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See page 433.

Team Work in Transportation.

By C. Murphy, General Superintendent of
Transportation, C.P.R. Eastern Lines.

While I realize the scope that this subject affords, it is not my intention to go into statistical details, of which we have abundance in our libraries and offices, but rather to give a short talk on the necessity of team work in transportation, and induce a discussion which may be both interesting and beneficial to all concerned with railroading.

The department generally referred to as the transportation department might lead one to believe that it was somewhat separate from the other departments of a railway, but the deeper we go into it, the more we realize how closely it is identified with all the other departments; in other words, the transportation department, so far as team work is concerned, takes in every other department.

First, we have our maintenance of way, which is really the foundation of the transportation department, and takes a very important part on the team. It is absolutely necessary to have a good foundation in the way of up-to-date track upon which to carry on the work of transportation. Therefore, the roadmaster and his sectionmen are important factors in economic transportation. If the track is not in condition to allow of smooth running, trains have to be slowed down in order to negotiate bad spots. Again, flags carelessly displayed by sectionmen may cause stopping of trains, which in turn may lead to stalling and doubling, thus causing serious delay and helping to increase the fuel bill. In addition to this, is the possible serious delay to the delivery of freight at its destination. It is a well known fact that it costs more to handle tonnage over a poorly put up track than over a smooth running track, not only in the matter of fuel consumption, but in the wear and tear of the equipment, and you all know that a poorly put up track some times results in damage to rolling stock and may cause serious accident and great loss of life and property, all of which help to swell the expense of transportation.

I think, next to the maintenance of way department, we should bring in the motive power department, as part of the transportation team, and this might be styled "The Man in the Box." It is therefore of the utmost importance that the members of the motive power department realize their importance to the success of the team, and keep the locomotive power always in fit condition, since it is this part of the great transportation team that has most to do with running up or cutting down the cost of transportation. I often wonder if the

mechanic doing a job on an engine realizes the jump he may cause in the cost of transportation by being careless in his work and turning out an engine that will fail before reaching its destination, or cause the engine to burn double the coal and take twice the time necessary to get over the road than would be the case if the repairs had been properly attended to. It is far more economical to allow a train to stand in a terminal for a number of hours waiting an engine that may be under repair, to have such repairs properly made, rather than skimp the work to avoid such delay at the terminal, and the general policy of the mo-

cost of carelessness on the part of any member of the team, and the inspectors and others connected with the car department should be broadened out to realize that they are a big factor in the earning power of the road. I say earning power, meaning that every cent that we can save in the cost of transportation is so much earned. A careless car inspector or repairer, by allowing rolling stock to be taken out of a terminal or other station under his jurisdiction in faulty condition, could easily wipe out the receipts of a whole division in what might occur through defective running gear or other parts failing, thereby causing serious accident. The improper packing of an axle box, which would cause it to run hot, means increased cost of transportation. How many of our axle box packers realize what a saving they might make if they were particular about this small matter, and it is generally the small things carelessly done that sooner or later result in serious loss. Therefore, if the men who are entrusted with these smaller jobs and responsibilities were coached in proper methods and disciplined for wilful neglect of the smaller things, the big losses which neglect of small details lead to would be avoided.

Another source of economy in connection with this team work could be developed by the train dispatchers, agents and operators, as no doubt many of them, in their anxiety to further the interests of the service in their special line, overlook the question of cost. Unfortunately a number of cases come up where it would appear the sole object in mind is to get the train in and out of their station, or over their division, or probably leave it for the next trick man to straighten out. I am inclined to believe that the average dispatcher does not consider what it means in the way of piling up the cost of transportation when he makes a bad meet, keeping a train in a side track for an hour or two through an oversight on his part, or want of thought or knowledge as to the work or running of the train he is handling. The engine crew, when they enter a side track, do not, as a rule, expect to be there more than from 10 to 20 minutes, and of course they are burning fuel keeping their fire up, until presently, after they have been there about an hour, throwing steam into the air, they let their fire cool down. Just about this time the other train usually comes along. Then they make a start, and the result is possibly leaky tubes and a struggle from there to the next terminal. Of course, there are times when such delays cannot be avoided, but I think a large proportion are due to that branch of the team not realizing how important a bearing their work is to that of the whole. An operator may have a signal up, causing a heavy freight train to stop



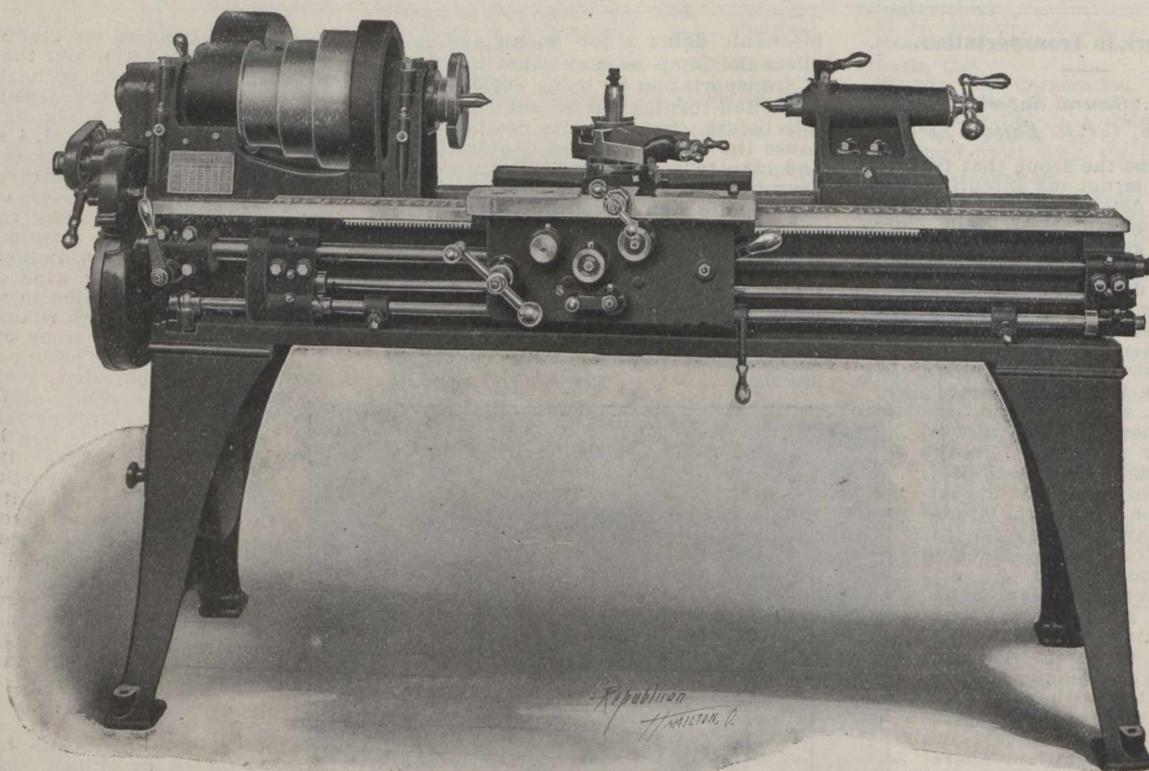
H. E. Whittenberger,
Superintendent Eastern Division, G.T.R.

otive power department should be never to turn out an engine if it is not in fit shape to take the train through to its destination. Nay, I would go still further and say that the engine should not be turned out if it is not in shape to make the round trip from its home station. I am of the opinion that a close supervision and attention to the power on the part of the superintendents and others would result in better and cheaper transportation.

Another important place on this team is that occupied by the car department. too much value cannot be placed on the importance of careful inspection of their rolling stock by those responsible for this duty. Transportation has to stand the

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before he realizes that he should have had the signal "clear," and so have avoided the unnecessary loss of time and expense in fuel, to say nothing of the energy that the crew are liable to expend in "hot air." I am not forgetting that if the engineer is having trouble with his engine, or the conductor has work to perform along the line, that they should do all in their power to keep the dispatcher and agents thoroughly posted as to their movements, so that other trains may not be unnecessarily delayed. Not only this, but many other small delays could be avoided, which, in the aggregate, mean a great deal, both as regards cost to the company and delaying delivery of freight to consignee contrary to contract. Enginemen, trainmen, yard crews, call-boys, checkers, agents, pumps, and, in fact, every man in any way connected with the transportation department, can all assist in keeping down the cost of transportation by doing their part, no matter how small or insignificant it may appear. You may ask in what way the call-boy could assist in reducing the cost of transportation. I might answer by asking a question in return. Did you ever suddenly find yourself in the midst of busy hours minus a call-boy? His position may seem of little importance, being merely to notify men of the hour at which they are required for duty, but if the caller neglects his duty and fails to call a number of men who are required for important fast trains, and his neglect is not discovered until the time arrives for the departure of the trains, then you learn that all these important trains have been seriously delayed—possibly the train crew waiting for the engine or the enginemen waiting for the trainmen—all owing to the failure of the call boy. Then you begin to realize that the team is being weakened because the boy "fell down" in his duty. The call boy may be likened to the lad who blows the organ in church. You all know the old saying, "If the boy sleeps, the music stops." There is not a false move made, but what adds to the cost of transportation. It is therefore necessary for every member in this great game of transportation to be ever on the alert, ready to do his part at the critical moment. The failure of one player to do his part is liable to cause loss, to recover from which it may cost a great deal in time and money.

There is another important feature in connection with the prompt movement of traffic that is probably not kept before us with sufficient force to enable us to get all the good out of it that is possible. I refer to the handling of our local way freight trains. These trains are becoming more numerous and the work increasing as our country progresses. The one important feature in this connection is to have the freight for local delivery properly loaded at the shipping points. It therefore becomes necessary for the freight handlers to join our team, and their aid is necessary if we are to look for success. I have seen cases where the train crew have been called upon to unload a good half car of freight to get out a small shipment for a way station, all because the freight is not properly loaded at the shipping point. This results in loss of time, disappointment to consignees, dissatisfaction to shippers, and in some cases damage to freight, besides a general "black-eye" to the system handling the freight. Compare this with a good system of loading freight for local delivery, where it is loaded in station order, carefully packed and properly trimmed, which ensures prompt delivery when unloaded by the train crew; the damage to freight, the consignees are satisfied, shippers inclined to give you extra freight because it has been handled so well before; overtime of train and engine crews is cut out, with less fuel con-

sumption and low cost of handling. I might say just here that the shippers themselves could encourage this team work a great deal by shipping their goods in strong packages, fully and properly addressed. This all helps to reduce delays at terminals and expedite shipments en route, thereby resulting in economy both to the consignee and the company by preventing freight going astray or becoming damaged on account of frail packages. Another good feature in this connection is the early closing of freight houses to permit of the forwarding of all freight the same day it is received, thus enabling the fast freights to be dispatched on time.

Another important member of this team is the stores department. This may be termed the "handy department," since, when everything else fails, we are apt to say, "requisitions have been placed" and we are probably too much inclined to let the matter rest there. The part which this department plays is one that has great significance, and the difference in handling transportation is very apparent on a section that is fortunate enough to have a good live storekeeper, with a thorough knowledge of the requirements in the way of stock for the different seasons on

ferre with successful transportation; at times its officials have even to defend themselves against complaints which are really due to weather conditions, and they are good natured enough to try and have the weather altered to suit. The fuel department should be credited with trying to do its best to obviate cause for complaints, but we should benefit by the experience of expert fuel men, who should investigate, and if fuel has been supplied to the company that does not meet requirements, the cause of complaint should be ascertained, so that the next order placed will ensure a betterment of quality. In other words, while the motive power department must realize that the fuel on the dump is what it has to use and make a success of, on the other hand, when difficulty is being experienced with it, and investigation shows there is just cause for complaint, the fuel department should in turn, as above stated, take steps necessary for an improved quality in the next order placed.

There are other departments having a certain influence in connection with transportation, but the ones I have mentioned are the most closely connected and are really a part of the transportation system. I think I am safe in saying that my experience in the transportation department has shown that it is absolutely necessary for the heads of the different departments, so closely associated, to work together for the general good, even to a greater extent than we could look for from the other employees. As a general rule, if the heads of the different departments are not working in harmony, it will be found that the employees of their departments are working at cross-purposes, and that means disorganization and serious increase in cost. On the other hand, we find that where the heads of the different departments are working together with the one end in view—that of obtaining the best possible results—the employees of their department work in the same way, and one department working with the other, helping with every member willing and ready to do his part, and being coached along by his captain, a combination so strong is formed that nothing can stand up against it, and, under these conditions, the lowest possible cost of operation is the result.

Another feature in connection with the effect on transportation in this climate of ours is the necessity of team work to turn out power in the earlier part of the day, thus giving the crews the benefit of the higher temperature during the day to get their trains over the road. Where this combination of team work does not exist, the motive power department will often hold power in that may need repairs during the day, and then flood the operating department with a lot of power between noon and midnight, thus causing extra trains to be on the road during the night at a time when the cost of transportation runs away up owing to severe weather.

There is another point I desire to bring out in connection with this team work that appears to me to be rather detrimental to the successful carrying out of the work of transportation between the different departments, and that is, the excessive amount of correspondence that occasionally drifts in, until one realizes that in many cases it is a useless waste of time and energy. I maintain that more can be accomplished by one visit to the heads of the different departments, or to the different places on the division requiring attention, than by a voluminous correspondence. In many cases, by the time correspondence gets through the different channels, the opportunity for good, with which object it was started, has passed. Many matters connected with transportation need prompt action, and the system of correspondence is too slow in such cases to accomplish any

FROM A RAILWAY CONTRACTOR,
AND RAILWAY ENGINEERING,
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OPERATING OFFICIAL.

T. J. Kennedy, President Superior Construction Co., which is building 43 miles of the Manitoulin and North Shore Railway, and who was for many years, until recently, General Superintendent of the Algoma Central and Hudson Bay Ry., and was formerly in the C.P.R. engineering and maintenance of way departments, writes from Espanola, Ont:—

"Dear Mr. Burrows,—In my opinion The Railway and Marine World is a publication that all Canadian railway men should feel very proud of, from the fact that each issue contains a mass of accurate, useful and interesting information well classified, nicely printed and got up in convenient form.

"I congratulate you upon the great advance that you have made since I first became one of your subscribers some years ago.

"Frankly, I do not consider that we pay enough for what you give us.

"Faithfully yours,
"T. J. KENNEDY."

his section. A great deal more depends upon economical operation in transportation on the stores department than is generally supposed. If the stores department fails to keep up the supply of material principally required for repairs to engines and cars or for train supplies, a very great increase in the cost will be noticeable, from the fact that in many cases, owing to this shortage, material has to be robbed—that is, taken from one engine or car to repair another. This not only causes double work, but involves keeping power and other equipment out of service, oftentimes when badly needed. A better departmental showing may possibly be made in this particular department by keeping stock short, but the transportation department suffers more loss through this lack of material than would probably pay for the shortage ten times over. It is therefore of the utmost importance that the officers of the stores department and those of the other departments keep in close touch as to the stock requirements, and this can only be obtained by their working very closely together.

The fuel department brings up a burning question. It is frequently made the scapegoat for all difficulties that inter-

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S. A. MEGEATH,

PRESIDENT

good, and in many instances a great saving and improvement can be accomplished by that intercourse between the heads of departments that is essential to the successful operation of the transportation end of a railway system.

I do not think there can be much opposition to the placing of the superintendent of a division or district as captain of the team, and it should be his earnest effort to become thoroughly acquainted with the work that every player has to perform, and he should be as much interested in one department as another as members of such team. He should be quick to observe any weakness or lack of energy on the part of any player, and work the whole team so that there will be the greatest harmony and co-operation. He should not be allowed to feel that any trouble in the locomotive department does not mean trouble for him, or that if any member of the team falls down in the proper performance of his duty, he is not responsible. I am afraid that we have some superintendents who feel that the failure of some department to carry out their part of the transportation game is up to that particular department and he is not to blame. There can only be one captain if the team is to be successful, and it is the captain's duty to watch for the weak spots and see that ample support and assistance are given whenever this weakness appears. If any difficulty develops on the track, he should not rest until that difficulty has been overcome; if time is lost owing to poor coal, probably on account of snow and ice being mixed with it, he should make it his business to see that that kind of mixture for making steam is avoided, and he should not miss an opportunity of bringing all the departments associated in the transportation game into the closest harmony and co-operation, and make all realize that any weakness on the part of a single player might easily turn what would otherwise mean victory into dismal failure.

In concluding, I would draw attention to the importance of heads of departments insisting on premises being maintained at all times in a neat and tidy condition, and in endeavoring to have clean, knifty men in charge who will see to it that employes under them are kept up to tidy habits and a proper attention to their personal appearance, since the natural result of slovenliness is carelessness, and this is largely a question of how the officer in charge may look at it. Some will see accumulations of rubbish and dirt at a glance, while to others this state of affairs does not appeal. As an illustration, I may be permitted to recall a case where a colored man, on visiting a museum where all kinds of curiosities were exhibited, when asked what he thought of it, replied, "They were the best whitewashed walls he had ever seen." Another case, a guest at a banquet, from a lumber camp, when called upon to speak, in his endeavor to express his feelings of the good things provided, wound up by stating it was the "finest salt he had ever tasted." It is therefore important, when selecting men for positions necessary for the post they are to take charge of, and if the spirit of self-respect can be infused into the rank and file, the result cannot but be a betterment to the service.

The foregoing paper was read before the Canadian Railway Club recently.

Farrelly Brothers, Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$20,000, and office at Winnipeg, to carry on a general contracting business, and to build and control public works of all kinds, including railways, tramways, docks, harbors, piers, wharves, canals, etc. Among the incorporators are, T. P., G. J. and F. E. Farrelly, contractors, Winnipeg.

Government Railways Wages for Telegraphers, Etc.

The Intercolonial and Prince Edward Island Railways telegraphers, train dispatchers and station agents applied some time ago for a board of conciliation and investigation, the application alleging that the differences related to the failure of the management to live up to the terms of the existing schedule of rules and rates of pay with respect to certain employes; also to the refusal of the management to agree to certain proposed amendments to the same schedule. The board consisted of J. H. Gilmour, Brockville, Ont., nominated by the Government Railways Managing Board; J. G. O'Donoghue, nominated by the employes, and Judge Barron, of Stratford, Ont., recommended by the other members of the board.

The parties having agreed upon all other points there remained but two matters to be disposed of by the board, which were unanimously agreed to as follows:

1. The claim for an increase in wage rate. The board is of the opinion that \$35,000 a year should be allotted for this purpose to be distributed by increasing the minimum salaries as set forth in article 24 of the schedule, and the balance to be apportioned to the regular salaries of the men now employed, as may mutually be agreed upon between the committee of the employes and the Board of Management. This increase to date from October 1, 1910.

2. As to the number of hours operators should be required to work per day. At present the men work 12 hours per day with the exception of train dispatchers, who work eight hours. The board does not, for the present, recommend any change in this regard except in the case of operators employed at terminal points indicated in article 20 of the schedule. In which case the board recommends that an eight hour day be instituted for these men.

Article 20 of the schedule is as follows:

"Twelve consecutive hours, including meal hours, will constitute a day's work for a telegrapher except as otherwise provided for in this schedule. Eight consecutive hours train dispatching and time for transfer will constitute a day's work for telegraphers who are train dispatchers. Eight consecutive hours will constitute a day's work for telegraphers at the following points: Levis, Riviere du Loup, Campbellton, Moncton, Truro, Newcastle and New Glasgow. The hours of duty will be defined from time to time by the superintendent of the district, and when telegraphers are required to exceed the above named hours they will receive an official order and will be excused in the same manner, and will be allowed overtime. On the Prince Edward Island Ry. the hours of duty of the train dispatchers are to remain as at present subject to the discretion of the superintendent."

Article 24 is as follows: "The minimum monthly salaries for train dispatchers will be as follows: 1st year, \$110.00; 2nd year, \$115.00; 3rd year, \$120.00; 4th year, \$12.00; relieving dispatchers, \$105.00; and 50 cents per day for expenses when away from headquarters, and allowed for travelling expenses if moved.

"On the Prince Edward Island Ry. the monthly salaries will be as follows: senior dispatcher, \$125; assistant dispatcher, \$110.00.

The minimum monthly salaries for telegraphers will be as follows: Agent and telegrapher with dwelling, fuel and light, \$53.00; agent and telegrapher without dwelling, fuel and light, \$58.00; telegraphers, \$53.00; telegraphers at Levis, Riviere du Loup, Campbellton, Moncton, Truro, Newcastle and New Glasgow, \$70.00; relief agents, \$80.00."

May Birthdays.

Many happy returns of the day to—
W. R. Baker, Secretary and Assistant to President, C.P.R., Montreal, born at York, Eng., May 25th, 1852.

G. S. Cantlie, General Superintendent Car Service, C.P.R., Montreal, born there May 2, 1867.

M. Donaldson, M. Can. Soc. C.E., Superintendent Ottawa Division, G.T.R., Ottawa, Ont., born near Edinburgh, Scotland, May 1, 1851.

A. E. Duff, District Passenger Agent, G.T.R., Toronto, born at Sherbrooke, Que., May 1, 1872.

G. C. Dunn, District Engineer, G.T.P.R. Winnipeg, born at Quebec, May 13, 1862.

J. D. Evans, Chief Engineer, Central Ontario Ry., Trenton, Ont., born at Goderich, Ont., May 27, 1843.

E. T. Galt, President, Alberta Ry., and Irrigation Co., Montreal, born at Sherbrooke, Que., May 24, 1850.

C. M. Hays, President, G.T.R., and G.T.P.R., Montreal, born at Rock Island, May 16, 1856.

G. H. Hedge, Assistant Master Mechanic, C.N.R., Winnipeg, born at Neath, Wales, May 26, 1865.

R. B. Hepburn, President and General Manager, Ontario and Quebec Navigation Co., Ltd., Picton Ont., born there May 27, 1876.

G. A. Hoag, Superintendent, Central Ontario Ry., Trenton, Ont., born at Walker's Falls, Ont., May 31, 1866.

W. T. Huggan, Accountant and Auditor, Prince Edward Island Ry., Charlottetown, P.E.I., born at Halifax, N.S., May 24, 1851.

J. Irwin, Superintendent, District 5, Canadian Northern Ry., Saskatoon, Sask., born at Clinton, Ont., May 28, 1866.

W. Marshall, Superintendent, Ontario Division, C.P.R. Telegraphs, Toronto, born at Garden Island, Ont., May 18, 1859.

M. Neilson, C.E., Consulting Engineer, Montreal St. Ry., born at Almonte, Ont., May 26, 1852.

A. L. Oglivy, General Purchasing Agent, National Transcontinental Railway Commission, Ottawa, Ont., born at Richwood, Oxford County, Ont., May 23, 1868.

H. B. Sherwood, Superintendent, Bay of Quinte Ry., Napanee, Ont., born at Auburn, N.Y., May 25, 1847.

W. Stapleton, General Agent, Canadian Northern Steamships, Ltd., Winnipeg, born at Bristol, Eng., May 20, 1884.

E. Tiffin, Member Government Railways Managing Board and General Traffic Manager, I.C.R., Moncton, N.B., born at Hamilton, Ont., May 5, 1849.

J. H. Walsh, General Manager, Quebec Central Ry., Sherbrooke, Que., born at Quebec, May 12, 1860.

H. K. Wicksteed, B.A.Sc. M. Can. Soc. C.E., Chief Engineer of Surveys, Mackenzie, Mann & Co., Ltd., Toronto, born at Quebec, May 25, 1855.

James Yeo, ex-Roadmaster, Intercolonial Ry., Riviere du Loup, Que., born at Bideford, Devonshire, Eng., May 1, 1830.

The Board of Railway Commissioners, will on May 2. take up for discussion the matter of railway companies providing some form of protection to its employes against death and injury through falling from tenders of locomotives.

Hereafter where an application is made to the Board of Railway Commissioners by a railway company for the approval of the location of its line under sec. 159, or for approval of a deviation under sec. 167. of the Railway Act. the Board will not approve of such location or deviation, until application has been made for approval of all highway and railway crossings affected thereby.

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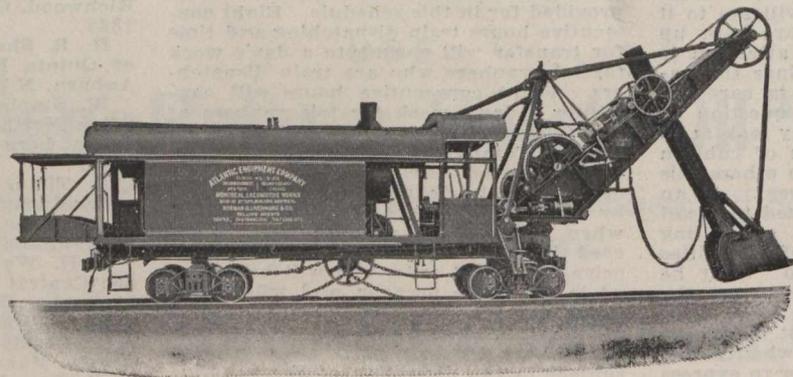
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C. P. R. Palace Horse Cars.

The C.P.R. has built recently, at its Angus shops, Montreal, fifty 47 ft. horse cars, of which the following are the principal particulars:

Weight of body	34,240 lbs.
Weight of trucks	18,000 lbs.
Total weight	52,240 lbs.
Capacity	16 horses
Cubic capacity	3,330 ch. ft.
Outside general dimensions:	
Length over couplers	50 ft. 1 in.
Length over frame	47 ft.
Width over frame	9 ft. 4½ in.
Height over brake mast	13 ft. 10 in.
Height over running board	13 ft. 3 15-16 in.
Height at centre of roof	13 ft. 2 3-16 in.
Height at eaves	12 ft. 7½ in.
Width at eaves	9 ft. 8½ in.

Inside:	
Length inside	46 ft. 17½ in.
Width inside	8 ft. 9 in.
Centre height inside	8 ft. 4 15-16 in.
Width at eaves	9 ft. 8½ in.
Side height inside	8 ft. 0 15-16 in.

The following are the principal features: Body—Arched roof, canvas covered; running board; side and end ladders; sheathed inside and outside; ceiling lined; special hardwood sheathing to height of 4 ft. at ends inside; iron carlines.

The doors are in two sizes, of the freight type, fitted with windows; one pair 6 ft. 9½ in. wide by 8 ft. ½ in. high; one pair 5 ft. 3½ in. wide by 8 ft. ½ in. high. The door openings are, one pair 6 ft. 6 in. wide by 7 ft. 8¾ in. high; one pair 5 ft. wide by 7 ft. 8¾ in. high. Iron angle door posts.



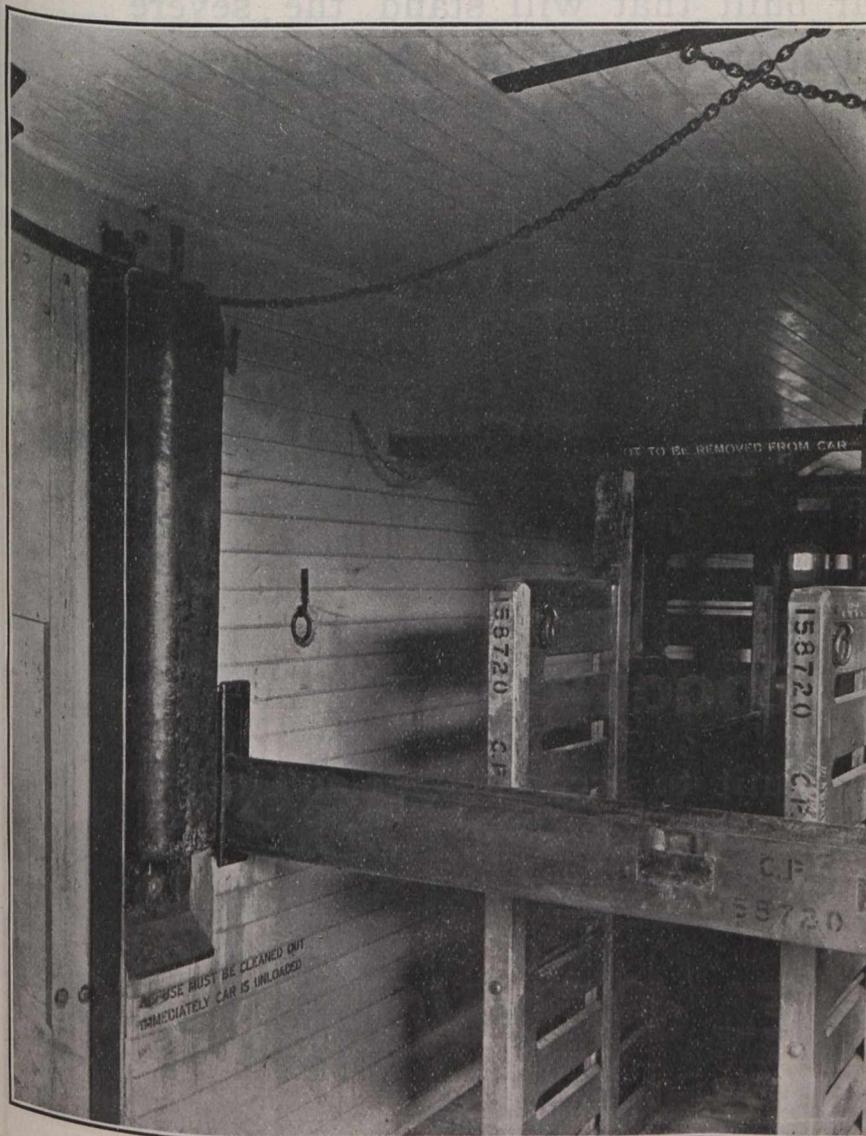
The windows in doors have 10 in. by 20 in. glass, and there are also two ventilators 11¼ by 20 in in line at upper part of each door, the ventilators being covered with wire netting and situated one at either side of window, which are central as regards the width of the door. The ventilators are closed by a sliding iron shutter, which, when ventilator is open, covers the adjoining window. One

ventilator is also situated in central position at lower part of door, shutter being operated in the same manner as those above. There are four globe ventilators in the roof.

The underframe has Z bar centre sills, wooden intermediate and side sills; steel flitch plates on inside of side sills; friction draft gear, safety chains, steam train pipe, air signal pipe; 40 ton trucks of the freight type, with elliptic springs; 34 in. steel tired wheels.

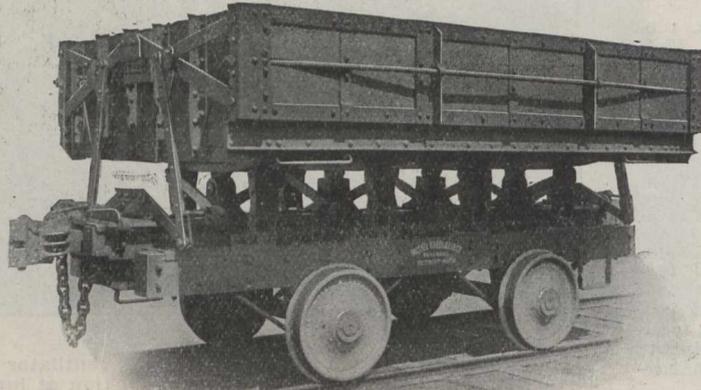
The interior is fitted with 12 removable stall partitions which rest in cast iron sockets, sunk flush into floor. Partitions are supported overhead by removable lengths of 2 in. iron pipe, pipes being supported by brackets on side sheathing. The stalls when not in use or stored at the side of the car, can be stacked six at each end of car, leaving a distance of 42½ ft. between them and the full width of the car, except for the transverse partitions. A transverse partition in two sections is located centrally in the car, one section extending from car side to first stall partition and the other meeting it, swinging from the other side of the car. The transverse partition rests in sockets similar to the ones used for the stall partitions, but each section is supported by hinges at side of car, the larger section having a lever device by which it can be raised with one hand out of the floor sockets and swung around to its stored-away position at the side of the car, where it again sinks into floor sockets on the lever being released. The small section is swung round similarly, but it is so light that no lever device is required to operate it. The stall and transverse partitions are protected to a height of 4 ft. from the floor, by hardwood sheathing. Breast bars are fitted into socket castings on either side of car and extend across immediately in front of stall partitions, the top of breast bar being 4 ft. from floor. When not in use, the breast bars are removed and stored above doors, brackets being provided for this purpose.

A special feature of these cars is the pressed steel feed troughs which are hinged to the car sides and hooked to breast bars at the other end when in use, each trough extending nearly half way across the car and supplying two stalls. An additional support for the feed troughs consists of a chain of such a length that the end of the trough is supported from the roof of the car. When not required, the feed troughs are stored away in recesses formed between the angle iron door posts and the wooden intermediate posts, the upper line of belting being stopped short at the wooden post, the only connection between the iron and the wooden posts above the lower belt rail being the outside sheath-

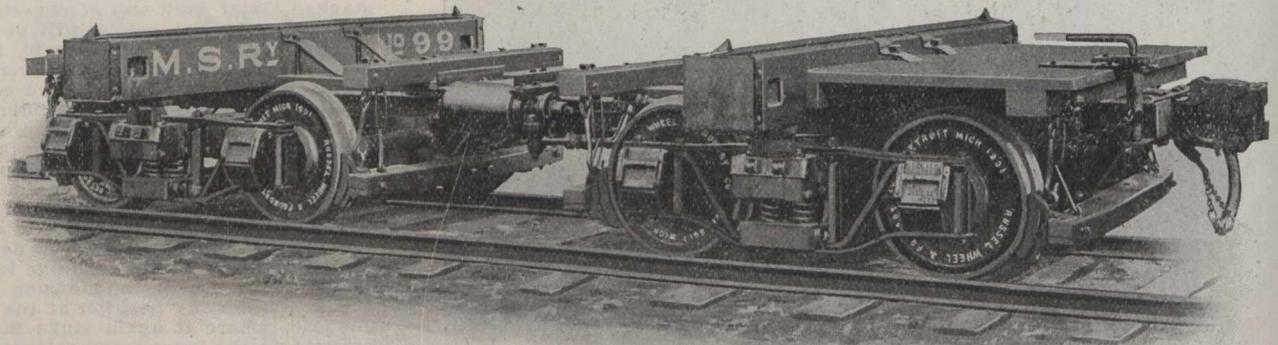


C.P.R. Palace Horse Car. Interior showing trough up.

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Detroit, Mich., U.S.A.

ing. This device enables the feed troughs to be stored away without interfering much with the inside clearance of the car.

The specialties used on these cars are the C.P.R. standard ones.

For the foregoing data and the photographs from which the accompanying illustrations are made, we are indebted to R. W. Burnett, General Master Car Builder C.P.R.

Recent Ontario Legislation.

The Ontario Legislature at its recent session passed the following acts affecting transportation interests:—

BELLEVILLE RADIAL RY.—Amending charter.

CANADA FOUNDRY CO.—Respecting company's property at Bridgeburg, Ont. This land was originally acquired for a ship-building yard.

DUNNVILLE, WELLANDPORT AND BEAMS-VILLE ELECTRIC RY.—Extending time for construction.

FORT WILLIAM.—Respecting city's relations to Port Arthur and Fort William Electric Ry.

GUELPH RADIAL RY.—Extending time for construction and confirming agreements with People's Ry.

INTERNATIONAL RY.—Respecting International Ry. and the International Traction Co.

MOUNT MCKAY AND KAKABEKA FALLS RY.—Confirming bylaw of Paipoonge municipality exempting line from taxation.

NAVIGABLE RIVERS.—For protection of public interest in beds of navigable rivers.

NIAGARA FRONTIER ELECTRIC RY.—Incorporation.

OTTAWA AND ST. LAWRENCE ELECTRIC RY.—Extension of time for construction.

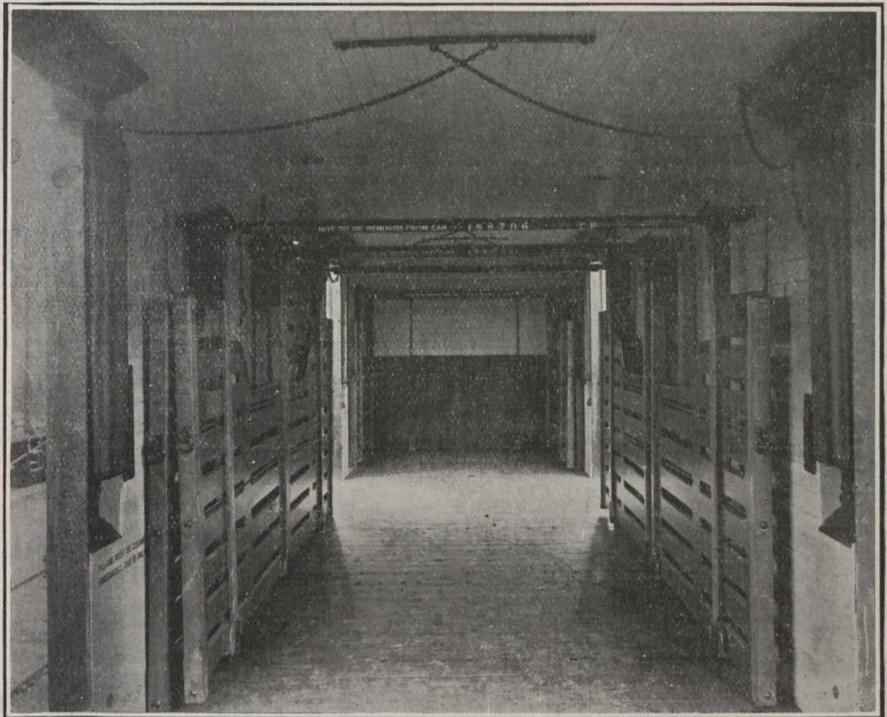
OTTAWA, SMITHS FALLS AND KINGSTON RY.—Incorporation.

OWEN SOUND.—Confirming bylaw granting bonus to dry dock.

PEOPLES RY.—Extending time for construction and authorizing building of additional lines.

PORT ARTHUR.—Confirming bylaws authorizing expenditures on Port Arthur and Fort William Electric Ry.

RAILWAY ACT.—Two acts amending Ontario Railway Act, 1906.



Interior of C.P.R. Palace Horse Car.

RAILWAY AND MUNICIPAL BOARD.—Amending powers.

ST. THOMAS.—Confirming bylaw with respect to taxation of Michigan Central Ry. property.

SANDWICH, WINDSOR AND AMHERSTBURG RY.—Amending powers.

STRATFORD RY.—Incorporation.

TEMISKAMING AND NORTHERN ONTARIO RY.—Respecting powers of Commissioners.

TORONTO.—Granting city various powers in respect of Toronto and Mimico Electric Ry., etc.

TORONTO AND YORK RADIAL RY.—Extending powers.

TORONTO INTERURBAN RY.—Incorporation.

TORONTO SUBURBAN RY.—Extending

time for construction and giving power to build additional lines.

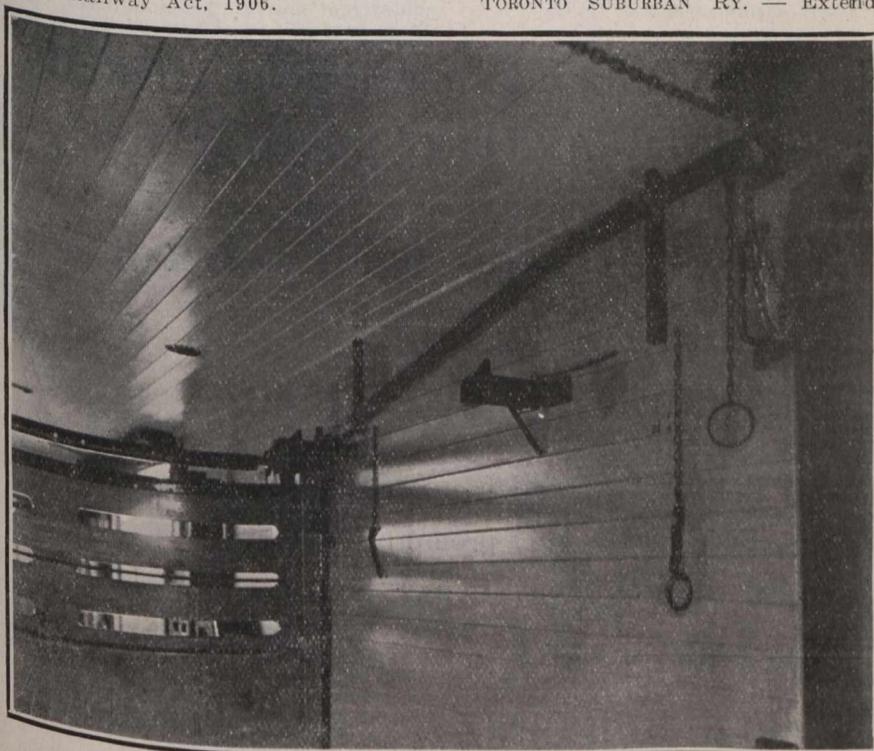
Crow's Nest Pass Coal Co's. Railway.

The board of conciliation and investigation which was appointed to adjust a dispute between the Crow's Nest Pass Coal Co. of Fernie, B.C., and its employees, has made a unanimous report. In the employees application for the establishment of this board the differences in question were embodied in two complaints, namely: the increased charge by the company for the use of special trains to convey those of its employees who were members of the United Mine Workers of America from Coal Creek, B.C., to Fernie, and return; and an alleged reduction in the wages of certain employes in contravention of the existing agreement between the company and its employees.

The company claimed that the trains and tracks belong to the Morrisey, Fernie and Michel Railway Co., and that the schedule of rates objected to was passed by the directors of the latter company on March 11, 1910.

On the first point involved in this dispute the award of the board is substantially in favor of the men, the board considering that the relations between the Crow's Nest Pass Coal Co. and the Morrisey, Fernie and Michel Ry. Co. are so close that it is impossible to find the distinction between the two; and that therefore, the Crow's Nest Pass Coal Co. should, during the life of the agreement, continue to supply trains at the old rate. Regarding the question of the alleged unfair reduction of wages of certain employes, the finding of the board is also in favor of the men with the exception of one instance where the company's action is upheld.

During Feb., 24 employes were killed, and 26 were injured in the course of their employment on Canadian railways. Of the fatalities, nine were due to being run over, six to collisions, five to an explosion of powder, three to derailments and one to exposure, while of the other accidents, nine were due to derailments, six to falls, five to being run over, two to collisions and one each to being caught between cars, to being struck by a passing object, to falling material and to an explosion of gasoline.



Interior of C.P.R. Palace Horse Car.

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American Railway Engineering Association.

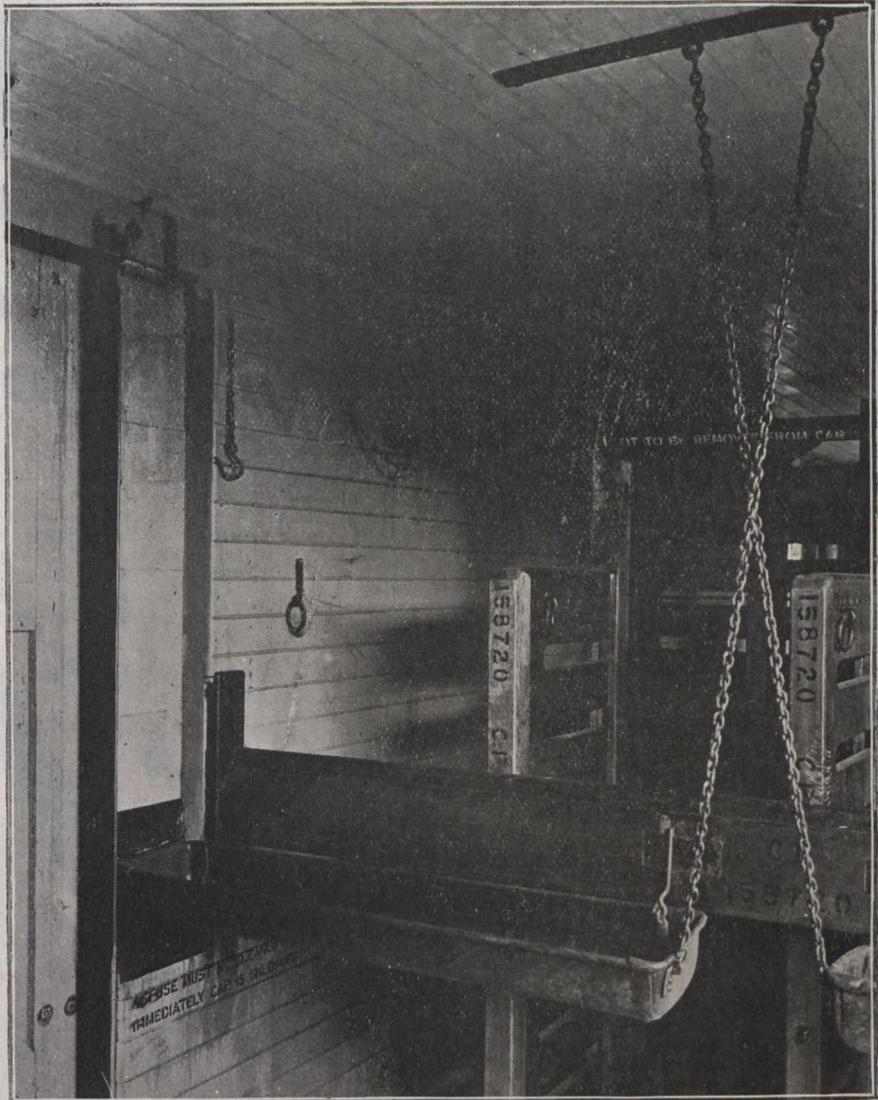
This Association, formerly the American Engineering and Maintenance of Way Association, met in Chicago, March 21 to 23. The attendance was large, and there was the usual evidence of very active interest in the consideration of the various subjects submitted and discussed. The proceedings opened with the address of the President, L. C. Fritch, Chief Engineer, Chicago Great Western Ry.; this reviewed the purpose, policy, organization and growth of the association, and touched upon some developments in railway affairs and railway engineering.

The officers for 1911 are as follows: President, W. C. Cushing, Chief Engineer of Maintenance of Way, Pennsylvania Lines Southwest System, Pittsburg, Pa.; Vice Presidents, C. S. Churchill, Chief Engineer, Norfolk & Western Ry., and E. F. Wendt, Assistant Engineer, Pittsburg & Lake Erie Ry.; Treasurer, G. F. Bremner, District Engineer, Chicago, Burlington & Quincy Ry.; Secretary, E. H. Fritch, Chicago.

In the proceedings there was evident the usual difficulty in keeping the discussions to the really important matters. In several cases time was spent in discussing minor matters of wording or phrasing while matters of general principle or larger importance were passed by. A good part of the discussion also related to proposed changes in the "Manual of Recommended Practice," published by the association, and while it is desirable to have this accurate and complete it should be recognized that the manual is not a statement of the best and only practice, to be accepted and used as the highest authority. It is simply a compilation requesting and suggesting approved methods in certain lines of work. The value of the committee reports is largely in their collection of information and opinion, and the value of the meeting is largely in its opportunity for discussing the material thus presented.

Every one of the 19 standing and three special committees had a report, and all the reports were called up for consideration. Naturally some received much more attention than others, and for some of them there was little or no opportunity for discussion. This was inevitable, when 22 reports had to be disposed of at six sessions. One trouble with the work of this association is that its enthusiasm has led it to undertake rather too much work. Some of the committees had from four to eight subjects assigned to them, and while not all of these were taken up in detail, their consideration serves to disperse rather than to concentrate the energy of the committee members. It is true that in some cases the work is divided among sub-committees, but it would be better to have the full committee give its attention to a smaller field of investigation. Furthermore, the various reports and appendices swell the annual volumes of Proceedings to an undesirable extent.

A change in some of the methods of management and procedure is necessary, and that these conditions are recognized by the officers of the association is shown by the fact that a part of one session was devoted to a frank discussion of them. At the same time, the subject of continuing the publication of the Manual was discussed. It was the universal opinion that this should be continued, but that it should be under control of a board of review to see that the matter is properly condensed, that unnecessary matter is not included, and that there is proper harmony and agreement between the various recommendations. It was originally intended to become a book of standard specifications, but its present most useful purpose is as a hand-book of good and approved practice in different lines of work.



C.P.R. Palace Horse Car. Interior showing trough down.

All the reports were printed in advance, with their appendices and illustrations; they aggregated some 670 pages, exclusive of the 550 pages of the rail committee report (which forms one complete volume of the 1911 Proceedings). We give below a brief review of the reports and of the proceedings in connection with them.

ROADWAY.

The work of this committee is divided among five sub-committees, only one of which had a report. This was an excellent one, however, and dealt with the one subject of formulas for waterway openings. Special efforts have been made to bring together all known formulas for determining the size of such openings, and appended to the report was a digest of information compiled by A. F. Gilman and G. W. Chamberlain, Univ. of Wisconsin, in the course of their investigation on this subject. About 27 formulas were given and discussed (beginning with that of Major E. T. D. Myers, 1879). There was also an extended bibliography accompanying the report. The committee stated that it was not prepared to modify its former conclusions that "no single waterway formula can be recommended as fitting all conditions of practice. Nevertheless, as a result of its investigations it felt warranted in calling particular attention to certain relationships which point to the development of such a general formula. The report was accepted as information, without discussion.

RAILS.

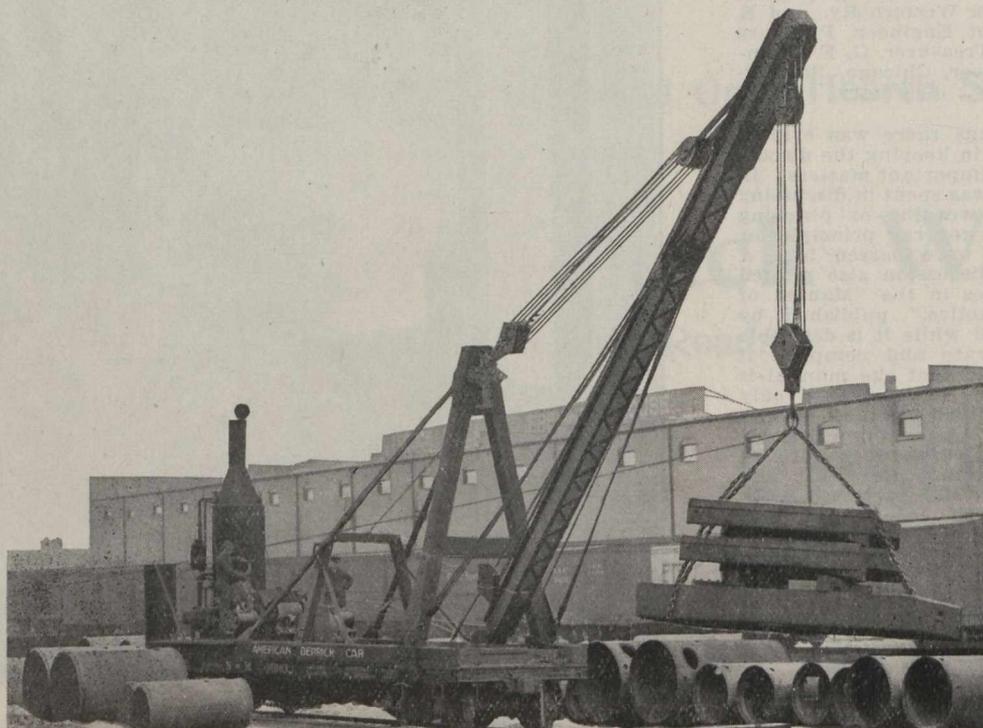
This committee is conducting a comprehensive and systematic investigation with a view to improving the quality of rails. Its report proper was only one of progress, but the reports of its work for the year (including the investigations by M. Wickhorst, its Testing Engineer) fill 550 pages. Among this material is a large collection of information and engravings relating to rail failures, and to the use of rails of open-hearth and alloy steels. One important indication of the committee's work is that differences in the production of ingots and of the finished rails from them may annihilate all advantages that might be derived from any particular section of rail. The design of rail sections, therefore, is not the main cure for defective material. As a matter of fact, the principal defects connected with rail manufacture seem to have their origin in the making of the ingot. Some tests have been made as to the strength of rail head in different sections, in order to throw light on the controversy as to the respective merits of thin and thick heads. These tests will give some information also as to the claim that the rail head is broken down by excessive wheel loads even though there is no physical defect in the metal.

The discussion related mainly to rail breakages and records of breakages. It appears that on some roads from 90 to 100% of these failures occur in the left-hand rail, and it was suggested that on

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In traveling any distance in train, mast can be quickly swung back onto rest, boom unstepped and slid back onto car, shipping all as one compact load.

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double track this might be due to defective drainage in the middle of the track, causing the roadbed to be soft and the ballast loose under the ties. Mr. Elliott, N. Y. Central Ry., remarked that in tests of locomotive counter-balancing made by the Railway Master Mechanics' Association in 1892 the greatest load was found to be on the front left-hand driver of a 4-4-0 engine. The difference was not great, however. He suggested that this matter be taken up again in regard to engines having three driving axles. The committee's investigations and tests of rail joints (not yet completed) indicate that it is very necessary to see to the character of the steel used in any form of joint.

The principal work of the committee is the preparation of standard specifications and while those adopted tentatively in 1910 have not been followed in any purchases, the differences between these and the specifications of some large railways are not great and are growing less. Speaking for the committee, Mr. Churchill, N. & W. Ry., remarked that differences between the railway engineers and the rail manufacturers as to specifications are becoming less and less. He gave the manufacturers credit for really trying to improve their work.

TIES.

This committee made a report of progress, but presented several appendices. These included statistics of tie renewals, and information as to the use of steel and concrete ties (supplementing the information given in a previous report). The increasing use of cypress for ties led the committee to make some enquiries as to its service. From the returns of over 20 railways it appears that the life averages from 10 to 12 years, with a range of 4 to 15 years. Another matter dealt with was the abrasion and cutting of ties by the rails. The results of observations indicate that the use of steel flanged tie-plates on tangents and curves will increase the life of ties by one to three years, while at the same time the track will be maintained in better condition and at less cost.

There was very little discussion, but Mr. Wendt, P. & L. E. Ry., gave the results of maintenance cost of track laid with steel ties and oak ties for 3½ years. From Sept., 1907, till Nov., 1908, no surfacing was done; the cost of track labor for this period was \$417 per mile per year where wooden ties were used and \$28 where steel ties were used. Both pieces of track were again surfaced in Nov., 1909, and the cost was \$95 and \$153 respectively. During the next 12 months, however, the wood tie track was surfaced only once, while the steel-tie track had to be surfaced three times. The respective costs for this last period therefore were \$128 and \$428.

WOOD PRESERVATION.

This report presented two conclusions, both of which were adopted: (1) that accurate records of life of ties should be kept on certain specific lengths of track, instead of attempting to keep such records for the entire mileage (from which turns can be received; (2) that timbers should be framed before treatment. The first was referred to the Board of Direction for consideration. As to framing timbers before treatment this is not always practicable; where treated timber is framed, the parts are usually mopped with creosote oil or asphalt. Mr. McDonald, N. C. & St. L. Ry., advocated immersion for 20 minutes in hot creosote oil and 20 minutes in cold creosote oil, where the size of the timber permits of this. It seemed to be the general opinion that present methods of field treatment in such cases were not satisfactory, and the committee was requested to look into the matter. W. F. Goltra advocated kiln drying or artificial seasoning of ties as

superior to seasoning in open air, being quicker and more effective.

Appendices to the report covered the following subjects: Specifications for creosote oil, specifications for piles which are to be treated, descriptions of patented preservative processes, grouping ties for treatment, electrical resistance of treated timber, strength of ties treated with crude oil, the use of track scales in weighing timber at treating plants, statistics of consumption and treatment of ties.

GRADING AND INSPECTION OF LUMBER.

This committee submitted classification, grading and inspection rules and specifications for lumber used in maintenance-of-way work. These follow the lines of similar specifications adopted by the Master Car Builders' Association and various lumber associations for material to be used in railway car work. The desirability of such uniform specifications is evident, and has been proved by the results of experience with timber for bridge, trestle and car work. J. H. Waterman, C., B. & Q. Ry., submitted a letter from the Railway Storekeepers' Association, requesting that the specifications be adopted.

TRACK.

This report dealt with several subjects. It included specifications for switches and frogs, but stated that it is too early to prepare specifications for

FROM THE MANAGER OF THE QUEBEC AND SAGUENAY RAILWAY.

J. F. Guay, M. Can. Soc. C.E., Quebec, who is Manager of the Quebec and Saguenay Railway, a contract for the construction of 56 miles of which was recently awarded, writes:—

"The Railway and Marine World is indeed very interesting and contains a lot of valuable information.

"Your recent enquiry of me is another proof of what I told you in a former letter about the reliability of the information published in your paper."

manganese-steel in such track work, as there is insufficient information regarding the character and life of this metal. As to special fastenings for attaching rails to treated ties, it reported that experience with these (and even with treated ties) in this country is too limited to permit of conclusions being drawn.

A sub-committee had a long report on spiral transition curves, supplemented by a paper on the length of such curves. This latter aimed to establish a relation between the length of the curve and the elements of radius, super-elevation, speed and the rate of rise of train on the outer rail. The committee recommended an increase of 50% in length of transition for minor curves when this will not seriously affect the cost or adversely affect the degree of curve. The 10-chord spiral was recommended also. The report stated that spiral curves need not be used when the super-elevation for highest permissible speed does not exceed 2 ins. Prof. Talbot, University of Illinois, moved that this should apply also where the distance between the tangent and the parallel tangent of the offset is less than 0.2 ft., or ¼ in. It is a question whether it will pay to put in a spiral where the track will not be shifted more than ¼ in. from a tangent and circular curve. However, this change was not adopted.

BALLAST.

The principal feature of this report was a discussion as to the proper depth of ballast. No conclusions were present-

ed, but a table was given to show the practice on various railways. The discussion, however, bore almost exclusively upon the subject of the proper size of stone ballast, and there was the usual wide variation in opinion. The committee recommended ¾ in. to 2½ in. Mr. Morse, A., T. & S. F. Ry., preferred to raise the maximum to 2¾ ins., while Mr. Meade, of the same road, preferred to reduce it to 1½ ins., on the ground that track cannot be surfaced properly when laid with 2½ in. stone. Some members proposed also to reduce the minimum size to ½ in., but it was pointed out that this would not be a commercial product. Further, while this size might be satisfactory with hard trap rock, it would be otherwise with limestone and similar material that is liable to pulverize under load.

