....	180 lbs.
Tubes, no. and diar. ....	122—2 ins.; 18—5 3-8 ins.
Tubes, length .....	11 ft. 10 ins.
Injectors .....	Locomotive Type.
Safety valves .....	2—3 in. locomotive pop.
Brakes .....	Westinghouse American.
Packing .....	Metallic.
Superheater .....	Schmidt type A.
Weight of tender loaded .....	116,500 lbs.
Tank, type .....	U type.
Water capacity .....	5,000 imp. gals.
Coal capacity .....	9 tons.
Truck, type .....	4 wheel arch bar.
Truck wheel diar. ....	30 ins.
Wheel, type .....	Steel tired, cast iron centre.
Journal, diar. and length .....	5 by 9 ins.
Brake beam .....	Simplex.

### Railway Finance, Meetings, Etc.

**Canadian Northern Ry.**—The Treasurer of Manitoba in his recent budget speech, stated the amount of securities guaranteed by the Province for the C. N. R. was \$25,221,580.

**Canadian Northern Ry.**—London, Eng., cablegram, Mar. 11:—There have just been listed Canadian Northern Pacific £500,000 fours, guaranteed by the Dominion, and Canadian Northern Pacific £570,000 4 1/2's, guaranteed by British Columbia.

**Fredericton and Grand Lake Coal and Ry. Co.**—There has been deposited with the Secretary of State at Ottawa, copy of lease dated Nov. 4, 1914, made between the company and the C. P. R. under which the company's railway is being operated.

**Grand Trunk Ry.**—A bill is before Parliament authorizing the directors to assist by advances any company, the capital of which is held or controlled in behalf of the G.T.R., and to use for such purposes the proceeds of any class of stock heretofore or hereafter issued, such power to be only exercised upon the passing of a resolution to that effect by the shareholders. W. H. Biggar, Vice President, G.T.R., explained on behalf of the company, that it is easier to dispose of G.T.R. securities than those of subsidiary companies.

**Morrissey, Fernie & Michel Ry.**—At the annual meeting in Toronto, Mar. 12, of this company, which is closely allied with the Crows Nest Pass Coal Co., it was stated that the profits from operation for the calendar year 1914 were \$15,564.47. The profits brought forward to Jan. 1, 1914, were \$27,922.58, making a total at credit of profit and loss of \$43,487.05. The directors for the current year are Elias Rogers, President and Treasurer; E. C. Whitney, Vice President; H. B. McGiverin, C. A. Thompson, and W. H. Robinson. R. M. Young is Secretary and Miss L. M. Kelley, Assistant Secretary.

**Ottawa and New York Ry.**—St. Lawrence and Adirondack Ry.—These two Canadian lines are owned by the New York Central and Hudson River Ry., and give that company's lines access to Ottawa and Montreal, respectively. The two companies are applying to the Dominion Parliament for authority to lease their lines to the N.Y.C. and H.R. Ry. When the bill was before the House of Commons it was decided to limit the period to which the lines could be leased to 10 years, and to compel application to be made to parliament for authority to renew the lease. In the Senate, Mar. 11, it was decided to make the period 21 years, to which the Minister of Railways signified his approval.

**Toronto, Hamilton and Buffalo Ry.**—The bill confirming the agreement for amalgamation between the T. H. and B. Ry. and the Erie and Ontario Ry. was approved by the Railway Committee of the House of Commons, Mar. 11. The committee fixed the bonding powers of the amalgamated company at \$10,000,000 instead of \$15,000,000 as applied for.

**Incline Railway for Banff.**—An order-in-Council was passed at Ottawa, Mar. 3, authorizing the Minister of the Interior to make an agreement with T. R. Deacon, M. Can. Soc. C. E., Winnipeg, granting permission for the construction and operation of an incline railway up the face of Cascade Mountain, Banff, Alberta. We are officially advised that the surveys have not been completed, but it is expected to complete them during the summer and to have the line completed to the top of Cascade Mountain in two years. Electricity will be the motive power, but none of the other details have been settled.



### Grand Trunk Pacific Railway Construction.

The Minister of Railways stated in reply to questions in the House of Commons, Mar. 3, that the following information as to the amount of expenditure charged to the account of the G.T.P.R. since 1911 had been supplied by the company:—Prairie section—1911-12, \$1,051,330.78; 1912-13, \$1,966,847.18; 1913-14, \$1,587,393.98; 1914-15, \$2,244,593.96; total, \$6,850,165.90. Mountain section—1911-12, \$12,275,403.44; 1912-13, \$15,896,403.44; 1913-14, \$23,990,160.84; 1914-15, \$16,726,213.36; total, \$68,888,065.24.

Press reports state that it is expected to inaugurate regular daily service between Winnipeg and Prince Rupert at an early date.

Oil burning locomotives are to be used for the traffic between Edmonton and Prince Rupert, and excavations have been started at Fort George, B.C., for the erection of two 35,000 gall. oil tanks for use in this connection.

The floating dry dock at Prince Rupert is expected to be ready for use in May. The ship repairing plant in connection with the dock is already completed. (Jan., pg. 19.)

### National Transcontinental Railway Construction.

Replying to a question in the House of Commons, Mar. 1, the Minister of Railways said that on June 5, 1914, the Government bought for \$175,000 a piece of line, 5.5 miles long, for use in connection with the N.T.R. This line connected with the N.T.R. only at the east end near Cape Rouge, Que., and in order to facilitate operation an additional Y connection, 2,481 ft. long, is being constructed at the Cape Rouge end. At the west end a connection 2.3 miles long has been built in order to effect connection with the Leonard shops. The east end of the line is in Cape Rouge parish and the west in St. Malo parish. On Mar. 3 another question elicited from the Minister the fact that \$11,000 is being expended upon repairing the line purchased.

The Minister of Railways informed the House of Commons, Mar. 3, that work had been started on the N.T.R. terminals in the city of Quebec. There had been expended by the commission \$372,514.86 for lands, and by the C.P.R. \$154,293.83 on tracks and buildings.

The Minister of Railways, replying to questions in the House of Commons recently, said the expenditure on the Quebec bridge since Mar. 12, 1912, had been:—1912-13, \$1,512,825.96; 1913-14, \$2,604,105.61; and to Jan. 31, 1915, \$2,964,911.40. Total, \$7,081,842.97.

In reply to questions in the Senate, Mar. 2, Senator Loughheed stated the N.T.R. was operated from Dec. 1, 1913, to May 1, 1914, from Hervey Jct., mileage 72 west of Quebec, to the divisional point at Parent, mileage 245 west of Quebec; and during this winter it is being operated from Cochrane, Ont., east to Peter Brown Creek, 143 miles. These are the mileages between Quebec and Cochrane, which have been operated.

In the Senate, Mar. 11, on a motion for the submission to Parliament of copies of all petitions for traffic on the N.T.R. between Abitibi and Hervey Jct., Senator Loughheed stated that the contractors for the building of the line between these points were operating a bi-weekly service for which they were receiving \$12,000 from the Government. The contractors had pointed out that no revenue was being made from this operation. The Minister of Railways made a personal investigation of the situation in the

late autumn. The line was being operated also between Hearst and Amos, 270 miles west of Cochrane. As to further operation it will be necessary almost immediately for the Government to operate in a limited way the entire system for the purpose of maintenance. Whatever difficulties settlers along the line might experience at present, there was a possibility of these being overcome at a very early date, as the line would have to be operated to prevent the decay into which it would necessarily fall except it becomes a going concern. He continued:—"Immediately the contractors completed their contracts between Quebec and Cochrane the Government took the necessary steps to notify the Grand Trunk Pacific of the completion of the road and of the necessity of their carrying out or fulfilling the obligations which fall upon them under the contract between the Crown and the company. The company has not responded with that alacrity which the Government would very much like to see. They have not pointed out wherein the road is incomplete in any particular respect, but they rely upon a general objection, which is a very favorite objection, in special pleading. What the result of this may be I cannot say. The probabilities are that negotiations between the G.T.P. and the Government may be extended over some period of time, but in the meantime the perplexities which must necessarily attend the handling of so important a matter will be thrown upon the shoulders of the Government." (Mar., pg. 102.)

Senator Loughheed stated in the Senate, Mar. 12, that the G.T. Pacific Ry. had filed "omnibus objections" to the taking over of the line from Moncton, N.B., to Winnipeg, in respect to which there would have to be negotiations between the company and the Government. Under the terms of the agreement entered into in 1903, the G.T. Pacific Ry. Co. undertook to take over the line when completed, on lease for 50 years at a rental of 3% upon the total cost, after the first seven years.

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

#### Interswitching at Arnprior.

23250. Feb. 1. Re application of Gillies Bros., Ltd., of Braeside, Ont., and G. R. Baker, of Arnprior, Ont., under sec. 228 of the Railway Act, for an order requiring the construction of interchange tracks, for the purpose of interchanging cars between the C.P.R. and the G.T.R. at Arnprior, it is ordered that C.P.R. and G.T.R. tracks at Arnprior be so connected as to provide for the reasonable receiving, forwarding, delivering, and the interswitching of traffic between their respective railways, as shown on the plan filed by the applicants with the Board, and that if the C.P.R. and G.T.R. do not agree, within 15 days from the date of this order, to accept the said plan, the G.T.R. thereafter submit a plan to the C.P.R., and if an agreement is not arrived at within 15 days from the submission of such plan by the G.T.R., any points of disagreement existing between the parties be settled by an engineer of the board; the plan, in either event, to be approved by the board. That the necessary materials be supplied and the work of construction done by the G.T.R. That the cost of constructing the interchange track be paid one half by the G.T.R. and one half by Gillies Bros., Ltd.; the payment of Gillies Bros., Ltd., of their portion of the cost to be paid by them on completion of the work and upon an account rendered to them by the G.T.R. That the cost of maintenance, and the cost of protection, if any, as may be ordered by the

board in respect of any portion of the said interchange track, be borne by the G.T.R. That the work herein required to be done be commenced by May 1, 1915, and completed within 30 days thereafter.

#### Suspension of Maine Central Rd. Tariffs.

23272. Feb. 10. Re order 23232, Feb. 2, suspending certain tariffs filed by the Boston & Maine and the Maine Central Railroads until further order. Upon its appearing that the Maine Central tariff, C.R.C. no. C. 832 is not one of the tariffs providing for a general increase of 5% in the rates between the company's stations in Canada to which the order was intended to apply; it is ordered that order 23232 be rescinded in so far as it relates to the said Maine Central tariff, effective Feb. 15, 1915.

#### Coal Rates to Newboro, Ont.

23375. Feb. 26.—Re the complaint of W. S. Bilton, of Newboro, Ont., complaining of excessive freight charges on coal shipped from Ogdensburg, N.Y., to Newboro, via ferry at Prescott, it is ordered that the G.T.R. and the Canadian Northern Ry. be jointly directed to file a tariff of joint rates to apply on coal in carloads of a minimum weight of 15 gross tons, shipped from Prescott to all points on that portion of the C.N.R. line formerly known as the Brockville, Westport and Northwestern Ry., via Lynn; the G.T.R.'s proportion of the joint rates to be 56 cts. per gross ton, including switching from the Ogdensburg ferry dock; and the C.N.R.'s proportion thereof to be less than its local mileage rates on coal by amounts corresponding to the reduction made by the G.T.R. from its local mileage rate, having regard to the mileage in each case.

#### Rates on Newsprint to West of Fort William.

General order 135. Mar. 22.—Re complaint of the Middle West Federated Boards of Trade, on behalf of the Sun Publishing Co., of Brandon, Man., complaining that the rates charged by the C.P.R. on newsprint paper from Ottawa and other eastern shipping points to Brandon, as compared with the rates charged to Winnipeg, unjustly discriminate in favor of Winnipeg and against Brandon, it is ordered that the through rates of freight on newsprint paper, in carloads of 40,000 lbs. minimum weight, from the points of shipment thereof, by the all-rail route, to the Canadian points of consumption west of Fort William, be made by the addition to the 5th class published tariff rates from Port Arthur and Fort William of the following special arbitraries, per 100 lbs., for the purposes of this order, viz.:—from Sault Ste. Marie, Espanola, and Sturgeon Falls, Ont., 15 cts.; from Merriton and Ottawa, Ont.; Hull, Windsor Mills, Shawinigan Falls, and Grand Mere, Que., 25 cts. That other points of shipment of newsprint paper east of Sault Ste. Marie (if any) be added to those named above at through rates appropriate to these herein prescribed. That the said through rates take effect not later than April 15.

#### American Railway Engineering Association.

—At the annual convention in Chicago in March the following officers were elected:—President, R. Trimble, Chief Engineer, Maintenance of Way, Pennsylvania Lines West, Northwest System, Pittsburg, Pa.; Vice President, J. G. Sullivan, Chief Engineer, Western Lines, C.P.R., Winnipeg; Treasurer, G. H. Bremner, Assistant District Engineer, Interstate Commerce Commission, Chicago; Secretary, E. H. Fritch, Directors for three years each:—H. R. Safford, Chief Engineer, G.T.R.; A. N. Talbot, Professor of Municipal and Sanitary Engineering, University of Illinois; and C. W. F. Felt, Chief Engineer, Atchison, Topeka and Santa Fe System.



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**PRINCIPAL CONTENTS.**

Appointments, Transportation .....	142
Birthdays of Transportation Men .....	122
Board of Railway Commissioners—	
Orders by, Summaries of .....	126
Traffic Orders .....	138
Canadian Northern Ry. Construction .....	125
Canadian Pacific Ry. Construction .....	135
Electric Railway Department .....	143 to 150
Calgary Municipal Ry. .....	150
Dominion Power and Transmission Co.'s Yard Cranes .....	148
Hydro Electric Railway Association of Ontario .....	143
Ontario .....	150
Itinerary Service, Progress of .....	144
London and Port Stanley Ry. Electric Locomotives .....	144
Montreal Tramways Co.'s Stores Card .....	147
Projects, Construction, Etc. .....	146
Toronto and Privy Council Judgments .....	149
Toronto Ry. Cross Seated Cars .....	146
Winnipeg Electric Ry. Report .....	138
Grand Trunk Pacific Ry. Construction .....	134
Grand Trunk Ry. Betterments .....	121
General Inspection Car .....	130
Suburban Type Locomotives .....	135
Great Northern Ry. Lines in Canada .....	140
Mainly About Railway People .....	158
Marine Department .....	151 to 158
C.P.R. Ocean Services .....	153
Coast, Lake and River Officers for 1915 .....	151
Grain in Store at Terminal Elevators .....	158
Head of the Lakes Shipping Letter .....	155
Lake Vessel Chartering .....	154
Shipping Federation of Canada .....	153
National Transcontinental Ry. Construction Railway Construction Corps for Overseas Service .....	138
Railway Construction in Alberta .....	129
Railway Development .....	136
Railway Earnings .....	132
Railway Finance, Meetings, Etc. .....	137
Railway Mechanical Methods and Devices .....	123
Railway Standards, Development and Effect of .....	119
Railway Statistics .....	131
Railway Rolling Stock Notes .....	137
Timiskaming and Northern Ontario Ry. ....	133
Victoria Rolling Stock and Realty Co. ....	135

**Train Accident Caused by the Sliding of  
an Earth Fill.**

The sliding of an earth fill under a moving railway train is one of the rarest of the causes of railway accidents. Such an accident is recorded, however, in an accident bulletin of the Interstate Commerce Commission. It occurred May 27, 1914, near West Point, Tex., on the Missouri, Kansas & Texas Ry. The fill was made in a ravine at the base of a hill and was composed largely of a soapstone formation, which when wet had little holding qualities. Apparently no outlet was left through the fill for water draining from the hills behind, and a pool was formed back of the fill about 7½ ft. deep and 75 ft. long. During the three months preceding the accident, Weather Bureau records show that nearly 25 in. of rain had fallen. The track on the fill was on a 4 degree curve, and the train which was passing over the fill when the slide occurred was a slow freight running only 5 to 10 miles an hour. The locomotive and first four cars were derailed and the locomotiveman and fireman were crushed under the overturned locomotive. The roadmaster, trainmaster, and district engineer agree that the fill had become soft from the continued rains. While the embankment slipped under a slow freight train, it is stated that a passenger train running 20 to 25 miles an hour had passed over the track only 40 minutes earlier.

**Coal Importation for Intercolonial Ry.—** Senator Loughheed, replying to questions in the Senate, Mar. 10, said coal had been purchased in the U.S. for use on the Intercolonial Ry. as follows:—1900-01, 14,300 gross tons, at \$3.75, f.o.b. Montreal; 27,646 gross tons, at \$5.30, f.o.b. St. John; 3,977 gross tons at \$3.93, f.o.b. St. John; 14,600 gross tons at \$4.20, f.o.b. St. John, all duty free; total, 61,079 gross tons. The reason for these purchases was apprehension on the part of the management that friction between certain miners and coal operators would lead to cessation of work. In 1908-09 36,059 gross tons were bought at \$4.95, f.o.b. St. Hyacinthe, duty paid. The reason for this purchase was the strike at Springhill collieries and the inability of other collieries to make up shortage. In 1913-14 15,331 net tons were bought at \$4.10, f.o.b. Ste. Rosalie, duty paid. The reason for this purchase was that there was a greater consumption of coal than was anticipated, which could not be met from the usual sources of supply.

**Algoma Central Railway Receivership.—** By an order of the Exchequer Court, dated Feb. 20, the Algoma Central and Hudson Bay Ry. Co. has been placed in the hands of two receivers, T. J. Kennedy, President and General Manager of the company, and Vivian Harcourt, who is a partner in the accounting firm of Deloitte, Plender, Griffiths and Co., of London, Eng., and Montreal. The receivers will have their headquarters at Sault Ste. Marie. We are advised that no changes are contemplated at present in the officials of the railway in consequence of the receivership. The Algoma Central Terminals, Ltd., the Algoma Eastern Ry. Co., and the Algoma Eastern Terminals, Ltd., are not included in the receivership.

**Paul Seurot, M. Can. Soc. C.E.,** Chief Engineer for Jacobs & Davies, Inc., Montreal, has been awarded the Canadian Society of Civil Engineers' Gzowski medal, for the best paper for the year 1914.

**White Pass and Yukon Route.—**Gross earnings for January, \$6,275, against \$13,611 for January, 1914.

**Manufacture of High Explosive Shells  
in Toronto.**

A contract for 100,000 eighteen pound high explosive shells for the British Government has been given to the Universal Tool Steel Co., Ltd., in which Sir Wm. Mackenzie and Sir Donald Mann are shareholders. The company has acquired temporarily a vacant factory at 133 Dufferin St., Toronto, which is being fitted up preparatory to the installation of the machine tool equipment, which will consist of 24 new automatic turret lathes, nine or ten 18 to 20 in. engine lathes, and about 12 odd tools such as drills, millers, etc., for the auxiliary work. Most of this equipment, with the exception of the new turret lathes, is being secured from the various Canadian Northern Ry. shops throughout the country, whatever machines it is possible to spare being used. The capacity of the plant is expected to be about 800 shells a day.

S. J. Hungerford, Superintendent of Rolling Stock, C.N.R., is organizing the plant and supervising the installation of the equipment. D. M. Galloway, General Foreman, C.N.R. Locomotive Shops, Winnipeg, is acting Superintendent, and A. Hopkirk, Shop Engineer, C.N.R. Locomotive Shops, Winnipeg, is Shop Engineer.

**Smokeless firing of locomotives** is impossible unless they are correctly designed, with not less than 90% ashpan openings, and 46% openings in the grate.

**Furnaces for treating high speed steel** should be so constructed that the oxygen of the air from the blast and fuel opening will not attack the metal, as this will result in scale, blisters, uneven heating, cracking in hardening and general bad results.

**Shell Orders From Russia.—**Press reports state that W. W. Butler, Vice President, Canadian Car and Foundry Co., Montreal, who has been in Petrograd for some time, has secured orders from the Russian Government for shells to the value of approximately \$80,000,000; that as many of these as possible will be made at the company's plants at Turcot and Dominion, near Montreal and Amherst, N.S.; and that subcontracts for the balance will be let both in Canada and in the U.S.

**Taxation of Railways in British Columbia.—**The B.C. Legislature has under consideration an amendment to the Municipal Clauses Act, as it affects the taxation of railways. It is proposed to fix the basis of assessment at \$10,000 a mile, the same as is fixed for provincial purposes. Other amendments are for the purpose of settling difficulties that have arisen owing to the contention of the electric railways that they do not own the streets on which their tracks are laid, and that the tracks are in the nature of street improvements.

The Mackay Companies' report for 1914 shows assets consisting of investments in other companies of \$91,996,160, and cash \$598,959. The liabilities consist of \$50,000,000 preferred stock and \$41,380,400 common stock, leaving a surplus of \$1,205,719. The income from investments is \$4,264,014, an increase of \$62,000. It was reported that business depression both before and since the outbreak of war, had affected the returns in the U.S., and rigid economies in regard to operating expense are being insisted on. The contract with the C.P.R., which has been renewed, is entirely different from the usual railway telegraph contract in the States, providing for an interchange of telegraph business, the same as between two telegraph companies, and it does not burden the telegraph company with deadhead railway telegrams. The directors were reelected.



## Mainly About Railway People.

**R. Bryant**, a former inspector of bridges for the G.T.R., died at Brockville, Ont., Mar. 9, aged 75.

**Geo. H. Ham**, of the C.P.R. head office staff, returned to Montreal, Mar. 18, after spending a few weeks holiday in Florida.

**Morley Donaldson**, Vice President and General Manager, Grand Trunk Pacific Ry., returned to Winnipeg early in March, after spending a short holiday in California.

**T. H. White**, Chief Engineer, Canadian Northern Pacific Ry., Vancouver, B.C., visited the company's head offices in Toronto at the end of March.

Miss **Helen McNicoll**, daughter of **D. McNicoll**, formerly Vice President, C.P.R., Montreal, has had two pictures accepted by the Royal Society of British Artists.

**J. J. Carter**, a brakeman on the C.P.R., has been awarded the Albert medal of the second class by the King for saving life at Tweed, Ont., last year.

**M. H. MacLeod**, General Manager and Chief Engineer, Canadian Northern Ry., Winnipeg, is spending a few weeks in California.

**J. G. Sullivan**, Chief Engineer, Western Lines, C.P.R., Winnipeg, has been elected Second Vice President, American Railway Engineering Association.

**Grant Hall**, Vice President and General Manager, Western Lines, C.P.R., made his first trip of inspection in that capacity over the lines from Winnipeg to Port Arthur, Ont., recently.

**Jas. Lyman**, formerly of Kingston, Ont., and also formerly Freight Agent for Detroit and Milwaukee Rd., at Linden, Mich., died at his home in Manchester, N.Y., Mar. 20, aged 91.

**Mrs. F. L. Wanklyn**, wife of the General Executive Assistant, C.P.R., Montreal, is making an active canvass in the interest of the corps for contributions for mufflers, mitts and heavy socks.

**Sir Thos and Lady Tait** and Miss Tait, who have been spending part of the winter in Cuba, Florida and South Carolina, expect to spend April at Hot Springs, Va., and to return to Canada early in May.

**H. Rindal**, Division Engineer, C.P.R., Vancouver, B.C., read a paper on the C.P.R. Vancouver terminal before the Canadian Society of Civil Engineers, Vancouver branch, Mar. 4.

**Sydney E. Junkins**, who retired from the Vice Presidency of Westinghouse, Church, Kerr and Co., New York, in November last, is practising as a consulting engineer in New York and has spent a portion of the winter in California.

**Lieutenant Jas. O'Reilly**, chief clerk, Sleeping, Dining and Parlor Cars and News Department, C.P.R., Winnipeg, was presented with a silver flask recently by the local staff, on his leaving for active service with the Army Service Corps.

**H. McCall**, Superintendent, G.T. Pacific Ry., Melville, Sask., was entertained to dinner at Edmonton, Alta., at the end of February, by the local staff, on the occasion of his removal from that district to Melville.

**Henry Yates**, formerly chief checker, G. T. R. freight sheds, London, Ont., and father of G. W. Yates, Minister's Secretary, Railways and Canals Department, Ottawa, died at London, Mar. 7, aged 67. He was placed on the pension fund about two years ago.

**Mrs. H. E. Whittenberger**, wife of the General Superintendent, Ontario Lines, G. T.R., Toronto, has received an acknowledgment of a shipment of shirts, sweaters, socks and mufflers, for soldiers of the second Canadian contingent, which was con-

tributed by wives of G.T.R. officials in Toronto and district.

**A. G. Clark**, accountant, C.P.R., Vienna, Austria, who, with others of the staff there, was held as a prisoner on the outbreak of war, has been released, and has returned to England with his wife and family. Three members of the Vienna staff are still held prisoners.

The engagement is announced of Miss **Isabel Piers**, daughter of **Arthur Piers**, of Liverpool, Eng., formerly Manager, Steamship Department, C.P.R., to **Capt. G. S. Carne, J.P.**, of the Glamorgan Yeomanry, eldest son of the late J. D. Carne, of Nash Manor, Cowbridge.

**Sir Frederick Harrison**, latterly a director and formerly General Manager of the London & North-Western Ry. and since 1909 Deputy Chairman of the South Eastern Ry. and a member of the South Eastern & Chatham Ry., managing committee, died in England recently.

**J. S. Morrison**, of Edinburgh, Scotland, who is reported to have been awarded the distinguished conduct medal for service as a dispatch rider in France and Belgium, is a nephew of **J. W. Stewart**, of Foley, Welch and Stewart, railway contractors, Vancouver, B.C.

**J. R. Grant**, M. Can. Soc. C.E., who has been Secretary-Treasurer of the Vancouver

In affectionate remembrance of  
**SIR WILLIAM WHYTE,**

who died at San Diego, California,  
April 14, 1914,

Deeply regretted by the thousands  
who had the privilege of know-  
ing him.

Branch of the Canadian Society of Civil Engineers, was entertained to dinner at Vancouver, recently, by a number of local engineers, on his departure for England, where he is joining the Royal Engineers for service during the war.

**W. R. Smith**, Chief Engineer, Edmonton, Dunvegan and British Columbia Ry., Alberta and Great Waterways Ry., and Central Canada Ry., gave an address, Mar. 10, before the Industrial Association at Edmonton, Alberta, upon the industrial and trading possibilities of the country to be opened up by these railways.

**George W. McMullen**, of Picton, Ont., who was best known as an inventor, died of heart disease on a train between Chicago and Evanston, Ill., Mar. 23. He was one of the original promoters of the Central Ontario Ry. Of late he has been principally engaged in developing a patent for the preservation of railway ties by a drying process.

**George Paton**, who has been appointed agent, C.P.R. Telegraphs, Toronto, was born at Toronto, Mar. 13, 1882, and entered telegraph service, Mar. 26, 1900, since when he has been, to May 31, 1910, clerk, Audit Department, Great North Western Telegraph Co., Toronto; June 1, 1910, to Oct. 1, 1912, accountant, C.P.R. Telegraphs, Toronto; Oct. 1, 1912, to Mar. 20, 1915, assistant agent, C.P.R. Telegraphs, Toronto.

**William Henry Maund**, who has been appointed Secretary-Treasurer, Timiskaming and Northern Ontario Ry. Commission, Toronto, was born at Kingston, Ont., Nov. 20,

1884, and entered railway service July, 1899, since when he has been, to Sept., 1907, messenger, billing clerk, cashier and ticket agent, consecutively, Kingston and Pembroke Ry., Kingston, Ont.; Oct., 1907, to Mar., 1915, clerk, agent and Travelling Auditor, consecutively, Timiskaming and Northern Ontario Ry., at various points, latterly at North Bay, Ont.

**Frank L. Hutchinson**, whose appointment as Manager in Chief of Hotels, C.P.R., Montreal, was announced in our last issue, was born at London, Ont., Aug. 10, 1869, and first entered C.P.R. service in 1908, since when he has been, to 1910, Manager, Chateau Frontenac, Quebec, Que.; 1911, Assistant to Manager in Chief of Hotels, C.P.R.; 1912 to 1913, Superintendent of Hotels in Alberta and British Columbia, C.P.R.; Aug., 1913 to Mar., 1915, Manager, Windsor Hotel, Montreal. Prior to entering the C.P.R. service, he was for 4 years a member of the Montreal Stock Exchange, and for 13 years prior to that was with the Bank of Montreal.

**Thomas Webb Nash**, who died in the General Hospital, Kingston, Ont., Mar. 24, was born in 1827, and entered railway service in 1849, since when he had been, to 1850, chain man, Boston, Ogdensburg and Lake Huron Ry.; 1850 to 1851, explorer and surveyor, Belleville and Peterboro Rd.; 1852 to 1858, draughtsman, G.T.R.; 1858 to 1864, on special surveys, G.T.R.; 1866 to 1867, engineer, Kingston Penitentiary Ry.; 1867 to 1871, Chief Engineer preliminary surveys, Kingston and Frontenac, Kingston and Madoc, and Kingston and Napanee Rys.; 1871 to 1876, Chief Engineer, Kingston and Pembroke Ry.; 1876, Engineer, Kingston loop line, G.T.R.; 1876 to 1885, Chief Engineer, and from that year to the taking over of the line by the C.P.R., also Secretary and Treasurer, Kingston and Pembroke Ry., Kingston, Ont.

**C. W. P. Ramsey**, Engineer of Construction, C.P.R., Montreal, who has been granted extended leave of absence to take command of the Canadian overseas railway construction corps, was born at Bury, Que., Jan. 15, 1883. He entered C.P.R. service as apprentice in Mechanical Department at Delorimier Avenue shops in 1898 and served in various minor capacities until Sept. 19, 1903, when he was transferred to the construction department at Montreal, passing through the various grades of draughtsman, transitman, Assistant Engineer and Division Engineer. On Mar. 15, 1912, he was appointed Engineer of Construction, Eastern Lines, holding that position until Feb. 25, 1915, when granted leave of absence as above stated. He was closely identified with the construction of several of the company's lines, notably the Lindsay, Bobcaygeon and Pontypool Ry., the Toronto-Sudbury branch, and the Campbellford, Lake Ontario and Western Ry., as well as the double tracking of a large portion of the eastern lines.

**C. T. Delamere**, who has been appointed acting Engineer of Construction, C.P.R., Montreal, was born at Brainerd, Minn., Mar. 18, 1881, and graduated C.E., from the University of Minnesota in 1902. He entered railway service in July, 1902, since when he has been, to May, 1903, instrument man, Northern Pacific Ry., Duluth, Minn.; May, 1903, to June, 1905, Resident Engineer, same road, Jamestown, N.D.; June, 1905, to Nov., 1906, Roadmaster, same road, Jamestown, N.D.; Nov., 1906, to Apr., 1908, Assistant Engineer, same road, Valley City, N.D.; Apr., 1908, to June, 1910, Division Engineer, same road, Missoula, Mont.; June, 1910, to July, 1911, in private practice; July to Sept., 1911, Resident Engineer, Canadian Northern Ontario Ry., Nipigon, Ont.; Sept., 1911, to June, 1912, Division Engineer, same road, Nipigon, Ont.; June, 1912, to Aug., 1913,



Assistant District Engineer, same road, Port Arthur, Ont.; Aug., 1913, to Nov., 1915, Assistant Engineer of Construction, C.P.R., Montreal.

**A. J. McGee**, Secretary-Treasurer, Timiskaming and Northern Ry. Commission, Toronto, died there, Mar. 1, from pneumonia. He was born at Lachine, Que., Jan. 24, 1876, and was for some time in Canada Atlantic Ry. service in the Audit Department, where he was Auditor of Passenger Traffic. He was appointed Secretary-Treasurer of the T. & N.O.R. Commission in 1905. At a meeting of the Commission, Mar. 4, the following resolution was passed:—"The Commission of the Timiskaming and Northern Ontario Ry., with deepest sorrow and sincere regrets, are called upon to chronicle the untimely death of their friend, the Secretary and Treasurer of the Commission, Alfred John McGee. For ten years the late Secretary has been in charge of the responsible duties of Secretary and Treasurer of the Commission, and has acquitted himself, not alone as a good, loyal, conscientious servant, but at all times with the paramount thought how best to serve the interests of the Commission, the Province, and the public utilities that were within his charge."

**Walter Burdett Pratt**, whose appointment as General Superintendent, Sleeping and Dining Cars and Hotels, Canadian Northern Ry., was announced in our last issue, was born at Sibbertoft, Northamptonshire, England, Jan. 18, 1870, and entered railway service in Aug., 1883, since when he has been, to Oct., 1886, office boy in Audit Office, C.P.R., Winnipeg; Nov., 1886, to Apr., 1889, chief clerk, Purchasing Department, C.P.R., Winnipeg; May, 1889, to Sept., 1890, on construction work, C.P.R., Winnipeg; Oct. to Dec. 1890, temporary cashier, Treasurer's Office, C.P.R., Winnipeg; Dec., 1890, to Nov., 1894, accountant, Sleeping and Dining Car Department, C.P.R., Winnipeg; Dec., 1894, to Sept., 1898, Agent, same department, Winnipeg; Oct., 1898, to Mar., 1903, Assistant Superintendent, Sleeping and Dining Cars and Hotels, Western Lines, C.P.R., Winnipeg; May, 1903, to Feb., 1911, Superintendent, Sleeping and Dining Cars and News Service, Canadian Northern Ry., Winnipeg; Mar., 1911, to Jan. 31, 1915, Superintendent, Sleeping and Dining Cars, Hotels and News Service, C.N.R., Winnipeg. His office is at Winnipeg for the present, but it will probably be removed to Toronto in the near future.

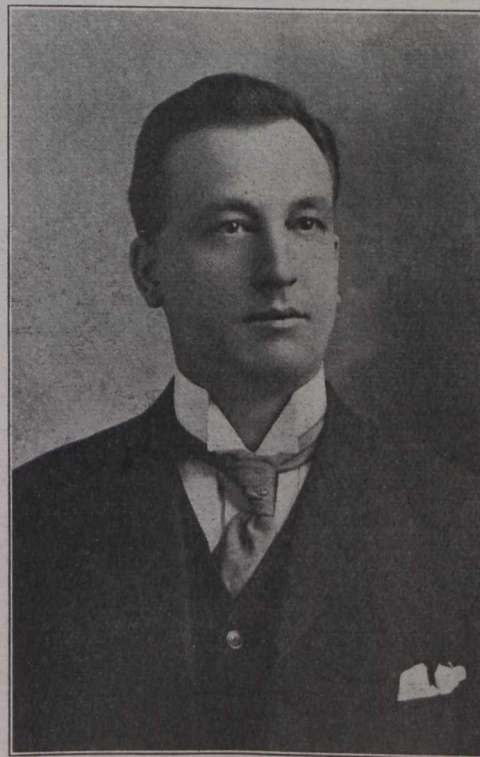
**Alphonse Dion**, whose appointment as Assistant Superintendent, National Transcontinental Ry., Monk, Que., was announced in our last issue, was born at Montmagny, Que., Dec. 18, 1857, and entered railway service in Sept. 1874, since when he has been, to June 1876, telegraph operator and relief agent, G.T.R., Warwick, Danville and Riviere du Loup, Que.; June 1876 to Sept. 1878, telegraph operator and train baggage man, Intercolonial Ry., Riviere du Loup, Que., and Moncton, N.B.; Sept. 1878 to Apr. 1879, telegraph operator, Dominion Telegraph Co., Quebec, Que., and St. John, N.B.; Apr. 1879, to Dec. 1883, dispatcher, Quebec, Montreal, Ottawa and Occidental Ry., now part of the C.P.R., Three Rivers and Hochelaga, Que.; Dec. 1883, to July 1884, Agent, C.P.R., St. Martins Jct., Que.; July 1884 to Oct. 1885, dispatcher, C.P.R., Ottawa, Ont.; Oct. 1885 to Sept. 1897, agent, C.P.R., St. Martins Jct., Que.; Sept. 1897 to Aug. 1900, dispatcher, C.P.R., Ottawa and Montreal; Aug. 1900 to Sept. 1901, Chief Dispatcher and Trainmaster, Great Northern Ry. of Canada and Quebec and Lake St. John Ry., Quebec and Grand Mere, Que.; Sept. 1901 to Feb. 1915, dispatcher, Intercolonial Ry., Riviere du Loup, Que.

**Allan Purvis**, who has been appointed Superintendent, District 2, Ontario Division,

C.P.R., London, was born at Batavia, Java, June 29, 1878, and educated at the Merchant Taylor's School, Liverpool, Eng. He entered C.P.R. service at an early age, and was from Aug., 1890, to Feb., 1891, messenger,



**F. L. Hutchinson.**  
Manager in Chief of Hotels, Canadian Pacific Railway.



**W. Pratt, Jr.,**  
General Superintendent, Sleeping, Dining, Parlor Cars and Hotels, Canadian Northern Railway.

Stores Department; Feb. to Nov., 1891, storesman; Nov., 1891, to Sept., 1892, junior clerk, Vancouver, B.C.; Sept., 1892, to Aug., 1893, timekeeper, Donald, B.C.; Aug., 1893, to Oct., 1894, clerk, Vancouver, B.C.; Oct., 1894, to Mar., 1895, assistant storekeeper,

North Bend and Kamloops, B.C.; Mar., 1895, to Sept., 1896, clerk and operator, Car Service and Fuel Department, Vancouver, B.C.; Sept., 1896, to Jan., 1899, chief clerk, Fuel Department, Vancouver; Jan., 1899, to Feb., 1903, chief clerk to General Superintendent, Vancouver; Feb. to Nov., 1903, Superintendent, District 4, Central Division, Souris, Man.; Nov., 1903 to Oct., 1909, Superintendent, District 3, Pacific Division, Nelson, B.C.; Oct., 1909, to Oct., 1911, Local Manager, Fraser Valley Branch, British Columbia Electric Ry., Vancouver; May, 1912, to Feb., 1915, Manager of Interurban Lines, same company, New Westminster, B.C.

**C. J. Smith**, who has been appointed Manager and Secretary, Montreal Warehousing Co., Montreal, was born at Hamilton, Ont., Mar. 10, 1862, and entered transportation service in 1879, since when he has been, to 1880, clerk in local freight office, Hamilton and Northwestern Ry., Hamilton, Ont.; 1880 to 1882, in Auditing and Purchasing Department, Chicago and Alton Rd.; 1882 to May, 1885, in Construction Department, C.P.R.; June, 1885, to 1886, in Traffic Department, New York, Lake Erie and Western Rd.; 1886 to 1888, chief clerk to General Manager, Chicago and Atlantic Ry.; Jan. to July, 1888, in Traffic Department, Minneapolis, St. Paul and Sault Ste. Marie Ry.; July, 1888, to Jan., 1890, in Traffic Department, St. Paul, Minneapolis and Manitoba Ry.; Jan., 1890, to Mar., 1898, General Freight and Passenger Agent, Canada Atlantic Ry.; Apr., 1898, to Mar., 1904, General Traffic Manager, Canada Atlantic Ry. and Canada Atlantic Transit Co., Ottawa, Ont.; Mar., 1904, to Mar., 1913, General Manager, Richelieu and Ontario Navigation Co., Montreal. In Apr., 1913, he was appointed Vice President and General Manager of the North Ry. Co., formed to build a railway from Montreal to James Bay, and to operate steamships from the latter place.

**Lacey R. Johnson**, M. Can. Soc. C.E., who has been appointed General Welfare Agent, C.P.R., Montreal, was born at Abingdon, Berks, England, June 22, 1855. He entered railway service as an apprentice at the Great Western Ry. works at Swindon, Wilts., June 1, 1870, and was a mechanic and Foreman of Mechanics at Woolwich Arsenal, Jan. to Aug., 1876, and fitter and erector, Sept., 1876, to Nov., 1878; Manager, Davis and Sons' engineering works, London and Abingdon, Nov., 1878, to Aug., 1879. In Sept., 1879, he went to India as draughtsman on the Scinde, Punjaub and Delhi Ry., and was subsequently foreman of machine and erecting shops there. He left India on account of health in Mar. 1882, and entered G.T.R. service at Montreal as draughtsman, June, 1882, and joined the C.P.R., Nov., 1882, since when he has been, to Nov., 1885, General Foreman, Carleton Jct., Ont.; Nov., 1885, to May, 1886, Assistant Master Mechanic, Eastern Division, Chapleau, Ont.; May, 1886, to Apr., 1901, Master Mechanic, Pacific Division, Vancouver, B.C.; and from the commencement of the Transpacific service his jurisdiction was extended over the engineering department of the vessels, during which time he spent three winters in Hong Kong, China, superintending alterations and repairs to the company's vessels; Apr. to Sept., 1901, on the purchase of the Canadian Pacific Navigation Co. by the C.P.R., he was Superintending Engineer of the combined fleets, which position was severed from the locomotive and car department; Sept. 1, 1901, to July 1, 1912, Assistant Superintendent of Motive Power, C.P.R., Montreal; July 1, 1912, to Mar., 1915, General Superintendent, Angus Shops District, C.P.R., Montreal. He is Lieutenant-Colonel, Commanding the Montreal Heavy Brigade of Artillery.



## Transportation Appointments Throughout Canada.

**Canadian Northern Ry.**—E. G. THEOBALD, heretofore auxiliary foreman, has been appointed Car Foreman, Joliette, Que., vice J. Hodgson, transferred to Montreal.

J. HODGSON, heretofore Car Foreman, Joliette, Que., has been appointed Car Foreman, Montreal, vice R. Moore, assigned to other duties.

A. A. TAGGART, heretofore Locomotive Foreman, Brockville, Westport and Northwestern Ry., Brockville, Ont., has been appointed Locomotive Foreman, C.N.R., there.

S. J. HUNGERFORD, Superintendent Rolling Stock, Winnipeg, who is at present organizing the Universal Tool Steel Co.'s plant at Toronto, as mentioned elsewhere in this issue, is handling his department from his temporary office at 133 Dufferin St., Toronto.

A. H. EAGER, Superintendent of Shops, Winnipeg, is in charge of the Winnipeg office during Mr. Hungerford's absence.

A. HOPKIRK, Shop Engineer, Locomotive Shops, C.N.R., Winnipeg, is in Toronto for a time acting as Shop Engineer, Universal Tool Steel Co.

J. STINSON, heretofore Roadmaster, Brockville, Westport and Northwestern Ry., Brockville, Ont., has been appointed section foreman, C.N.R., North Bay, Ont.

L. WEDGE is acting General Foreman of Locomotive Shops, Winnipeg, during the absence of D. M. Galloway, who is acting Superintendent, Universal Tool Steel Co., Toronto.

**Canadian Pacific Ry.**—The President, Sir Thos. Shaughnessy, has issued the following circular: "In view of the benefits derived from certain voluntary agencies, such as the St. John Ambulance Association, the safety first movement, the Railroad Y.M.C.A., and athletic associations, I have decided to appoint an officer to co-operate in the development of such organizations amongst the employes of the C.P.R., with the title of General Welfare Agent. Lieut.-Col. LACEY R. JOHNSON, heretofore General Superintendent of Angus Shops District, who since he joined the service in 1882 has been actively identified with the general uplift of ideals and service among the railroad employes, will assume that office."

The position of General Superintendent, Angus Shops District, has been abolished.

JOHN McMILLAN, heretofore General Superintendent of Telegraphs, Western Lines, Winnipeg, has been appointed Manager of Telegraphs, Office, Montreal. In the circular announcing this, George Bury, Vice President, says: "James Kent, who has for so many years undertaken the duties of that office with such conscientious regard for the interests of the company and its patrons, has, at his own request, been allowed to relinquish those duties, and given leave of absence for an extended period."

C. VERNER has been appointed Roadmaster, Quebec East, St. Maurice Valley, Piles and Cap de la Madeline Branch, Office, Three Rivers, Que.

A. MERCIER has been appointed Roadmaster, Ottawa, St. Lin and Eustache Subdivisions, Office, Ste. Therese, Que.

C. T. DELAMERE, heretofore Assistant Engineer of Construction, has been appointed acting Engineer of Construction, during the absence of C. W. P. Ramsey, Engineer of Construction, who has been given extended leave of absence in order to take command of the Canadian Overseas Railway Construction Corps, Office, Montreal.

A. C. FRASER has been appointed Superintendent of Telegraphs, Eastern Division, vice F. J. Mahon, transferred to Saskatoon, Sask. Office, Montreal.

W. M. THOMPSON, heretofore Agent Telegraphs, Winnipeg, has been appointed

chief operator, Montreal, vice H. Bott, transferred to Toronto.

G. W. GEHAN, heretofore Storekeeper, Place Viger, Montreal, has been appointed



Lt.-Col. C. W. P. Ramsey,  
Commanding Overseas Railway Construction  
Corps.



W. Maund,  
Secretary-Treasurer, Timiskaming and Northern  
Ontario Railway Commission.

Storekeeper, Hochelaga, Que., vice G. H. Jobin, transferred.

G. H. JOBIN, heretofore Storekeeper, Hochelaga, Que., has been appointed Storekeeper, Place Viger, Montreal, vice G. W. Gehan, transferred.

H. J. LILLIE, heretofore Chief Operator, Toronto, has been appointed Superintendent of Telegraphs, Ontario Division, vice W. Marshall, promoted. Office, Toronto.

G. PATON, heretofore Assistant Agent, Telegraphs, Toronto, has been appointed Agent there, vice H. A. Shambrook, transferred to Calgary, Alta.

H. BOTT, heretofore chief operator, C.P. R. Telegraphs, Montreal, has been appointed chief operator, Toronto, vice H. J. Lillie, promoted.

ALLAN PURVIS, heretofore Manager, Interurban Lines, British Columbia Electric Ry., New Westminster, B.C., has been appointed Superintendent, District 2, Ontario Division, C.P.R., vice R. King, who has been granted three months leave of absence. Office, London, Ont.

W. MARSHALL, heretofore Superintendent of Telegraphs, Ontario Division, Toronto, has been appointed Assistant Manager of Telegraphs, Western Lines, vice J. McMillan, General Superintendent of Telegraphs, Western Lines, promoted. Office, Winnipeg.

R. RUSSELL, heretofore Assistant Agent Telegraphs, Winnipeg, has been appointed Agent there, vice W. M. Thompson, appointed chief operator, Montreal.

J. F. RICHARDSON, heretofore Superintendent of Telegraphs, British Columbia Division, Vancouver, has been appointed Superintendent of Telegraphs, Saskatchewan Division, vice D. Coons, transferred. Office, Moose Jaw.

D. COONS, heretofore Superintendent of Telegraphs, Saskatchewan Division, Moose Jaw, has been appointed Superintendent of Telegraphs, Alberta Division, vice R. N. Young, transferred. Office, Calgary.

H. A. SHAMBROOK, heretofore Agent Telegraphs, Toronto, has been appointed Agent Telegraphs, Calgary, Alta.

R. N. YOUNG, heretofore Superintendent of Telegraphs, Alberta Division, Calgary, has been appointed Superintendent of Telegraphs, British Columbia Division, vice J. F. Richardson, transferred. Office, Vancouver.

W. G. PAYTON, heretofore baggage master, Vancouver, B.C., has been appointed station agent there, vice S. Woods, appointed constable on pier D, there.

R. E. ALLINGHAM has been appointed baggage man at Vancouver, B. C., vice W. G. Payton, promoted.

Edmonton, Dunvegan and British Columbia Ry.—R. M. HALPENNY, heretofore Trainmaster, G.T. Pacific Ry., Edson, Alta., is reported to have been appointed Trainmaster, Edmonton, Dunvegan and British Columbia Ry.

Grand Trunk Ry.—W. J. TYERS has been appointed General Supervisor, Montreal Division, vice G. Dyson. Office, Montreal.

T. W. MASON, heretofore Trainmaster, Montreal, has been appointed Chief Dispatcher, Richmond, Que., vice E. C. Potter.

W. E. ALLEN has been appointed Passenger Agent, Brockville, Ont.

H. R. BULLEN, heretofore Soliciting Freight Agent, G.T. Pacific Ry., Regina, Sask., is reported to have been appointed Soliciting Freight and Passenger Agent, G. T.R. and G.T.P.R., San Francisco, Cal.

Montreal Warehousing Co.—C. J. SMITH, heretofore Vice President and General Manager, North Ry., Montreal, has been appointed Manager and Secretary, Montreal Warehousing Co., vice G. H. Hanna, deceased.

Timiskaming and Northern Ontario Ry.—W. H. MAUND, heretofore Travelling Auditor, has been appointed Secretary-Treasurer, vice A. J. McGee, deceased. Office, Toronto.

H. H. MCGEE, heretofore Assistant Auditor, has been appointed Travelling Auditor, vice W. H. Maund, appointed Secretary-Treasurer.



# Electric Railway Department

## Hydro Electric Railway Association of Ontario.

This association, which was organized last year, held its first annual meeting in Toronto, Feb. 26, several hundred representatives of municipalities throughout Ontario being present. Among the speakers were the Honorary President, Sir Adam Beck, Chairman of the Hydro Electric Power Commission of Ontario; the President, J. W. Lyon, Guelph; the First Vice President, Mayor Church, Toronto; and J. B. Detweiler, Berlin.

Sir Adam Beck said that the hydro electric scheme is now divided into two groups, power and radial railways. In reference to the latter he said:—"There are railways which have received subsidies amounting to the exact cost of their construction, and the promoters issued stock and pocketed the spoils. Assert yourselves, and declare that subsidies to private individuals must cease. We have sufficient transcontinental railways. Let us be in earnest. Tell those men you have sent to Ottawa and Toronto that they have been elected to serve you and not private interests. Call a halt to subsidies! Call a halt to land grants! Call a halt to all bonuses! If we must guarantee bonds, let us guarantee our own. As soon as the frost is out of the ground, we will proceed with the construction of 98 miles of radial lines to the northeast of Toronto. The whole of Canada is interested in this scheme, because it means so much, then let us get some assistance from Canada. You people from all parts of the province, never call Toronto 'hog town' again. The city council has assumed responsibilities which will prove of immense value to the whole province. With the help of the Federal Government it intends to spend \$19,000,000 on great harbor developments, and intends giving the hydro radials free access to the waterfront." He urged the delegates to work unceasingly in the interests of the hydro power and radial schemes.

J. W. Lyon urged an immediate canvass of the members of the Dominion Parliament and Ontario Legislature. "There is an election pending," said he. "It is your business to see every member and aspirant to office in this province and find out where he stands on this question. We are asking the Dominion for a subsidy of \$6,400 a mile. What is that compared to the \$230,000,000 granted in subsidies to private corporations, as well as land grants as big as the Maritime Provinces. We are going to make bold and back up our resolutions to the limit. Ontario has borne the brunt of these grants to private concerns; it is now her turn to be helped construct radials that will be owned by the people."

It was urged that if the Dominion Government is serious in its campaign for the greater production it could not refuse the association's requests, because the construction of the radials would stimulate trade, improve business, provide employment, encourage rural settlement, increase production, reduce transportation rates, increase farmers' profits, reduce cost to consumers and increase national wealth. On this ground it was argued that a promise of subsidies could not be held up on pleas of war conditions.

The association's constitution was adopted as prepared. It provides that the objects are to develop a system of radial railways in Ontario, owned by the municipalities and operated for them by the Hydro

Electric Power Commission; to secure all necessary legislation and government aid in the furtherance of the enterprise; assist municipalities in carrying bylaws in connection with radials, and to prevent by lawful methods the renewals of private charters or issuance of new ones to individuals or corporations.

For organization purposes the province is divided into districts, as follows:—St. Lawrence district—counties east of Frontenac and west of Ottawa River. Kingston and Ontario district—Frontenac, Hastings, Northumberland and Peterboro' counties. Toronto East district—comprising York east of Yonge St., Ontario, Durham and Victoria counties. Toronto district—City of Toronto. Toronto West district—comprising York west of Yonge St., Peel, Halton, Wentworth and Simcoe counties. Hamilton district—Hamilton and Wentworth and Halton counties. Niagara district—Lincoln, Welland and Haldimand counties. Guelph and Georgian Bay district—Wellington, Waterloo, Dufferin and Grey counties. Erie East district—Norfolk, Elgin, Brant and Oxford counties. Erie West district—Kent and Essex counties. London and Huron district—Middlesex and Lambton counties. Stratford and Huron district—Perth, Huron and Bruce counties.

Officers were elected as follows:—Honorary President, Sir Adam Beck; Honorary Vice Presidents, Hon. I. B. Lucas, Attorney General, Province of Ontario, and W. K. McNaught, one of the Hydro Electric Power Commissioners; President, J. W. Lyon, Guelph; First Vice President, T. L. Church, Toronto; Second Vice President, C. M. R. Graham, London; Third Vice President, A. F. Wilson, Markham; Fourth Vice President, W. H. Buller, Peterborough. The following were elected district vice presidents:—1, F. S. Evanson, Prescott; 2, T. F. Matthews, Peterborough; 3, J. H. Downey, Whitby; 4, John O'Neill, Toronto; 5, R. H. Lush, Clarkson; 6, P. Ray, Waterdown; 7, G. B. Ryan, Guelph; 8, W. D. Euler, Berlin; 9, M. B. Johnston, St. Thomas; 10, W. C. Bush, St. Catharines; 11, H. Clay, Windsor; 12, R. Stirrett, Petrolia; 13, D. A. McLachlan, Stratford; 14, J. McQuaker, Owen Sound; 15, D. C. Barr, Collingwood. T. J. Hannigan, Guelph, was subsequently appointed Secretary, and G. P. Hamilton, Guelph, is Treasurer.

On March 10, a deputation from the association waited on the Dominion Premier in Ottawa, among those comprising it being Sir Adam Beck, J. W. Lyon, Mayor Church, Controllers Foster and Spence, Toronto; Mayor Buller, Peterborough; H. Clay, Windsor, and T. J. Hannigan, Secretary. The delegates, in addressing the Premier, asked for a subsidy of \$6,400 a mile for approximately 1,000 miles of railway.

After listening to the arguments advanced Sir Robert Borden expressed his appreciation of the additional information which had been placed before him, the delegation having gone into details of the proposal somewhat more fully than when the large deputation visited Ottawa last year, but he stated that owing to the outbreak of the war so soon after the 1914 session there had been little time or opportunity to give consideration to the suggestions which had been placed before the Government at that session. He also stated that the delegates' desire to have a definite statement of policy on behalf of the Government would be dis-

cussed with his colleagues, but that in the meantime no definite reply could be made, further than that it would be impossible to vote any subsidies this session.

Following the deputation's visit to Ottawa, various municipal corporations in Ontario were asked by the association to sign petitions to the Dominion Government urging an early announcement of policy in regard to requests for subsidies. At the time of writing (Mar. 22) arrangements have been made for a large deputation to wait on the Ontario Government, Mar. 26, to ask provincial subsidies of \$3,200 a mile.

The Niagara District Hydro Radial Union held its first annual meeting at Welland, March 19, and elected officers. T. J. Hannigan, Secretary, of the Hydro Electric Railway Association of Ontario, spoke. A resolution was passed urging the Dominion Government to grant a subsidy of \$6,400 a mile for hydro electric railways and to make an immediate announcement of its policy in this respect.

Sir Adam Beck stated in the Ontario Legislature recently that all the Hydro Electric Power Commission of Ontario's estimates for radial railways were based on the assumption that they would be given a Dominion bonus of \$6,400 a mile.

### The Montreal Tramway Situation.

Montreal's city solicitor has prepared a report upon the tramway situation there in conformity with resolutions passed in January, in the discussion arising upon a plan submitted by the mayor for terminating all existing franchises and replacing them by a new one to run 30 years. A summary of the mayor's proposals appeared in our Dec., 1914, issue, pg. 554. The solicitor's report, which was made public Mar. 12, is in two parts—the first dealing with the franchise granted by the city in 1892, for 30 years, and the second with the 23 separate franchises held outside the city. The several franchises are dealt with in detail, following which certain questions which were asked by the council are answered. The only way in which the original franchises granted to the Montreal St. Ry. in 1892, and to the Montreal Terminal Ry., by bylaw 274 and its amendments, can be abrogated is to purchase the lines under the terms of the bylaws. Certain of the franchises in the other districts appeared to have been granted in consideration of the fact that the company to which they were given had connection with the city lines; while in other cases there did not appear to have been any consideration of this kind. The report continues:—"The statements contained in the project submitted by the mayor, relating to the franchises belonging to the company and the reasons connected with the project are not altogether exact in fact or in law. It would not be prudent for the city to admit these statements as correct and to incorporate them in a resolution, or in a bylaw, or in a contract." (Feb., pg. 70.)

The Auto Public Service Co. of British Columbia, Ltd., Vancouver, is issuing The Jitney Press, as the official organ of the jitney service, and is distributing it free.



### Stores Card for Controller Segments in Montreal Tramways Stores Department.

The Montreal Tramways Co., in its main stores department at its Youville shops, has a unique system of locating and storing controller segments by means of a chart, a copy of which is shown herewith. The controller segments are used in only three sizes of drums, 4 1/4, 4 3/4 and 5 ins. diameter, which are respectively given the symbols A, B and C. The developed controller drums for each type and size of controller are shown as indicated, with the segments in their respective positions with regard to each other.

The various segments are made in standard widths, most of which are 1 in. The lengths of the segments are usually in even eighths of an inch. To name the lengths, using the length in its whole and fractional parts of an inch, tends to introduce a chance of error when a requisition for a certain size is called for. To overcome this tendency towards error a system has been developed, using the actual length as a basis, whereby the length is denoted in a

Stock, Montreal Tramways Co., to whom we are indebted for the information.

### Proposed Legislation re Electric Railway Fares in Ontario.

During the Ontario Legislature's current session, M. H. Irish, M.L.A. for Northwest Toronto, introduced a bill, "An Act to Amend the Ontario Railway Act," reading as follows:

"1. Clause (a) of subsection 1 of section 210 of The Ontario Railway Act is amended by inserting after the word 'miles' in the fourth line thereof the words 'in any municipality other than an urban municipality.'