The committee had specified also that the stone should pass "in any position" through a 2½ in. ring. This was considered to be an impracticable requirement, while if enforced it would mean the use of 1½ in. stone. M. L. Byers, Mo. Pac. Ry., has had experience in re-ballasting track laid originally with stone of such size that it seemed the only requirement was that it should go between the ties. Such track was very hard to maintain in surface, but by filling in finer material and raising track so as to get the large stones well below the ties the result was to get a very good track and a solid foundation. Where large stone is laid in re-ballasting, it should be distributed and track first brought to within 1 in. of final grade. Then a top layer of finer material should be distributed to complete the surfacing. It was suggested also that the committee should determine the proportions of stone of different size in the ballast.

FENCES, CROSSINGS AND SIGNS.

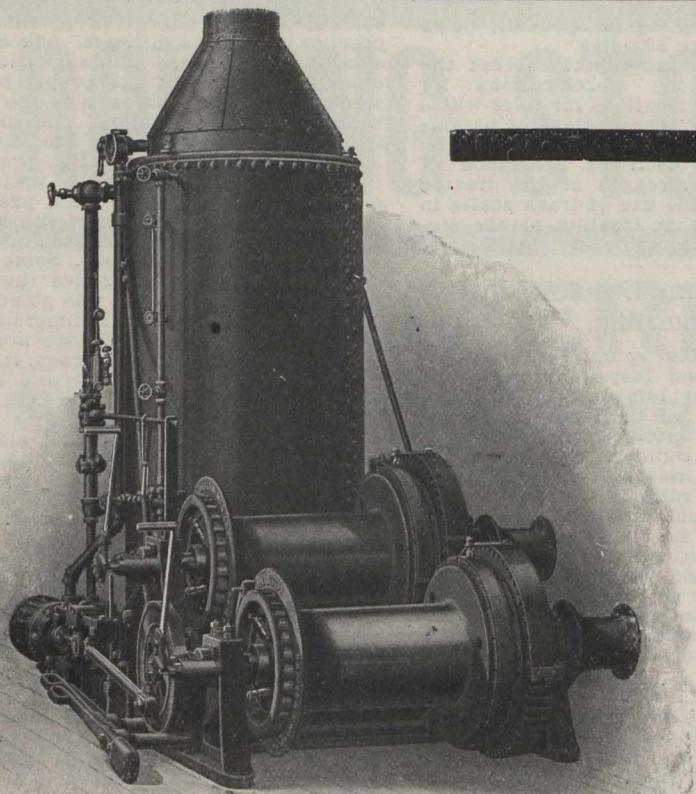
As a result of careful and continued investigations as to means of obtaining fence wire that will resist corrosion, this committee finds that no new process offers any advantage over the old, and that the applied galvanized coating (by special treatment) is the best and only known economical process for protecting fence wire against corrosion. The committee recommends the use of wire which has received a special galvanized coating to stand four one-minute immersions in the standard copper-sulphate solution. The galvanizing to be done preferably after weaving. Concrete posts were recommended for railway fences. By request of the committee the report was referred back to it in order that it might be made more complete for next year.

WATER SERVICE.

The committee recommend specifications for wooden and steel water tanks, and submitted tentative specifications for reinforced-concrete tanks. The subject of track tanks was dealt with very fully in an appendix; this included a discussion of the action of the tender scoop in taking water. The specifications for wooden tanks were discussed at considerable length, the discussion including criticisms of several features. The hoops are specified to be round, half-round or half-oval; some members considered that flat hoops should be included, but a motion to make this change was lost. Last year the committee submitted specifications in skeleton form, and was requested to make them more specific; this year it was criticised as being too specific. Eventually the specifications (modified in several respects) were accepted as information.

SIGNALS AND INTERLOCKING.

This committee submitted specifications for insulated signal wire, aerial and underground cables, copper and iron line wire, copper-clad steel line wire, and iron bond wire. These were accepted without discussion. In answer to an inquiry as to what has been done in regard to



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the subject of uniform signal practice, it was stated that nothing can be done by this association until the subject is reported upon by the American Railway Association committee which now has it under consideration.

YARDS AND TERMINALS.

This report dealt mainly with the important features to be considered in the design of passenger stations of medium size, including particularly the track layout and the facilities for handling passengers and baggage. General plans were submitted for through and terminal stations, with tabulated information as to a number of existing stations. Other matters discussed were (1) the mechanical handling of freight, baggage and mails, and (2) the provision of special yards for interchange freight. It was recommended that at stations where large quantities of baggage are handled, this should be done at a level below or above the train floor. This was objected to by Mr. Courtenay, L. & N. Ry., who thought this would apply only to stations of the largest size. In reply, it was pointed out that at many places where grades are not already separated there is increasing demand for separating the grade of tracks and streets. In such revision, it is desirable to include the removal of baggage handling from the train platforms. Of 26 stations listed by the committee 13 are either above or below the steel level.

The committee recommended also that in planning passenger terminals, provision should be made for economical and efficient operation during the periods of activity which may be experienced within a period of 10 years. It was voted to change this to 20 years, although the committee pointed out that it would be very difficult to foresee the traffic developments of 20 years, and that such provision might involve apparently extravagant first cost. Mr. Kittredge, N. Y. Central Ry., thought that a 10-year plan would be outgrown before its completion, and referred to the way in which traffic increase has continually overtaken the several enlargements of the Grand Central Station in New York. Mr. Temple, Pennsylvania Ry., said that at the Broad St. station, in Philadelphia, the business increases 50% every 10 years; for 30 years the company has been enlarging the station every 10 years, and is now again facing the problem.

In regard to mechanical handling of freight, T. L. Condron, Chicago, referred to a terminal freight station now being built in which the freight will be handled by an electric telpherage system. The building is 240 by 400 ft., with 12 tracks on the lower floor and the team drive-ways and platforms (at right angles to the tracks) on the upper floor. A series of overhead runways on the upper floor (which is 34 ft. high) will carry traveling trolley hoists which will handle packages or trucks between the team platforms and the car platforms. Numerous hatchways are provided in the former platforms. W. A. Thompson, B. & O. Ry., stated that a pier of the Baltimore & Ohio Ry. at Baltimore is equipped with the telpherage system.

ECONOMICS OF RAILWAY LOCATION.

The report of this committee was to the effect that it has not been able to obtain the detailed operating statistics which are necessary for proceeding with its work in regard to the economics of line and grade revision. It has prepared a statement of the information desired, and it is for the railways to undertake the time and expense of preparing this if they desire to benefit by the work proposed by the committee. Mr. Kittredge, N. Y. Central Ry., stated that in regard to operating results many railways know that grade reductions, etc., do produce very substantial economy, but they have

not (and cannot get) the detailed analysis of such results, as desired by the committee. Mr. Begier, B. & O. Ry., referred to experiments showing that the train resistance at very low speeds (below 5 m. p. h.) is exceptionally high. This has been the experience in starting heavy trains out of yards, and as a result some \$60,000 have been spent in reducing grade at two yards to enable trains to start readily. No action was taken upon this report.

ELECTRICITY.

This is a new committee appointed to investigate matters relating to the track equipment, etc., of steam railways having electrically operated sections. The principal part of its report related to the clearance limits between car equipment and track equipment on third rail lines. These limits were shown for several steam and interurban railways (the latter handling steam railway cars). The maintenance of track (including organization and methods), the protection of metal structures, the protection of the third rail, and the connections employed at switches and drawbridges, were among the other subjects touched upon. There was also an extended bibliography of reports and papers on electric traction. The plan of organization for maintenance recommended that this work should be in the hands of the regular maintenance-of-way department. There were a few remarks as to the proper determination of the gauge of the third rail, and also as to the proposed organization for maintenance, but further than this there was no discussion.

IRON AND STEEL STRUCTURES.

This committee submitted specifications for the erection of railway bridges. It made the suggestions that someone be employed to collate reports of special interest on subjects connected with the design and maintenance of steel bridges, and that a study of the design of large steel columns be taken up. A sub-committee report the results of impact tests on long truss spans of the Baltimore & Ohio Ry. bridge at Havre de Grace, Md.; these do not appear to modify the conclusions presented in a former report. No work has been done in tests for impact on short spans, but special apparatus is being designed for these tests as well as for tests of secondary stresses.

There was an extended discussion of the specifications for bridge erection. Several clauses were discussed and modified, and eventually the specifications were referred back for further consideration. A clause requiring the contractor to check the engineer's measurements was objected to by some, while others approved it as tending to provide against possible trouble in fitting the superstructure to the masonry. As a rule the engineer who has established the line and levels is not on the work during erection, and it has happened in several cases that the steel work proved too long to fit the masonry. Mr. Loweth, C., M. & St. P. Ry., thought that the specifications should permit the use of sheet lead under bed plates, but the committee explained that after due consideration it had decided against this practice. Its specifications require the use of cement grout or mortar or rust cement. Much of the discussion dealt with clauses concerning the relations between the railway company and the contractor.

WOODEN BRIDGES AND TRESTLES.

The report dealt with various aspects of piling, including wood and concrete piles, sheet piling, pile driving, pile drivers, and pile protection. As to this last question it was concluded that an effective protection against wood borers is afforded by filling sand between the pile and vitrified clay pipe extend from 12 or 24 ins. below the same distance above mud line; owing to the expense this method

is warranted only for treated piles.

The subject of pile driving is one of very general interest and experience, and the committee's statement of principles of practice for this work received considerable discussion. A good part of this related to the proper methods of using the water jet. Mr. Courtenay, L. & N. Ry., did not think it would be economical to use this for boring holes in clay soil, previous to setting the piles; he had used it in this way in exceptional cases to enable 70 ft. piles to be set in the leads of a 50 ft. pile driver. Mr. Steffen, Bos. & Albany Ry., spoke of using a clay auger to loosen the ground and facilitate the driving of piles in hard soil. Mr. Courtenay was of opinion that the jet pipe should be attached to the pile, especially for work in deep water, but Prof. Jacoby, Cornell University, thought that in several there is more difficulty of the pipe clogging when it forms a part of the pile. The tendency of present practice is to use the jet pipe separately. The questions of sharpening the points and using pile shoes were discussed also. Mr. McNab, Grand Trunk Ry., objected to the committee's suggested use of a cap in driving, but Prof. Jacoby remarked that the advantages of this detail are not sufficiently well appreciated. He referred to a case where long yellow-pine piles could not be driven without injury unless a cap was used. Mr. Stevens, Ph. & Read. Ry., had had similar experience, using caps of soft wood; if these were not used, the piles would split, in spite of the usual rings.

MASONRY.

A prominent feature of this report was its discussion and analysis of different methods of waterproofing concrete. A large amount of information was presented, including the description of methods used on a number of individual structures, but the information was not of such a character as to warrant any definite conclusions. Other matters briefly considered were the use of reinforced-concrete trestles and the ability of monolithic concrete masonry to resist failure under various conditions.

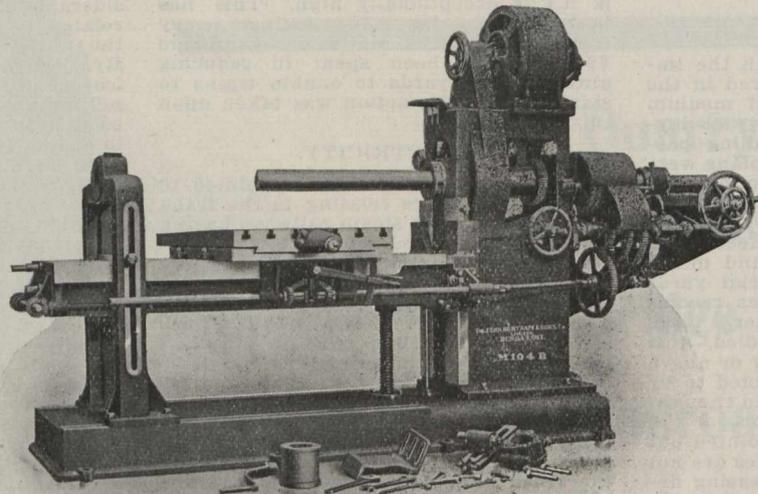
The discussions related almost entirely to the merits of wood and concrete trestles, and it was stated that if the cost of creosoted timber trestles is capitalized it does not compare favorably with that of reinforced-concrete trestles. On the Illinois Central Ry. several thousand feet of creosoted trestles were burned last year, in spite of the fact that they had ballasted floors. This timber does not take fire readily, but when the fire is well started it becomes uncontrollable. On the Chicago, Milwaukee & Puget Sound Ry. all decks of timber structures are protected by metal or ballast, and the cost of such fire protection must be taken into account in a comparison of costs. The Nashville, Chattanooga & St. Paul Ry. uses galvanized metal covering over the stringers and caps at a cost of 50 cts. per ft. of structure. The metal will last from three years on main track to six years on branches, but it is expected that the new so-called pure iron will last for an average of seven years. Stringers protected in this way show practically no decay after many years service.

A comparison of cost was made by one member as follows: For a timber trestle costing \$8 per ft. maintenance, 75 cts.; fire losses, 5 cts.; interest (\$8 at 5 per cent.), 40 cts.; total, \$1.20. For a reinforced-concrete trestle costing \$30 per ft.; interest charges, \$1.50; track maintenance, 20 cts.; total, \$1.70.

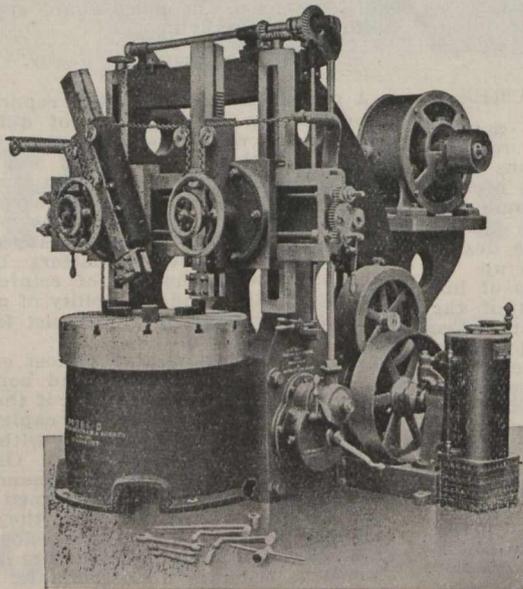
BUILDINGS.

The special feature of this report was an extended discussion of roof coverings for railway structures, with their respective merits, and their relation to the fire protection question. There were submitted also papers dealing with the work of

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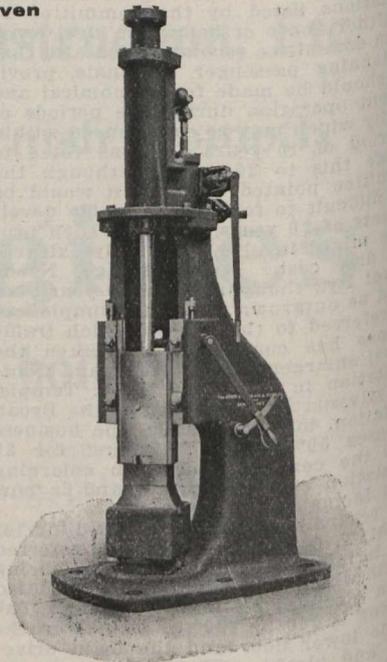


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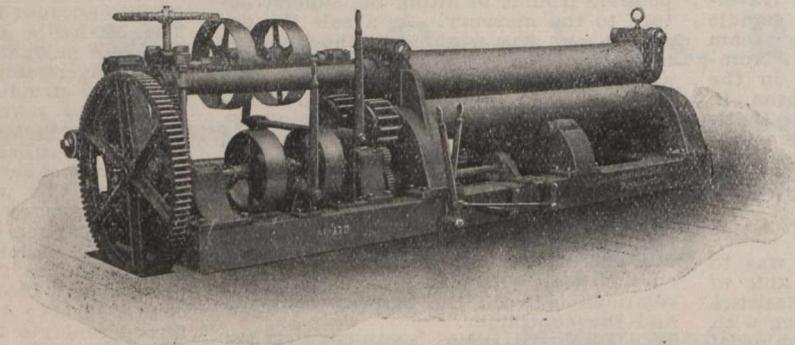
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the underwriters' laboratories and on fire tests of roof coverings at these laboratories.

UNIFORM GENERAL CONTRACT FORMS.

This special committee submitted a form of agreement and contract. The first is a two-page sheet or folder having the introductory statement on one page and the space for signatures on the other page. This alone will suffice for small or unimportant contracts, but for more important work the contract can be enclosed and thus made a part of the agreement. Specifications also may be enclosed, or they may be attached to the outside.

RULES AND ORGANIZATION.

This committee recommended some changes in the general rules for track employes. It presented also an interesting compilation of the rules of different railways covering certain specific matters (ballast, ballasting, track drainage, loading cars, care of signal batteries, etc.); for each subject the committee gave its own suggested rule. Beyond a few suggestions as to verbal changes there was no discussion.

RECORDS AND ACCOUNTS.

This committee submitted proposed standard forms for sidetrack records, bridge estimates, building service estimates and water service estimates. One object of the first of these is to give to the officers having charge of maintaining and changing sidetracks information as to the conditions of maintenance; this is especially valuable where the tracks are owned in part by private parties or corporations who are charged with a proportion of the cost of the maintenance work done by the railway.

BRINE DROPPINGS FROM REFRIGERATOR CARS.

This special committee reported that the Master Car Builders' Association has approved the recommendations of its own committee acting jointly with this committee and has made its report to the American Railway Association. The American Railway Engineering Association therefore should request the American Railway Association to adopt the recommendations, and should request the maintenance-of-way departments of the railways to provide the facilities recommended. The plan provides for retaining all salt water in the ice tanks, and for draining these tanks only at icing stations. These stations must be provided with facilities for the disposal of the brine thus drained from the cars. The report was adopted and the committee discharged with thanks for the completion of its work.

CONSERVATION OF NATURAL RESOURCES.

This report reviewed the conservation movement undertaken by the federal government in connection with various technical and commercial organizations. It gave also the resolutions in regard to fire protection of forests and protection of timber resources in general, which were adopted by the Lake States Forest Conference as a result of the very serious forest fires of last year.—Engineering News.

Railway Lands Patented.—Letters patent were issued during February in respect of Dominion lands in Manitoba, Saskatchewan, Alberta and British Columbia, to railway companies, as follows:—

	Acres.
Calgary and Edmonton Ry.	156.00
Canadian Northern Ry.	1,760.13
Canadian Pacific Ry.	545.93
Grand Trunk Pacific Ry.	256.91
Manitoba and North Western Ry.	6.37
Manitoba and South Eastern Ry.	160.00
Total	2,885.34

Recent Dominion Legislation.

The Governor General assented April 4 to the first lot of acts passed by the Dominion Parliament at its current session. Of these 37 were in connection with steam and electric railways, and one in connection with a canal company. Following is a list:—

ALBERTA CENTRAL RY.—Authorizing the building of additional lines.

ATHABASCA NORTHERN RY.—Extending time fixed for construction.

BAY OF QUINTE RY.—Respecting company's powers.

BRITISH COLUMBIA CENTRAL RY.—Incorporation.

BRITISH COLUMBIA SOUTHERN RY.—Extending time for building lines authorized.

BROCKVILLE, WESTPORT AND NORTH WESTERN RY. — Respecting company's powers.

BURRARD, WESTMINSTER BOUNDARY RY. AND NAVIGATION CO.—Extending time for construction.

CAMPBELLFORD, LAKE ONTARIO AND WESTERN RY.—Extending time fixed for construction, and authorizing building of line from Bathurst to near Locust Hill, as an alternative to route previously authorized.

CANADIAN INTER-MOUNTAIN RY.—Incorporation.

CANADIAN NORTHERN BRANCH LINES CO.—Incorporation.

CANADIAN NORTHERN ONTARIO RY.—Extending time for construction, and authorizing building of additional lines.

CANADIAN NORTHERN QUEBEC RY.—Extending time for construction.

CANADIAN WESTERN RY.—Respecting company's powers.

COLLINGWOOD SOUTHERN RY.—Extending time fixed for construction.

DOMINION ATLANTIC RY.—Authorizing amalgamation with C.P.R.

GEORGIAN BAY AND SEABOARD RY.—Extending time fixed for construction.

GRAND TRUNK RY.—Respecting company's financial powers and authorizing acquiring of certain properties.

GUELPH AND GODERICH RY.—Extending time for construction.

HAMILTON, WATERLOO AND GUELPH RY.—Extending time fixed for construction.

INDIAN RIVER RY.—Extending time for construction.

KETTLE RIVER VALLEY RY.—Extending time for construction and changing name to the Kettle Valley Ry. Co.

KOOTENAY AND ARROWHEAD RY.—Extending time for construction.

LACHINE, JACQUES CARTIER AND MAISON-NEUVE RY.—Authorizing company to connect its lines with those of certain other companies.

LAKE CHAMPLAIN AND ST. LAWRENCE SHIP CANAL CO.—Extending time for construction.

LONDON AND NORTH WESTERN RY.—Extending time for construction.

MANITOBA AND NORTH WESTERN RY.—Extending time for building of uncompleted lines.

MANITOBA RADIAL RY.—Extending time for construction.

NIAGARA, WELAND AND LAKE ERIE RY.—Incorporation.

ONTARIO, HUDSON'S BAY AND WESTERN RY.—Extending time for construction.

ONTARIO NORTHERN AND TIMAGAMI RY.—Extending time for construction.

OTTAWA, NORTHERN AND WESTERN RY.—Extending time for construction.

ORFORD MOUNTAIN RY.—Extending time for construction.

PACIFIC, NORTHERN AND OMINECA RY.—Extending time for construction.

PONTIAC CENTRAL RY.—Extending time for construction.

QUEBEC, MONTREAL AND SOUTHERN RY.—Extending time for construction.

SOUTHERN CENTRAL PACIFIC RY.—Extending time for construction.

SOUTH ONTARIO PACIFIC RY.—Authorizing building line from Hamilton to Guelph, Jct., Ont., and extending the time for construction of other lines.

WALKERTON AND LUCKNOW RY.—Extending time for construction.

Quebec and Lake St. John Railway.

At a meeting in London, Eng., Mar. 17, to which a short reference was made in our last issue, to confirm an agreement provisionally entered into with the Canadian Northern Ry., to exchange the Q. & L. St. J. R. Co.'s bonds for new 4% debenture stock guaranteed as to principal and interest by the Canadian Northern Ry. Co. it was stated that the agreement provides that the Q. & L. St. J. R. Co. is to create a new debenture stock, secured by trust deed in favor of the National Trust Co., and the British Empire Trust Co., to be secured as a first charge on the whole property of the company, and sufficient to provide for the taking over at the conversion price the whole of the company's bonds and the Lake St. Joseph Hotel bonds; further to pay for additional rolling stock, \$430,000; to provide an amount equal to \$30,000 a mile of railway that may hereafter be built by the Q. & L. St. J. R. Co.; for an amount equal to the amount by which any mortgages guaranteed by the Dominion or Provinces that may hereafter be secured on the company's lines in priority to the new debenture stock exceed \$30,000 a mile on the lines on which they are secured as a first mortgage; to pay the cost of any right of way or land purchased by the company for terminals, etc.; for an amount equal to the cost price of any securities of any other company deposited with the trustees and specifically mortgaged by way of first mortgage as additional security for the new stock, and for the cost of providing further betterments in connection with the undertaking. This, it was stated would amount to about \$6,600,000. The agreement also provides for the creation of charges on any extensions or new lines built, ranking before the new stock, provided such charges are guaranteed as to principal and interest by the Dominion or Provincial Governments. The new stock is guaranteed unconditionally by the C.N.R. Co. and bears interest at the rate of 4% per annum, the first payment of a full half year's interest being due on July 1. The terms on which the company's bonds are to be exchanged for the new stock are as follows: prior lien bonds, at par; first mortgage bonds at 70%; income bonds at 13%, of their face value respectively. The resolutions were carried by each class of bondholders separately.

The building which the G.T.R. has erected in the Crystal Palace grounds, London, Eng., in connection with its exhibit at the Festival of Empire, to be held there this year, is a reproduction, on a small scale, of its passenger station, now approaching completion, at Ottawa. The building will accommodate the exhibits of the G. T. R., G.T.P.R. and G.T.P. Coast Steamship Co., and will be in charge of S. W. Cummings.

The Minister of Railways in reply to a question asked upon the voting of \$2,500 as the contribution of the Government Railways to the Faculty of McGill University, Montreal, towards the foundation of a school of railway engineering and transportation in general in connection with the Faculty of Applied Sciences, said recently that if any other university in Canada were doing the same work, he would be glad to consider its application.

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Discussion on Report on Ties by Can. Soc. C. E. Committee.

In our last issue we published letters written to us by a number of railway engineers and roadmasters in reference to the report of the Canadian Society of Civil Engineers' committee urging the adoption of longer ties and recommending that tests be made with 10½ ft. ties. The fact that letters were received from nearly all portions of the Dominion show that a very deep interest is taken in the question and there is no doubt the information which some of our subscribers have contributed is a most valuable addition to the literature on the subject. Following are some letters which have been received since our last issue went to press.

ANGUS SINCLAIR, C.E., Contractor Canadian Northern Ry., writes from Toronto:—"I have your letter re the most suitable length of railway ties, and asking my opinion of the report read recently at Winnipeg by a committee of the Canadian Society of Civil Engineers. Looking at it largely from the point of view of a construction engineer, I do not think it is a practical question today. In the old days, when ties were looked upon as so much local wood, costing little more than the labor of making them, the change from 8 to 10½ feet might have been introduced, if deemed necessary, without much protest from those financing the railways, but now that tie timber is scarce, and the contents sold as so much merchantable timber, the change would almost, if not quite, double the cost of ties, and make the use of the longer ones prohibitive on any but the richest railways.

"Even looking at it from an operating engineer's point of view, I think the increased length suggested an extreme one, and not warranted by experience. It is quite true that the loads on ties have increased of late years from 200 to 300%, while the carrying capacity has only increased about 50%, but the committee overlooked the important fact that there was a very large surplus factor of safety and strength in the proportions of the 8 ft. tie to meet the increased weight and momentum of the present-day engine, and the more destructive short coupled coal and ore cars.

"I differ from the report also as to the reasons why the centres of ties are not more firmly packed. In my experience nearly all ties that break do so in cold weather, the reason being that the centre of the track, being farthest from drainage, is more susceptible to heaving by frost, causing a ridge down the centre over which the ties are broken. If I am right, lengthening the tie would only be shifting the breaking point from the inside to the outer end of the tie.

"I have used ties of various lengths from 8 to 12 ft. over muskeg embankments, and agree with T. C. Burpee that more broken ties were found among the longer ones. This was caused by the undue spring given the tie by too hard packing. When the ballast froze, the hard ridge was transferred to the outside of the rail, and the impact of the heavy engine and cars caused the tie to break.

"While I do not think the longer tie would bring about the result that the maintenance of way people expect from it, I am quite certain its adoption would add considerably to the cost of construction, outside of the increased cost of the tie. There is no doubt about the fact that a shoulder of ballast is necessary, no matter what length of tie is used. This would mean an increased quantity of ballast and a wider roadbed to hold it, both costing money.

"To my mind the increased weight of engines and cars is not the serious point, but their increased height, which gives them, when running, a pile-hammer

thrust which is fatal to the road-bed, and the remedy is not to be looked for so much in the length of the tie as in the quality of ballast placed under them. You have only to ride on one of these modern engines to realize how necessary to their safety is an even surface, and with what force they hit a low side or joint. The remedy lies largely in uniform drainage, uniform quality of ballast, and, as near as possible, uniform width of ties. Extremely wide or narrow ties are to be avoided.

"With ties as with all other matters in life, the happy medium is much to be desired. I think as soon as a railway can afford to, it should begin using crushed stone ballast, and the question of the length of tie would be largely eliminated."

JOHN D. EVANS, M.Can.Soc.C.E., Chief Engineer Central Ontario Ry., writes from Trenton, Ont.: "I have not had any experience with the longer ties, but in my opinion they would be objectionable, more particularly if the depth of ballast should be reduced (as suggested) out towards the ends of the ties. In that case the ties would become frost-bound at the ends earlier as the winter set in, and would be released earlier in the spring. With the 8 ft. ties we endeavor to have the full depth of ballast out beyond the ends of the ties in order that the frost will act as uniformly as possible throughout the whole length of the tie. In the absence of full and complete experiments in this latitude on the use of long ties during a period of at least one full year, I would not desire to express a favorable opinion or otherwise on the use of the longer ties."

J. GRANT MACGREGOR, A. M. Can. Soc., Chief Engineer, Alberta Central Ry. writes from Red Deer, Alta.:—"I regret that I have not been able to give this subject the careful study that it deserves in order to be in a position to express an independent opinion. I am, however, of the opinion that owing to the increased weight of rolling-stock, the most serviceable length for track ties would lie somewhere between the two extremes, 8 and 10½ ft. I consider that the ordinary length, 8 ft., has never been sufficient to get the best results from the distribution of the weight over a road-bed of standard width. I am also of the opinion that any increase in the length of the track tie should be accompanied by a proportionate increase in its thickness."

D. McCOOE, Superintendent of Grade Separation, Grand Trunk Ry., writes from Toronto:—"I am not in favor of the 10½ ft. ties for the following reasons:—

"Assuming that these ties had all the merits claimed for them (the extra supporting area), the percentage of breakage would be very large and the full benefit would not be obtained until all the ties in the track were the same length, 10½ ft. long, and while this could be done in building a new line, it would be impracticable in making ordinary renewals, and would require from six to 12 years to make this change, according to the location and volume of traffic. In the meantime it would be very difficult to maintain a good riding track on account of the uneven length of the ties.

"With regard to size, I believe a 9 ft. tie 7 ins. thick and from 8 to 10 ins. face, would give better results than either the 8 ft. or 10½ ft. lengths, as it would give a desirable increased supporting area for both the base of rail and ballast, as well as prolonging the life of the ties by reducing the mechanical wear caused from the rails cutting into them. This change from 8 to 9 ft. ties could be made by renewals gradually, with slight, if any, effect on the riding condition of the track.

"In reference to not requiring any additional increased width of the ballast section with the longer ties, this can only be done by reducing the amount of ballast under, or taking it away from the ends of the ties, as shown in sketch on page 213 of your March issue. This method would mean changing the present standards on many roads, or in other words, robbing Peter to pay Paul.

"From observation and practical experience, I believe it necessary to still retain a good shoulder of ballast at the ends of the ties to hold the track in line under high speed and from the lateral motion and side thrust of heavy power."

S. J. COVEY, Roadmaster, Grand Trunk Pacific Ry., Wainwright, Alta., writes:—"I have read with considerable interest the report on ties submitted by the committee of the Canadian Society of Engineers at its annual meeting of that body, as reported in your journal for March, and in response to your invitation, beg to offer the following observations:—

"Much may be said for and against the adoption of a longer track tie, but after a practical experience of track work, covering a period exceeding 20 years, I find myself totally unable to support the committee's recommendation.

"I am not at all in favor of using cross ties of greater length than 8½ ft., and would much rather see a standard tie of 8 ft. adopted, than any length in excess of 8½ ft., for the following reasons:—The increased cost of longer ties, owing to the scarcity of good tie timber, and the additional cost of handling and transporting from the time that the ties are received from contractor until they are placed in track, would, I am satisfied, be at least 30% as between 10½ ft. and 8 ft. ties, and with less satisfactory results. Another factor to be reckoned with is the present scarcity of labor on sections and in gangs employed at maintenance work. I believe that most Roadmasters will agree that in making renewals it would mean slow and tedious work making a change of 8,000 or 9,000 ties during a season with a force of one foreman and one or two laborers on each section. Again, 10½ ft. ties would doubtless increase the tendency of track to heave during winter, and the proposed extra length outside of rail would be responsible for ties breaking under rail.

"I notice in the committee's report the plea that a 10½ ft. tie would obviate the necessity for shoulder on ballasted track. I cannot share this view, because the shoulder at ends of ties answers more than one purpose, the most important of which, in my opinion, is that in the spring of the year, when frost is going out, the shoulder prevents frost from leaving track at ends of ties and under rail first, thereby minimizing the breakage of ties between rails or in centre of track.

"On mud or unballasted track I would estimate the life of a 10½ ft. tie at not more than three years, and I have no hesitancy in predicting that 50% would break under rail in two years. I have witnessed a thorough test of 10 ft. fir ties, with about this result. It is true that while the weight of engines and rolling stock has greatly increased in the last few years, inadequate attention has been bestowed on the strengthening of track, but closer study of the track problem will reveal a remedy. I would be pleased to make a test of longer ties, but am quite convinced that a 10½ ft. tie is too long to meet the requirements."

WM. YOUNG, General Roadmaster Temiskaming and Northern Ontario Ry., writes from North Bay, Ont.: "Referring to the report by the Canadian Society of Civil Engineers committee recently held in Winnipeg, which appeared in your

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March number. The subject is a very important one and well worth all the time spent in discussion. It is a well known fact that the natural tendency of all railways, more especially trunk lines, for the past 20 years has been to increase the capacity of all their rolling stock without increasing the stability of the road-bed in proportion, except bridges and rails, it is also true that the number of 8 ft. ties has been increased from 16 to 20 and 23 ties to a rail length of 33 ft. While this has increased the bearing area per rail length, the bearing is not in the right place.

"What is actually required is a bearing in width instead of in length. It is too much like the high-heeled boots which were greatly worn some years ago, the feet of the users were continually rocking from one side to the other. The question of longer ties has been frequently discussed at roadmasters' conventions in the United States, with recommendations strongly in favor of longer ties. It is a well known fact amongst all maintenance of way men, track men in general, that with the present 8 ft. ties it is one of our hardest troubles to keep the track from getting centre-bound. No matter how carefully ties are tamped, the track will in a short time become centre-bound, and the poorer the ballast the quicker it will become centre-bound, as the material being less porous, demands filling the centre portions of the ties, midway between the two rails, full, so as to drain the water from the surface, otherwise if left open it will quickly commence to churn in wet weather, and in turn will rapidly distort the whole track's surface, whereas with better ballast the centre portion of it can be left without tamping and will remain longer open, the better quality of ballast not shaking under the tie as readily as the poorer quality. The evil of centre-bound track is better overcome by the use of crushed rock ballast, with 8 ft. ties. The opening left under the tie midway between the rails remains so for a much longer period, giving better results, both as a labor saver and a better riding track.

"It is evident that the members of the engineers' committee based their calculations in having as much of the tie outside of the outer base of the rail as between those two points, when they recommended a 10 1/2 ft. tie as proper length. When basing calculations from the centre of the rail, instead of the outside of rail base, the proper length of the tie would be 9 ft. 10 in. Any increased length over 8 ft. would be a decided benefit. Taking 9 ft. as a standard length of tie for ordinary sub-grade composed of solid material, and from 10 to 12 ft. on muskeg formation (according to depth and other conditions) would be a decided betterment.

"It is the general practice to hard-tamp an 8 ft. tie. 1 3/4 ins. from the centre of a rail (with 5 in. base) outside, and 1 1/2 ins. on the inside from the same point, so as to give the greater support from the outside of the rail. Twenty ties 8 ft. long with 9 in. face in a rail

length of 33 ft. tamped in the manner outlined, would give a bearing area of 12,240 sq. ins. allowable bearing surface. On the other hand, 18 ties 9 ft. long with 9 in. face per 33 ft. rail, with allowable inside bearing surface in proportion to the length outside from centre of rail, would give a bearing surface of 14,904 sq. ins. or 2,664 sq. ins. more bearing surface than with the 20 ties 8 ft. long in the same length of rail and with only two lineal feet more timber with 18 ties 9 ft. than 20 ties 8 ft. long.

"On some main lines I have counted as many as twenty-three 8 ft. ties per 33 ft. rail, the spacing of which was so close that it was almost impossible for the trackmen to shovel out the ballast between the ties for the purpose of tie renewals. With regard to the increase of width in ballast section, for a longer tie I quite agree with the engineers' committee that it would not be necessary, as with the present arrangement of 8 ft. ties it is necessary to have at least one foot of ballast at the end of the tie to hold the rocking or centre-bound track in reasonable alignment. With the increased length of tie we would have more bearing surface outside of the rail, giving support where required.

"There is no doubt in my mind that main line tracks equipped with 9 ft. ties would overcome the extra cost of ties. Even supposing 20 were used per 33 ft. rail, the extra cost of material would be more than offset by the reduction in cost of labor maintaining track in surface with 8 ft. ties. In the northern portion of the country where I am located, I find that our main line track is so much centre-bound in the spring of the year that the only remedy is to start at one end, giving a light surface lift throughout tamping the whole tracks so as to get the bearing from the centre to the end of the ties in order to get the track into good running condition.

"From a practical standpoint, I am of the opinion that on the whole the engineers' committee have struck the keynote to improved road-bed condition."

A trackmaster on the Intercolonial Ry. writes from Moncton, N.B.:—"In compliance with your request asking for an expression of opinion in regard to railway ties, I would say I very much favor the continuance of the 8 ft. tie in preference to the 10 1/2 ft. length, as the latter would be impracticable in yards; and on the main line would have a tendency to hold frost, making it much more difficult for the road to come to surface in spring, when frost is going out of the ground, and in many cases in taking uneven bearing, they would be much more liable to breakage. Of course, this only applies to climates, such as we have to contend with on the Intercolonial Ry. Our past experience with the 9 ft. tie would seem to bear this out. I, however, would recommend an increase in length to 8 1/2 ft, which would give a more uniform bearing in conformity to gauge or road, which is 4 ft. 8 1/2 in. and allow us to use a longer brace while skimming in winter, as well

as giving all the bearings a 6 by 8 tie would be able to stand."

L. S. RUDDER, Resident Engineer, Canadian Pacific Ry., writes from Toronto:—"I do not see that any benefit might be derived from the use of 10 1/2 ft. ties would compensate for the following advantages derived from the use of 8 ft. ties.

"Renewal of ties in rock cuts, or earth cuts. It would be difficult to renew 10 1/2 ft. ties without considerable expense widening cuts.

"Embankments, large expense to widen same.

"In winter, when track heaves, the 10 1/2 foot tie would tend to make very rough track, especially at side heaves, and through covering so much more surface.

"As ties generally start to decay under rail the percentage of broken tie ends would be greatly increased, and life of tie shortened considerably.

"Inconvenient for section men to handle.

"There is a much better chance of getting a good 8 ft. tie from the contractors than the one 10 1/2 ft. long.

"Altogether, considering cost of material and large amount of expenditure that would be necessary before we could use 10 1/2 ft. ties, and also the extra expense that would be incurred through the use of such ties as against the advantages to be derived I do not favor 10 1/2 ft. ties. I think the 8 ft. tie a good length and if improvement on same is to be made, increase the thickness firstly and secondly, the width.

"A standard 7 in. by 8 in. 8 ft. tie with a large amount of good ballast and heavy rail, should make a good riding road if given proper care and attention.

"I regret not having read the Canadian Society of Civil Engineers committee's report, as published in your March issue, as that number was mislaid in my office and I have not been able to locate it."

We sent Mr. Rudder another copy of our March issue, and received a second letter from him, as follows:—"Having received another copy of your March issue and read the matter therein referring to the proposed lengthening of ties, I beg to add the following remarks to my previous letter:—

"There are some instances where 10 1/2 ft. ties could be used with a little additional ballast; but the greater portion of tracks would require a large amount of ballast, and a very large amount of widening of roadbed generally. Especially would this be the case with all roads except some first class main roads. The diagram certainly looks all right, but in actual practice we do not often see it in other than cases already stated.

"If then the quantity of ballast must be increased to accommodate the 10 1/2 ft. tie, and as all track when equipped with 10 1/2 ft. ties would require a great deal more ballast for maintenance reballasting, than track with 8 ft. ties, I am of the opinion that it would be better economy to increase the present stan-

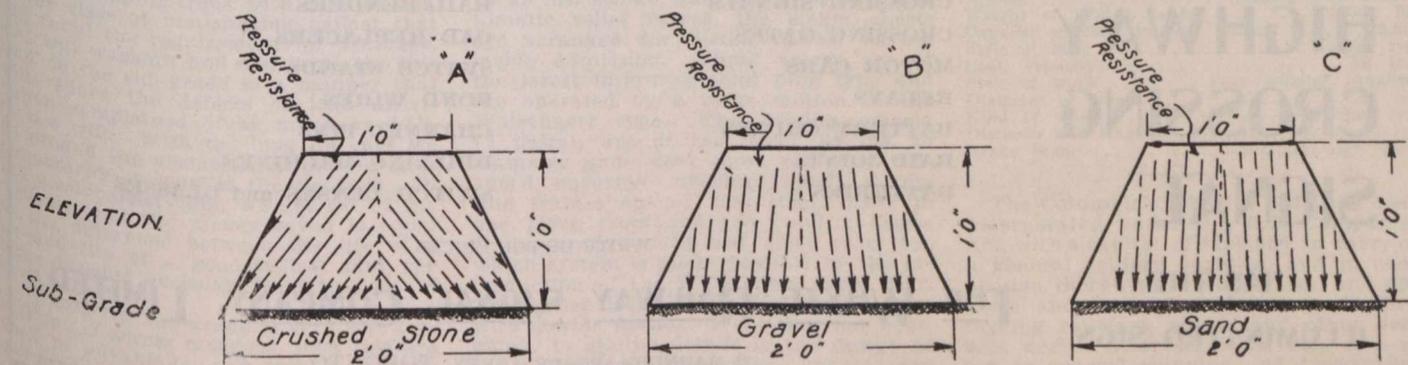


Diagram referred to in L. S. Rudder's letter re proposed lengthening of ties.

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dard of ballast. Firstly, to use a better quality of ballast, and secondly, to increase the depth of ballast under tie. For in connection with better quality and increased depth of ballast, we practically overcome the objections to the 8 ft. tie, that the bearing surface does not afford sufficient resistance to the live road to allow of trackmen maintaining good line and surface. A track laid with good 8 ft. ties equipped with a good type of tie plate and crushed stone ballast will maintain better line and surface than similar track with gravel ballast, and I doubt very much that 10½ ft. ties on gravel ballast would keep in as good surface and line conditions as 8 ft. ties on crushed stone. The accompanying diagrams illustrate what I refer to. Consider A., B. and C. to be conical shaped heaps of stone, gravel and sand, and that a dead load of say 100 lbs. were placed on top of each, the crushing and spreading would be very noticeable with sand, and would decrease to a very small quantity with broken stone, and if subjected to a good rainfall we can imagine what would happen to the sand pile under the load.

"The crushed stone ballast provides the necessary grip on bottom surface of tie, and affords sufficient resistance both vertical and lateral to give a uniform distribution of live load on sub-grade, and thus allow of better surface and line

should not serve to prove that long ties should be used because inferior ballast will not distribute the load on a sub-grade that is capable of giving required resistance when live load is transmitted uniformly."

Recent Quebec Legislation.

Among the acts passed at the recent session of the Quebec Legislature were the following affecting transportation interests:—

DEVELOPMENT CO. OF CANADA.—Incorporation.

KAMOURASKA AND L'ISLET RY.—Incorporation.

MONTREAL AND NORTHERN COLONIZATION RY. CO.—Incorporation.

MONTREAL AND SOUTHWESTERN RY. AND POWER Co.—Incorporation.

MONTREAL STREET RY.—Amending acts relating thereto.

MONTREAL TRAMWAYS.—Incorporation.

PUBLIC UTILITIES COMMISSION.—Amending Revised Statutes of 1909 with respect thereto.

QUEBEC AND ISLAND OF ORLEANS RY.—Amending Act of Incorporation.

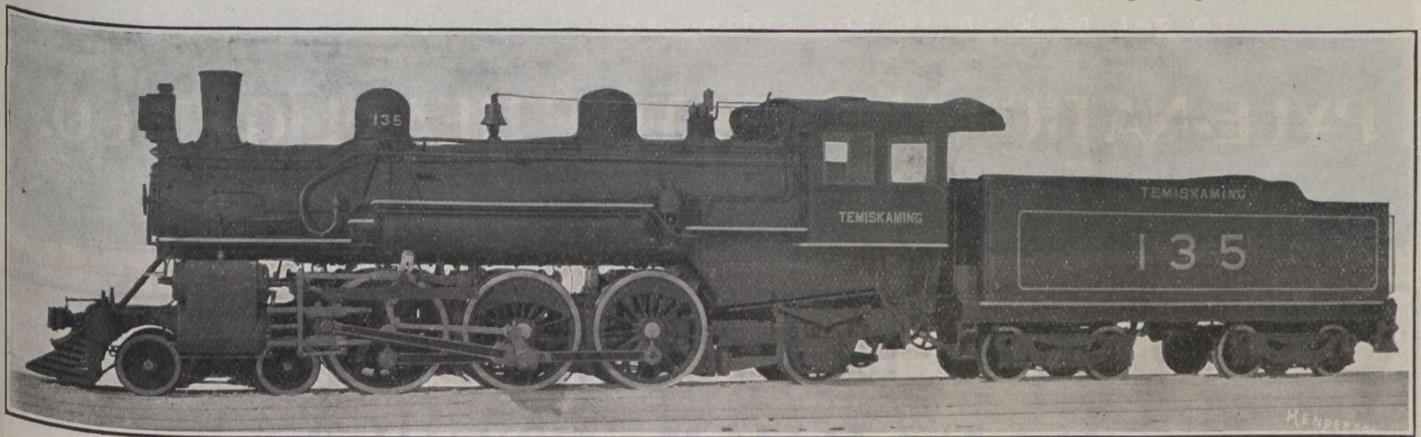
QUEBEC EASTERN RY.—Incorporation.

RICHMOND, MAGOG AND STANSTEAD Co.—Incorporation.

ROBERVAL AND SAGUENAY RY.—Incorporation.

and ports are arranged for the purpose of reliable washing out. The ash pan is of the hopper pattern and has ample air openings, as well as sliding bottom doors for easy and quick means of cleaning out. The spring gear is excellent, that on the forward truck being self contained. The driving spring gear, being equalized with the rear truck, which is of the Vaughan type, enables the engine to take curves in the most satisfactory and easy manner. The engines are fitted with electric headlights and are wired for incandescent lamps for gauges, etc. in the cab. The cab arrangement is exceedingly well worked out, everything in it being placed in the most convenient and appropriate place for operating and inspection. The brakes are Westinghouse E. T. 6. All the fixtures, such as the sanding device, the lubricator and the automatic bell ringer, etc., are of the most modern type known. The tank is of the hopper type and delivers the fuel to the fireman's shovel. The frame is all steel and the drawbar attachment is of the tandem type. Nothing has been spared in the construction of the trucks to make them what they should be. The wheels are in one piece of solid pressed steel. Following are the principal dimensions, etc.:

Fuel used Bituminous coal
 Weight in working order, drivers ..135,500 lbs.
 Weight in working order, total ...202,500 lbs.
 Wheel base of engine, rigid12 ft. 7 in.



Temiskaming and Northern Ontario Railway Pacific Type Locomotive.

T. & N. O. Ry. Locomotives.

The Temiskaming and Northern Ontario Ry. ordered four Pacific type locomotives last year from the Canadian Locomotive Co., Kingston, Ont. all of which have now been delivered and one of which is illustrated on this page. They are designed to handle through passenger trains and have already been tested in the freight service with satisfactory results. They are simple expansion locomotives, and will exert a tractive force of 30,400 lbs.

The cylinders are 21 ins. in diameter by 28 ins. stroke, and are fitted with automatic relief valves, the steam chests are arranged for piston valves, having inside admission. These valves are of the latest improved semi plug type and are operated by a valve motion of the Walschaert type. The driving wheels (3 pairs), are of cast steel, 69 ins. in diameter and are most perfectly balanced, ensuring absolute steady riding. The frames are of cast steel, made in one piece from end to end. These frames are braced by cast steel cross ties, which system is made possible by the introduction of the Walschaert valve gear. The boiler is of the radial stayed type with a wide firebox. Great care has been given to all the details in the design of the boiler. All the water spaces are large, most convenient wash out plugs

Wheel base of engine, total31 ft. 6 in.
 Wheel base of engine and tender ..57 ft. 10 in.
 Height over all, engine and tender.14 ft. 9¼ in.
 Heating surface, firebox162 sq. ft.
 Heating surface, tubes2,705 sq. ft.
 Heating surface, total2,867 sq. ft.
 Diameter of driving wheels69 ins.
 Material for driving wheel centres ...Cast steel
 Diameter and length of driving journals ..
 9½ by 12 ins.
 Diameter of cylinders21 ins.
 Stroke of cylinders28 ins.
 Valve gearWalschaert
 Type of boilerExtended wagon top
 Working pressure of boiler.200 lbs. per sq. inch
 Number of tubes272
 Diameter of tubes2 ins.
 Length of tubes19 ft.
 InjectorsNo. 9 locomotive type
 BrakesWestinghouse 6 E.T.
 Weight of tender, loaded123,000 lbs.
 Capacity of tank in imp. gallons5,500
 Style of tankHopper type
 Coal, capacity10 tons
 Style of truckFour wheeled equalized
 Diameter of wheel36 ins.
 Kind of wheelSolid steel type
 Diameter and length of journal5½ by 10 ins.
 Brake beamSimplex high speed

The Columbia Collieries Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$500,000, to carry on a general colliery business, and in connection therewith to build, own, and operate and control tramways, switches, logging railways, steam and other vessels, docks, wharves, piers, etc., and to act as general shipping and forwarding agents.

to be maintained on track, and reduce the shifting and burying of ties to a minimum.

This is shown in cut A. Cut B shows gravel balast, the particles are invariably rounded and smooth and this ballast is always shifting under live load. C shows sand ballast which spreads easily and shifts under load, wind and rain.

"Therefore, I do not advocate increasing the length of tie for the primary purpose of distributing a load and consequently preserving the line and surface of track. It would be better to consider the importance of ballast if even the initial cost is greater than the cost of equipping track with 10½ ft. ties, as the class of non-shifting ballast that will fulfill the requirements of drainage, etc., will transmit and distribute the live load on the sub-grade in a manner that will reduce the defects of load distribution complained of as much as 10½ ft. ties will. With the long tie cure we go around the obstacle and get rid of it temporarily as long as the tie lasts. In the good ballast cure, we get rid of the obstacle, and the money saved is equal to the difference between the life of a tie and life of a good ballast plus the large benefits accruing from the use of good ballast.

"Where the sub-grade is very soft formation, as across muskogs, long ties are used to advantage, and this is because sub-grade won't bear the load, but

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RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta Central Ry.—The Dominion Parliament has authorized the company to build certain branch lines, and has extended the time fixed for the building of other lines previously authorized.

On March 31 we were officially advised that the reported letting of a contract to the Janse, McDonnell Co., Calgary, Alta., for the grading of 100 miles, 36 miles at Red Deer, and 64 miles west of that town, was premature, as the contract had not then been ratified by the railway company.

A Winnipeg press dispatch stated positively that the contract had been signed by J. T. Moore, President A.C.R., and the contractors. (April, pg. 319 and 353.)

Algoma Central and Hudson Bay Ry.—The Ontario Legislature has enacted that the cash subsidy of \$2,000 a mile, and the land grant of 5,000 acres a mile, granted to the Ontario, Hudson Bay and Western Ry., be transferred to the A.C. and H.B. Ry., so far as they cover the proposed line from the C.P.R. transcontinental line to the National Transcontinental Ry., 115 miles. This mileage is under survey by the A.C. and H.B. Ry. (April, pg. 319.)

Arisaig and Country Harbor Iron, Coal and Ry. Co.—An extension of time has been granted by the Nova Scotia Legislature for the building of the lines authorized to be constructed by the statutes of 1909, chap. 154.

Atlantic, Quebec and Western Ry.—Representatives of the trustees of the Charing Cross Bank. (in liquidation), and of the bondholders and shareholders of the A. Q. and W. Ry., in London, Eng., waited on the Dominion Government, April 8, with a view to securing its cooperation and assistance in the completion of the line. (April, pg. 319.)

Bear River and Caledonia Ry.—The Nova Scotia Legislature incorporated a company with this title to build a railway from Bear River to Caledonia, N.S. (See Shelburne and Bear River Ry. and Liverpool and Caledonia Ry.)

Blomidon Ry.—The Nova Scotia Legislature has incorporated a company with this title to build a railway from Blomidon to Canning, on the Dominion Atlantic Ry., and to other points.

Brandon Transfer Ry.—H. A. K. Drury, of the Board of Railway Commissioner's engineering staff, Winnipeg, met the mayor of Brandon, Man., and others interested in the building of a transfer railway in the city, Mar. 31. A survey was made of different districts in the city where it seemed possible to locate a line, and the matter was discussed from every point of view. A route will be recommended for the Board's approval. (April, pg. 352d.)

British Columbia and Canada Central Ry.—The Dominion Parliament has incorporated a company with this title. The application was that the title be the Dominion Development Ry. Co., but it was changed in committee. (See Dominion Development Ry., April, pg. 319.)

Buctouche Ry. and Transportation Co.—Application will be made to the Board of Railway Commissioners, May 2, for the approval of an agreement of amalgamation between the Moncton and Buctouche Ry. and the Buctouche Ry. and Transportation Co. (June, 1910, pg. 447.)

Burrard, Westminster Boundary Ry. and Navigation Co.—The Dominion Parliament has extended the time for the building of the lines authorized by chap. 88 of the statutes of 1907, and by chap. 56 of the statutes of 1909. (Jan., pg. 21.)

Canada and Gulf Terminal Ry.—In an interview April 9, M. J. O'Brien, President, stated that the company was maturing its plans for the extension of the line from the present terminus at Matane, through the interior of the Gaspé Peninsula to Gaspé Basin, Que., 180 miles. During the winter, surveys had been made between these points and the engineers reported that a very good route had been secured, with easy gradients, and through a country possessing excellent timber resources, and with large areas of good agricultural land. Surveys had also been made for a line from Matane to a junction with the National Transcontinental Ry., about 100 miles, and a good route had been secured. Several hundred acres of land had been purchased at Matane for the purpose of developing the place as a summer resort. (Feb., pg. 109.)

Canadian Inter-Mountain Ry.—The Dominion Parliament has incorporated this company, to build a number of lines in Alberta, Saskatchewan and British Columbia. (Mar., pg. 205.)

Canadian Western Ry.—An extension of time for the building of the line authorized to be constructed by the statutes of 1909, chap. 69, has been granted by the Dominion Parliament. The amending act authorizes the company to enter into agreements with the Kootenay and Alberta Ry., the Alberta Pacific Ry., and the Western Alberta Ry., or any of them. (Jan., pg. 21.)

Cap de la Magdaine Ry.—Application is being made to the Department of Public Works for approval, under the provisions of the Navigable Waters Protection Act, of plans for a bridge across a branch of the St. Maurice River, connecting Belle River Island with the mainland at Cap de la Magdaine, Que. The notice of application is signed by E. W. Beatty, Montreal, President. This is an old Quebec charter, and a subsidy was voted in aid of construction by the Dominion Parliament in 1894.

Dominion Atlantic Ry.—We are officially advised that the company is doing a good deal in the way of betterments. It is gradually substituting 80 lb. steel for the present 60 lb., but what mileage will be relaid this year has not been decided.

A new and heavier steel bridge is to be constructed at Gaspereaux by Aug. The Board of Railway Commissioners has approved plans for alterations to the bridge over the Shubenacadie River in South Maitland. The work to be done includes the replacing of the present draw span by a wider one. This will be done during the summer and arrangements are being made for placing a contract. The rebuilding of the wooden structure at Sawmill Creek, started in 1910, will be completed this summer. Further bridge work may be undertaken this year, but it has not yet been decided.

The company is building a mile of track at Canning, N.S., to connect with the Dominion Government wharf there. The work includes a Y to facilitate handling the cars to and from the wharf. The line branches off from the Cornwallis branch about a quarter of a mile west of Canning and runs at the back of Canning town to the wharf. (Mar., pg. 205.)

Fredericton and Grand Lake Coal and Ry. Co.—At the annual meeting in Fredericton, N.B., April 12, the question of the building of a line from Gibson, on the opposite bank of the St. John River to Fredericton, to Minto, where a junction could be effected with the New Brunswick Coal and Ry. Co.'s Ry., was under consideration. It is said that the company proposes to undertake its construction at an early date. Following are the officers and directors:—President, H. P. Timmerman, Montreal; Vice President, H. W. Woods, M.P.P., Wels-

ford, N.B.; other directors: A. R. Slipp, M.P.P.; C. F. Chestnut, H. W. Woods, M.P.P.; A. B. Wilmot, P. Glaser, M.P.P.; Secretary Treasurer, D. K. Hazen. (July, 1910, pg. 547.) (See also St. John Valley Ry.)

Halifax and Guysboro.—The Nova Scotia Legislature has extended the time within which the aid voted for the construction of a railway between Halifax and Guysboro, granted by the statutes of 1906, chap. 1, is available. (See Halifax and Eastern Ry., Feb., pg. 111.)

Halifax and South Western Ry.—The Nova Scotia Legislature has amended the company's charter powers in some minor points. (Sept., 1910, pg. 727.)

High River, Saskatchewan and Hudson Bay Ry.—The provisional directors named in the bill for the incorporation of a company with this title, now before the Dominion Parliament, are:—H. N. Sheppard, F. Crandell, T. E. LeClaire, C. A. Gigot, G. D. Stanley, High River, Alta. (Mar., pg. 205.)

Hudson Bay and Pacific Ry.—The Board of Railway Commissioners has approved the location plans, from mileage 0, Prince Albert, Sask., to mileage 70, in the direction of Fort Churchill, on Hudson Bay. (Feb., pg. 155.)