"2. Subsection 1 of the said section 210 of the said act is further amended by inserting the following clause (aa) after clause (a) thereof:

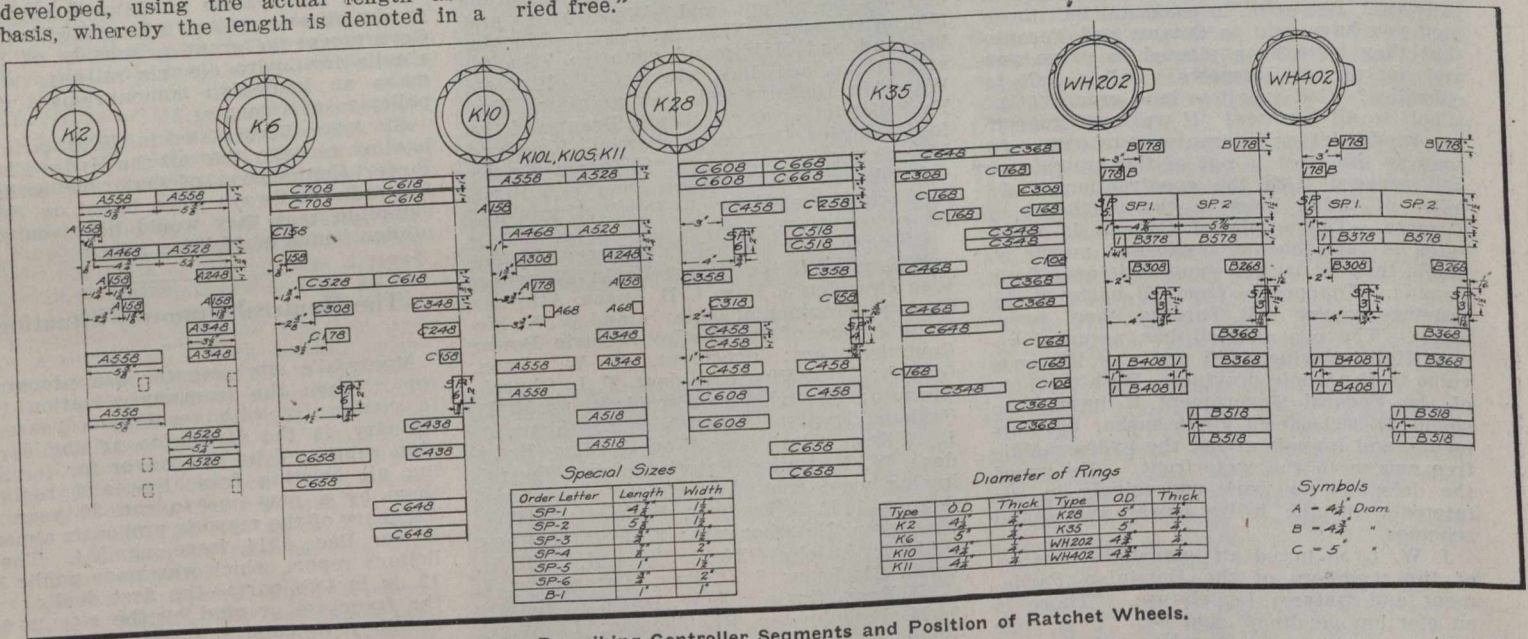
"(aa) The fare to be taken by a company on a railway operated by electricity for each passenger shall not exceed five cents for any distance in an urban municipality; and in the case of children under ten years of age shall not exceed three cents for any distance, but children in arms shall in all cases be carried free."

### Electric Locomotives for the London and Port Stanley Railway.

More detailed data of the three electric locomotives which are being built for the London and Port Stanley Ry., which were briefly described in Canadian Railway and Marine World for Nov., 1914, and Mar., 1915, are now available. The following are the principal particulars:—

Length inside of knuckles	37 ft. 6 ins.
Length over cab	28 ft. 0 ins.
Height over cab	12 ft. 10 ins.
Height with trolley down	15 ft. 2 ins.
Width overall	9 ft. 7 1/4 ins.
Total wheelbase	24 ft. 8 ins.
Rigid wheelbase	7 ft. 2 ins.
Minimum radius of curvature	75 ft. 0 ins.
Weight, electrical equipment	38,950 lbs.
Weight, air brake and compressor	4,670 lbs.
Weight, mechanical equipment	76,380 lbs.
Weight, total	120,000 lbs.
Weight, on drivers	120,000 lbs.
Weight, per driving axle	30,000 lbs.

The locomotives will each be mounted on two swivel equalized trucks, with cast steel truck transoms bolted rigidly to the steel side frames, and carried on semi elliptic springs, with the brakes inside hung. The wheels will be of solid rolled steel, 36 ins. diam., 5 1/2 ins. wide, and 2 1/2 ins. thick.



whole number. The system is simple. Each length is expressed in a whole number of three digits, the first of which denotes the even number of inches. As all the sizes are in even inches, with fractions as low as eighths, the latter is taken as the basis, quarters and halves being represented in eighths. One eighth would be represented by 28, one half by 48, and so on. This arrangement is combined with the whole number of inches of length. Thus, a segment, 3 1/2 ins. long, would be represented by the number 348, and 4 3/4 ins. by 458. This is better emphasized by the linear dimensions and symbols shown in the K2 controller. For the several diameters, the diameter symbol is also combined, for instance, a segment 3 3/8 ins. long from a 4 3/4 in. drum, would be called for by the number B338.

In this manner all the sizes are sifted down to a few different kinds, which are stored under these symbol numbers. When a repair part is required it is only necessary to give the symbol number on the requisition by referring to the accompanying sheet, no dimensions being required. The odd sizes, of which there are seven, are listed separately in a table, each given a special number. This arrangement is due to D. E. Blair, Superintendent of Rolling

The amendment proposed in section 1, above quoted, would have changed the Ontario Railway Act to read as follows, the proposed amendment being shown in bold-faced type:

"210.—(1) Notwithstanding anything to the contrary contained in any agreement with a municipal or other corporation or person or in any special Act,

"(a) the fare to be taken by a company on a railway operated by electricity for each passenger shall not exceed five cents for any distance not exceeding three miles in any municipality other than an urban municipality, and where the distance exceeds three miles shall not exceed two cents per mile or fraction thereof for the distance actually travelled; and in the case of children under ten years of age shall not exceed three cents for three miles or less, and where the distance exceeds three miles shall not exceed one cent per mile or fraction thereof for the distance actually travelled, but children in arms shall in all cases be carried free."

The bill was withdrawn after its first reading.

The Hamilton St. Ry. is preparing a revised traffic schedule, as the result of a conference with a subcommittee of the Hamilton, Ont., City Council.

with tread and flange 5 1/2 ins. wide, M.C. B. 1909 contour. The axles will be 7 ins. diameter, with 5 1/2 x 10 in. journals.

The platform framing will be built up of structural steel, longitudinal and cross sills, stiffened by brace plates, with a 3/8 in. steel floor, covered with a 3/4 in. wooden flooring throughout. The end frame will be a steel casting, secured to the platform centre and side sills. There will be friction draught gear with M.C.B. 5 x 7 in. shank, attached to the centre sills and end frame, at a height of 34 1/2 ins. above the rail. The platform and coupler housing will be designed to withstand buffing strains equivalent to a 300,000 lb. static load applied at the drawhead.

The cab will be of the box type, 9 ft. 7 ins. x 28 ft., with an operating compartment at each end, and an apparatus compartment between, with the sides and ends built up of 1-8 in. steel, and a roof of no. 8 steel, the whole substantially rivetted to a frame work of steel angles. There will be doors at both ends of the cab, and in the bulkheads between the operating and apparatus compartments, made of wood, glazed with double thickness glass. Seats for the locomotive man and fireman will be provided at the operating positions. The safety appliances will conform to the Board



of Railway Commissioners' requirements. Each locomotive will have a steel tool box fully equipped, pneumatic sanders independently operated from either end, locomotive bell and two air operated alarm whistles.

Air will be supplied from two C.P. 30 air compressors in the cab, having a free air capacity of 35 cu. ft. per min. at 110 lbs. pressure on 1,500 volts. The brake equipment will be Westinghouse schedule 14 EL combined straight and automatic air, with two 28 x 60 in. main reservoirs, and a 16 x 12 in. air brake cylinder.

The motor equipment will consist of four GE 251 A 750-1,500 volt box frame single geared commutating pole railway motors, rated at 274 amperes on 750 volts, and suspended on the axle and by the motor nose on the truck transoms. They will operate on a gear ratio of 4.37.

The locomotives will be equipped with type M multiple unit control, with two controllers arranged for 10 steps, the motors connected all in series, or 7 steps, motors two in series, two such groups in parallel. Three locomotives may be operated in multiple. The collecting apparatus will consist of two pantographs, centrally located, pneumatically operated, with a variation in height from 15½ to 24½ ft. The pantographs are to be arranged for multiple unit control.

The maximum safe operating speed, limited by the bearings or commutation, will be 34 m.p.h.; and the maximum emergency speed, limited by the armature construction, will be 40 m.p.h. The maximum speed on a level tangent track will be approximately 24.5 m.p.h. with a 860 ton train. At a tractive effort 21,500 lbs., the locomotive will propel a train of 860 tons, including locomotive, up a 0.9% grade, tangent track, at 17.1 m.m.h. At a tractive effort of 30,000 lbs., it will accelerate a maximum train of 860 tons up a tangent grade of 1% at a rate of approximately 0.08 miles per hour per second, or 1.110 tons on a level tangent track at approximately 0.15 m.p.h. per sec.

### Bloor Street West Line, Toronto Civic Railway.

The temporary line for the Toronto Civic Ry. along Bloor St. West was opened for service on Feb 23 by the Mayor and other civic officials. The new service consists of a temporary single track line extending from Dundas St. to Quebec Ave., 0.745 mile, with a passing track at Keele St., midway in the line. The temporary line is laid with several sizes of rail, averaging about 60 lbs. The trolley wire is 2/0 round hard drawn copper. A temporary car barn, with accommodation for two cars, has been built. It is of frame construction, sheathed in galvanized iron sheeting.

It is the intention to proceed with the permanent double track line about Apr. 1, or as soon as the frost is out of the ground. This will be laid on oak ties, embedded in a concrete base. A 7 in. girder rail of the 122-467 Lorain section will be used. The overhead construction will be span, with 2/0 round hard drawn copper wire.

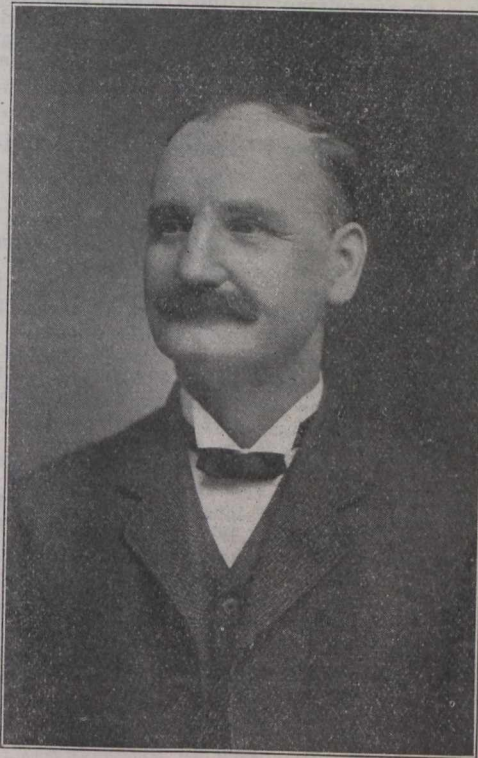
Power for the line is received over 350,000 cm. positive and negative feeders from the Toronto Hydro Electric System sub-station J, at the corner of Edwin and Ruskin Aves., about 3,000 ft.

The three single truck, double end operation, p.a.y.e. cars for this line, which are now in operation, were described in Canadian Railway and Marine World for February. They have 21 ft. bodies, with 6 ft. platforms, with an overall length of 34 ft., and are mounted on E21 trucks, equipped with two 40 h.p. Westinghouse motors, the cars completely equipped weighing 25,000 lbs. They have a seating capacity for

32 persons, with 8 cross seats and 4 longitudinal seats. They are being operated on an 8 minute headway. We are indebted to D. W. Harvey, Assistant Engineer, Works Department, for the foregoing information.

### Death of J. C. Rothery.

The dead body of J. C. Rothery, who, until a few months ago, was Manager of the Toronto Eastern Ry., which is under construction between Toronto and Bowmanville, was found on Mar. 10, imbedded in snow and ice near the G.T.R. bridge over Black Creek, near Weston, Ont., it having been noticed by the locomotiveman of a passing C.P.R. train. Mr. Rothery left his home in Weston on Mar. 3 for Toronto, and was not afterwards seen alive by his family. He was seen on the train between Toronto and Weston on the return journey, and the supposition is that he fell from the train and that the body was covered by the heavy snowfall and not observed until the thaw, which set in a few days later, had



The Late J. C. Rothery.

partly melted the snow. A coroner's jury returned a verdict of accidental death.

Mr. Rothery, who was about 60 years old, was born at Glasgow, Scotland, and went to sea at an early age. Subsequently he took a course in engineering and went into the electrical field. In May, 1893, he was appointed Superintendent, Niagara Falls Park and River Ry., and in 1902 was also appointed Superintendent of the International Ry.'s Buffalo and Niagara Falls Division. He also had charge of the upper steel arch bridge at Niagara Falls, and the Queenston and Lewiston bridge, the construction of both of which he supervised. In Dec., 1905, he went to East Liverpool, Ohio, as General Manager of the East Liverpool Traction and Light Co., and in June, 1909, removed to Chester, W. Va. In 1910 he returned to Canada and was appointed Manager of the Toronto and Eastern Ry., and was engaged on other electrical railway propositions, etc., in the Mackenzie and Mann interests.

He took a prominent part in the Canadian Street Railway Association's meetings prior to leaving Canada in 1905, and was well

known by electric railway officials throughout the Dominion and a considerable portion of the United States. He was an expert diver and swimmer, and is said to have been the only man who dived successfully from the Queenston-Lewiston bridge into the Niagara River.

### Toronto and York Radial Railway Power for Newmarket.

An enabling bylaw was passed by the ratepayers of Newmarket, Ont., on Feb. 22, by a majority of 178, for the consummation of a contract with the Toronto and York Radial Ry. for furnishing power. The contract is for 5 years, renewable at the end of that time by the town for a further 5 years, at the following rates: \$25.50 a horse power a year for a maximum demand of 500 h.p.; \$25 a h.p. a year, up to 750 h.p.; \$24.50 a h.p. a year, over 750 h.p.; payable monthly on the basis of the highest peak during each month having a duration of not less than 20 consecutive minutes. The power will be delivered from the railway substation in Newmarket, to the town lines at 4,200 volt a.c., 3 phase. At the town power house it will be stepped down to 550 and 110 volts, for industrial, street lighting and commercial purposes. The railway receives its power at 24,000 volts from the Niagara substation at Toronto, transmitting at that voltage to Newmarket, where it is stepped down to 4,200 volts.

In 1912 the same proposition was offered the town, but it was defeated at the polls by 21 votes. Conjointly with the latter offer the company offered the town power at 12,000 volts for \$23.50 a horse power a year. At the same time the Hydro Electric Power Commission of Ontario offered the town power at 13,000 volts at \$26.98 a h.p. a year, up to 500 h.p., on a monthly bill of 75% of the contracted 500 h.p. This offer was subsequently revised to \$24.78 a h.p. a year on the same basis. No action was taken by the town on these high voltage propositions.

Newmarket is unique in the electric lighting field, it being claimed that the first municipal electric lighting plant in Ontario was installed there 21 years ago.

**Grand Valley Ry. Operation.**—The City Solicitor of Brantford received, Mar. 10, an order from the Board of Railway Commissioners authorizing the city to operate the Grand Valley Ry. This order was necessary as the G.V. Ry. was built and is operated under a Dominion charter. The order will only be in force until the end of the next session of the Dominion Parliament, at which time the City Council will apply for the necessary Parliamentary authorization to operate the G.V.R.

**Port Arthur Electric Ry.**—The ratepayers voted, Mar. 5, in favor of a bylaw vesting in a Public Utilities Commission the control and management of the street railway, the telephone system, and the Current River power plant, owned by the city. This Commission has been appointed under the provisions of chap. 204 of the Revised Statutes of Ontario, 1914, and the passing of the bylaw formally vests the control of these utilities in the hands of the Commission. (Jan., pg. 28.)

**St. John River Hydro Electric Co.**—The New Brunswick Legislature is being asked to revive the act of incorporation of 1912, under which the company was incorporated, with power to acquire and develop a water power on the St. John River at Pokiok, and to build the necessary works for the transmission of power.



## The City of Toronto's Attempt to Override the Privy Council Frustrated.

At the Ontario Legislature's current session a bill was introduced at the instance of the Toronto City Council which had it been passed would have overridden judgments given by the Judicial Committee of the British Privy Council and which were in favor of the Toronto Suburban Railway Co. and the Toronto Railway Co. The bill's principal provisions were as follows:—

The true meaning of the agreement dated Sept. 4, 1899, between the Township of York and the Toronto Suburban Ry. Co., is that the company is obliged to keep clean and in proper repair and to construct a new roadway or pavement on that part of Bathurst St. and Davenport Road, occupied by and between the company's rails, and for 18 ins. on each side of the rail or rails, such new roadway or pavement to be of a character similar to that constructed or to be constructed upon the other portion of the said highways by the municipality, and that in default of the company keeping clean and in proper repair and constructing a new roadway or pavement when requested to do so by the City of Toronto, the same may be done by the city at the company's expense.

The word "tracks" wherever mentioned in the said agreement shall cover or include the roadway or roadbed on which the rails are placed between the said rails and 18 inches outside of each rail.

The City of Toronto may expropriate and take that portion of the Toronto Suburban Ry. within the limits of the city and of the real property within the city limits in connection with the working thereof and such personal property in connection therewith as the Ontario Railway and Municipal Board may fix that the city should take, upon payment of the value of the same to be determined by arbitration by the Ontario Railway and Municipal Board under the provisions of the Ontario Railway Act, and in determining such value the franchise or control of tracks upon the highways shall not be estimated as of any value whatever.

All the rights and privileges of the Toronto Suburban Ry. Co. to operate railways, or to exercise any other franchise rights within the City of Toronto, are hereby cancelled and forfeited.

The proper construction of the agreement entered into between the City of Toronto and G. W. Kiely and others, dated Sept. 1, 1891, and the award, conditions and bylaw in connection therewith, is that in respect to what new lines shall be established and laid down and tracks and services extended thereon by the company, whether on streets in the city as existing at the date of the agreement or as afterwards extended, it is for the city and not for the railway company to determine, decide upon and direct, and in the manner prescribed by clause 14, of the conditions of the said agreement what new lines shall be established and laid down and tracks and services extended thereon by the company, whether on streets in the city as existing at the date of the agreement or as afterwards extended, and further that the privilege to the city to grant to any person or company for failure of the company to establish and lay down new lines and to open same for traffic, or to extend the tracks and service upon any street or streets as provided by the agreement, is not the only remedy the city can claim, but that the city, in addition to the remedies provided by statute and otherwise may, in the event of the company failing to establish, lay down and operate any new lines as provided in the said clause 14 within such period as is fixed by bylaw as

foresaid, construct, lay down, and operate such line or lines, and the company shall pay the cost of such construction and operating, and the city may collect such cost of construction and operation by distress on the property of the company, and may impose a penalty upon the company of \$1,000 a day for failure to comply with the requirements of any such bylaws as above provided for.

The Toronto Ry. Company shall construct and equip 13 miles of new track within the City of Toronto, and shall build, equip and place in operation upon its system of street railways within the city 180 new cars, in order to afford an adequate and proper street car accommodation for the citizens.

The bill was rejected by the Legislature Private Bills Committee, Mar. 23. The Chairman of the Committee, Attorney General Lucas, objected to the bill principally on account of its object being to nullify Privy Council decisions, but intimated that an amendment to the Ontario Railway and Municipal Board Act might be introduced to give the Board more extensive powers in dealing with disputes between electric railway companies and municipalities.

### Winnipeg Electric Railway Annual Report.

The report for the calendar year 1914 shows gross earnings from all sources of \$4,101,302.48, against \$4,078,694.75 for 1913. The expenses of operation, including maintenance, repairs and renewals, were \$2,416,208.93, against \$2,252,606.77 for 1913. The net earnings from operation were \$1,685,093.55, a decrease of \$140,994.43. Of this amount the fixed charges, including 5% on gross earnings payable to the City of Winnipeg, interest on funded debt and other fixed charges, absorbed \$690,482.43, leaving a surplus for the year of \$994,611.12, to be added to the balance brought forward from 1913 of \$901,697.99, making together \$1,896,309.11. The usual quarterly dividends, at the rate of 12% per annum, were paid, amounting to \$1,080,000.00, leaving a balance at the credit of profit and loss of \$816,309.11. The properties were fully maintained from revenue throughout the year. The increase in the operating expenses, which occurred principally in the railway department, is attributable partly to expenditure introduced in conformity with the requirements of the Public Utility Commissioner, and partly to the annual increase in the graduated scale of wages applicable to senior service employees.

To meet growing requirements new construction and improvements and betterments were carried out, entailing an expenditure of \$1,308,545.00. About 7½ miles of track were laid in Winnipeg, as follows:—4.192 miles with 80 lb. rails with concrete foundation and asphalt pavement; 3.33 miles of surface track with gravel ballast, which includes an extension through Fort Garry Municipality, to St. Norbert Village. A branch line was built from Middlechurch on the Winnipeg, Selkirk and Lake Winnipeg Ry., a subsidiary line, to Stonewall, 18 miles, and a fast electric car service has been established between Winnipeg and Stonewall. This has increased the mileage of the Winnipeg, Selkirk and Lake Winnipeg line to 40 miles.

Twenty large double truck closed motor cars, 46 ft. long with wide vestibules, equipped with air brakes and other modern appliances, were constructed in the company's shops. Practically all of the double truck

closed single end cars have been converted to comply with operating conditions under the p.a.y.e. system. The rear vestibules have been equipped with safety doors at the steps, which are operated by the conductor. By this means it is hoped that accidents will be largely diminished.

To provide for the foregoing capital expenditures, the directors sold additional 4½% consolidated debenture stock, the proceeds of which amounted to \$879,468.59, and treasury notes for \$500,000, in all \$1,379,468.59.

The number of passengers carried was 58,489,987, a decrease of 1,073,770 from 1913. Transfers numbered 20,277,197, an increase of 5,238,181.

The percentage and car license paid to the City of Winnipeg was \$122,486.90, and the taxes, insurance, etc., \$118,263.

The Winnipeg, Selkirk and Lake Winnipeg Ry., a subsidiary company, gross earnings were \$136,665.45; gross expenses, \$72,884.06; net earnings, \$63,781.39; less interest on bonds, \$20,000; taxes, \$31,067.26, leaving a surplus for the year of \$12,714.13, and bringing the profit and loss balance to \$60,919.83.

The Suburban Rapid Transit Co., another subsidiary, had gross earnings of \$84,927.78; gross expenses, \$64,688.21; net earnings, \$20,239.57. Interest on bonds was \$25,000, and taxes, etc., \$2,459.61, making a deficit for the year of \$7,220.04 and increasing the profit and loss debit to \$74,391.16.

The directors of the W.E.R. Co., who were re-elected, are:—Sir Wm. Mackenzie, President; A. M. Nanton, Vice President; F. M. Morse, Sec.-Treas.; Sir Wm. Van Horne, Sir Donald Mann, D. B. Hanna, G. V. Hastings, Hugh Sutherland, R. J. Mackenzie. The Manager is Wilford Phillips.

### Effect of Jitney Competition on the British Columbia Electric Railway.

The B.C.E.R. Co.'s directors issued the following circular to shareholders recently:

"The directors draw attention to the very serious traffic decrease, which they regret to say they are advised by cable is likely to be still more severe for February and following months. It is largely due to a novel form of competition which has suddenly sprung up as a result of the bad times through which the country is passing, and which is costing the company the loss of traffic amounting to between \$2,500 and \$3,000 a day.

"A few weeks ago a large number of private motor cars, mostly driven by their owners, started plying for hire in opposition to this company's cars, at ordinary tram fares. They are able to compete on a very unfair basis, as the railway has to submit to extremely rigid regulations for the comfort and safety of the public, whereas the motor cars are at present absolutely uncontrolled. This competition is general in all cities on the Pacific Coast. The following cable on the subject has been received from the General Manager:

"In common with all other street railways on the Pacific Coast our transportation is very seriously affected by competition with passenger motor cars, mainly due to exceptional conditions obtaining and number of second hand motor cars on the market. While it is improbable this particular form of competition will prove permanent, the unlooked for development of this new traffic has created a situation which, unless the new traffic is made subject to regulations similar to those governing the street railway, will make it impossible to continue payment of dividends. The matter has been submitted to the municipal authorities for the purpose of receiving fair and reasonable treatment at their hands."



## Electric Railway Projects, Construction, Betterments, Etc.

**Brantford Municipal Ry.**—The station building in Brantford, Ont., is rapidly approaching completion. The old building is being retained in its main outlines, but is being strengthened, and the entire interior rearranged. The entrance will be by a new arch. On the main floor there will be provided general and women's washing rooms, ticket office, manager's office, and board room on one side of the hallway, and on the other a baggage room. The cars will be run in on the south side of the building, which is 83 ft. long, so as to prevent any stoppage on the main line.

The Commissioners have decided in favor of a loop line round Eagle Place, and it is said that construction will be started as soon as the arrangements can be made. (Mar., pg. 108.)

**Hamilton St. Ry.**—A subcommittee of the Hamilton, Ont., City Council is discussing with the company the question of track extension to the southwestern parts of the city, and the renewal of the tracks on York St. (Mar., pg. 108.)

**London and Port Stanley Ry.**—The London Railway Commission has submitted plans to the Board of Railway Commissioners for electrifying the L. & P.S. Ry.'s right of way into the G.T.R. station in London. Sir Adam Beck states that the L. & P.S. Ry. has the right to run into the station for 99 years, more than half of which period is unexpired.

**Moncton Tramways, Electricity and Gas Co.**—A petition has been presented to the company asking that its railway be extended from Moncton, N.B., to Fox Creek. A number of farmers along the route have promised contributions of from \$50 to \$100 each towards the cost of construction. The local officers of the company are said to view the extension with favor, and petitioners have forwarded the petition to the head office at Pittsburg, Pa. (Dec., 1914, pg. 553.)

**Montreal Tramways Co.**—The Quebec Legislature has extended the time within which the Town Council of Mount Royal may enter into agreements for the construction of electric lines in that town with the M. T. Co., or its subsidiary, the Public Service Corporation. (Feb., pg. 70.)

**Niagara, Welland and Lake Erie Ry.**—The Ontario Legislature is being asked to confirm an agreement between the company and the town of Welland, under which the amount payable by the company for paving the streets on which the railway is to run, shall be payable by instalments spread over 20 years. The town will issue debentures for the whole amount, the company's share of interest and sinking fund is fixed at \$2,700 a year until 1919, \$2,900 a year for the next five years, \$3,100 a year for the third five years, and \$3,350 a year for the last five years. These payments are to cover all taxes except school rates upon the company's property. (Feb., pg. 70.)

**Ottawa Electric Ry.**—The City Council has appointed a special committee to consider the construction of a bridge on Pretoria Ave., to permit of the extension of the electric railway to Ottawa East.

The company has completed the installation of a 2,150 h.p. generator set in its new steam auxiliary power station on Middle St. (Feb., pg. 70.)

**Three Rivers Traction Co.**—It is stated that construction on the loop line in Three Rivers, Que., with a connection to the waterfront, will be started as soon as weather permits and that it is hoped to have the line in operation this year. It is also stated that Geo. Anderson, Superintendent of the North Shore Power Co., will also

be Superintendent of the Three Rivers Traction Co. It is proposed ultimately to build a line connecting the parishes on the north shore of St. Maurice River from Portneuf to Berthier, about 80 miles. (July, 1914, pg. 336.)

**Toronto Suburban Ry.**—Work has been started on the foundations of the piers for the bridge across the Humber at Lambton Mill. Ewan Mackenzie is the contractor. Men are getting things in readiness from Islington westerly to get the section of the line on which track has been laid completed for operation, and for continuing tracklaying, ballasting and other work.

A permit has been taken out at Guelph, for the erection of a transformer station at a cost of \$4,500. Tenders have been invited, and it is said that the building will be completed as speedily as possible. (Feb., pg. 71.)

**Tramways, Limited.**—The directors of the company have passed a resolution setting forth that the company will not at any time claim that the City of Edmonton, Alta., must build connecting lines. The agreement between the city and the company was turned over to the company as soon as the above resolution was filed with the city clerk. While the agreement was approved by a large majority of the ratepayers at the recent elections, it did not receive the necessary two thirds majority to make it effective. (Mar., pg. 108.)

**Transcona, Manitoba.**—As the result of a hearing before the Manitoba Public Utilities Commission J. H. Kern was given time, on Mar. 3, to decide whether or not he will carry out his agreement for the building of an electric railway in Transcona. The conditions which he must accept or reject are: 20% of the line is to be completed by June 1; 40% by July 1; 60% by Aug. 1; 80% by Sept. 1, and the whole to be completed and in operation by Oct. 1. It is provided that the Transcona Town Council may appeal to the Public Utilities Commissioner at the end of each month as to whether the contractor has completed the portion of road called for; and further that the standard of construction, and the system of operation shall be the same as in Winnipeg. During the course of the proceedings it was stated that W. J. Christie, G. M. Newton, W. Chambers and E. Kern, of Winnipeg, were associated with J. H. Kern in the financial arrangements for the building of the line. Mr. Kern stated that in all probability a free right of way along Regent St. would be arranged by May 1. Another matter involved is the building of a line on Talbot Ave., by the Winnipeg Electric Ry., to connect the lines of that system with the Transcona line. The Transcona Town Council was recommended to take up the question of this extension with the Winnipeg City Council and the Winnipeg Electric Ry. Mr. Kern and his associates are applying to the Manitoba Legislature for the incorporation of a company to carry out the agreement. (Mar., pg. 108.)

**Winnipeg Electric Ry.**—We are officially advised that the question of the extension of the line to Morse Place has been considered by the Manitoba Public Utilities Commission at different times, but that no definite decision has been reached about it. (Mar., pg. 108.)

In mixing the solutions for lead storage batteries, always pour the acid into the water, as if this process is reversed, the heat generated by the acid will cause the mixture to splutter, and it will be very apt to be splattered on the attendant.

## Mainly About Electric Railway People.

J. P. Verner, Superintendent, Brantford Municipal Ry., is reported to have resigned.

Thomas Ahearn, President, Ottawa Traction Co., Ottawa, has been elected a director of the Bell Telephone Co. of Canada.

J. H. Larmonth, Superintendent, Edmonton Radial Ry., addressed the Edmonton, Alberta, Civic Club recently on street railway transportation problems.

J. W. Wallace, a Toronto Ry. roadmaster, died suddenly, from heart failure, in the street, at Toronto, Mar. 20. He had been in the company's service for several years.