Hudson Bay, Peace River and Pacific Ry.—Route plans of this projected railway show a line running due north from Winnipeg, on the east side of Lake Winnipeg, and on to Fort Churchill, and a line starting at Fort Churchill westerly to the Pacific Coast. It is reported in Winnipeg that the British interests behind the provisional directorate have the funds ready to finance the undertaking, as soon as the necessary parliamentary powers are obtained. (April, pg. 319.)

Indian River Ry.—The Dominion Parliament has granted an extension of time within which the company may build the line authorized to be constructed by the statutes of 1902, chap. 64. (Jan., pg. 23.)

Intercolonial Ry.—The Dominion Parliament has voted the following sums on account of betterments, etc., along the line:—Original construction, \$500; surveys and inspections, \$15,000; to increase accommodation and facilities along the line, \$40,500; to strengthen bridges, \$29,000; general protection of highways, \$20,000; to increase accommodation at Halifax, \$82,500; second trackwork at New Glasgow, \$35,500; to increase accommodation at Stellarton, \$30,000; new machinery for steamer Scotia, \$1,100; diversion at Sydney Mines, \$250,000; to increase accommodation at Truro, \$57,200; additional facilities at Princess pier, \$4,000; to increase accommodation at St. John, \$25,600; to increase accommodation at Campbellton, \$150,000 and \$75,000 to meet expenditure incurred on Governor General's warrant at same place; diversion of line and branch to wharf at Chatham, \$300,000; to increase accommodation at Fredericton, \$25,000; additional office building at Moncton, \$62,500; locomotive and car shops with equipment and new freight yard and cut off line at Moncton, \$200,000; engine house equipment, etc., at Riviere du Loup, \$15,650.

The Minister of Railways explained in the House of Commons that the diversion of the line at Chatham, N.B., will be about 8.25 miles and will get rid of the gradient down to the water front. The work was begun about two years ago, the contract having been awarded to Morrison and Clark, for the estimated sum of \$245,853.58. The total cost of the work, including ties, rails, ballasting, right of way, grading, and \$30,000 for a station building is 512,603.58.

The new station which it is proposed to build at Fredericton, N.B., will cost, according to the estimate, \$425,000, and

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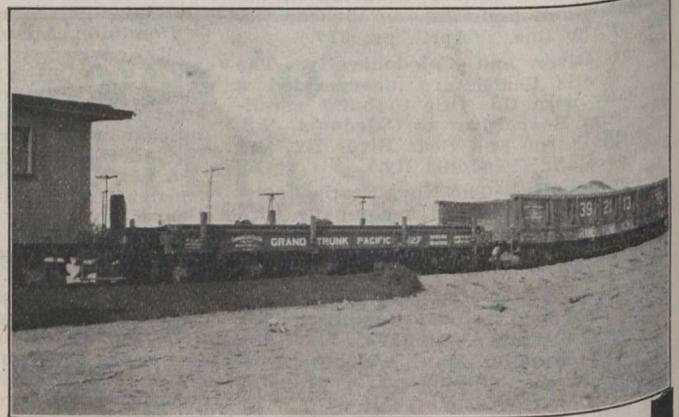
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MONTREAL

the vote of \$25,000 now made is for a start.

In connection with the proposal for increased dock accommodation at Halifax, the Minister stated that some years ago the Government purchased the old Cunard property. In view of the demand for increased accommodation at Halifax, the Government Railways Managing Board and the Chief Engineer made a visit of inspection, and a special report was made by J. Kennedy, of Montreal. He expected to ask Parliament at a later date to make an appropriation in order to start carrying out the proposals. The intention is to build one large dock and to commence on another. This will afford early accommodation for the large ships that are being built, and, year by year, it will develop into a larger scheme including several docks. These changes are absolutely necessary not only because the C.P.R. gets its traffic from these steamship lines, but the Intercolonial as well. Up to the present time there has been spent in Halifax, in connection with the I.C.R. \$4,431,947.

With respect to the suggestion that the line be double tracked from Moncton to Halifax, the Minister could not say what would be done in the future. The existing local traffic could be handled with the present line. So far as the G.T. Pacific Ry. was concerned, the I.C.R. had its traffic for 99 years under contract. If the Government was going to undertake to put the G.T. Pacific Ry. and the C.P.R. into Halifax and St. John, the line would have to have a second track. Such a proposition would have to be discussed with the companies, as to whether the work would be done by the Government or not. The matter was being given consideration.

The diversion at Sydney Mines, upon which work was started last year, is estimated to cost when completed \$539,000. It will give the I.C.R. a straight line to the mines. The department intends putting in a second track in connection with the yards at St. John, N.B., and some second track also at New Glasgow and Stellarton, N.S., this year.

In connection with the suggested diversion of the line in the vicinity of the Cobequid Mountains, the Minister of Railways stated Mar. 29, that a survey had been made, and his information was that a better gradient than the existing one might not be obtainable, and that it would be cheaper to build a second track on the existing line, than to build a diversion. The building of a diversion would mean doubling the number of stations, and overhead work.

The Department has under consideration a proposal to build a railway wharf for the I.C.R. terminus at Dartmouth, N.S., (April, pg. 321.)

Kamouraska and L'Islet Ry. Co.—The Quebec Legislature has incorporated a company with this title to build the lines named in its application. (Mar., pg. 249.)

Kaslo and Slocan Ry.—It is reported from Kaslo, B.C., that an option has been secured by a local syndicate on this railway, which extends from Slocan to Kaslo, 27 miles, and which was operated by the Great Northern Ry., U.S., under a lease which is about to expire. Owing to some land slides the line has not been operated for some time. It is stated that it is intended to reconstruct for operation. Sandon is the present terminus of the Nakusp and Slocan Ry., operated by the C.P.R., and Kaslo is situated on Kootenay Lake, on which the C.P.R. operates a steamer service.

Kettle Valley Lines.—We are advised that the press reports that a contract for the second 30 miles section of the extension out of Merritt, B.C., had been let to Macdonnell, Gzowski & Co., are

premature, as the contract for this section will not be let until July.

The Dominion Parliament has authorized the building of certain extensions of previously authorized lines, extended the time for building certain lines, and changed the company's name from the Kettle River Valley Ry. Co., to the Kettle Valley Ry. Co. The company has charters in the State of Washington and operates its railway in the two countries as the Kettle Valley Lines. (April, pg. 321.)

Kootenay and Alberta Ry.—A contract has been let to Grant, Smith & Co., Spokane, Wash., for the building of the first 13 miles of this projected railway. This section begins on the C.P.R. Crows Nest Pass Line, about a mile west of Pincher, Alta., and extends south westerly to the Western Coal and Coke Co.'s mines on Beaver Creek. The maximum gradient with the traffic is 1% compensated. There are three minor summits, all of which are less than 14 ft. high, and are so arranged as to be velocity gradients. The sharpest curvature is six degrees. The work is heavy, averaging about 40,000 cubic yards to the mile, and having one very large cut, and two high timber trestles. The line will be laid with 60 lb. steel. American Society of Civil Engineers Section. L. B. Merriman is Chief Engineer.

Representatives of Grant, Smith & Co. were in Pincher Creek, Alta., Mar. 26, making arrangements to start work. Two steam shovels are being brought in to be used in the Mountain Hill cut. (April, pg. 321 and pg. 353.)

Liverpool and Caledonia Ry.—The Nova Scotia Legislature has incorporated a company with this title to build a railway from Liverpool to Caledonia.

Manitoulin and North Shore Ry.—The Ontario Legislature has extended the subsidy grant to this company, provided that the line from Sudbury to Little Current, be completed by Dec. 31, 1912. (April, pg. 321.)

We are advised that sub-contracts have been let as follows, on the section of the line from Crean Hill to Whitefish, Ont.:—Espanola southerly, McCaffrey and McCaffrey, Espanola, Ont.; mileage 48.50 to mileage 51, Debona and Orlando Bros., Little Current, Ont.; mileage 51 to mileage 61, Murdoch Bros., Missanable, Ont.; mileage 23 to mileage 30, Fletcher and Jones, Sudbury, Ont.

Margaree Coal and Ry. Co.—The Nova Scotia Legislature has extended the time fixed for construction. (Dec., 1909, pg. 883.)

Maritime Coal and Ry. Co.—The Nova Scotia Legislature has amended the company's powers in certain details, including an extension of time for the building of the uncompleted lines. (Sept., 1910, pg. 727.)

Michigan Central Rd.—The new double track swing bridge over the Welland Canal at Welland, Ont., was opened for traffic. April 7. (April, pg. 321.)

Montreal and Northern Colonization Ry. Co.—The Quebec Legislature has incorporated a company with this title to build the railway mentioned in the application, as amended. (April, pg. 321.)

Midland Continental Ry.—A Chicago, Ill., press dispatch, April 17, states that the Midland Construction Co., will start building the first section of a line intended to form a trunk line from Winnipeg to the Gulf of Mexico, at an early date. The section to be built, will, it is said, connect with the Canadian lines near Pembina, and will extend to Edgely, 2.5 miles. The officers of the Construction Co., are:—F. Bell, Racine, Wis.; Vice President, H. D. Duncombe, Chicago; Chief Engineer, G. M. Wisner, Chicago; Consulting Engineer, C. V.

Weston, President, South Side Elevated Rd., Chicago. (Dec., 1910, pg. 1015.)

New Brunswick and Prince Edward Ry.—Press reports from Sackville, N.B., state that C. W. Fawcett, C. Pickard, Sackville, and M. G. Siddall, Port Elgin, N.B., are the leading members of a syndicate which is about to take hold of this railway. The reports state that these new interests propose to electrify the line for the operation of passenger cars, to run steamships from Cape Tormentine to Summerside and Charlottetown, with a winter service to the Traverse; and a steamship service from Cape Tormentine to Fort William, Ont. The company owns the public wharf at Sackville, and it is proposed to lay a track from the railway on to the wharf, and make a number of improvements there. (Jan., pg. 23.)

New Brunswick Coal and Ry. Co.—The N. B. Legislature is being asked by the Government to pass a measure providing a guarantee of bonds for \$15,000 a mile for the building of an extension of this line from Minto to Fredericton, N.B. The company entering into a contract for building the extension must lease the present line running from Norton to Minto from the Government, purchase at least 100,000 tons of coal a year from the mines along the route of the line, and enter in a contract with the C.P.R. or other company for the operation of the entire line on a 99 year lease, the Government to receive 40% of the gross earnings on the 31 miles between Minto and Fredericton, and 50% of the gross earnings on the other mileage. The Premier in introducing the measure stated that the C.P.R. had made careful tests of the Grand Lake coal which came from mines on the line, and was prepared to enter into an agreement to take 100,000 tons a year. (Feb., pg. 113.)

New Ontario and Quebec Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from the National Transcontinental Ry. near mileage 940, Que., to Matheson, Ont., on the Temiskaming and Northern Ontario Ry., and on to Congdon station on the James Bay Ry., 160 miles; a 25 mile line from mileage 1000 on the N.T. Ry., to a junction with the first named line, and a 25 mile line from Iroquois Falls on the T. and N.O. Ry., along the Abitibi River to a junction with the first named line. The provisional directors are: E. A. Walberg, E. C. Wilson, Montreal, L. M. Wood, T. H. Watson, Toronto, F. J. Bell, Cobalt, Ont (Mar., pg. 207.)

Newport and Northern Alberta Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title, to build a railway from Newport, at the head of Howe Sound, B.C., north easterly to Lillooet, then northerly along the valley of the Fraser River to Fort George, thence to the Parsnip River, and along its valley to the confluence with the Peace River, thence easterly along the valley of the Peace River to Peace River Landing, Alta. Pringle and Guthrie, Ottawa, are solicitors for applicants.

New York and Canadian Pacific Ry.—The charter granted by the New York State Legislature for the building of a line to connect the C.P.R. lines in Canada with those in the U.S. is reported to have become forfeited. The line proposed to be built was from New York to Ogdensburg, via Schenectady, N.Y., with a car ferry connection on the St. Lawrence River. (Jan., 1907, pg. 3.)

Ontario Hudson Bay and Western Ry.—The Dominion Parliament has extended the time for the construction of this projected railway, which was authorized to be built by statutes of 1901, chap. 78. (Dec., 1910, pg. 1015. See also Algoma Central and Hudson Bay Ry.)

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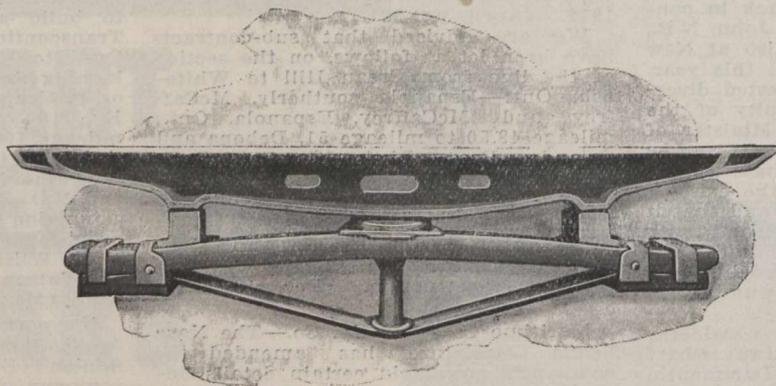
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Ontario Northern and Timagami Ry.—The Dominion Parliament has extended the time within which the line, originally authorized to be built by the statutes of 1898, chap. 87, may be built. The last extension of time was granted in 1906, chap. 136. (See Timagami and Northern Ontario Ry., Jan., pg. 25.)

Pontiac Central Ry.—The Dominion Parliament has extended the time within which the lines authorized to be constructed by the statutes of 1903, chap. 146, may be built, and has given the company power to enter into agreements with the G. T. Pacific Ry., the Canada Atlantic Ry., the Central Ry. Co. of Canada, and the Canadian Northern Ontario Ry. (Dec., 1910, pg. 1015.)

Ontario-Michigan Ry.—In passing through the House of Commons committee, the name of the company proposed to be incorporated as the Ontario Railways Co., was changed to the Ontario-Michigan Ry., and power was given to make an agreement with the Michigan United Electric Ry. for the purpose of operating a car ferry between Sarnia and Port Huron, and of transferring thereon the cars of both companies. Agreements may also be made with the C.P.R., the G.T.R. and the Pere Marquette Rd. (See Ontario Railways Co., April, pg. 321.)

Simcoe, Bruce and Grey Ry.—Replying to a deputation which waited on him recently to ask for a subsidy for the Owen Sound-Meaford, section of this projected railway, the Dominion Minister of Railways said his department had not recommended the granting of any railway subsidies this session, but if it did, this line would be one of the first recommended. (April, pg. 321.)

Prince Edward Island Ry.—The following amounts, chargeable to capital, have been voted by the Dominion Parliament:—Branch line, Harmony to Elmira, \$150,000; extension to freight shed on wharf at Souris, \$1,813; to increase accommodation at Summerside, \$9,300; addition to station at Tignish, \$1,000.

With respect to the Harmony-Elmira branch line the Minister of Railways stated recently that the estimated cost was \$315,000. The contract was let to Whitehead Bros. at schedule prices. Owing to the death of their father and some other occurrences the contractors held up their estimates until some settlement had been effected. This has been made, but progress has been slow. A good deal of the branch has been graded, and the station buildings which were let to another contractor are nearly completed. The Intercolonial Ry. is selling 56 lb. rails taken up from the old Canada Eastern Ry., for the branch at \$27.50 a ton. It is expected that the branch will be completed this year. Up to the present time \$128,000 has been paid on account of the building of the line, and \$14,000 on account of the building of the stations. (April, pg. 321.)

Prince Edward Island Tunnel.—Resolutions have been passed by the residents of Emerald, P.E.I., urging the making of complete surveys with a view to determine the feasibility and cost of construction and the cost of operation of a tunnel under Northumberland Strait, to connect P.E.I. with the mainland, and that pending the construction of such a tunnel the P.E.I. Ry. gauge be widened to standard, and that a car ferry service be established. (Mar., pg. 207.)

Quebec and Great North Western Ry.—The provisional directors named in the bill, now before the Dominion Parliament for the incorporation of a company with this title are:—R. Chevrier, P. O'Reilly, P. Clarke, E. J. Daly, Ottawa; J. Bourque, Hull, Que. (Feb., pg. 113.)

Quebec Eastern Ry.—The Quebec Legislature has extended the time for the construction of this projected railway, and authorized an increase of the capital stock from \$1,000,000 to \$5,000,000. (Mar., pg. 249.)

Quebec, Montreal and Southern Ry.—The Dominion Parliament has extended the time within which the company may build the uncompleted portions of its lines. These include the extension of the line from near St. Francis to the southern end of the Quebec Bridge. (Feb., pg. 113.)

Richmond, Magog and Stanstead Ry. Co.—The Quebec Legislature has incorporated a company with this title to build the railway mentioned in the application. (Mar., pg. 249.)

Shaw Ry. and Lumber Co.—The Saskatchewan Legislature has incorporated a company with this title. The railway proposed to be built will extend from Shaw's siding near Prairie River, on the Canadian Northern Ry., about seven miles west of the Hudson Bay Jct., Sask. (Mar., pg. 207.)

St. John and Quebec Ry.—The new Brunswick Legislature has under consideration a bill providing for an extension of this projected line.

Shelburne and Bear River Ry.—The Nova Scotia Legislature has incorporated a company with this title to build a railway from Shelburne to Bear River. (See also Bear River and Caledonia Ry.)

Southern Central Pacific Ry.—The Dominion Parliament has extended the time for the building of the lines authorized to be constructed by sec. 3, chap. 162, of the statutes of 1906, and giving power to build a line from the headwaters of the Blindman River, or at the crossing of the North Saskatchewan, to Dunvegan, the Parsnip River, the Nechaco River, and thence southerly to Deans Channel or to Gardiner's Canal on the Pacific coast.

Surveys were made during the winter, under the charge of G. A. Knowlton, and B. Russell, for the location of a route from Couits to the north and south forks of the Old Man River, and to Pincher Creek, Alta. It is reported that the location surveys for 10 miles on each side of the forks of the Old Man River have been completed. Press reports state that arrangements are being made for starting construction at an early date. (April, pg. 321.)

Southampton Ry.—The New Brunswick Legislature has under consideration a proposal authorizing the Government to guarantee the company's 4% bonds for \$10,000 a mile, for the construction of a railway from the C.P.R. Gibson branch between Melville station and a railway bridge crossing the Northeast Mackawick stream, to Pokiok Bridge, York county, 13 miles. The guarantee is contingent upon the company entering into a contract with the C.P.R. for the operation of the line upon release, the Government to receive 40% of the gross receipts from the operation of the same. After meeting interest charges on the bonds any balance remaining shall be paid over to the Southampton Ry. The bill further provides that the gradients, and general construction of the line shall conform to the standard of the C.P.R. Gibson branch.

Southern Central Pacific Ry.—The Board of Railway Commissioners has approved the location of the line from Burmis, Alta., mileage 0, to sec. 2, tp. 4, range 6, west of the fifth meridian, mileage 7.84.

Sydney, New Waterford and East Bay Mono Rail Ry.—The Nova Scotia Legislature has incorporated a company with this title, to build a railway, on the mono-rail system, from Sydney to East Bay.

Temiskaming and Northern Ontario Ry.—Addressing the Toronto Board of Trade, April 7, J. L. Englehart, Chairman, T. and N.O.R. Commission, after describing the clay belt plateau reached by the line, and the coastal plain beyond, said the Commission proposed to send a small survey party to Moose River this year, with a view to locating an extension to Salt Water. Liskeard was the portal to the clay belt which extended to Cochrane, 140 miles, and north of that point, for 150 miles, and beyond this was the great coastal plain, for which, so far as present knowledge went, the mouth of the Moose River formed the best harbor. Two other matters were mentioned, the first being the securing of a new location for an alternative route for the first 35 miles out of North Bay, with lower gradients and easier curvature than the present line; and the second was that a working arrangement had been effected by which traffic brought by the National Transcontinental Ry. would be carried over the T. and N.O. Ry. between Cochrane and North Bay.

Rapid progress continues to be made with construction on the branch to Porcupine Lake; ten miles of steel has been laid, and the bridge structures are well forward. It is fully expected by the commissioners that the branch will be ready for traffic by July 1.

A deputation waited on the Ontario Minister of Public Works, April 7, in connection with the proposal to build a branch into the Gowganda district. It is said that while a definite decision has not been reached, the Government does not view the project with much favor, and that in the event of reaching a decision not to build the line, it will be prepared to grant a charter to a private company. (April, pg. 321.)

Winnipeg North Eastern Ry.—The Manitoba Legislature has incorporated a company with this title to build a railway along the east side of Lake Winnipeg. Press reports state that Mackenzie, Mann & Co., are behind this project, and that the line will start at the present terminus of the company's Bird's Hill branch, reach Fort Alexander, and then proceed along the eastern boundary of Lake Winnipeg. (April, pg. 323.)

Winnipeg River Ry.—The Manitoba Legislature has incorporated a company with this title to build a railway from Winnipeg to Lac du Bonnet. (Mar., pg. 209.)

Recent Manitoba Legislation.

The following acts affecting transportation interests were passed at the recent session of the Manitoba Legislature:—

BIRD'S HILL AND SPRINGFIELD RY.—Incorporation.

BRANDON ELECTRIC RY.—Incorporation.

CANADIAN NORTHERN RY.—Authorizing guaranteeing of certain of the company's securities.

LAKE WINNIPEG AND RED RIVER NAVIGATION CO.—Incorporation.

MANITOBA POWER CO.—Respecting company's powers.

MANITOBA RADIAL RY.—Incorporation.

RURAL RY. CO. OF MANITOBA.—Amending act of incorporation.

ST. VITAL.—To enable the municipality to enter into an agreement respecting construction of electric railways.

TELEGRAPH AND TELEPHONE SYSTEMS.—Amending act respecting government telegraph and telephone systems.

WESTERN ELECTRIC LIGHT AND POWER CO.—Incorporation.

WINNIPEG NORTH EASTERN RY.—Respecting company's powers.

WINNIPEG RIVER RY.—Respecting company's powers.

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Arrive North Toronto	- - -	9.40 p.m.	Daily except Sunday.
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- ¶ The residents of Toronto are adjacent to either North Parkdale, West Toronto or North Toronto stations, same being easily accessible and closer to residential districts.
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Orders by the Railway Commissioners.

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

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

13243. Mar. 16.—Authorizing city of St. Boniface, Man. to lay water main under C.P.R. at Montcalm St.

13244. Mar. 16.—Authorizing Water Commissioners of London, Ont., to erect wires across G.T.R. siding on Rectory St.

13245, 13246. Mar. 15.—Authorizing G.T.P.R. to cross 47 highways in Alberta.

13247. Mar. 16.—Authorizing C.P.R. to cross Trespass Road Thorah tp., Ont.

13248. Mar. 17.—Approving Rutland Rd.'s bylaw authorizing C. Hartigan, G.P.A., and G. Cassidy, G.F.A., to prepare and issue tariffs of tolls in respect to passenger and freight traffic.

13249. Mar. 15.—Authorizing C.N.R. and C.P.R. to appeal to Supreme Court of Canada from order 12520, Dec. 10, 1910, which directed them to grant certain rates to Regina, Sask., as are now enjoyed by Winnipeg. This order is given in full on another page.

13250. Dec. 14.—Dismissing application of Gundy-Clapperton Co., Goldsmiths' Stock Co., and Gowans, Kent and Co., Toronto, for reduction in rating in Canadian Classification on cut glass, from double first class to first class.

13251, 13252. Mar. 17.—Authorizing G.T.P. Branch Lines Co. to cross 34 highways on its Calgary Branch, Alta.

13253. Mar. 17.—Approving C.N.R. revised location through sec. 19, tp. 2, r. 6, w. 2 m., mileage 15.84 to 16.60 Sask.

13254. Mar. 17.—Authorizing city of Toronto to erect wires across C.P.R. on Front St. near Overend St.

13255. Mar. 18.—Approving G.T.R. plans for abutments, wing walls and steel work of subway at Queen St. West, Etobicoke tp., Ont.

13256. Mar. 18.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across T.H. & B.R. spur at Sherman Inlet, Hamilton Ont.

13257. Mar. 20.—Approving character of work of Gillett drain across G.T.R. in Malahide tp., Ont.

13258. Mar. 20.—Approving C.N.O.R. location through McTavish and Sibley tps., Thunder Bay district, mileage 524.96 to 548.45.

13259. Mar. 20.—Authorizing C.P.R. to divert and cross highway at mileage 75.3 on s. w. 5 m., Sask.

13260. Mar. 20.—Authorizing G.T.P. Branch Lines Co. to cross C.N.R. Maryfield branch, Sask., crossing to be protected by interlocking plant, etc.

13261. Mar. 20.—Approving C.N.O.R. revised location near Billing's Bridge, Ottawa Co., Gloucester tp., Carleton county, mileage 2.3 to 3.02.

13262. Mar. 20.—Authorizing Seymour Power and Electric Co. to erect wires across G.T.R. at Newcastle, Ont.

13263, 13264. Mar. 20.—Authorizing Water Commissioners of London, Ont., to erect wires across G.T.R. at two points on Egerston St.

13265. Mar. 20.—Authorizing C.P.R. to maintain spur to Canadian Linderman Co.'s premises, Woodstock, Ont.

13266. Mar. 20.—Authorizing C.P.R. to operate spur to Coast Lumber Yards' premises, Winnipeg, Man.

13267. Mar. 20.—Authorizing C.P.R. to operate spur to S. E. Stewart's premises, Saskatoon, Sask.

13268. Mar. 20.—Authorizing C.P.R. to operate spur for Manitoba Government Telephone, in block 30, Higgins Ave. and lots 11, 10, 13269.

13270. Mar. 20.—Authorizing C.P.R. to build spur to Vancouver-Prince Rupert Meats Co.'s premises, New Westminster District, and to connect with Vancouver, Victoria & Eastern Ry. spur.

13271. Mar. 20.—Ordering that G.T.R. install improved type of electric bell at Daniel St., Arnprior, Ont., 20% of the cost to be paid by the railway grade crossing fund.

13272. Mar. 21.—Authorizing G.T.P.R. to divert road through east half of sec. 36, tp. 44, r. 7, w. 4 m., Alta.

13273. Mar. 20.—Approving plans of C.P.R. bridge 0.5 over Thames River on Windsor subdivision, Ontario Division.

13274. Mar. 21.—Authorizing G.T.P. Branch Lines Co. to divert four roads on its Calgary Branch, Alta.

13277. Mar. 21.—Authorizing G.T.P. Branch Lines Co. to cross highway in sec. 16, tp. 25, r. 4, w. 2 m., Yorkton District, Sask.

13278. Mar. 21.—Authorizing C.P.R. to build culvert on its Lethbridge subdivision at mileage 105.1 from Dummore Jct., for Alberta Ry. and Irrigation Co.

13279. Mar. 21.—Authorizing G.T.R. to build spur to premises of J. C. Low, Wright & Co., E. F. & G. E. Barrett and Ottawa Construction Co., south of Catharine St., west of Bank St., Ottawa, Ont.

13280. Mar. 20.—Authorizing G.T.R. to build spur to Hamilton Bridge Co.'s premises, Hamilton, Ont.

13281. Mar. 21.—Ordering Quebec Oriental Ry., formerly Atlantic and Lake Superior Ry., to repair and alter bridge at Rock Cut, in r. 5, Que., by May 15, under penalty of \$25 a day.

13282. Mar. 22.—Authorizing C.N.R. to cross with its Delisle Extension, C.P.R. Moose Jaw-Lacombe Branch in sec. 31, tp. 29, r. 9, w. 3 m., Sask., interlocking plant to be installed.

13283. Mar. 22.—Approving C.N.R. revised location through subdivision on n. w. ¼ sec. 34, tp. 23, r. 29, w. 4 m., Alta., mileage 255.22 to 255.73.

13284. Jan. 23.—Approving Dominion Atlantic Ry. standard tariff of maximum parlor car tolls C.R.C. S-3.

13285. Mar. 22.—Authorizing C.P.R. to operate spur from its main line, to premises of Heintzman Piano Co., and Nordheimer Piano Co., Toronto.

13286. Dec. 12.—Approving character of Pike and Dauphin drainage schemes to cross G.T.R. between Raleigh and Tilbury tps., Ont.

13287. Mar. 23.—Authorizing Caledonia Gypsum Co. to lay pipe under G.T.R. at Caledonia, Ont.

13288. Mar. 23.—Authorizing C.P.R. to build bridge 18.3 over Shogomog River, Woodstock section, Atlantic Division.

13289. Mar. 22.—Dismissing application of Blaugas Co. of Canada, Ltd., for order directing railways to classify Blaugas in cylinders, in Canadian Classification as third class in l.c.l. and fifth class in c.l., in lieu of second class and fourth class, as proposed by railways.

13290. Mar. 22.—Ordering G.T.P.R. to provide farm crossings for W. Smith, Huxley, Alta., by June 1, under penalty of \$25 a day.

13291. Mar. 25.—Authorizing C.N.O.R. to cross roadways on lot 1, con. 2, from the Bay, York tp.

13292. Mar. 23.—Extending to June 1, time for British Yukon Ry., B.C. Yukon Ry., Pacific and Arctic Ry. and Navigation Co. and White Pass and Yukon Ry. to file joint freight and passenger tariffs as required by order 12733. Jan. 18. This order is given in full on another page.

13293. Mar. 25.—Authorizing Reeb Bros., Port Colborne, Ont., to maintain gas pipe under G.T.R. at west side of Catharine St.

13294. Mar. 27.—Authorizing Vancouver Island Power Co., to erect wires across Esquimalt and Nanaimo Ry., near mileage 4, from Victoria, B.C.

13295. Mar. 23.—Approving Georgian Bay and Seaboard Ry. location from mileage 74.25 to 87.65, Ont.

13296. Mar. 25.—Ordering C.N.R. to complete concrete work for sidewalks of Pembina St. subway, Winnipeg, by May 31, under penalty of \$25 a day.

13297. Mar. 27.—Approving plans of G.T.R. station at Dublin, Ont.

13298. Mar. 27.—Approving plans of three C.P.R. bridges on its Windsor, North Bay and St. John subdivisions.

13299. Mar. 27.—Approving Dominion Atlantic Ry. plans for bridges across Shubenacadie River at South Maitland, N.S.

13300. Mar. 27.—Removing speed restriction on B.C. Yukon Ry. trains between stations 382, 487 and 520 and limiting speed to 15 miles an hour from Best Chance Mine to Pueblo Mine.

13301. Mar. 27.—Ordering C.N.R. to build standard station and freight shelter at Garland, Man., before June 15, under penalty of \$25 a day.

13302. Mar. 23.—Authorizing C.P.R. to build spur near Port Moody, B.C., mileage 0 to 3.5.

13303. Mar. 27.—Authorizing C.P.R. to build spur for Britnell & Co., Toronto tp., Ont.

13304. Mar. 27.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across G.T.R. at lot 46, con. 2, North Easthope tp.

13305. Mar. 28.—Authorizing Pintsch Compressing Co. to lay gas main under G.T.R. at St. James St., Montreal.

13306. Mar. 28.—Extending to April 25, time for filing of plan for Hefferman St. bridge, Guelph, Ont., by the city.

13307. Mar. 28.—Approving Georgian Bay and Seaboard Ry. plan for highway under tracks at lot 6, con. 11, Thorah tp., Ont.

13308. Mar. 28.—Authorizing C.P.R. to build three spurs in Camrose, Alta.

13309 to 13311. Mar. 29.—Rescinding orders 13089, 13092 and 13094, Feb. 27, which authorized city of Toronto to erect wires across G.T.R. and G.N.W. Telegraph Co.'s wires on Royce Ave., Queen St. East, and Bloor St.

13312. Mar. 29.—Authorizing Ontario Hydro-Electric Commission to erect wires across Bell Telephone Co.'s wires at seven points in Toronto and Etobicoke tps.

13313. Mar. 29.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across Bell Telephone Co.'s wires at Barton St., west of Birch Ave., Hamilton, Ont.

13314, 13315. Mar. 29.—Authorizing Saskatchewan Government to build highway across C.P.R. in secs. 23 and 24, tp. 13, r. 19, w. 3 m.

13316. Mar. 29.—Ordering C.P.R. to provide for installation of telephone at Dorcington station, Ont.

13317. Mar. 29.—Amending order 13228, re classification of toasted corn flakes, Jan. 17. This order is given in full on another page.

13318. Mar. 29.—Authorizing Saraguay Electric and Water Co. to erect wires across C.N.Q.R., at Joliette St., Montreal.

13319. Mar. 29.—Approving amended location of Vancouver, Victoria and Eastern Ry. from Otter Summit, mileage 17, to Tulameen, mileage 39, B.C.

13320. Mar. 29.—Authorizing C.P.R. to build spur for Wattsburg Lumber Co., West Kootenay District, B.C.

13321. Mar. 29.—Dismissing application of G.T.P. Branch Lines Co. to cross highway on its Calgary branch in sec. 36, tp. 39, r. 23, w. 4 m., Alta.

13322. Mar. 29.—Authorizing C.N.R. to operate spur north of lot 88, from Rue de Meuron to College St., St. Boniface, Man.

13323. Mar. 28.—Rescinding order 13186, Mar. 7, which approved plans of train shed, etc., at Central Union Passenger Station, Ottawa, Ont.

13324. Mar. 29.—Authorizing G.T.P. Branch Lines Co. to divert road on its Calgary branch in s.w. ¼ sec. 25, tp. 35, r. 23, w. 4 m., Alta.

13325. Mar. 28.—Ordering V.V. and E. Ry. to build spur to premises of Prudential Builders', Ltd., Vancouver, B.C.

13326. Mar. 27.—Ordering railway companies to file special tariffs to take effect not later than May 1, providing for allowance of 500 lbs. from weight of each carload in or upon open cars for weight of racks, stakes, standards, boards, strips, supports, etc. This order is given in full on another page.

13327. Mar. 30.—Extending to two years, instead of six months, time for completion of branch from V.V. and E. Ry. main line, near McLean's Drive, to Park Lane, Vancouver, B.C., as authorized by order 12939, Feb. 8.

13328 to 13348. Mar. 30, 31, Apr. 1.—Authorizing Hamilton Cataract Power, Light and Traction Co. of Canada to erect wires across Niagara, St. Catharines and Toronto Ry., G.N.W. Telegraph Co.'s, and Bell Telephone Co.'s wires in Welland county, Wentworth, Port Colborne and Humberstone, Ont.

13349. Mar. 31.—Authorizing city of Toronto to erect wires across Bell Telephone Co.'s wires at Jefferson Ave.

13350. Apr. 1.—Relieving G.T.R. from further protecting crossing of highway west of Graham Bay station, Nepean tp., Ont.

13351. Mar. 31.—Authorizing G.T.R. to extend spur to city water works, Toronto.

13352. Apr. 1.—Authorizing C.P.R. to cross C.N.R. Beulah to Rapid City branch, in s.w. ¼ sec. 17, tp. 15, r. 24, w. p. m., Man., and ordering interlocking plant to be installed.

13353. Mar. 31.—Approving plans of Fleming drain under G.T.R. in Plympton tp., Ont.

13354. Apr. 1.—Approving C.P.R. standard fence plan, F-14-15-3.

13355. Mar. 21.—Dismissing application of Canadian Freight Association, in so far as proposed Supplement 1 affects ratings of tobacco, Canadian Classification 15. This order is given in full on another page.

13356. Apr. 8, 1909.—Authorizing C.P.R. to refund to Constructing and Paving Co. of Ontario, Ltd., difference between rate of 22c. per 100 lbs. and rate collected on shipments of asphalt oil in tank cars from Philadelphia, Pa. This order is given in full on another page.

13357. Mar. 30.—Ordering express companies within the Board's jurisdiction, on and after June 1, to collect and deliver traffic to all points within the municipal boundaries or limits of cities, towns and villages and that after that date all existing delivery limits be abolished. Leave is granted to said companies to apply to the Board for establishment of reasonable collection and de-

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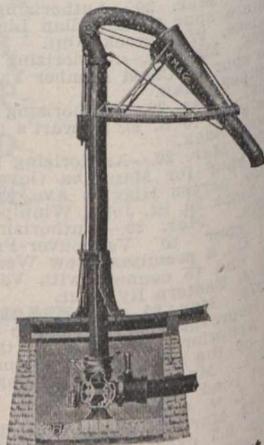


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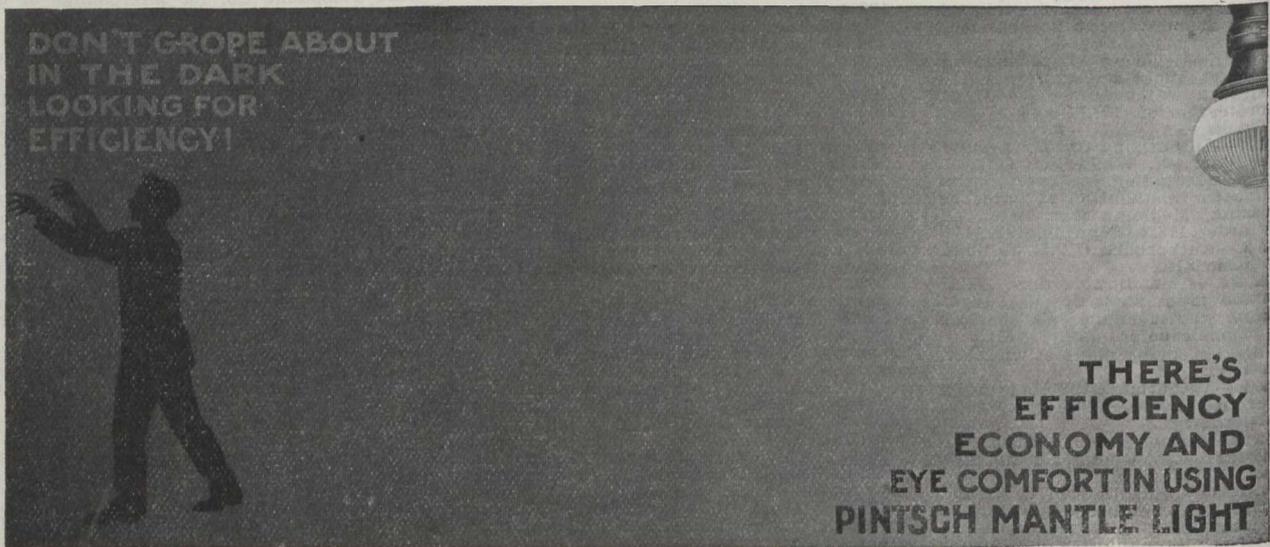
very zones, maps to be furnished.
 13358. Apr. 3.—Authorizing Seymour Power and Electric Co. to erect wires across C.P.R. wires at broken front concession, Carke tp., Ont.
 13359. Mar. 21.—Ordering that, pending completion of overhead bridge at Coutts St., Lethbridge, Alta., a watchman be placed at said St. for protection of C.P.R. and A. Ry. and I. Co.'s tracks.
 13360. Apr. 3.—Authorizing C.P.R. to build spur across William St., Walkerton, Ont.
 13361. Apr. 3.—Extending for two months from date, time for installation of gates at Main St. crossing, Medicine Hat, Alta., as authorized by order 11824, Sept. 16, 1910.
 13362. Apr. 3.—Authorizing C.P.R. to build station at Suffield, Alta.
 13363. Mar. 31.—Amending order 12225, that water stand pipes shall not be nearer than 2½ ft. from widest engine cab, changes necessary to be made before Jan. 1, 1912.
 13364. Apr. 4.—Approving plans of C.N.O.R. Cobourg station grounds.
 13365. Apr. 4.—Authorizing C.P.R. to build bridge over Stobie River, Soo branch, Lake Superior Division, Ont.
 13366. Apr. 4.—Authorizing C.N.O.R. to cross public roads between lot 1, Tyendinaga tp., and lot 31, Thurlow tp.
 13367. Apr. 3.—Ordering that G.T.P.R. and Quebec, Montreal and Southern Ry. file new tariffs of interswitching tolls in accordance with order 4988, not later than Apr. 26, under penalty of \$25 a day.
 13368. Apr. 5.—Authorizing C.N.R. to open for traffic portion of its line from Luxton to Bienfait, Sask.
 13369, 13370. Apr. 4.—Authorizing C.N.O.R. to cross public road between lots 15 and 16, con. A, and between lots 3 and 4, con. B, Tyendinaga tp.
 13371. Apr. 4.—Authorizing C.P.R. to revise grade between mileage 0 and 16.7, and slightly revise location between mileage 6.2 and 6.9, being proposed second track from Smiths Falls to Glen Tay, Havelock section, Ont.
 13372. Mar. 24.—Ordering C.N.O.R. to file new plan of subway at Division St., Cobourg, within 30 days.
 13373. Apr. 5.—Ordering C.P.R. to readjust its tracks under Julius St. bridge and erect tell-tales at Matheson St. bridge, Kenora, Ont.
 13374. 13375. Apr. 4.—Authorizing city of Toronto to maintain sewer under G.T.R. and C.P.R. at Weston Road.
 13376. Apr. 6.—Approving location of Hudson Bay and Pacific Ry. from Prince Albert north-easterly towards Fort Churchill, mileage 0 to 70, Saskatchewan.
 13377. Apr. 6.—Authorizing city of St. Catharines, Ont., to lay pipe under G.T.R. at Vine St.
 13378. Apr. 5.—Authorizing Thamesville village, Ont., to lay pipe under G.T.R. at Victoria St.
 13379, 13380. Apr. 6.—Authorizing J. Marder, Barton tp., Ont., to lay gas mains under G.T.R. at two points in Seneca tp.
 13381. Mar. 21.—Ordering express companies to file tariffs for cream for butter special not to exceed certain figures, also 1, for district east of Port Arthur, Ont.
 13382. Apr. 7.—Approving agreement between Narocross Bros. Co. and G.T.R. for erection of overhead travelling crane at Toronto.
 13383. Apr. 7.—Approving C.N.R. bylaw authorizing G. H. Shaw, General Traffic Manager, Toronto and G. Stephen, G.F.A., Winnipeg, to prepare and issue tariffs.
 13384. Apr. 7.—Extending to July 1, time for completion of G.T.R. steel bridge at Chesley, Ont.
 13385. Apr. 7.—Authorizing C.N.O.R. to cross Brockville, Westport and North West-ern Ry. at Brockville Jct., mileage 189.34 from Toronto.
 13386. Apr. 8.—Authorizing G.T.R. to operate trains over interlocker at Lynden Jct., Ont., without stopping.
 13387. Apr. 8.—Authorizing Montreal Light, Heat and Power Co. to maintain cable ducts under C.P.R. Lachine Canal South bank branch.
 13388, 13389. Apr. 10.—Authorizing C.N.O.R. to divert public roads on lots 1, 2, 3, con. 5, Longborough tp.
 13390. Apr. 7.—Authorizing Toronto, Hamilton and Buffalo Ry. to build spur from near Hamilton station to A. S. Nicholson's property.
 13391. Apr. 5.—Approving Southern Central Pacific Ry. location from Burmis to sec. 2, tp. 4, r. 6, w. 5 m., mileage 0 to 7.84, Alta.
 13392. Apr. 8.—Authorizing C.P.R. to build spur to Enderby Brick and Tile Co.'s premises, Enderby, B.C.
 13393. Apr. 10.—Approving C.P.R. plans

for 10 bridges on its Ontario, Lake Superior and Alberta Divisions.
 13394. Apr. 10.—Ordering Bell Telephone Co. to file answer by Apr. 15, under penalty of \$25 a day, to application of city of Montreal to provide uniform service with uniform rates within the whole city.
 13395. Apr. 10.—Dismissing G.T.P. Branch Lines Co.'s application to divert a road on its Calgary branch in s.w. ¼ sec. 18, tp. 31, r. 23, w. 4 m., Alta.
 13396. Mar. 24.—Authorizing C.N.O.R. to build subway at Kingston Road, Hamilton tp.
 13397. Apr. 7.—Amending order 13109, Feb. 25, which directed G.N.R. to widen ditch near Port Kells, B.C., by ordering it to close three small culverts on completion.
 13398. Apr. 4.—Approving C.N.O.R. revised location at Smiths Falls, mileage 37.8 to 40.8, from Ottawa.
 13399. Apr. 4.—Authorizing C.N.O.R. to cross C.P.R. near Jacques Cartier Jct., mileage 49.3 south from Hawkesbury.
 13400. Apr. 4.—Authorizing Georgian Bay & Seaboard Ry. (C.P.R.) to build spur for Victoria Harbor Lumber Co., Victoria Harbor, Ont.
 13401. Apr. 10.—Authorizing Guelph, Ont., Water Works Commissioners, to maintain pipe under G.T.R. at Alma St.
 13402. Apr. 10.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across T.H. & B. Ry. at Ottawa St.
 13402 to 13408. Apr. 11.—Authorizing Sherbrooke Ry. and Power Co., to erect wires across Bell Telephone Co.'s wires and C.P.R. in Sherbrooke, Que.
 13409. Apr. 11.—Approving revised location of V.V. & E. Ry. and Nav. Co., between mileage 12 and 16 from Coquihalla Summit, B.C.
 13410. Apr. 11.—Authorizing G.T.R. to build spur on its Haliburton branch, near Lindsay, Ont., for Toronto Construction Co.
 13411. Apr. 11.—Authorizing C.N.O.R. to build spur from its Deer Lake station to Graves Bigwood Lumber Co.'s premises at Gooseneck Lake, lot 6, Burton tp.
 13412. Apr. 11.—Authorizing Canadian Tube & Iron Co. to build coal handling plant across C.P.R. siding on south side of Lachine Canal, Que.
 13413. Apr. 11.—Authorizing C.P.R. to build three spurs for Vancouver Milling and Grain Co., Vancouver, B.C.
 13414. Apr. 11.—Approving revision in location of portions of C.P.R. Moose Jaw north-westerly branch.
 13415. Apr. 11.—Authorizing C.P.R. to change location of its eastbound main line at Royce Ave., Toronto.
 13416, 13417. Apr. 11.—Authorizing C.P.R. to build bridges 27.71 and 48.71 over Silver Creek, Cartier sub-division, Lake Superior Division, Ont.
 13418. Apr. 10.—Authorizing G.T.R. to appropriate certain lands in Toronto in connection with its grade separation.
 13419. Apr. 11.—Authorizing C.P.R. to build spur to Hero Manufacturing Co.'s premises, Winnipeg.
 13420. Apr. 11.—Authorizing Sherbrooke Ry. and Power Co., to erect wires across Bell Telephone Co.'s wires at King and Belvidere Sts., Sherbrooke, Que.
 13421, 13422. Apr. 12.—Authorizing Vancouver, Fraser Valley & Southern Ry. to connect with British Columbia Electric Ry. at Park Drive, Vancouver, and at Eighth Ave., Sapperton, New Westminster.
 13423. Apr. 11.—Ordering Bell Telephone Co. to connect with Colborne, Ont., Municipal telephone system.
 13424. Apr. 11.—Ordering C.P.R. to provide suitable crossing at west end of its yard at Eagle, Ont.
 13425. Apr. 12.—Rescinding order 13364, Apr. 4, and approving C.N.O.R. station ground plans, Cobourg.
 13426. Apr. 12.—Approving C.N.R. crossing of 39 highways in Saskatchewan.
 13427. Apr. 11.—Ordering G.T.R. to provide watchman at Montreal Rolling Mills' siding in Montreal.
 13428. Apr. 12.—Approving C.P.R. plans for standard grain loading platforms.
 13429. Apr. 12.—Authorizing C.N.O.R. to build bridge over Salmon River, Tyendinaga tp.
 13430. Apr. 11.—Ordering C.P.R. to instal improved electric bell ¼ mile west of Piles Jct., Que., 20% to be paid out of the grade crossing fund.
 13431. Mar. 15.—Authorizing city of Toronto to erect wires across C.P.R. and G.T.R. at Hanna Ave. and Liberty St.
 13432. Apr. 13.—Authorizing C.P.R. to build four bridges on Eastern and Alberta Divisions.
 13433. Apr. 15.—Authorizing C.P.R. to build spur for Blairmore Brick Co., Blairmore, Alta.
 13434. Apr. 15.—Approving agreement be-

tween Bell Telephone Co. and Drummondville Telephone Co. for interchange of business.
 13435. Apr. 15.—Authorizing V.V. & E. Ry. to take certain lands in Vancouver, B.C., for deviation and change of grade.
 13436. Apr. 15.—Ordering C.P.R., G.T.R. and C.N.Q.R. to reduce export rates on lumber, in carloads, to Montreal for export, so that same differences shall exist between them and present domestic rates as existed between old domestic rates and old rates for export, and rescinding order 12301.
 13437. Apr. 13.—Authorizing Seymour Power and Electric Co. to erect wires across Bell Telephone Co.'s wires in Newcastle, Ont.
 13438. Apr. 18.—Extending for three months time for construction of Qu'Appelle, Long Lake and Saskatchewan Ry. spur on Lauriston St., Saskatoon, Sask., as authorized by order 10314, Apr. 19, 1910.
 13439. Apr. 18.—Authorizing Fenlin Leather Co., Montreal, to lay water pipe under G.T.R. on North Bank Lachine Canal, Cote St. Paul, Que.
 13440. Apr. 18.—Authorizing city of Toronto to erect wires across G.T.R. and G.N.W. Telegraph Co.'s wires near Queen St. and Sunnyside Ave.
 13441 to 13443. Apr. 13, 19, 18.—Authorizing Seymour Power and Electric Co. to erect wires across G.T.R. and Bell Telephone Co.'s wires in Durham and Northumberland counties, Ont.
 13444, 13445. Apr. 19.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across C.P.R. and Hamilton, Grimsby and Beamsville Electric Ry. at Ottawa St., Hamilton, Ont.
 13446. Apr. 19.—Authorizing Sherbrooke Ry. and Power Co. to erect wires across C.P.R. at King and Belvidere Sts., Sherbrooke, Que.
 13447. Apr. 19.—Approving Algoma Central & Hudson Bay Ry. location from Hawk Lake Jct. to Hobon, Ont., mileage 0 to 30.23.
 13448. Apr. 19.—Approving plans of G.T.R. freight house and re-arrangement of tracks at Cobourg, Ont.
 13449. Apr. 18.—Approving G.T.R. bylaw appointing W. E. Davis, P.T.M., G. T. Bell, A.P.T.M., and H. G. Elliott, G.P.A., to prepare and issue tariffs for passenger traffic.
 13450. Apr. 18.—Approving plans of G.T.R. subway at Brock Ave., Toronto.
 13451. Apr. 18.—Authorizing C.P.R. to build bridge 107.5 on its Havelock subdivision, Ontario Division.
 13452. Apr. 19.—Approving Essex Terminal Ry. location from lot 75, con. 2, Sandwich West tp., to Saginaw Salt and Lumber Co.'s property, Sandwich, Ont.
 13453. Apr. 18.—Authorizing G.T.P. Branch Lines Co. to cross seven highways on its Toftield-Calgary branch, Alta.
 13454. Apr. 18.—Authorizing C.P.R. to alter certain lines crossing Drew and Givens Sts., Woodstock, Ont.
 13455. Apr. 18.—Authorizing Seymour Power and Electric Co. to erect wires across G.N.W. Telegraph Co.'s wires near Bowmanville, Ont.
 13456. Apr. 18.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across G.T.R. and G.N.W. Telegraph Co.'s wires at Sherman Inlet, Hamilton, Ont.
 13457. Apr. 19.—Authorizing G.T.P.R. to divert road in n.w. ¼ sec. 10, tp. 43, r. 2, w. 4 m., Alta.
 13458. Apr. 19.—Amending order 12013, re installation of gates at John St., Aylmer, Ont., by changing operating hours.
 13459. Apr. 19.—Approving Eastern British Columbia Ry. bylaw authorizing G. H. Martin, G.F. and P.A., to prepare and issue tariffs.
 13460. Apr. 19.—Ordering C.P.R. to build suitable farm crossing for J. Gevart, Young, Sask.
 13461. Apr. 19.—Authorizing G.T.P.R. to divert road in s.w. ¼ sec. 18, 12, 12, 20, w. p.m., Brandon District, Man.
 13462. Apr. 18.—Authorizing town of Pembroke, Ont., to lay pipe under C.P.R. at Pembroke-Mattawa Road.

Interests connected with the Canadian Northern Ry., are reported to have purchased the Western Dominion Collieries, and the Roche Pirce Collieries, situated on the C.N.R. Bienfait, Sask., branch.

The Brown Construction Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$150,000, and office at Winnipeg, to carry on a general construction business, including piers, wharves, canals, bridges, railways, etc. The incorporators are, S. Brown, J. McDole, R. J. Kennedy, E. Coop and E. J. Tarr, Winnipeg.



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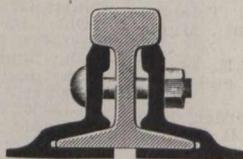
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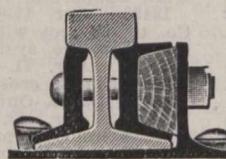
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Orford Mountain Ry.—The Dominion Parliament has authorized the company to build an extension from Mansonville to the International boundary at High-water, Que.

Ottawa, Northern and Western Ry.—The Dominion Parliament has extended the time for the building of the proposed line from Maniwaki to James Bay, Que., and of the extension to Lake Timiskaming.

Grahams Wooden Trestle.—We are officially advised with respect to the reported call for tenders for replacing the wooden trestle at Grahams station, near Ottawa, that it is contemplated to replace the existing trestle by a permanent structure during the current year, but that it has not yet been definitely decided whether it will be of concrete or of concrete and steel.

Montreal-Toronto Second Track.—We are officially advised that a contract for the building of a second track from Smiths Falls westerly to Bathurst, Ont., 19 miles, on the Montreal-Toronto line, has been let to Jones and Girouard, of Ottawa. Work is being started at once, the contractors having opened an office in Smiths Falls. Bathurst is the point from which it is proposed to start the projected line to and along the lake shore to near Locust Hill, on the present line into Toronto, under the charter of the Campbellford, Lake Ontario and Western Ry.

The Board of Railway Commissioners has approved of plans for grade revision between mileage 0 and 16.7, and to revise location of line between mileage 6.2 and 6.9, on the proposed second track from Smiths Falls to Glen Tay, Ont.

Place Viger Improvements, Montreal.—The viaduct on Notre Dame St., between Wolfe and Montcalm streets, will be over 1,000 ft. long and will have on top two tracks for electric railways, two traffic roadways, and two sidewalks for pedestrians. Underneath the viaduct is space for a two story freight shed, upon which work will be commenced immediately. It is expected that the work will be completed by the fall.

It is expected that work will be started in June upon the alterations of the hotel, by the conversion of the part formerly used for station purposes, into additional hotel space. The alterations will provide an additional 12,000 square feet of floor space. The detail plans are being worked out.

Ottawa.—The report of the Ottawa city engineer and W. F. Tye, consulting engineer, Toronto, upon the railway situation has been presented to the city council. The engineers recommend the closing of part of the Rideau Canal, to permit of the construction of a tunnel to be used by all railways, from the central station to the union station, with the cutting of a new canal on the western side of the city. It is also recommended that the G.T.R. cross town lines be taken up, and connection made with the tunnel. The cost of building the tunnel is estimated at about \$1,500,000. The plan recommended follows closely that prepared by the C.P.R. some time ago. In explaining the plan to the city council, April 5, Mr. Tye said it would be the best thing that ever happened to Ottawa if it were carried out. The plan and report were referred to a special committee for full consideration.

The Minister of Railways and Canals is reported as saying that the proposal would require serious consideration. The marine interests would have to be consulted, and the whole project would have to be examined by the Department engineers. Personally, he did not think that the Government should be asked to pay for the building of the new cut

for the canal, but he could not say what would be done when the matter came up for consideration.

Campbellford, Lake Ontario and Western Ry.—The Dominion Parliament has authorized the company to build a line from the C.P.R. between Smiths Falls and Sharbot Lake, southwesterly to Cobourg, and thence westerly to the C.P.R. line between Locust Hill and Leaside Jct., Ont., and has extended the time for the building of previously authorized lines.

Georgian Bay and Seaboard Ry.—The Dominion Parliament has authorized a change in the point of junction of this line, now under construction, with the Montreal-Toronto line, from between "Cavanville and Maberly" to between "Burketon Jct. and Havelock," Ont.

Toronto City Improvements.—The tenants of the houses on the property purchased by the C.P.R. in the block bounded by Cherry, Water, Overend, Tate and Front streets, were notified April 7, to vacate the premises by the end of the month. The land acquired is about three acres and will be laid out as a freight yard with freight shed for the accommodation of the business in the east end of the city.

The question of the building of a new passenger station at North Toronto is still in abeyance, until everything is finally settled as to the route of the Canadian Northern Ontario Ry. in the vicinity.

Men started work April 6, on the site at the corner of Dundas St., and Royce Ave., where a station is to be built. It is expected that this building will be completed in Sept. It will be of brick, one story high with covered platform for passengers.

In connection with the laying out of yards on the Government House site, the company has acquired the old Duke of Cumberland hotel property, in order to provide a suitable space for approach tracks. The question of the closing up of certain streets in order to permit this plan to be carried out is under consideration by the city council, and application has been made to the Board of Railway Commissioners for approval of the plans for laying out the yards.

The buildings at the south east corner of Yonge and King St. are being pulled down, in preparation for the erection of a large office building, in which all the company's city offices will be located.

At West Toronto substantial progress is being made with the bridge and freight shed building at the present station, and with the additional building at the car shops. The property at Elizabeth, Jane and Scarlett streets, which is to be added to the yard, is being cleared and preparations are being made for the building of the subways.

The Board of Railway Commissioners has approved of the location plans for the line from mileage 74.25 to 87.65. An agreement has been reached with the Lindsay town council as to the closing of Carline St. north of Colborne St. Additional plant has been delivered at Lindsay for the Toronto Construction Co., and additional gangs of men are being set to work.

South Ontario Pacific Ry.—We are officially advised that a contract has been let to the Toronto Construction Co., for the building of the line between Hamilton and Guelph Jct., Ont.

The Dominion Parliament has extended the time for the construction of previously authorized lines, and has given power for the building of a line from Guelph Jct., to Hamilton, Ont.

Hamilton, Waterloo and Guelph Ry.—The Dominion Parliament has authorized the company, upon a two-thirds vote of its shareholders, to issue \$1,500,000 of its share capital as preference stock, and to

provide a cumulative dividend therefor not to exceed 6%.

Guelph and Goderich Ry.—The Dominion Parliament has extended the time for the building of the proposed branch line from Woolwich, Peel or Wellesley tps., to St. Marys and Clinton, via Stratford, Ont.

J. W. Leonard, General Manager, Eastern Lines, was in Stratford, Ont., recently, discussing the proposed route for the entrance of the company's lines into that city. The plans provide for a line from Linwood and for another from Embro, which would affect a portion of the city. It is expected that the line from Linwood will be built first. The company favors the adoption of a route through the city along the south bank of the river, with the flats adjoining skating rink for yard purposes. The citizens do not favor this route, on the same grounds that they objected to the route previously proposed on the north bank of the river, but if no other route is available they will consent on conditions which are under consideration.

London Station.—The question of the construction of a union station in London, Ont., is being revived in consequence of surveys which are being made by C.P.R. engineers for the building of a branch line from Pottersburg, or as it is also called, London Jct., to a junction with the London and Port Stanley Ry., (leased to the Pere Marquette Rd.) The P.M.R. has running rights into the G.T.R. station, and the reports say, "if the C.P.R. gets into the city from the south, it will not be long before the question of elevated tracks and a union station are decided for all time to come."

London Roundhouse.—The new roundhouse at London, Ont., for which tenders are under consideration, will be built on standard plans. There will be accommodation for 22 locomotives, the building to have a depth of 95 ft.; and there will be attached a machine shop 51 by 50 ft., and a boiler house 35 by 50 ft. The foundations will be 5 ft. below base of rail; the walls and piers of concrete; all steelwork on the inside to be enclosed with concrete; the floors to be of concrete; the roof to be of mill construction, with 3 in. planking covered with tar and gravel; the smoke stacks and ventilators to be of asbestos construction; the building to be wired for electricity and piped for steam heat. The present turntable is to be utilized for the new house.

Walkerton and Lucknow Ry.—The Dominion Parliament has extended the time for the completion of the section of the line from Walkerton to Lucknow, via Teeswater, Ont.

Collingwood Southern Ry.—The Dominion Parliament has extended the time within which the railway authorized to be built by the statutes of 1907, chap. 77, may be constructed.

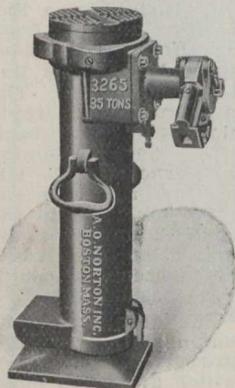
Stobie River Bridge.—The Board of Railway Commissioners has authorized the company to build a bridge over the Stobie River, on the Sault Ste. Marie branch.

Fort William Freight Office.—Tenders are under consideration for the erection of a freight office at Fort William, Ont.

Kenora Subway.—A contract is reported let to C. G. Anderson, Winnipeg, for the construction of a subway under the tracks at Main St., Kenora. The subway will be a little west of the present level crossing and will give a headway of 14 ft. The contract calls for the completion of the work in July.

Winnipeg Shops, Etc.—Tenders are under consideration for the following works at Winnipeg: Extension of freight shed; an unholstering shop, a boiler shop and transfer table.

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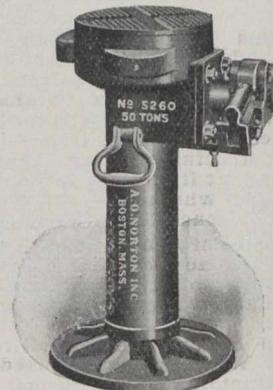


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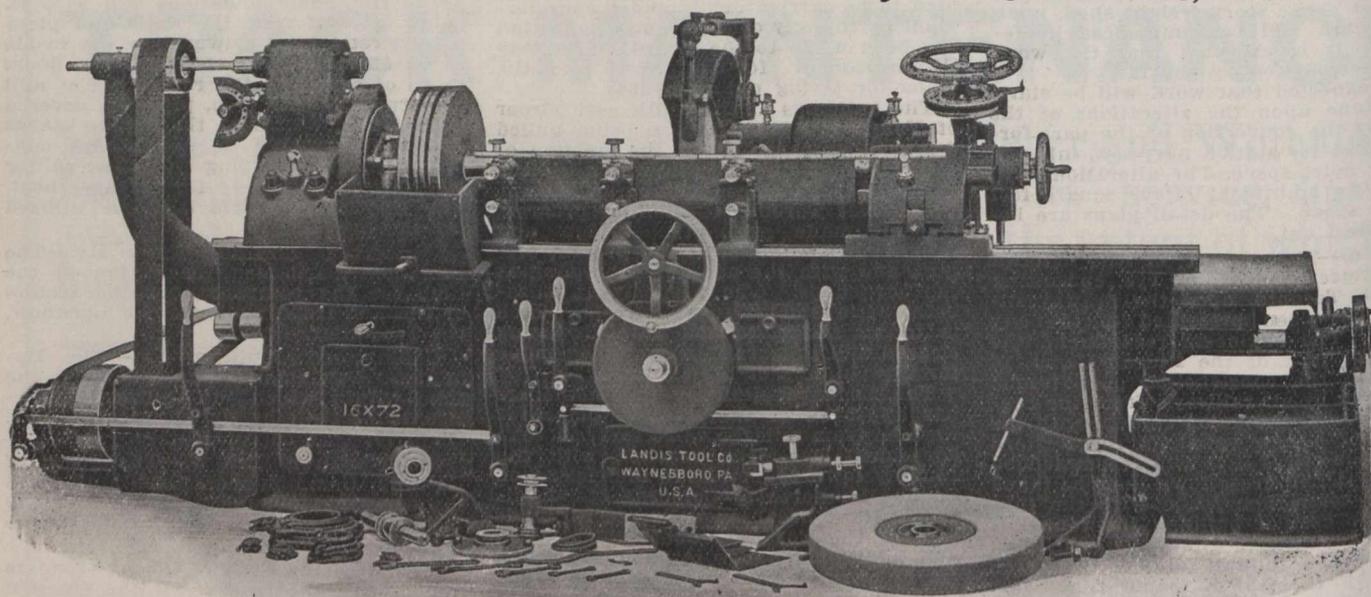
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Western Lines Legislation.—The Dominion Parliament has extended the time within which certain branch lines authorized to be constructed by acts passed in 1901 and 1907 may be built, has authorized the building of additional lines as specified on pg. 23 of our Jan. issue; and has fixed the terminus of the Estevan branch at Forward, instead of as located by par. g, sec. 3, chap. 74 of the statutes of 1907.

Western Line Fencing.—It is reported that 700 miles of fencing will be built on the company's western lines during the summer.

Winnipeg-Brandon Bridges and Culverts.—A contract is reported to have been let to G. H. Archibald, Winnipeg, for the erection of a number of culverts and small bridges on the line between Winnipeg and Brandon, Man.

Manitoba and North Western Ry.—The Dominion Parliament has authorized an extension of time for the construction of the lines authorized to be built by the statutes of 1893, sec. 9, chap. 52, and by the statutes of 1909, sec. 2, chap. 104, and has authorized a change in the location of the terminus of the proposed Theodore-Insinger line from range 18 or 19 to range 16 or 17.

Brandon Station.—Tenders are being invited for the erection of a new station building at Brandon, Man. The work proposed to be done includes the tearing down of the section of the present building opposite the foot of Tenth St. The new building will cover the site of this part of the old building, and the adjacent unoccupied land, extending from the track platform to Pacific Ave. The building will be three stories high on the track front. The main entrance to the station from the city will be on the first floor, where there will be provided a general waiting room, ladies' waiting room, retiring rooms, ticket office, etc. A wide staircase will lead from this to the platforms and on the ground level there will be provided men's waiting room, smoking room, trainmen's rooms, baggage room. The dining room and lunch counter will be located in the east end of the old building, at present used as waiting rooms and ticket office, while the express office will be retained in its present situation. The third floor will be occupied by the officers of the various departments. The building will be of brick with stone trimmings and will be surmounted by a clock tower.

Estevan to Forward, Sask.—We are officially advised that a contract has been let to the J. D. McArthur Co., for the building of 35 miles of line from Estevan northwesterly to a junction near Forward, Sask., with the line running westerly from Weyburn.

The route of this line will be westerly from Estevan, then swinging northerly to a junction with the line running from Weyburn through Forward, near the latter point. The engineer in charge of the construction work is M. McKenzie. The contractors have most of their plant on the spot. It is expected that the line will be completed this year.

Sutherland, Sask.—Press reports state that considerable work is to be done during the current year on the terminal yards at Sutherland, near Saskatoon, Sask. The work, it is stated, includes an extension of the present shops and roundhouse, and a warehouse, together with a travelling crane in the freight yards.

Qu'Appelle Valley.—In connection with the press reports as to the building of a line for 150 miles along the Qu'Appelle River valley, we are advised that the company will eventually build such a line, but no location surveys have been made. We are further advised that there is nothing in the newspaper report that

a summer hotel is to be built by the company at Fort Qu'Appelle, Sask.

Moose Jaw, Southerly.—The route map of this projected branch line from Moose Jaw to Gravelburg, Sask., has been approved by the Minister of Railways. C. Tomkins, Omaha, Neb., arrived with an outfit at Moose Jaw, April 30, and pitched his camp at Lillico, seven miles out of Moose Jaw, on the route of this line. He is reported to have been given a grading sub-contract.

Alberta Division Contracts.—Contracts are reported to have been let as follows: six stall engine house addition at Red Deer, Carter, Hall and Aldinger, Winnipeg; station buildings at Tomkins, Sutherland, Burdett, Bow Island and Redcliffe, J. E. Lussier, Medicine Hat; bunk house at Red Deer, J. M. Eaton, Strathcona; extension to station at Medicine Hat, J. E. Lussier; locomotive foreman's house, Red Deer, J. M. Eaton.

Hotel at Calgary.—The hotel proposed to be erected at Calgary, Alta., will, it is reported, cost about \$1,000,000. An agreement in connection with the proposal came before the council April 4, and after some discussion was passed.

Boundary Lines.—C. S. Moss, Resident Engineer, Nelson, B.C., is quoted as stating that the betterment plans for that district for the year include the erection of two steel bridges to replace wooden structures, at Cascade and Greenwood; the filling of a trestle at Fisherman and five others not yet decided on; the relaying of about 70 miles of track with 85 lb. steel; and a considerable mileage of ballasting.

British Columbia Southern Ry.—The Dominion Parliament has extended the time for the building of various lines. These are extensions to the 49th parallel, and the Tobacco Plains, a branch from the main line about 60 miles west of the eastern boundary of British Columbia; the western section of the line and the branches to Nelson and Martin Creek, as described in the statutes of 1900, sec. 1, chap. 52, and the branch line from Michel to Kananaskis, described in the statutes of 1909, sec. 1, chap. 54.

Kootenay Central Ry.—The company's engineer who will have charge of construction on the extension of this line is H. N. Merriman, who arrived at Golden, B.C., Mar. 29.

A contract has been entered into under the Dominion Act granting aid to certain railways in respect of the construction of a line from Golden, B.C., towards the International boundary, via Windermere and Fort Steele, thence crossing the Crows Nest Pass branch of the C.P.R. near Elko, a distance of 186 miles.

Kootenay and Arrowhead Ry.—The Dominion Parliament has granted an extension of time for the completion of the line between Gerrard and Arrowhead, B.C., authorized to be built by the statutes of 1901, sec. 7, chap. 70.

Pacific Division Betterments.—The company has several gangs at work extending the sidings at various points between Vancouver and Kamloops. Between Vancouver and North Bend, it is reported that 30 new bridges will be erected during the year, and that 13 of the present wooden bridges will be replaced by steel structures.

Pacific Division Contracts.—Contracts are reported to have been let as follows: Ten stall addition to roundhouse and a pattern house at False Creek, Vancouver. The Canadian Dart Co., Vancouver; fire protection system at False Creek yards, J. H. Vickers, Vancouver; oil tanks at C.P.R. wharves, Vancouver, Campbell and Wilkie, Vancouver; station at Abbotsford, A. D. McQuarrie, Vancouver;

addition to station at New Westminster, C. Tossell, Vancouver; new station at Merritt, J. Boch, Merritt; new freight sheds at Harrison Mills, Wolharbin and Savonas, Campbell and Wilkie.

New Westminster Yards.—The reconstruction and the extension of the company's yards at the west end of New Westminster have been completed. Some seven miles of new track have been laid, and provision has been made for future extensions.

False Creek Freight Sheds.—New plans for the proposed 250 ft. extension of the freight shed at False Creek, Vancouver, are being drawn, in order to comply with the city bylaws as to fire protection. The building will be either of brick or concrete.

Carrall St. Subway, Vancouver.—The question of the construction of a subway under the C.P.R. tracks in the vicinity of Carrall St., so as to give access to the water front, is under consideration by the city council. The proposed subway will be 42 ft. wide with two seven foot sidewalks, and the estimated cost is \$225,000. The matter was discussed at a conference with the North Vancouver council April 11, further consideration being postponed to May 11.

Esquimalt and Nanaimo Ry.—In an interview at Vancouver, Mar. 27, on his return from England, R. Marpole, Vice President, is reported to have said he would be in Montreal early in May to consult with Sir Thos. G. Shaughnessy, as to future construction on this line. The extension into Alberni was expected to be completed by the end of June. There might be some delay, however, as the bridge work had been held up owing to inclement weather.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—United States papers say that the recent increase in the capital of the company was made for the purpose of completing the company's terminal facilities at St. Paul, Minneapolis, Duluth and Superior, and the building of additional lines. These lines, it is further stated, include a branch from near Foxboro, Wis., on the Brooton-Duluth line, southerly to Frederick, 65 miles, and a line from Fordville, N.D., westerly to Drake. (April, pg. 339.)

Judgment re Restricted Rates.

In the matter of restricted rates the Interstate Commerce Commission, U.S.A., has given a judgment which is summarized as follows: The Commission adheres to its ruling that "a tariff providing for reduced rates on coal used for steam purposes, or that the carrier will refund part of the regular tariff charges on presentation of evidence that the coal was so used, is improper and unlawful—that is to say, that the carrier has no right to attempt to dictate the uses to which commodities transported by it shall be put in order to enjoy a transportation rate." It also adheres to its ruling that "a carrier, or a person or a corporation operating a railroad or other transportation line may not, as a shipper over the lines of another carrier, be given any preference in the application of tariff rates on interstate shipments, but it may lawfully and properly take advantage of legal tariff joint rates applying to a convenient junction or other point on its own line, provided such shipments are consigned through to such point from point of origin and are, in good faith, sent to such billed destination." Carriers are ordered to cease and desist from maintaining tariffs which contain rates applicable only upon shipments for a particular consignee or when the commodity transported is for a particular use, or rates that are restricted to the use of certain shippers and not open to all shippers alike.

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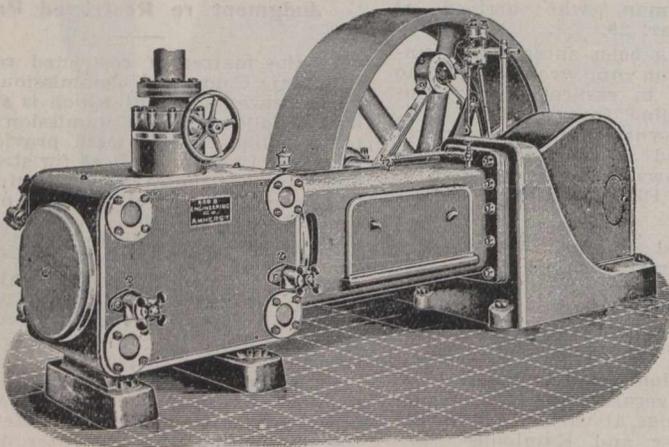
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Union Bank Building, Winnipeg	- W. F. Porter, "
Grain Exchange Bldg. Calgary	- J. F. Porter, "

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

CARTAGE ON SAFES.

13185. Feb. 27, 1911.—Re application of J. and J. Taylor, Toronto, complaining that the note appended to item 35, page 47, of Canadian Classification 15, namely, "Safes of 1,000 lbs. each, or over, to be loaded and unloaded by owners," is unjustly discriminatory against them as manufacturers of safes: It is ordered that the said note to item 35 be struck out, and that the words, "Safes of 1,000 lbs. each, or over," be struck from the list of exceptions to the tariffs of cartage charges of the railway companies.

RATES ON GAS-HOUSE COKE FROM BLACK ROCK.

13215. Feb. 27.—Re application of Thomas Miles and Sons, Ltd., Hamilton, Ont., complaining of advance by G.T.R. in its freight rates upon gas-house coke from Black Rock, N.Y., to Hamilton and other Ontario points, made effective Dec. 12, 1910, by Special Tariff C.R.C. no. E. 2195: It is ordered that the railway company restore the rates on gas-house coke from Buffalo (River St.), Black Rock and Suspension Bridge, N.Y., to the Ontario points shown in its Special Tariff, C.R.C. no. E. 2195, which were in effect on Dec. 11, 1910; the said rates to be made effective not later than April 24, 1911.

MINIMUM WEIGHT ON TOASTED CORN FLAKES.

13228. Jan. 17.—Re application of Battle Creek Toasted Corn Flake Co., Ltd., of London, Ont., for a reduction in the minimum carload weight of toasted corn flakes from London to points west of Port Arthur and Fort William, Ont.: It is ordered that Canadian Classification 15 be amended so as to provide a minimum carload weight of not more than 24,000 lbs. for flaked or cooked cereals (which may be enumerated if the railway companies so desire) when loaded in cars not exceeding 36½ ft. in inside length, subject to the greater minima for cars of greater length provided in rule 1 (b) of the said classification; and that the said flaked or cooked cereals be not removed to a higher class of the said classification by reason of this order; the said amendment to be included in the first supplement to the classification.

This order was amended March 29 by order 13317 by striking out the words, "flaked or cooked cereals" in the operating part of the order and substituting the words "cereals flaked (roasted)."

RATES FROM EASTERN CANADA TO REGINA.

13249. March 15.—Re application of the city of Regina, under secs. 314 and 332 of the Railway Act, for an order directing a reduction in the rates on classes 1 to 10 on goods shipped from Eastern Canada to Regina, Sask., and re application of Canadian Northern Ry. under sec 56 of the Railway Act, for leave to appeal to the Supreme Court of Canada, from order 12520, Dec. 10, 1910: Upon hearing the application in the presence of counsel for the C.P.R. and the C.N.R. respectively, and for the respondent; and upon reading the notice of motion and the affidavit of E. W. Beatty, General Solicitor, C.P.R., and what was alleged at the hearing, the applicants undertaking to get this case set down for hearing at the present sittings of the Supreme Court unless in the view of the Supreme Court itself or a judge thereof, the case should not be set down; and it appearing that in the opinion of the Board questions of law arise: It is ordered that the said railway companies be granted leave to appeal to the Supreme Court of Canada from the said order subject to and upon the terms and conditions following: That the applicants undertake

to set the appeal down for and expedite the hearing thereof at the present sittings of the Supreme Court. That if the appeal be not argued at the present sittings of the Supreme Court, for any reason for which the applicants may be to blame, then the appeal shall not operate as a stay of the said order, unless the Supreme Court, or a judge thereof, shall otherwise order. That the order issued herein, dated Feb. 21, 1911, be repealed.

WHITE PASS AND YUKON RAILWAY RATES.

13292. March 23. Re order 12783, Jan. 18, directing, inter alia, that the respondent companies substitute for Joint Freight Tariff C.R.C. 9 and Joint Passenger Tariff C.R.C. 3, joint tariffs of freight and passenger tolls based on a reduction of at least one-third in each case from the freight and passenger tolls shown in the tariffs disallowed by the said order, the said substituted tariffs to become effective not later than April 1, 1911, and re application on behalf of the respondent companies for an extension of time within which the requirements of the said order may be complied with. Upon its appearing that the respondent companies have petitioned to the Governor-in-Council by way of appeal from the above order; and that the appeal cannot be heard before the date that said tariffs were required to be put into effect; it is ordered that the time at which the tariffs required to be substituted under order 12783, were to become effective, be extended until June 1, 1911.

STAKES AND FASTENINGS FOR FLAT CARS

13326. March 27.—The application of Canadian Manufacturers' Association, British Columbia Lumber and Shingle Manufacturers, Ltd., Montreal Lumber Association, Canadian Lumbermen's Association, Mountain Lumber Manufacturers' Association, and St. John, N.B., Board of Trade, under sec. 284 of the Railway Act, for an order directing all railway companies subject to the Board's jurisdiction to reimburse shippers for any and all expenses to which they are subjected by reason of having to equip flat or other cars with stakes and fastenings, so as to comply with the provisions of order 7599, July 24, 1909; it appearing that the existing allowances from track scale weights to cover variations in the tare of cars, absorption of moisture, accumulations of ice, snow, etc., do not include the weight of the auxiliary material necessary to retain the loads in or upon open cars, except where such provision is specified, inter alia, in the case of racks, and (or) blocking in connection with shipments of bark, machinery, and vehicles. It is ordered that the railway companies file special tariffs, to take effect not later than May 1, 1911, providing for an allowance of 500 lbs. from the weight of each carload in or upon open cars for the weight of such racks, stakes, standards, boards, strips, supports, or other material furnished by shippers, as may be necessary to retain the lading in or upon the said open cars from the point of shipment to the destination thereof, and for which no allowances are specifically prescribed in the existing tariffs or classifications: Provided that the minimum weight prescribed for the said freight or lading by the classification or tariff applicable thereto, shall not be reduced by reason of the said allowance.

CLASSIFICATION RATINGS ON TOBACCO.

13355. March 21. Re application of Canadian Freight Association, under sec. 321 of the Railway Act, for an order approving of proposed Supplement no. 1 to Canadian Classification 15, submitted Dec. 16, 1910. Upon hearing the application at the sittings of the Board held in Ottawa and Toronto on February 21 and 28, 1911, respectively, the applicant association, the Canadian Manufacturers'

Association, The Montreal Board of Trade, the Dominion Tobacco Co., the Imperial Tobacco Co. of Canada, and the Ontario Wholesale Grocers' Guild being represented at the hearing, the evidence offered, and what was alleged, it is ordered that, in so far as the said proposed Supplement no. 1 affects the ratings of tobacco, the application be dismissed.

RATE ON ASPHALT OIL, PHILADELPHIA TO TORONTO.

13356. April 8.—Re application of the Constructing and Paving Co., of Ontario, Ltd., for an order directing that a through rate be established on shipments of asphalt oil in tank cars from Philadelphia, Pa., to Toronto, and that overcharges already made on such shipments be refunded, it is declared that the legal rate chargeable upon the shipments complained of, when routed via the Pennsylvania Rd. from Philadelphia to Buffalo, thence via the Michigan Central Rd., and Toronto, Hamilton & Buffalo Ry., and the C.P.R., was 22c per 100 lbs, the joint tariff fifth-class rate under the Official Classification published and filed with the Board, which rate is still in force. And it is ordered that the C.P.R. be authorized to refund to the applicants the difference between the rate of 22c. per 100 lbs. and the rate collected by it on the said shipments.

Transportation Conventions Etc. in 1911.

May 9-10.—American Railway Industrial Association, Detroit, Mich.

May 15-18.—International Railway Fuel Association, Chattanooga, Tenn.

May 17.—American Railway Association, New York City.

May 22-24.—Railway Storekeepers' Association, Milwaukee, Wis.

May 23-26.—Air Brake Association, Chicago, Ill.

May 23-26.—International Master Boiler Makers' Association, Omaha, Neb.

May 24-26.—Association of Railway Claim Agents, Montreal.

June 14-16.—American Railway Master Mechanics' Association, Atlantic City, N.J.

June 19.—Association of Railway Telegraph Superintendents, Boston, Mass.

June 19-21.—Master Car Builders' Association Atlantic City, N.J.

June 20.—American Association of Freight Agents, Kansas City, Mo.

June 20.—Train Dispatchers' Association of America, Baltimore, Md.

June 20-21.—Association of Transportation and Car Accounting Officers, Cape May, N.J.

June 21.—Freight Claims Association, St. Paul, Minn.

June 22.—American Association of Demurrage Officers, Niagara Falls, N.Y.

July 25-27.—International Railway General Foremen's Association, Chicago, Ill.

Sept. 19.—American Association of General Passenger and Ticket Agent, St. Paul, Minn.

The Contractors' Material Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$50,000, to carry on a general contracting and contractors' supply business, and, in connection therewith to own and operate steam and other vessels, and to act as warehousemen, shipping and forwarding agents.

The Prince Rupert-Nanaimo Collieries Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$1,500,000, to carry on a general colliery business, and in connection therewith to build, acquire and operate, tramways, logging railways, steam and other vessels, docks, and other shipping facilities, and to act as general shipping and forwarding agents.



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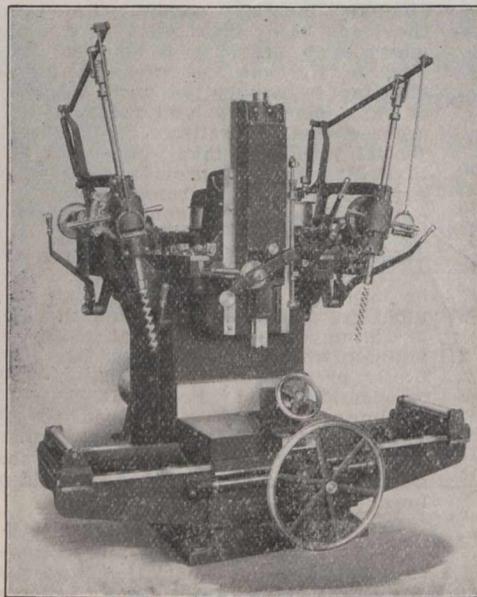
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National Transcontinental Railway.

The Dominion Parliament has voted \$4,500,000 on capital account for surveys and construction work on this railway.

Speaking in Quebec recently, S. N. Parent, Chairman of the Commission having in charge the building of the line from Moncton, N.B., to Winnipeg, Man., said work at the eastern end was so far advanced that tenders would shortly be invited for the building of the stations from Moncton westerly. The site for the station in Quebec, at the Champlain market, had been cleared, and as soon as the plans for the building had been approved by the G.T. Pacific Ry., tenders would be asked for its construction. The work of completing the lines to the site of the Quebec Bridge would be gone on with during the season. Pending the building of the bridge a car ferry service is proposed and plans for the landing places for such a ferry are now under consideration.

Quebec press reports, April 18, state that as a result of the conference between the Commissioners and the directors of the G.T. Pacific Ry., it was decided to add to the dimensions of the station building to be put up. The frontage of the building, it is said, will be increased to 350 ft. and the cost increased from \$750,000 to \$1,500,000.

Replying to questions in the House of Commons, April 5, the Minister of Railways said the reason why only about 28% of the work had been done on contract 12, about 13% on contract 16D, and nothing on contract 13C, was because the work on adjoining sections had not been completed so as to permit of getting in supplies, materials, etc., under favorable conditions. Contract 18E had been started, and about 69% of the work had been done. It was impossible to state exactly when any one of these contracts would be completed, but it was estimated that they would all be finished in 1912.

GRAND TRUNK PACIFIC RAILWAY.

Contracts are reported to have been placed for the erection of about 500 miles of wire fencing in the prairie provinces during the current year.

The company has ordered from the Algoma Steel Co., Sault Ste. Marie, Ont., 18,000 tons of 60 lb. steel rails for early delivery at Fort William, Ont., for use on branch lines in Saskatchewan and Alberta.

The construction programme for the season has been arranged, and the contracts let for the work were finally approved at a conference held at Montreal, April 6, between E. J. Chamberlin, Vice President and General Manager, and C. M. Hays, President G.T.R. and G.T. Pacific Ry. The work, said Mr. Chamberlin, in an interview in Winnipeg a few days previously, for which contracts had been let includes the construction of 645 miles of new branch lines, 265 miles of main line track, 200 miles of grading on branch lines, the erection of 140 station buildings, and a number of steel bridges. The details of the work are referred to below.

The modified plans for the hotel at Winnipeg have been completed by Ross and MacFarlane, architects, Montreal, and provide for the erection of an eight storey building, with about 350 rooms.

In connection with the reported line from Harte to Brandon, Man., we are advised that while people in the vicinity of Brandon have been agitating for the building of such a line, no arrangement has yet been entered into for its construction.

Further work will be done on the line northerly and southerly from Melville, Sask. The southerly branch will be completed into Regina, giving the line a length of 95 miles. Track has been laid on this branch from Melville to Bal-

carres, leaving about 68 miles of track to be laid to complete the line.

The line from Regina, southeasterly to the International boundary, 155 miles, will also be gone on with.

Another line will be started at Regina, with Moose Jaw as its present terminus, but with the intention of ultimately reaching Calgary. In connection with the work in Regina arrangements are being made for the laying out of large terminal yards.

On the branch from Young to Prince Albert, on which 25 miles of track were laid during 1910, further work will be done in the expectation of completing the remaining distance about 72 miles. Grading will be completed on a branch from near Biggar to Battleford, and it is expected to also have track laid this year.

With the exception of the Regina-Moose Jaw line, the contract for which has been let to Rigby and Hyland, the contracts for these lines have been let J. D. McArthur, Winnipeg. A contract for the building of 50 miles of line from Biggar towards Calgary has been let to Foley, Welch and Stewart.

In connection with these lines the following information from the latest report of the Saskatchewan Department of Railways will be of interest.

The Saskatchewan Legislature by chap. 4 of the statutes of 1908-9 voted aid by way of guarantee of bonds for \$13,000 a mile in respect of three branch lines having a total length of 195 miles; and by chap. 5, of the statutes of 1909-10, aid at the same rate in respect of five other branches with a total length of 475 miles; altogether 670 miles. Of these eight lines, construction was carried on during the year ended Feb. 28, 1910, on two lines and 58.22 miles of grading, completed with 50.43 miles of track laid thereon. Following is a list of branch lines subsidized with the work done, up to the date of the report:—

	Total mileage.	Miles graded.	Miles track laid.
Melville-Yorkton branch	40	26.48	26.48
Melville-Regina branch	110	31.74	23.95
Biggar-Battleford branch	45	.....	.....
Regina Southeast	155	.....	.....
Young-Prince Albert branch	110	.....	.....
Regina-Moose Jaw branch	110	.....	.....
Biggar-Calgary branch	50	.....	.....
Cutknife branch	50	.....	.....
Total	670	58.22	50.43

Our returns of track laid in 1910, show that track was laid on an additional 70 miles, including 25 miles on the Young-Prince Albert branch on these lines during that year, and reports as to contracts let show that work is in progress on four of the lines, and that a contract is expected to be let at an early date on the Regina-Moose Jaw line. The matter of the building of the lines from Biggar and the Cutknife branch has not yet been definitely discussed by the management.

In Alberta the only branch line under construction is the one starting at Tofteld, on which steel has been laid to Red Deer River, about 80 miles. A bridge, with a rail level 200 ft. above high water mark is under construction, and as soon as this is completed track laying will be resumed southerly to Calgary. The grading is well advanced, and the contractor, J. D. McArthur, expects to have it completed this year. The railway committee of the Calgary city council has had the plans for the entrance of the line into the city under consideration, and finally approved of them April 1, subject to the company's undertaking to provide for the installation of certain protective devices at the crossings. At Edmonton, it is proposed to erect a large hotel for which plans will be prepared, as soon as certain matters under discussion with the city General Passenger Agent, stated April

3, that these matters were practically decided and that the hotel would be built on McDougall Ave., opposite the Edmonton Club. A line of about 70 miles will be started at Bickerdike, and will run through the properties of the Pacific Coal Co., and the Yellow Head Pass Coal Co., with a branch to the Mountain Park Coalfields. The name of the contractor for the building of this branch has not yet been announced. The main line has been completed to Prairie Creek, about 200 miles west of Edmonton, where a large bridge has just been completed. Another large bridge is under construction over the Athabasca River, some distance westward, and good progress is being made westerly to Tete Jaune Cache, by the contractors, Foley, Welch and Stewart. On the line easterly from Prince Rupert, good progress has been made during the winter on the tunnel work in the Kiteselas Canyon, and the contractors, Foley, Welch and Stewart, will push on with the work during the summer. The 400 mile section to connect up with the line coming westerly is expected to be placed under contract during the summer. We are advised that while surveys have been made, within the last year, for a line from Fort George on this section to Vancouver, B.C., it is not contemplated to make any move towards its construction until after the main line to Prince Rupert is completed.

Since the foregoing was put in type we have been officially advised that the G.T.P.R. management expects to do the following work during the current year:

GRADING MAIN LINE.		Miles
Prairie Creek to Tete Jaune Cache	.....	114
Copper River to Aldermere	.....	140
		254
GRADING BRANCHES.		Miles
Calgary branch (to complete)	.....	117
Battleford branch (to complete)	.....	28
Regina branch (to complete)	.....	30
Regina-Boundary branch (to complete present contract)	.....	40
Regina-Moose Jaw branch (to complete)	.....	35
Prince Albert branch (to complete)	.....	59
Alberta Coal branch (to complete)	.....	48
New branch off same (new contract)	.....	25
Biggar-Calgary branch (new contract)	.....	50
		432
TRACKLAYING, MAIN LINE.		Miles.
Prairie Creek to Tete Jaune Cache	.....	114
Copper River to Aldermere	.....	140
Calgary branch	.....	117
Battleford branch	.....	28
Regina branch	.....	30
Regina-Boundary branch	.....	40
Regina-Moose Jaw branch	.....	35
Prince Albert branch	.....	59
Alberta Coal branch	.....	48
		748

It is also the intention to erect 140 station buildings this season.

Thee G.T. Pacific Branch Lines Co., has been authorized by the Dominion Parliament to build the additional lines mentioned on pg. 1035 of our issue of Dec. 1910, and has been granted an extension of time for building the lines authorized by sec. 11, chap. 99, of the statutes of 1906.

An extension of time for the construction of the Pacific Northern and Omineca Ry., has been granted by the Dominion Parliament. The company was originally incorporated in 1902, and its powers amended by chap. 141 of the statutes of 1906. (April, pg., 331.)

The C.P.R. is arranging for an extensive decoration of its London, Eng., offices, for the coronation. The general scheme, carried out in red and gold, will illustrate the many energies of the Dominion, special emphasis being given to grain-growing, shipping and railway construction. At night the building will be illuminated with several thousands of electric lights.

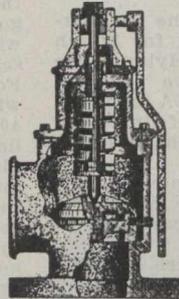
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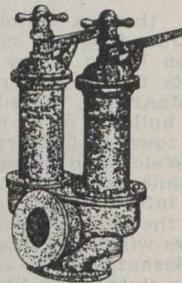
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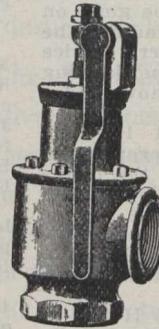
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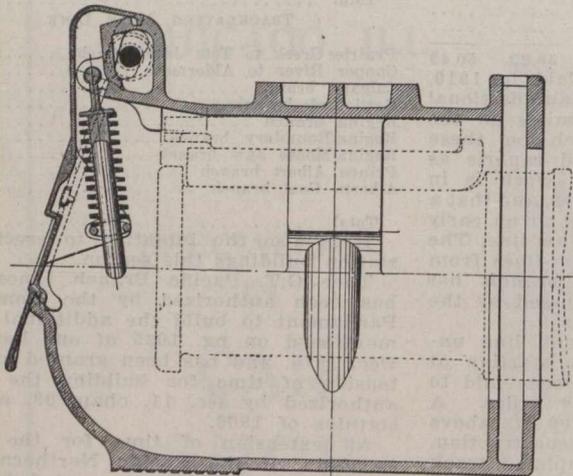
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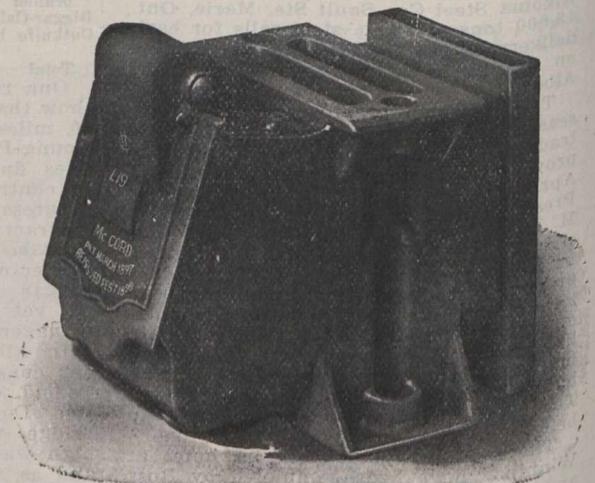
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Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Feb., \$32,640, against \$45,211 for Feb., 1910. Cumulative net profits for eight months ended Feb. 28, \$247,250. Railway traffic receipts for Mar., \$32,171, against \$34,513 for Mar., 1910. Cumulative traffic receipts for nine months ended Mar. 31, \$252,272.

Canadian Northern Ry.—Reference was made in our April number to an issue of stock offered in London. The prospectus issued by Lazard Bros. & Co., March 14, offered 1958,888 3/2% guaranteed first mortgage debenture stock Canadian Northern Ry. and £647,260 similar stock Canadian Northern Alberta Ry., both unconditionally guaranteed as to principal and interest by the Dominion Government. The issue price was \$94 10s.

Dominion Atlantic Ry.—Gross earnings for Feb., \$75,600 against \$81,421 for Feb. 1910. Aggregate gross earnings for eight months ended Feb. 28, \$896,606, against \$964,004 for same period 1909-10.

The Dominion Parliament has authorized the company, subject to the provisions of sections 361, 362 and 363 of the Railway Act, to enter into an agreement with the C.P.R., to lease its railway and undertaking to the C.P.R., and providing that the approval of the C.P.R. shareholders of such agreement or lease shall be sufficient, if the provisions of sec. 6, chap. 47, of the statutes of 1890 are complied with.

Grand Trunk Ry.—The Dominion Parliament has enacted that any of the various classes of stock issued or to be issued by the company shall be transferable under conditions set forth in the laws, notwithstanding the general provisions of the Railway Act, the company is also authorized to acquire and dispose of the capital stock, or other securities of the Montreal and Southern Counties Ry.; to guarantee G. T. Western Ry. bonds to the extent of \$30,000,000; to issue additional 4% perpetual consolidated debenture stock, as required to an amount upon which the aggregate annual charge for interest shall not exceed \$100,000, such stock to rank equally with existing consolidated debenture stock, and the proceeds of such stock to be utilized for the purchase of such stocks, bonds, etc., as the company may acquire under the authority of the G.T.R. act of 1910, and the present act. The several provisions of this act are only to come into effect when assented to by the shareholders at a general meeting held for that purpose.

A release of the mortgage, dated May 8, 1894, to C. Percy and Hon. D. Tisdale, as trustees, to secure an issue of bonds of \$100,000, on the Parkhead and Owen Sound Branch, and a conveyance of the property to the G.T.R., have been deposited with the Secretary of State at Ottawa.

Intercolonial Ry.—The following amounts have been voted on account of collection of revenue by the Dominion Parliament, \$9,500,000; \$250,000, and \$25,000, the latter being on account of the Windsor branch.

Manitoulin and North Shore Ry.—A mortgage and trust deed, dated Mar. 1, 1911, between the M. & N.S. Ry. Co. the U. S. Mortgage and Trust Co., as trustee, and the Lake Superior Corporation, as guarantor, securing an issue of 5% first mortgage 50 year gold bonds of \$3,000,000, has been deposited with the Secretary of State, at Ottawa.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—A circular issued by E. Pennington, President, April 17, states that on April 13, 1909, the company

offered for subscription to its shareholders, for the purpose of purchasing a majority of the common stock of the Wisconsin Central Ry. Co., completing its terminals at St. Paul, Minneapolis, Superior and Duluth, purchase of equipment, payment for betterments, etc., \$6,048,000 of its capital stock. The expenditures necessary for the above purchase and for the construction of additional mileage having exceeded the amount provided for by the issue above referred to, at a special meeting of directors held March 13, 1911, a resolution providing for an issue of \$6,562,200 of capital stock was adopted, viz: 21,874 shares of preferred and 43,748 shares of common, which is to be offered at par to shareholders at the rate of 21 shares of new stock for each 100 shares held. The subscriptions for both kinds of stock are to be at the ratio of one share of preferred to two shares of common.

Nelson and Fort Sheppard Ry.—The discharge of a mortgage given by the N. & F. S. Ry. Co., July 1, 1893, to the Minneapolis Trust Co., as security for debentures, has been deposited with the Secretary of State, at Ottawa.

Missisquoi Marble Co.—Supplementary letters patent were issue Mar. 30, increasing the capital stock from \$500,000 to \$1,000,000. The company owns the Phillipsburg Ry and Quarry Co., Phillipsburg, Que.

Nova Scotia Steel Co.—Following are the directors for the current year:—R. E. Harris, Hon. J. D. McGregor, Hon. R. Jaffray, Hon. J. S. Pitts, T. Cantley, J. W. Allison, K. W. Blackwell, R. E. Chambers, F. Ross, G. S. Campbell, J. C. McGregor, G. F. McKay, F. Stanfield, L. C. Webster, W. D. Ross. The directors were by resolution of the annual meeting held in New Glasgow, Mar. 30, authorized to increase the capital to \$8,530,000 by the issue of an additional \$1,500,000 of common stock.

Prince Edward Island Ry.—The Dominion Parliament has voted \$450,000 on account of collection of revenue in respect of the current year's operations on this railway.

Quebec and Lake St. John Ry.—Total earnings for March, \$41,832.82, against \$49,598.53 for March 1910. Aggregate total earnings for three months ended Mar. 31, \$118,147.60, against \$119,592.54 for the same period, 1910.

Sydney and Louisburg Ry.—The Nova Scotia Legislature has made some minor amendments in the company's charter of incorporation, statutes of 1910, chap. 171. (Feb., pg. 113.)

Temiscouata Ry.—There was a deficit on operation for Jan., of \$841.

Temiskaming and Northern Ontario Ry.—Receipts for Feb., \$115,804.41; expenditure \$86,375.24; balance \$29,429.17; ore royalties \$7,863.98; total \$37,293.15; hire of equipment \$2,407.46; net result \$34,885.69.

Earnings for March, \$131,791, against \$146,369 for March 1910.

White Pass and Yukon Ry.—Gross earnings for seven months ended Jan. 31, \$803,259.

The Supreme Court, at Ottawa, gave judgment, Apr. 3, in the case of the appeal of E. A. Walberg, in connection with the building of the I.C.R. shops at Moncton, N.B., for which he had the contract. Certain extra work was ordered, for which a claim of \$105,000 was made and which was contested in the Exchequer Court and \$53,000 found by the Registrar to be the fair value of work done. The judge of the Exchequer Court increased the award to \$93,000, being the amount claimed, less damages to workmen, etc. This was appealed against and the Supreme Court has given judgment for \$53,000, the appellant to pay the costs of the appeal.

Great Northern Ry. Lines in Canada.

Midland Great Northern Ry.—Arising out of a motion at the meeting of the Winnipeg city council, Mar. 21, to rescind the agreement of April, 1910, certain questions in connection with the proposed new agreement have been discussed by the Ratepayers Association. It is alleged that the proposed new agreement paves the way for the abandonment of the plan for the erection of a station facing Paulin St., and the carrying of the traffic to the union station at Fort Garry. The Ratepayers' Association, April 7, passed a resolution to the effect that no plans providing for the entrance of the company's line into the city would be satisfactory unless the Paulin St. station was erected. L. C. Gilman, Assistant to the President, G.N.R., was in the city at the time of the meeting and discussed the matter with representatives of the Association. It is said that an appeal will be made to the Board of Railway Commissioners on the subject.

A letter was received April 12, by the President of the Ratepayers Association from L. W. Hill, President, G.N. Ry., in which it was said, "After giving this question of the erection of passenger terminals on Paulin St. the most careful study we reached the conclusion that it was not best to erect at once a passenger station in connection with our present development." It was added that "permanent freight terminals would be at once established," the question of passenger terminals being "left for future determination."

A United States press report states that work is to be started early in June upon the terminals in Winnipeg, and upon the construction of a line from Winnipeg southerly to the International boundary.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Board of Railway Commissioners has approved the location of the extension of this line from Otter Summit, mileage 17, to Tulameen, mileage 39, B.C.

The Board of Railway Commissioners has extended the time for the building of the branch line from near McLean's Drive to Park Lane, Vancouver.

The Board of Railway Commissioners has approved revised location plans mileage 12 to 16 from Coquihalla Summit.

A contract has been let to H. Chase & Co., Seattle, Wash., for the filling in of the trestle to be built at the head of False Creek, Vancouver, from Park Lane to the western end of Grand View cut. Work on the trestle was started Mar. 27, and the contractor's equipment for filling in arrived a week later. Five carloads of steel for the new Park Drive bridge at Grandview cut have been delivered. The filling in will be done by earth taken from the Grandview and Park Drive cut, which will be lowered about 15 ft. at the deepest part of the cut, reducing the grade through there to about 1%. It is estimated that about 1,000,000 cubic yards will be secured from the Grandview cut when the permanent slope has been made on the cut there.

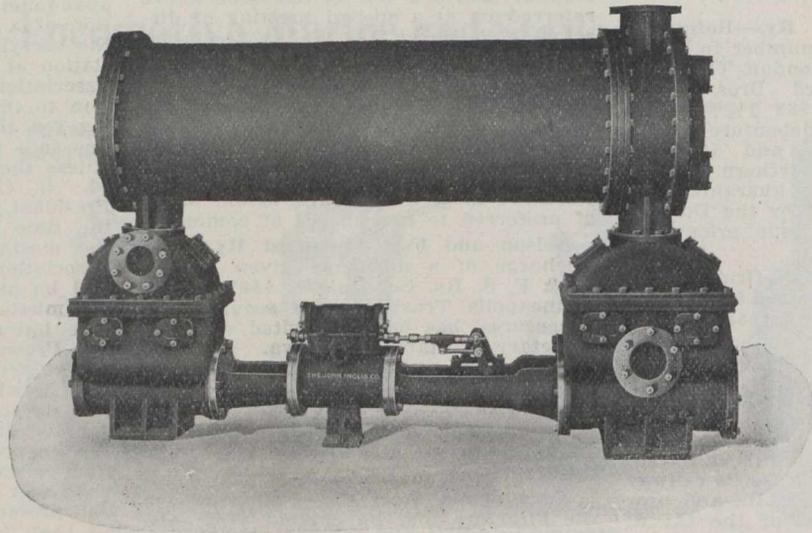
A contract is reported let to Chase and Co., Seattle, Wash., for the building of an oil car trestle for the supply of oil to the oil burning locomotives on the division, pending the building of a permanent oil tank. (April, pg. 347.)

Victoria and Sidney Ry.—It is expected that the new buildings, which include a passenger station and freight shed, will be completed and ready for occupation early in May. April, pg. 347.)

The G.T.R. shops at Stratford, commenced working a 55 hour week, Apr. 1, instead of a 50 hour week, which has been the rule since last fall.

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— OFFICE AND WORK —

ESPLANADE STREET EAST, TORONTO

Canadian Northern Ry. Construction, Etc

Canadian Northern Quebec Ry.—The Dominion Parliament has authorized the construction of a line from Rawdon to a junction with the National Transcontinental Ry., with a branch from near Rawdon to Joliette; and a line from St. Jerome to St. Eustache, Que.

The Quebec city council is being asked to pass a resolution asking the Provincial Government not to grant any further subsidies to the C.N.Q. Ry. lines without insisting upon the company carrying out its alleged obligations with the city to construct workshops within its limits in return for a subsidy of \$200,000. It is claimed that the contract was entered into with the old Great Northern Ry., and the subsidy paid over, but that the shops were not built. The C.N.Q. Ry., is the successor of the G.N. Ry.

The Board of Railway Commissioners has ordered the company to fence this line from Hochelaga to the limits of Montreal, to erect gates at certain crossings; and to provide gatekeepers at others. The Montreal city engineer has reported in favor of the company's proposal to close Robillard St., from Marlborough to Moreau streets, for the purpose of laying additional tracks, but against the closing of Stadacona St., from Moreau St., for 600 ft. westwards. The company is remodelling the building in Montreal, at 226, 228 and 230 St. James St., corner of Dollard Lane, which it purchased recently. When the alterations are completed the rail and steamship ticket, express and other offices will be located on the ground floor, while the upper floors will be utilized for offices.

Canadian Northern Ontario Ry.—The Dominion Parliament has granted an extension of time for the construction of the various lines authorized to be built by par. c, sub-pars. i to x, of sec. 5, and the statutes of 1909; and a line from Berlin through Guelph, Acton and Brampton to Toronto.

The Board of Railway Commissioners has approved of the revised location plans for the line near Billings Bridge, mileage 2.3 to 3.02, from Ottawa on the Toronto-Ottawa line; and has heard an application for the approval of the location plans for the route at Smiths Falls, mileage 37.8 to 40.8 from Ottawa. Some opposition was made to these plans on the part of residents of Smiths Falls, and the Commissioners reserved judgment. The company's right of way agent stated at Smiths Falls, April 5, that all the right of way between Ottawa and Smiths Falls had been secured, and also most of the land required for the line between Smiths Falls and Sydenham. It is expected that a contract will shortly be let for the construction of the line from Ottawa to Sydenham, and that work will be commenced on it during the summer.

Between Toronto and Sydenham, work is well advanced and it is expected to have a train service in operation early in the fall. Track has been laid on 95 miles, and some short stretches have to be completed to connect with the Central Ontario Ry. at Trenham, and the Bay of Quinte Ry., the tracks of which will be used to Sydenham. Further on towards Ottawa, the Ry. will be joined up, and a portion of the mileage used. The Dominion Parliament has authorized these two companies to enter into agreements with the Canadian Northern Ontario Ry., and the Ontario and Ottawa Ry., or either of them.

The Board of Railway Commissioners has approved revised location at Smiths

Falls, mileage 37.8 to 40.8 from Ottawa; the building of a subway at Kingston Road, Hamilton tp., Ont.; the diversion of certain public roads in Loughborough tp., Ont., and the crossing of the Brockville, Westport and North Western Ry. at Brockville Jct., mileage 189.34 from Toronto.

A map of a proposed entrance into Hamilton, Ont., filed with the city council there, Mar. 30, shows a route from Eronte, to the eastern boundary of Wentworth county, south of and parallel with the G.T.R., to the centre of the city, then crossing to the north of the G.T.R. and paralleling it out of the city. The city council authorized its engineer to protest to the Board of Railway Commissioners if the plans filed interfered with Dundurn Park, or necessitated any level crossings. The city council will take the plans into consideration May 15.

In connection with the proposed line from Ottawa to Port Arthur, a press dispatch from the latter city Mar. 30, stated that the city council had been informed that construction would be started there as soon as weather permitted, while a later dispatch stated that Foley, Welch and Stewart have been given a contract for a section of the line easterly. The Board of Railway Commissioners has approved of location plans for the line in McTavish and Sibley tps., Thunder Bay districts, mileage 524.96 to 548.45.

Canadian Northern Ry.—The Manitoba Legislature has provided for the guaranteeing of the company's 4% bonds up to \$13,000 a mile, in respect of the construction of the following additional lines of railway:— From the termination of the line mentioned in par. 3, chap. 53, of the statutes of 1910, northerly and north westerly for 50 miles; from Deloraine, to the western boundary of the province, about 60 miles; and from Ste. Rose du Lac northerly to near Winnipegosis, about 50 miles.

Press reports state that the new station at Fort Garry, Winnipeg, which is to be used jointly with the C.N.R., by the National Transcontinental Ry., and the G.T. Pacific Ry., will be ready for opening in July. The subway under the tracks at Pembina St., Winnipeg, is expected to be completed by May 31. Work is progressing and is expected to be completed early in May, on a bridge across the Assiniboine River, east of the Main St. bridge. The bridge is provided with a bascule lift span, so as to permit of the ordinary navigation of the river.

Plans have been received at Dauphin, Man., for the erection of a new station building. They show a two story structure, 170 ft. by 30 ft., to be built of brick on a stone basement. On the ground floor will be waiting rooms, ticket office, baggage and express rooms, while upstairs will be offices for the train dispatchers and the general office staff.

The Board of Railway Commissioners has issued an order authorizing the opening for traffic of the portion of its branch line between Luxton and Bienfait, Sask.

Plans were submitted to the Moose Jaw city council, Apr. 12, showing the route of the proposed entrance into the city.

The Saskatchewan Legislature by chap. 3, of the statutes of 1908-9 voted aid by guarantee of bonds for \$13,000 a mile in respect of 410 miles of branch lines; and by chap. 4, of the statutes of 1911, similar aid was voted in respect of 575 miles of branch lines, a total of 987 miles. The report of the Provincial Department of Railways for the year ended Feb. 1910, shows that work has been done on eight of the 15 lines,

355.13 miles of grading having been completed and 138.13 miles of track laid. Following is a list of the branch lines subsidized, their total mileage, miles graded, and miles of track laid:—

	Total mileage.	Miles graded.	Miles track laid.
Craven to Adams Ferry	40	.....	.....
Goose Lake line	120	70.00	50.00
Bienfait branch	25	16.40	16.40
Maryfield branch	135	123.60	43.60
Dalmeny branch	40	28.13	28.13
Battleford-Jackfish branch	50	40.00	.....
Thunderhill branch	25	10.00	10.00
Kaiser-Swift Current branch	135	.....	.....
Humboldt-Melfort branch	60	.....	.....
Delisle branch	35	.....	.....
Maryfield-Hartney branch	65	.....	.....
Moose Jaw South East branch	100	.....	.....
Maryfield line extension	75	.....	.....
Crooked Lake branch	60	40.00	.....
Rosburn extension	20	.....	.....
Prince Albert - Battleford branch	.....	27.00	.....
Total	985	355.13	138.13

Our track laid returns for 1910 show that 250.84 miles of track were laid in Saskatchewan during the year, on six of these lines, so that it would appear that track has been laid on about one-half of the mileage aided by the Government.

The C.N.R. is building a line from the east with the intention of reaching Lethbridge. This is an extension of its Maryfield branch, and local reports state that it will ultimately be extended into the Flathead Valley, B.C., where those interested in the company own large areas of coal lands. The route, so far as surveyed, is stated to have been run in a nearly straight line to a point south-east of Lethbridge, crossing the Alberta Ry. and Irrigation Co.'s line, entering the town, and then proceeding westerly to the Flathead Valley. This is a local report, and, as the plans are not definitely settled, may be considerably altered before it is finally arranged to start construction.

In connection with the branch from Vegreville to Calgary, construction is being proceeded with between the Bow and the Belly rivers, and it is expected that the branch line will be completed this season. Local reports state that it has been decided not to build the line across the Elbow River at present, but to erect a station on the south side of the river, probably near the crossing of Second St. A branch from this line is under construction from Stettler into the Brazeau River country. About 70 miles of grading has been completed, and the steel laying gang started work in Stettler April 11.

A number of contractors have been going over the different lines on which work is to be done during the year, and arranging for starting operations. The construction work in Saskatchewan and Alberta, it is said is being divided between the Cowan Construction Co., and the Northern Construction Co., and the smaller contractors have been looking over the work in company with representatives of these companies.

We were officially advised Apr. 20, that the Cowan Construction Co. has been given a contract for 100 miles on the main transcontinental line, from the Pembina River westerly towards the Yellowhead Pass. The Northern Construction Co. has been given a contract for about 100 miles on the Brazeau extension, which runs westerly from the Vegreville-Calgary line, near Stettler, Alta. The Northern Construction Co. also has the contract for the completion of the Vegreville-Calgary line from the Red Deer River to Calgary.

Canadian Northern Branch Lines Co. The Dominion Parliament has incorporated a company with this title to build branch lines for the C.N.R. The location of the lines authorized is given on pg. 1031 of our issue of Dec. 1910.

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66-68 FRAZER AVE.

Canadian Northern Pacific Ry.—It is expected to have the grading on the section of the line from Port Mann to Matsqui, B.C., completed by May 1, and the grading from Matsqui to Hope, by Sept. 1. Track laying is expected to be started at Port Mann early in May. Tenders will be received to May 12 for the construction of the line from Hope to Kamloops, 163 miles, in four sections as follows:—Hope to Boston Bar, 40 miles; Boston Bar to Lytton, 28 miles; Lytton to Ashcroft, 44 miles; Ashcroft to Kamloops, 51 miles. The work is to be completed within two years.

Duluth, Winnipeg and Pacific Ry.—The contractors for the tunnel at Duluth, Minn., on this line are the Wick, O'Connor Co., and they expect to get it finished in May. The tunnel is 155 ft. long, and is on a 7 degree curve. (April, pg. 345.)

C. P. R. Dividend Announcement.

Sir Thomas G. Shaughnessy, President, issued the following circular to shareholders recently:—

Pursuant to the intimation given at the last annual meeting, your directors have considered and formulated a plan by which the shareholders may in the future receive greater advantage from the extraneous assets of the company than they have in the past.

Amongst the securities held by the company there are bonds and stock to the face value of about \$46,000,000 on which the company receives, or is entitled to receive, direct payments of interest or dividends, and there is the amount represented by the land mortgages and cash proceeds of land sales to the value, on a conservative basis, of \$6,500,000, of which the company became the owners in whole or in part in connection with the acquisition of branch railway lines. Besides these there are, of course, your unsold lands in the agricultural belt approximating 7,300,000 acres.

It has always been the practice to separate in the annual accounts the revenue from land and townsite sales from the other income of the company, and it is now proposed to adopt the same policy with reference to interest on investments, dividends, rentals and like sources of income other than the receipts from the railway and steamship lines, incorporating the income from these items in one fund which, of course, will vary in amount from year to year, and from which the directors will make such a periodical distribution, as in their opinion may be warranted by circumstances, in addition to the regular dividend that may from time to time be declared on the ordinary shares.