E. L. Cousins, Chief Engineer, Toronto Harbor Commission, has been granted leave of absence to prepare plans for a rapid transit system and radial entrances for Toronto.

James D. Fraser, Director and Secretary-Treasurer, Ottawa Electric Railway, and Vice President, Canadian Electric Railway Association, had a ten days outing in March in the Gatineau country, north of Ottawa.

W. G. Ross, formerly Managing Director, Montreal St. Ry., and now Chairman, Montreal Harbor Commissioners, has been re-elected President of the Asbestos Corporation of Canada.

W. H. Hazlett, who retired recently from British Columbia Electric Ry. service, after 15 years, latterly as Purchasing Agent, has joined the firm of A. G. Langley & Co., engineers and contractors, Vancouver.

R. J. Fleming, General Manager, Toronto Ry., owns and operates a 900 acre farm in Pickering Tp., about 30 miles from Toronto. This year about 700 acres will be under crop. A considerable number of cattle are kept, chiefly Jerseys, and heavy horses are bred.

H. L. Beach, who was associated with Bion J. Arnold, of Chicago, in connection with the appraisal of the Toronto Ry. property, when it was proposed that the city of Toronto should buy out the company, has been appointed Manager, Utah Light and Traction Co., Salt Lake City, Utah.

R. R. Hamilton, of Winnipeg, was appointed Superintendent of the Saskatoon Municipal Ry. by the City Council of Saskatoon, Sask., Mar. 15, at a salary of \$150 a month, the appointment to be held during the Council's pleasure. He took up his duties at once.

Sir John Gibson, Director, Dominion Power and Transmission Co., Hamilton, and ex-Lieutenant-Governor of Ontario, received word Mar. 10 that his son, Lieut. Colin Gibson, had been wounded in active service and was in a military hospital at Hazebruck, France. His condition was regarded as quite satisfactory.

Charles Avery Lee, who has been appointed Purchasing Agent, British Columbia Electric Ry., Vancouver, was born at Colorado Springs, Col., Sept. 11, 1882, and entered B.C.E.R. service March, 1909, since when he has been, to July, 1910, Assistant Engineer, Vancouver; July, 1910, to Sept., 1911, Engineer in charge of Coquitlam Dam, Coquitlam; Sept., 1911, to Sept., 1912, Assistant Engineer, Vancouver; Sept., 1912, to Dec., 1914, Engineer in charge of Jordan River power development.

Geo. Saunders, who has been with Mackenzie, Mann & Co. at their Toronto office, in charge of their Mount Royal, Montreal, and Leaside, Toronto, terminal and town-site properties, and who formerly spent a number of years in Mexico, has been appointed Official Representative of the Monterey Ry. Light & Power Co. and its subsidiary companies, with office at Monterey, Mexico. Under the Mexican laws all foreign companies operating there must have a resident official representative in that country, with power of attorney and full authori-



ty to act. The M. R. L. and P. Co. operates all the street railway lines in Monterey, and also has electric light, power, gas, water-works, sewerage, and farm lands concessions. Its other officers are Sir William Mackenzie, President; Sir Donald Mann,

First Vice President; L. Lukes, Second Vice President and General Manager; R. P. Ormsby, Secretary and Treasurer, and R. G. O. Thompson, Auditor, all of Toronto. The local manager and purchasing agent at Monterey is E. Leonarz.

## Answers to Questions on Electric Railway Topics.

Following are questions submitted to the American Electric Railway Association's question box, with replies thereto by Canadian electric railway officials:

**Drying Out Car Motors.**—What methods have been used for drying out car motors, after same have been subjected to water due to floods or other cause?

W. R. McRae, Master Mechanic, Toronto Ry.—Since the introduction of impregnated field coils we have not had any trouble of this nature. All motor cases have a hole drilled in them to allow water to get out quickly.

**Trolley Wheels.**—What size and weight of trolley wheels do you use, for city service and for interurban service?

W. R. McRae, Master Mechanic, Toronto Ry.—Trolley wheels  $4\frac{1}{2}$  ins. diam., and  $3\frac{1}{4}$  lbs. weight used for both city and interurban service.

What tension do you maintain trolley wheel on wire, in city service, and in interurban service?

W. R. McRae, Master Mechanic, Toronto Ry.—In city service, four motor equipment, 23 to 25 lbs.; two motor equipment, 18 to 20 lbs.; in interurban service, all four motor equipments, 35 lbs.

**Balancing of Armatures.**—In regard to balancing of armatures used in regular city and interurban work, (a) Is any special attention given to the mechanical balancing of armatures? (b) Are armature cores balanced before rewinding? (c) Are armatures balanced after being rewound? (d) What method is used to determine whether or not an armature is out of the balance? (e) What method is used to correct an armature that is found to be out of balance after being rewound? (f) Have any decidedly injurious results been observed from armatures being out of balance?

W. R. McRae, Master Mechanic, Toronto Ry.—(a) Yes. (b) Yes. (c) No. (d) Straight edge levelling rails. (e) This is done before winding by boring holes in end plates, or by leading in existing holes. (f) Yes. Short life bearings, and pinions worn unevenly.

D. E. Blair, Superintendent Rolling Stock, Montreal Tramways Co.—We have found that the manufacturers of railway motors are very careful in the balancing of armature cores, and do not know of any serious results following the unbalancing that would result from slightly unsymmetrical position of the cores.

**Cast Iron vs. Steel Wheels.**—Is it not true that for purely city surface operation under a medium weight car, high grade cast iron wheels are cheaper than steel wheels?

W. R. McRae, Master Mechanic, Toronto Ry.—High grade cast iron wheels have given the best results on this property.

D. E. Blair, Superintendent Rolling Stock, Montreal Tramways Co.—We have found that high grade cast iron wheels with flange 1 13-16 ins. thick are considerably more economical than steel wheels, and quite satisfactory for city service and moderate speed on suburban lines.

**Inter-departmental Charges for Use of Tools.**—I should be pleased to learn what is the practice among other railways in the motive power or equipment department, as to charging other departments in the same company, a percentage for the use of tools, machinery and supervision for work done for such other departments. It occurs to

the writer that such a percentage charge is permissible, legitimate and only fair. If you are going to do some work for a neighboring factory or some other friendly company, you would not hesitate to charge them a certain percentage for use of machinery and supervision. When the tools are in the mechanical department, the mechanical department must replace them and naturally the costs are chargeable to the accounts of that department. When it becomes necessary to replace worn out tools and machinery, you would not think of assessing other departments of the company, such as have had work done in the mechanical department, therefore, I think it is only fair a reasonable percentage should be added to the cost of doing the work. What is your practice and opinion on the subject?

D. E. Blair, Superintendent Rolling Stock, Montreal Tramways Co.—It is not our practice to charge other departments with a percentage above the cost of work done in the shops of the mechanical department when same is chargeable to maintenance account, but we do consider that work done for capital account should carry its fair share of the overhead expense. The amount charged is arrived at by us by figuring the proportion of all legitimate overhead expenses and the total amount of labor and material charged to the shops. Otherwise we could not arrive at the actual cost of new work.

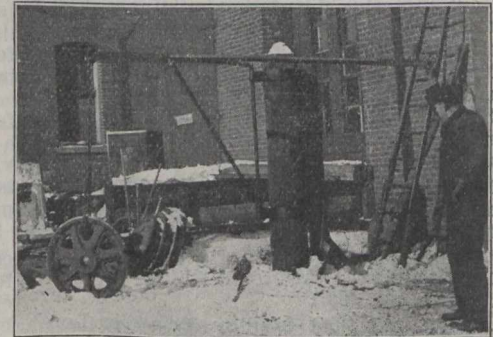
## Regina Municipal Railway Operations.

The operations for February show total revenue of \$14,456.02; operating expenses, \$14,344.90; capital charges, \$9,137.58; operating surplus, \$111.12; deficit, \$9,026.46, compared with \$18,009.14 total revenue; \$21,444.19, operating expenses; \$8,691.42, capital charges; \$3,435.05, operating deficit; \$12,126.47, total deficit for Feb., 1914. The aggregate total revenue for two months ended Feb. 28 was \$29,931.50; operating expenses, \$32,310.77; capital charges, \$18,275.15; operating deficit, \$2,379.27; total deficit, \$20,654.42. The passengers carried in February were 289,421, against 403,081 in Feb., 1914, and the aggregate passengers carried for the two months ended Feb. 28, were 613,105. The average expenses per car mile, excluding power costs, for February, were 14.75c.; average expenses per car mile, including power costs, 19.72c.; cost of power per k.w.h., 2.03c.; cost of power per car mile, 4.97c.; wages of motormen and conductors per car hour, 72.56c. The percentage of expenses, without capital charges, to earnings, was 99.23, and with capital charges, 162.44.

**Zone Fares for Saskatoon.**—At a meeting of the Saskatoon, Sask., City Council, Mar. 15, Electrical Engineer Hanson submitted a proposition to divide the various routes on the municipal electric railway into stages, and that the fare for each stage be 1c. The following are the routes, with the number of stages on each:—Pheasant Hill and Exhibition, eight stages; Avenue H., one stage; Mayfair and University, six stages; Seventh Ave. and Nineteenth St., three stages; Sutherland line, four stages to city limits, and full five cent fare from city limits to Sutherland. The proposition was laid over for future consideration.

## Yard Cranes for Wheels in Dominion Power and Transmission Co.'s Shops

The accompanying illustration shows a yard crane used in the Dominion Power and Transmission Co.'s shops at Hamilton, Ont., for lifting car wheels from the adjacent storage pile. Prior to the use of this crane several men were required when it was necessary to lift wheels from the storage pile to a truck for running into the shop. With the arrangement one man can handle the work more expeditiously alone than several men formerly did.



Crane for Lifting Car Wheels in Yard.

The crane consists of a light jib of  $1\frac{1}{4}$  in. round iron, mounted on a post. On the outer end of the jib there is an arm about 12 ft. long, supported on a 3 to 1 ratio, with a hook and chain on the short end. This gives sufficient leverage to lift the wheel well clear of the ground for swinging from the storage pile, which is to the rear of the post, out into the foreground for lifting on trucks. This crane has been installed by J. O. Binkley, Superintendent of Shop, to whom we are indebted for the information.

## The Toronto Railway and the Overcrowding Bylaws.

In the article on overcrowding on the Toronto Ry. in Canadian Railway and Marine World for March, reference was made to the company's application to the Ontario Railway and Municipal Board for approval of its bylaw to limit the capacity of its cars to 50% above their seating capacity. This bylaw is in accordance with the city bylaw under which a conviction was obtained against the company last year for overcrowding. At a meeting of the Toronto Board of Control, Mar. 3, it was proposed to repeal the bylaw limiting the standing room to 50% of the seating capacity; to enter opposition to the company's application for approval of its bylaw, which is on precisely the same lines, and to urge the Attorney General to proceed with the cases against the company for overcrowding.

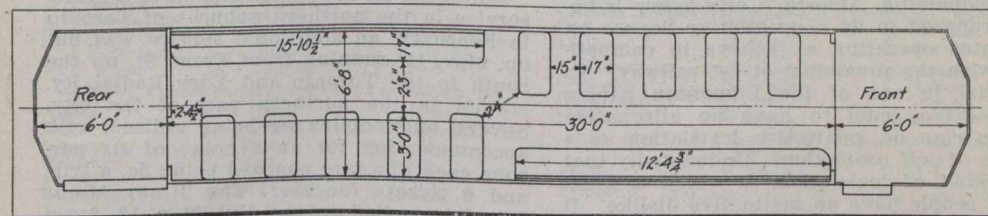
The Ontario Railway and Municipal Board has approved a draft of the bylaw, on condition that it be redrafted, and that it is not to become operative until a date to be fixed, and that the company adopt a device to show that the cars are full. On the question of a conviction for overcrowding, made in Nov., 1914, sentence was suspended pending the disposition of a stated case in the Appeal Court.

**Wentworth St. Incline Ry., Hamilton.**—Plans have been under consideration for some time for the improvement of the Wentworth St. Incline Ry., Hamilton, Ont., but it was decided, Mar. 5, that the carrying out of the suggestion would interfere injuriously with the Toronto, Hamilton and Buffalo Ry. tracks. It was decided to have new plans prepared.



**Cross Seated Cars for Operation on the Toronto Railway.**

The Toronto Ry. has equipped seven of its standard cars with cross seats, and is now trying them on its lines. In the report on the traction improvement and development of the Toronto metropolitan district, submitted to the city by Bion J. Arnold, of Chicago, in 1912, cross seated cars were among the recommendations. Owing to the narrow devil strip between the tracks on the Toronto streets, the cars as used by the Toronto Ry. are of necessity about a foot narrower than those on most of the larger systems in Canada and the United States. In consequence, a difficult problem was presented in planning the seat layout to introduce the cross seat and at the same time provide a satisfactory aisle, with the nar-



Cross Over Cross Seated Car on the Toronto Railway.

rower width of car body, as even with the wider car the aisle width is considered none too great.

In the Arnold report the cross over seat layout shown herewith was suggested as a possible means of meeting the difficulty. Six of the cars have been arranged in this manner, and a seventh is provided with a narrow centre aisle the length of the car, as shown in the other car. The cars with the cross over aisle have a body length of 30 ft. with 6 ft. platforms at each end, with no bulkhead at the front. The outside car body width is 7 ft. 8 ins., and the inside width, 6 ft. 8 ins. The cross seats, of which there are 10, are 3 ft. long, and are of a wooden construction, non reversible. Opposite each set of 5 seats there is a longitudinal seat, 12 ft. 4 3/4 ins. long in front, and 15 ft. 10 1/2 ins. long at the rear, leaving an aisle width of 2 1/4 ft., which is reduced by the feet of the passengers sitting on the longitudinal seats. The six cars equipped in this manner are of the older standard type. They have seating capacity for 40 persons.

The seventh car, which has the through central aisle, is of the latest or 2,000 type of car, with the same body length of 30 ft., but with an inside width of 7 ft., a 6 1/2 ft. platform in front, and a 7 ft. platform in the rear, with no front bulkhead. In the centre of the body there are on each side 8 reversible rattan cross seats, each 2 ft. 8 ins. long and 19 ins. wide, at 2 1/2 ft. centres, leaving an aisle width of 20 ins. In the short body space at each end two short longitudinal seats are provided. The 20 in. aisle width was the governing factor, necessitating a short seat. The seating capacity of this car is 42 persons.

These cars were first tried on the Dundas St. route, and afterwards changed to the King St. line. It is the intention to give them a thorough trial before adopting any policy with regard to changing any more of the equipment.

The Detroit United Ry. is stated to have issued an order that Canadian silver is not to be accepted in payment of fares over its lines. It is said that the reason for this order is that the company has a quantity of Canadian silver on its hands which it experiences difficulty in disposing of.

**Electric Railway Finance, Meetings, Etc.**

**Cape Breton Electric Co.**—Gross earnings for January, \$29,054.06; operating expenses and taxes, \$17,782.38; net earnings, \$11,271.68; interest charges, \$5,485.41; balance, \$5,786.27; bond sinking and improvement funds, \$1,235.83; balance for reserves depreciation, etc., \$4,550.44, against \$29,798.29 gross earnings; \$18,563.18 operating expenses and taxes; \$11,235.11 net earnings; \$5,247.37 interest charges; \$5,987.74 balance; \$1,190 bond sinking and improvement funds; \$4,797.74 balance for reserves, depreciation, etc., for Jan., 1914.

**Detroit United Ry.**—The negotiations for the purchase of the street railway system in Detroit, Mich., by the city council, which is under consideration, involves only the lines in the city, 222 miles in all. The re-

12.87 cts. against 13.99 cts.; cost per car mile, 23.22 cts. against 21.11 cts.; passengers per car mile, 2.94 against 3.28; average fare per passenger, 4.21 cts. against 4.17 cts.

**London St. Ry.**—Gross earnings for January, \$30,616.10; operating expenses, \$21,518.62; net earnings, \$9,097.48, against \$28,354.13 gross earnings; \$19,853.66 operating expenses; \$8,500.47 net earnings for Jan., 1914.

**Saskatoon Municipal Ry.**—Receipts for week ended Mar. 6, \$2,431.05; passengers carried, 52,549; average number of cars in service, 12; average daily receipts per car, \$29; average fare, 4.626c. For the corresponding week in 1914, the receipts were \$2,489.25; and the number of passengers carried, 54,870.

**Sherbrooke Ry. and Power Co.**—Gross earnings for seven months ended Jan. 31, \$86,436; operating expenses, \$52,052; net earnings, \$34,384, against \$85,265 gross earnings; \$52,422, operating expenses; \$32,842 net earnings, for same period 1913-14.

**Winnipeg Electric Ry.**—The Manitoba Legislature has passed an act under which it is declared that in case the company has or may deposit any of its 4% perpetual consolidated debenture stock to secure advances for current account, such stock shall not be deemed to have been redeemed by reason of the repayment of such advances, but may be reissued. A similar provision is made to apply to any other bonds, debentures, or debenture stock. The company is given power to acquire stock or other securities of an electric light, power or tramway company or other corporation, or to raise money in order to aid by way of bonus, loan or advance to any other company with which it may have business relations.

**Electric Railway Notes.**

The Saskatoon, Sask., City Council passed a resolution, Mar. 2, removing the special concession to workmen in the early morning hours, and making the street car fare a straight five cents for all adults.

Commencing Mar. 1, the Edmonton, Alberta, city's power plant made a 25% cut in the charge to the Edmonton Radial Ry. for power. The charge for power is now 1.5 cts. a kilowatt hour instead of 2 cts.

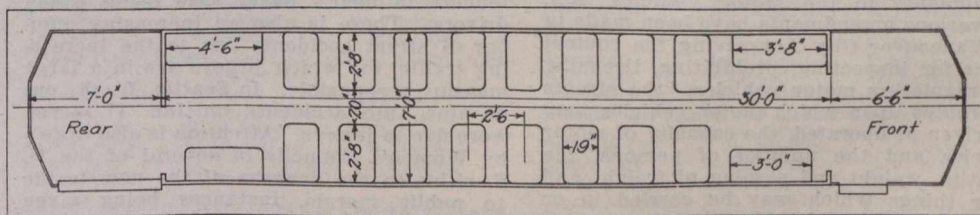
After some discussion regarding the pro-

maining property of the company consists of 287 miles of interurban lines, and 361 miles owned by four subsidiary companies. The latter includes the Sandwich, Windsor and Amherstburg Ry., with its subsidiary, the Windsor and Tecumseh Electric Ry., in Canada. The directors agreed, Mar. 9, to accept the city offer to take over the lines on the basis of assuming the bonded indebtedness of \$24,900,000.

**Guelph Radial Ry.**—The statement for 1914 presented at the annual meeting in Guelph, Ont., Mar. 9, showed operating profits \$11,216, and surplus profits \$12,420. The dividend paid to the city, which owns the line, was \$8,480, leaving a balance of \$3,940 to be carried forward.

**Lethbridge Municipal Ry.**—Earnings for January, \$3,750.61; passengers carried, 76,619. Earnings for February, \$3,438.65; passengers carried, 70,167. The expenditures are not reported, but it is estimated that there was a surplus of about \$500 for each of the two months.

**Lethbridge Municipal Ry.**—The report of



Centre Aisle Cross Seated Car on the Toronto Railway.

Commissioner Reid on the public utilities of Lethbridge, Alberta, contains the following with regard to the Municipal Railway for the year 1914: "There has been no decrease in traffic since the straight 5c. fare went into effect, but it has not been long enough in force to enable the commissioner to judge of its worth. The revenue for the year was \$46,053.56, against \$60,609.62 for 1913; the expenditures were \$83,098, against \$91,440.84 in 1913; the deficit was \$37,044.44, against \$30,831.22 in 1913. Taxes to the amount of \$5,518.81 were added to the expenses of the department in 1914." Following are the traffic statistics in comparison with those for 1913:—Passengers carried, 1,054,848 against 1,420,011; car miles, 357,938 against 483,183; revenue per car mile,

positional to increase the 2 ct. fares on the municipal electric lines, the Toronto Board of Control decided not to concur in the Works Commissioner's recommendation to that effect.

The Saskatoon, Sask., City Council, on Mar. 2, considered applications for the position of Superintendent of the Municipal Railway, but made no appointment. Three applications were said to be definitely under consideration.

The Regina City Council is appealing against the decision of the Saskatchewan courts, awarding Louis Schell, a street car conductor, \$2,700 damages for injuries received by him through striking a street car standard near the Broad St. subway, in the course of his work.



The Manitoba Legislature has passed an act providing that electric railway cars may be operated within the town of Stonewall, and certain parts of the rural municipality of Rockwood, upon a favorable vote of the ratepayers.

The Mayor of Toronto, at a meeting of the Ad. Club in Toronto, Mar. 18, stated that the Rapid Transit Committee were preparing a proper rapid transit scheme for Toronto, including tubes and entrances for radial lines.

The Edmonton, Alberta, City Council decided, Mar. 2, to cancel its agreement with the employes of the Edmonton Radial Ry., discharge the men whose wages and hours are governed by it, and re-engage those who

desire to work under the new conditions and wage schedule to be laid down by the Council.

The Toronto City Works Department received tenders Mar. 16, for the supply of track material, overhead line material and oak ties, for the building of a line connecting the municipal electric lines at St. Clair Ave. and Bloor St. West, via Lansdowne Ave.

C. A. Lee, A.M.Can.Soc.C.E., read a paper on Jordan River Power Development, Vancouver Island, before the Canadian Society of Civil Engineers, in Montreal, Mar. 4. This development is owned and operated by the Vancouver Island Power Co., a subsidiary of the British Columbia Electric Ry. Co.

## The Progress of the Jitney Auto Service.

The jitney bus service has definitely invaded Victoria, Vancouver, Winnipeg and Toronto, in competition with the electric railway service given by the companies having franchises in those cities, and Edmonton and Saskatoon in competition with the municipally owned electric railways. The jitneys' first appearance in Canada was in British Columbia. They started running in Victoria in November last and there are now about 80 in that city. About the middle of November they also started in Vancouver and there are now about 325 in that city, with about 40 running between Vancouver and New Westminster. They are said to have very materially reduced the British Columbia Electric Ry.'s receipts. The automobiles used in this service are of various makes and sizes, many of which have been resurrected from the junk heap and some of which are liable to drop to pieces. In fact several have done so since the service was started. They have no organized system, but jump from one line to another and back again wherever they think they can pick up a load. They run only on paved streets inside the city limits and simply skim the traffic during rush hours both morning and evening, particularly during fine weather. If it is very wet they do not turn out. As stated in our March issue the Auto Public Service Co. of B.C., Ltd., has been incorporated under the B.C. Companies Act, in the interests of jitney owners, and in Victoria, an association of jitney owners has been formed under the provisions of the Benevolent Societies' Act.

The B.C. Legislature has made some amendments to the Motor Vehicles' Act, and various amendments have been made in the Vancouver City Act, giving the council power for inspecting, prohibiting, licensing and regulating motor vehicles, "the streets and routes upon which motor vehicles may be driven or operated, the capacity of motor vehicles and the number of persons, the quantity, weight and number of freight and other things which may be carried in or upon motor vehicles, the places in or upon motor vehicles, in which persons, freight and things may be carried, the number of motor vehicles which may be driven or operated on any street or route, the number of hours and time on any day during which motor vehicles may be operated or driven by any one person, and the fitness of drivers and chauffeurs to drive and operate motor vehicles." The finance, police and fire committees of the Vancouver City Council had a joint meeting Mar. 15, to frame regulations under the Act.

The first regular jitney in Edmonton, Alberta, started running on 24th Street, between Namayo Ave. and Stoney Plain Road, Mar. 15. The car will carry 12 to 15 persons, and in the event of not too stringent regulations being drawn up by the City Council, it is proposed to put similar cars on a number of routes and to run on time.

At Edmonton, Alberta, a city bylaw is being prepared to fix a prohibitive license on all autos operating as jitneys in competition with the municipal street railway. An editorial in one of the Edmonton papers says:—"We seem to have no alternative but to clap on restrictive legislation as a means of self protection. Undoubtedly that is a kind of legislation to which a great many people have an instinctive dislike. It is a direct negation of the principle that the individual is entitled to the best service he can get for the money. Yet, what are we to get for his money? We cannot afford to put the street railway system—which we have to pay for—on the scrap heap. The Saskatoon, Sask., City Council is preparing to impose a high license fee on any cars operating as jitneys. Of the towns outside Vancouver, North Vancouver has appointed a commission to draw up regulations for the control of this new traffic, and other towns are moving in the same direction.

Canadian cities are finding the same difficulties with jitneys as United States cities have. In addition to the difficulties arising out of the great variety of vehicles used, and the overcrowding of the same, in Victoria, Vancouver and Winnipeg the police are finding difficulty in enforcing traffic regulations. Traffic in the already congested districts is becoming more congested, and the more or less irresponsible jitney owners or drivers openly disregard the directions of traffic officers. The number of fines inflicted for breaches of the traffic bylaws in these cities is increasing, the offenders in nearly every case being jitney drivers. There is also an increasing number of street accidents due to the increasing traffic, for which jitneys are in a large measure responsible. In Seattle, Wash., out of nine auto accidents on Jan. 17, seven were due to jitneys. Attention is also drawn by Women's Councils in several of the U. S. cities to the dangers of the new traffic to public morals, instances being given where jitneys have been operated in connection with immoral resorts.

The only course for the public authorities to take is to make such regulations for the traffic, as will protect the public, and keep out of the field the irresponsible, the dishonest (such as one driver who is reported to have said he never completed a schedule route during rush hours because it was not profitable), and the reckless drivers.

As an example of the effect of the jitneys on street car earnings it is stated that a company operating in Seattle, Wash., is losing \$2,500 a day in earnings, and is about to reduce its service. In Portland, Oregon, the company has issued two pamphlets dealing with the subject, one to its employes, and the other to the public. The first places before the men information and arguments to be used in meeting statements favoring the jitney traffic, and the second points out

among other things that 15½% of the company's revenue goes to federal, state, county and city governments for the mere privilege of doing business.

Various states are moving in the direction of enacting laws for the control and regulation of the traffic. Oregon proposes to place jitneys under the same regulations, as street railways, and auto common carriers outside cities under the same regulations as steam railways; the Massachusetts state legislature is considering a bill to put the control of the new traffic under the Public Service Commission, and authorizing the municipal authorities to name the conditions under which jitneys may be operated. The bill provides that the capital of the companies operating such service shall be not less than \$10,000 for each seat in the largest vehicle operated, and may be increased by the commission.

Following on the establishment of a jitney service in the northern suburbs of Toronto in February, an additional service was put on, Mar. 15, running from Front St. on the south to the Toronto and York Radial Ry. station in the northern part of the city. Several automobiles are being utilized, with accommodation for an average of six persons each, the fare charged being 5c. a trip, and 6 tickets for 25c. The Jitney Motor Bus Co. applied to the city, Mar. 12, for a permit to operate a service on Yonge St., as from Mar. 15. The Mayor is reported to have stated, in connection with the application, that there is nothing to interfere with the company in operating such a service, but that there should be an agreement by which the city should be guaranteed 25% of the revenue. He said that undoubtedly the Toronto Ry. traffic would suffer and the city percentage would be affected. The Toronto Jitney Association has been formed with the object of protecting the interests of those concerned in the traffic.

## Calgary Municipal Railway's Operating Results.

Following is a comparative statement for

	1915.	1914.
Car and miscellaneous earnings .....	\$47,726.41	\$57,640.20
Maintenance of way and structures .....	\$ 631.81	\$ 1,994.87
Maintenance of equipment .....	2,476.89	8,618.55
Transportation .....	27,068.24	40,746.78
General expenses .....	1,451.46	1,878.72
Total operating expenses .....	\$31,628.40	\$53,238.92
Wages held back conditionally .....	1,250.96	.....
Balance of revenue .....	14,847.05	4,401.28
	\$47,726.41	\$57,640.20

The following were fixed charges for Jan., 1915:—

Depreciation and sinking fund .....	\$5,906.51
Contingent account, gross receipts ..	954.32
Debenture interest .....	8,853.29
Insurance .....	625.00
	\$15,339.12

Deficit for Jan., 1915 .....

	Jan. 1915.	Jan. 1914.
Revenue per car mile ..	21.244 cts.	20.484 cts.
Operating expenses per car mile .....	14.078 "	18.920 "
Surplus (gross) .....	7.165 "	1.564 "
Cost of power per car mile .....	3.947 "	4.906 "
Proportion operating expenses to revenue ..	66.270%	92.36%

The recommendations of the city auditors on the Municipal Railway accounts for 1914, have the effect of turning what appeared to be a deficit into an apparent surplus of \$10,000. The recommendations include the charging to general city account of the interest and sinking fund charges of the Ogden line, and the reduction of the depreciation on the lines from 7½ to 5%. The auditors point out that the Ogden line was built for the benefit of the city at large, and that the reduced traffic warrants a reduction in the provision for depreciation.



# Marine Department

## Coast, Lake and River Officers for 1915.

The following appointments, made by navigation companies, engaged in Canadian navigation, for their various steam vessels and tugs, for this year, have been reported to Canadian Railway and Marine World, by the managements. The first column shows the names of the vessels, the second those of the captains, and the third those of the chief engineers.