It is estimated that the interest and dividend return from these sources will be about \$4,500,000 during the current year; so that even now it will only be necessary to supplement this amount by a comparatively small contribution from the land funds to represent 3% on the outstanding common shares, and, therefore, it was decided to make a distribution on that basis, commencing with the quarter ended Dec. 31, 1910.

Your directors have every reason to hope and believe that the regular dividend of 7% per annum from the net revenue of the railway and steamship lines can be maintained, so that with a payment of 3% from other income, you will be receiving a return of 10% per annum on your common stock without encroaching to any appreciable extent on the vast assets, now at your disposal, that will increase in amount as population increases and as your lands are sold, and that will remain available for the fortification of your property in any exigency that may arise.

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

Vermont-Rhode Island Plans.—Tenders have been asked for the construction of the first section of the proposed Southern New England Ry., and the developments on the other portions of the Central Vermont Ry., connected with it. This section will be 25 miles long, and will extend from the C.V.R. tracks at Windsor, to the Rutland Rd. yards at Bellows Falls, Vt. A second section for which tenders will be asked later on, will start from the Rutland Rd. yards at Bellows Falls, extend to Dummerston, Vt., and will enter Brattleboro, Vt., over the lines of the West River Rd., a subsidiary of the C.V. Ry.

The Southern New England Rd., is asking the Rhode Island Legislature for authority to cross New York, New Haven and Hartford Rd. tracks at grade in Providence, with a view of reaching a site for a terminal dock on the west shore of Narragansett Bay. The Providence city council approves of the crossing, and suggests that the Legislature permit the use of the N.Y., N.H. and H. Rd. tracks in the city as well. It is reported that the company has secured 2,300 ft. of water frontage at Field's Point, adjoining a large area which the State Government proposes to acquire. The U.S. Government is spending a large sum in dredging the river so as to permit of the entrance of the largest ocean going steamers.

Lachine, Jacques Cartier and Maisonneuve Ry.—The Dominion Parliament has declared the company's line to be a work for the general advantage of Canada; extended the time fixed for construction; continued an agreement made in 1910 with the city of Montreal, and authorized the company to enter into agreements with other railway companies.

Montreal Track Elevation.—The G.T.R. plans for the elevation of its tracks in Montreal have been completed, and have been sent to the Board of Railway Commissioners for consideration. The proposal is to elevate the tracks from Bonaventure station to St. Henri, thus doing away with all level crossings.

That the company has purchased St. Joseph's church on Richmond St., in connection with the track elevation plans and the proposals to rebuild the Bonaventure St. station, is denied by G.T.R. officials. The company, in view of the difficulties in the way of obtaining the land necessary, has, officials state, decided to modify its plans by removing everything possible to the Turcot yards, and retaining at Bonaventure only such buildings, etc., as are absolutely necessary.

Ottawa Improvements.—The Board of Railway Commissioners has rescinded the order passed Mar. 7, approving plans for train shed, etc., at the central union station.

Referring to the report as to the tunnel at the Rideau Canal, W. Wainwright, Second Vice President, is quoted as having stated April 5, that he was not in a position to discuss the matter officially on behalf of the company, but personally, it did not appeal to him. In addition to having to remove its Parry Sound line, and placing it in the tunnel, the carrying out of the proposal would do away with the company's freight yards. General Superintendent Donaldson, is quoted as saying April 5, that the project did not meet with the approval of the G.T.R. That company had an alternative proposal, which would be laid before the authorities.

Barry's Bay to Bancroft.—Local press reports state that G.T.R. engineers have been working in the vicinity of Barry's Bay and Bancroft, Ont., for some time, endeavoring to secure a location for a route for a branch from its Canada At-

lantic Ry., into the district. Such a line would run through the Bessemer iron range.

Hamilton Station.—The Hamilton, Ont., Board of Trade has been informed by the General Passenger Agent, that the company has under consideration a proposal to build a new station in that city.

London, Huron and Bruce Ry.—A new siding half a mile long is being built at Clinton, Ont., to facilitate the working of trains off this line, in making connections with the Buffalo-Goderich line. It is proposed to reballast the entire line during the year. (April, pg. 335.)

Trade and Supply Notes.

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

Burton W. Mudge & Co., 124 South Michigan Boulevard, Chicago, have issued an illustrated circular respecting the Adams motor car for railway service.

Curtis's & Harvey (Canada), Limited, has been incorporated under the Dominion Companies Act with a capital stock of \$250,000, and head office at Montreal, to manufacture explosives, etc., and with other powers.

The Cleveland branch of the American Chemical Society at its March meeting was addressed by W. R. Hulbert, manager of sales, Goldschmidt Thermit Co., on the Thermit welding processes. In addition to a general description of the process and its various applications, which lantern slides, he gave a demonstration of Thermit welding, comprising a number of experiments to show how the process is used commercially for repairing wrought iron and steel sections, and for welding pipes up to 4 ins. in diameter.

A booklet treating of the adzing and boring of railway ties and of driving screw spikes by power or hand which has been issued by Greenlee Bros. & Co., Rockford, Ill., is of special interest to construction and maintenance of way officials. It deals with machining ties and illustrates and describes their automatic tie adzing and boring machine, its installation and operation, also their motor spike driving car, locomotive track work car, light service screw spiking car, ratchet and tee handle spike wrenches, hand machines for tie boring and tie boring tools.

Greenlee Bros. & Co., Rockford, Ill., have issued a new edition of their sectional catalogue of railway car shop and special woodworking machinery which is one of the finest specimens of commercial printing that has ever come into our office. The full line of machines, which are beautifully illustrated and fully described, include mortisers, borers, rip saw benches, cut-off saws, tenoners, gainers, and vertical saws, jointers, variety woodworkers, sash and door machines, stockers and outside moulders, cutter heads and specialties, chisels, bits, augers and other tools. Their machinery sales office is in the Railway Exchange Building Chicago, Ill.

The Michigan Central Rd. shops at St. Thomas, Ont., have been placed on full time, having been working short time since December, 1910.

M. E. Bywell, formerly accountant and cashier at the C.P.R. Empress Hotel, Victoria, B.C., was arrested at New Orleans, recently, on a charge of embezzling \$3,500 from the hotel.

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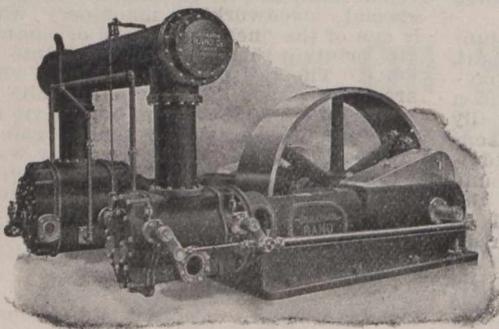
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TORONTO, CANADA, MAY, 1911.

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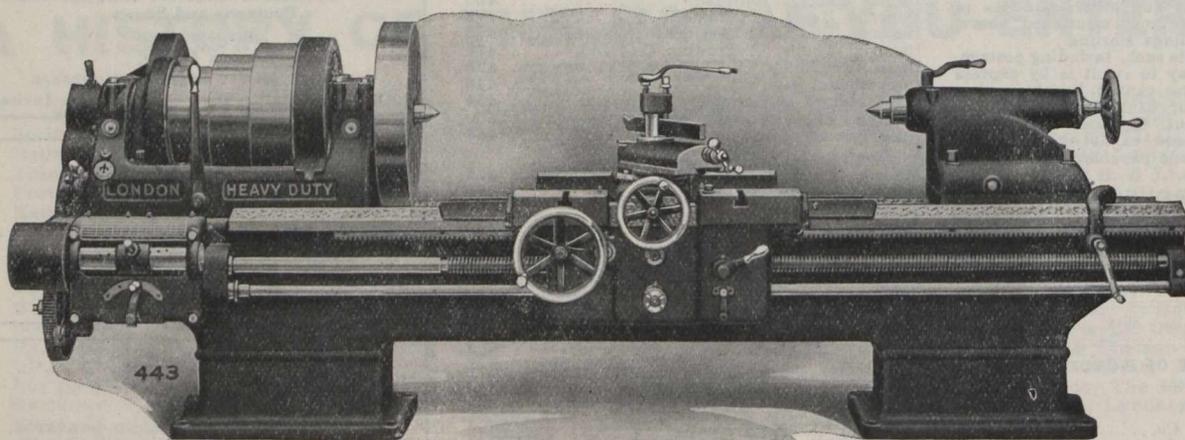
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The Quebec Bridge Contract.

The Minister of Railways announced in the House of Commons, April 5, that the contract for the erection of the superstructure of the bridge over the St. Lawrence River near Quebec had been signed. He said that the straightening out of the difficulties surrounding this undertaking had been a work fraught with much anxiety and not a little industry. The undertaking was such a vast one that the engineers on the board realized that every step should be made only after the fullest investigation. Differences of opinion arose between these able men which were altogether of a technical nature, and could only be understood by men with a theoretical knowledge and practical experience in bridge building. The original intention, and in fact the scheme contemplated until very recently, provided for roadways, and street railway traffic, as well as

steam railway tracks. The majority of the Board, after full consideration, recommended the acceptance of the St. Lawrence Bridge Co.'s tender, upon a design of its own, which included provision for street railways and driveways. In doing so, it called attention to the fact that another design had been submitted by the company for a purely railway bridge. By the adoption of the latter proposition, it was pointed out that a very material saving could be made. The Government fully considered this suggestion and, as a result, the contract has been signed with the St. Lawrence Bridge Co., for a railway bridge which will also have two 4 ft. sidewalks. The cost of this will be at the estimated quantities, \$8,650,000. There has been deposited with the Government as security for the carrying out of this project, \$1,297,500 or 15% of the contract price. The stockholders in the Dominion Bridge Co., and of the Canadian Bridge Co., organized the St. Lawrence

Bridge Co., but in addition to the last named company signing the contract, the two parent companies have guaranteed the carrying out of the work. Considering the very many difficulties that had surrounded this entire project, he was of opinion that the very best possible contract had been made, and fully believed that these purely Canadian companies were competent to accomplish the task they had undertaken, and that the result would be a credit, not only to Canada, but to the ability of the men at the head of these great industries. The province of Quebec contributed \$250,000 and the city of Quebec \$300,000 to the original bridge scheme, and it was but fair that these amounts should be returned.

The contract was signed by the Minister of Railways and Canals, representing the Government; Phelps Johnson, President of the St. Lawrence Bridge Co. and J. F. Weber, secretary, while Mr. Johnson again signed as Vice President

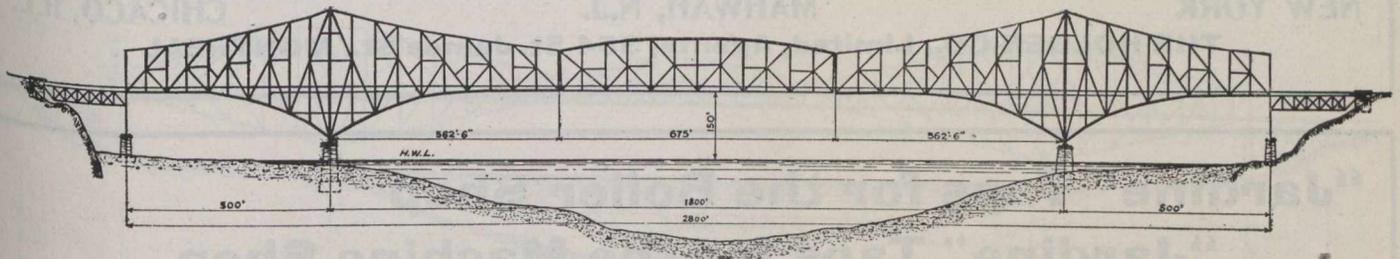


Fig. 1. The Quebec Bridge, which collapsed before completion, Aug. 29, 1907.

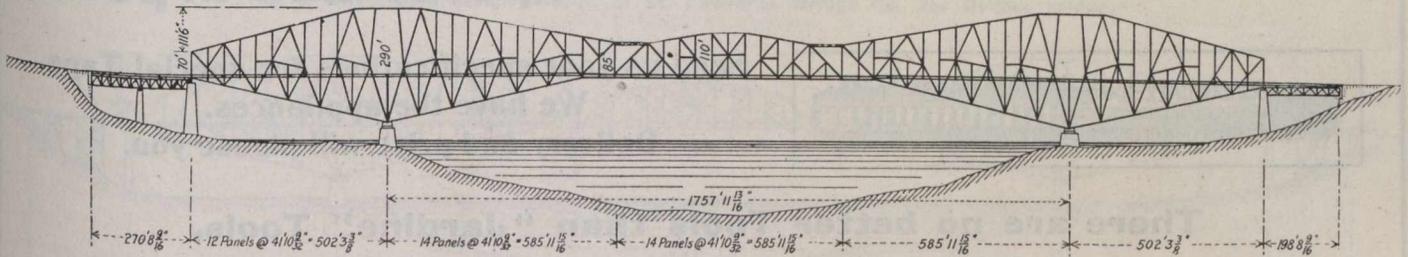


Fig. 2. Official design V, by Board of Engineers, for new bridge.

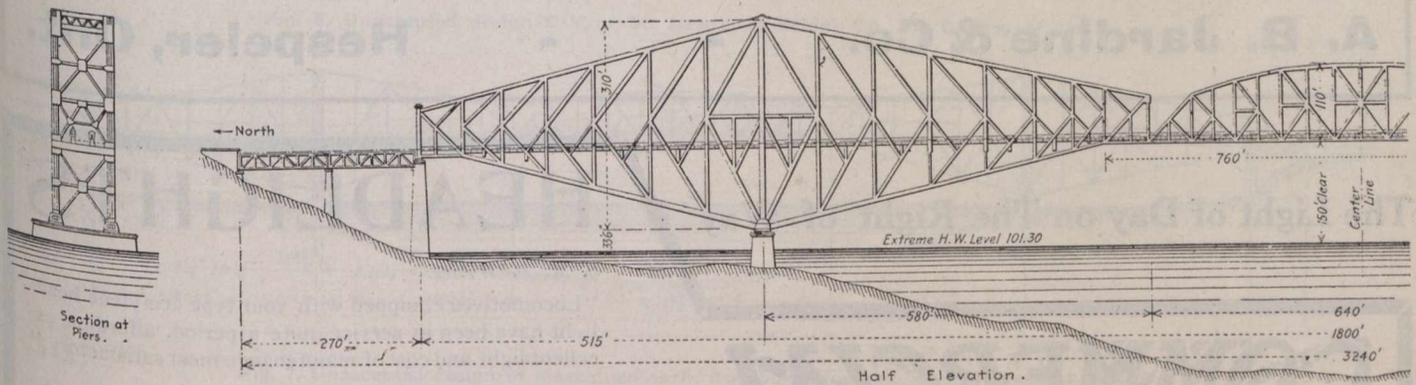


Fig. 3. Accepted design of St. Lawrence Bridge Co., for new bridge.

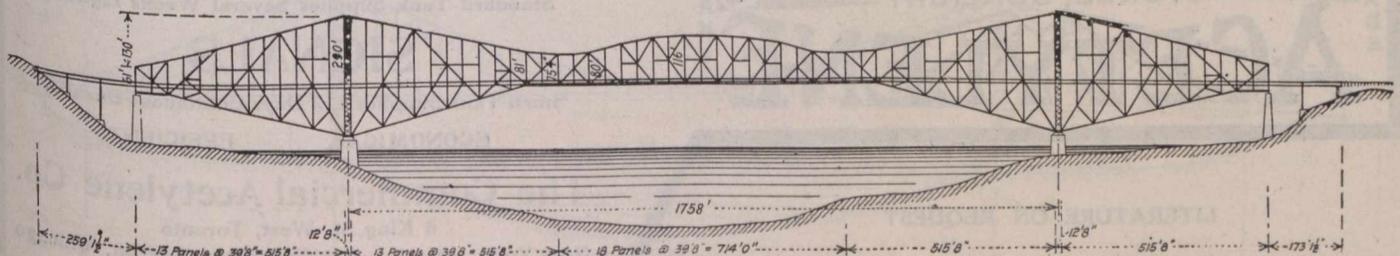


Fig. 4. Unaccepted design M-N of St. Lawrence Bridge Co., for new bridge.

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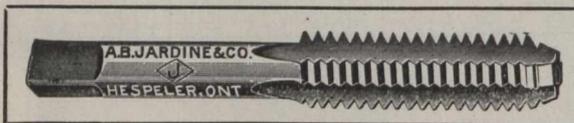
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of the Dominion Bridge Co., with M. Davy as secretary. The Canadian Bridge Co., of Walkerville, was represented on the signed document by F. C. McMath, President, and Mr. Miller, secretary. Press reports state that the contractors will at once expend \$1,000,000 upon a new plant for the purpose of carrying out the contract, and that orders have been placed in the United States for the manufacture of the steel for the bridge.

The St. Lawrence Bridge Co.'s board is as follows:—President, P. Johnson; Vice President, F. C. McMath; Secretary, J. F. Weber; other directors, C. Cassils, F. L. Wanklyn, G. H. Duggan, W. Pope, and B. S. Colburn.

Certain additions were made to the contract at the instance of the Department of Labor, the Minister of Labor stated April 6, providing for the payment of current rates of wages on the work, and for the inspection by the Min- as steam railway tracks could have been successfully constructed and erected,

ister of Labor at his discretion of the rates paid.

In the House of Commons, April 11, the Minister of Railways said the engineers, while expressing the view that a bridge on the design including roadways and electric railway tracks as well were of the opinion that serious difficulties could be obviated if the design on which the contract has been let were adopted. Add to this the great difference in cost, and he thought it would appear evident that the wiser course was pursued. The engineers brought to the attention of the government the fact that over several large bridges electric lines use the same tracks as the steam railways, and they expressed the belief that this could be done on the Quebec bridge. The following are comparative figures:—

With roadways, etc.	Weight of metal, not including weight of material used in making of roadways	182,200,000 lbs.
	For railway bridge only	95,900,000 lbs.
	Difference in weight	36,300,000 lbs.

Cost as per estimated quantities—	
With roadways, etc.	\$11,171,100 00
With road material	75,000 00
Rails for tramways	5,000 00
Approaches for roadway	200,000 00
Total	\$11,451,100 00
Cost of design adopted for railway only, on estimated weight	8,650,000 00

Difference in cost 2,801,100 00

The Government has suggested that \$550,000 contributed by the Province of Quebec and the city of Quebec for roadway purposes on this bridge, can be handed back to them and still there will be a saving of 550,000 00

\$ 2,251,100 00

The Dominion Parliament has voted \$333,333.34 on account of construction of the bridge.

The Minister of Railways stated in reply to a question in the House of Commons, Mar. 29, that the Department had no record of any investigation being held as to the advisability of construct-

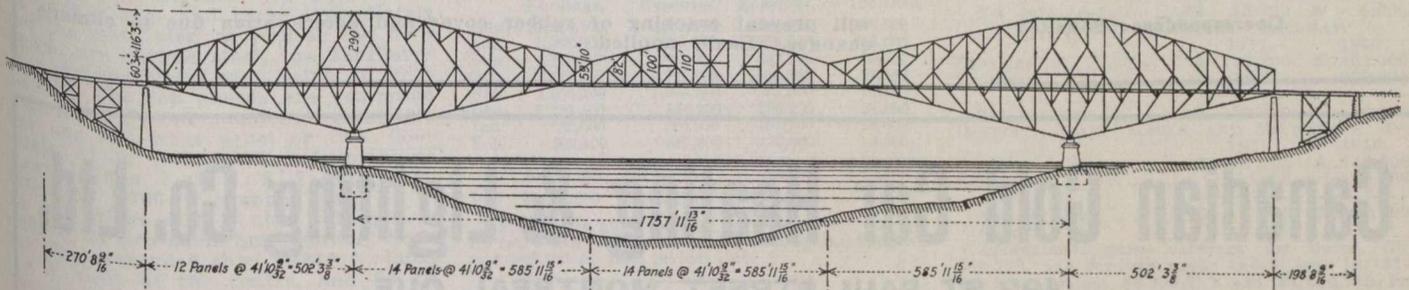


Fig. 5. Unaccepted design A-B-X, of St. Lawrence Bridge Co., for Quebec bridge.

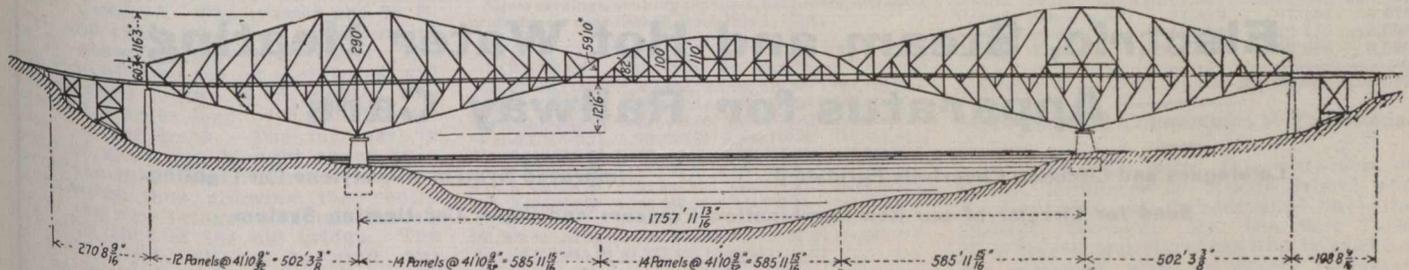


Fig. 6. Unaccepted design C-Y of St. Lawrence Bridge Co. for Quebec bridge.

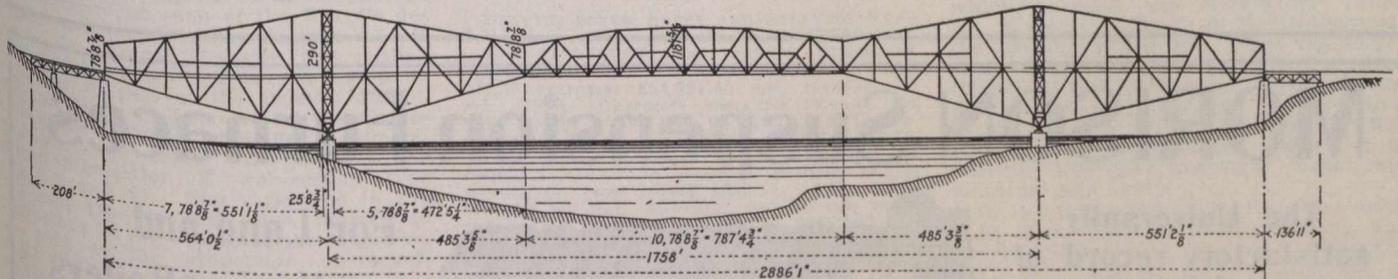


Fig. 7. Unaccepted design of Maschinenfabrik Augsburg-Nuerenburg, for Quebec bridge.

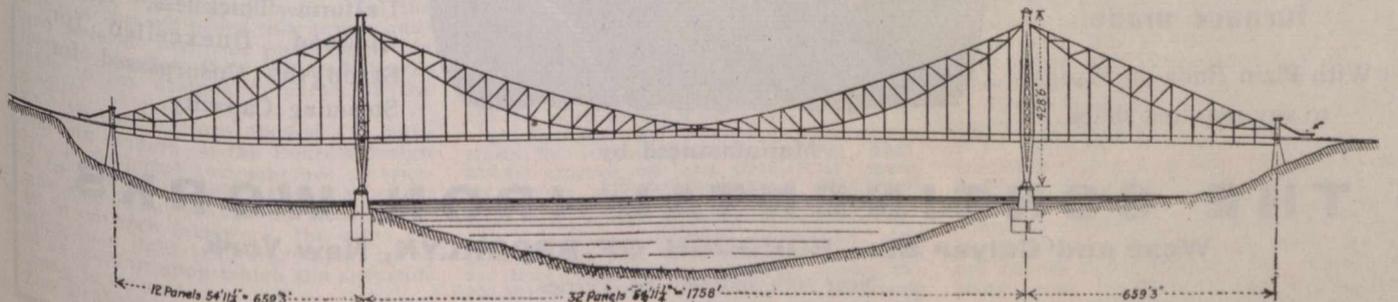
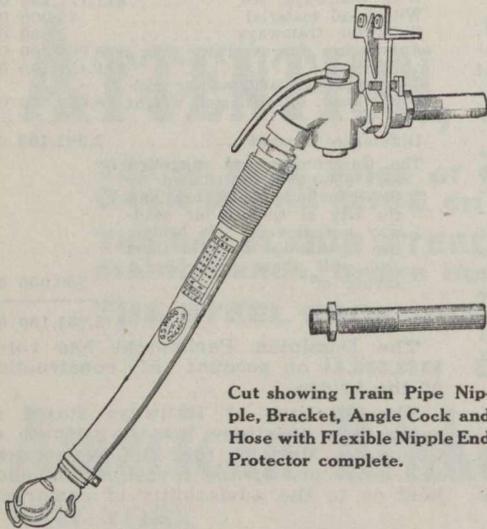


Fig. 8. Unaccepted suspension design (Lindenthal) of Pennsylvania Steel Co., for Quebec bridge.



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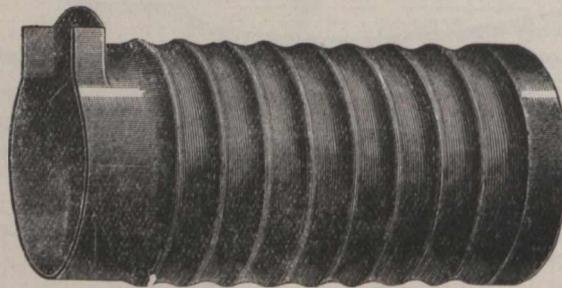
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ing a tunnel under the St. Lawrence River at Quebec, in lieu of a bridge.

On pages 435 and 437 are a number of plans. Fig. 1 shows the bridge in course of construction, which collapsed Aug. 29, 1907. Fig. 2 shows the Board of Engineers' official design, on which tenders for the new bridge were invited. This was for a cantilever bridge with anchor arms and cantilever arms of the same length, the suspended span to be erected by cantilevering out. Five modifications of this design were also prepared by the Board, a tender on any of the six propositions being considered a tender on the Board's design. Two of these schemes were based on erecting the suspended span by cantilevering out, while the remaining four were based on erecting the suspended span at an adjacent site and floating it into position.

Fig. 3 shows the St. Lawrence Bridge Co.'s accepted design. The bridge will have the K web-system in the cantilever and anchor arms, the suspended span being a modified Pratt. All members in the anchor arm and those immediately over the main pier, as well as the floor system, are carbon steel, the cantilever arms and suspended span being of nickel-steel. The top chords are composed of built-up riveted members extending over one full truss panel or two floor panels. This design differs from those shown in figs. 2, 4, 5, 6, 7 and 8, by having an 1,800-ft. channel span, as in the old bridge. It is also different in making no provision for highway traffic. The suspended span is 640 ft. long, 110 ft. deep at the centre, and 70 ft. deep at each end. The cantilever arms are 580 ft. long, 70 ft. deep at the end, and 310 ft. high over the main post. The anchor arms are 515 ft. long, as at present designed. The trusses are 88 ft. apart, and there is a clear headroom of 150 ft. above extreme high water. The train load allowed for on each track will be equivalent to two E-60 engines, followed by a train load of 5,000 lbs. per lineal foot of track. The increase in length of span was brought about by a rearrangement in the manner of sinking the caissons, thus allowing the centre line of the new bridge to remain coincident with that of the old bridge. The old main piers will not be used, but will be taken down to low water level, the stone being re-used in the new piers.

In addition to the design which has been accepted, the St. Lawrence Bridge Co. tendered on each of the Board's designs, and on six other designs of its own. In general elevation and outline the designs submitted by the company conform to that of the Board's design. Two of these designs are of the single-intersection Warren type (fig. 4), the remaining five being variations of the single-intersection K web-system type (figs. 5 and 6). The variations in the details of the members, as well as the proportion of nickel-steel and carbon steel used in the construction. The accepted design was that as well as by the additional experts appointed by the Government. In the opinion of the engineers this design contained several features, particularly in respect to erection, that rendered it preferable to the designs prepared by the Board.

The British Empire Bridge Co. submitted six tenders on the Board's design only. It proposed two schemes of erection in connection with the floating in the suspended span; one floating in span in on high falsework, the other by using a light temporary span to be used as staging upon which the suspended span is erected.

The Pennsylvania Steel Co. submitted 10 tenders on the Board's design and one tender on an eyebar suspension span

designed by Gustav Lindenthal (fig. 8). This company submitted prices on two schemes of erection of the suspended span. In one scheme the suspended span is floated in on high falsework, while in the other the entire span is lifted directly from the pontoons by a special lifting device.

Maschinenfabrik Augsburg-Nuerenburger A. G. tendered on three of the Board's designs. It also submitted a tender on a design of its own (fig. 7). The principal features of this design are the large panels, the small number of members in the web system and the length of the suspended span. The material proposed was a chrome-nickel-steel. Built-up riveted members were to be used for tension members throughout.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses and net profits from July 1, 1910, with increases over, or decreases from, those of 1909-10:

	Earnings.	Expenses.	Net.	Net Increase.
July	\$1,225,100	\$876,900	\$348,200	118,600
Aug.	1,093,000	830,000	263,000	58,600
Sept.	1,279,000	898,700	381,200	69,700
Oct.	1,627,800	1,047,800	580,500	99,800
Nov.	1,565,400	1,006,500	558,900	11,500
Dec.	1,255,400	896,200	359,200	24,800
Jan.	822,600	720,900	101,700	20,800
Feb.	803,100	667,300	135,800	4,300
	\$9,672,300	\$6,943,800	\$2,728,500	\$366,500
Inc.	\$1,391,800	\$1,025,300	\$366,500	

Approximate gross earnings for Mar. \$1,627,000, and for two weeks ended April 14, \$634,800, against \$734,100, and \$503,100, for same periods 1910.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1909-10, from July 1, 1910:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease
July	\$8,869,214.32	5,384,594.73	\$3,484,619.59	1,004,748.86+
Aug.	9,255,331.67	5,563,659.54	3,691,672.33	727,614.46+
Sept.	9,315,213.07	5,403,614.03	3,911,599.64	479,710.47+
Oct.	10,229,570.77	5,724,210.25	4,505,160.52	118,863.33+
Nov.	9,413,238.22	5,676,115.96	3,737,122.26	44,784.31+
Dec.	8,705,283.99	5,418,750.10	3,286,533.87	171,110.79-
Jan.	5,740,206.34	5,084,098.47	656,117.87	660,478.52-
Feb.	6,375,576.57	5,230,869.06	1,144,707.51	342,311.73-

\$67,903,435.55 \$43,485,901.94 \$24,417,533.61 \$1,544,041.97+

Inc. \$5,881,445.09 \$4,337,403.12 \$1,544,041.97

Approximate gross earnings for Mar. \$8,648,000, and for two weeks ended April 14, \$4,035,000 against \$7,667,000 and \$3,776,000 for same period 1910.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for Feb., \$190,805.29; expenses, \$174,341.03; net revenue, \$16,464.26, against \$213,702.93 operating revenue; \$158,921.33 expenses; \$54,781.60 net revenue for Feb., 1910. Aggregate operating revenue for eight months ended Feb. 28, \$2,126,261.74; expenses, \$1,484,411.95; net revenue, \$641,849.79, against \$2,144,772.38 aggregate operating revenue; \$1,473,882.20 expenses; \$670,890.18 net revenue for same period 1909-10. Approximate earnings for Mar., \$230,162, and for two weeks ended Apr. 14, \$106,947, against \$279,102 and \$124,540 for same periods 1910.

MINERAL RANGE RD.—Operating revenue for Feb., \$57,730.72; expenses, \$58,019.62; deficit, \$288.90, against \$63,208.13 operating revenue; \$60,874.36 expenses; \$2,333.77 net revenue for Feb., 1910. Aggregate operating revenue for eight months ended Feb. 28, \$500,386.88; expenses, \$491,766.12; net revenue, \$8,620.76, against \$571,670.35 aggregate operating revenue; \$489,294.32 expenses; \$82,376.03 net revenue for same periods 1909-10. Approximate earnings for Mar., \$65,960, and for two weeks ended Apr. 14, \$27,293, against \$69,870 and \$27,155 for same periods 1910.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Operating revenue for Feb., \$895,326.46; expenses and taxes, \$756,417.47; operating income \$138,908.99, against \$843,090.22 operating revenue; \$654,679.38 expenses and taxes; \$188,410.84 operating income for Feb., 1910. Aggregate operating revenue for eight months ended Feb. 28, \$8,956,243.50; expenses and taxes, \$6,053,412.46; operating income, \$2,902,831.04, against \$10,648,617.24 aggregate operating revenue; \$5,909,674.87 expenses and taxes; \$4,738,942.37 operating income for same period 1909-10. Approximate earnings for March, \$1,645,005, and for two weeks ended Apr. 14,

\$788,951, against \$1,880,360 and \$874,651 for same periods 1910.

CHICAGO DIVISION.—Operating revenue for Feb., \$648,023.72; expenses and taxes, \$544,555.84; operating income, \$103,467.88, against \$652,753.80 operating revenue; \$472,371.36 expenses and taxes; \$180,382.44 operating income for Feb., 1910. Aggregate operating revenue for eight months ended Feb. 28, \$6,552,091.85; expenses and taxes, \$4,677,171.05; operating income, \$1,874,920.80, against \$5,653,263.08 aggregate operating revenue; \$3,999,685.86 expenses and taxes; \$1,653,577.22 operating income for same period 1909-10.

Grand Trunk Ry. Earnings, Expenses, Etc.

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

GRAND TRUNK RAILWAY.			
	1911.	1910.	
Earnings	\$2,326,800	\$2,248,000	
Expenses	1,995,700	1,866,000	
Net earnings	\$331,100	\$382,000	
CANADA ATLANTIC RAILWAY.			
	1911.	1910.	
Earnings	\$121,000	\$116,000	
Expenses	133,900	111,000	
Net earnings	*\$12,300	\$5,000	
GRAND TRUNK WESTERN RAILWAY.			
	1911.	1910.	
Earnings	\$497,600	\$461,000	
Expenses	415,400	372,000	
Net earnings	\$82,200	\$89,000	
DETROIT, GRAND HAVEN AND MILWAUKEE RY.			
	1911.	1910.	
Earnings	\$157,100	\$140,000	
Expenses	160,000	118,000	
Net earnings	*\$2,900	\$22,000	

*Deficit. Approximate gross earnings for March, \$3,909,773, and for two weeks ended Apr. 14, \$1,748,951, against \$3,793,257 and \$1,640,783 for same periods 1910.

TRAFFIC RECEIPTS OF THE SYSTEM. Aggregate from Jan. 1 to Mar. 31:—

	1911.	1910.	Inc.
Grand Trunk Ry.	\$1,614,249	\$1,545,426	\$68,823
Canada Atlantic Ry.	91,839	87,164	4,675
G.T. Western Ry.	329,154	310,159	18,995
D.G.H. & M. Ry.	100,548	93,958	6,590
Totals	\$2,135,790	\$2,036,707	\$99,083

New England Connections With Canada.

In connection with the extension of G.T.R. influences in Rhode Island and Vermont, through its controlled line—the Central Vermont Ry., the New York, New Haven and Hartford Rd., is working out extension plans to secure Canadian connections independent of its existing affiliations. The N.Y., N.H. and H. Rd., controls the Boston and Maine Rd., which operates the Massiwapipi Valley Ry. in Quebec. The B. & M. Rd. controls the Maine Central Rd., owns the Herford Ry. in Quebec, and the Princeton Branch of the Washington County Ry. in New Brunswick. Through the two lines in Quebec, the N.Y., N.H. and H. Rd. secures connections which enables it to operate through passenger cars into Montreal and Quebec.

In the U.S. a ten-mile line is being built from Hinsdale to Brattleboro, Vt., which will have the effect of making the N.Y., N.H. and H. Rd., independent of the Central Vermont Ry., over which it had running powers into Brattleboro. The Montpelier and Wells River Ry., the Barre Ry., and the Barre Rd., have been acquired by interests associated with the B. and M. Rd., and according to President Mellen will be amalgamated with it. These lines will give the B. and M. Rd. a direct connection with the granite quarry areas in Central Vermont. The N.Y., N.H. and H. Rd., has also secured trackage rights over the Boston and Albany Rd. from the New York Central and Hudson River Rd., and from the same company interests allied with the B. and M. Rd. have purchased 25,520 1/2 preferred shares of the Rutland Rd. This company owns the Rutland and Noyan Ry., 3.39 miles in length, in Canada, and has trackage rights from Noyan Jct. into Montreal, 53 miles.

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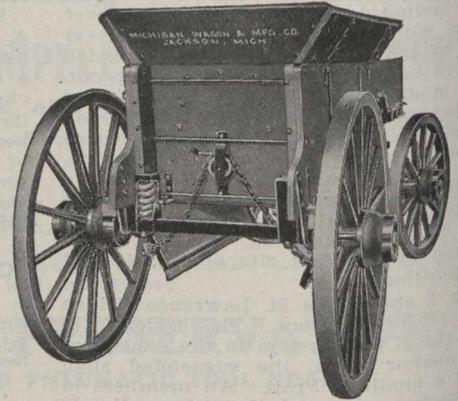
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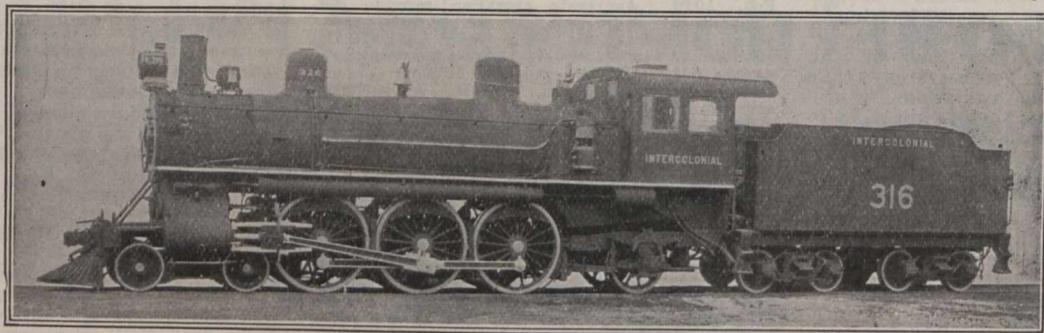
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Railway Rolling Stock Notes.

The Dominion Parliament has voted \$21,750, for additional rolling stock for the Prince Edward Island Ry.

The Hart-Otis Car Co. has ordered 45 special steam shovel clay cars from the Canadian Car and Foundry Co.

Allis-Chalmers-Bullock, Limited, has ordered two special skidding and logging engine cars from the Canadian Car and Foundry Co.

The G. T. P. R. has received three colonist cars, nos. 3017, 3019 and 3020, from the Canadian Car and Foundry Co., Montreal.

The Intercolonial Ry. has received one stores car from the Nova Scotia Car Co., Halifax, and has ordered one van to be built at its Moncton shops.

The Canadian Northern Ry. has deposited with the Secretary of State at Ottawa a bailment of rolling stock, made with the Imperial Rolling Stock Co., Mar. 29, 1911.

The Montreal and Southern Counties Ry. (G.T.R.), has ordered one electric motor combination passenger and baggage car, and one electric motor flat car, to be built at the G.T.R. Montreal shops.

The Dominion Iron and Steel Co. has ordered from the Canadian Car and Foundry Co. 50 all steel coal cars, 100,000 pounds capacity, with Westinghouse air brakes, Simplex brake beams and bolsters, and Janney couplers.

The Laprairie Brick Co., Laprairie, Que., and the Victoria Harbor Lumber Co., Victoria Harbor, Ont., have each received one four wheeled locomotive, of which we gave details in our last issue, from the Montreal Locomotive Works.

The Canadian Northern Ry., between Mar. 16 and Apr. 13, ordered the following additions to rolling stock: 50 Hart convertible cars from the Hart-Otis Car Co., Ltd., Montreal, and 50 steel underframe flat cars from the Canadian Car and Foundry Co., Montreal.

The 21 Hart-Otis steel dump coal cars which the Intercolonial Ry. has ordered from the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue, will be of 100,000 lbs. capacity, and will be equipped with Westinghouse air brakes, Simplex brake beams and bolsters, and Janney couplers.

Allis-Chalmers-Bullock, Limited, has ordered from the Canadian Car and Foundry Co. one standard Lidgerwood unloader car for a 60 ton pull rapid unloader, the car to be equipped with Westinghouse air brakes, Simplex brake beams and bolsters, and the engine of the unloader to be protected by a hood.

The Dominion Steel Corporation Ltd., has ordered one mogul freight locomotive, cylinders 19 by 26 ins., driving wheels 50 ins., total weight in working order, 129,000 lbs.; and one consolidation freight locomotive, cylinders 21 by 26 ins., driving wheels 50 ins., total weight in working order 178,000 lbs., from the Montreal Locomotive Works.

The Dominion Iron and Steel Co. has ordered from the Canadian Car and Foundry Co. 25 flat cars with wood underframe, 25 gondola cars for limestone, and 60 wooden ore cars lined with steel. The capacity of all these cars is 80,000 lbs. They are to be equipped with Westinghouse air brakes, Simplex brake beams and bolsters, and Janney couplers.

The Dominion Parliament has voted the following sums on account of rolling stock for the Intercolonial Ry.:—to improve triple valves of air brakes, \$7,150; to provide air brakes for freight cars, \$12,160; to exchange drawbars of freight cars, \$2,000; to equip passenger cars with fire extinguishers and tool boxes, \$6,400; rolling stock, \$133,200.

The G.T.R., since Jan. 30, has ordered

six first class coaches to be built in its Montreal shops, and has received 602 steel under frame box cars, and 442 all steel coal cars, from the Canadian Car and Foundry Co., Montreal, three first class coaches from its Montreal shops, and 12 consolidation locomotives from the American Locomotive Co.

The Canadian Northern Ry., between Mar. 16 and Apr. 13, received the following additions to rolling stock: 285 box cars and two first class cars from the Canadian Car and Foundry Co., Montreal; eight cabooses from the Crossen Car Manufacturing Co., Cobourg, Ont., and two baggage and mail coaches from the Preston Car and Coach Co., Preston, Ont.

The British Columbia Electric Ry. has ordered from the Canadian Car and Foundry Co., for its Victoria lines, one steel one-way dump car with cab, for which the Canadian Westinghouse Co. will furnish the electric equipment; also two steel one-way dump cars without cab, to be used as trailers. The capacity of each car will be 40,000 lbs. They will be used in construction work.

The C.P.R., between Mar. 14 and Apr. 14, placed orders for rolling stock as follows: two superintendents' business cars, 61 box cars, five stock cars, two freight refrigerator cars, one second class car, three vans, two snow ploughs, and two G2 locomotives at its Angus shops, Montreal; four steel flat cars, one steel coal car, and one Hart ballast car, with the Canadian Car and Foundry Co., Montreal.

The Sydney and Louisburg Ry. has ordered one consolidation locomotive and one mogul locomotive from the Montreal Locomotive Works. Following are the chief dimensions:—

	Consolidation.	Mogul.
Weight in working order	178,500 lbs.	129,000 lbs.
Weight on engine truck	20,000 lbs.	16,500 lbs.
Weight on drivers	158,500 lbs.	112,500 lbs.
Weight of tender	92,000 lbs.	103,000 lbs.
Wheel base, driving	15 ft.	12 ft. 6 in.
Wheel base, engine and tender	23 ft.	20 ft. 6 1/2 in.
Driving wheel, diar.	51 ft. 6 1/2 in.	49 ft. 4 in.
Valve gear	Stephenson	Extended
Boiler, pressure	200 lbs.	180 lbs.
Cylinders, diar. & stroke	21 by 26 in.	19 by 26 in.
Tubes, no. and diar.	368 2 in.	275 2 in.
Tubes, length	13 ft. 11 in.	10 ft. 5 1/4 in.
Tank capacity	4,000 U.S. gals.	5,000 U.S. gals.

Following are the chief details of the 300 steel underframe, forty ton flat cars, with fish-belly centre sills, which the Canadian Northern Ry. is having built by the Canadian Car and Foundry Co., Montreal:—

Length over end sills	41 ft. 1/4 in.
Length over buffer blocks	42 ft. 2 in.
Length over face of knuckles	44 ft.
Width over side sills	8 ft. 10 in.
Width over floor	9 ft.
Width over all	9 ft. 7 1/2 in.
Height, top of rail to top of floor	4 ft. 2 3/4 in.
Height over all	5 ft. 11 1/2 in.
Centre to centre of trucks	31 ft. 2 in.
Depth of centre sills at centre	2 ft. 6 in.
Depth of centre sills at bolster	1 ft. 3/4 in.
Wheel base	5 ft. 4 in.
Trucks	Arch bar type
Couplers	Janney cast steel 5 by 7 in. shank
Air brakes	Westinghouse K.C. 812
Axles	M.C.B. open hearth steel
Journal bearings	5 by 9 in.
Journal boxes	McCord m.i.
Springs	M.C.B. class C
Brake beams and bolsters	Simplex
Brake shoes	Steel back

Following are the chief details of the two class G-1d locomotives, which the C.P.R. is having built at its Angus shops, Montreal.

Weight on drivers	136,000 lbs.
Total weight	217,000 lbs.
Cylinders, diar. and stroke	21 by 28 in.
Valves	11 in. piston
Drivers, diar.	75 in.
Boiler, type	Extended wagon top
Boiler, pressure	200 lbs.
Heating surface, tubes	2,777 sq. ft.
Heating surface, total	183 sq. ft.
Heating surface, total	2,960 sq. ft.

Heating surface, superheater	539 sq. ft.
Equivalent heating surface	3,767 sq. ft.
Tubes, no. and diar.	193 2 1/4 in., 22 5 1-5 in.
Tubes, length	19 ft. 4 7/8 in.
Firebox, type	radial stayed, with cross stays
Firebox, dimensions	7 ft. 10 1/2 in. 65 ft. 9 1/2 in.
Grate area	45.6 sq. ft.
Capacity, water	5,000 gals.
Capacity, coal	10 tons
Axles, main	9 1/2 by 12 in.
Axles, others	9 by 12 in.
Brakes	Westinghouse ET6
Brake beams	Simplex outside hung
Valve gear	Walschaert
Superheater	Vaughan and Horsey
Wheel centres	Cast steel

The C.P.R., between Mar. 14 and Apr. 14, received the following additions to rolling stock: 16 suburban cars, three sleeping cars, one pile driver, 46 wooden box cars, and five switching locomotives, from its Angus shops, Montreal; 99 automobile cars and one steel flat car, from the Canadian Car and Foundry Co., Montreal; ten N3 locomotives from the Montreal Locomotive Works; five D10 locomotives from the Canadian Locomotive Co., Kingston, Ont., and 39 steel pitch cars from the U.S.

The Steel Co. of Canada, Ltd., Hamilton, Ont., has ordered one four wheeled locomotive from the Montreal Locomotive Works. Following are the chief details:—

Weight in working order	88,000 lbs.
Wheel base	7 ft.
Driving wheel, diar.	50 in.
Valve gear	Stephenson
Cylinders, diar. and stroke	17 by 24 in.
Boiler, type	Straight top
Boiler, pressure	180 lbs.
Tubes, no. and diar.	139 2 in.
Tubes, length	11 ft. 10 in.
Tank capacity	1,000 U.S. gals.

Following are chief details of the four six-coupled switching locomotives which the Intercolonial Ry. has ordered from the Canadian Locomotive Co., Kingston, Ont., as mentioned in our last issue:—

Weight in working order	138,000 lbs.
Wheel base, engine	12 ft.
Wheel base, engine and tender	40 ft. 5 1/4 in.
Length over all	55 ft. 4 in.
Width over all	10 ft.
Height over all	15 ft. 3 in.
Heating surface, firebox	132 sq. ft.
Heating surface, tubes	1,935 sq. ft.
Heating surface, total	2,067 sq. ft.
Grate area	27.5 sq. ft.
Driving wheels, diar.	51 ft.
Driving wheel centres	Cast iron
Driving journals, diar. and length	8 1/4 by 11 in.
Cylinders, diar. and stroke	20 by 26 in.
Boiler, type	Straight top, radial stayed
Boiler pressure	200 lbs.
Tubes, no. and diar.	300 2 in.
Tubes, length	12 ft. 6 in.
Brakes	Westinghouse American
Weight of tender, loaded	90,000 lbs.
Tank, style	Hopper, with sloping back
Tank capacity	3,800 gals.
Coal, capacity	6 tons
Truck, type	Four wheel
Wheel, diar.	33 in.
Wheel, type	Wrought iron, steel tired
Journal, diar. and length	M.C.B. 4 1/4 by 8 in.

Following are chief details of the three Pacific type locomotives which the Intercolonial Ry. has ordered from the Canadian Locomotive Co., Kingston, Ont., as mentioned in our last issue:—

Weight in working order on drivers	126,000 lbs.
Weight in working order, total	187,000 lbs.
Wheel base of engine, rigid	12 ft. 7 in.
Wheel base of engine, total	31 ft. 6 in.
Wheel base, engine and tender	57 ft. 10 in.
Length over all, engine and tender	67 ft. 1/2 in.
Width over all	10 ft. 3 in.
Height over all	15 ft.
Heating surface, firebox	162 sq. ft.
Heating surface, tubes	2,584 sq. ft.
Heating surface, total	2,764 sq. ft.
Grate area	45.75 sq. ft.
Driving wheels, diar.	72 in.
Driving wheel centres	Cast steel
Driving journals, diar. and length	9 by 12 in.
Cylinders, diar. and stroke	21 by 28 in.
Boiler, type	Wide firebox, radial stayed
Boiler pressure	200 lbs.
Tubes, no. and diar.	232 2 1/4 ins.
Tubes, length	19 ft.
Brakes	Westinghouse American
Weight of tender loaded	120,000 lbs.
Tank, style	Water bottom
Tank, capacity	5,000 gals.
Coal, capacity	10 tons
Truck, style	4 wheel, steel bolster
Wheel, diar.	36 in.
Wheel, type	W. I. centre, steel tire
Journal, diar. and length	5 1/2 by 10 in.

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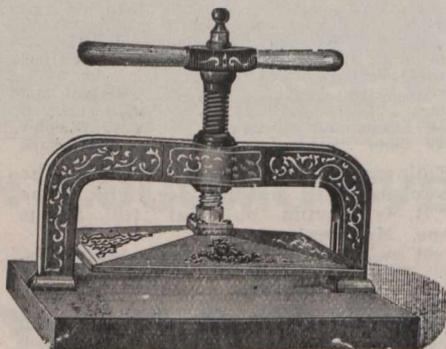
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MAINLY ABOUT PEOPLE.

C. M. Hays, President G.T.R. and G.T.P.R., sailed from New York, Apr. 19, for Europe.

Sir William Mackenzie, President Canadian Northern Ry., sailed from Halifax, N.S., Apr. 19, for England.

W. W. Butler, Vice President Canadian Car and Foundry Co., Montreal, has been elected Vice President Rea Mines, Ltd.

Major-General F. Wilson, who died at Montreal, Apr. 12, married a daughter of the late Sir Hugh Allan, of the Allan Line.

G. B. Greene, for many years Secretary-Treasurer Upper Ottawa Improvement Co., Ltd., Ottawa, died there, Mar. 30.

P. W. Graham, younger son of Hon. G. P. Graham, Minister of Railways and Canals, died at Brockville, Ont., Apr. 17, aged 25.

Mrs. McIntyre, who died at Lakewood, N.J., April 14, was the widow of Duncan McIntyre, one of the original C.P.R. directors.

J. P. McNaughton, General Sales Agent Dominion Iron and Steel Co., was married April 26, to Miss Etta Peppett, of North Sydney, N.S.

Sir William Mackenzie, President Canadian Northern Ry., has been elected a director of the Metropolitan Life Insurance Co., New York.

Walter Anderson, father of James Anderson, manager, Sandwich, Windsor and Amherstburg Ry., died at Ayr, Ont., April 14, aged 91.

G. W. Stephens, Chairman Montreal Harbor Commission, returned to Montreal, early in April, after having spent the winter in Europe.

The Governor General and Lady Grey will occupy Benvenuto, Sir William Mackenzie's house at Toronto, during the Ontario Jockey Club's race week, in May.

R. Creelman, Assistant General Passenger Agent, Canadian Northern Ry., Winnipeg, returned to duty, Apr. 12, having recovered from an attack of appendicitis.

Mrs. Bosworth, wife of G. M. Bosworth, Vice President, C.P.R., sailed Mar. 31, for Europe, where she will spend some weeks to recuperate after an illness.

J. S. Pyeatt, formerly Superintendent Canadian Division, Pere Marquette Rd., St. Thomas, Ont., has been appointed Superintendent District 3, Frisco Lines, at Chaffee, Mo.

Miss Ethel Holtby, daughter of A. R. Holtby, Bridge and Building Master, Grand Trunk Pacific Ry., Prince Rupert, B.C., was married, Apr. 13, to T. B. B. O'Neill, of Quebec.

F. Mabee, brother of J. P. Mabee, Chairman of the Board of Railway Commissioners, was found drowned, near Toronto, Apr. 15. He was incapacitated, some time ago, by paralysis.

Sir Thos. and Lady Tait, will be in London, Eng., for the coronation, when Miss Tait will be amongst the debutantes at Court, after which they will return to Canada, arriving about July 10.

J. R. Leckie, Locomotive Foreman, G.T.R., London, Ont., who was recently transferred from Palmerston, Ont., has been presented with a gold ring and gold mounted umbrella, by the staff at Palmerston.

E. J. Caron, assistant soliciting agent, G.T.R., Montreal, while boarding a train footing and fell under a car, one of his legs being so badly hurt that it had to be amputated below the knee.

The appointment of Lieut.-Col. H. H. McLean, K.C., M.P., Vice President St. John Ry., to command the Canadian

troops at the coronation of King George, in June, with the temporary rank of Colonel, has been confirmed.

S. Sharples, private secretary to W. Wainwright, Second Vice President G.T.R. and G.T.P.R., Montreal, died there of typhoid fever, Apr. 17, aged 22. He was born at Houghton, Eng., and had occupied the position for two years.

A. L. Clements, who was formerly City Freight Agent, C.P.R., Vancouver, B.C., and whose resignation we announced in our last issue, has entered the service of Evans, Coleman and Evans, Ltd., wharfingers and general shippers, Vancouver.

J. F. Stevens, M. Am. Soc. C.E., is reported to have resigned as President of the Oregon Trunk Ry., and other railways of the Hill system in Oregon, and to have been succeeded by C. R. Gray, Senior Vice President of the St. Louis & San Francisco Rd., of St. Louis, Mo.

Lord Strathcona has accepted the honorary chairmanship of the western committee of the Canadian Y.M.C.A., and has given \$150,000 to the funds for suitable buildings for the association's purposes, in Manitoba, Saskatchewan and Alberta.

A. E. Duff, who was recently appointed District Passenger Agent, G.T.R., Toronto, was presented with an engraved gold watch, locket and chain, by the passenger and train agents, at Winnipeg, on his leaving there to take up his new duties.

W. C. Cushing, Chief Engineer Maintenance of Way, Pennsylvania Rd. Southwest System, Pittsburgh, Pa., who was recently elected President American Railway Engineering Association, for the current year, was born at St. John, N.B., Mar. 18, 1863, and has spent his railway career entirely in the U.S.

A. E. Duff, who was recently appointed District Passenger Agent, G.T.R., Toronto, was, prior to his leaving Winnipeg, where he had been for some time General Agent Passenger Department, G.T.R., and District Passenger Agent, G.T.P.R., presented with a travelling bag and Mrs. Duff with a silver tea service, by a number of the local railway officials.

Henry K. Wicksteed, B.A.Sc., M.Can. Soc. C.E., whose portrait we published in our last issue, was born at Quebec, Que., May 25, 1855, and prior to his appointment as Chief of Surveys, Mackenzie, Mann & Co., in 1905, he was with the Inverness and Richmond, and Halifax and South Western Rys., and Chief Engineer in charge of location on James Bay. His father was a lawyer of considerable eminence, and was for fifty years, Law Clerk of the House of Commons.

Hon. L. J. Forget, Director Richelieu and Ontario Navigation Co., and of the C.P.R., and a former President of the Montreal St. Ry., died at Nice, France, Apr. 7. He had been in poor health for some years, and left Canada for the south of France in November. He was uncle of R. Forget, who is interested in a number of transportation companies, and was father-in-law of Guy Bover, ex-Superintendent of Construction, Montreal St. Ry., who is one of his executors. The estate is stated to amount to about \$4,000,000.

Lieut.-Col. Hon. D Tisdale, K.C., who died at Simcoe, Ont., recently, aged 76, after a long illness, took a prominent part in the construction of the Grand Trunk, Georgian Bay and Lake Erie Ry., now the Georgian Bay Division of the G.T.R., and was President of the former railway for several years. He was also President of the St. Clair and Erie Ship Canal Co., and during his membership of the House of Commons, representing South Norfolk, he acted, for a considerable time, as chairman of the railway committee.

G. Cogger, who has been appointed joint agent, G.T.R. and Intercolonial Ry., at Quebec and Point Levi, Que., was born at Point Levi, Dec. 17, 1874, and entered G.T.R. service in Nov., 1889, since when he has been to Mar., 1890, messenger at Chaudiere, Que.; Mar., 1890 to Apr., 1893, messenger and clerk at Point Levi; Apr., 1893, to 1898, in Export Department at Portland, Me.; 1898 to Jan. 1, 1908, chief clerk at Point Levi; Jan. 1, 1908, to Mar. 15, 1911, accountant, Freight Department, Quebec, Que.

G. Hodge, whose appointment as Superintendent, District 2, Ontario Division, London, was announced in our last issue, was born at Montreal, Oct. 2, 1874, and entered C.P.R. service Mar. 24, 1890, since when he has been, to Aug. 8, 1890, in General Passenger Agent's office, Montreal; Aug. 8, 1890 to Jan., 1896, in various positions in Vice President's office, Montreal; Jan. 1896 to Feb. 1907, chief clerk to Vice President; Feb. 1907, to June 1908, Superintendent Montreal Terminals; June 1908 to Mar. 1911, Superintendent, District 3, Eastern Division, Montreal.

W. Stapelton, who has been appointed District Passenger Agent, Canadian Northern Ry., Saskatoon, Sask., was born at Bristol, Eng., May, 20, 1884. He entered Canadian Northern Ry. service in May, 1903, as stenographer in the Passenger Department and worked through the various positions to that of chief clerk of that department. From 1906 to Jan. 8, 1910, he was Travelling Passenger Agent, and from Jan. 8 to Apr. 8, 1910, was City Ticket Agent, Winnipeg, and from Apr. 8 to May, 1910, General Agent, Passenger Department, Canadian Northern Steamships, Winnipeg.

A. J. Donegan, who has been appointed Assistant Superintendent, Algoma Central and Hudson Bay Ry., Michipicoten Harbor, Ont., was born at Perth, Ont., Feb. 17, 1881, and entered railway service June, 1899, since when he has been, to May 1, 1900, freight clerk, C.P.R., London, Ont.; May 1, 1900, to Mar. 15, 1901, bill clerk, Dominion Express Co., London, Ont.; Apr. 20, 1901, to July 31, 1910, brakeman, conductor and Trainmaster, consecutively, Algoma Central and Hudson Bay Ry.; Sept. 1, 1910, to Mar. 15, 1911, Storekeeper, Lake Superior Iron and Steel Co., Magpie Mine, Ont.

Robt. Stockton, C.E., who has been appointed Superintendent of Operation and Maintenance under the administration division of the C.P.R. Irrigation Department, Strathmore, Alta., was heretofore Irrigation Manager in the U.S. Reclamation Service on the Yellowstone Project in Montana. He designed the Huntley project, there, and operated it for some time, and had also, charge of construction work on the Yellowstone project. He will have charge of the field force of the western section of the C.P.R. irrigation block, where the construction work has been completed, and which has been handed over to the administration division for operation.

H. E. Whittenberger, Superintendent Eastern Division G.T.R., Montreal, whose portrait appears on the first page of this issue, was born at Peru, Ind. Nov. 9, 1869, and entered transportation service in 1885, his record being: 1885 to Feb., 1897, various positions, Wabash Rd.; Feb. 1897, to May, 1902, Trainmaster Middle Division, G.T.R.; May 1902 to Sept. 1904, Superintendent Denver and Rio Grande Ry.; Sept. 1904 to Jan. 1906, Superintendent Cincinnati, Hamilton and Dayton Rd., Indianapolis, Ind.; Jan. 1906 to Sept. 30, 1907, Superintendent Kansas City and Southern Rd.; Sept. 30, 1907 he was appointed Superintendent Eastern Division G.T.R., which position he still holds.

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W. M. Kirkpatrick, who has been appointed General Freight Agent, Eastern Lines, C.P.R., Montreal, is a son of the late Sir Geo. A. Kirkpatrick, at one time a director of the C.P.R. He was born at Kingston, Ont., Oct. 8, 1874, and entered C.P.R. service Mar. 7, 1892, in the Vice President's office, and up to July, 1899, he filled various positions in Chief Engineer's office, Foreign Freight Department, Montreal, and General Freight Agent's Office, Toronto; July, 1899, to Dec., 1902, clerk in Fourth Vice President's office, Montreal; Dec., 1902, to Apr., 1905, Assistant General Freight Agent, Pacific Division, Vancouver, B.C.; Apr., 1905, to Feb., 1907, Export Freight Agent, Montreal; Feb. to Dec., 1907, General Freight Agent, Atlantic Division, St. John, N.B.; Dec., 1907, to Apr., 1911, General Freight Agent, Through Traffic, Ontario Division, Toronto.

Jules Home, who recently resigned the position of City Passenger and Ticket Agent, C.P.R., Quebec, Que., was born at Montreal, Sept. 8, 1874, and entered C.P.R. service in the Car Accountant's office, Montreal, Mar. 14, 1889, and from July, 1890, to Aug., 1891, was secretary to the Manager of Transportation, Montreal; Aug., 1891, to the summer of 1892, in City Ticket Office, Montreal; Ticket Office, Ottawa; July 4, 1893, to June 21, 1896, assistant to Chief Clerk City Ticket Office, Montreal; June 21, 1896, to Nov. 1, 1903, Ticket Agent at the Windsor Hotel, Montreal; Nov. 1, 1903, to 1906, City Passenger, Freight and Steamship Agent, Quebec, Que.; 1906 to Apr., 1911, City Passenger and Ticket Agent, Quebec. He is a director of the Quebec Cartage and Transfer Co., a member of the Quebec Board of Trade, and of a number of other local organizations. He has opened a steamship and general ticket agency, in partnership with L. J. Rivet, at 5 and 9 St. Lawrence Boulevard, Montreal with a branch office in Quebec.

J. K. McNeillie, whose appointment as Superintendent, District 1, Eastern Division, C.P.R., Farnham, Que., was announced in our last issue, was born at Toronto, Feb. 23, 1874, and entered railway service in 1890, since when he has been, to July, 1890, call boy and clerk in Stores Department, G.T.R., Lindsay, Ont.; July, 1890, to Nov., 1891, apprentice in round house, G.T.R., Lindsay, Ont.; Nov., 1891, to Sept., 1896, apprentice, locomotive fitter and machinist, G.T.R. Point St. Charles shops, Montreal; Sept., 1896, to Nov., 1897, clerk in Superintendent and Trainmaster's office, C.P.R., Farnham, Que.; Nov., 1897, to Nov., 1899, chief Superintendent's office, C.P.R., Farnham, Que.; Nov., 1899, to May, 1900, clerk in General Superintendent's office, C.P.R., Winnipeg; May, 1900 to July, 1902, chief clerk same office; July, 1902, to Mar., 1903, Car Service Agent, C.P.R., Winnipeg; Mar., 1903, to Oct., 1907, in Car Service Department, C.P.R., Montreal, in charge of the distribution of passenger equipment; Oct., 1907, to June, 1908, Assistant Superintendent of Terminals, C.P.R., Toronto; June, 1908, to Jan., 1909, Superintendent, District 1, Ontario Division, C.P.R., Toronto; Jan., 1909, to Mar., 1911, Superintendent, District 2, Ontario Division, C.P.R., London.

Dominion Railway Subsidy Contracts.
The Dominion Government has entered into a contract with the Kootenay Central Ry., under the act granting aid to certain railways, for the construction of a railway from Golden, B.C., towards the International boundary, via Windermere and Fort Steele, thence crossing the Crows Nest Pass branch of the C.P.R., near Elko, a distance not exceeding 186 miles.

Quebec and Saguenay Railway.

We are officially advised that a contract has been let to O'Brien and Doheny, for the building of 56 miles of this projected railway. The line will run from St. Joachim, where connection can be made with the line of the Quebec Ry., Light and Power Co., to Murray Bay wharf, and then up to the Falls. The present contract covers the building of the line from Cap Tourmente to Murray Bay, and calls for the completion of the work by 1912. The line from Murray Bay wharf to the Falls is already under construction, the contractors being the Bishop Construction Co., of Montreal, and it is expected to be completed in 1911. (Mar., pg. 259.) A delegation of U.S. landowners in the vicinity of Murray Bay waited on the Provincial Government, April 11, with a view of securing some change in the route of Murray Bay, with a view of protecting the property of summer residents, and L. A. Vallee, Engineer of the Provincial Public Works, was instructed to report on the question. Construction is to be started at once. A. H. N. Bruce is Chief Engineer, and J. F. Guay, General Manager. (April, pg. 365.)

Since the above was put in type we have received later official advices in which it is stated that it is expected to start work on the first 56 miles in May and to complete it by September. The contract which has been let to the Bishop Construction Co. is for 7½ miles from Pointe a Pic to the East Canada Power & Pulp Co.'s site. The contract is on a percentage basis and work has been started on it.

There are four engineering parties in the field revising location, and one on construction on the Bishop Construction Co.'s contract. The location of the main line follows the shore and is extremely rough, the rocks in some places rising for several hundred feet perpendicularly. The tides will wash the banks for fully half the distance and great care will have to be exercised to prevent washouts. The St. Lawrence River averages about 12 miles wide for the whole distance and with the prevailing easterly winds the seas at high tide are very high.

From the fact that the Q. & S. Ry. will start from Cap Tourmente, the terminus of the Quebec Ry., Light & Power Co.'s Montmorency Division, the impression seems to have got abroad that the Q. & S. Ry. is also to be an electric line. It is to be operated by steam.

C. P. R. Montreal-Ottawa Line.

In an interview at Toronto April 24 D. McNicoll, Vice President C.P.R., is reported to have stated that the location of a line from Glentay, on the Montreal-Toronto line, 15.7 miles west of Smiths Falls, via Belleville, thence along the shore of Lake Ontario to a point east of Leaside Jct., 5.3 miles east of Toronto. It was originally intended to start this line from Bathurst, 19.4 miles west of Smiths Falls, but Glentay has been decided on instead. Mr. McNicoll added that engineers would be started from the western end of the proposed new line to meet those working from the east, and that construction would be completed in about two years. The new line would have a gradient of about four-tenths of 1%, and would be adapted for fast passenger travel, avoiding the Scarboro elevation.

Mr. McNicoll also stated that track on the Georgian Bay and Seaboard Ry. from Victoria Harbor will be laid this year to Bethany, 12.7 miles west of Peterboro' on the Montreal-Ottawa line, and that in July the C.P.R. upper lake

steamships will begin running from Victoria Harbor to the head of Lake Superior, instead of from Owen Sound, as at present.

NOTICE.

PUBLIC Notice is hereby given that the Canadian Pacific Railway Company, as lessee of, and exercising the franchises of, the Atlantic and Northwest Railway, will, so soon after the expiration of four weeks from the first publication of this notice, as the application can be heard, apply to the Board of Railway Commissioners for Canada under the provisions of sections 221 to 225, 227 and 237 of The Railway Act, for authority to construct, maintain and operate a branch line or railway and spurs in the Parish of St. Brigide, County of Iberville, and the parish of West Farnham, county of Missisquoi, in the Province of Quebec, said spur commencing at a point on the centre line of the main line of the Farnham section of the railway, at chainage 437+20, and extending northeasterly across public road from St. Brigide across part of Lot No. 401 in the said Parish of St. Brigide, to and into said Parish of St. Brigide, to and into the Parish of West Farnham, thence northerly parallel to and east of the boundary between the Counties of Iberville and Missisquoi across the Central Vermont Railway, and across public road to the Town of Farnham, to and into the Military Camp ground of the Canadian Government situate on Lot 341 of the Parish of West Farnham, as said branch line of railway and spur are shown on a plan with book of reference and profile deposited in the Registry Office for the County of Missisquoi on the 20th March, 1911, and in the Registry Office for the County of Iberville, on the 6th April, 1911.

E. W. BEATTY,
Solicitor.

Montreal, the 8th day of April, 1911.

NOTICE.

NIAGARA RIVER BRIDGE COMPANY.

The annual general meeting of the Niagara River Bridge Company, for the election of directors and other general purposes, will be held on Wednesday, the 7th of June, 1911, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,
Secretary, N. R. B. Co'y.

20th April, 1911.

CANADA SOUTHERN RAILWAY COMPANY.

The annual general meeting of the Canada Southern Railway Company, for the election of directors and other general purposes, will be held on Wednesday, the 7th of June, 1911, at the hour of eleven o'clock in the forenoon, at the Company's head office in the City of St. Thomas.

NICOL KINGSMILL,
Secretary C. S. Ry. Co.

20th April, 1911.

NIAGARA GRAND ISLAND BRIDGE COMPANY.

The annual general meeting of the Niagara Grand Island Bridge Company, for the election of directors and other general purposes, will be held on Wednesday, the 7th of June, 1911, at the hour of eleven o'clock in the forenoon, at the Company's head office in the City of St. Thomas.

NICOL KINGSMILL,
Secretary N. G. I. B. Co.

20th April, 1911.

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Train Numbering on C. P. R.

On June 4 a new system of train numbering will go into effect on all C.P.R. lines from coast to coast. The general principle of numbering is to carry the same number with the same train from starting point to destination, and thus do away with the system of having two or three numbers applying to the same train because it happens to run over two or three subdivisions on the same general division. In some instances it may be necessary for odd and even numbers of trains to be running in the same direction. There can be no objection to this, as the time table clearly shows which direction is superior and has no reference to numbers whether odd or even. Thus new no. 951 will appear from Smiths Falls to Vancouver, instead of the present no 126 Smiths Falls to Carleton Place, and 117 Carleton Place to Fort William.

Nos. 1 to 14 inclusive have been allotted for through passenger trains where they run over eastern and western lines and portions thereof. No. 1 train will be numbered through from Montreal to Vancouver, taking the place of old no. 97. No. 2, Vancouver to Montreal, old no. 94. No. 3, Toronto to Vancouver old no. 95. No. 4, Vancouver to Toronto, old 94. No. 5, Montreal to Winnipeg, old no. 1. No. 6, Winnipeg to Montreal, old no. 2. Nos. 7 to 14 are reserved for future use.

Nos. 15 to 50, are allotted to eastern lines inter-division passenger trains.

So far nos. 15 to 32 only have been allotted, the balance of the numbers up to 50 being reserved for future use.

Nos. 901 to 950 have been allotted to eastern lines inter-divisional fast freights, and 951 to 970 to fast through freights eastern and western lines. The balance of numbers of this service up to 950 are reserved for future use.

In the case of dead freight numbers which are only used in order to provide schedules in the superior direction for greater safety in train movement, small numbers are desirable on account of used so often in train orders. Therefore, nos. 71 to 99 have been reserved for these dead freight schedules and may be used as required on any general division.

The balance of the passenger and mixed trains will be numbered in the series allotted to each general division.

The numbers for passenger and mixed trains are to be decided by the General Superintendent. The series of numbers allotted to eastern lines are as follows:—

Atlantic Division	.....101 to 199 inclusive
Eastern Division	.....200 to 599 inclusive
Ontario Division	.....600 to 799 inclusive
Lake Superior Division	.....800 to 899 inclusive

A sufficient margin for numbers has been figured on for each division to permit of the putting on of additional trains and keeping within the series allotted to each general division.

At the time of writing we had not received details of the new numbering of the inter-division passenger trains, local passenger and mixed trains and freight trains on the western lines.

Canadian Freight Association.

At the annual meeting in Montreal, April 13, officers and committees were elected as follows:—

President, C. A. Hayes, G.T.R., Montreal; 1st Vice President, B. R. Hepburn, Ontario & Quebec Nav. Co., Picton, Ont.; 2nd Vice President, G. C. Ransom, Michigan Central Rd., Buffalo, N.Y.

Advisory Committee—J. Pullen, W. B. Bulling, G. C. Ransom.

Executive Committee—C. A. Hayes, F. F. Backus, W. M. Kirkpatrick.

Classification Committee—W. B. Bulling, M. H. Brown, C. A. Hayes, W. Phillips, F. J. Watson, W. M. Kirkpatrick, L. Macdonald, H. E. Macdonell, A. E. Rosevear, R. E. Perry.

Inspection Committee—R. W. Long, G. Tombs, F. Conway, R. W. Youngs, J. Paul, G. T. Pettigrew, J. P. Daly, H. A. Young, W. S. Elliot, W. B. Bamford.

C. A. Hayes, G. B. Brown, G. H. Shaw and the Secretary, T. Marshall, were appointed a committee to select a place for the quarterly meeting in July.

G.T.R. Coach Wheel Lathe.

The illustration on this page shows a steel tired passenger car wheel lathe which was installed at the G.T.R. shops, Point St. Charles, Montreal, in March. The accompanying table gives a record of the passenger car wheels turned out at a test of the machine on March 23, when 40 pairs of 38 in. steel tired wheels were turned out in 9 hours 35 minutes. It is said that the result of this test excels any other which have been made on this continent. The lathe, which was

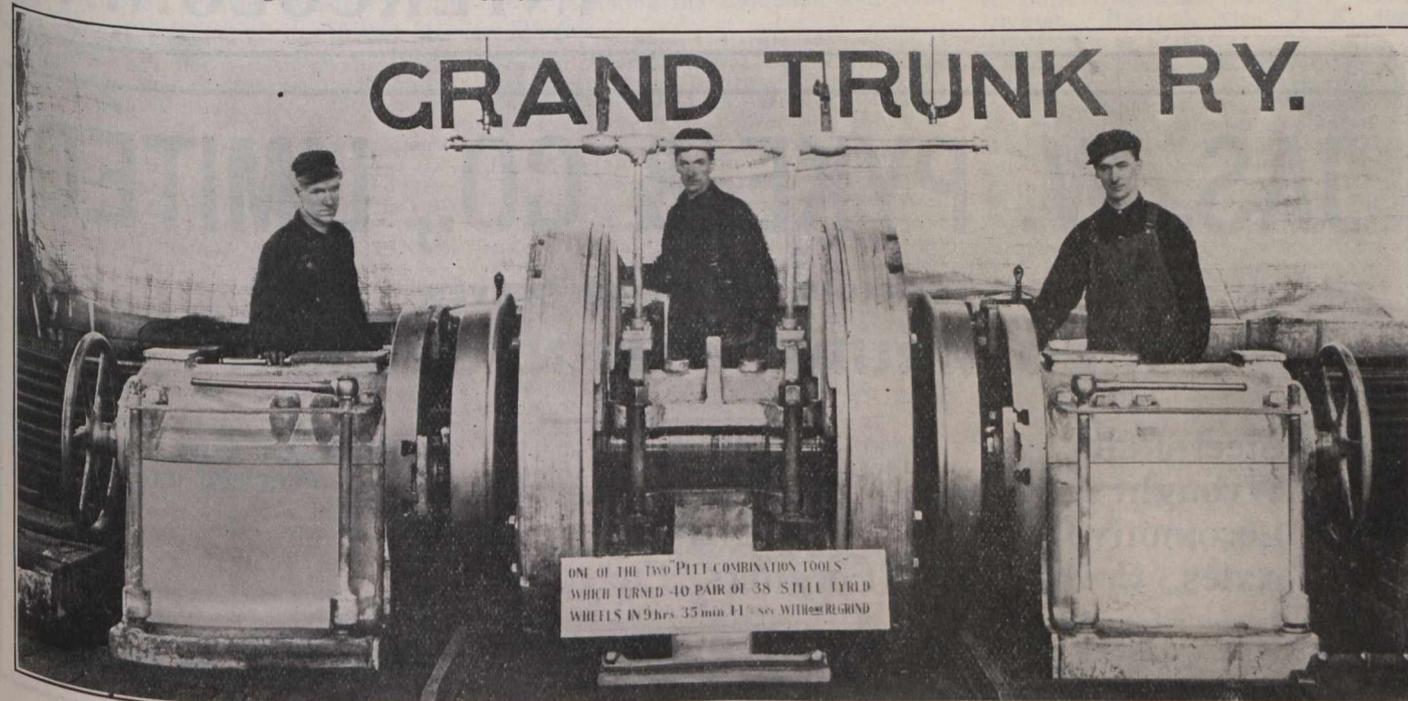
built by the London Machine Tool Co., Ltd., of Hamilton, Ont., is driven by a 50 h.p. motor, variable speed, the tail stock operated by motor greatly facilitating the operation of the lathe. The tools used in the test only required one grind for the entire operation used on the 21 lb. pair of wheels.

Record of passenger car wheel turning test on wheel lathe at G.T.R. car shops, Montreal, March 23, 1911:—

Pairs of Wheels	Time Putting Wheel in Lathe	Actual Turning Time	Time Removing Wheel	Total Time
1st.....	3.50 2/5	6.19 4/5	2.49 4/5	13.00
2nd.....	3.40 2/5	6.19 3/5	3.00 2/5	13.00 2/5
3rd.....	8.25 4/5	7.34 1/5	4.00 1/5	15.00 1/5
4th.....	3.30	5.41 2/5	2.48 1/5	11.59 3/5
5th.....	3.34 2/5	7.15	2.40 4/5	13.80 1/5
6th.....	3.36	6.55 2/5	3.28 1/5	13.59 3/5
7th.....	4.15	8.15 2/5	3.00	15.30 2/5
8th.....	3.59 2/5	6.45 1/5	3.15 2/5	14.00
9th.....	4.51 2/5	8.48 4/5	4.20	18.00 1/5
10th.....	3.55 1/5	11.12 1/5	2.52 2/5	17.69 4/5
11th.....	3.36 1/5	6.46 4/5	2.37 1/5	13.00 1/5
12th.....	3.34 2/5	10.05 2/5	4.20 2/5	18.00 1/5
13th.....	4.49	7.21 3/5	3.10 1/5	15.80 4/5
14th.....	3.37 3/5	7.15 4/5	3.26	16.09 2/5
15th.....	3.21 3/5	8.55 4/5	4.02 3/5	16.20
16th.....	3.47 3/5	9.31 4/5	3.00 3/5	16.20
17th.....	3.58 3/5	7.20	5.06 2/5	16.25
18th.....	3.57 3/5	6.26 4/5	3.10 3/5	13.35
19th.....	2.53 2/5	6.54 1/5	4.17 2/5	14.10
20th.....	3.21 2/5	7.06 1/5	4.02 2/5	14.30
21st.....	2.45	6.49 1/5	2.41 1/5	12.15 2/5
22nd.....	3.14 3/5	5.40 4/5	2.36 4/5	11.41 1/5
23rd.....	2.36 1/5	7.00	3.10 3/5	12.46 4/5
24th.....	3.25 2/5	6.38 4/5	3.39 4/5	13.44
25th.....	2.56 1/5	6.13 4/5	2.36 2/5	11.46 2/5
26th.....	2.29 2/5	7.55 2/5	3.45 1/5	14.10
27th.....	2.45 2/5	7.38	3.06 3/5	13.30
28th.....	4.06 1/5	7.38	2.46 1/5	14.30 2/5
29th.....	4.28 2/5	10.53	2.17 4/6	17.39 1/5
30th.....	2.39 2/5	9.39 2/5	3.39	15.57 4/5
31st.....	3.05 2/5	8.31 1/5	2.43 3/5	14.19 1/5
32nd.....	3.13 1/5	8.33	2.45 3/5	14.36 4/5
33rd.....	4.24 4/5	8.21 4/5	2.11 4/5	14.58 2/5
34th.....	3.15 1/5	6.29 1/5	2.28 1/5	12.12 3/5
35th.....	2.43 2/5	6.51 4/5	2.09	11.44 1/5
36th.....	3.13 1/5	8.23 1/5	5.45 4/5	17.22 1/5
37th.....	2.57	9.56 2/5	2.28 4/5	15.22 1/5
38th.....	3.34 2/5	8.29	2.33 3/5	14.37
39th.....	2.46 2/5	7.46	2.24	12.56 2/5
40th.....	2.53 1/5	7.43 1/5	2.22 4/5	13.04 1/5
				2.21.12 4/5 5.1.10 3/5 2.07.51 9.39.14 2/5
Average ...	3.31 4/5	7.45	3.06 1/5	14.23 4/5
Minimum ...	2.29 2/5	5.41 2/5	2.09	11.41 1/5
Maximum ...	5.27 3/5	11.12 1/5	5.45 4/5	18.00 1/5

The machine was operated by two mechanics and two helpers, in addition, one man took electrical readings.

The wheels were Krupp B.V.G. pairs 1 to 31. were 38 in. 5x9 wheels, pairs 32 to 40 were 38 in. 4 1/2 by 8 wheels.



Steel tired passenger car wheel lathe in Grand Trunk Ry. shops, Montreal.

Price \$85.00



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Steel Rails.

Wrought Iron Steel-Tyred Disc Wheels

Locomotive and Car Wheel Tyres.

Axles, Crank Pins, Forgings, Etc.

FOR STEAM AND
ELECTRIC RAILWAYS.

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232 ST. JAMES STREET,

MONTREAL

TRANSPORTATION APPOINTMENTS.

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

Algoma Central and Hudson Bay Ry.—A. J. Donegan, heretofore Storekeeper, Lake Superior Iron and Steel Co., Magpie Mine, Ont., has been appointed Assistant Superintendent, A.C. & H.B. Ry. Office, Michipicoten Harbor, Ont.

Canadian Northern Ontario Ry.—E. Myers, Roadmaster at Beaverton, has had his jurisdiction extended over the lines north of Parry Sound, the position of Roadmaster at Sudbury having been abolished on the resignation of W. B. Clearwater. A. E. Reid continues as Assistant Roadmaster at Sudbury.

F. V. Higginbottom, heretofore in City Ticket Office, G.T.R., London, Ont., has been appointed City Ticket Agent, C.N.O.R., Toronto, vice E. P. Wright, transferred.

E. P. Wright, heretofore City Ticket Agent, Toronto, has been appointed chief clerk to Commercial Agent at St. Paul, Minn.

Canadian Northern Quebec Ry.—J. B. Hoseason, heretofore chief clerk to Assistant Passenger Traffic Manager, G.T.R., Montreal, has been appointed chief clerk to General Freight and Passenger Agent, C.N.Q.R., Montreal.

Canadian Northern Ry.—W. Stapleton, heretofore General Agent, Passenger Department, Canadian Northern Steamships Ltd., Winnipeg, has been appointed District Passenger Agent, C.N.R., at Saskatoon, Sask., vice R. L. Fairbairn, transferred to Toronto.

Canadian Northern Steamships, Ltd.—F. J. Thompson has been appointed Marine Superintendent at Montreal.

A. H. Davis, heretofore Passenger Agent, Montreal, has been appointed General Agent for Manitoba, Saskatchewan and Alberta, and that part of Ontario west of, and including, Port Arthur, vice W. Stapleton, transferred. Office, 272 Main St., Winnipeg. The position of Passenger Agent at Montreal has been discontinued for the present.

Canadian Pacific Ry.—W. R. MacInnes, Freight Traffic Manager, issued a circular Apr. 15, re-organizing the Freight Traffic Department, Eastern Lines, as follows:—W. B. Bulling, Assistant Freight Traffic Manager, with general supervision over all matters pertaining to rates and divisions; all matters under the jurisdiction of the Board of Railway Commissioners, Transcontinental Freight Bureau, etc. Office, Montreal.

W. M. Kirkpatrick, heretofore General Freight Agent, (Through Traffic), Ontario Division, Toronto, is appointed General Freight Agent, in charge of the solicitation of freight traffic and of interchange with connecting lines. Office, Montreal.

W. B. Bamford, heretofore General Freight Agent, Atlantic Division, St. John, N.B., is appointed Division Freight Agent, Atlantic Division, with territory east of Megantic, Que., to St. John, N.B., including branch lines. Office, St. John, N.B.

H. E. Macdonnell, heretofore General Freight Agent, Eastern Division, Montreal, is appointed Division Freight Agent, Eastern Division, with territory, Chalk River and east, also Smiths Falls, Ont., to Newport, Vt., Megantic, Que., and Quebec, including branch lines. Office, Montreal.

M. H. Brown, heretofore General Freight Agent, (Local Traffic), Ontario Division, Toronto, is appointed Division Freight Agent, Ontario Division, with territory, Smiths Falls and west to Windsor, and Romford Jct., and south, including branch lines. Office, Toronto.

J. H. Griffin, heretofore District Freight Agent, San Francisco, Cal., is appointed District Freight Agent, Toronto, with territory, Smiths Falls and west, to, but not including, Galt, Ont., including branch lines, reporting to the Division Freight Agent, Toronto.

W. J. Grant, heretofore Commercial Agent, Hamilton, Ont., is appointed District Freight Agent, Hamilton, Ont., with territory, Hamilton, Brantford and east to the Niagara Frontier, reporting to the Division Freight Agent, Toronto.

L. Mulkern, District Freight Agent, London, Ont., with territory, Galt and west, to Windsor, Ont., including branch lines, reporting to the Division Freight Agent, Toronto.

W. S. Elliott, heretofore General Freight Agent, Lake Superior Division, North Bay, Ont., is appointed Division Freight Agent, Lake Superior Division, with territory, Chalk River and west to Sault Ste. Marie and Port Arthur, Ont., including branch lines. Office, North Bay, Ont.

R. J. Hunt, Chief of Tariff Bureau, in charge of tariff publications and divisions, Eastern Lines. Office, Montreal.

G. J. P. Moore, heretofore chief clerk to First Assistant General Passenger Agent, Montreal, has been appointed City Passenger and Ticket Agent, Quebec, Que., vice Jules Hone, resigned.

P. J. Murphy has been appointed Storekeeper at Ignace, Ont., vice J. Paxton, transferred to Calgary, Alta.

J. McCallum, heretofore Assistant Superintendent, Maintenance of Way and Structures, District 2, Lake Superior Division, White River, Ont., has been appointed Assistant Superintendent, District 1, Lake Superior Division, Office, Sudbury, Ont. The position is a new one for District 1, and no appointment will be made for that position on District 2.

H. Bailey has been appointed Bridge and Building Master, District 1, Lake Superior Division, Sudbury, Ont., vice T. N. Colgan, resigned, on his appointment as Commissioner of Works for the Town of North Bay, Ont.

W. B. Lanigan, Assistant Freight Traffic Manager, Western Lines, issued a circular dated Apr. 1, re-organizing the Freight Traffic Department, Western Lines, as follows:—

W. B. Lanigan, Assistant Freight Traffic Manager, Winnipeg, with general supervision of freight traffic on Western lines, including the Esquimalt and Nanaimo Ry.

R. E. Larmour, heretofore General Freight Agent, Central Division, Winnipeg, is appointed Division Freight Agent, Central Division, with territory covering main line branches, Port Arthur to Swift Current and Rossyth, inclusive. Office, Winnipeg, Man.

G. H. Smith, heretofore Assistant General Freight Agent, Central Division, Winnipeg, is appointed District Freight Agent, Winnipeg city and terminals, including St. Boniface, reporting to Division Freight Agent, Winnipeg. Office, Winnipeg, Man.

R. W. Drew, District Freight Agent, with territory, main line, Yorkton to Rossyth, inclusive and branch, Lanigan to Strassburg, inclusive, reporting to Division Freight Agent, Winnipeg. Office, Saskatoon, Sask.

John Halstead, heretofore General Freight Agent, Western Division, Calgary Alta., is appointed Division Freight Agent, Western Division, covering main line and branches, Beverley to Laggan and Burmis, inclusive, Hardisty to Westskiwin, inclusive, Calgary to Edmonton, inclusive, and Lacombe to Castor, inclusive. Office, Calgary, Alta.

W. R. Haldane, heretofore General Freight Agent, Kootenay and Boundary Division, Nelson, B.C., is appointed Division Freight Agent, Kootenay and Boundary Division, with territory, Pass-

burg to Kootenay Landng, inclusive, Proctor to Midway and Rossland, Gerard to Lardo inclusive; Nakusp to Sandon, inclusive, Slocan Jct. to Slocan city inclusive, and Arrow and Kootenay Lakes steamers. Office, Nelson, B.C.

W. C. Bowles, heretofore General Freight Agent, Pacific Division, Vancouver, B.C., is appointed Division Freight Agent, Pacific Division, with territory, main line and branches, Stephen to Vancouver, B.C., Esquimalt and Nanaimo Ry., Okanagan Lake Service, B.C. Coast Service and all Pacific Coast Freight Traffic. Office, Vancouver.

F. H. Clendenning, heretofore Assistant General Freight Agent, Pacific Division, is appointed District Freight Agent, B.C. Coast Service and trans-Pacific steamers. Office, Vancouver, B.C.

W. H. Gardiner, heretofore City Freight Agent, C.P.R., and District Freight Agent Esquimalt and Nanaimo Ry., is appointed District Freight Agent, E. & N. Ry., with territory covering Victoria to Cameron Lake, B.C. Office, Victoria, B.C.

R. G. Holmes, Chief of Tariff Bureau, Winnipeg, Man.

E. B. Patterson, heretofore Locomotive Foreman at Wilkie, Sask., has been appointed Locomotive Foreman at Hardisty, Sask., vice M. W. Boucher, assigned to other duties.

G. Sellars, heretofore Locomotive Foreman at Strassburg, Sask., has been appointed Locomotive Foreman at Wilkie, Sask., vice E. B. Paterson, transferred.

E. Dodd, heretofore night charge hand, has been appointed Locomotive Foreman at Strassburg, Sask., vice G. Sellars, transferred.

J. E. Ryan, heretofore Chief Dispatcher District 3, Alberta Division, Macleod, has been appointed Chief Dispatcher District 2, Alberta Division, Calgary, vice A. Allan, transferred.

A. Allan, heretofore Chief Dispatcher, District 2, Alberta Division, Calgary, has been appointed Fuel Agent, Alberta Division, vice R. A. Gamble, transferred. Office, Calgary, Alta.

J. Paxton, heretofore Storekeeper at Ignace, Ont., has been appointed Storekeeper Roundhouse Store at Calgary, Alta. This is a new position.

H. J. Humphrey, heretofore dispatcher, District 2, Calgary, has been appointed Chief Dispatcher, District 3, Alberta Division, Macleod, vice J. E. Ryan, transferred to Calgary.

Robt. Stockton, C.E., heretofore Irrigation Manager U.S. Reclamation Service, in charge of the Yellowstone project, Montana, has been appointed Superintendent of Operation and Maintenance under the Administration Division of the Irrigation Department, in charge of the Field Force of the Western Section of the Irrigation Block. Office, Strathmore, Alta.

E. W. Kolb, heretofore Superintendent, District 3, Sleeping, Dining and Parlor Cars and News Service, Winnipeg, has been appointed Superintendent Alberta Division, same service. Office, Calgary, Alta.

W. Kennedy, at one time Superintendent of Motive Power and Car Department, Central Vermont Ry., has been appointed General Foreman, C.P.R., Revelstoke, B.C., vice W. Byrd, resigned.

H. A. Seibel, heretofore on general agency staff, Chicago, Ill., has been appointed Travelling Passenger Agent, Atlantic Steamship Service, Chicago, Ill., vice E. L. Sheehan, promoted.

E. L. Sheehan, heretofore Travelling Passenger Agent, Atlantic Steamship Service, Chicago, Ill., has been appointed City Passenger Agent, same service, Chicago, Ill., vice J. J. Forster, appoint-

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TATE BIFUNCTIONAL ACCUMULATORS**ARE BETTER ADAPTED THAN ANY OTHER BATTERY.**

They have Longer Life. Their watt-hour efficiency is higher.

They occupy less space for given capacities.

They are not affected by heavy discharge rates, including short circuiting.

They do not discharge while standing.

They do not require any repairs during their life.

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The plates hold the active material in place PERMANENTLY.

The cells never have to be washed out, as there is no deposition of active material.

For portable work they are vastly superior, owing to their mechanical strength. And for given capacities they are lighter.

They are superior to Primary Batteries; especially in cold or damp climates. They show relatively small drop in capacity due to low temperature. They do not require the same expensive means of protection from dampness and cold.

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All statements made by us concerning the physical characteristics and performance of the TATE BIFUNCTIONAL ACCUMULATOR are based solely upon independent Engineering Reports or the results of practice. We can quote unquestionable authority for each and every assertion embraced in our advertisements.

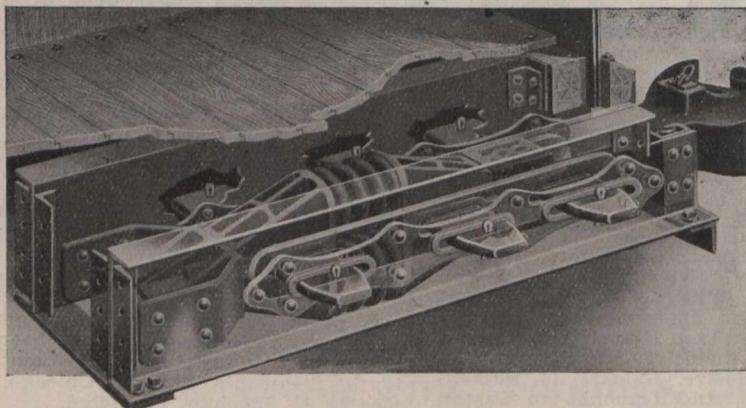
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4 Steel Side Links

6 Steel Draft Keys

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with FARLOW Attachments.**THE T. H. SYMINGTON COMPANY**

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ROCHESTER

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ed Travelling Passenger Agent, same service, Seattle, Wash.

W. W. Smith, heretofore Travelling Freight Agent in California, has been appointed District Freight Agent, San Francisco, Cal., vice J. H. Griffin, transferred to Toronto.

Central Vermont Ry.—D. T. Lawrence, heretofore Manager, National Despatch-Great Eastern Line, Boston, Mass., has been appointed General Freight Agent, C.V.R., vice C. E. Dewey, transferred to Grand Trunk Pacific Ry. service. Office, St. Albans, Vt.

Chicago, Milwaukee and St. Paul Ry. A. W. Jones, heretofore Soliciting Agent Great Northern Ry., Montreal, has been appointed Travelling Freight and Passenger Agent, C.M. & St. P.R., Toronto, vice J. M. Copeland, resigned, to enter the C. & N.W.R. service, as announced in our last issue.

Grand Trunk Pacific Ry.—W. J. Quinlan, heretofore City Ticket Agent, G.T.R. and G.T.P.R., has been appointed District Passenger Agent, G.T.P.R. Winnipeg, Man., vice A. E. Duff, appointed District Passenger Agent, G.T.R. Toronto. Office, 260 Portage Ave., Winnipeg.

The following agents have been appointed:—Cabot, Man., J. Graham; Wainwright, Alta., G. Harper; Redditt, Ont., E. S. Nixon. The station at Clavet, Sask., has been closed.

Grand Trunk Ry.—E. S. Cooper, heretofore Chief Train Dispatcher, Districts 1 and 2, Eastern Division, Island Pond, Vt., has been appointed Chief Train Dispatcher, Districts 4 and 5, Eastern Division, vice E. S. Watson, resigned. Office, Bonaventure Station, Montreal.

T. H. Mason, heretofore dispatcher at Island Pond, Vt., has been appointed Chief Train Dispatcher, Districts 1 and 2, Eastern Division, vice E. S. Cooper, transferred. Office, Island Pond, Vt.

The following agents have been appointed:—St. Gregoire, Que., J. A. Simoneau; Chaudiere Jct., Point Levi and Quebec, Que., G. Cogger; Beaconsfield, Que., N. Clark; St. Annes, Que., J. A. Carriere; Glen Huron and Nottawa, Ont., J. D. McGibbon (acting); Hamilton, (King St.), Ont., V. A. Cline; Thamesville, Ont., L. E. Marcus; Belle River, Ont., E. G. Willson; La Sallette, Ont., J. W. MacDonald; Mount Forest, Ont., J. F. Roe; Elmwood, Ont., W. Given; Dobbin, Ont., A. Henderson; Morrisburg, Ont., J. F. Myers; Mimico, Ont., T. H. Sumner; Burlington Jct., Ont., M. G. Watson; Pinkerton, Ont., N. J. Lowes; Warton, Ont., W. J. Riesberry; Whitechurch, Ont., W. M. Salkeld; Greenfield, Ont., R. J. Hardy; Port Huron, Mich., (Pass.), F. H. Potter; outside agencies, Cornwall, Ont., W. J. James; Peterboro, Ont., B. A. Rose; Reboro, Ont., L. McMahon; Omeme, Ont., R. J. Mulligan; Fraserville, Ont., W. A. Kidd; Paris, Ont., B. Travers and Son.

Lake Erie and Western Rd.—J. S. Hall, heretofore Assistant General Passenger Agent, Michigan Central Rd., Detroit, Mich., has been appointed General Passenger Agent, Lake Erie and Western Rd., Fort Wayne, Cincinnati & Louisville Rd., and Northern Ohio Rd., vice L. W. Landman, promoted.

Lake Shore and Michigan Southern Ry., Etc.—I. P. Spining, in addition to his previous duties has been appointed General Western Passenger Agent, L. S. & M.S. Ry., Dunkirk, Allegheny Valley & Pittsburg Rd., and Lake Erie, Alliance & Wheeling Rd., vice L. D. Huesner, promoted.

Michigan Central Rd.—L. D. Huesner, heretofore General Western Passenger Agent, Lake Shore and Michigan Southern Ry., Chicago, Ill., has been appointed Assistant General Passenger Agent, M.C.Rd., vice J. S. Hall, appointed General Passenger Agent, Lake Erie and

Western Rd. Office, Detroit, Mich.

National Despatch-Great Eastern Line.—C. J. Pierce, heretofore New England Agent, Boston, Mass., has been appointed Manager, vice D. T. Lawrence, appointed General Freight Agent, Central Vermont Ry. Office, Boston, Mass.

J. E. Berry, heretofore on the New England Agent's staff, has been appointed New England Agent, vice C. J. Pierce, promoted. Office, Boston, Mass.

New York Central and Hudson River Rd.—H. H. Downs has been appointed Chief Claim Agent N.Y.C. & H.R. Rd., and its leased and operated lines, except the Boston and Albany Rd. Office, New York.

M. Bronson, heretofore Superintendent Mohawk Division, Albany, N.Y., has been appointed Superintendent Electric Division, vice C. L. Bardo, resigned to enter another company's service. Office, New York.

D. W. Dinan, heretofore Superintendent Pennsylvania Division, Corning, N.Y., has been appointed Superintendent, Mohawk Division, vice M. Bronson, promoted. Office, Albany, N.Y.

J. W. Evans, heretofore Assistant Superintendent at Jersey Shore, Pa., has been appointed Superintendent, Ontario Division, vice S. J. Kearns, promoted. Office, Oswego, N.Y.

S. J. Kearns, heretofore Superintendent Ontario Division, Oswego, N.Y., has been appointed Superintendent Rochester Division, vice F. E. McCormack, promoted. Office, Rochester, N.Y.

F. E. McCormack, heretofore Superintendent Rochester Division, Rochester, N.Y., has been appointed Superintendent Pennsylvania Division, vice D. W. Dinan, promoted. Office, Corning, N.Y.

New York Central Lines.—F. V. Whiting has been appointed General Claims Attorney, for all lines except the Boston and Albany Rd., in general charge of claims for loss and damage to persons and property, except such as are subject to the jurisdiction of the traffic or accounting departments. Office, New York.

W. H. Falling has been appointed Assistant Chief Claim Agent, N.Y.C. & H.R. Rd., and its leased and operated lines, except the Boston and Albany Rd. Office, New York.

Ottawa and New York Ry.—J. P. Daly heretofore chief clerk to Division Freight Agent, New York Central Lines, Buffalo, N.Y., has been appointed General Freight and Passenger Agent, O. & N.Y.R., vice F. J. Balch, resigned. Office, Ottawa, Ont.

Grain Elevator Notes.

The elevator at Broadview, Sask., owned by A. R. Colquhoun and Sons, with about 6,000 bush. of grain, and one C.P.R. box car, were destroyed by fire, Mar. 30.

The Redcliff Mill and Elevator Co., Ltd., of Redcliff, Alta., has been licensed to carry on its business in British Columbia, with office at Vancouver, and E. Munnings as its attorney.

The Saskatchewan Legislature, at its recent session, authorized the Government to raise by way of loan on the credit of the province, such sums as may be required for the purposes of the act incorporating the Saskatchewan Co-operative Elevator Co., passed during that session. The money is to be raised on securities bearing interest not to exceed 4%, the principal to be repaid in 40 years.

The G.T.R. has awarded a contract to John S. Metcalf Co., Ltd., Montreal, for the construction of a re-inforced concrete storage and shipping elevator of 500,000 bush. capacity, at Windmill Point, Montreal. This elevator is to be

connected with the G.T.R. existing elevator there, which has a 1,100,000 bush. capacity, and was built by the same firm a few years ago. The cost will be about \$125,000. Both elevators will be operated by the Montreal Warehousing Co., a subsidiary company of the G.T.R.

The International Milling Co. of Canada, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$6,000,000, and office at Toronto, to carry on a general milling business, and in connection therewith to own and operate grain elevators, steam and other vessels, and other transportation facilities. The incorporators are A. Bicknell, J. W. Bain, F. R. McKelcan, M. L. Gordon, T. W. Lawson, E. G. McMillan, J. F. MacGregor, J. E. Riley, W. H. Walter and H. Riley, Toronto.

Among the Express Companies.

The Canadian Northern Ex. Co. has opened offices at Calder, Sask., and North Edmonton, Alta.

The Western Ex. Co. has closed its office at Skinner, Me. Shipments intended for there must be forwarded to Lowelltown.

The Western Ex. Co. has opened a regular waybill office at Skagway, Alaska, reached at all seasons of the year, via Vancouver, B.C., and steamer lines.

The Dominion Ex. Co. has announced that navigation having re-opened for the season, shipments for Michipicoten, Michipicoten Harbor, Michipicoten Island, Michipicoten River and Helen Mine should be routed via Sault Ste. Marie, Ont.

W. H. Plant, Traffic Auditor, Dominion Ex. Co., Toronto, has also been appointed Auditor in charge of all accounting, Western Ex. Co. The positions of Traffic Auditor and Auditor of Money Order Accounts, Western Ex. Co., have been abolished.

The Board of Railway Commissioners, after a hearing of complaints regarding the delivery limits, fixed by the express companies, in cities and municipalities, decided that the companies must make collections and deliveries within the limits of the boundaries, commencing June 1, and gives companies the right to ask for relief in special cases.

Telegraph and Cable Matters.

The Order of Railway Telegraphers will hold its biennial convention at Toronto, May 8.

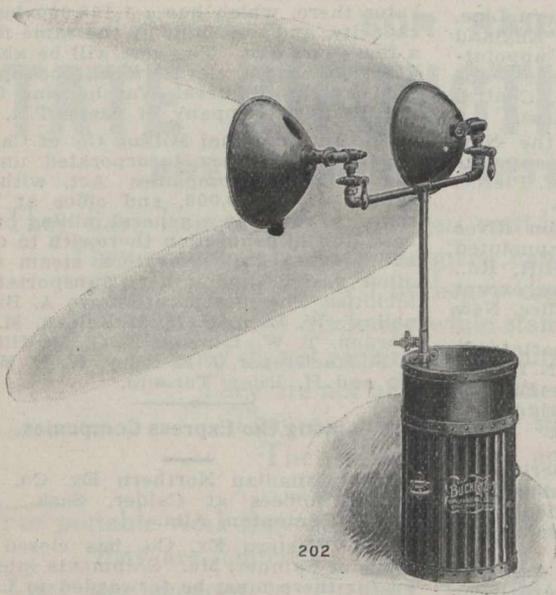
The Great North Western Telegraph Co. has removed its Brandon, Man., office to the rotunda of the Hotel Cecil.

The Newfoundland Legislature has confirmed contracts with the Western Union Telegraph Co. and the Direct United States Cable Co.

The Dominion Government telegraph line from Battleford, Sask., northerly to Isle Lacrosse, about 250 miles, will be proceeded with this year, an appropriation of \$37,000 having been made.

The board of conciliation appointed to investigate the grievances of the Great North Western Telegraph Co.'s operators, consists of Justice Teetzel, Toronto, chairman; F. H. Markey, Montreal, representing the company, and D. Campbell, Toronto, on behalf of the men.

The Nova Scotia Telephone Co., which recently received an offer from the Maritime Telegraph and Telephone Co. to lease the former company's franchises, etc., guaranteeing 7% to the shareholders, or to purchase the stock at 125, is to recommend to the shareholders that the companies be merged, on terms which are stated to be satisfactory to both concerns.



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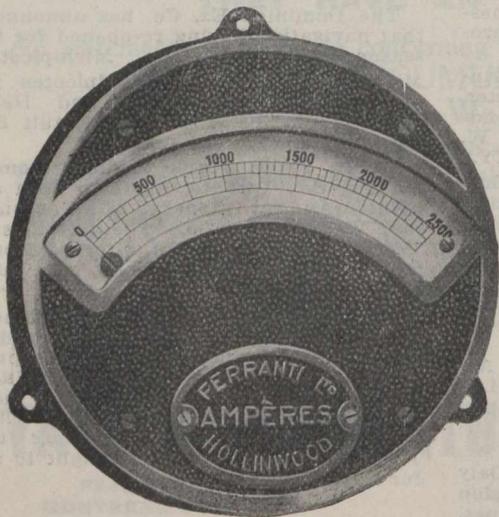
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ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager Railway and Marine World.

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Alberta Electric Ry.—The Dominion Parliament has incorporated a company with this title to build the various lines mentioned on pg. 71 of our Jan. issue. (Mar., pg. 257.)

Aroostook Valley Electric Ry.—The act authorizing the company to acquire and electrify the Presque Isle branch of the C.P.R., and to extend its line westward from Washburn, Me., to the International boundary at L'Islet county, Que., and to other points in Maine, was finally passed by the Maine Legislature, Mar. 30. (April, pg. 363.)

Belleville Radial Ry.—The Ontario Legislature has extended the time for the construction of the lines authorized to be built by the act passed in 1909. (Mar., pg. 257, and April, 1909, pg. 281.)

Birds Hill and Springfield Ry.—The Manitoba Legislature has incorporated a company with this title to build an electric railway from St. Boniface to Birds Hill, Man. (April, pg. 363.)

Brandon Electric Ry.—The Manitoba Legislature has incorporated a company with this title to build an electric railway in Brandon, Man. A resolution was adopted by the city council Mar. 25, directing the preparation of a bylaw for submission to the ratepayers authorizing the issue of \$300,000 of debentures for the purpose of building an electric railway line in the city. A committee of the board of trade was appointed to act with the city council in discussing probable routes. Mr. Farquharson, of Fort William, Ont., was in Brandon, Mar. 30, in consultation with City Engineer Speakman as to the routes to be recommended. As a result of their consultation, the City Engineer recommended the construction of a belt line, with four cross lines, aggregating 10 miles in length, to be laid with 80 lb. steel on Rosser Ave., and 60 lb. steel on the other streets.

An offer has been made to the city council by J. D. McGregor, Brandon, on behalf of a British company to finance and build a street railway upon the basis of an equal division of profits between the company and the city. The matter was referred to the special committee which has the street railway matter in hand. (April, pg. 363.)

The British Columbia Electric Ry. Co. has secured control of a property at the corner of Carrall and Pender streets, Vancouver, B.C., for a future extension of its Hastings St. building. This gives the company control of the entire block. The Board of Railway Commissioners has authorized the Vancouver, Fraser Valley and Southern Ry., controlled by the B.C.E.R., to connect its tracks with those of the B.C.E.Ry. at Park Drive,

Vancouver, and at Eighth Ave., Sapper-ton, New Westminster.

The Point Grey municipal council was advised April 5, that an appropriation had been made for the building of a second track on the Vancouver-Ebume line, and that work would be started at an early date.

Application is being made to the company to arrange for the building of additional lines in various parts of the Vancouver-New Westminster district which are not served by existing lines.

The new wharf at New Westminster has been completed and track laid on it.

Press reports state that arrangements are being made for the building of a line from Victoria to Deep Cove, about 22 miles.

It is expected that power from the Jordan River plant will be delivered in Victoria, May 15. (April, pg. 363.)

Calgary Municipal St. Ry.—Construction on the extension of the municipally owned electric railway in Calgary, Alta., was started April 1. A large amount of the necessary material being on hand the work is reported to be progressing rapidly. (Mar., pg. 257.)

Cape Breton Electric Co.—It is proposed to build an extension to the company's power house in Sydney, N.S. A contract has been let for a 500 k.w., tube generator, 2,300 volt alternating current. (Feb., pg. 167.)

Dunnville, Wellandport and Beamsville Electric Ry.—The Ontario Legislature has extended the time for the building of the previously authorized lines, and authorized the building of an extension from Fenwick to Welland, Ont. (April, pg. 365.)

Edmonton Radial Ry.—The annual report of the city commissioners for Edmonton, Alta., for 1910, states that they would not recommend any extension of the street railway during the current year, but all efforts would be centred upon the improvement of the present system, it being understood that extensions commenced during the past year are to be completed as promptly as possible. It is planned to operate the cars on the single end plan, with Y's or loops at the end of the lines. Too much work was laid out last year for the time available considering the late date at which specifications for materials were issued. It is expected that the system as a whole will be in operation by Aug. 1. After careful study of the question of the distribution of power the commissioners have arrived at the conclusion that a sub-station would be most desirable for the economical system of feeders, and consequently recommend the purchase of a motor generator, to be installed at the present car barns, to take care of the feeder system at the east end, the power plant to supply direct current for the present for the central portion of the city, Strathcona and the west end. (Mar., pg. 257.)

Guelph Radial Ry.—The Ontario Legislature has extended the time within which certain branch lines may be built, and confirmed agreements with the Peoples Ry., respecting the building of that company's lines in the city of Guelph. (Mar., pg. 257.)

Halifax Electrical Tramway Co.—No action having been taken by the city council on the company's application to lay a second track on the belt line in Halifax, the company recently advised

the Mayor that it was too late to do anything with the work this year. Permission was granted to build a line on Göttingen St., from Cunard to Young St., this year, and for which permission was asked. (April, pg. 365.)

Hamilton and Dundas Electric Ry.—The Manager of the Dominion Power and Transmission Co., has advised the Ontario Railway and Municipal Board, that a new substation will be completed early in June, which will enable the company to have all the power necessary to give an adequate service on the line. (Jan. 1909, pg. 53.)

Hamilton, Grimsby and Beamsville Electric Ry.—The company was granted permission by the city to begin relaying its tracks on Main St., Hamilton, on April 15, but prior to that date a deputation of Main St. residents asked the council to approach the company with a view to the abandonment of Main St., and the utilization of King St. east by the company for its line. The council agreed to do so, but W. C. Hawkins, General Manager, on behalf of the company, stated in an interview that the project was impracticable. (Jan., 1908, pg. 47.)

Hamilton St. Ry.—After a lengthened discussion the Hamilton city council decided to ask the company to transfer its tracks on Barton St., east, into the middle of the road and to double track Aberdeen Ave. and move back the poles there, or to put down an extension on Herkimer St. from MacDonald St. to Queen St. and to ask the company to allow it to use the radial subway under the Grand Trunk track. The company promised to consider the matter on May 1. The extensions proposed by the city would add about nine miles to the present 21 miles of road, and are estimated to cost \$238,000. (April, pg. 365.)

The International Traction Railways. is the title of a company for which the authority of the Dominion Parliament is being obtained to take over the "estate, property, name, rights, privileges and franchises" of the International Ry. within Canada. The bill specifically provides that the rights of Ontario in respect of the Niagara Falls Park and River Ry., which forms part of the property taken over, shall in no way be affected. An act passed by the Ontario Legislature provides for the transfer of the line, and especially reserves its authority and the authority of the commissioners of the Queen Victoria Niagara Falls Park in respect of the Niagara Falls Park and River Ry. (Mar., pg. 257.)

London St. Ry.—Work is in progress in laying an additional track on the Dundas St. line, by the company, and the city is repaving the street. (Mar., pg. 257.)

Moncton Tramways, Electricity and Gas Co.—We are advised that work has been started upon the construction of a street railway in Moncton, N.B., owing, however, to the severity of the weather, work was expected to proceed but slowly until well on in May, but we are informed the company expects to have the line opened for traffic in Nov.

The line under construction starts at the corner of King and Main Streets, proceeds along Main St., to High St., along High St. to Union St., with a branch along St. George St. to the Intercolonial Ry. tracks; a line extends from the King-Main St. corner along Union St. as far as Wilberforce St., and a third line starts from Main St., proceeds along

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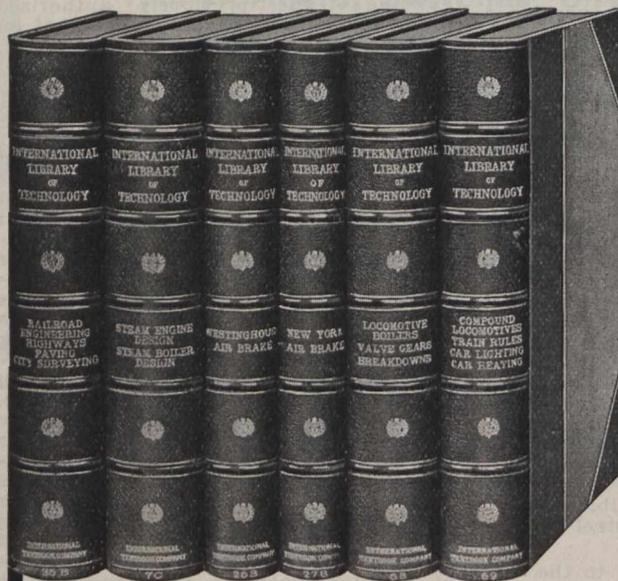
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Bon Accord St., St. George St., Robinson St., Railway Ave., Church St., Church St. extension, First Ave., and Shediac St., to the Humphrey golf links. (April, pg. 365.)

We were advised April 21 that work has been started with the erection of poles on King St. and Mountain Road. Under the terms of the agreement with the city the company is required to have not less than two miles of track equipped and in actual operation by Nov. 30. The total mileage of the system, as outlined, will be 6.5 miles. The track will be laid with 76-lb. rails, which have not yet been ordered. The company's power house will be located on Mechanic St., and at first coal will be used for fuel, but natural gas may be used in the near future instead. It is the ultimate intention of the company to instal gas engines in which natural gas will be consumed. The power plant will consist of two 150 k.w. generators. Tenders are under consideration for the supply of six single truck cars, with longitudinal seats, each capable of accommodating 22 people, and fitted with two series wound motors of 40 b.h.p. The resident engineer in charge of construction is W. G. Ritchie.

Montreal St. Ry.—The question of the renewal of the franchise came before the Montreal board of control April 18, when it was decided to write the company on the matter. It is expected that before any arrangement is made with the city, the four companies will be amalgamated under the title of the Montreal Tramways Co., as sanctioned by the Quebec Legislature. (See Montreal Tramways Co., April, pg. 359.)

Montreal Tramways Co.—The Quebec Legislature has incorporated a company with this title to construct and operate an underground railway through the Island of Montreal and Ile Jesus and Bizard, and other railways and tramways, and to acquire existing lines. The purpose of the company is to amalgamate the existing companies and to provide for the extension of the lines. After an agreement had been reached with the city of Montreal as to the existing contracts, certain amendments were made and the bill was allowed to pass. (April, pg. 359.)