ALGOMA CENTRAL STEAMSHIP LINE, SAULT STE. MARIE, ONT.		
Agawa	J. A. Brown	J. L. Smith
E. D. Carter	C. H. Wilson	R. J. Sullivan
J. A. McKee	H. C. Wingrove	Jno. Knight
J. Frater Taylor	R. H. Boyle	L. B. Cronk
Paliiki	R. G. Bassett	A. M. MacInnes
T. J. Drummond	A. McIntyre	W. T. Rennie
W. C. Franz	W. C. Jordan	G. Sylvester
AMERICAN YUKON NAVIGATION CO., VANCOUVER, B.C.		
Alaska	J. T. Gray	J. P. Morrison
Delta	M. Lemley	T. Fitzgerald
Meteor	E. Olson	R. H. Jones
Reliance	G. Green	T. Hyde
Sarah	S. E. Lancaster	N. Madin
Schwatka	W. T. Hoelscher	B. Bryant
Susie	M. M. Looney	M. J. Stack
Tanana	J. C. McCann	O. A. Anderson
Washburn	E. J. Josie	F. W. Anderson
Yukon	J. C. Green	J. W. Pearson
BRITISH YUKON NAVIGATION CO., VANCOUVER, B.C.		
Casca	J. O. Williams	F. Murray
Dawson	C. H. Bloomquist	J. R. Young
Gleaner	J. G. Roberts	J. Landerdale
Nasutlin	J. P. Douglas	P. Bourne
Scotia	J. McDonald	D. Sullivan
Selkirk	G. H. McMaster	W. C. Vey
Whitehorse	—, Turnbull	P. Larssen
BURNHAM, MORRILL & CO., HALIFAX, N.S.		
Mary Jane	V. G. Henry	S. Silver
Robie M.	R. A. Hines	J. McArvill
BUTLER FREIGHTING & TOWING CO. LTD., VICTORIA, B.C.		
Grainer	D. J. Butler	H. Soper
CANADA ATLANTIC & PLANT LINE STEAMSHIP CO. LIMITED, HALIFAX, N.S.		
Evangeline	F. H. Hawes	Jas. Smith
Halifax	A. Ellis	R. McKay
CANADA ATLANTIC TRANSIT CO. LTD., MONTREAL		
Arthur Orr	Jno. Simons	D. Mance
George N. Orr	H. Jaenke	J. B. Wellman
Kearsarge	W. Baxter	A. P. Williams
Newona	W. J. Moles	W. Paus
CANADIAN NORTHWEST STEAMSHIP CO. LIMITED, TORONTO		
Atikokan	W. J. Brown	C. Arnberg
George A. Graham	P. McIntyre	J. H. Louden
Neebing	Jno. Ewart	R. R. Foote
Paipooage	J. N. Foote	H. H. Moore
CANADIAN PACIFIC CAR & PASSENGER TRANSFER CO. LIMITED, PRESCOTT, ONT.		
Charles Lyon	W. Henry	L. Black
C.P.R. DETROIT RIVER CAR FERRIES, WINDSOR, ONT. ONTARIO		
	R. Brown	F. Merrill
C.P.R. UPPER LAKE SERVICE, PORT McNICOLL, ONT.		
Alberta	F. J. Davis	C. Butterworth
Assiniboia	Jas. McCannel	A. Cameron
Athabasca	J. B. Currie	G. D. Adam
Keewatin	M. McPhee	W. Lewis
Manitoba	J. McIntyre	R. Sinclair
C.P.R. BAY OF FUNDY SERVICE, ST. JOHN, N.B.		
St. George	M. Cardiff	J. T. Kelly
Yarmouth	A. B. MacDonald	Jas. Pendrigh
C.P.R. BRITISH COLUMBIA LAKE AND RIVER SERVICE, NELSON, B.C.		
Bonnington	G. Robertson	T. F. McKechnie
Hosmer	F. L. Orr	A. McLeod
Naramata	J. W. Weeks	J. P. Sutherland
Nasookin	W. Seaman	D. H. Biggam
Proctor	G. Graham	P. H. Pearse
Rosslund	A. Forslund	J. Fyfe
Sandon	M. P. Reid	N. Hawthorn
Sicamous	W. Kirby	W. Jacobs
Slocan	W. Wright	D. McLeod
Valhalla	Jas. Ferguson	T. C. I'Anson
Whatsan	J. Fitzsimmons	W. Edwards
HUGH CANN & SON LIMITED, YARMOUTH, N.S.		
Bruce Cann	I. A. Banks	H. Doane
Hugh D.	E. B. Nickerson	R. M. Gammon
John L. Cann	A. L. McKinnon	J. Nixon
La Tour	F. E. Smith	C. R. Weddleton
Malcolm Cann	J. R. Durkee	D. E. Read
Mary H. Cann	F. L. Nickerson	H. Goodwin
Percy Cann	—, —, —	A. Wyman
Robert G. Cann	W. E. Morris	J. Anderson
Wanda	W. Brush	W. Amiro
CAPE BRETON ELECTRIC CO. LIMITED, SYDNEY, N.S.		
Electronic	I. H. Lewis	B. Dixon
Hygia	J. Brown	A. Campbell
Peerless	A. McLeod	J. B. Weeks
CHATHAM NAVIGATION CO. LIMITED, CHATHAM, ONT.		
Ossifrage	T. J. Stockwell	George Peel

CHARLOTTETOWN STEAM NAVIGATION CO. LTD., CHARLOTTETOWN, P.E.I.		
Empress	A. Cameron	J. A. Rowe
Northumberland	A. W. McLeod	C. Cuming
COAST STEAMSHIP CO. LTD., VANCOUVER, B.C.		
British Columbia	G. Foellmer	J. Ellison
Celtic	J. Finlay	H. Buxton
Clansman	M. F. MacDonald	H. Nissen
Fingal	R. W. H. Lloyd	H. Spencer
CHICAGO, DULUTH & GEORGIAN BAY TRANSIT CO., CHICAGO, ILL.		
North American	C. M. Haight	J. F. Buritz
South American	G. M. Cummings	C. H. Menmuir
F. CLEMENTS, ST. JOHN, N.B.		
Victoria	H. Weston	Jos. Williams
CRYSTAL STREAM STEAMSHIP CO. LIMITED, ST. JOHN, N.B.		
D. J. Purdy	B. Dykeman	G. McVicar
Majestic	H. Crabb	W. Hurder
DARTMOUTH FERRY COMMISSION, DARTMOUTH, N.S.		
Chebucto	N. Wallan	C. Pearce
Dartmouth	J. Hare	C. Shortt
Halifax	W. Jennex	A. McLeod
DEER ISLAND & CAMPOBELLO STEAMSHIP CO. LIMITED, ST. STEPHEN, N.B.		
Viking	F. Johnson	F. H. Rowe
DOMINION TRANSPORTATION CO., SAULT STE. MARIE, MICH.		
Caribou	A. A. Batten	Jas. Nicoll
Manitou	N. J. McCoy	Jno. McDonald
DONNELLY SALVAGE & WRECKING CO., LIMITED, KINGSTON, ONT.		
Cornwall	Jas. Murray	R. Vince
Saginaw	L. Spencer	Jno. Rice
EASTERN MANITOULIN ROYAL MAIL STEAMSHIP LINE, LITTLE CURRENT, ONT.		
Amigo	C. L. D. Sims	.....
Bon Ami	Ed. Mackie	R. A. Johnston
John Haggart	S. J. Smith	.....
FARRAR TRANSPORTATION CO. LIMITED, TORONTO		
Collingwood	W. A. Richmond	Duncan McLeod
Meaford	Hugh Davidson	Samuel Beatty
FORT ERIE & BUFFALO FERRY CO. LIMITED, FORT ERIE, ONT.		
Welcome	R. Parsons	W. Woolver
FORWARDERS LIMITED, KINGSTON, ONT.		
Port Colborne	W. Steeves	J. H. McMillan
Port Dalhousie	Jos. Napier	L. McMillan
W. H. Dwyer	J. P. McLeod	J. Silverthorne
GASPE & BAIE DES CHALEURS STEAMSHIP CO. LIMITED, QUEBEC, QUE.		
Acadien	P. Blouin	J. Cantin
Gaspesian	T. D. Morin	N. P. Mastro
GASPE STEAMSHIP CO. LIMITED, QUEBEC, QUE.		
Lady of Gaspe	J. B. Deslauriers	H. Mercier
GRAND MANAN STEAMSHIP CO. LIMITED, GRAND MANAN, N.B.		
Grand Manan	N. MacKinnon	J. G. McGray
G.T.R. CAR FERRIES, WINDSOR, ONT.		
Detroit	R. Aikin	H. Lowry
Great Western	.....	Jos. Ladds
Huron	M. Bausette	A. Cook
Lansdowne	H. Oldenberg	W. Belsom
Transfer	G. Honner	W. Taylor
Transport	W. Worrell	F. Robinson
GRAND TRUNK PACIFIC COAST STEAMSHIP CO. LTD., VANCOUVER, B.C.		
Escort No. 2 (tug)	T. Foster	J. Taylor
Henriette	H. L. Robertson	F. Davies
Prince Albert	W. S. Morehouse	R. Bell
Prince George	D. Donald	I. O. Handy
Prince John	C. W. Wearmouth	A. S. Munro
Prince Rupert	D. MacKenzie	D. G. Ferrier
GREAT LAKES TRANSPORTATION CO. LIMITED, MIDLAND, ONT.		
Calgary	J. H. Solery	T. Walker
Glenfinnan	W. Linton	C. McWilliam
Glenfoyle	W. Taylor	J. P. Davidson
Glenlivet	F. Burke	W. McWilliam
Glenlyon	A. Hudson	D. Sinclair
Glenmavis	J. Dix	E. Shaw
Glenushee	W. Levinge	F. Goodwin
Glenstay	T. Anderson	J. Jackson
Major	S. Carson	W. McCabe
Toiler	F. A. McMann	G. Price
HALIFAX & CANSO STEAMSHIP CO. LIMITED, HALIFAX, N.S.		
Halifax	Jas. Schmeisser	J. G. Clark
HALIFAX & SHEET HARBOR STEAMSHIP CO. LIMITED, HALIFAX, N.S.		
Margaret	P. C. Cooper	J. W. Gunn
F. E. HALL & CO., MONTREAL		
Byron Whitaker	E. Tremblay	F. Patterson
Carleton	E. Groulx	E. Scott
Compton	B. Bowen	L. Smith
Robert R. Rhodes	W. H. Ransom	F. A. Collier
Sinbad	J. C. McCarty	A. Theriault
Stanstead	D. McLachlan	M. J. McFaul
W. HANNA & CO., PORT CARLING, ONT.		
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KEENAN TOWING CO. LIMITED, OWEN SOUND, ONT.		
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KEYSTONE TRANSPORTATION CO. LIMITED, MONTREAL		
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Keyport	Jno. Mullen	R. J. Muchmore
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Keywest	M. Olsen	W. H. Jennison
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Trusty	J. Crouse	A. Zwicker
LAKE ERIE NAVIGATION CO. LIMITED, WALKERVILLE, ONT.		
Marquette and Bessemer No. 1	M. M. Rowan	H. Culp
MAGNETAWAN RIVER & LAKE STEAMBOAT CO., BURKS FALLS, ONT.		
Armour	Jas. Mortimer	F. Dunn
Glenada	W. Kennedy	E. Goldthorpe
Gravenhurst	S. Carswell	M. Pritchard
Thurso	C. Gerow	J. Gerow
Wanita	W. Keitch	J. Kennedy
MARINE EXPRESS LTD., VANCOUVER, B.C.		
Marine Express No. 1	W. Yates	J. C. Scott
Mon-Ping	J. Metcalf	J. Power
THE MARITIME & INDUSTRIAL CO. OF LEVIS, LIMITED, LEVIS, QUE.		
Champion	D. Lemay	C. Barras
Frontenac	Jos. Plante	N. Lamothe
MARITIME STEAMSHIP CO. LIMITED, BLACKS HARBOR, N.B.		
Connors Bros.	E. H. Warnock	G. A. Cowie
MARQUETTE & BESSEMER DOCK & NAVIGATION CO., WALKERVILLE, ONT.		
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Advance	J. V. Norris	J. M. Sherman
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D. G. Thomson	.....	G. Henderson
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Glenmount	H. Peters	R. Knight
Glide	M. Barry	M. Perry
India	C. Beapre	F. Brian
Kinmount	Jno. Wood	R. Taylor
Mary	T. Lepine	F. St. Germain
Mary P. Hall	A. Lepine	T. Brabant
Northmount	Jas. Sutherland	R. H. Veesh
Rosemount	R. Graham	G. Dennison
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Westmount	F. Howell	W. Spencer
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City of Midland	F. A. Garrett	J. Osburn
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Ionic	A. M. Wright	Jno. Dow
Majestic	O. W. Wing	.....
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 Rideau Queen E. Fleming T. Hazlett  
 RIVER LIEVRE NAVIGATION CO. LIMITED, BUCKINGHAM,  
 QUE.  
 George Bothwell G. N. Bothwell G. Bothwell  
 ST. JOE ISLAND & SAULT LINE, SAULT STE. MARIE, ONT.  
 Premier W. Hyland D. S. Crawford  
 ST. LAWRENCE & CHICAGO STEAM NAVIGATION CO. LIM-  
 ITED, TORONTO  
 E. B. Osler C. E. Robinson W. Robertson  
 G. R. Crowe J. H. Hudson W. Reid  
 Iroquois D. A. Kennedy J. E. Readman  
 J. H. G. Hagarty S. Hill C. Robertson  
 W. D. Matthews W. Cunningham W. Harwood  
 SPARROW LAKE STEAMER LINE, SPARROW LAKE, ONT.  
 Glympse A. F. Stanton G. T. Stanton  
 Lakefield F. Stanton

TERMINAL STEAM NAVIGATION CO. LTD., VANCOUVER, B.C.  
 Ballena J. A. Cates A. Pierie  
 Bowena F. W. Goltbert W. Brown  
 CITY OF THREE RIVERS, QUE.  
 Le Progres M. W. Lewis A. Frenette  
 THREE RIVERS STEAMSHIP CO. LTD., MONTAGUE, P.E.I.  
 Enterprise J. A. Hughes Jno. Fraser  
 UNION STEAMSHIP CO. LTD., VANCOUVER, B.C.  
 Camosun A. E. Dickson A. Beattie  
 Capilano S. Nelson T. McC. Donaldson  
 Cassiar G. Gaisford A. Edgar  
 Cheakamus J. Cockle L. P. Thomas  
 Chelohsin J. F. Edwards G. H. Foster  
 Comox G. Whalen A. T. Roy  
 Coquitlam N. Gray  
 Cowichan C. Moody R. M. Logan  
 Venture J. Park C. Arthur  
 VALLEY STEAMSHIP CO. LIMITED, ANNAPOLIS ROYAL, N.S.  
 Granville C. W. Collins V. McCullough  
 VICTORIA NAVIGATION CO. LIMITED, THURSO, QUE.  
 Victoria F. Elliott P. Belanger  
 WALKERVILLE & DETROIT FERRY CO., WALKERVILLE,  
 ONT.  
 Ariel W. H. Carr H. Henderson  
 Essex F. A. Wilkinson P. McLaren  
 WESTERN NAVIGATION CO. LTD., FORT WILLIAM, ONT.  
 Kaminstiquia E. L. Stephen H. Young  
 WINDSOR AND PELEE ISLAND STEAMSHIP CO. LTD., PELEE  
 ISLAND, ONT.  
 Pelee J. N. Sheats J. Kenney  
 WINDSOR, DETROIT AND WALLACEBURG STEAMSHIP LINE  
 WINDSOR, ONT.  
 Olcott J. C. Fox L. F. Miller

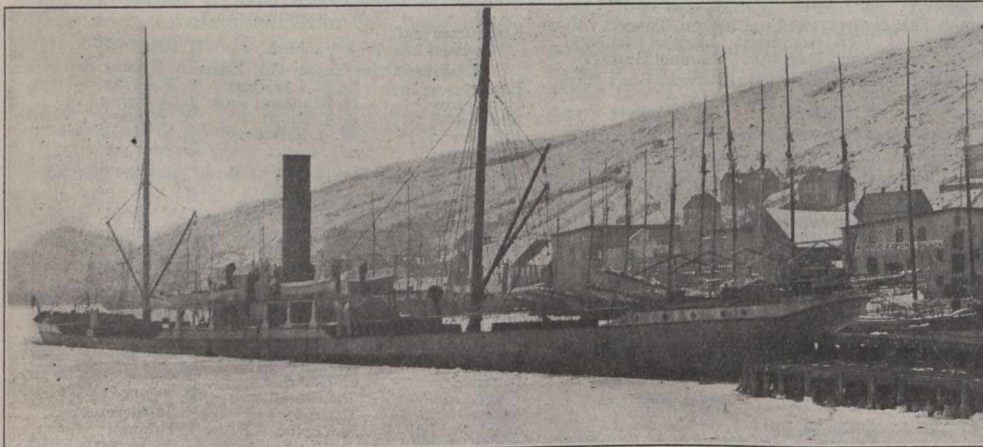
it would be impossible for her to continue the voyage to Ardrossan, but recommended, under certain conditions, that she return to New York to have her cargo reconditioned. After waiting a few days, and there being apparently no danger from the fumes, the vessel left St. John's, but had only proceeded about 200 miles before the former conditions were again met with. It is apparent that after meeting a rather heavy sea some more drums commenced to leak, and conditions became so serious that the master was obliged to return to St. John's.

Conditions now became so bad that the agent in charge of the cargo and ship, after getting in touch with the owners and underwriters, received authority to discharge the cargo and have the vessel thoroughly examined and repaired, but considerable difficulty was found in getting anyone to receive the cargo. Eventually the Reid Newfoundland Co. agreed to transport it to Irvine, about 10 miles out of St. John's, and to erect a temporary shed to allow the cargo to be reconditioned, and in due course shipped to its destination. The work of discharging the cargo was commenced on Mar. 1, and although considerable difficulty was experienced by the obnoxious fumes arising from the holds, about 2,000 drums were discharged and taken to the storing place, but on the afternoon of Mar. 3, the fumes became so bad that work had to be stopped. It was found that about 35% of the drums were in a leaking condition, and 5% of these actually had large holes from 3 to 10 ins. in diameter, and were as thin as paper in several places. About 9 p.m. the crew, who were sleeping in the forecabin, heard a roaring issuing from the two 3 in. vent pipes from the forward ballast tank and immediately evacuated their quarters. One of the crew procured a lantern to investigate, when suddenly gases became ignited and burned very fiercely, consuming the wood work in the forecabin. This was explained by Chemist Armstrong as being due to the presence of hydrogen gases in large quantities, which was caused by the action of the sulphuric acid dissolving the iron parts of the ship. This continued to burn with great ferocity until 3 a.m. when it was extinguished by the combined efforts of the men of His Majesty's training ship Calypso and the local fire department. During this time, great volumes of fumes from every hold of the ship were arising and being carried by the wind for several hundred yards, making it impossible to approach the ship unless properly protected from the fumes. The Reid Newfoundland Co., realising the danger of allowing the vessel to remain at their wharf, requested the captain to have her removed as far as possible, so that in case of an explosion their dock premises would not be damaged. This work was commenced at daylight, during which time it was apparent that the acid had succeeded in eating holes through the bulkheads, which allowed the water to flow into the stokehold of the vessel. She also commenced to make considerable water, and in a short time the fires were put out and the vessel apparently commenced to sink. So many complaints were made from the neighboring tenants of houses and workmen employed in the buildings in the vicinity of the fumes, that the Government issued instructions to the captain of the vessel and the agent, to remove her at once, and it was decided that the only safe method of disposing of her was to tow her out of the harbor away from inhabited regions. This, however, was found impossible by the ice blockade which had effectually closed the port for several days. About 9 p.m. a series of explosions took place on the vessel and the captain ordered the crew and officers to

### Disastrous Voyage of the s.s. Desola.

The Canadian steamship Desola, of Montreal, 2932 registered tons, length 340 ft., loaded a cargo of sulphuric acid or oleum, consisting of some 7,000 odd drums, each weighing 800 lbs. net, in New York early in

the engineer had not returned. Some time elapsing the Chinese firemen became alarmed at the non appearance of either, entered the tunnel in a body and found both engineer and oiler unconscious. The Chinese rolled



The Canadian Steamship Desola, at St. John's, Nfld.

December, and started for Ardrossan, Scotland. It is assumed that the oleum was to be used for the manufacture of high explosives by the British Government, the Canadian Explosives Co. securing the product from a Newark, N. J., concern. The Desola encountered very heavy weather for several days. Her decks were continually flooded fore and aft, and it is assumed that a large quantity of sea water must have found its way into the cargo holds, either through the hatchways or down the ventilators; the result was that large quantities of poisonous gases escaped from the cargo holds and found their way into the crew's quarters, also into the engine room, stokehold, and tunnel shaft.

The crew was composed of Chinamen, with white officers in charge, under Capt. Drurie, Chief Mate Swift and Chief Engineer Dixon. About January 12, the fourth Engineer, W. Sheppard, being on watch at this time went into the shaft tunnel to see that the bearings were being oiled, etc., and as he did not return in a reasonable time, the Chinese oiler on watch with him notified the fireman that he was entering the tunnel to find out why

their countryman off the white engineer, took the latter out of danger and then returned for the oiler, showing conclusively the loyalty of the crew to their white officers. So badly was the engineer injured that he still lies in the hospital in St. John's, Nfld., his injuries being principally burns from the combination of water and sulphuric acid.

The conditions were so bad that the master deemed it advisable to put into St. John's to have the cargo restowed. About 3,000 drums were removed from the vessel and about 300 of these were proved to be in a leaky condition. They were disposed of and the remainder of the cargo restowed in a careful manner. After this was done it was discovered that the acid was draining into the bilges of the vessel and mixing with the bilge water, seriously affecting the pumps and their connecting parts. The vessel also sprang a leak in the forward end. About this time Capt. H. B. Saunders, agent for the London Salvage Association, with Chemical Expert E. E. Armstrong of the Canadian Explosives Co., arrived at St. John's from New York in connection with the vessel and cargo, and after examining the vessel, decided



leave her. Shortly after they had done so the after part of the vessel burst into a volume of flame, reaching as high as the topmast. The fire department was called but could do nothing to check the flames and practically all the wood work in the cabins and the accommodations of the vessel were destroyed. Soon after the fire commenced she commenced to sink rapidly, and now lies partially submerged and resting on the bottom. The action of the acid after the ship was submerged continued and the drums could be heard bursting, and the water in her was kept in a boiling condition for three days after she sank. Portions of the hull became so heated that the paint on the outside was burnt off.

The captain and crew displayed great bravery in sticking to the ship so closely in the dangerous condition that she was found to be in. Chief Engineer Malcolm Dixon, particularly, was untiring in his efforts to keep the pumps in order, to prevent the water reaching the cargo. It is probable that an effort will be made to raise the *Desola* in the near future, so that she may be placed in dry dock for survey.

This is probably the first case of this nature that has occurred. There will probably be litigation as to who will remove the vessel and pay damages. The underwriters will be likely to try and recover damages from either the makers of the steel containers, or the manufacturers of the acid. The *Desola* was valued at \$132,000, and the cargo of 7,000 steel drums of sulphuric acid weighing 850 lbs. each, was valued at \$175,000.

### The Shipping Federation of Canada.

The annual general meeting was held at Montreal, Mar. 1. The report of the President, A. A. Allan, stated that the first vessel to arrive in Montreal for the 1914 season was the Allan Line s.s. *Corsican*, Apr. 29, and the last vessel to leave was the Manchester Liners s.s. *Manchester Spinner*, Dec. 4. At the outbreak of war a great number of vessels in the Canadian trade were requisitioned by the Admiralty, and several of the shipping lines, in order to maintain their schedules, were obliged to charter outside steamers. In many cases the higher rates paid left a very small margin of profit, owing to the delays and detentions that had been caused at the ports on the other side. The total number of seagoing vessels arriving during the season was 916, an increase of 96 over the previous year, with an increased tonnage of 68,827 tons. There was a serious falling off in the passenger service, particularly in the westbound traffic. Exports show decreases in the following commodities, as compared with 1913:—apples, 49,733 barrels; cheese, 88,267 pkgs.; lard, 200,633 pkgs.; lumber, 34,969,363 ft.; while the following showed increases:—butter, 5,572 pkgs.; oats, 1,152,508 bush.; flour, 16,948 sacks; hay, 203,022 bales, and wheat, 27,365,164 bush.

In connection with the transportation of the first Canadian expeditionary force to Great Britain, shipowners were called upon by the Dominion Government to inform the Minister of Militia and Defence how many steamships could be supplied to carry a certain number of troops by a certain date. Within a few days a list of 52 vessels, approximating 476,717 gross tons, was submitted as being suitable, from which 32 vessels of nearly 330,000 tons were requisitioned. The companies were left to look after the coaling and provisioning of the vessels, and the engaging of additional crews to cope with the increase of work in all departments. Most, if not all, of the vessels had to be transformed into transports,

involving an immense amount of work. Most of this was done at Montreal, and the vessels sent to Quebec, where embarkation took place.

In view of the fact that the British Board of Trade had given permission to vessels loading in the White Sea to carry full deck loads for an extra period, the Shipping Federation approached the Canadian Government with the view of having the same privilege extended to British vessels sailing from Canada, and as a result of negotiations the Government notified shipowners that they would not proceed against owners of vessels sailing from ports in Canada up to Nov. 7 last, and the privilege was later extended to Mar. 16.

The tonnage entered in the Federation in 1914 was the highest since incorporation. The total line tonnage was 840,188, an increase of 206,966 over the previous year. The tramp tonnage was 340,940 tons, an increase of 249,337, or a grand total of 456,303 tons over 1913. During 1914 there was an increase of 22,363 tons in the Canadian registered tonnage entered in the Federation, as compared with 1913.

A. A. Allan was re-elected President for the current year, the other members of the executive council being, J. R. Binning, D. W. Campbell, A. Mackenzie, W. R. Eakin, R. W. Reford, John Torrance.

The following representatives of the various steamship companies were elected:—Allan Line, A. A. Allan, W. A. Wainwright; White Star-Dominion, Canada, and Cie. Generale Transatlantique Lines, John Torrance, P. V. G. Mitchell, W. Macpherson; Cunard, Donaldson, Thomson and Cairn Lines, R. W. Reford, W. I. Gear; Manchester Liners and Furness Withy and Co., J. R. Binning, J. W. Nicoll; New Zealand Shipping Co., E. W. Foulds, V. A. Ward; Elder Dempster and Co., D. W. Campbell; Canadian Northern Steamships, R. C. Vaughan, G. Tombs; Head Line, W. R. Eakin, A. E. Francis; Dominion Coal Co., A. Mackenzie, A. Dick; Nova Scotia Steel and Coal Co., L. C. Webster.

### The Canadian Pacific Railway Ocean Services.

It is stated that the name by which the new company, which will take over the C.P.R. ocean vessels, together with any other vessels which may be decided upon, will be Canadian Pacific Ocean Services, Ltd., and that it will be registered in England. The bill to authorize the transfer passed the House of Commons, Mar. 8.

Sir Thomas Shaughnessy is quoted as saying:—"The C.P.R. is operating steamships on the Atlantic and Pacific Oceans, and on the Pacific Coast and the Great Lakes and other inland waterways of Canada. These latter are connecting links between different sections of the railway line, and are, therefore, essentially a portion of the railway transportation system, and it is not proposed to change their status. The ocean fleets are, however, in a different class, engaged in competition with outside fleets, plying between Canada and other portions of the world. The company proposes to transfer these ships to a steamship company, with which the business relations will be the same as they are with outside steamship lines which exchange traffic with the railway company. Heretofore, all expenditures for the acquisition and construction of these ocean steamships were made by the railway company and included amongst the liabilities in its balance sheet. Hereafter, it is proposed that the steamship company shall itself secure the requisite money for these purposes by the issue of its own securities. The ownership and control of

the steamship company will remain with the C.P.R., but the management and operation of the steamship lines will be vested in the directors of the Canadian Pacific Ocean Services, Ltd. It is only another step in the direction of eliminating from the direct operations of the railway company items that do not relate to the railway property itself."

### The Morwenna-Chebucto Collision.

Following is the judgment re the collision between the s.s. *Morwenna* and the ferry steamboat *Chebucto* in Halifax harbor, Jan. 30. The enquiry was held by Capt. L. A. Demers, Dominion Wreck Commissioner, with Capt. John Fleming and John Hearn as nautical assessors:

The court, having carefully weighed a most contradictory version of this accident, is of opinion that the master of the *Morwenna*, Luke Holmes, when leaving the wharf, exercised the usual prudence necessary on such an occasion; but when straightening up on his course for probably a point on Georges Island, in order to get into position to go out of the harbor, and noticing the ferry was on his port side, and considering it was her duty to keep clear of him, when he saw there was a danger he blew one blast of the whistle and gave an order to the engine room to stop, and two minutes later gave order full speed astern. Upon being asked what he did after blowing one blast, he said he kept his helm amidships, which we consider was contrary to the rules of the road as established, as the signal one blast was misleading in this case. While we admit the one blast was sounded as a signal of warning, as he claimed, to the other vessel, no one on the *Chebucto* heard such a signal, and the court can easily understand the reason of it. The vessel had been two days in the dock and the whistle was not used, the steam had remained in the pipe and was condensed, and a certain amount of water had accumulated therein. Upon leaving the wharf, there was only about 160 lbs. of steam, and upon the first blast of the whistle, which might be a sound, as he said, it might not have been sufficiently loud to be heard any great distance owing to the accumulation of water in the pipe. Again, when he saw that the collision was inevitable, it was very apparent he did not take the precautions which are required of a shipmaster, to go full speed astern or starboard his helm in order to pass astern of the ferry boat, and by the entries in the log and the succession of signals given to the engine room within a minute, and maybe a little more, between each other, and the sounding of one blast of the whistle, shows that the master was for the moment perplexed. After sounding the blast of the whistle, and when ordering the vessel to go full speed astern, he also failed to sound the three blast signal indicating that such was the movement he was taking in order to avoid the collision.

The court has tried to ascertain whether there are any regulations governing the movements of ferry boats in Halifax harbor, but did not obtain any definite information. Therefore it is under the impression that the navigation in the port of Halifax, whether ferry vessel or any other vessel, is governed by the international rules of the road, and on that its opinion is based. At no time would it appear that the *Chebucto* was a crossing ship. Both vessels were following a course in an oblique direction, and coming to a point which proved fatal in this instance. This opinion is arrived at by the fact that no one on the *Morwenna* claims to have seen the sidelights of the ferry steamer, which it has been proved were lit at 5.15 that afternoon, and which



would indicate that the Morwenna was a couple of points abaft the starboard beam of the ferry. Therefore the Chebucto cannot be considered a crossing ship and expected to go astern of the Morwenna. On the other hand, the rules of the road state that it is permissible to adopt any action when a collision is inevitable, though it is contrary to the articles already framed. The master of the Morwenna, knowing the nature of the boat he was meeting, the location of the wharf where she was to enter, and the nature of the traffic she was engaged in—transporting passengers, the number of which was more or less great—it was his duty to adopt a different action to that which he did. We maintain that he ought to have gone full speed astern all along, no matter if his ship swung towards the wharf, as we maintain it would have been preferable for him to come into contact with the wharf than to risk striking a ship carrying passengers, and the fact that he dreaded striking the wharf goes to prove that he was closer to it than he stated.

The regulations governing the speed of vessels in Halifax harbor were produced, and we find by an order in council passed in 1896 that the speed is limited to 5 miles an hour, and anyone contravening this order is liable to a fine of \$100. The speed of the Morwenna was 6 or 7 knots, not exactly half speed, her full speed being 13; but in this case this regulation, being enacted by the authorities ruling matters pertaining to Halifax harbor, it does not come within our jurisdiction to comment upon. If it is a breach of the regulations, it pertains to others to deal with it. Whether the ship was going 3 miles an hour, or 5 miles, or 7 miles, it does not alter the fact that the collision occurred, and errors of judgment were committed to avoid the same.

The court cannot arrive at any other conclusion than that the master of the Morwenna is alone at fault for the collision that occurred, and in consequence suspends his certificate, no. 3136, for six months from Feb. 12 to Aug. 12, without the option of a lower grade certificate being granted. The other officers are exonerated from blame, as they did not participate as principals in the navigation of the vessel.

With regard to the Chebucto, our opinion is that the master, N. W. Allen, where a crew is limited, ought to have been taking his lunch in the forward wheelhouse, where the navigation is conducted, instead of in the after wheelhouse, as he stated. It is true that the weather was fine, and it was so for some time, and there was no occasion for the master to be right there at his station, but nevertheless we claim that when the first bell was rung, "stand by," he should immediately have come out and stationed himself by the wheelhouse and conducted the navigation of his ship for the balance of the time until she entered her dock. Although there is no negligence of duty in this matter, we still reprimand him and caution him to be more careful in the future. With regard to the mate of the Chebucto, who was at the wheel, though we hold that the Chebucto did not contribute to the collision, yet we claim there was a defective lookout kept on board that vessel, and that, moreover, the mate adopted a very dangerous practice, contrary to the orders of the administrators of the ferry boat corporation, to admit no one into the wheelhouse, and for that reason we think that, as a future warning to him, it is proper for this court to suspend his certificate for one month from Feb. 12 to Mar. 12, which may cause him to pay more attention to the rules and laws of navigation in the future. This is done with a view to acting as a deterrent for future neglect and for the safety of the passengers who are called upon to travel

between Halifax and Dartmouth and vice versa, and we trust that the ferry boat corporation will see that the orders and regulations that are framed will be carried out to the letter by their employees. We maintain that no one should be allowed in the wheelhouse where there is only one man to look after both duties of acting as wheelsman and lookout, as in this case.

### Lake Vessels Chartered for Gulf and Ocean Service.

During March various reports were current as to lake vessels which, it was stated, had been chartered for service in the St. Lawrence Gulf, to the West Indies, and for trans-Atlantic ocean service. Statements were circulated giving the names of a large number of vessels, many of which are entirely unsuitable for gulf and ocean service, and also the names of the charterers, most of which were incorrect, and practically all, misleading.

The Nova Scotia Steel and Coal Co. was stated to have chartered 26 vessels for service between Canada and the West Indies and South American ports. Thos. Cantley, Vice President and General Manager, was later reported to have stated that his company had chartered five lake steamships for carrying coal from the coast to inland points, but that no vessels had been chartered for West Indies or South American service.

We are officially advised that Canada Steamship Lines' steamships Empress of Fort William, Empress of Midland, Winona, Canadian, Acadian, D. A. Gordon, Midland Queen, Donnacona, C. A. Jaques, Dundee, Dunelm and Glenellah have been chartered for ocean service, in addition to those other of the company's vessels which have been under similar charter for two or three years. The Canadian Lake and Ocean Navigation Co.'s steamships Turret Cape, Turret Court, and Turret Crown, under the management of J. W. Norcross, Managing Director, Canada Steamship Lines, Ltd., have also been chartered. The charters are for any service for which the charterers desire to use them, some for 12 months and some for 6 months from the opening of navigation. The s.s. Turret Chief, which was mentioned in the daily press as having been chartered, was wrecked at the end of 1913. It is probable that some of the Canada Steamship Lines other vessels will be chartered, or may be operated on the ocean, but no details are available at present. None of the company's vessels have been running in ocean service during the winter, except the regular ocean vessels, which have been running full.

Of the other vessels mentioned as having been chartered, the s.s. Sindbad, owned by F. E. Hall & Co., Montreal, is under time charter to the Dominion Coal Co., operating between Nova Scotia and New England ports, but the same company's s.s. Carleton has not been chartered, and we are advised that she will probably remain in the lake trade this season. The Western Navigation Co.'s s.s. Kaministiquia has been chartered for the South Atlantic trade. The steamships W. H. Dwyer, Port Colborne and Port Dalhousie, owned by Forwarders, Limited, Kingston, Ont., have not been chartered, but will be operated in the pulpwood trade between New Brunswick and Maine ports from May to August, and after that, in the St. Lawrence grain trade. The steamships Glenmount, Stormount, Northmount, Fairmount and Westmount, owned by the Montreal Transportation Co., have been chartered for four months from May, with sailing limitations between Canada, the United States and the West Indies. The Farrar Transportation Co.'s s.s. Meaford

has been chartered for the coasting service and may be utilized in a West Indies service. We have been advised that the St. Lawrence and Chicago Steam Navigation Co. has no vessels suitable for ocean service.

A press report stated recently that the Dominion Marine Association officials had asked the Dominion Government to investigate the qualifications of masters and mates of inland vessels selected to engage in ocean going traffic, and that the Government Examiner of Masters and Mates had conducted examinations of those who had requested permission to remain with the vessels chartered for such service. We are advised that the Dominion Marine Association has no knowledge of such a request.

### Supervision of Lake and Ocean Freight Rates.

The question of the supervision of lake and ocean freight rates was raised in the House of Commons recently, on the revoting of \$6,000 in the Trade and Commerce Department's estimates. Sir George Foster explained that it had been impossible to find a man having the practical knowledge required for the position, and it was not intended to fill the position until the proper man could be found. He hoped to be able to make an appointment shortly. The \$6,000 is intended to cover salary and general expenses. The various subsidy contracts entered into with steamship companies contain a clause authorizing the Minister of Trade and Commerce to fix rates, but he had not in the department the expert assistance to enable him to do so. He had talked the matter over with the Board of Railway Commissioners, which employed expert assistance, and found that there were many things in respect of which they could cooperate if there was a traffic expert in connection with lake and ocean freight service attached to his department. The ocean services during the past six months had been very much disorganized owing to war conditions, but the department had, as far as possible, consulted with the subsidized companies in regard to rates, and he did not think they would increase abnormally, certainly they had not done so, when compared with the increases that have taken place in all other parts of the world.

**Compulsory Pilotage in British Columbia Waters.**—A press report from Vancouver states that the Vancouver Shipmasters Association is recommending some amendments to the Canada Shipping Act, one of them being the abolition of compulsory pilotage so far as it applies to British Columbia waters, it being urged that compulsory pilotage leaves the ship immune from liability when damage is done, when the court finds that an accident is solely due to the pilot in charge. It may be pointed out that Sec. 474 of the Canada Shipping Act reads as follows:—"Nothing in this part shall exempt any owner or master of any ship from liability for any loss or damage occasioned by his ship to any person or property, on the ground of either such ship being in the charge of a licensed pilot, or of such loss or damage being occasioned by the act or default of a licensed pilot, or on any other grounds."

A Ship Masters' Association was formed in Toronto, Mar. 17, with the following officers:—President, Capt. J. Mann; Vice President, Capt. Oscar Patterson; 2nd Vice President, Capt. W. McGlennon; Secretary-Treasurer, Capt. A. E. Stinson; Chaplain, Capt. C. Smith; Marshal, Capt. Jefferies; Warden, Capt. H. Patterson; Sentinel, Capt. Sexsmith.



## Midwinter Shipping Letter From the Head of the Lakes.

F. & W. Jones, grain, vessel and marine insurance brokers, Fort William, Ont., write:—In preparing the following summary of conditions at Fort William and Port Arthur, every care has been taken to give as accurate information as possible. Future conditions are estimated after considering all matter pertaining thereto upon the data now available, and which necessarily may be subject to change later. At a future date, when navigation is in sight, this letter will be supplemented by a further forecast of conditions.

**Coal.**—The total movement of coal to the Canadian head of the lakes during 1914 shows a big falling off when compared with former seasons, having no apparent reason beyond the cessation of immigration consequent upon the world wide financial depression. During the past years the coal consumption of Western Canada has steadily increased, and consequently each year receipts at these ports have shown a corresponding increase over previous years. 1914 receipts not only show no increase, but are considerably below those of 1913. As no definite figures are on file for 1913, the actual decrease cannot be shown, but it is estimated as approximately 2,000,000 tons.

Dispatch in vessel unloading during 1914 was exceedingly good throughout the entire season and there was no serious holdup, and only a few cases are on record when steamships waited for turn more than one day. It is quite safe to calculate that the average time for unloading a 10,000 ton steamship was from 25 to 30 working hours. Overtime was not the rule, on account of the smallness of business, and only in certain cases, when a steamship could be worked out within say four or five hours of closing time, would a dock consider overtime at all. There were, however, cases when a dock worked continuously on a steamship until discharged, but in such cases the vessel took care of the extra overtime.

The total receipts of coal at the joint ports of Fort William and Port Arthur for the 1914 season were 1,853,256 tons, composed of 1,368,535 tons bituminous and 484,721 anthracite. Receipts at Jackfish were 177,295 tons bituminous. Of the coal received at Fort William and Port Arthur, 790,570 tons were carried in Canadian bottoms and 1,062,686 tons in U.S. bottoms. The majority of coal in Canadian bottoms went to Port Arthur docks. The increase in coal carrying by Canadian vessels is probably accounted for by the fact that the number of large vessels owned and operated by Canadian companies is steadily increasing.

Coal shipments to the west during the season were fairly active. The daily shipments since the close of navigation have been around 115 cars (approximating 4,000 tons) of commercial coal, while the daily shipments of railway service coal have been about 145 cars (approximating 5,000 tons), thus bringing up the shipments to about 9,000 tons a day. With the opening of February, the western shipments dropped off slightly, following a considerable rise in temperature. Should a cold snap follow, which is anticipated, they will necessarily again pick up, and by the opening of navigation stock piles will undoubtedly be very greatly reduced.

While several docks are doing extensive repairs and readjusting to their plants during the winter, there are no indications of any material changes or improvements under way with regard to unloading machinery. The general situation, however, can be considered as eminently satisfactory, as most of the plants are of comparatively late construction and compare favorably

with those of other lake ports.

Stocks of coal on all docks at time of writing (Feb. 28) are estimated at 1,150,000 tons bituminous and 350,000 tons anthracite.

**Grain.**—The eastern movement of grain from the Canadian head of the lakes for the navigation season of 1914 totaled approximately 127,000,000 bush., and showed a very considerable decrease as compared with the shipments for the 1913 season, which reached approximately 204,000,000 bush. This decline naturally had a seriously depressing effect upon lake grain rates, with consequent unsatisfactory and unsettled conditions to the trade generally. The tonnage in Canadian and U.S. bottoms for 1913 and 1914 compares as follows, in bushels:—

	1913.	1914.
Canadian vessels .....	106,637,870	93,175,403
United States vessels .....	96,606,180	33,224,473
	203,240,050	126,399,876

The figures for 1914 reveal a contrast with previous seasons by the fact that 74% of the shipments were in Canadian bottoms, and only 26% in vessels of U.S. register. In previous years the percentage of U.S. vessels has been approximately from 50% to 60%.

The following comparative statement of deliveries to Canadian and U.S. ports will be interesting as showing that approximately only 27% of the grain tonnage was delivered to U.S. ports:—

	1913.	1914.
	Bush.	Bush.
Canadian ports .....	104,852,807	90,140,031
U. S. ports .....	98,387,243	36,259,845
	203,240,050	126,399,876

There is little doubt that the whole of the shipment from both Canadian and U.S. head of the lakes was seriously disappointing to the carrying interests. The total shipments from Duluth appear to have been about 81,500,000 bush. Of this, approximately 7,250,000 were carried in Canadian vessels. As nearly as can be estimated, 3,000,000 of the 81,500,000 bush. was Canadian grain from the Northwest Provinces.

Receipts of grain at the Canadian head of the lakes from the close of navigation to the end of February were 9,250,000 bush. Of this, 6,000,000 bush. has been shipped east by all rail, leaving an accumulation of 3,250,000 bush. during the winter. This tends to show that the export demand has been mainly on storage at eastern points, and that there has been no great demand upon stocks at western terminals. The total stocks in elevator and afloat at Fort William and Port Arthur are:—

	Bush.
In store—Wheat .....	4,915,628
Oats .....	2,192,114
Barley .....	269,114
Flax .....	854,940
	8,231,962

Afloat—Wheat .....

	Bush.
In store—Wheat .....	10,700,086
Oats .....	3,596,040
Barley .....	1,230,882
Flax .....	2,714,865
	18,241,873

	Bush.
Afloat—Wheat .....	4,085,630
Oats .....	2,514,311
Barley .....	334,832
Flax .....	461,017
	7,393,790

It will be noted that the present grain in store shows a decrease compared with last year of some 10,000,000 bush, while the grain afloat shows a decrease of over 7,000,000 bush.

The amount of grain in store at Winnipeg and western points is somewhat difficult to estimate, but it is generally conceded that, after making provision for feeding and seeding purposes, there will be little more than 10,000,000 bush. to come forward between

now and the opening of navigation. It will thus be seen that no large lake movement can be expected, and it is safe to compute that, although early navigation may be sharp, it will not extend beyond three to four weeks after the opening. Preparation for the 1915 crop has made great headway, and a larger quantity of summer fallow has been done than ever before. There is also a greater percentage of winter sowing, particularly in Saskatchewan and Alberta. This should all point to an early harvest, if weather conditions continue as favorable as at present. In some districts it is estimated that should normal conditions prevail, the 1915 harvest will come a good month earlier than heretofore. The increased acreage, generally speaking, is 10% in advance of last year, and probably 20% in advance of the last normal crop (1913). Thus, if the present weather continues to improve, there will be approximately 300,000,000 bush. available for lake movement in 1915. These figures can only be considered as a rough estimate and are based upon information which has come to hand with regard to acreage under cultivation, and in anticipation that favorable weather will continue. The statistics to hand tend to show that 60% of the sowing is wheat, 30% oats, balance 10% other grain.

**Package Freight.**—The situation in this phase of business is not at all promising for the coming season, and indications are that package freight steamships will have difficulty in securing sufficient upbound business for the early opening. It is persistently rumored that many of the Canadian package freighters will be sent to the Gulf of St. Lawrence to engage in coastwise trade, pending the arrival of the 1915 grain crop.

**Ore.**—The Canadian ore industry is still in a state of embryo at this end of the lakes. The mines under work are situated about 200 miles northwest of Fort William, on the Grand Trunk Pacific, and produce a pyritic ore. The output for the navigation season of 1914 was 74,554 net tons. This was carried by Canadian vessels to Chicago and Lake Erie ports. The 1915 movement of ore is expected to continue to advance, and will probably be a moderate increase over the 1913 movement.

**Dock Conditions.**—The docks have been quiet all winter. Only one boat is fully loaded, the J. H. Plummer having 52,000 bush. wheat aboard. The E. D. Carter has a part cargo of 231,130 bush. aboard.

There are altogether 10 Canadian and one U.S. steamships laid up at these ports. The Carter and Plummer have grain aboard, the Donnacona is lined up to load pulpwood ready for the opening, the Empress of Midland and Beaverton are now loading pulpwood, the Fordonian is in dry dock, the W. Grant Morden, A. E. Ames, Agawa, Glenmavis, and W. D. Rogers are all light. The Carter is the only vessel placed under the elevator spouts, so it is unlikely that any other vessel will load grain before the ice breaks up. The only improvement in grain handling facilities under way is a storage annex of 750,000 bush. to the Ogilvie Flour Milling Co.'s elevator.

**Ice Conditions.**—The ice in the river and bay is calculated to be 36 ins. thick and fairly solid. A break-up is not looked for before the end of April, and there is no indication of any attempt to hasten the opening of navigation by the use of ice-breakers.

**Admiralty Prison Ships.**—It is stated that the steamships used in Great Britain for prison vessels, during the war, were paid for at the rate of from 15s. 6d. to 17s. 6d. per ton per month, with a reduction of 6d. per ton after the first two months. For the first two months, the approximate payment was £86,000 a month, and subsequently, £83,000 a month.



### Atlantic and Pacific Ocean Marine.

The C.P.R. s.s. Montrose, which has been in Admiralty service since the commencement of the war, was reported to be ashore off Portugese West Africa, Mar. 13.

The C.P.R. s.s. Metagama, which sailed from Liverpool, Eng., Mar. 26, on her maiden trip to Canada, attained a speed of 17½ knots an hour on her trial over a measured mile on the Clyde, early in March.

The Cairn Line s.s. Cairntorr, which is well known on the St. Lawrence route, was reported to have been torpedoed by Germans off Beachy Head in the English Channel, Mar. 21, when bound from Newcastle, Eng., to Genoa, Italy, with coal.

The Cunard Line, on Mar. 8, announced that the second class rates on its vessels crossing the Atlantic, were reduced to £10, or \$50. Announcement was made later in the month that other steamship companies in the same service had also reduced their rates to a similar amount.

Canadian Northern Steamships' s.s. Royal Edward, which has been in Admiralty service since the commencement of the war, is now being utilized as a prison vessel with the main prison fleet at Southend, England. Practically all of the prisoners on board are Germans, who, at their own request, have been given work to do caring for the vessel.

Furness Withy & Co. have been appointed agents, Canada Steamship Lines, Ltd., New York, vice A. E. Outerbridge & Co., two partners of the latter firm having accepted positions with Furness Withy & Co., thus retaining their associations with the Bermuda and West Indies service, formerly operated by the Quebec Steamship Co., now part of Canada Steamship Lines, Ltd.

The Allan Line s.s. Mongolian, outward bound from Philadelphia and St. John's, for Glasgow, returned to Halifax, Feb. 27, having sprung a leak when well out at sea. On her previous voyage she suffered some damage from ice, and certain repairs were undertaken at St. John's by a local diver under instructions from the underwriters, and it is surmised that the leak was due to a loose plate.

It was announced, Mar. 5, that the steamship Missanabie had arrived at Liverpool, Eng., and the steamships Megantic and Southland at Queenstown, Ireland, conveying the first units of the second Canadian contingent of troops for the war. The departure of the men from Canada, numbering about 4,000, was not made public. The vessels sailed from Halifax, N.S., Feb. 22, and were convoyed by the cruisers Essex and Gloria.

The shipping companies operating between Canada and Glasgow, have advanced the wages of the men standing by liners when in Glasgow, by a shilling a day, and the boiler scalers, who asked for an increase of a penny an hour, are considering the offer of the companies to an increase of half that amount. It is stated that the companies, so far as the first increase is concerned, are willing to consider it a permanent one, provided that such conditions do not arise after the war, as make it imperative for them to reopen the matter.

A federal grand jury at New York, has returned two indictments against the Hamburg-American Line and five of its employes, all Germans, on charges of conspiracy to defraud the U. S. Government through the filing at the custom house, of false records, false clearances of vessels and false manifests of cargo quoting delivery of same to false vessels. These charges were initiated on the complaint of the British Consul General, in connection with the chartering of the U. S. steamships

Berwind and Lorenzo and the Norwegian steamships Fram and Sommerstad, and the shipping of coal, etc., to South American ports.

### Maritime Provinces and Newfoundland.

The s.s. Navarra, which was wrecked near Holmes Island, N.S., Dec. 30, has been sold to a junk dealer at St. John, N.B., for \$1,000. She was under charter to the Admiralty for conveying war supplies to France.

A press report states that the Dominion Government customs cruiser Margaret, which has been engaged in duty on the St. Lawrence for some time, has been acquired by the British Government for service at Halifax, N.S.

Navigation was reported open on the Pet- itcodiac and Shepody Rivers, Mar. 2, the ferry boats on the Hopewell Cape and Dorchester route, and between Hopewell Hill and Harvey, having been operated on that day.

The Department of Marine has announced that the proposed replacement of the light- ship on the Sambro outer banks, at the entrance to Halifax harbor, by a gas and whistling buoy, will not be made until the close of the war.

The Miramichi Steam Navigation Co.'s directors for the current year are,—Hon. J. P. Burchill, President; J. D. Creaghen, Vice President; J. D. B. F. McKenzie, J. McDonald, R. Murray, W. B. Snowball, R. A. Snowball. H. B. McDonald is Secretary-Treasurer and Manager.

Replying to a question in the House of Commons, recently, the Minister of Trade and Commerce stated that during 1914 the Gaspé and Baie des Chaleurs Steamship Co. was paid \$9,615.25 for a steamship service between Montreal and Campbellton, N. B., the amount being computed at \$384.61 a trip.

### Province of Quebec Marine.

The Inland Revenue Department will receive tenders to Apr. 12 for a ferry service across the Ottawa River between Fitzroy, Ont., and Onslow, Que.

Work on the dry dock at St. Joseph de Levis will, it is reported, be recommenced as soon as weather permits. The contractors are M. P. and J. T. Davis.

The Minister of Marine stated in the House of Commons, Mar. 19, that the work in progress in the St. Lawrence ship channel, included deepening from 30 to 35 ft. and widening it from 300 to 500 ft., between Quebec and Montreal, and also straightening it in several places. The commission which had reported on the lowering of the water level found that at Montreal it was down 31 ins., and that, of this, some two or three inches was due to the Chicago drainage canal, and the rest due to work in the St. Lawrence ship channel, chiefly the removal of obstructions at St. Mary's Rapids, just below Montreal harbor. Farther down the river the lowering was less. The material dredged from the channel could be used for damming some unused channels near Lake St. Peter and elsewhere and thus help to raise the water level. These works would cost about \$400,000.

### Ontario and the Great Lakes.

The name of the s.s. E. M. Peck, no. 130,439, registered at Sarnia, has been changed to Malton.

An order in council has been passed establishing a permanent harbor quay line at Sault Ste. Marie, beyond which line, break-

waters, wharves, piers and other structures shall not be built.

The Great Lakes Transportation Co., which purchased the s.s. Howard M. Hanna, Jr., formerly owned by the Hanna Transit Co., Cleveland, Ohio, is having its name changed to Glenshee.

The Georgian Bay Shipbuilding and Wrecking Co., Midland, has built a marine railway capable of dealing with vessels 150 ft. long and to partially dock, to the extent of 100 ft., larger vessels for stern and lower repairs.

The Dominion Parliament has extended the time for the commencement and completion of the work for which the Montreal, Ottawa and Georgian Bay Canal Co. was chartered. Considerable opposition to a further extension was shown.

The Department of Marine is establishing, for the opening of navigation, the Stag Island gas buoy no. 5, in 23 ft. of water to mark the bend in the St. Clair River below Stag Island. An occulting white light will be exhibited, visible for 5 secs. and eclipsed 5 secs. alternately.

The Dominion Public Works Department has awarded a contract for the construction of 2,000 ft. of breakwater on the Mission River, at Fort William, to the Thunder Bay Contracting Co. It is stated that work will be commenced immediately on the opening of navigation. It is estimated that it will cost \$250,000.

The Village of Fort Erie, Ont., obtained judgment, by consent, against the Fort Erie Ferry and Ry. Co. at Welland, Mar. 3, for specific performance of agreement regarding service. If the company fails to carry out the agreement, it forfeits \$2,000 under a bond.

The Hamilton City Council has decided to continue the grant of \$5,000 to the Harbor Commissioners, although there was some opposition to it. The Commissioners had prepared a tariff of fees for all vessels using the harbor in case the Council decided against continuing the grant.

An announcement from the U.S. Lake Survey office states that there is a clear depth of 34 ft. over the wrecked s.s. Charles S. Price, which went down in Lake Erie during the November, 1913, storm, and that it is no longer a menace to navigation. The gas buoy which marked the location of the wreck last season will not be replaced.

The Dominion Parliament has extended the time within which the Montreal, Ottawa and Georgian Bay Canal Co. may commence and complete the works for which it was incorporated. The extension granted provides that the company may commence the work by May 1, 1918, and complete same by May 1, 1924.

It is reported that the Trent Valley Canal will be opened between Peterborough and Trenton, for light draught vessels, this spring, and it is possible that vessels of fairly deep draught will be able to use the canal there at a little later date, dependent on the completion of some dredging.

It is announced that work has been started on the building of a new wooden wharf at Sarnia for Northern Navigation Co. and G.T.R. traffic. The old wharf is being demolished, and the new one, which will be 800 ft. long, will be of a more modern type. The work is being done by the G.T.R., and it is expected will be completed in time for the reopening of navigation.

The s.s. John Sharples, which was wrecked in Lake Ontario about three years ago, and was salvaged by the Reid Wrecking Co., is reported to have been sold to



a company operating on the Atlantic coast. She was built at West Superior, Wis., in 1903, and is a steel vessel, with triple expansion engines with cylinders 14, 25 and 42 by 30 ins., 650 i.h.p. Her dimensions are, length 241 ft., breadth 41 ft., depth 18 ft.; tonnage, 1,614 gross, 919 register.

The Cabotia Steamship Co.'s s.s. Cabotia, which has been lying at Toronto for some time, is to be sold. She is a wooden vessel and was built at Gibraltar, Mich., in 1880. Her dimensions are, length 234 ft., breadth 36 ft., depth 30 ft.; tonnage, 1,530 gross, 930 register. She is equipped with fore and aft compound engine of 700 i.h.p., with 85 r.p.m., with cylinders 21 and 50 by 46 ins., supplied with steam by a Scotch boiler 12 by 12½ ft. at 125 lbs.

The C.P.R. steamship service on the Great Lakes will be performed this season by the steamships Keewatin, Manitoba, Alberta and Assiniboia, which will leave Port McNicoll, in the order named, on Tuesdays, Wednesdays, Thursdays and Saturdays, and Fort William on Fridays, Saturdays, Sundays and Tuesdays. The service will commence May 21 on schedule, and possibly prior to that, regardless of schedule, as the occasion may warrant. The s.s. Manitoba will call at Owen Sound on Wednesdays on the westbound trip.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above tidewater for February, as follows.—Superior 601.70; Michigan and Huron 579.54; Erie 571.41; Ontario 244.99. Compared with the average February levels for the past ten years, Superior was 0.09 ft. below; Michigan and Huron 0.54 ft. below; Erie 0.27 ft. below and Ontario 0.73 ft. below. It was anticipated that during March Superior would be 0.2 ft. lower, that Michigan and Huron would remain stationary, and that Erie and Ontario would be 0.1 ft. higher.

The Windsor-Detroit-Wallaceburg Steamship Line, Windsor, has chartered the s.s. Olcott from the Peninsular Steamship Co., Sandusky, Ohio, for operations between the points named, for the 1915 season, which it will open about June 10. The Olcott is a steel vessel, built at Toledo, Ohio, in 1901 and lengthened in 1906. Her dimensions are, length 148.5 ft., breadth 28 ft., depth 12 ft.; tonnage, 337 gross, 229 register. She is equipped with fore and aft compound engines, with cylinders 18 and 42 by 24 ins., and has i.h.p. of 800 at 150 r.p.m. Steam is supplied by a Scotch boiler, 13 ft. 9 ins. diam. by 11½ ft. long, at 180 lbs. pressure.

### Manitoba, Saskatchewan and Alberta.

The Manitoba Legislature is dealing with a bill defining the Winnipeg and St. Boniface Harbor Commissioners' powers.

The Peace River Tramway and Navigation Co. proposes to build a steamboat this year at Peace River Crossing, Alberta. It will be 165 ft. long and 35 ft. beam, with accommodation for 110 cabin passengers and 300 tons freight. The engine cylinders will be 20 by 84 ins. and will develop about 800 nominal h.p.

### British Columbia and Pacific Coast.

The s.s. Curacao, which was salvaged last September after having been submerged in Alaskan waters for over a year, is being repaired at North Vancouver.

The C.P.R. s.s. Princess Margaret, one of the two vessels recently completed for the C.P.R. coast service, and which were taken from the builders for Admiralty requirements, is stated to be in scouting service in the North Sea, where her speed makes her of excellent use.

The Fort George Lumber and Navigation Co. is proceeding against the G.T. Pacific Ry. to recover damages for the alleged interference with the navigation of the Fraser River, at a point near Fort George, B.C., where it is stated the G.T.P.R. has placed a temporary bridge across the river to carry its line into Fort George.