Moose Jaw Electric Ry.—We are advised that tenders are being asked for the building of a power house and car barns. It was expected to start work early in April on the completion for operation of the track laid during 1910, and upon laying an additional three miles of track.

A. H. Dion, in a recent interview, stated that work on the Electric Ry. will be pushed to a completion as speedily as possible. Tenders are under consideration for the building of a power house and car barns. The engines and generators for the power house are ready, but will not be delivered until the power house is ready. A number of the cars are ready for shipment, and others are being built by the Ottawa Car Co. The portion of the lines built include a double track from the C.P.R. station to Oxford St., on Main St., and from Fourth Ave. to Main St., on High St. (April, pg. 365.)

Nelson St. Ry.—We are advised that during 1910, the company reconstructed the old line of two miles in Nelson, B.C., and built an extension of 1.25 miles. (Sept., 1910, pg. 781.)

Niagara Frontier Electric Ry.—The Ontario Legislature has incorporated a company with this title to build an electric railway from Niagara-on-the-Lake to Fort Erie, Ont. (April, pg. 365.)

Niagara, Welland and Lake Erie Ry.—The Dominion Parliament has incorporated a company with this title to build an electric railway. The route of the various lines, and the names of the

provisional directors have already been published in this department.

A. P. Laughlin, one of the provisional directors, is quoted as having stated recently that arrangements are being made to start work on the building of an electric railway through Welland, Ont., at once, and to have it completed by the fall. (Mar. pg. 259.)

Ontario West Shore Ry.—Negotiations are in progress with the municipal council of Bayfield, Ont., for an extension of the line southerly from Goderich, Ont. (April, pg. 365.)

Ottawa and St. Lawrence Electric Ry.—The Ontario Legislature has extended the time within which this projected electric railway may be built. (Mar., pg. 259.)

Ottawa Electric Ry.—We are advised that it is the company's intention to lay a double track line on Preston St., from Somerset St., to Dow's Lake, 1.25 miles, this season. The work of relaying the present tracks on Sparks St. was expected to be started in April. No other construction is likely to be undertaken this year. (April, pg. 365.)

Ottawa, Smiths Falls and Kingston Ry.—A meeting of shareholders was held in Ottawa, April 12, when the following were elected directors:—F. A. Heney, Westboro, Ont.; T. A. Kidd, Burritt's Rapids, Ont.; J. F. Caldwell, City View, Ont.; G. L. Dickenson, Manotick, Ont.; and G. Boyce, Merivale. Arrangements were made with a view of raising the capital necessary for the building of the railway, and it was proposed to hold a series of meetings to secure financial aid in the municipalities through which the projected line will pass. (April, pg. 365.)

Port Arthur and Fort William Electric Ry.—R. S. Kelsch, Montreal, has been engaged in making preliminary surveys for extensions of lines in Fort William, Ont. (April, pg. 365.)

Peoples Ry.—The agreements made between the company and the Guelph Radial Ry., with respect to the construction of certain lines in the city of Guelph Ont., and their connection with the G.R.R. lines, have been confirmed by the Ontario Legislature. The Legislature has also granted the company an extension of time within which to build its previously authorized lines, and has given power for the building of additional lines. (Mar., pg. 259.)

Quebec and Island of Orleans Ry.—The Quebec Legislature has granted an extension of time for the building of the line already authorized, and has given the company power, if thought advisable, to build the line on the mono-rail system of construction. (Feb., pg. 169.)

St. John Ry.—The company's application to the New Brunswick Legislature for power to extend its lines in various directions has been amended by limiting the extensions to the parishes of Rothesay, Westfield and Hampton. (April, pg. 365.)

St. Thomas Street Ry.—The St. Thomas, Ont., city council is being asked to approve of the submission to the taxpayers of a bylaw providing for the raising of \$35,000 for the purpose of putting the line and the overhead construction in proper repair; to repair the present rolling stock, and to purchase three new cars. (Mar., pg. 261.)

Saskatoon, Sask.—Six propositions were submitted to the city council of Saskatoon, Sask., April 4, for the construction of an electric railway in the city. The propositions were submitted by E. J. Wenger and Co., Regina, Sask.; the interests behind the Moose Jaw Electric Ry., J. E. Hutchinson, Ottawa; Lyons and Shepard, Edmonton, Alta.; C. Meredith and Co., Montreal; C. C. Co-han, Montreal. The whole matter was

referred to a special committee consisting of Aldermen Casewell, Willoughby and Harrison.

Sherbrooke Railway and Power Co.—The power plant has been completed and power was turned on about a month ago. The whole plant is of very fine construction. The completion of the railway within the city was expected to be taken up April 15. The new rails and special work have been ordered, and it is expected that the whole system will be completed by about June 15. When finished it will cover about 11 miles. Besides the branch to Lennoxville further extensions are under consideration. The Lennoxville line extends three miles from Sherbrooke, and forms a very important link, connecting Sherbrooke with Lennoxville, which is the seat of Bishops College University. (April, pg. 365.)

Toronto and York Radial Ry.—Application is being made to the Ontario Railway and Municipal Board to approve plan and profile of the proposed deviation of the Metropolitan division westerly off Yonge St., from the C.P.R. tracks, northerly to within a few feet of Balmoral Ave.

The building of the double track deviation near Mimico, on the Sunnyside-Port Credit line, is nearly completed, and the new bridge over the Mimico creek has been built. It is expected that the new piece of line will be connected up and put in operation by June.

The Ontario Legislature has amended the company's powers as to the construction of lines. (Mar., pg. 261.)

Toronto Civic Street Railway.—The city engineer was directed April 4 to prepare plans for a subway on Yonge St. from the Union Station to St. Clair Ave., in connection with the proposed civic street railway and tube system. It is expected that tenders will be asked for on the adoption of the plans, and that a vote of the ratepayers will then be taken as to construction.

The city solicitor has been instructed to prepare a report upon the question of the interchange of traffic between the Toronto Ry. lines and the civic lines. (April, pg. 365.)

Toronto Interurban Ry. Co.—The Ontario Legislature has incorporated a company with this title to build a railway to be operated by steam or electricity from Toronto to Newmarket, Ont. (Mar., pg. 261.)

Toronto Suburban Ry.—The Ontario Legislature has extended the time within which certain extensions of the company's present lines may be built, and has authorized the building of a line via Cooksville to Milton and Acton, Ont. The time extension allowed is one year, and the Legislature did not grant the increase of capital stock, or power to build all the extensions asked for.

The committee had engineers out over the routes of proposed lines which should be built within the year's extension granted, April 5, and the following week. (Mar., pg. 261.)

Windsor, Essex and Lake Shore Rapid Ry.—A Chatham, Ont., press report states that J. Piggott says the company is planning to extend its line from Chatham to London, and that for the purposes of construction an issue of bonds will be placed on the London, Eng., and Paris, France, markets.

Winnipeg Electric Ry.—The city council, April 12, passed a resolution asking the company to at once file plans for various extensions of lines in the city, and for certain second track work. The material has been delivered for the new belt line on Princess and Donald streets from the C.P.R. tracks to Broadway, for the purpose of relieving the traffic on Main St. The work is expected to be completed early in July. (Mar., pg. 261.)

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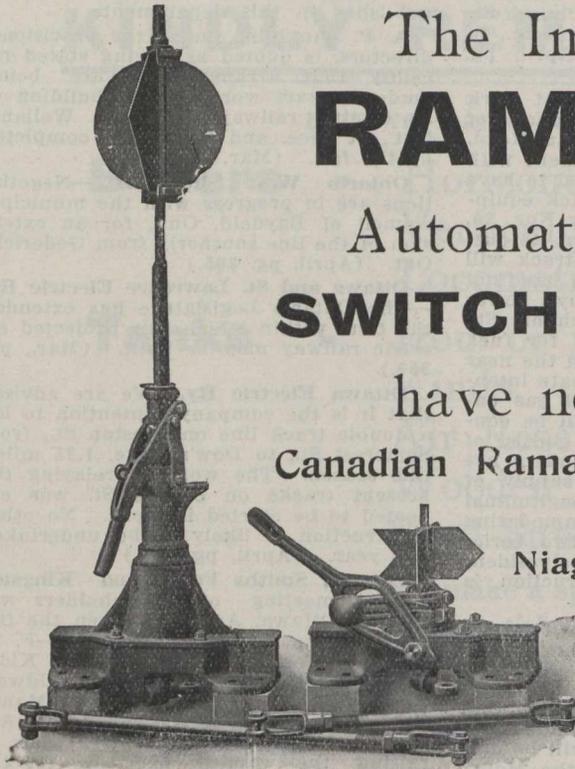
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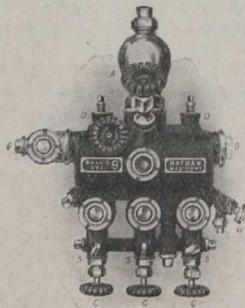
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Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Applications for the recent issue of £600,000 4½% perpetual consolidated debenture stock, were received during April. Of the issue 5% was due on application, 10% on allotment, 20% on Apr. 27, and 30% is due on June 6, and 35% on July 10. The proceeds are required for general purposes, and for extensions necessitated by increasing business. The stock ranks parri passu with the present perpetual consolidated debenture stock, which is secured by a first mortgage on the whole of the assets and undertakings, subject to existing mortgages and charges issued to secure the £228,400 first mortgage debentures and £110,600 Vancouver Power Co.'s debentures now outstanding. The interest dates are Mar. 31 and Sept. 30 each year, the principal being irredeemable. On the present showing, the company's net earnings will be sufficient, after paying all charges, to pay its debenture interest three times over.

Gross earnings for Feb. \$348,332; operating expenses, \$212,239; operating earnings, \$136,093; renewal funds, \$29,770; net earnings, \$106,323; approximate income from investments, \$20,000; net income, \$126,323, against \$237,756 gross earnings; \$139,884 operating expenses; \$97,872 operating earnings; \$17,852 renewal funds; \$80,020 net earnings; \$16,500 approximate income from investment; \$96,520 net income for Feb., 1910. Aggregate gross earnings for eight months ended Feb. 28, \$2,708,734; net earnings, \$1,096,775, against \$1,968,901 gross, and \$861,148 net for same period 1909-10.

Calgary Municipal St. Ry.—Passenger earnings for Mar., \$22,493.10; miscellaneous earnings, \$323.15; total earnings, \$22,816.25; operating expenses, maintenance of way and structures, \$385.05; maintenance of equipment, \$1,075.10; transportation, \$9,490.92; general expenses, \$687.46; total operating expenses, \$11,639.53; net operating revenue, \$11,176.72; contingent account, 5% gross receipts, \$1,140.81; interest and sinking fund, \$2,715.88; net profits, \$7,320.03.

Halifax Electric Tramway.—Railway receipts for Mar., \$16,129.49, and for two weeks ended Apr. 14, 7,661.62, against \$15,966.97 and \$7,303.94 for same periods 1910.

London Street Ry.—Experts were in the city making a valuation of the plant of the L.S.R., and of the London and Lake Erie Ry. and Transportation Co. line recently, and it is stated that an offer will be made for these two lines on behalf of a syndicate which is arranging for a merger of all the electric lines in Western Ontario, as predicted in these columns nearly two years ago.

Gross earnings for Mar., \$21,175.20; expenses \$15,370.73; net earnings \$5,804.47; deductions, \$2,441.75; net income, \$3,362.72, against \$20,451.80 gross earnings; \$14,762.17 expenses; \$5,689.63 net earnings; \$2,441.75 deductions; \$3,247.88 net income for Mar. 1910. Aggregate gross earnings for three months ended Mar. 31, \$61,080.86; expenses \$45,065.94; net earnings, \$16,014.92; deductions, \$7,000.05; net income, \$8,925.80, against \$56,164.74 aggregate gross earnings; \$41,467.30 expenses; \$14,697.44 net earnings; \$7,089.00 deductions; \$7,608.39 net income for same period 1910.

Montreal and Southern Counties Ry.—The Dominion Parliament has authorized the G.T.R. to acquire, and deal with the capital stock, bonds and other securities issued by the M. & S.C.R. Co.

Montreal St. Ry.—Passenger earnings for Feb., \$326,628.34; miscellaneous earnings \$4,109.33; total earnings \$330,737.67; operating expenses \$227,604.44; net earnings \$103,133.23; city percentage

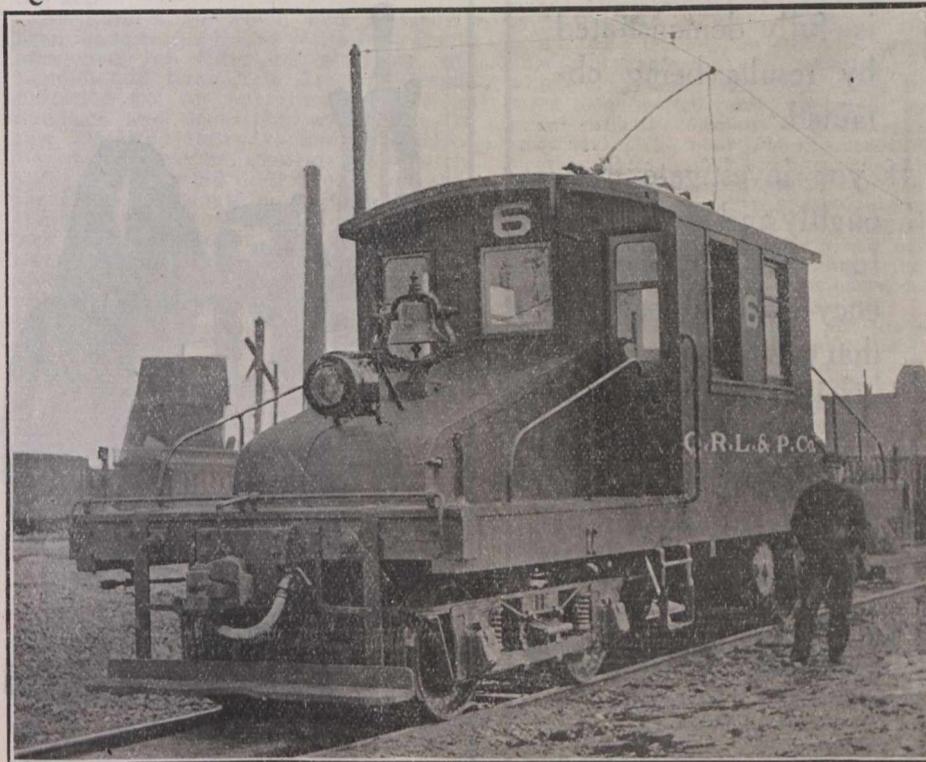
on earnings \$21,024.29; interest on bonds and loans \$15,642.58; rent leased lines \$607.10; taxes \$4,700; total charges \$41,973.97; surplus \$61,159.26; expenses per cent. of earnings 68.82; for March, passenger earnings \$368,079.75; miscellaneous earnings \$3,912.68; total earnings \$371,992.43; operating expenses \$234,484.22; net earnings \$137,508.21; city percentage on earnings \$25,616.79; interest on bonds and loans \$15,498.86; rent leased lines \$607.10; taxes \$4,700; total charges \$46,422.75; surplus \$91,085.46; expenses per cent. of earnings, 63.03; against \$300,029.33 passenger earnings; \$3,947.43 miscellaneous earnings; \$303,977.26 total earnings; \$204,255.58 operating expenses; \$99,721.68 net earnings; \$20,487.50 city percentage on earnings; \$14,834.90 interest on bonds and loans; \$552.89 rent leased lines; \$4,000 taxes; \$39,875.29 total charges; \$59,846.39 surplus; 67.19 expenses per cent. of earnings, for Feb., and 332,781.05 passenger earnings; \$3,415.54 miscellaneous earnings; \$336,196.59 total earnings; \$220,790.08 operating expenses; \$115,406.51 net earnings; \$21,484.65 city percentage on earnings; \$14,637.64 interest on bonds and loans; \$552.90 rent leased lines; \$4,000 taxes; \$40,675.19 total charges; \$74,731.32 surplus; 65.67 expenses per cent. of earnings, for March, 1910. Aggregate total earnings for six months ended Mar. 31, \$2,202,914.87; operating expenses \$1,370,472.62; net earnings \$832,442.25; total charges \$229,205.39; surplus \$603,236.86; expenses per cent. of earnings 62.21, against \$1,992,236.21 aggregate total earnings; \$1,216,984.37 operating expenses; \$775,251.84 net earnings; \$212,585.76 total charges; \$562,666.08 surplus; 61.09 expenses per cent. of earnings, for same period 1909-10.

Toronto Ry.—Gross earnings for Feb., \$335,010; operating expenses \$181,933; net earnings \$153,077, against \$305,617 gross earnings; \$167,085 operating expenses; \$138,532 net earnings for Feb., 1910. Aggregate gross earnings for two months ended Feb. 28, \$693,854; net earnings \$322,484, against \$632,265 gross and \$290,165 net for same period, 1910.

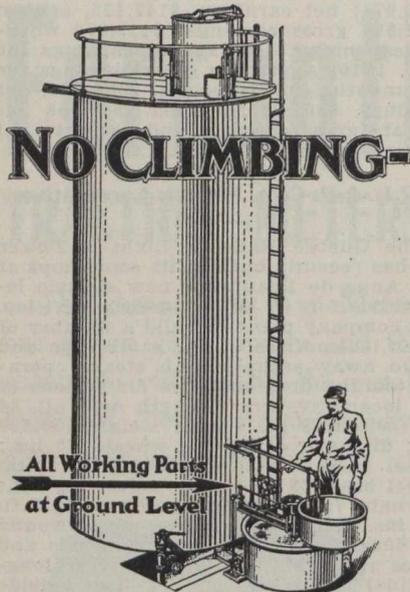
Winnipeg Electric Ry.—Gross earnings for Feb., \$309,500; working expenses, \$162,074; net earnings, \$147,426, against \$261,864 gross earnings; \$133,270 working expenses; \$128,594 net earnings for Feb., 1910. Aggregate gross earnings for two months ended Feb. 28, \$655,644; net earnings, \$305,221, against \$559,408 aggregate gross earnings and \$274,941 net earnings for same period 1910.

Q.R.L. & P. Co.'s Electric Locomotive.

The Quebec Railway, Light & Power Co. has recently built at its own shops at Ste. Anne de Beaupre a new electric locomotive for its Montmorency division. The company plans to build a number of other locomotives of the same type and to do away entirely with steam operation on the division. The dimensions of the locomotive are: Length over all, 34 ft.; width, 8 ft. 8 ins.; weight, 59,300 lbs.; diameter of driving wheels, 33 ins.; wheel base of each truck, 6½ ft.; total wheel base, 28 ft. 8 ins.; axles, 4½ ins.; journals, 7x3½ ins.; gauge of track, 4 ft. 8½ ins. The axle carries a motor wound for 600 volts. The flanges, journals and boxes are of M.C.B. standard. The longitudinal frame consists of two outside pitch pine sills 12x5 ins., and four inside sills 9x4½ ins. Steps are provided at each end on the sides. The body bolster is of wrought iron. The cab is of wood, size 11 ft. by 8½ ft., with two windows 30 by 28 ins. on each side, and one at each end of the same size. There are also two glass doors at the end. Hoods at each end of the cab cover the resistance and other electrical equipment. The locomotive is fitted with a hand brake on all the wheels, also with the Westinghouse automatic air brake. The equipment includes a bell and whistle. The gear ratio is 14:68, gives a normal speed of 18 miles an hour, and on a level carries 400 tons at a speed of 10 miles an hour. The locomotive carries a quadruple equipment of four mo. 56 Westinghouse railway motors, having a nominal rating of 55 h.p. each, total of 220 h.p. at 600 volts. Standard nose suspension is used. The one K34 controller is located in the centre of the cab.



Quebec Railway, Light and Power Co.'s Electric Locomotive.



Careful investigation will convince you that when you buy a Booth Water Softener your money becomes worth more than if invested in some other machine.

Our claim of greater efficiency, greater simplicity, and greater economy of operation is fully demonstrated by results being obtained.

If you investigate thoroughly and are looking for simplicity—efficiency—and a machine that can be relied upon at all times to produce—the right results—at the right cost—a Booth Water Softener will be your first choice.

L. M. Booth Company

W. R. TOPPAN, Vice-President and General Manager

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NEW YORK: 136 LIBERTY STREET



Kalamazoo Reinforced Pressed Steel Wheels

For Hand and Push Cars

They always wear much longer than others, giving fully 100 per cent. greater service than any other wheel of similar design or weight.

Kalamazoo Wheels are strongest where other wheels are weakest—in the throat of the flange (See sectional cut).

Made in three sizes, 16 in., 20 in., 24 in.

Twenty Styles of Kalamazoo Velocipedes

The Kalamazoo idea is to provide the proper velocipede for each different need. No difference what you want or for what purpose, we have it

We also build Hand Cars, Push Cars, Inspection Cars, and Gasolene Motor Cars, in many styles and sizes.

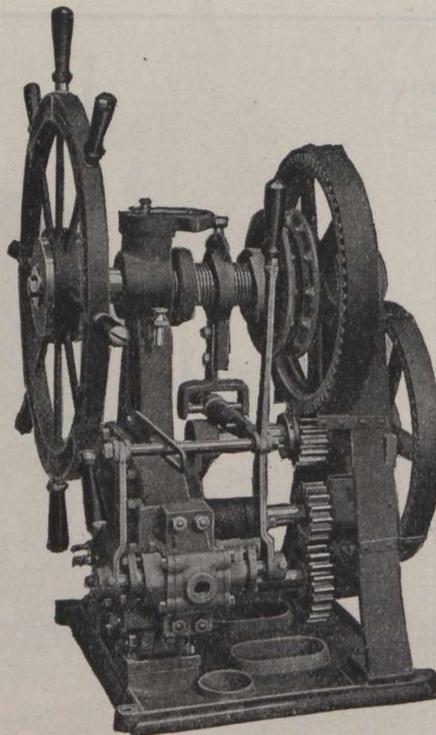


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Office and Works: KALAMAZOO, MICH.

Steam Steering Gears



Steam Anchor Windlasses

Steam Deck Capstans

Also Hoists of all kinds

Write for catalogue and prices.

DAKE ENGINE CO., Grand Haven, Mich.

Nipissing Central Railway.

An arrangement has been made by the Temiskaming and Northern Ontario Ry. Commission for the purchase of the Nipissing Central Ry., a five mile railway running from Haileybury, on Lake Timiskaming, to North Cobalt. The price to be paid, it is stated, is \$250,000, the purchase being made from D. Fasken, Toronto, representing the company. The railway has done a large amount of business.

The N.C. Ry. Co. was incorporated by the Dominion Parliament in 1907, the provisional directors being: J. W. Fitzpatrick, F. R. Latchford, Ottawa; B. F. Pearson, Halifax, N.S.; G. A. Browning, North Bay, Ont.; G. Taylor, New Liskeard, Ont.; M. J. O'Brien, Renfrew, Ont.; H. L. Dunn, Toronto; G. F. Duncan, Portland, Me.; J. J. Whipple, Brockton, Mass. In the following year an amending act was passed in which E. J. Daly, Ottawa, replaced F. R. Latchford; Hon. D. McKeen, Halifax, replaced B. F. Pearson, and C. M. Stone, Cleveland, Ohio, replaced J. J. Whipple as provisional directors. The company was authorized to build two lines starting at Latchford, Ont., and extending to the National Transcontinental Ry., the junction point of one line being fixed in the act near the Metagami River; a line from Latchford to Timagami station on the Temiskaming and Northern Ontario Ry., and various branch lines serving the whole of the intervening district. The company was given authority to develop water powers, generate and distribute electricity, to operate steam and other vessels, and to enter into agreements with the G.T.R., the G.T. Pacific Ry., or the T. and N.O. Ry. Commission for any of the purposes specified in sec. 361 of the Railway Act.

Franchises were granted April, 1909, by the Haileybury, and Cobalt municipalities and by the township of Bucke, for the building of an electric railway between Cobalt and Haileybury, a distance of about five miles; preliminary work on construction was started, and a contract was let to the Lindsay Construction Co. for building the line. Grading was completed about the end of Oct., and the line was completed by the end of March, 1910. The line was passed for operation by the Government engineers April 12, 1910, and a regular half-hour passenger service was inaugurated April 30. Four cars were delivered in Oct., 1909; four trailers and a locomotive were subsequently ordered, the latter to be used for hauling the cars, pending the completion of the electrical plant.

Surveys were made in Aug., 1910, for the extension of the line from Cobalt to Kerr Lake, and in the following month a franchise was granted for an extension of the line from Haileybury to Liskeard.

Electric Railway Notes.

The Ottawa Electric Ry., has received two pay-as-you-enter cars, 45 ft. long over all, mounted on 27-G-1 trucks from the Ottawa Car Co.

The Edmonton Radial Ry. has received four 28 ft. pay-as-you-enter cars, mounted on 27-G-1 trucks, 44½ ft. over all, from the Ottawa Car Co.

The Moose Jaw Electric Ry., has received two single truck semi-convertible pay-as-you-enter cars, mounted on 21-E trucks, from the Ottawa Car Co.

The Berlin and Waterloo St. Ry., and the Galt, Preston and Hespeler St. Ry., are now receiving their power from Niagara, over the Hydro-Electric Commission line.

The Montreal and Southern Counties Ry. has ordered one electric motor combination passenger and baggage car, and one electric motor flat car, to be built at the G.T.R. Montreal shops.

The Peterboro Radial Ry. has ordered three single truck pay-as-you-enter cars, mounted on 27-E trucks, and one double broom snow sweeper, from the Ottawa Car Co., for delivery by July 15.

J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry., on his return to Ottawa from the west, Apr. 10, is reported to have said that early in May the company hoped to put in operation 20 new p.a.y.e. cars.

One of the six pay-as-you-enter type of cars being built for the Moose Jaw, Sask., Electric Ry., by the Ottawa Car Co., was exhibited in Ottawa, April 18. It is similar to those in use on the Bank St. line in Ottawa, with the exception that instead of four cross seats at the back, there are two longitudinal seats. The same seating capacity is provided, but there is greater standing room.

The Calgary Municipal St. Ry. has awarded contracts for the supply of a 1,600 k.w. turbo-generator set with condenser, etc., to Allis-Chalmers-Bullock, Ltd., Montreal, and for a 100 k.w. exciter and switchboards, to the Canadian Westinghouse Co., Ltd., Hamilton, Ont. Allis-Chalmers-Bullock, Ltd., will also have charge of the removing and re-erecting of the boilers from the power house to Victoria Park, and such other necessary work as is required.

The Nova Scotia Legislature has passed an act providing that in all matters regarding extensions of electric railways, whether proposed by the city council, or the company, in case of disagreement, the Board of Public Utilities shall be the court of appeal. The Board shall have power to regulate frequency of service, ventilation of and heating of cars, etc. Hitherto the Board had control only of telephone, lighting and power companies. The Cape Breton Electric Co., and the Pictou County Electric Co., which have electric railways at Sydney, and New Glasgow, respectively, have been exempted from the operations of the act.

An application which had previously been made to the Board of Railway Commissioners for leave to prosecute the London and Lake Erie Ry. and Transportation Co. for operating its cars on Sundays, and dismissed, was made to the Ontario Railway and Municipal Board recently. The Chairman, J. Leitch, K.C., in delivering judgment, said that there was no dispute as to the facts. The company, which operates an electric railway between London and Port Stanley, Ont., through St. Thomas, was incorporated by the Dominion Parliament, but under sec. 9 of the Railway Act it comes under provincial jurisdiction so far as operating cars on Sundays is concerned. Nothing in the act, however, applies to any railway which forms a part of a continuous system between any of the ports of the Great Lakes, nor does it apply if the Governor General proclaims it to be exempt. It has not been contended that the company has been declared exempt, and the question is whether or not it forms part of a continuous system between Ontario and the U.S. The Board is of opinion that very important questions of law and fact are involved, and does not feel like closing the doors of the court on the applicant. If it is found that the company has not violated the law, then the applicant will suffer the penalty of costs which the courts impose. The application was granted, no order being made as to costs. It is stated that should this case be successful from the applicant's point of view, other actions will be taken against companies running cars on Sundays under similar conditions.

Sandwich, Windsor and Amherstburg Ry.

The Detroit United Ry. Co.'s annual report for the year 1910 embraces all the subsidiary companies, including the Sandwich, Windsor and Amherstburg Ry., of which the following particulars are given: Mileage, 36,060; interest on funded debt, \$34,000; revenue passengers, 3,261,664; transfer passengers, 429,383; employe passengers, 20,269; total passengers, 3,711,316; mileage statistics, car mileage, 856,186; earnings car mile .2165; expenses, .1115; net earnings, .1050. In extending the S.W.A.R. lighting plant and addition to power house \$55,113.16 was expended. Under investments, the S. W. & A. R. is given as \$253,134.91, and under accounts current, \$200,503.57.

BALANCE SHEET, SANDWICH, WINDSOR AND AMHERSTBURG RY.

Capital stock	\$ 297,000.00
Mortgage bonds	490,000.00
Accrued interest on bonds	4,987.50
Detroit United Railway	200,503.57
Accounts payable	5,831.88
Injuries and damages reserve	1,333.92
Insurance reserve	797.84
Accrued taxes	304.73
Unredeemed tickets	3,073.58
Profit and loss	18,096.56
Investment	\$1,000,057.14
W. & T.E. Ry. Co. (stock)	10,000.00
W. & T.E. Ry. Co.	9,553.79
Accounts receivable	905.35
Stores	1,203.82
Cash	208.98

BALANCE SHEET, WINDSOR AND TECUMSEH ELECTRIC RY. CO.

Capital stock	\$ 100,000.00
Mortgage bonds	189,000.00
Sandwich, Windsor and Amherstburg Ry.	9,553.79
Investment	\$298,553.79

The earnings and expenses of the Windsor & Tecumseh Electric Ry. are included in the operations of the Sandwich, Windsor & Amherstburg Ry., which latter company owns all of the capital stock of the W. & T.E.R.

Ontario Electric Railway Legislation.

The Ontario Legislature passed the following Act at its recent session:

The Ontario Railway and Municipal Board Amendment Act, 1910, is amended by adding thereto the following sections:

"11. All tracks, switches, additional lines and extensions of existing lines which are, have been or shall be hereafter constructed and operated by a street railway company in pursuance of an order of the board, shall nevertheless be deemed to have been constructed under the authority, and shall be subject to all the provisions of the agreement between the company and the corporation of the municipality, or the bylaw of the council thereof, by which authority to construct the railway was conferred upon the company.

"12. It was not intended by the said Act to confer, and it did and does not confer upon the board power or authority to require or to permit a railway company, or a street railway company, without the consent of the corporation of the municipality, to construct or lay down within the municipality more tracks or lines than under its agreement with the corporation or the bylaw of the council of the corporation of the municipality by which authority to construct the railway upon any such street or highway or part of a street or highway was conferred, it has authority to construct or lay down, but the agreement or bylaw shall govern as to the number and location of the tracks and the streets or highways upon which the railway may be constructed."

The Nova Scotia Legislature has passed an act respecting street railways within the province, and another one authorizing the granting of aid to electric railways.

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The
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Alloy

Rails made from open-hearth steel purified by Titanium Alloy "flow" less, wear less, and splinter less, simply because Titanium Alloy makes them sound, healthy and free from slag and blowholes. Toughness is increased—brittleness decreased. Cost is increased \$1 to \$5 per ton, depending on amount of alloy used.

Booklet No. 30 tells about Titanium Alloy and its effect on iron and steel.

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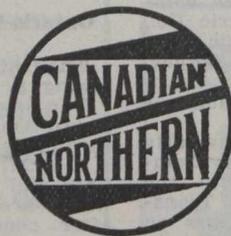
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of reaching Muskoka by way of the Canadian Northern Ontario Railway lies in the fact that it skirts the Lakes right to the head of Lake Joseph, with boat-side stations at Bala Park and Lake Joseph, thus giving direct access to the most important summering places.

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with its excellent parlor-observation and dining cars, is the best appointed and most popular train in the Muskoka service. It provides the quickest, most comfortable way to reach Lake Simcoe, Sparrow Lake, Parry Sound District, the Georgian Bay, the Maganetawan Country, and

The Muskoka Lakes

A new and improved service will be inaugurated on the Canadian Northern Ontario this season from Toronto to Point-au-Baril on the Georgian Bay.

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Plymouth—Cherbourg—Southampton
Sailing from New York Saturdays.
Philadelphia—Queenstown—Liverpool
Sailing from Philadelphia Saturdays.

ATLANTIC TRANSPORT LINE

New York—London Direct
Sailing from New York Saturdays.

WHITE STAR DOMINION LINE

Montreal—Quebec—Liverpool
Portland to Liverpool—Winter
Montreal to Avonmouth Docks
(Bristol and Antwerp)

RED STAR LINE

London—Paris via Dover—Antwerp
Sailing from New York regularly.

WHITE STAR LINE

New York—Liverpool—Queenstown
Sailing from New York Saturdays.
N.Y.—Plymouth—Cherbourg—Southampton
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Boston—Queenstown—Liverpool
Sailing from New York Tuesdays.

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Gen. Man. Western Canada, Toronto.

MARINE DEPARTMENT

Dominion Marine Association.

PRESIDENT, F. Plummer, Toronto; COUNSEL, F. King, Kingston, Ont.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, E. E. Horsey, Kingston, Ont. SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, W. M. Lowrie, New York. SECRETARY, M. R. Nelson, New York.

The Shipping Federation of Canada.

PRESIDENT, A. A. Allan, Montreal; MANAGER, AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Ship Masters' Association of Canada.

GRAND MASTER, Capt. J. H. McMaugh, Toronto, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Coast Lake and River Officers for 1911.

The following appointments have been made by the principal navigation companies engaged in Canadian navigation, for their various steam vessels and tugs for the current year, in addition to those mentioned in our April issue. In the first column is given the name of the vessel, in the second, that of the captain, and in the third, that of the chief engineer:—

THE CANADIAN FISHING CO., LTD., VANCOUVER, B.C.	D. Barry	D. Smith
Celestial Empire		
Flamingo		
C.P.R. BRITISH COLUMBIA LAKE AND RIVER SERVICE, NELSON, B.C.	A. Freeman	W. Britton
Aberdeen	J. B. Weeks	W. Anderson
Columbia	W. H. Wright	K. Carlson
Hosmer	F. L. Orr	W. Jacobs
Kaleden	D. C. McMorris	J. Walker
Kokanee	L. McKinnon	D. H. Biggam
Kootenay	L. H. Fraser	T. F. McKechnie
Kuskanook	W. Seaman	J. G. Cameron
Minto	A. Forslund	N. Hawthorne
Moyie	G. Robertson	D. McLeod
Okanagan	G. L. Estabrooks	J. Grey
Proctor	J. Fitzsimmons	H. Pierce
Roseland	O. J. Alfsmo	J. Fyfe
Sandon	G. Graham	J. Donaldson
Slocan	W. Kirby	H. Colbeck
Yahalla	J. Ferguson	T. C. I. Anson
Whatshan	J. Dougal	J. Russel
York	M. Reed	S. Peterson
COAST STEAMSHIP CO., LTD., VANCOUVER, B.C.	G. Foellmer	D. Macdonald
British Columbia		
Celtic		
Clansman	N. S. Nilson	T. Kay
Fingal	W. Hewson	J. McIsaacs
	J. Finlay	M. Learreta
CORNWALL AND MONTREAL TRANSPORTATION CO., LTD., CORNWALL, ONT.	H. Caza	A. Cote
Filgate		
DOMINION FISH CO., LTD., OWEN SOUND, ONT.	A. A. Batten	J. Cosford
Caribou	N. J. McCoy	W. Rennie
Manitou		
FRENCH RIVER AND NIPISSING NAVIGATION CO., LTD., STURGEON FALLS, ONT.	E. Muir	J. Kelso
Elgin L. Lewis	— Johnston	E. Clarke
Highland Belle	J. A. Clark	J. Coventry
Northern Belle		
GREAT LAKES AND ST. LAWRENCE TRANSPORTATION CO., CHICAGO, ILL.	B. T. Sloan	B. Hammond
A. D. Davidson	T. B. Greenway	O. T. Biddle
A. M. Marshall	F. H. Hoffman	J. R. Jones
Geo. C. Howe	H. L. Jones	C. E. Crampton
H. G. Dalton	J. B. Rinn	Jas. Elliott
John Orerar	W. Rinn	J. Gallardo
J. S. Lambert	D. Barry	G. Squier
J. S. Keefe	J. A. Connelly	J. Young
Robt. Wallace	F. H. Johnson	R. S. Mott
S. N. Parent		
KEEAN TOWING CO., LTD., OWEN SOUND, ONT.	L. Rumley	J. L. Crawford
Keenan		
KENNEBECASIS STEAMSHIP CO., LTD., HAMPTON, N.B.	A. T. Mabee	F. Bourne

MARITIME STEAMSHIP CO., LTD., BLACKS HARBOR, N.B.

Connors Bros. MERCHANTS	E. H. Warnock	M. W. Boston
A. E. Ames	A. McIntyre	R. R. Foote
Beaverton	J. Delaney	J. Myler
H. M. Pellatt	E. McConkey	W. H. Durham
J. H. Plummer	W. O. Zealand	R. Chalmers
Mapleton	H. La Rush	L. McMillen
Saskatoon	J. Dick	A. E. Kennedy

MONTREAL AND CORNWALL NAVIGATION CO., LTD., CORNWALL, ONT.

Britannic	F. Address	J. F. Marchand
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MONTREAL AND LAKE ERIE STEAMSHIP CO., LTD., MONTREAL.

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City of Montreal	A. Patenaude	A. W. Scott
City of Ottawa	J. Smith	C. Leriche

MONTREAL RIVER NAVIGATION CO., LTD., COBALT, ONT.

Champion	A. L. Casselman	G. Willis
Gipsy	L. Bethune	R. McCaw
Gowganda	A. Hanson	J. McCaw
St. Antoine	G. Willer	T. Arbin
S. & Y.	G. Stephen	E. Moore

NEW ENGLAND FISH CO., LTD., VANCOUVER, B.C.

Kingfisher	H. Churchill	J. Jackson
Manhattan	J. A. Gott	W. Tarbox
New England	P. F. Keough	F. H. Perchen

NORTHERN TRANSPORTATION CO., LTD., ATHABASCA LANDING, ALTA.

Northland Call	C. D. A. Barber	T. Rentiss
Northland Light	J. Matheson	F. Davis
Northland Star	J. Bird	.....
Northland Sun	I. A. Thompson	A. V. Bucknam

OTTAWA RIVER NAVIGATION CO., LTD., MONTREAL.

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Empress	F. Piche
Princess	E. Gauthier

PARRY SOUND TRANSPORTATION CO., LTD., TORONTO.

Seguin	N. Glennon	H. R. Welch
PELEE AND LAKE ERIE NAVIGATION CO., LTD., PELEE ISLAND, ONT.	D. McCormick	J. Kennee

QUEBEC TRANSPORTATION AND FORWARDING CO., LTD., QUEBEC, QUE.

Florence	J. M. Stitt	G. M. Gerow
J. H. Hackett	J. Thibault	J. Asselin
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RICHELIEU AND ONTARIO NAVIGATION CO., LTD., MONTREAL.

Belleville	W. Bloomfield	A. Charbonneau
Berthier	J. A. Lacouture	A. Gendron
Boucherville	A. Laviolette	C. Hamel
Kingston	E. A. Booth	W. Johnston
Longueuil	H. Mandeville	H. Noel
Montreal	F. X. Lafrance	G. Gagnon
Murray Bay	W. Gagne	G. Gagnon
Quebec	L. R. Demers	J. Hamelin
Rapids King	G. Batten	J. A. Crepeau
Rapids Prince	S. Putnam	W. Chipman
Rapids Queen	J. Stephenson	W. S. Parker
Rochester	J. Owens	J. Cummings
Ste. Irene	J. Dugal	N. Beaudoin
Saguenay	J. Koenig	(Builders' engineer)

Tadoussac

Tadoussac	J. Simard	M. Latulippe
Terrebonne	C. Laviolette	G. Boret
Toronto	C. E. Redfean	J. W. Hazlett
Trois Rivieres	A. Mondor	C. Gendron

RICHMOND STEAMSHIP CO., LTD., SYDNEY, N.S.

Richmond	W. H. Micheau	J. McDonald
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RUTLAND TRANSIT CO., OGDENSBURG, N.Y.

Arlington	W. S. MacQueen	A. J. Kinch
Bennington	W. S. Shay	R. Wallace
Brandon	G. Kinch	F. Rourke
Burlington	W. H. Williams	E. L. Hyatt
Ogdensburg	J. Smith	H. Goodheart
Rutland	J. J. Powers	W. J. Reagan

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Montreal Harbor Improvements.

The Montreal Harbor Commissioners' improvement programme for the present season, comprises the completion of the no. 2 elevator, with a capacity of 1,772,000 bush.; the preparation of the site for the proposed dry dock; and the completion of ten additional miles of high level railway with sidings. Increased accommodation will be given for ocean going vessels, by the re-modelling of the Victoria pier, which when completed will have 2,700 ft. of high level permanent quay with five double decked re-inforced concrete sheds and grain conveyor equipment. The inner side will be 4,800 ft. long, and a jetty 500 ft. long will provide accommodation for the Richelieu and Ontario Navigation Co.'s vessels. With this extension of the Victoria pier, it is considered necessary to divert the flow of the St. Mary's current, which will be accomplished by an addition to the south of the down stream end of the Mackay pier, as well as by dredging a channel to the south of St. Helen's island. A number of old sheds will be removed near the elevator, to make room for the office building for the traffic and elevator staffs. A concrete ferry wharf is also to be built at St. Helen's island, about 265 ft. long. The work of preparation of the site for the dry dock, includes the dredging of a basin 50 ft. deep, the filling of about 20 acres of reclaimed land, the erection of quay walls for the reception of the floating dock, and preparing for the erection of the shipbuilding plant. The building of the high level railways, which was commenced last season, will be continued as far as Racine pier this year. There will be 11 concrete subways to allow passage to and from the docks. The foundations of the elevators were laid last year, and are for a building 314 by 100 ft., and 230 ft. high, having accommodation for 1,772,000 bush., and provision will be made for a further 800,000 bush. capacity should it be rendered necessary. The receiving capacity will be at the rate of 40,000 bush. an hour from vessels, and 24 cars an hour, while it will provide for the transfer of 45,000 bush. an hour to ocean going vessels. There will also be a cleaning plant with a capacity of from 3,000 to 6,000 bush. an hour, and a drying plant of 500 to 700 bush. capacity. The elevator was designed by the John S. Metcalf Co., Ltd., Montreal. There



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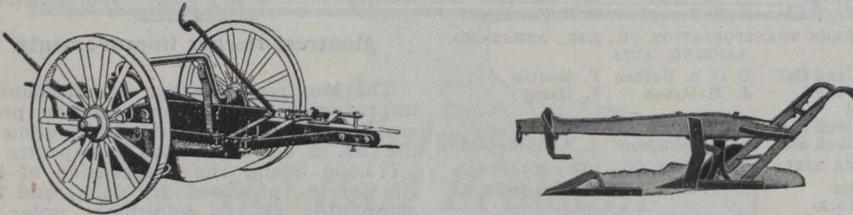
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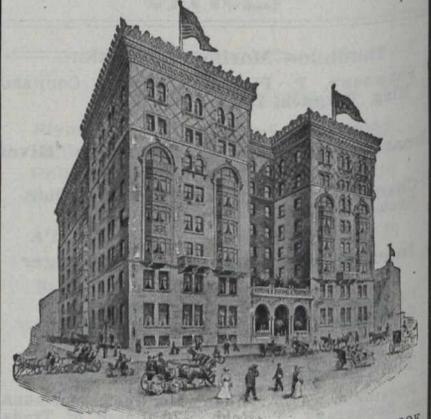
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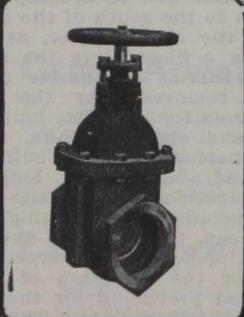
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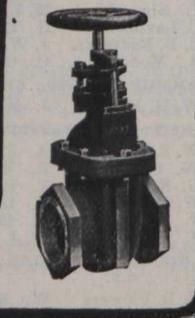
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will also be completed this season, a marine tower jetty, or pier, 400 ft. long, of solid crib work substructure and concrete superstructure with a quay wall, in front of the elevator, with a mile of railway track connected. The Commissioners have acquired the dredging plant, formerly operated by F. Gilbert, and a seven yard dredge has been built at the harbor shops, where another is under construction. A light draught twin screw steam tug, to be named John Young, is approaching completion, and an ice breaking steam tug for towing and inspection purposes, to be named Sir Hugh Allan, is being built at Barrow-in-Furness, Eng., and is expected to sail for Montreal in June. The erection of additional workshops and storage warehouses, with connecting sidings, and two single story concrete sheds, will also be undertaken.

The Canada Shipping Act.

The Dominion Parliament is being asked to amend the Canada Shipping Act in several details. It is desired to bring it into conformity with Imperial legislation by making it unnecessary for the vessels of the naval service, with the exception of the those engaged in the hydrographic surveys, and the fisheries protection service, to be registered. As regards sick mariners the new measure makes it clear that contributions to funeral expenses shall be paid out of the fund created under the act, and that collectors of customs who collect the dues under the act, shall report more frequently than they do at present.

An important change is made concerning pilotage in the St. Lawrence. It was proposed to make pilotage in the St. Lawrence, and in all parts of Canada where pilotage exists, compulsory. At present, pilotage is not compulsory in the St. Lawrence, although the payment of pilotage dues is. This provision is being made as the result of conferences which have taken place between the Department and the various shipping interests. The provision applies to all vessels of over 10 ft. draught; all sea going vessels must take pilots, and others need not do so, if they are provided with masters and mates who have passed the necessary examination qualifying them to run a vessel in the St. Lawrence channel. It is also proposed to include the St. John pilotage authority, and the Minas Basin pilotage authority, and the those authorities which are at present allowed, under existing legislation, to force all vessels engaged in the coasting trade to take pilots.

The measure also extends the period

within which investigations into wrecks may be ordered from a month to a year; to permit the holding of the position of inspector of hulls, and inspector of machinery by the same person, if duly qualified; to permit of an appeal to the House of Lords or to the Privy Council in cases where the certificate of a sea-going master or mate is cancelled by the Wreck Commissioner, and to authorize the dispensation of inspection of boilers and hulls of vessels certified by British or foreign authorities. This latter provision is to be subject to the authority of the Governor-General, who shall define what certificates shall be accepted. Power is also taken in the measure to regulate traffic in the St. Lawrence channels, and provision is also made for obtaining the sanction necessary under the Imperial Shipping Act of 1894 for any Canadian legislation which might conflict in words, if not in fact, with the Imperial legislation. This Imperial act of 1894 provided that the self-governing colonies could enact their own shipping legislation, provided that the several acts were approved by the King-in-Council before they became operative.

The bill was read a second time, April 5, and was then referred for special consideration to the Committee on Marine and Fisheries, before which all interests affected by the bill will appear and state any objections they have to its becoming law. So far as the Dominion Marine Association is concerned, its position is that it does not offer any serious objection to the proposal to render pilotage as well as payment of dues compulsory in the two districts named, the proposal being considered preferable to the existing state of affairs. While this is the most important point of the bill there are, we understand, certain of the clauses in the bill as it stands, which require to be amended so as to bring them more in accord with the views of the marine men.

A deputation of those interested in the proposals contained in the bill, including Francis King, representing the Dominion Marine Association, and F. E. Meredith, K.C., on behalf of the Shipping Federation of Canada, waited on the Minister of Marine, Apr. 25. The Minister explained that the shipping interests of Ontario had complained there was discrimination in favor of the Maritime Provinces and Quebec, and the Dominion Marine Association had asked that the compulsory pilotage proposals be eliminated from the bill, and the law stand as it was. This was agreed to by the Shipping Federation of Canada, and all the pilotage clauses, so far as they related to the St. Lawrence, would be struck out.

Notices to Mariners.

The Department of Marine has issued the following:—

29. Mar. 24.—68. General, buoyage, shapes of tops of spars. 69. New Brunswick, east coast, Pokemouche gully, hand fog horn at light station. 70. Quebec, River St. Lawrence, Montreal harbor, Ile Ronde, lighthouse increased in height.

30. Mar. 27.—71. Quebec, Ottawa River mouth, Lake St. Louis, improvement of channel, rearrangement of lights and buoys.

31. Mar. 30, 72. Quebec, Ottawa River, Rigaud river entrance, range lights established, lighted buoys discontinued, buoys re-arranged. 73. United States of America, Lake St. Clair, St. Clair flats canal, gas buoy to be established. 74. United States of America, River St. Clair, St. Clair middle ground, gas buoy to be established. 75. United States of America, River St. Mary, Sweets point shoal, gas buoy to be established, light and buoy to be discontinued. 76. United States of America, River St. Mary, Mud lake, Pointe aux Frenes, gas buoy to be established. 77. United States of America, River St. Mary, Sailors' Encampment, gas buoy to be established, float lights to be discontinued.

32. Mar. 31. 78. British Columbia, Queen Charlotte Islands, Moresby island, Selwyn inlet, Pacofi, hydrographic information, private buoys. 68. General, buoyage, shapes of tops and spars.

33. Apr. 1.—79. Quebec, River St. Lawrence, survey steamer at work in the vicinity of Father Point and Bicquette island, caution. 80. Quebec, River St. Lawrence, Bic island and vicinity, hydrographic information, anchorages. 81. Quebec, River St. Lawrence, Escoumains, anchorage, wharf.

34. Apr. 4.—82. New Brunswick, Miramichi River, beacons between Newcastle and northwest arm. 83. England, west coast, Wales, Fishguard approach, light and submarine bell buoy established.

35. Apr. 12.—84. Ontario, Lake Huron, Goderich harbor entrance, buoyage. 85. Ontario, Muskoka Lake, east side, Muskoka River, lights established.

36. Apr. 13.—86. Nova Scotia, south coast, Shelburne, light established. 87. Prince Edward Island, Northumberland Strait, gas and whistling buoy in mid-strait between Tryon shoal and Tormentine reefs withdrawn. 88. Prince Edward Island, Northumberland Strait, west reef, whistling buoy replaced by gas and whistling buoy. 89. Prince Edward Island, North Point reef, whistling

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING MARCH, 1911.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Alaskan.....	130,445	Oaetta, Ore., 1886	Screw 13 n. h. p.	96.5	19.0	7.1	150	102	Vancouver, B.C....	A. M. Tyson, Vancouver, B.C.
Cartier.....	129,745	Newcastle, Eng., 1910	" 141 " "	164.0	29.2	13.1	556	234	Ottawa, Ont.	Minister of Marine, Ottawa, Ont.
Kinburn.....	129,828	Mahone Bay, N.S., 1910	" 28 " "	104.2	24.6	10.5	168	79	Lunenburg, N.S.	A. Ernst, M.O., Mahone Bay, N.S.
Lena Mac.....	126,070	Portage, Lot 36, P.E.I., 1910	" 15 " "	38.5	12.2	5.4	12	11	Charlottetown, P.E.I.	J. A. McDougall, Kingston, P.E.I.
Minouch.....	126,928	Roberval, Que., 1908	" 20 " "	35.0	8.0	2.8	11	7	Quebec, Que.	S. Simon, Roberval, Que.
Princess Mary	126,950	Paisley, Scotland, 1910.	" 194 " "	210.0	40.1	14.0	1697	1011	Victoria, B.C.	C.P.R. Co., Montreal
Rosamond.....	130,272	Winnipeg, Man., 1910	" 66 " "	163.0	40.0	9.6	679	474	Winnipeg, Man.	Hugh Sutherland, Winnipeg, Man.
Billet.....	130,443	North Vancouver, B.C., 1911	" 6 " "	45.7	11.5	5.7	24	16	Vancouver, B.C.	Knight Inlet Canning Co., Vancouver, B.C.
Viner.....	130,444	Vancouver, B.C., 1907	" 1 " "	24.5	8.6	2.2	7	5	"	A. Watt and E. H. Dunwoodie, Vancouver, B.C.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING MARCH, 1911.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Ainslie.....	130,448	Liverpool, N.S., 1911	Schr.	112.4	26.9	10.0	148	Liverpool, N.S.	Hendry Ltd., Liverpool, N.S.
Harry W. Adams.	130,461	Lunenburg, N.S., 1911	"	107.8	25.8	10.5	99	Lunenburg, N.S.	H. W. Adams, M.O., Lunenburg, N.S.
Lady Mine.....	126,951	Port Ludlow, Wash., 1880.	"	76.0	21.9	8.4	55	Victoria, B.C.	R. C. Hall et al, Victoria, B.C.
Mark Twain.....	126,829	Lunenburg, N.S., 1910	"	42.8	10.6	5.6	12	Lunenburg, N.S.	W. Wight Blue Rocks, N.S.

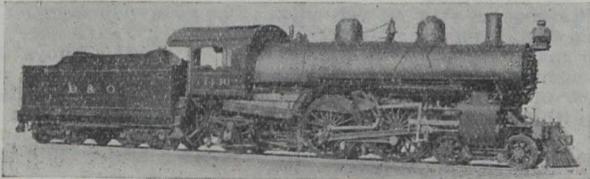
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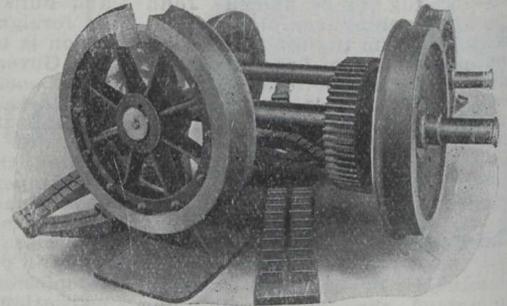
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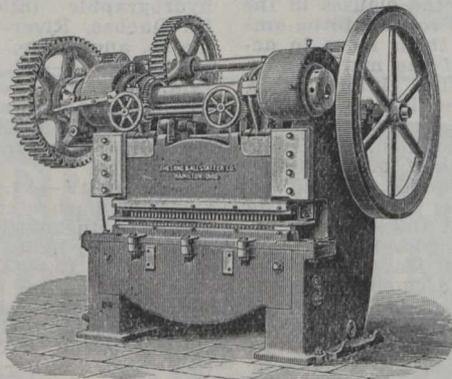


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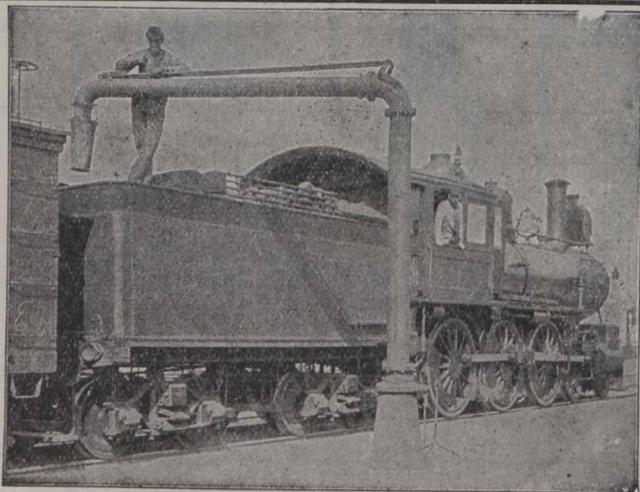
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buoy established. 90. England, west coast, Scilly Isles, Bishop rock, bell buoy established.

37. Apr. 18.—91. Quebec, River St. Lawrence, Chat river, daymarks attached to range light poles. 92. Quebec, River St. Lawrence, Ste. Irene, temporary light. 93. Quebec, River St. Lawrence, Channel patch, gas buoy established. 94. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Ile a la Aigle, gas buoy established. 95. Quebec, Montreal harbor, Forsyth shoal, buoy established. 96. Quebec, River St. Lawrence, Montreal, day beacon erected to mark St. Lambert steamboat channel, buoy discontinued.

38. Apr. 18.—97. British Columbia, Strait of Georgia, Welcome pass, Welcome point, buoy in position. 98. British Columbia, Beaver passage, Connis Islet, gas lighted beacon established.

39. Apr. 18.—99. Ontario, Lake Huron, Port Elgin, bearing of north range lights. 100. Ontario, Georgian Bay, Giant's Tomb island, Bennet bank, change in position of buoy. 101. Ontario, Georgian Bay, east side, approach to Parry Sound, Red Rock, new lighthouse under construction, temporary light. 102. Ontario, Lake Huron, North channel, Clapperton channel, Meredith rock, beacon rebuilt.

40. Apr. 19, 103. Ontario, River St. Mary, Sault Ste. Marie canal upper entrance, channel widened, changes in buoyage. 104. Ontario, River St. Mary, Vidai shoal, gas buoy established.

41. Apr. 20. 105. Quebec, River St. Lawrence below Quebec, Wye rock, gas buoy established. 106. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap Levrard, change in character of buoys.

Atlantic and Pacific Ocean Marine.

The Canadian-Australian Line's s.s. Makura, in arriving at Victoria, Apr. 2, made what is claimed to be a record, for the trip from Sydney, N.S.W., in completing the journey under 19 days.

Press reports from Victoria, B.C., state that the s.s. Montfort, of the C.P.R. Atlantic service, will shortly be transferred to the Pacific service, and will alternate with the Montague, between Vancouver and Hong Kong.

The Canadian Mexican Pacific Steamship Co. has rechartered the s.s. Henley for its Vancouver-Salina Cruz service, and it is reported that the s.s. St. Ronald, recently chartered for the service, will be released on the completion of its present trip.

A Glasgow, Scotland, press dispatch, of Apr. 2, stated that shipbuilders on the Clyde were tendering for two steamships of 5,000 shaft horse power, for the C.P.R. Atlantic Service, to replace the steamships Empress of Britain and Empress of Ireland.

The Donaldson Line's steamships, Tritonia, Laconia and Kastalia, have recently been overhauled at Glasgow, in readiness for the season's business. The company's new vessel, which it is expected will be launched on the Clyde in October, will be named Letitia.

Press reports from Victoria, B.C., state that negotiations are proceeding between Alfred Holt and Co., Ltd., operating the Blue Funnel Line, and the G.T.P.R., relating to a steamship service between Canada and the Orient, with Prince Rupert as the Canadian port.

It is announced that the Red Star Line's steamships Samland and Gothland, are to be transferred from the New York to the Montreal route on the re-opening of navigation, and that they will be operated by the Canada Line, between Montreal and the European continent.

The Anglo-Newfoundland Development Co.'s ice breaking steamship Tritonia, recently built in Great Britain, for the pulp wood trade from Botwood, Nfld., will sail from Liverpool, Eng., shortly, Capt. H. Dawe and three seamen of Bay Robert, having sailed for England to bring her over.

The Allan Line s.s. Montevidian, which for a number of years operated in the River Plate trade, and made occasional visits to Montreal, has been sold to ship breakers for \$25,000. She was built at Glasgow, Scotland, in 1887, her dimensions being, length 330 ft., breadth 42.1 ft., depth 24.7 ft., tonnage, 2,952 gross, 1,862 register.

The Department of Trade and Commerce is receiving tenders for a mail service between Canada and Jamaica, for either 14, 10 or seven day service, calling on each trip at Bermuda and Turk's Island. The chief Canadian port is to be Halifax, N.S., and a call is to be made, each trip at St. John, N.B. Vessels must be of British register, and preference will be given those having cold storage facilities.

It is reported from London, Eng., that a number of shipbuilders have been invited to submit tenders for the construction of two vessels for the C.P.R. Atlantic service. The plans submitted show a vessel 600 ft. long, and the whole built specially for passenger traffic. A vessel of larger dimensions than either of the Empresses is shown, and the specification calls for the most modern of reciprocating machinery.

The Weir Line s.s. Luceric, arrived at Victoria, B.C., Apr. 7, on her maiden trip from the Orient. She was built last year at Port Glasgow, Scotland, for Andrew Weir and Co., London, Eng. She is of the following dimensions, length 460 ft., breadth 57 ft., depth 32 ft., with 6,526 gross tons, and is equipped with triple expansion engines of 3,000 i.h.p., supplied with steam by four boilers, capable of 12 knots an hour.

The Harrison Direct Line has announced through its agents, Balfour, Guthrie and Co., Vancouver, that it will place a line of steamers in service between the Pacific coast and Europe, this season, the first vessel, s.s. Centurion, sailing from Antwerp, Belgium, Apr. 2, calling at Glasgow, Liverpool and Swansea, in Great Britain, and at San Pedro San Francisco, Seattle, Vancouver and Victoria on the Pacific coast. The service will be a monthly one.

The Cunard Line, which recently purchased the steamships Cairnrona, Tortona and Gerona, the last named now approaching completion in England, as mentioned in our last issue, for operation on the St. Lawrence route, will, it is reported, re-name the vessels, Ausonia, Ascania and Albania. The first sailing from Montreal, for Southampton, Eng., is scheduled to take place May 20. We are informed that it is probable that they will be operated under the name of the Thomson Line.

Vancouver press reports state that investigations are being made into the possibilities of Quatsino Sound, Vancouver, as the port for the C.P.R. trans-Pacific steamships. The report states that a considerable saving of time would be accomplished by the adoption of this port, and it would mean the extension of the Esquimalt and Nanaimo Ry. to Quatsino Sound, where passengers and mails would be disembarked, and taken to Nanaimo or Nanoose, and shipped on other C.P.R. vessels to Vancouver.

The Allan Line s.s. Scotian, which recently arrived at Halifax, N.S., on her first trip for that company, was formerly the s.s. Statendam, of the Holland-America Line, and was recently purchased by the Allan Line, to replace the s.s.

Pretorian. She was built in 1898 at Belfast, Ireland, and is a twin screw steamer, equipped with two triple expansion engines with cylinders 27 1/2, 45 1/2 and 75 1/2 ins. diam. by 54 ins. stroke, of 1126 h.p. Her dimensions are: length 515.3 ft., breadth 59.8 ft., depth 23.8 ft.; tonnage, 10,491 gross, 6,701 register.

A press dispatch from London, Eng., states that — Tinsley, representative of the Uranium Steamship Co., the full name of which is said to be the Uranium Canadian Northern Steamship Co., and which is also said to be controlled by the Canadian Northern Ry., has been banished from Holland, for infringement of the regulations issued by the Netherlands Government regarding the landing of steerage passengers bound for Eastern Europe. The Uranium Steamship Co., operates two steamships between Holland and New York, with a call at Halifax. One of the vessels, the s.s. Volturmo, was purchased last year by the Canadian Northern Steamships, Ltd., and is operated by the Uranium Steamship Co., under a charter.

Maritime Provinces and Newfoundland.

At a meeting of residents at Emerald, P.E.I., recently, a resolution was passed that a car ferry should be established between the island and the main land.

The Euphrates Steamship Co., of St. John's Nfld., is reported to have purchased the steamship Othar, from Crosbie & Co. It is stated to be the intention to operate it, in conjunction with the s.s. Euphrates in Conception Bay.

The following acts relating to the marine interests were passed by the Newfoundland Legislature at its recent session:—Respecting the coastal mail service; to encourage the operation of a dock at Harbor Grace; respecting pilots and pilotage; to provide for the inspection of boilers.

H. Cann and Sons' steamboat Hugh D., was destroyed by fire at Yarmouth, N.S., Apr. 3. She was built at Shelburne, N.S., in 1908. Her dimensions were: length, 80 ft., breadth 18 ft., depth 7 1/2 ft.; tonnage, 71 gross, 20 register. She was equipped with engine of 24 n.h.p., driving a screw.

The Dartmouth, N.S. ferry commission has been advised that, before Nov. 30, it will be necessary to install new boilers in the ferry steamboat Dartmouth. The question of the style of boiler to be adopted, is to be discussed, it having been suggested that oil-burning boilers be installed in place of the old ones.

A meeting was held, Apr. 5, at the Marine and Fisheries Minister's office, St. John's Nfld., to discuss arrangements whereby such vessels as were required for the Newfoundland trade generally could be built in the colony, instead of going outside as heretofore. The question of revising the act respecting ship building was also discussed.

The Eastern Transportation Co., the incorporation of which we announced in our last issue, is closely allied to, and will work in connection with, the Bathurst Lumber Co., Ltd. The headquarters are at Bathurst, N.B., and Angus McLean, Manager Bathurst Lumber Co., is President, with A. E. Loosen, accountant Bathurst Lumber Co., as Manager.

The Steamship Senlac Co.'s s.s. Senlac, which was to have been sold by public auction at Dalhousie, N.B., Apr. 5, was withdrawn, no bid being made. The vessel which is managed by Wm. Thompson & Co., St. John, N.B., is laid up at Dalhousie. J. H. Crossley has been appointed captain for this season, but we were advised Apr. 17, that it had not then been decided as to what route she would be placed on.

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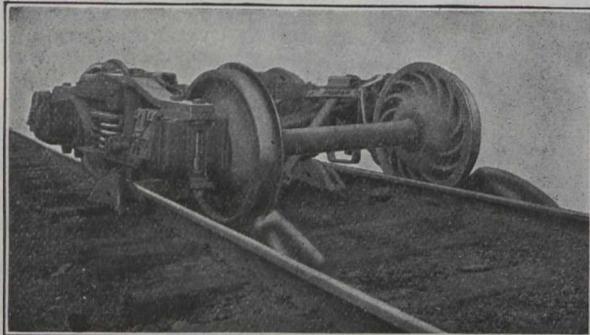
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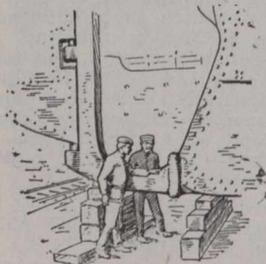
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The Dominion Government quarantine steamboat Polana was launched at Kingston, Apr. 4.

The Dominion Department of Public Works received Apr. 26, tenders for the construction of an extension to the western wharf at the quarantine station at Grosse Isle, Montmagny county.

The Richelieu and Ontario Navigation Co. is applying to Parliament for amendments to its act of incorporation, authorizing an increase of its capital stock to \$10,000,000, and for other purposes.

Dominion Quarry, Ltd. has been incorporated under the Quebec Companies Act, with a capital of \$20,000, and once at Quebec, to carry on a general stone quarrying business, and in connection therewith, to own and operate steam and other vessels.

P. Bourque, for some years keeper of the light at Bird Rocks, addressed the Canadian Club at Quebec, Apr. 6, on the possibility of winter navigation of the St. Lawrence river and gulf, and claimed that it was, with the assistance of wireless telegraphy, quite possible, though there might be delays owing to heavy ice.

The Montreal and Cornwall Navigation Co.'s steamboat Emerald, which has been sold to the Barclay Smith Forwarding Co., Montreal, was built at Montreal, in 1903, and was formerly named Garnet. She is a paddle wheel steamer, equipped with engine of 30 n.h.p., and is of the following dimensions: length 140 ft., breadth, 23 ft., depth 14 ft.; tonnage, 385 gross, 195 register.

The Canadian Whaling Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$100,000, and office at Seven Islands, Que., to carry on a general whaling business, and to own and operate steam and other vessels and other necessary facilities therefor. The incorporators are, B. Sawyer, Westmount, Que.; F. Rosenberg, G. Magnus, L. B. Jennings, J. L. Danziger, Montreal.

The Fairhaven Transportation and Coal Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000 and office at Montreal, to build or otherwise acquire and operate steam and other vessels, and to carry on the business of forwarding and transporting passengers and goods on rivers, lakes and other waters, and to carry on the business of general merchants. The incorporators are, G. W. MacDougall, L. Macfarlane, G. Barclay, J. G. Cartwright and J. Graham, Montreal.

D. McNicoll, Vice President, C.P.R., had a conference with J. B. Laliberte, Chairman, Quebec Harbor Commission, Apr. 3, in connection with some improvements in the port. It is proposed to continue Prince Edward St., to the Empress docks, this meaning the continuation of the road from Prince Edward St., with the northern part of the embankment so as to run a direct line with that wharf for passengers and freight for the Empresses, and the construction of a line between the wharf and the Quebec and Montmorency Ry bridge. It was arranged that plans would be submitted to the Commission and to the city council, shortly.

The Government steamboat Cartier is engaged in re-surveying the River St. Lawrence in the vicinity of Father Point and Bicquette Island, and mariners are warned that as the lines of soundings take the vessel across the river at slow speed, on lines at right angles to the track usually followed by vessels, and as much loss of time ensues when she has to leave these lines, they should pass astern of her, if circumstances permit. In any case the helm should be

altered to clear her in ample time, in order that the Cartier's officers may be in no doubt as to the course of passing ships. The Cartier being a two masted vessel, painted white, is easily recognizable.

The Quebec board of trade, recently memorialized the Minister of Marine, regarding the location of the proposed navy yard and ship building and repairing plant for vessels of the Canadian Navy, urging the claims of Quebec, which, it is claimed, has advantages over all other points. The Minister in his reply pointed out that tenders for the construction of vessels for the Canadian Navy had been invited, the firms tendering being asked to state the locality at which they proposed to establish their yards for such construction, and should the successful tenderer choose Quebec as the site for its operations, he would do his best to have that choice ratified.

Ontario and the Great Lakes.

It is reported that the Ontario Car Ferry Co., is considering the building of another car ferry, to run with its car ferry Ontario No. 1, between Cobourg and Rochester.

The water was withdrawn from the Cornwall canal during April, to enable the contractors, Fallon Bros., to complete their contract of building a new weir and a wall, running west from lock 17.

The Lake Carriers Association, Apr. 14, announced its recommended draught for vessels passing the Limekiln Crossing at Amherstburg, as 19 ft., and for the Canadian lock at Sault Ste. Marie, as 17½ ft.

The Hamilton Steamboat Co.'s steamboat Macassa arrived at Toronto, Mar. 30, being the first vessel to arrive at that port this season. The customary hat was awarded by the harbor master to Captain J. Henderson.

At a special meeting of shareholders of the Northern Navigation Co., held at Toronto, Apr. 8, it was decided to increase the number of directors, and C. A. Barnard, K.C., was added to the board, the other members of which were given in our April issue.

The steam tug which has been built by Clark Bros., Toronto, during the winter, was launched Apr. 7, and named J. T. Clark. She is to be used in the Toronto island freight and baggage business, in connection with the Toronto Ferry Co.

The Turbine Steamship Co.'s s.s. Turbinia, has been thoroughly overhauled, and some of her machinery renewed, during the winter, and it is announced that she will be put on her regular service between Toronto and Hamilton, May 20.

In consequence of the death of G. B. Greene, Secretary-Treasurer Upper Ottawa Improvement Co., Ottawa, the following appointments have been made:—Superintendent, P. W. Tomkins; Secretary-Treasurer, E. C. Woolsey; Paymaster, K. A. Greene.

It is announced that the Lake Erie and Northern Ry., which recently obtained a charter to operate an electric railway from Port Dover to Galt, by way of Brantford, intends to run vessels between Port Dover and Fort William, for both passengers and freight.

Eddy Bros., of Blind River, have ordered a steel steam tug at Collingwood, for delivery in July. It is to be of steel throughout, equipped with fore and aft compound engines, supplied with steam by a Scotch boiler. The dimensions will be, length 75 ft., breadth 14 ft., depth 9 ft.

The Peterboro and Lake Simcoe Navigation Co., is reported to have acquired

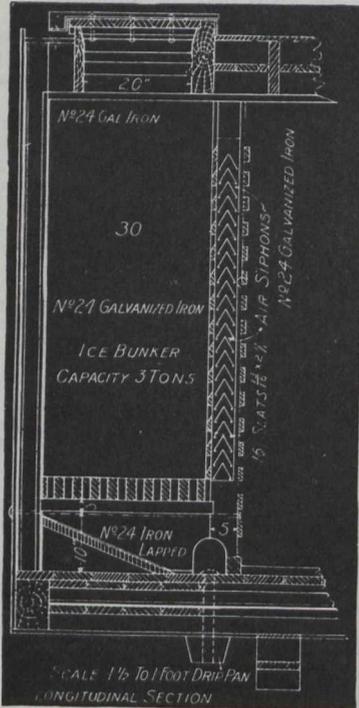
The Halifax and Newfoundland Steamship Co.'s s.s. Harlaw, under charter to Crosbie and Co., for sealing purposes, after having been crushed by ice, was abandoned, in a sinking condition, off St. Paul's Island, Apr. 7. She was built at Port Glasgow, Scotland in 1881, and was a screw driven vessel with engine of 71 n.h.p. Her dimensions were, length 165.1 ft., breadth, 24.5 ft., depth, 11.8 ft.; tonnage, 451 gross, 267 register. She was insured for \$34,000 and \$29,000 by the owners and charterers, respectively.

The Reid Newfoundland Co.'s s.s. Bruce, while en route from Port aux Basques, Nfld., to Sydney, N.S., towards the end of March, ran ashore in bad weather, at Point Nova, about eight miles from Louisburg, N.S., and became a total loss. Two of the passengers were drowned. A press report from Montreal, states that W. D. Reid, President Reid Newfoundland Co., has ordered a new steamer, of a similar type, to replace her. It is stated that the vessel will be ready for next season, and in the meantime, the s.s. Glencoe has been assigned to the route between Port aux Basques and Sydney.

A steel screw steamer, named Seal, was recently launched at Glasgow, Scotland, for Capt. J. A. Farquhar, Halifax, N.S. She is rigged as a two masted schooner, with upper and shelter decks, water ballast in double bottom and aft peak, and is specially strengthened for working in ice when sealing off Newfoundland. The machinery includes triple expansion engines, main boiler and donkey boiler, steam windlass, steam steering gear, steam winches, and she is equipped with wireless telegraph installation, electric light and electric searchlight. Her dimensions are, length 175 ft., breadth 26½ ft., depth 20½ ft.; tonnage, about 520 gross.

The s.s. Sandefjord, which recently underwent her trial trip off the Tyne, Eng., was built at Newcastle, for the iron ore trade between Wabana, Nfld., and Sydney, N.S. She is constructed on the Isherwood system to the requirements of the British Corporation for the Registry of Shipping, and the Norske Veritas. The machinery consists of triple expansion engines, with cylinders 28½, 47 and 78 ins. diam., by 54 ins. stroke, supplied with steam by three boilers, each 15½ ft., by 12 ft., at 180 lbs. pressure, under forced draught. There are also a steam windlass and steam steering gear, steam heating and complete electric light equipment, and ten steam winches, ten derricks and other facilities for the efficient handling of cargo. Her dimensions are, length 452 ft., breadth 58 ft., depth, molded, 28 ft., 8 ins., and she has a dead weight capacity of 10,650 tons.

The Nova Scotia Steel and Coal Co.'s ore steamers Tellus and Themis, recently built at Sunderland, Eng., which have been specially built for the trade between Wabana, Nfld., and North Sydney, Philadelphia and Middlesbrough, Eng., are of the following dimensions, length, 465 ft., breadth 60 ft., depth, molded, 37½ ft., with a dead weight capacity of 12,925 tons. The machinery includes triple expansion engines, with cylinders 27½, 45½ and 76 ins. diam., by 51 ins. stroke, supplied with steam by three Scotch boilers 17 ft. 2 ins. diam., by 11 ft. long, at 180 lbs. working pressure, developing about 2,500 h.p. The vessels are built on the cantilever principle with cellular double bottoms, and wing tanks extending the whole length, with water ballast capacity of 3,000 tons. There are five hatches, each 30 ft. wide, three being 36 ft. long and the others 30 ft. long. Twelve steam winches are provided with double derricks for each hatch. The Tellus recently arrived on this side, and Themis is expected to arrive early in May.



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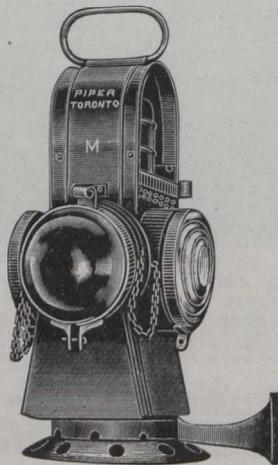
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the steamboat Geneya, for operation on Rice Lake, in place of the company's steamboat Otonabee, which is to be operated on Lakes Simcoe and Couchiching. The Geneya was built at Orillia in 1905.

The U.S. Board of Engineers for rivers and harbor work, is endorsing the project to straighten the Detroit channel between Fighting Island and Wyandotte. There are five turns in five miles, and it is estimated that to dredge away the curves, thus making a straight channel, 800 ft. wide, and 22 ft. deep, would cost \$210,000.

The Niagara, St. Catharines and Toronto Navigation Co.'s steamboat Dalhousie, which is being built at Collingwood, will, it is anticipated, be completed in time to make her first trip to Toronto, June 15, when she will immediately be placed on her route between Toronto and Port Dalhousie in conjunction with the steamboat Garden City.

The s.s. Filgate, which has been sold by the Montreal and Cornwall Navigation Co., to the Cornwall and Montreal Transportation Co., Cornwall, was built at Montreal in 1879, and is a paddle wheel steamer with engine of 100 n.h.p. Her dimensions are, length, 158 ft., breadth, 25.4 ft., depth 7.8 ft.; tonnage, 425 gross, 237 register.

The Detroit and Windsor Ferry Co., incorporated under the laws of the State of Michigan, has been licensed to carry on its business in Ontario, provided that it shall not use, in Ontario, a larger amount of capital, than \$500,000, without further application for supplementary license. N. A. Bartlet, Windsor, has been named as its attorney.

The annual meeting of the Merchants Mutual Line Ltd., was held at Toronto, Apr. 15, when the financial reports for 1910 were submitted and approved. Following are the officers and directors for the current year:—President, D. B. Hanna; Vice President, Z. A. Lash, K.C.; other directors, Sir Henry M. Pellatt, F. Nicholls and W. H. Moore.

A London, Eng., press dispatch, of Apr. 3, says: "A Newcastle correspondent wires confirming the report that Furness, Withy and Co., are moving a big scheme for securing direct communication between Liverpool and the Canadian lakes. Three companies operating on the lakes will become one large concern, working from Montreal with ocean steamships provided by Lord Furness."

The Canadian Lake and Ocean Navigation Co.'s annual meeting was held at Toronto, Apr. 15, when the accounts for the past year were submitted and approved. Following are the officers and directors for the current year:—President, D. B. Hanna; Vice President, Z. A. Lash, K.C.; other directors, Hugh Sutherland, F. H. Phinpan, K.C., F. Nicholls, E. R. Wood, Sir Henry M. Pellatt and Noel Marshall.

Some trouble has arisen between the parties operating ferries between Fort Frances, Ont., and International Falls, Minn., and it is probable that the matter will be referred to arbitration. In the meantime, the ferry service is at a stand still. Gagne Bros., Fort Frances, have the Canadian license to run the ferry, and L. W. Wilson, International Falls, the U.S. license, and they have hitherto worked in conjunction.

The Inland Lines steamboat Dunelm, which was stranded at Isle Royale, last fall, has been docked at Port Arthur for repairs. She is the first vessel to be docked at the Western Dry Dock and Shipbuilding Co.'s yards. After completion of these repairs, her place on the Trevor will be taken by the steamboat Royale, which was also wrecked at Isle Royale, last fall, and subsequently purchased and salvaged by F. S. Wiley, Port Arthur.

In connection with the press reports to the effect that P. Paton, of Collingwood, has been appointed General Agent Inland Lines, and Northern Navigation Co., at Winnipeg, we are advised that it is somewhat misleading, as such an appointment has not been made, either by the Inland Lines or Northern Navigation Co. Upon the projected amalgamation of the two companies being completed, it is said that he will be appointed western representative of the amalgamated concern, with headquarters at Winnipeg.

The Rainy River Navigation Co. will operate both its vessels on the Lake of the Woods, this year, the Keenora running between Kenora and Rainy River, where she will transfer passengers, etc., to the Agwinde, which will run up to the Rainy River at Fort Frances. Considerable difficulty has, at times, been experienced with low water at the mouth of the river, but it is anticipated that the dredging now being carried out there, will keep the channel open during the time the boats are operating.

Included in the work to be undertaken on the Trent Valley canal this season is a number of repairs, the cost of which is stated as about \$53,000, as follows:—between Kirkfield lift lock and Lake Simcoe, \$5,000; Sturgeon Lake, Lindsay river, \$4,000; rip-rap Balsam lake, Lake Simcoe division, \$5,000; duplicate lock gates, \$5,000; reservoir waters, Jumbo lake, \$9,000; entrance piers at Buckthorn lock, two piers above the one below, \$4,000; moving bridge at Fenelon Falls, \$2,000; purchase of land, etc., and repairs to lock at Bobcaygeon, \$15,000.

The steamboat Cataract, owned by the Cataract Ice Co., Niagara Falls, Ont., was damaged by fire to the extent of about \$8,000, recently. It is stated that the after part of the boat, including the hull and machinery was destroyed. She was formerly known as the Myles, and owned by the Myles Transportation Co., Hamilton, and was built at Hamilton in 1882, her dimensions being, length 175 ft., breadth 33.6 ft., depth 14.6 ft.; tonnage, 957 gross, 598 register, and she was equipped with engine of 200 n.h.p. driving a screw.

An examination of the steamboat John Sharples, which was wrecked on Galloup Island, Lake Ontario, last fall, shows that she is in comparatively good condition. There is a large hole in her starboard quarter, but otherwise the damage does not appear considerable. A portion of the cargo, about 12,000 bush, of grain, was removed during the winter, but otherwise it is intact. The Reid Wrecking Co., Sarnia, have the contract from the underwriters for salvaging the vessel, for \$20,000.

The Department of Marine and Fisheries will receive tenders, May 1, for two twin screw gasolene launches for the Fisheries Patrol Service on the Great

Lakes. The dimensions of the boats must be, length between perpendiculars, 56 ft., breadth 10 ft., draught, 3 ft.; speed 10½ knots an hour, and each is to be equipped with two 34 h.p. gasolene engines of a type satisfactory to the Deputy Minister. One boat is to be delivered at Parry Sound, and the other at Sault Ste. Marie, Ont.

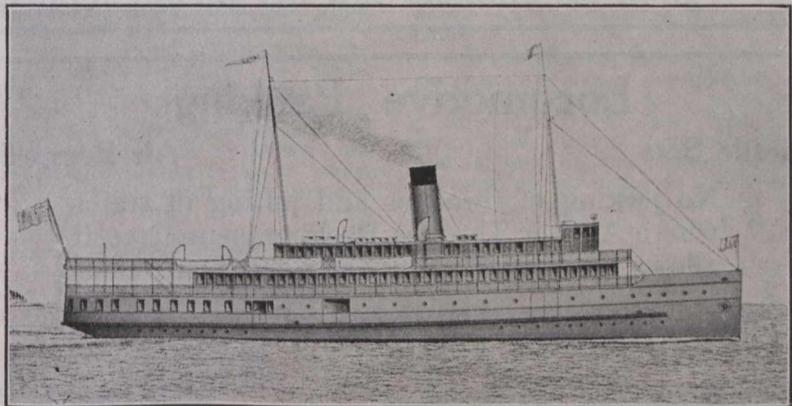
The Trent Valley Navigation Co., steamboat Esturion is reported to have been sold to a Fenelon Falls syndicate, and it is stated that she is being thoroughly overhauled, for operation between Lakes Simcoe and Rice Lake, this season. She was built in Toronto in 1884, and is paddle wheel driven, with engine of 31 n.h.p. Her dimensions are, length 96 ft., breadth 17 ft., depth 6.2 ft.; tonnage, 118 gross, 75 register. It is also stated that the owners will be known as the Trent Valley Navigation Co., Ltd.

A Belleville deputation waited on the Ministers of Railways and Canals and of Public Works recently, in reference to the proposed removal of the shoals in the Bay of Quinte at Telegraph Light and Point Anne, and also in Belleville harbor, and also to ask for the construction of a new wharf at Belleville, for which plans were submitted. Both Ministers promised early consideration, and it is said that engineers are to be sent down to make the necessary surveys for the preparation of estimates.

A meeting of the Canadian Society of Civil Engineers, in Montreal, Mar. 30, discussed the resolution passed at a previous meeting, requesting the Society's council to urge upon the Government the importance of study and report before any commitments are made in reference to the damming of the St. Lawrence or the carrying out of any other great scheme of canal transportation. A resolution was passed delaying further action on the previous resolution, until the matter had been further considered.

The U.S. Lake Survey reports the levels of the Great Lakes, in feet above tidewater, for Mar., as follows:—Superior 600.69; Michigan and Huron 579.30; Erie 570.97; Ontario 244.96. As compared with the average March levels for the past 10 years, Superior was 1.22 ft. below; Michigan and Huron 0.98 ft. below; Erie 0.76 ft. below, and Ontario 0.76 ft. below, and it is anticipated that, during April, Superior would remain stationary, Michigan and Huron would rise 0.3 ft.; Erie would rise 0.6 ft., and Ontario would rise 0.7 ft.

The British Canadian Shipbuilding and Dock Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$10,000,000, and office at Toronto, to design and build docks of every description, wharves, steam and other vessels of all kinds; to carry on a general ship building and repairing business, with kindred and allied trades, and to act as ship owners, agents, forward-



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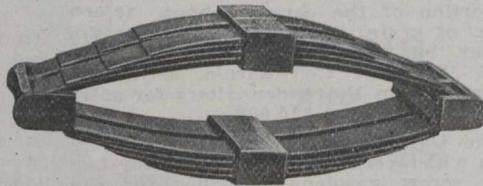
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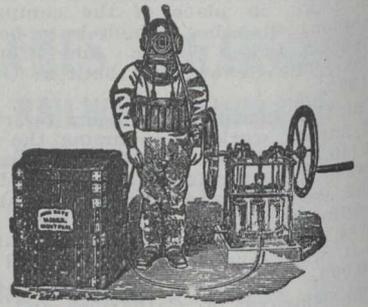
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ers, etc. The incorporators are Sir Henry M. Pellatt, Hon. J. M. Gibson, Toronto; C. Ellis, Clydebank, Scotland; A. Gracie, Glasgow, Scotland, and A. C. Ross, Sydney, N.S.

The Merchants' Mutual Line, will, this season operate the following vessels:—A. E. Ames, H. M. Pellatt, J. H. Plummer, Beaverton, Mapleton, and Saskatoon, owned by the Merchants Mutual Line, Ltd., Toronto; Acadian and Canadian, owned by the Mutual Steamship Co., Ltd., Toronto; D. A. Gordon, owned by the International Steamship Co., Ltd., Toronto; C. A. Jaques, owned by the Jaques Transportation Co., Ltd., Montreal; Bickerdike, owned by the Montreal and Great Lakes Steamship Co., Ltd., Montreal; City of Ottawa, City of Hamilton and City of Montreal, owned by the Montreal and Lake Erie Steamship Co., Ltd., Montreal; A. E. McKinstry, owned by the Interlake Transit Ltd., Toronto, and Advance, owned by the Montreal Transportation Co., Ltd., Montreal.

The Nipissing-Pontiac Steamboat Co., has been organized at New Liskeard, to acquire the steamboat Aileen from the Upper Ontario Steamboat Co., and to operate her on Lake Timiskaming, between North Timiskaming, Guigues, Halleybury and New Liskeard. The Aileen is 78½ ft. long, by 12½ ft. beam, and has capacity for about 80 passengers and 20 tons of freight. A covered scow has also been acquired, a dock at Tomstown and a dock and storehouse at New Liskeard. The price paid for the whole being given as \$6,500. Provisional directors were elected as follows: Messrs. Monaghan and Renaud, North Timiskaming; Piche and Gotnier, Guigues; Warrell, Brickenden, Fullerton, Bolger and Burwash, New Liskeard. It was decided to apply for incorporation immediately.

A press dispatch from Montreal, Apr. 20, stated that following an important meeting of the Richelieu and Ontario Navigation Co., there, it was learned, that after conferences with the representatives of the Northern Navigation Co., and Inland Lines Ltd., the two companies have been bought out by a syndicate, of which Lord Furness is the head, and it is understood that the same syndicate has purchased a large block of R. & O.N. Co.'s stock, which will give it a large representation in the company. It was decided to issue 10,440 new shares at par, thus increasing the capital by \$1,044,000, and making the total paid up capital, \$4,176,000. The new stock will be issued to shareholders in the proportion of one share for every three now held, and a special meeting will be held, May 1 to ratify the directors' actions.

The steamboat which is being built at Kingston for Capt. A. Foster, mayor of Smiths Falls, was launched there, Apr. 19, and christened Buena Vista. It was intended to name her Venture, but, as there is already a vessel of that name, a new one had to be found. Her dimensions are, 96 ft. long over all; beam 18 ft., depth 6½ ft. She is of the composite type, with keel, stem and stern posts and deadwood of white oak, with 2 in. sides and 2½ in. bottom, frames 2½ by 2½ in. steel angles, and shear strake running the entire length, centre keelson 12 by 5 in. girder 12 by 3 in., and additional two 6 by 3 in. keelsons running the entire length of the bottom. On the promenade deck there is a saloon cabin with circular front and two state rooms. And aft of these two toilet rooms. Aft of the main deck are the galley and mess rooms, and the stern is taken up by a restaurant. The wheelhouse and captain's quarters are on the upper deck. The machinery consists of fore and aft com-

pound condensing vertical engines with cylinders 9 and 18 ins. diam., by 14 ins. stroke, supplied with steam at a working pressure of 150 lbs., by a Fitzgibbon boiler. There is also a complete equipment of pumps and fire extinguishing appliances. She will run between Kingston and Smiths Falls.

Manitoba, Saskatchewan and Alberta.

The Hyland Navigation and Trading Co., Ltd., has been granted supplementary letters patent, increasing its capital stock from \$200,000 to \$1,000,000.

The Hyland Navigation and Trading Co., has recently completed a large barge 200 ft. long, by 44 ft. wide, for use on the Red River. The officers and directors of the company for the current year, are: President and General Manager, J. L. Hyland; Vice President, J. L. Spencer; other directors, D. B. Sprague, J. R. Cote and W. E. Robinson.

V. Maurice of Grouard, Alta., is building a steamboat at Athabasca Landing, for operation on the rivers and the Lesser Slave Lake. She will be 60 ft. long, with 14 ft. beam, and equipped with engine of about 30 h.p. She will be used exclusively for freight, and will have a capacity for about 15 tons. It is expected to have the boat ready for operation about the middle of May.

The Hudson Hope and Vermillion Transportation and Development Co., which is reported to have secured a charter for the navigation of about 1,350 miles on the Peace River, is said to be arranging to build two steamboats at Athabasca Landing, Alta. The first vessel, will, it is anticipated, be ready for operation this season, and the other will be commenced about the end of the year. They will be used in shipping mineral products from the company's mines, and will connect with the Northern Transportation Co.'s vessels.

The Lake Winnipeg and Red River Navigation Co., the incorporation of which we announced in our last issue, has a capital of \$300,000, divided into 30,000 shares of common stock, at a par value of \$10, with power to issue first mortgage serial 6% gold bonds to the extent of 60% of the constructive value of steel clad steamships. It is making an issue of 15,000, at par, with a bonus of income warrants of equal value, which shall not be operative until the earnings have provided for regular 10% dividends on all stock issued, and for a surplus beyond the requirements of the dividends, of \$150,000, for re-investment in extensions. The provisional directors are Capt. S. Sigurdsson, Gimli, Man.; J. McDiarmid, A. Davidson, W. F. Merrill and H. Cooper, Winnipeg.

The Northern Transportation Co.'s steamboat Northland Call, now under construction, and which it is anticipated will be completed and ready for operation by June 1, is built of wood, the hull being tamarac, and the upper works and cabin of spruce and B.C. cedar. Her principal dimensions are, length over all 98 ft., beam on water line 18 ft., depth, forward, 4 ft., draft, light, 14 ins. She is equipped with engines of patent inside valve drive with two main cylinders 7 ins. by 48 ins., direct connected to the 14 ft. stern wheel, and supplied with steam at a pressure of 200 lbs., by a Clyde dry back boiler 66 ins. by 96 ins. Other equipment includes pumps, electric lighting installation, and wireless telegraphy. The steamboat Northland Light, which was running to Slave Lake last year, and which, towards the end of the season, struck on a rock and sank, has been overhauled and repaired, and will be again in operation on the re-opening of the season during May, as will also the steamboats Northland Star and North-

land Sun. All these vessels, except the Northland Star, are being equipped with a wireless telegraph installation, and a land station has also been equipped at the company's headquarters at Athabasca Landing, Alta., where the vessels will be operated from.

B.C. and Pacific Coast Marine.

The G.T.P. Coast Steamship Co.'s s.s. Prince John, on arrival on the coast, from Glasgow, Scotland, is to be equipped with a wireless telegraph installation.

The large dredge, which was recently built in Renfrew, Scotland, for dredging on the B.C. coast, has been overhauled and repaired after her trip from Great Britain, and has been named Mastodon.

The directors of the North Vancouver Ferry Co., at a recent meeting decided to ask the city council to submit a bylaw providing for raising \$150,000, to be utilized for the building of another ferry steamboat and a Vancouver wharf.

The site for the dry dock, which the B.C. Marine Railway Co., proposes to construct, and for which the Government has been asked to grant a subsidy, has been chosen at Lang Cove. The dock will be of the first class, 900 by 100 ft., and will be the largest on the Pacific coast.

The C.P.R. s.s. Princess Charlotte, which has been equipped with the necessary machinery to enable her to burn oil as a fuel, was replaced on her run in the middle of April, the s.s. Princess Victoria being laid off for a similar equipment.

The purchasers of the property and assets of the Fort George Lumber and Navigation Co., are reported to be closely allied to the J. D. McArthur Co. The F.G.L. & N. Co., last year operated three steamboats on the Fraser River, Chilco, Chilcote and Fort Fraser.

The Westminster Marine Railway Co., has recently launched a stern wheel steamboat, which is owned jointly by it, and Capt. N. P. Roman, who will have charge of its operation. It is 100 ft. long, with 22 ft. beam, and will be used for general towing purposes, principally in the North Arm.

The C.P.R. s.s. Princess May, which has recently been thoroughly repaired and overhauled, and equipped for oil burning, recently completed her first voyage, using oil as a fuel, between Skagway and Vancouver, with the most satisfactory results. It is stated that her speed proved to be greater than anticipated.

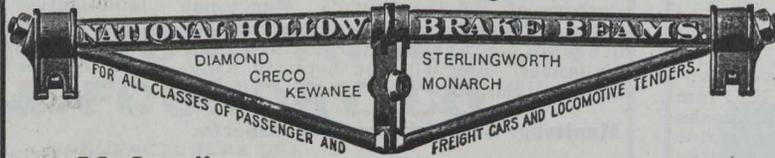
The B.C. Government has purchased the steam launch Kiara for patrolling the coast to prevent depredations on the Crown timber lands, making three vessels used for this purpose. She is screw driven with engine of 2 n.h.p., and was built at Victoria in 1906. Her dimensions are: length 37 ft., breadth 10.7 ft., depth 4.3 ft.; tonnage, 12 gross, 9 register.

The Union Steamship Co.'s s.s. Chelohsin, which is under construction at Dublin, Ireland, will, it is anticipated, be completed early in May. She is a twin screw vessel, 183 ft. long by 34 ft. beam, and is built on the same lines as the company's steamships Camosun and Cowichan. G. T. Legg, Manager, left Vancouver recently for England, to take delivery.

The C.P.R. has purchased the hulk Melanope, from Griffiths Bros., Seattle, Wash., to replace the wrecked barge Robert Kerr. The Melanope is on the British register, and was built at Liverpool, Eng., in 1876, as a fully rigged ship, and traded for a number of years between Great Britain and Australia. She was converted into a coal hulk in



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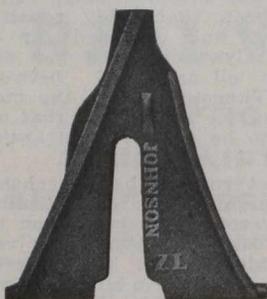
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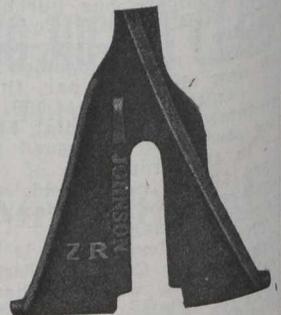
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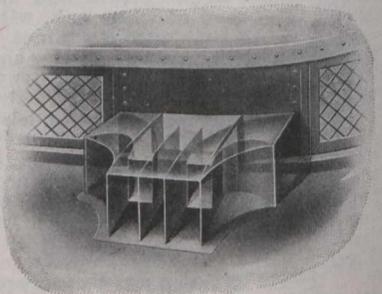
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1897, when she was purchased by Griffiths Bros. Her dimensions are, length, 258 ft. 2 ins., breadth 40 ft., 2 ins., depth, 23 ft.

The California Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$200,000 and office at Vancouver, B.C., to build, own and operate steam and other vessels, wharves, piers, warehouses, etc., and to carry on a general transportation business along the coast or on inland waters. The incorporators are, A. Baillie, Seattle, Wash.; T. W. Brownsmith, London, Eng.; H. G. Anderson, W. Houston, J. H. Lawson, Jr., Vancouver.

The s.s. Iroquois, running between Sidney and the Gulf Islands, sank near Robert's Bay, Apr. 10, and the majority of the passengers and crew were drowned. It has been stated that the disaster was due to the cargo shifting, causing the vessel to capsize. She was a wooden steamer, built at Port Moody in 1900. Her dimensions were: length, 82 ft., breadth, 20 ft.; depth, 7.7 ft.; tonnage, 195 gross, 94 register, and she was equipped with engine of 20 n.h.p., driving a screw.

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The All Red Line Ltd., recently incorporated under the B.C. Companies Act, as mentioned in a previous issue, has an authorized capital of \$150,000, and its head office is at Vancouver. The company owns the steamship Selma, which is being operated in the passenger and freight trade, between Vancouver and Sechart. The officers and directors for the current year, are: President, Capt. Polkinghorne; Secretary, M. G. Walton; other directors, S. Mortimer, —. Townsend and —. Anderson, Vancouver.

The Dominion Government hydrographic steamboat Lillooet, sailed Apr. 11, from Esquimalt, for a surveying cruise in northern waters. She will first take up her quarters at Grenville channel to complete the work left unfinished last fall, and afterwards proceed to Skidegate and the Hecate Strait, and on finishing the work there, will commence surveying the harbors of Queen Charlotte Islands, and take soundings at the western end of the Dixon entrance. She is not expected to return to port until November.

Tenders were recently received for the purchase of the British survey ship Egeria, which has been in service on the B. C. Coast for a number of years. It is reported that the Canadian Navy League had made a bid for the vessel, and hope to acquire it for navy training purposes.

Press reports from Nelson, state that the C.P.R. has decided to build another vessel for service on Kootenay Lake. It is stated that plans have been forwarded to Winnipeg, by J. C. Gore, Superintendent, B.C. Lake and River Service, and until they are approved, no definite announcement will be made. The plans provide for a vessel 200 ft. long, with 39 ft. beam, equipped with tandem compound condensing engines, berth accommodation for about 160 passengers, and general accommodation for about 1,000 on her three decks. There will be special observation saloons, one fore and one aft, one being reserved for ladies. She will be a modern stern wheeler, with a speed of about 18 miles an hour.

The Vancouver-Quesnel Navigation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, and office at Vancouver, to own and operate steam and other vessels, and carry on a general business as merchants and carriers by land and water, etc. Among those interested are J. R. Stewart, T. Marion and T. Connor. The

steamboat Quesnel has been purchased from T. Marion, and it is reported that an option has been taken on another steamboat. The company intends operating on the Upper Fraser River between Soda Creek and Fort George, and, it is stated that it may also run a vessel on waters adjacent to Vancouver. The Quesnel is a paddle wheel steamboat with engine of 3 n.h.p. Her dimensions are, length, 70 ft., breadth, 16.2 ft., depth, 3.7 ft.; tonnage, 130 gross, 77 register. She was built at Quesnel in 1909.

Vessels Removed From the Register.

—The following vessels were removed from the register, during March, for the reasons assigned:—Steam.—Cunaxa, St. John, N.B., 2,048 tons, sold to foreigners; Iona, Vancouver, B.C., 36 tons, broken up. Sailing.—Adventure, Port Hawkesbury, N.S., 54 tons, broken up; Pilgrim, Lunenburg, N.S., 99 tons, transferred to Barbadoes; St. Pierre, Quebec, 44 tons, broken up; Shanks, Windsor, N. S., 1,034 tons, burnt; Souvenir, Yarmouth, N.S., 71 tons, broken up; Theta, Windsor, N.S., 420 tons, missing; W. M. Vogler, Port Medway, N.S., 46 tons, supposed to be out of existence.



CITY OF TORONTO

Tenders for Construction of Ashbridges Bay Docks.

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Canada, up to noon on Tuesday, 23rd May, 1911, for the construction of dock in Ashbridges Bay.

Envelopes containing tender must be plainly marked on the outside as to contents.

Specifications and forms of tender may be obtained upon application to the Department of Railways, Bridges and Docks, City Engineer's Office, Toronto.

The lowest or any tender not necessarily accepted.

G. R. Geary, (Mayor),
Chairman Board of Control,
City Hall, Toronto, April 12, 1911.

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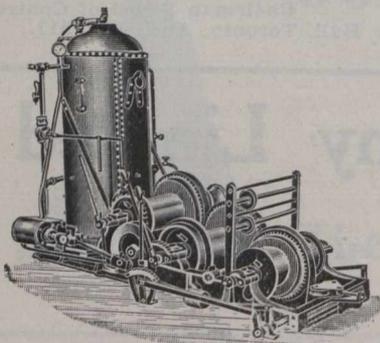
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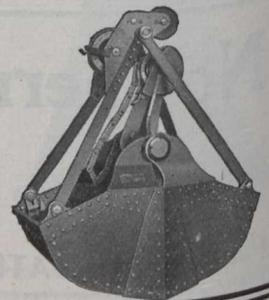
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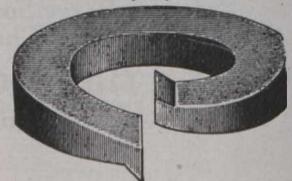


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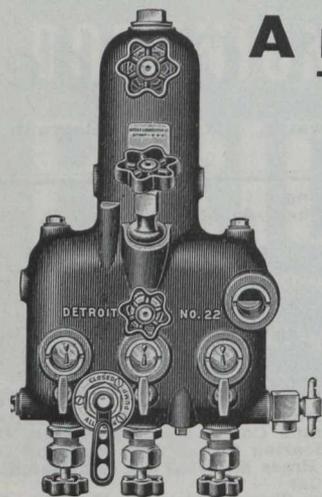
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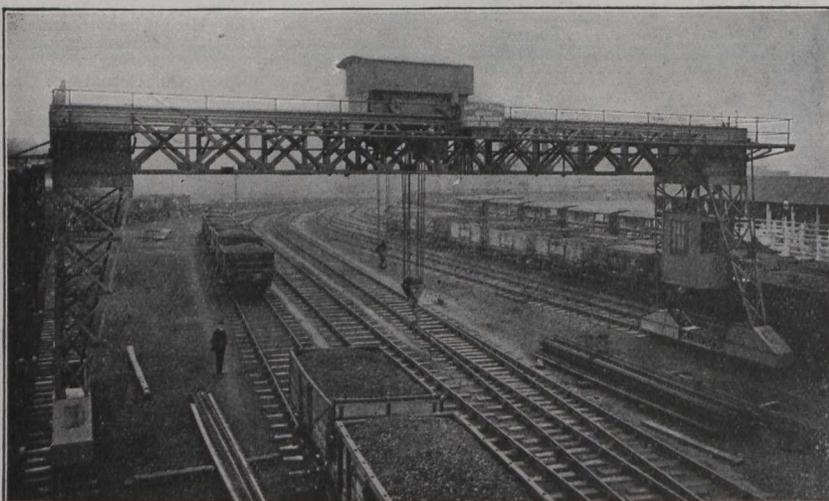
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- Poles and Posts, Cedar**
 Harris Tie and Timber Co..Ottawa, Ont.
- Porter**
 E. L. DrewryWinnipeg.
- Preservative for Wood**
 Guilford S. Wood.....Chicago, Ill.
- Printing**
 Southam PressToronto.
- Propeller Wheels**
 W. Kennedy & Sons, Ltd., Owen So'd, Ont.
- Pumps**
 Canadian Fairbanks Co., Ltd...Montreal.
 S. F. Bowser & Co., Ltd.....Toronto.
 Ontario Wind Engine & Pump Co..Toronto.
 James Smart Mfg. Co....Brockville, Ont.
- Pumps, Centrifugal**
 M. Beatty & SonsWelland, Ont.
 John Inglis Co., Ltd.Toronto.
- Punches and Shears**
 Long & Allstatter Co. Hamilton, Ohio.
 Williams & Wilson, LtdMontreal.
- Putty**
 Steel Co. of Canada, Ltd..Hamilton, Ont.
- Rail Benders, Roller**
 Dominion Equip. & Supply Co., Winnipeg.
 F. H. Hopkins & Co.Montreal.
 Montreal Steel WorksMontreal.
 Whyte Railway Signal Co.Toronto
- Rail Drilling Machines**
 A. B. Jardine & Co.Hespeler, Ont.
 Whyte Railway Signal Co.Toronto
- Rails, new**
 Dominion Iron & Steel Co....Sydney, N.S.
 Drummond, McCall & Co.....Montreal.
 J. T. GardnerChicago, Ill.
 J. J. GartshoreToronto.
 F. H. Hopkins & Co.Montreal.
- Rails, for relaying**
 F. H. Hopkins & Co.Montreal.
 J. J. GartshoreToronto.
 Mussels, LimitedMontreal.
 Provincial Steel Co., Ltd. . Cobourg, Ont.
 Jas. W. Pyke & Co.Montreal.
- Rail Joints**
 Goldschmidt Thermit Co.Toronto.
 The Rail Joint Co. of Canada...Montreal.
 Whyte Railway Signal Co.Toronto
- Rails, Re-rolled**
 Provincial Steel Co., Ltd. . Cobourg, Ont.
- Railway Supplies**
 Canadian Fairbanks Co., Ltd..Montreal.
 Canadian H. W. Johns-Manville Co.,
 Ltd.Toronto
 T. McAvity & SonsSt. John, N.B.
 Burton W. Mudge & Co.....Chicago, Ill.
 The Hiram L. Piper Co.....Montreal.
 The N. L. Piper Ry. Supply Co..Toronto.
 Rice Lewis & Son.....Toronto.
 Russel Wheel & Fdry. Co..Detroit, Mich.
 Whyte Railway Signal Co.Toronto
 Williams & Wilson, LtdMontreal.
- Reamers**
 Butterfield & Co.....Rock Island, Que.
 A. B. Jardine & Co.Hespeler, Ont.
- Refrigerators**
 Seeger Refrigerator Co. .St. Paul, Minn.
- Replacers, Car and Locomotive**
 Alexander Car Replacer Mfg. Co.Scranton
 Dominion Equip. & Supply Co..Winnipeg
 The Holden Co., Ltd.Montreal
 F. H. Hopkins & Co.Montreal
 Johnson Wrecking Frog Co.Cleveland, O.
 Whyte Railway Signal Co.....Toronto
- Rock Crushers**
 Allis-Chalmers-Bullock Ltd.....Montreal.
 Western Wheeled Scraper Co..Aurora, Ill.
- Rope**
 F. H. Hopkins & Co.....Montreal.
 The Hudson's Bay Company
- Ropes, Derrick**
 Dominion Wire Rope Co.Montreal.
- Ropes, Switch**
 F. H. Hopkins & Co., Ltd.....Montreal
- Rubber Goods, Mechanical**
 Guilford S. Wood.....Chicago, Ill.
- Scales**
 Canadian Fairbanks Co., Ltd., Montreal.
- Safes**
 J. & J. Taylor.....Toronto.
- Scows, Dump and Deck**
 M. Beatty & Sons.....Welland, Ont.
- Scrapers, Wheel and Drag**
 F. H. Hopkins & Co.....Montreal.
 Meaford Wheelbarrow Co., Ltd., Meaford, Ont.
 Mussels LimitedMontreal
 Western Wheeled Scraper Co..Aurora, Ill.
- Screw Plates**
 Butterfield & Co.....Rock Island, Que.
 A. B. Jardine & Co.....Hespeler, Ont.
- Screws, Wood and Machine**
 Steel Co. of Canada, Ltd..Hamilton, Ont.
- Seats, Station**
 James Smart Mfg. Co.Brockville, Ont.
- Semaphore Arms**
 Acton Burrows, LimitedToronto.
- Semaphores**
 The N. L. Piper Ry. Supply Co., Toronto.
 Saxby & Farmer, Ltd.Montreal
- Shapers**
 London Machine Tool Co., Ltd., Hamilton.
- Shingles**
 Imperial Timber & Trading Co. Vancouver.
- Ships**
 Polson Iron Works, LtdToronto
 Shop Equipment, Car and Locomotive
 London Machine Tool Co., Ltd., Hamilton.
- Shops**
 The Hudson's Bay Company
- Signal House Numbers**
 Acton Burrows, LimitedToronto.
- Signals**
 Railway Signal Co. of Canada..Montreal.
 Hall Signal Co.Chicago, Ill.
 The Hiram L. Piper Co.,Montreal.
 The N. L. Piper Ry. Supply Co..Toronto.
 Saxby & Farmer, LimitedMontreal.
 Union Switch & Signal Co., Swissvale, Pa.
 Whyte Railway Signal Co.Toronto.
- Signals, Fog**
 International Marine Signal Co...Ottawa.
- Signs**
 Acton Burrows, LimitedToronto.
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 Canadian Ry. Equip't Co..Welland, Ont.
- Skidders and Loaders**
 Russel Wheel & Fdry Co..Detroit, Mich.
- Slack Adjusters**
 Chicago Railway Equipment Co...Chicago
- Sledges**
 James Smart Mfg. Co....Brockville, Ont.
- Snow Ploughs**
 Canadian Car & Foundry Co...Montreal.
 Crossen Car Mfg. CoCobourg, Ont.
- Solder**
 Tallman Brass & Metal Co. Hamilton Ont.
- Spikes, Railway, Ship or Pressed**
 F. H. Hopkins & Co.....Montreal.
 Nova Scotia S. & C. Co. New Glasgow, N.S.
 Steel Co. of Canada, Ltd..Hamilton, Ont.
- Spreader Cars**
 F. H. Hopkins & Co.....Montreal.
 Western Wheeled Scraper Co..Aurora, Ill.
- Spring Dampeners**
 McCord & Co.,Chicago, Ill.
- Springs**
 American Vanadium Co.Pittsburg, Pa.
 B. J. Coghlin & Co.Montreal.
 F. H. Hopkins & Co.....Montreal.
 Montreal Steel WorksMontreal.
 Standard Steel Wks. Co.,Philadelphia, Pa.
 Titanium Alloy Mfg. Co...Pittsburgh, Pa.
- Sprinklers, Electric**
 Preston Car & Coach Co..Preston, Ont.
- Stand Pipes**
 John Inglis Co., Ltd.Toronto.
 T. McAvity & SonsSt. John, N.B.
- Staples**
 Steel Co. of Canada, Ltd..Hamilton, Ont.
- Steam Traps**
 Consolidated Car Heating Co., Albany, N.Y.
- Station Name Signs**
 Acton Burrows, LimitedToronto.
- Staybolt Iron**
 Taylor & ArnoldMontreal.
- Staybolts, Flexible**
 Flannery Bolt Co.Pittsburg, Pa.
- Staybolts, Locomotive**
 Flannery Bolt Co.Pittsburg, Pa.
- Staybolt Taps**
 Butterfield & Co.Rock Island, Que.
 A. B. Jardine & Co.,Hespeler, Ont.
- Steam Couplers**
 Safety Car Heating & L'ting Co. New York.
- Steam Hammers**
 John Bertram & Sons Co. .Dundas, Ont.
- Steam Shovels**
 F. M. Beatty & SonWelland, Ont.
 F. H. Hopkins & Co.....Montreal.
 Mussels, LimitedMontreal.
- Steamship Signs**
 Acton Burrows, LimitedToronto.

- Steel**
Hermann Boker & Co.Montreal.
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- Steel, Fire Box**
Taylor & ArnoldMontreal.
- Steel for Axes**
Montreal Steel WorksMontreal.
- Steel for Saws**
Montreal Steel WorksMontreal.
- Steel for Springs**
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Nova Scotia S. & C. Co. New Glasgow, N.S.
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The Orford Copper Co.New York.
- Steel Plates**
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- Steel, Roof**
Montreal Steel WorksMontreal.
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- Thermit**
Goldschmidt Thermit Co.Toronto
- Ticket Cases**
Can. Office & School Furniture Co.Preston.
- Tie Plates**
B. J. Coghlin & Co.Montreal.
Nova Scotia S. & C. Co. New Glasgow, N.S.
Steel Co. of Canada, Ltd..Hamilton, Ont.
Guliford S. WoodChicago, Ill.
- Ties**
Harris Tie and Timber Co..Ottawa, Ont.
Parry Sound Lumber Co.Toronto.
- Timber, Railway and Bridge**
Harris Tie and Timber Co..Ottawa, Ont.
- Tires, Steel**
Jas. Hutton & Co., Montreal.
Jas. W. Pyke & Co.,Montreal.
Standard Steel Wks. Co.,Philadelphia, Pa.
- Tools and Supplies**
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Jas. Smart Mfg. Co.Brockville, Ont.
A. B. Jardine & Co.,Hespeler, Ont.
Pratt & Whitney Co.Dundas, Ont.
Williams & Wilson, LtdMontreal.
- Tools, Track**
John Bertram & Sons Co. ..Dundas, Ont.
B. J. Coghlin & Co.Montreal.
F. H. Hopkins & Co.,..... Montreal.
Montreal Steel WorksMontreal.
Mussens, LimitedMontreal.
- Tools, Pneumatic**
The Holden Co., Ltd.Montreal.
- Tools, Cast Steel Track**
American Brake Shoe & Fdry. Co. Mahwah
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Dorner Railway Equip. Co...Chicago, Ill.
- Trolley Wheels**
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Jas. Smart Mfg. Co.Brockville, Ont.
- Trucks, Electric Car**
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Dominion Bridge Co.Montreal.
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Jas. W. Pyke & Co.,Montreal.
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Allis-Chalmers-Bullock LtdMontreal.
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- Turntables**
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Dominion Bridge Co.Montreal.
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- Valves, Brass Gate**
Kerr Engine Co.Walkerville, Ont.
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- Valves, Iron Gate**
Kerr Engine Co.Walkerville, Ont.
- Valves, Locomotive Pop**
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Taylor & ArnoldMontreal.
- Valves, Steam**
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American Vanadium CoPittsburg, Pa.
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- Vessels**
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- Wagons, Dump**
Western Wheeled Scraper Co..Aurora, Ill.
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F. H. Hopkins & Co.,.....Montreal.
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- Wheels, Car**
Canada Iron Corporation, Ltd.,...Montreal.
Canadian Car & Foundry Co....Montreal.
Jas. W. Pyke & Co.,Montreal.
Standard Steel Wks. Co.,Philadelphia, Pa.
- Wheels, Locomotive**
Canada Iron Corporation, Ltd.,...Montreal.
- Wheels, Re-inforced Pressed Steel**
Kalamazoo Ry. Sup. Co.Kalamazoo, Mich.
- Wheels, Rolled, solid Forged**
Standard Steel Wks. Co.,Philadelphia, Pa.
- Wheels, Steel Tired**
Standard Steel Wks. Co.,Philadelphia, Pa.
- White Lead**
Steel Co. of Canada, Ltd..Hamilton, Ont.
- Windlasses**
Dake Engine Co.Grand Haven, Mich.
- Windmills**
Ontario Wind Engine & Pump Co.Toronto.
- Wire**
American Vanadium Co.Pittsburg, Pa.
Titanium Alloy Mfg. Co...Pittsburgh, Pa.
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- Wire, Copper**
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- Wire Goods, Bright**
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- Wire, Insulated, Copper**
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The Wire & Cable Co.Montreal.
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- Yachts**
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