The progress of the construction of a jetty at the entrance to the north arm of the Fraser River has necessitated the temporary discontinuance of the outer fixed white light. A temporary fixed white light will be exhibited on the extreme of the jetty as it is built seaward, and further notice will be given when the work is completed.

The Geographic Board has decided that the northerly entrance channel of the Skeena River, extending westward from Eleanor Passage to Chatham Sound, and lying eastward, northward and westward of Smith Island, shall be called Inverness Passage, and not North Skeena Passage, North Skeena Pass, nor The Slue, as hitherto.

The members of the Vancouver Branch of the International Longshoremen's Union struck work March 1, when asked to consent to a reduction of 10c. in the wage schedule. It was announced that slingers would be paid 35c. an hour, and truckers 30c. an hour, instead of 45c. and 40c. respectively as heretofore. The vacancies were quickly filled, as there were quite a number out of work in the city.

### The Transportation of Supplies to the War Zone.

The Dominion Government and the Admiralty have arranged for a tri-weekly service between Canada and France, chiefly for the conveyance of war supplies and equipment from this continent to the war zone. It is stated that the Admiralty has undertaken to provide 18 freight vessels for the service until the conclusion of the war. Since the commencement of hostilities, the materials and food supplies purchased on this side have steadily increased, until it has become necessary to establish a regular service.

At the beginning of the war, the C.P.R. placed the services of A. H. Harris, its Special Traffic Representative, at the Government's disposal, and he has since acted as Director of Overseas Transport in connection with the shipment of troops and war supplies. It is stated that he will continue to act in that capacity in connection with this special war service.

**The Newfoundland Sealing Disaster of 1914.**—The commission, consisting of Chief Justice Horwood, Justices Emerson and Johnson of the Newfoundland Supreme Court, which was appointed to enquire into the disaster to the sealing fleet off the coast in the spring of 1914, when 248 lives were lost, has made its report. In the case of the s.s. Newfoundland, regarding the loss of 73 of the crew, it was held by a majority of the commissioners that Capt. A. Kean of the s.s. Stephano committed a grave error of judgment, and G. Tuff, chief officer of the s.s. Newfoundland, an error of judgment. Justice Johnson dissented, giving his opinion that neither was to blame. In the case of the loss of the s.s. Southern Cross with 175 men, it was decided that it could only be attributed to the perils of the sea.

**The North Pacific Coast Passenger Agents' Association** met at Bellingham, Wash., Mar. 10, and arranged summer excursion fares. The next meeting will be held at Tacoma, Wash., May 12.

### Mainly About Marine People.

**R. W. Thom**, station agent, G.T.R., Colingwood, Ont., has also been appointed local agent, Northern Navigation Co. there.

**Capt. J. W. Hatherly**, of the Allan Line s.s. Mongolian, was killed, Mar. 17, when a crane struck him as he was superintending repairs being made to the vessel at Halifax, N.S.

**Jas. Wainwright**, Assistant Harbor Engineer, Toronto, will have charge of the harbor work undertaken by the Harbor Commissioners at Toronto, during the absence of E. L. Cousins, who is preparing plans for a rapid transit system for Toronto.

**Sir Stephen Furness**, Chairman, Furness, Withy and Co., and one of the advisory board of Canada Steamship Lines, Ltd., in London, Eng., who died in Sept., 1914, left unsettled property of the gross value of £213,077, the net personalty being stated as £165,980.

**Lt. Col. Lindsay**, of the Dominion Marine Department, and **Lt. Col. G. P. Murphy**, of the Ottawa Transportation Co., were in charge of the embarkation of the first detachment of the second Canadian contingent which sailed from Halifax, N.S., and arrived at Queenstown and Liverpool, Mar. 4.

**All Red Route.**—The Imperial Parliament will not have before it this session the bill for the building of a short railway in Ireland, which it is proposed shall form a link in what is called the All Red Route round the world, the promoters having failed to comply with the standing orders respecting the introduction of bills.

**Special Dominion Taxation.**—The Finance Minister's proposals to increase the amounts to be received from taxation were given in our last issue. Since then the matter has been discussed in the House of Commons, and a number of changes made. Press dispatches are made exempt from the tax of 1c. on each message for which a minimum charge of 15c. is made, and the proposed tax on steamship tickets has been extended to include tickets sold for the West Indies, which were at first excluded, and the tax itself is changed to \$3 if the amount chargeable for passage exceeds \$40, instead of \$30, and \$5, if it exceeds \$65, instead of \$60.

The Department of Marine has issued lists of gas buoy lights on the Atlantic coast, the Gulf of St. Lawrence, navigable waters in Quebec and Ontario, and British Columbia, and has announced that in connection with the rearrangement of gas buoy and gas beacon lights, whereby red occulting lights will be exhibited on the starboard side and white occulting lights on the port side in going upstream, the lights so listed will be changed as follows:—On the Atlantic coast and the Gulf of St. Lawrence, between Apr. 15 and May 31; Quebec and Ontario, on the opening of navigation; British Columbia, between Apr. 15 and May 31.

**Transfer of Canadian Registered Vessels to Foreigners Forbidden.**—An order in council has been passed under the provisions of the War Measures Act, 1914, ordering that a transfer made after Mar. 9 of a British ship registered in Canada, or a share therein, to a person not qualified to own a British ship, shall not have any effect unless the transfer is approved by the Minister of Marine, and that any person who makes or purports to make such a transfer without this approval shall for each offence incur a penalty of a fine not exceeding \$5,000 or imprisonment not exceeding five years, or both fine and imprisonment, either on summary conviction or indictment. The order will continue during the war.



### The British Premier on the Rise in Freight Rates.

In the course of a debate in the British House of Commons recently, the Prime Minister, in dealing with the increased cost of food supplies, said,—

"The difficulties of transport and the rise in freights, has been a factor of considerable importance, but by no means the main factor, and I am not sure that an exaggerated value has not been attributed to it in some quarters. Experts in these matters are accustomed to take what is called No. 1 Northern Manitoba wheat as the standard. The price in Liverpool of that quality of wheat rose between July, 1914, and Jan., 1915, from 36s. 3d. to 57s. 11d. a quarter, in round figures 22s. Of that 22., 18s. 6d. is to be attributed to the increased price in New York, and only 3s. 6d. to the increased freight between New York and Liverpool. In regard to the question of transport both by sea and by land, it may fairly be said that it is within the power of the Government to do something really effective to ease the situation. Dealing with the question of ships, the situation is unique and absolutely unprecedented. First of all, we have had withdrawn from the carrying service the whole of the shipping of Germany, Hungary and Austria. I do not believe there is a German ship now sailing the seas. That, of course, has had its effect. These countries possess 14% of the merchant shipping of the world. That is gone. Another fact is that the Admiralty is employing for necessary purposes, such as the transport of men, stores, munitions, and supplies, one fifth of our British tonnage, which means 10% of the whole world. These two things in themselves account for a great deal of the curtailment of the shipping industry. The shortage is also due to ships not being in the right place, but shipowners with whom we have been in consultation maintain that when things have shaken down there will be no serious shortage of tonnage, as the process of the readjustment of routes is going steadily on. Therefore we have reason to believe that in the course of a very short time, perhaps in a few weeks, there will be an adaption of available ships to routes and necessities which ought to dominate the situation.

I have spoken of the release of 20 vessels, and now of 14, for the purpose of carrying coal. Nine vessels of considerable coaling capacity at present occupied by prisoners of war will be released from that service. Other vessels similarly employed may be released later. Steps are being taken in consultation with the Admiralty to secure the most economical employment of the ships they have chartered. We hope, by concert between the Admiralty and a small body of persons of experience and skill in the management of merchant shipping that the demand of the Admiralty for military and warlike purposes upon British shipping may be so adjusted, whenever opportunity offers, that ships will be set free for the carrying of cargoes. Another point to which a great deal of attention is paid is the acceleration of the proceedings of the prize courts, especially abroad. There has been a good deal of delay in some cases between the seizure of the ships and the ultimate decision, and we have done what we could to produce more accelerated procedure."

The Dominion Government s.s. Earl Grey, it was stated in the House of Commons recently by the Minister of Marine, was sold to the Russian Government for \$493,000. Her original cost, completed and ready for sea, was \$616,690.97.

### The Cost of Transporting Canadian Troops.

A return brought down in the House of Commons recently shows the amounts paid for the various steamships engaged in the transportation of the first contingent of Canadian troops which were sent to England last October. The Government assumed all the expense of fitting the vessels for transportation purposes, and for equipping them with food supplies, the amount on the average being about equal to the amount of the hiring. Following is a list of the vessels engaged, with the amount paid to each:—

Alaunia .....	\$65,237	Manitou .....	\$30,461
Arcadian .....	21,751	Megantic .....	36,198
Athenian .....	42,184	Monmouth .....	9,915
Audanian .....	48,928	Montezuma .....	20,342
Bermudian .....	20,184	Montreal .....	21,033
Canada .....	45,819	Royal Edward .....	45,080
Caribbean .....	14,171	Royal George .....	54,243
Cassandra .....	39,590	Ruthenia .....	17,992
Corinthian .....	17,841	Saxonia .....	69,578
Devonian (cancelled) .....	1,938	Scandinavian .....	29,440
Franconia .....	66,247	Scotian .....	25,116
Grampian .....	26,635	Sicilian .....	17,831
Ivernia .....	69,486	Tunisian .....	25,734
Lakonia .....	22,805	Tyrolia .....	18,335
Lapland .....	39,056	Virginian .....	26,175
Laurentic .....	72,464	Zealand .....	28,964
Manhattan .....	34,142	Total .....	\$1,124,915

A Correction.—In Canadian Railway and Marine World's report of the Dominion Marine Association's annual meeting at Ottawa, on pg. 111 of the March issue, it was stated that the association, in conjunction with the Canadian Lake Protective Association, had voted \$750,000 to be divided between the Red Cross Society and the Belgian Relief Fund. The amount voted was \$750, and not as stated. The mistake was noticed in proof reading, but, unfortunately, was not corrected in the type.

Steamships and the Board of Railway Commissioners' Jurisdiction.—The bill to amend the Railway Act, which was introduced in the House of Commons recently by J. E. Armstrong, M.P., and which had for its main object the placing of steamship traffic under the Board of Railway Commissioners' jurisdiction, was dealt with by the railway committee of the House, Mar. 17, and after the Minister of Railways stated that the bill could not be proceeded with this session, on account of pressing legislation of a general character, it was withdrawn.

British Shipping Casualties.—The British Board of Trade returns of shipping casualties for February show that the ordinary risks were responsible for the loss of a larger number of vessels than were the risks of war. During the month, 33 vessels were lost, aggregating 34,947 net tons. Of these, 9 steamships of 12,389 tons were sunk by submarines, and one steamship of 2,605 tons was sunk by a German mine. The lives lost during the month were 97, of which six were due to losses occasioned by submarines.

Huntsville, Lake of Bays and Lake Simcoe Navigation Co. — The annual meeting was held at Huntsville, Ont., Feb. 25. The report is not made public, but we are officially advised that the balance in hand from the season's operations was placed to the credit of profit and loss, no dividend being declared. The directors were re-elected. The officers for the current year are C. O. Shaw, Huntsville, President; H. Foster Chaffee, Brockville, Ont., Vice President; W. J. Moore, Huntsville, General Manager and Secretary; J. W. McKee, Huntsville, Treasurer.

The Northern Construction Co. has surrendered its charter of incorporation under the Ontario Companies Act

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

Week ended March 18, 1915.	Wheat, bushels.	Oats, bushels.	Barley, bushels.	Flax, bushels.	Totals, bushels.
Fort William:—					
C.P.R.	159,193	57,045	15,601	3,547	235,386
Consolidated Elevator Co.	356,497	257,156	50,477	115,984	780,114
Empire Elevator Co.	430,395	283,926	40,378	133,792	888,491
Ogilvie Flour Mills Co.	658,553	58,971	23,986	.....	741,510
Western Terminal Elevator Co.	456,828	154,471	9,159	282,595	903,053
G.T. Pacific	587,759	414,241	24,386	99,460	1,125,846
Grain Growers' Grain Co.	1,120,398	353,041	32,779	.....	1,506,218
Fort William Elevator Co.	394,034	246,518	51,503	66,469	758,524
Eastern Terminal Elevator Co.	206,169	143,222	18,893	.....	368,284
Port Arthur:—					
Port Arthur Elevator Co.	2,034,510	681,130	66,011	108,950	2,890,601
D. Horn & Co.	9,322	6,502	.....	44,959	60,783
Dominion Government Elevator	226,927	75,933	3,449	86,736	393,045
Grain afloat	283,132	.....	.....	.....	283,132
Total Terminal Elevators	6,923,717	2,732,156	336,622	942,492	10,934,987
Saskatoon Dominion Government Elevator	724,038	242,938	11,780	1,440	980,196
Moosejaw Dominion Government Elevator	665,395	456,677	13,318	.....	1,135,390
Total Interior Terminal Elevators	1,389,433	699,615	25,098	1,440	2,115,586
Depot Harbor	.....	83,979	.....	.....	83,979
Midland:—					
Aberdeen Elevator Co.	181,442	87,553	.....	.....	268,995
Midland Elevator Co.	.....	.....	.....	.....	.....
Tiffin, G.T.P.	161,390	336,264	.....	.....	497,654
Port McNicholl	615,235	192,561	.....	38,544	846,340
Collingwood	14,347	.....	.....	.....	14,347
Goderich	*113,441	.....	.....	.....	*113,441
Goderich	358,846	158,637	.....	.....	517,483
Kingston:—					
Montreal Transportation Co.	15,076	.....	.....	.....	15,076
Commercial Elevator Co.	30,986	51,144	.....	.....	82,130
Port Colborne	236,929	141,862	92,216	†28,984	499,991
Prescott	.....	.....	.....	.....	.....
Montreal:—					
Harbor Commissioners No. 1	162,867	.....	.....	.....	162,867
Harbor Commissioners No. 2	91,080	459,424	9,078	.....	559,582
Montreal Warehousing Co.	3,273	128,850	9,662	.....	141,785
Quebec Harbor Commissioners	3,994	118,648	.....	.....	122,642
West St. John, N.B.	548,992	243,944	1,464	.....	794,400
Halifax, N.S.	†	†	†	†	†
Total Public Elevators	2,537,898	2,002,866	112,420	67,528	4,720,712
Total quantity in store	10,851,048	5,434,637	474,140	1,011,460	17,771,285
*Grain afloat in vessels. †Corn.					
†Not reported.					



## Telegraph, Telephone and Cable Matters.

Sir Henry M. Pellatt, Toronto, has been elected President, Dominion Telegraph Co., vice Thos. Swinyard, whose death was announced in our last issue, and Sir John Gibson was elected a director to fill the vacancy on the board. Aemilius Jarvis, Toronto, is Vice President for the current year.

O. A. Jorgenson, heretofore agent, C.P.R. Telegraphs, Port Arthur, Ont., has been appointed agent at Regina, Sask. He went to Port Arthur from Winnipeg as an operator in 1911, and was appointed local manager there in 1912. During last year, the title of local manager in connection with the company's telegraph system, was discarded in favor of that of agent.

In consequence of the merger of the Great North Western Telegraph Company and the Canadian Northern Railway telegraph interests, details of which have already been published in Canadian Railway and Marine World, the G.N.W.T. Co.'s Winnipeg office has been closed and the business transferred to the C.N.R. office. H. McConkey Superintendent, C. N. Railway telegraphs and electrical plant, is also Superintendent in charge of the outside work, G.N.W.T. Co.; J. Paddington is Superintendent, Manitoba District and Manager, Winnipeg office, and B. S. Rounds is chief operator, Winnipeg.

At the recent annual meeting of the Bell Telephone Co. of Canada, C. F. Sise, President, retired, and was elected chairman of the Board. The board for the current year is as follows: C. F. Sise, Chairman; L. B. McFarlane, President; Hon. Robt. MacKay, Vice President; T. N. Vail, R. Archer, Hugh Paton, C. Cassils, Z. A. Lash, U. N. Bethell, C. F. Sise, Jr., A. J. Daves and T. Ahearn. The last two were elected in place of W. R. Driver and H. B. Thayer, resigned.

A press report from St. John's, Nfld., states that what is probably the largest and most powerful wireless telegraph station in the world, is to be erected near there. This, it is said, is to be done by the Marconi Co., under contract with the British Government. It is stated that about 50 acres of land has been acquired, that some of the material has arrived, and that work will be commenced at once, and the station be completed ready for operation in six months.

The Maritime Telegraph and Telephone Co.'s report for 1914 shows a surplus of \$2,170, compared with \$6,804 for the previous year, and a balance to the credit of surplus account of \$10,853. The total receipts were \$631,687, the net revenue being \$113,165, against \$101,527 in 1913. The operating expenses were \$216,543; maintenance and replacement, \$214,669; bond interest, \$73,576, and miscellaneous, \$13,733. At the annual meeting, Feb. 9, at Halifax, N.S., G. F. Pearson and A. MacKinlay were elected directors in place of R. E. Harris and H. R. Silver, resigned.

## Among the Express Companies.

Of the Dominion Ex. Co.'s employes, 112 have enlisted for active service during the war.

A. D. Gillies, heretofore depot agent, Canadian Ex. Co., Winnipeg, has been appointed agent at Prince Rupert, B.C., vice T. C. Chalmers resigned.

J. G. Bradley, heretofore in the Canadian Ex. Co.'s customs department at Winnipeg, has been appointed depot agent there, vice A. D. Gillies transferred.

L. G. Goodge, heretofore chief clerk to Assistant Superintendent, Dominion Ex. Co., St. John, N.B., has been appointed agent at Charlottetown, P.E.I.

The Adams Ex. Co. has been authorized to carry on its business in the Province of Quebec, with head office at Montreal, and J. W. Cook as its attorney.

The Board of Railway Commissioners has approved collection and delivery limits for the Canadian Northern and American Ex. Cos., in Fort Frances, Ont.

R. E. M. Cowie, heretofore Manager, Pacific Department, American Ex. Co., has been appointed Vice President and General Manager, Eastern Lines, vice, H. S. Julier, retired. Office New York.

The Canadian Northern Ex. Co. has closed its offices at Banning and Devlin, Ont.; Beaver, Berton, Brunkild, Homewood, Neelin, Rosebank, Underhill and Warren, Man.; Ridpath and St. Gregor, Sask., and Lavoy, Alta.

In the case of the C.P.R. against the owners of the s.s. Storstad in connection with the sinking of the s.s. Empress of Ireland last year, one of the claims which has been filed against the silver salvaged from the sunken vessel, is one of the Canadian Ex. Co., for \$1,037.

H. S. Julier, Vice President and General Manager, American Ex. Co., has retired after practically 60 years in the company's service. He commenced service in 1855 as office boy at Goderich, Ont., and in 1860 was transferred to Brantford, Ont., as clerk, being later transferred to Buffalo, N.Y., and subsequently to Cleveland, Ohio, and in 1887 to New York, as Assistant General Manager, Eastern Division, and Assistant to the President. On his retirement he was presented with a gold watch by the officials of the Eastern Division.

The Canadian Ex. Co., during February, celebrated its 50th anniversary, having been granted letters patent by the Dominion Government in Feb., 1865. The original name was the British American Express Co., which was established in the early 50's, when it operated a stage line during the winter, supplementing this with steamboat connections during the months when navigation was possible. The Canadian Ex. Co. is therefore older than the G.T.R. over which it operates, and the G.T.R. was the second railway to be opened for traffic on this continent. In 1858 a branch office was opened in Liverpool, Eng., and for several years this was the only express company with its headquarters in America, having an office in Great Britain.

The British Columbia Ex. Co. is suing the Inland Ex. Co. for \$6,900, stated to be due as freight charges on freight carried between Ashcroft and Fort George, B.C., under a contract whereby the plaintiff company was to carry mail and express matter between these points. It is stated that on account of the scarcity of express matter, the company was expected to carry farm produce, and the question has arisen as to whether 60,000 lbs. of oats can be considered as express matter. The Inland Ex. Co. is counterclaiming for \$3,700 extra freight charges stated to have been incurred owing to the refusal of the plaintiff company to continue the contract, and for a further \$5,000 as general damages. There has been considerable disagreement between these two companies since the British Columbia Ex. Co. sold a portion of its business to the Inland Ex. Co. in the latter part of 1914.

## Transportation Conventions in 1915.

April.—American Association of Passenger Traffic Officers, San Francisco, Cal.

April.—American Association of Demurrage Officers, Richmond, Va.

Apr. 28.—Association of American Railway Accounting Officers, Atlanta, Ga.

May 4-7.—Air Brake Association, Chicago, Ill.

May 12.—American Association of General Baggage Agents, Los Angeles, Cal.

May 17-19.—Railway Storekeepers' Association, Chicago, Ill.

May 17-20.—International Railway Fuel Association, Chicago, Ill.

May 19.—Association of Railway Claims Agents, Galveston, Tex.

May 19.—American Railway Association, Atlantic City, N.J.

May 18-21.—American Association of Freight Agents, Richmond, Va.

May 20-21.—American Association of Railroad Superintendents, San Francisco, Cal.

May 26-28.—Master Boiler Makers' Association, Chicago, Ill.

June 9-11.—American Railway Master Mechanics' Association, Atlantic City, N.J.

June 14-16.—Master Car Builders' Association, Atlantic City, N.J.

June 15.—Train Despatchers' Association of America, Minneapolis, Minn.

June 16.—Freight Claim Association, Chicago, Ill.

June 22-25.—Association of Railway Telegraph Superintendents, Rochester, N.Y.

June 23-25.—Association of Transportation and Car Accounting Officers, Niagara Falls, N.Y.

July.—American Railway Tool Foremen's Association.

July 14-17.—International Railway General Foremen's Association, Chicago, Ill.

Aug. 17.—International Railroad Master Blacksmiths' Association, Philadelphia, Pa.

Aug. 19, 20.—American Association of Railroad Superintendents, San Francisco, Cal.

Sept. 14-16.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.

Sept. 14-17.—Master Car and Locomotive Painters' Association of the United States and Canada, Detroit, Mich.

Sept. 21-24.—Railway Signal Association, Salt Lake City, Utah.

October.—American Association of Dining Car Superintendents.

Oct. 4, 5.—American Association of Traveling Passenger Agents, Boston, Mass.

Oct. 4-8.—American Electric Railway Association, San Francisco, Cal.

Oct. 5-7.—Railway Fire Protection Association, Chicago, Ill.

Oct. 13-15.—American Association of Railway Surgeons, Chicago, Ill.

Oct. 19-21.—Maintenance of Way and Master Painters' Association of the United States and Canada, St. Louis, Mo.

Oct. 19-21.—American Railway Bridge and Building Association, Detroit, Mich.

## Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Canadian Car Service Bureau—J. Reilly, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern Lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western Lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday each month, 8.30 p.m., except June, July, and August.

Canadian Society of Civil Engineers—C. H. McLeod, 176 Mansfield St., Montreal.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Central Railway and Engineering Club of Canada—C. L. Worth, 409 Union Station, Toronto. Meetings at Toronto, 3rd Tuesday each month, except June, July, and August.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—r. B. Wolsey, 94 King Street West, Toronto.

Express Traffic Association of Canada—W. H. Burr, Chairman, Toronto.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario, T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Nova Scotia Society of Engineers—A. R. McCleave, Halifax, N.S.

Quebec Transportation Club—A. F. Dion, Quebec.

Ship Masters' Association of Canada—Capt. E. Wells, 45 St. John Street, Halifax, N.S.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Western Canada Railway Club—Louis Kon Box 1707, Winnipeg. Meetings at Winnipeg, 2nd Monday each month, except June, July, and August.



### Trade and Supply Notes.

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

**F. H. Hopkins & Co.**, railway and contractors' supplies, Montreal, have been appointed sole selling agents for the Dominion, for contractors' hoisting engines, etc., built by the Napanee Iron Works, Napanee, Ont.

**General Railway Signal Co.**, of Canada.—S. G. Johnson, Vice President, General Railway Signal Company, Rochester, N.Y., in charge of sales and installations, has been elected a director of the General Railway Signal Company of Canada, Ltd., Lachine, Que.

**Robert W. Hunt and Co., Ltd.**, Bureau of Inspections, Tests and Consultation, Montreal, announce the appointment of Chas. Warnock as Manager and Treasurer, succeeding C. C. Whittier, transferred to Chicago office.

Government Compensation for Merchant Seamen injured during hostilities, is provided by new arrangements made by the British Board of Trade. The Board is also continuing the insurance, at reduced rates, of fishing vessels against war risks.

### CANADIAN PACIFIC RAILWAY COMPANY

#### ONTARIO DIVISION

##### NOTICE TO CONTRACTORS.

**SEALED** tenders will be received by the undersigned up to noon, 10th April, 1915, for the construction of four concrete piers and two concrete abutments at Bridge 107.2, Muskoka Subdivision, over Shaw's Creek, about 7½ miles south of Bala. Forms of tender may be obtained, and plans and specifications seen at the office of the Resident Engineer, Room 510, Union Station, Toronto, or from the undersigned.

A. L. HERTZBERG, Division Engineer.  
Toronto, 20th March, 1915.



#### DEPARTMENT OF THE NAVAL SERVICE.

##### PATROL SERVICE.

**SEALED TENDERS**, addressed to the undersigned and endorsed "Tender for Patrol Service," will be received up to noon on Monday, April 5th, for the charter of several vessels for Patrol Service on the Eastern Coasts of Canada during the season of summer navigation, 1915.

Vessels offered should be of the Seagoing Tug or Trawler type, and from 125 to 175 feet long, speed 9 to 10 knots, and should be in good serviceable condition in all respects.

Vessels fitted with trawlers Winches will receive prior consideration.

Owners desiring to charter vessels conforming to the above description are requested to

communicate full particulars, and if possible plans of the vessels offered.

The terms of charter are as follows:—

Owners to supply Officers and Crew, board, all stores and accept ordinary Marine Risk.

Department to pay for fuel and carry War Risk.

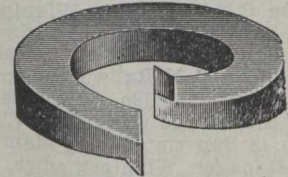
G. J. DESBARATS,  
Deputy Minister of the Naval Service.

Department of Naval Service,  
Ottawa, March 17th, 1915.

Unauthorized publication of this advertisement will not be paid for.—76848.

**MARINE SUPERINTENDENT** of wide experience and with college training, familiar with design and upkeep of hulls, engines and boilers, first-class certificate, desires position. Box 117, Canadian Railway and Marine World.

**The Positive Lock Washer**  
is the **BEST Nut LOCK** for all purposes



We also make plain coils and tail nut locks

**The Positive Lock Washer Co.**

Sole Mfrs., Newark, N.J.

F. H. HOPKINS & CO., Agents, Montreal

## The Ottawa Car Manufacturing Co., Limited

Builders of

**ELECTRIC CARS, FINE  
CARRIAGES, WAGONS,  
SLEIGHS, ETC.**

Office and Works

Slater St. - Ottawa

Only What Meets the Public  
Demand

Holds the Public Trade

**DREWRY'S  
AMERICAN STYLE  
RICE BEER**

has "made good" in popular opinion

**Better, and Costs Less, than Imported**

In Cases of Pints or Quarts

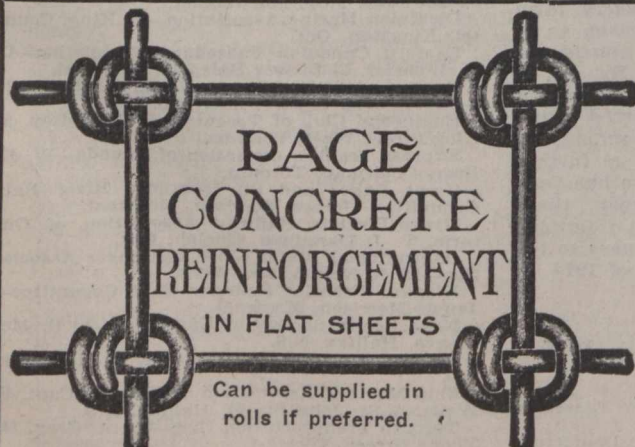
E. L. Drewry, Ltd., Winnipeg

## The Preston Car & Coach Co., Limited

PRESTON, ONT.

MANUFACTURERS OF

Steam and Electric  
Railway Cars and  
Special Cars.



**PAGE  
CONCRETE  
REINFORCEMENT**

IN FLAT SHEETS

Can be supplied in  
rolls if preferred.

## FOR CONCRETE ROAD PAVEMENT, WALKS, BUILDING FLOORS, ETC.

We are the originators of this wire reinforcement in flat sheets, and it is coming into universal use wherever introduced. We have supplied many carloads of it this past season.

The standard mesh for road pavement is 6 x 12 inches; for bridges and building floors, the standard is 3 x 6 inches. Also, other meshes as desired. All sheets 4 feet wide, and any length specified that can be loaded in cars.

*Samples will be sent upon request.*

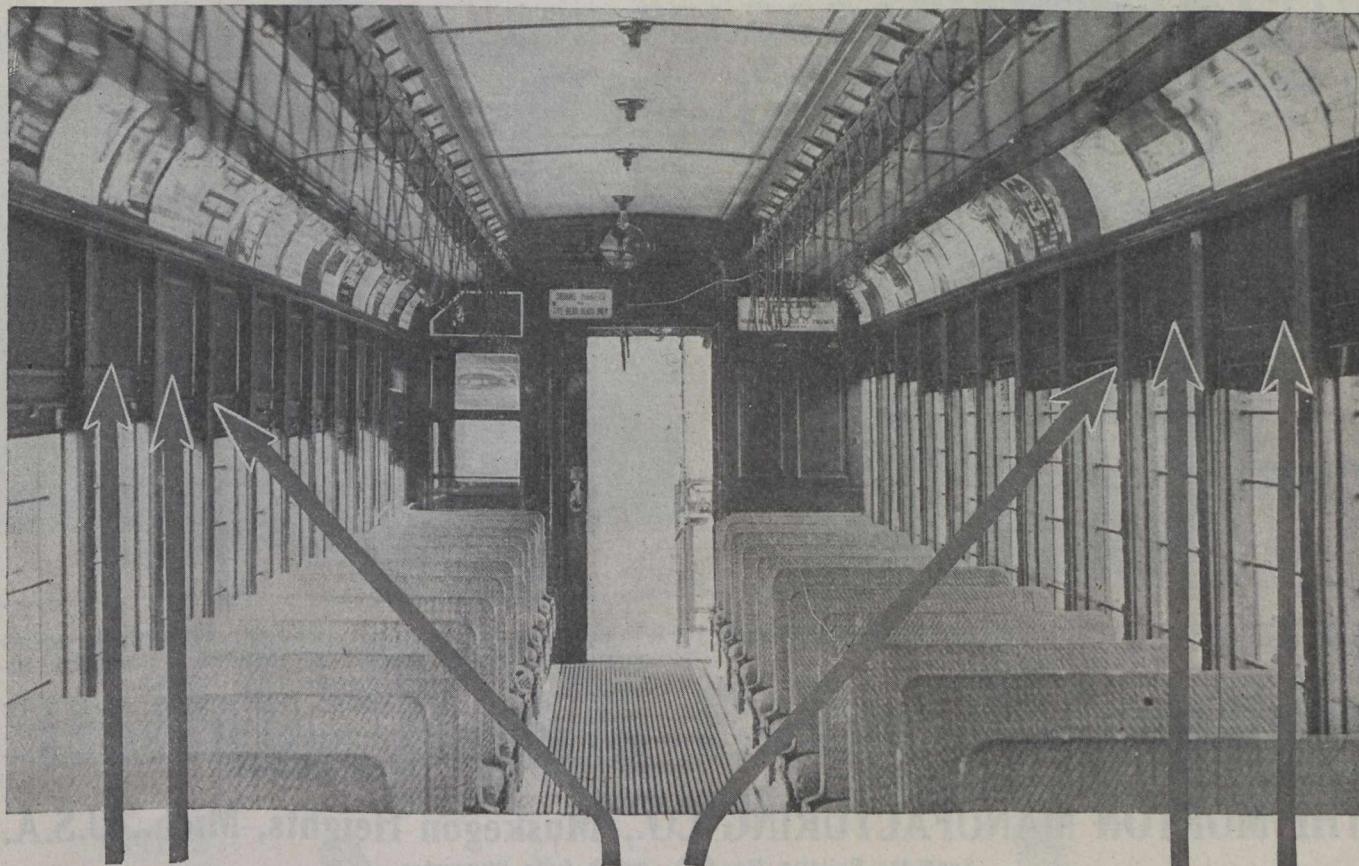
We also supply Iron Fences, Fire Escapes, Office Wire Work,  
and all kinds of Builders' Wire and Iron Work

## THE PAGE WIRE FENCE CO., Limited

DEPT. 24-A

1137 King St. W. 505 Notre Dame St. W. 87 Church St. 39 Dock St.  
TORONTO MONTREAL WALKERVILLE ST. JOHN, N.B.





**FABRIKOID**  
 Electric Railway  
 Car Curtains  
 and Upholstery

**FABRIKOID**  
 Curtains on  
 this Car



REG. U. S. PAT. OFF.

*It's Weatherproof and Durable*

Wind and storm beat in vain against DU PONT FABRIKOID CURTAINS. Fabrikoid is weatherproof. Rain won't shrink it—it's impervious to moisture. In fact you can freely use soap and water on it, which cleans it perfectly. Dust and dirt can't cling to its

smooth surface, nor catch in cracks. Because it doesn't crack—nor peel—nor flake. It's sanitary, durable and rich in appearance. Yet its cost is low—its maintenance still lower. Economical, made in many weights, widths, patterns and colors. Write for samples and prices.

**DU PONT FABRIKOID COMPANY**

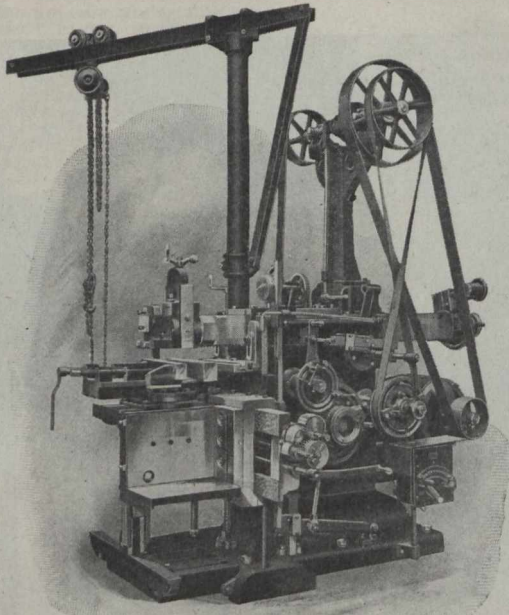
Du Pont Building, Wilmington, Del.

Railroad Dept. Representatives :

**WENDELL & MacDUFFIE COMPANY**

63 BROADWAY, NEW YORK

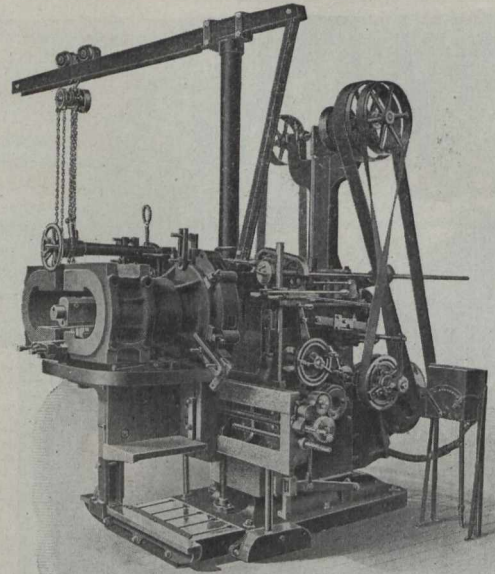




SPECIAL DRAW CUT RAILROAD SHAPER, 32-INCH STROKE.

THE MOST POWERFUL SHAPER OF ITS SIZE BUILT,—ENOUGH SO TO BREAK  $1\frac{1}{4}$  x 2-INCH TOOL STEEL.

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



SPECIAL RAILROAD SHAPER, SLOTTING CONTINUOUS AXLE BOXES 22 INCHES THROUGH DIAMETER OF CROWN BRASS  $12\frac{1}{2}$  INCHES.

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

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

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

## HUNT-SPILLER IRON

HAS THE

STRENGTH AND WEARING QUALITIES

that are absolutely necessary in

### LOCOMOTIVES CASINGS

ELIMINATES ENGINE HOUSE REPAIRS

*Made Only by*

### Hunt-Spiller Mfg. Corporation

W. B. LEACH, President and General Manager.

Office and Works,  
383 Dorchester Avenue,  
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J. G. Platt,  
Sales Manager.

Canadian Representative,  
Canuck Supply Company, Limited,  
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*Station Signs  
that Command  
Attention*

## AGENT

Enameled iron signs for station names and doors are ideal. They always command attention and look bright and attractive. They never fade and will last a life time.

**They Save Money.  
Write for Prices.**

### *Acton Burrows*

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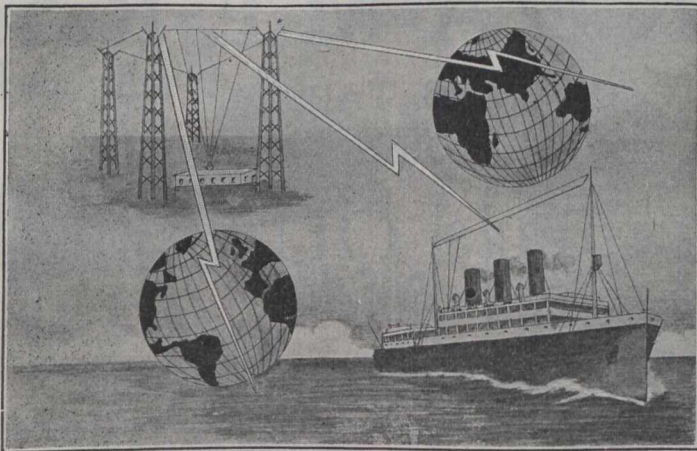
*70 Bond Street, Toronto*

### FOR TICKET CASES AND COMMERCIAL FURNITURE

of all descriptions to stock  
or special design, apply to  
The Canadian Office and School Furniture  
Co., Limited  
Preston : Ontario



# "MARCONI" WIRELESS TELEGRAPH APPARATUS



THE WORLD-WIDE WIRELESS.

We supply installations on Land, Ship, Railway and Aeroplane. Sets range from 50 to 2,000 miles.

## DEMONSTRATED

That Merchant and Pleasure Craft cannot afford to be without a **MARCONI EQUIPMENT**. Every passenger steamer worth the name is now equipped with Marconi Wireless. Over 1,800 vessels now equipped.

**Canadian Marconi Company**

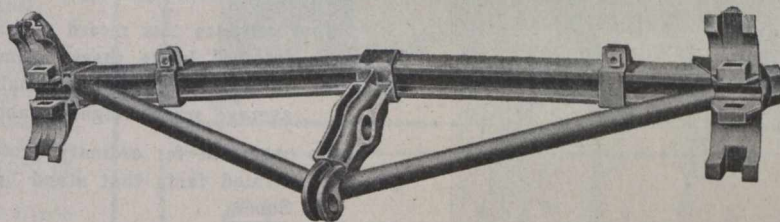
137 McGill Street, MONTREAL

# Buffalo Brake Beam Company

BUFFALO BEAMS ARE BEST BEAMS

**OFFICES:**

NEW YORK  
30 Pine Street  
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**WORKS:**

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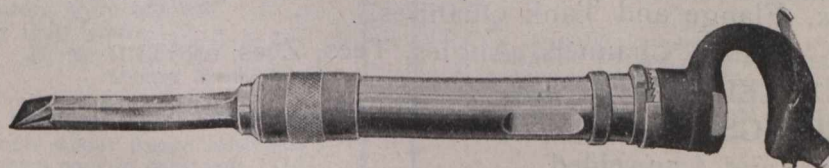
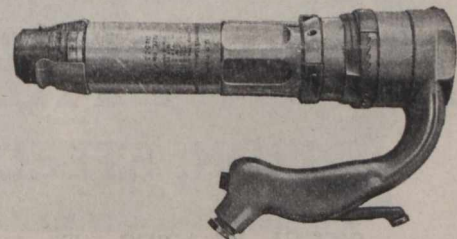
Canadian Works: **HAMILTON, ONT.**

**Brake Beams for all Classes of Cars, Locomotives and Electric Equipment**

## New Boyer Rivetting Hammers

Are made suitable for all classes of work. Are furnished with:

- Closed or open handle. Inside or outside trigger.
- Inverted handle, permitting operation in close quarter (see cut).
- M.S. tool holder—prevents piston or rivet set from shooting out, also can be used to hold a chisel (see cut).



Thousands in use in every part of Canada. All giving excellent satisfaction.

Catalogues showing latest appliances gladly furnished on request.

SOLE AGENTS FOR CANADA:

## THE HOLDEN COMPANY, LIMITED

350-356 St. James Street, Montreal

342 Adelaide Street West, Toronto, Ont.

150 Princess Street, Winnipeg, Man.

429 Pender Street West, Vancouver, B.C.





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CUTTERS, TAPS,  
DIES AND DRILLS

**"P. & W. Co."** INSURES QUALITY  
SEE THAT IT IS ON THE TOOLS YOU BUY

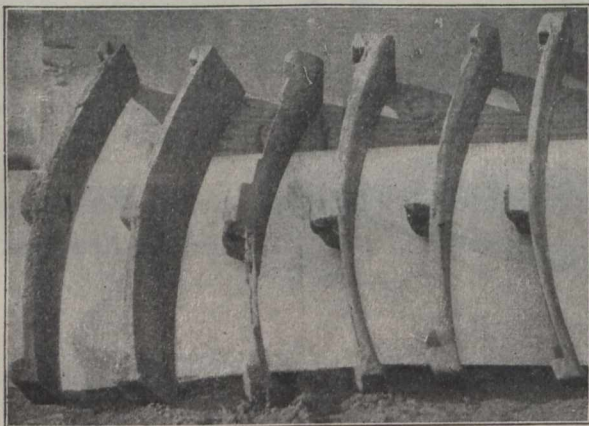
*Pratt & Whitney Co. of Canada, Limited*

DUNDAS, ONTARIO

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These Steel Back Brake Shoes weighed approximately twenty pounds each when put in service. When ready for the scrap heap, after long and satisfactory use, they weighed about six pounds each.

Just compare this record with that of ordinary unreinforced brake shoes. Almost invariably they go to pieces before being half worn out, and their average scrap weight is about fifteen pounds.

No argument for ordinary shoes can meet the demonstrated facts that stand behind Steel Back Brake Shoes.

Manufactured in Canada.

AMERICAN BRAKE SHOE & FOUNDRY CO.

*The Holden Company, Limited, Agents,*

*354 St. James Street, Montreal*

## JAS. W. PYKE & COMPANY, LIMITED

### IRON, STEEL AND METAL MERCHANTS

STEEL PLATES—Firebox, Flange and Tank Qualities.

STRUCTURAL SHAPES—Beams, Channels, Angles, Tees, Zees, etc.

MACHINERY STEEL & STEEL SHAFTING—

STEEL BILLETS & FORGINGS—of all descriptions.

BOILER TUBES—Seamless and Lapwelded.

*We solicit your inquiries when in the market for any of the above material.*

OFFICE: Commercial Union Building,  
232 ST. JAMES STREET,

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## Detroit Automatic Flange Lubricator



Sectional View of Lubricator Body.

**“Wear to Flanges Reduced 80 Per Cent”**

SUSQUEHANNA AND NEW YORK RAILROAD COMPANY.

Office of Master Mechanic.  
West Williamsport, Pa.,  
January 20, 1915.

Detroit Lubricator Company,  
Detroit, U.S.A.

Gentlemen:—

“The two flange lubricators sent us for test purposes for our Locomotive No. 115 have been in continuous service since December 10th, 1914

*and they have saved their cost on this Locomotive in the time they have been used.*

“The Flanges on forward drivers were cutting so rapidly that we would have had to take Locomotive out of service for new tires, and we have kept a close record of wear to these flanges, and the cutting stopped after locomotive made two round trips (138 miles). After oilers were properly adjusted

*the wear to the flanges (natural wear) has been reduced eighty per cent.*

and we are very much pleased with the performance of your lubricators, and will use them on any Locomotive giving us flange trouble in the future.

“We used to get 14,000 mileage from new tires, but with the oilers in use I am sure we will get full service from them and will not have to remove them until tread wear causes turning.

“Would like to inform you that the flanges on these two tires were worn almost to gauge, and this gave us a very good opportunity to watch results. They gauge practically the same now as when the lubricators were applied.”

Very truly yours,

H. M. MILLER,  
Master Mechanic.

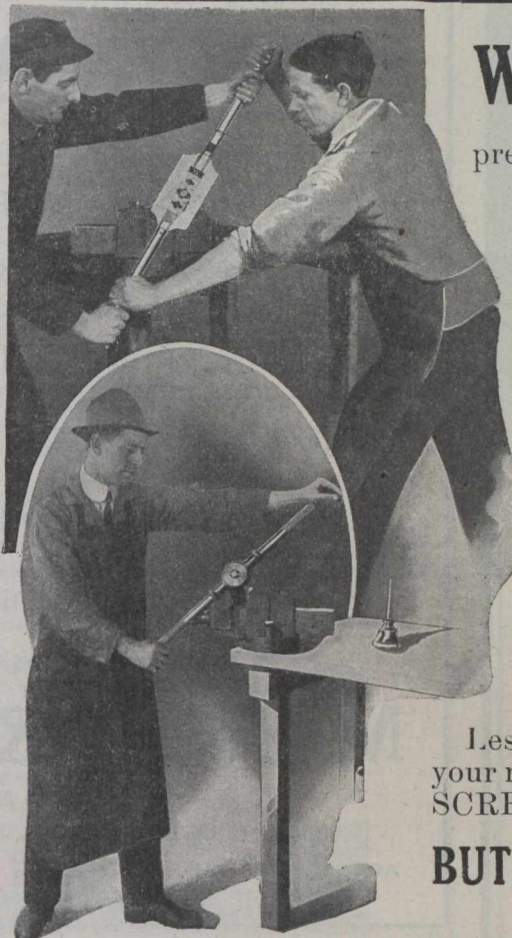
For full information and the inside facts about flange lubrication write for a copy of catalogue FO-81.

CANADIAN DETROIT LUBRICATOR COMPANY, LTD.

WALKERVILLE, ONT.

Canadian Sales Agents:

Taylor & Arnold, Limited, Montreal



## Which Method

prevails in your plant? Does it take two men to do one man's work.

Why don't you replace that old antiquated tool with a new up to date

## Reece's New Screw Plate

These pictures do not exaggerate conditions as you can actually see them, if you will visit Machine Shops throughout the country.

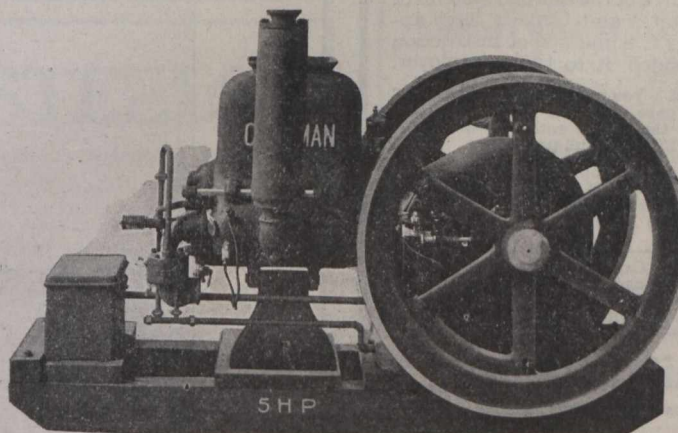
Lessen your cost by giving your mechanics a REECE'S NEW SCREW PLATE.

**BUTTERFIELD & CO., Inc.**  
ROCK ISLAND, QUE.

## Chapman Contractors' Engines

Don't get an old fashioned antiquated Engine.

Buy a Chapman.



All working mechanism on one plate. Only 20 pieces.

Loss of time on contract work costs money. This can be prevented with a Chapman Engine. Buy an extra plate or cam box, then if anything goes wrong with one, put on the other, and in a few minutes you can have your engine running again. Only four bolts to take off. If we charged twice the price we are asking for our Engine they would then be better value than the cheapest you can buy.

Write for Catalogue "G"

## Ontario Wind Engine & Pump Co., Ltd.

Write Nearest Branch.

TORONTO

MONTREAL

WINNIPEG

CALGARY





## Where the Trained Man Wins—

"Last year one of the country's largest railway systems carried one hundred and ninety million passengers without a fatality."

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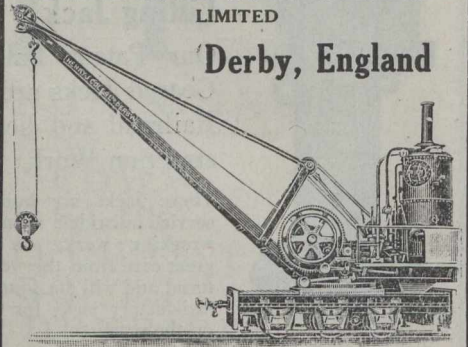
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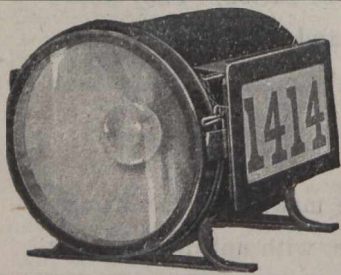
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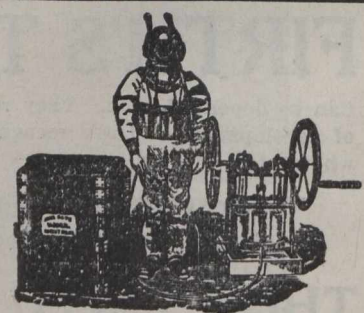
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Gen. Railway Signal Co. of Can.  
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Acton Burrows, Limited
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Acton Burrows, Limited
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F. H. Hopkins & Co.  
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- YACHTS**  
Polson Iron Works.



# Alphabetical List of Advertisers

<b>A</b>		<b>E</b>		Morrow, John, Screw & Nut Co. ....	78
Algoma Steel Corporation .....	23	Electric Railway Improvement Co. ....	84	Morton Manufacturing Co. ....	72
American Brake Shoe & Foundry Co. . .	74	<b>F</b>		<b>N</b>	
Arnold Co. ....	82	Fairmont Gas Engine & Ry. Motor Car		National Steel Car Co. ....	13
<b>B</b>		Co. ....	15	Nicholson File Co. ....	19
Babcock & Wilcox .....	25	Firth, Thos. and Sons .....	77	Northern Electric Co. ....	..
Beatty, M. & Sons, Co. ....	76	Flannery Bolt Co. ....	11	Nortney-Simmen Signal Co. ....	3
Berry Bros. ....	11	Franklin Railway Supply Co. ....	79	Norton, A. O., Inc. ....	10
Bertram, John & Sons, Co. ....	86	<b>G</b>		Nova Scotia Steel and Coal Co. ....	15
Bradstreet Company .....	78	Galena-Signal Oil Co. ....	5	<b>O</b>	
Brevoort Hotel, Chicago .....	24	Gardner, J. T. ....	82	Ohio Brass Co. ....	9
Brown Hoisting Machinery Co. ....	85	Garlock Packing Co. ....	19	Ontario Wind Engine & Pump Co. ....	75
Buffalo Brake Beam Co. ....	73	Gartshore, J. J. ....	82	Ottawa Car Manufacturing Co. ....	70
Burrows—Acton Burrows, Ltd., 17 and	77	Gartshore-Thomson Pipe & Coundry Co.	77	<b>P</b>	
Butterfield & Co. ....	75	General Railway Signal Co. of Canada	7	Page Wire Fence Co. ....	70
<b>C</b>		Goldschmidt Thermit Co. ....	10	Pedlar People .....	16
Canada Grip Nut Co. ....	1	Grand Trunk Railway .....	12	Piper, The Hiram L., Co. ....	78
Canada Wire & Cable Co. ....	82	Griffin and Brinkerhoff .....	82	Polson Iron Works .....	21
Canadian Brakeshoe Co. ....	77	<b>H</b>		Poole Bros. ....	79
Canadian Bridge Co. ....	80	Hart-Otis Car Co. ....	2	Positive Lock Washer Co. ....	70
Canadian Bronze, Ltd. ....	77	Holden Co., The .....	73	Positive Rail Anchor Co. ....	22
Canadian Car & Foundry Co. ....	4	Hopkins, F. H. & Co. ....	8	Pratt & Letchworth Co. ....	79
Canadian Consolidated Rubber Co. ....	26	Hunt, Robert W., & Co. ....	82	Pratt & Whitney Co. of Canada .....	74
Canadian Detroit Lubricator Co. ....	75	Hunt-Spiller Mfg. Corporation .....	72	Preston Car and Coach Co. ....	70
Canadian Government Railways .....	24	<b>I</b>		Pyke, J. W., & Co. ....	74
Canadian H. W. Johns-Manville Co. ....	78	Imperial Bank of Canada .....	79	<b>R</b>	
Canadian Locomotive Co. ....	14	*Imperial Guar. and Acc. Ins. Co. ....	80	Rail Joint Co., of Canada .....	22
Canadian Marconi Co. ....	73	Independent Pneumatic Tool Co. ....	23	Railway Materials Co. ....	79
Canadian Northern Railway .....	15	Intercolonial Railway .....	24	Rhodes Curry Co. ....	4
Canadian Office & School Furniture Co.	72	International Correspondence Schools..	76	Ross & McDonald .....	82
Canadian Pacific Railway .....	21	International Malleable Iron Co. ....	79	<b>S</b>	
Canadian Steel Foundries .....	4	International Nickel Co. ....	78	Safety Car Heating and Lighting Co. . .	18
Canadian Westinghouse Co. ....	2	<b>J</b>		Saxby and Farmer .....	80
Carr, C. E. A. ....	82	Jacobs & Davies .....	82	Standard Coupler Co. ....	79
Chicago Car Heating Co. ....	79	<b>K</b>		Standard Underground Cable Co. of	
Coghlin, B. J., Co. ....	25	Kinnear Manufacturing Co. ....	80	Canada .....	78
Coles, Henry J., Ltd. ....	78	<b>L</b>		Steel Co. of Canada .....	6
Commercial Acetylene Ry., Lt. & Sig. Co.	22	Lewis, Rice & Son .....	23	<b>T</b>	
Crossen Car Co. ....	13	Long & Allstatter Co. ....	20	Taylor & Arnold .....	25
<b>D</b>		<b>M</b>		Trolley Supply Co. ....	18
Date, John .....	78	Martin-Senour Co. ....	20	<b>W</b>	
Dearborn Chemical Co. of Canada .....	12	Miller, F. W. Heating Co. ....	78	Wood, R. D., & Co. ....	79
Dennison, H. J. S. ....	82	Montreal Locomotive Works .....	17	*Advertisements marked with an asterisk	
Dominion Bridge Co. ....	76	Morris, Herbert, Crane & Hoist Co. ....	16	appear in alternate issues.	
Dominion Iron & Steel Co. ....	24				
Dominion Steel Foundry Co. ....	79				
Dominion Wire Rope Co. ....	3				
Drewery, E. L. ....	70				
Duner Co. ....	78				
Du Pont Fabrikoid Co. ....	71				

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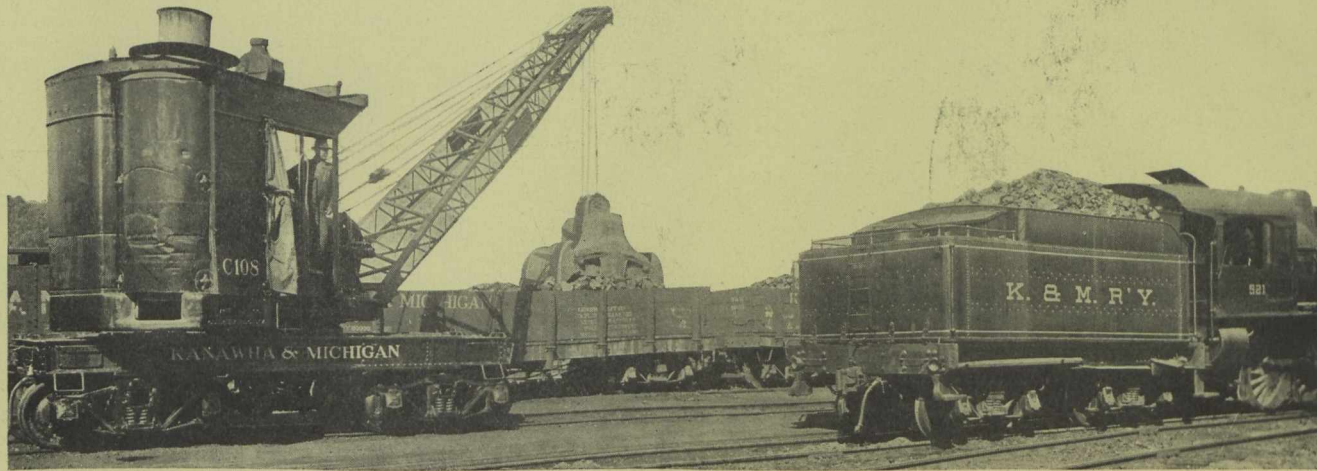
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CLEVELAND, OHIO





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

## BROWNHOIST Locomotive Cranes

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

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

**THE BROWN HOISTING MACHINERY CO.**  
**CLEVELAND, OHIO**

MONTREAL OFFICE, 145 St. James Street





A. HENDERSON—1872.



GEORGE TURNBULL—1866.



W. J. HENDRY—1880.



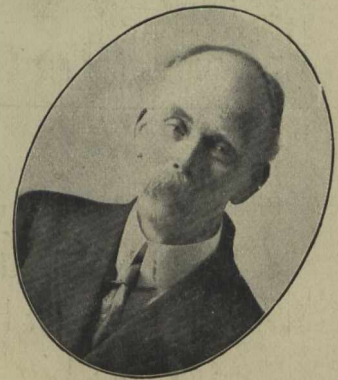
J. McEWAN—1868.

# EXPERIENCED EMPLOYEES

The Backbone of Our Organization

We present on this page photos of some of our employees with thirty or more years of service with this company.

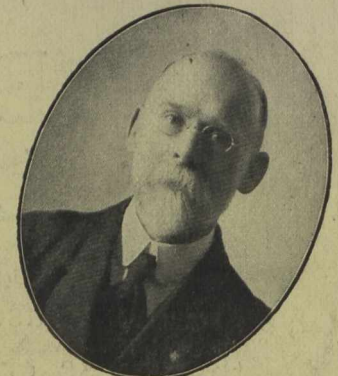
These men have not only watched the growth and expansion of the business—they have participated in it—have put into our product their share of the brains and skill which, backed up by business honor and integrity, have made



J. A. KYLE—1874.



M. J. CAHILL—1870.



S. BRIGGS—1881.



T. MILLINGTON—1878.

# BERTRAM Machine Tools

KNOWN FROM COAST TO COAST  
FOR

QUALITY — ACCURACY — SERVICE



H. DUCKWORTH—1878.

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