

# Canadian Railway and Marine World

## GENERAL INDEX FOR 1919

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Items marked with an asterisk are accompanied by maps, portraits or other illustrations.

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# Canadian Railway and Marine World

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## The Canadian Northern Railway's Montreal Tunnel From an Economic Point of View.

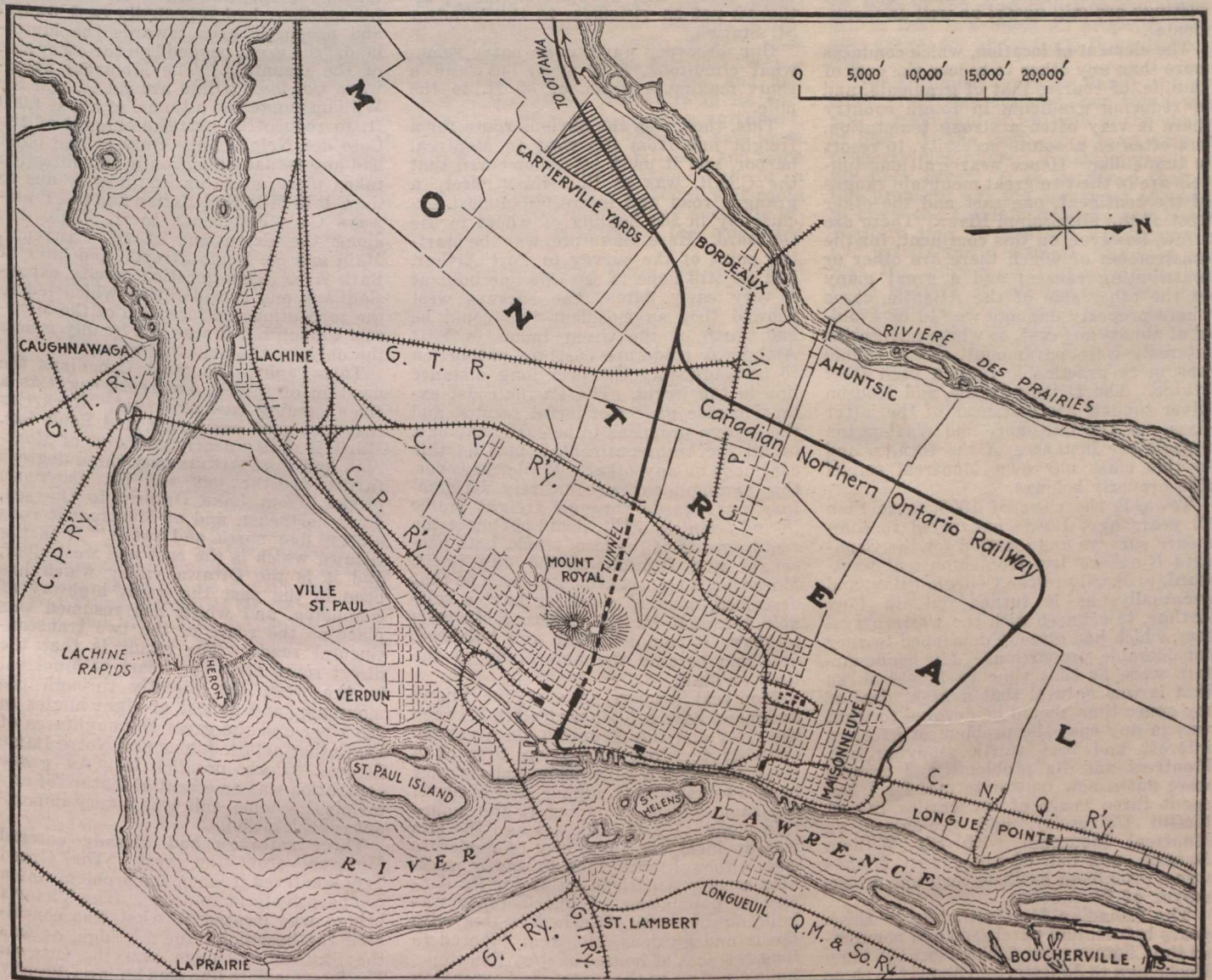
By H. K. Wicksteed, B.A.Sc., C.E.

This paper has been written in response to a very kind invitation to give something of interest in connection with the history of the Montreal tunnel. What were the considerations which led up to it, and made it seem a practical scheme? As the Canadian Northern Passenger Department has put it in its window dressing, "Why was the tunnel built?"

because the construction side has been dealt with very ably by my colleague, S. P. Brown, and I believe is to be dealt with further by one of his assistants, J. L. Busfield, and they are both better posted in details of it than I. Mr. Brown has made tunnelling a specialty, and his whole soul was in his work, and I may say that it is a pretty large and comprehensive

notably since the introduction of railways. Nearly all our great tunnels have been built to carry railways past, or under, obstructions of one kind or another, so that the history of tunnelling is almost altogether confined to the last 70 or 80 years, and most of the great tunnels are much younger than that.

Railway construction started on a large



And I have given my paper the title of "The Montreal tunnel from an economic point of view."

With the actual construction of the tunnel I do not propose to deal to any greater extent than is necessary to enable you to understand the problem, not because there were not a great number of intensely interesting points about it, and not because I was not in the tunnel a great many times during its progress, but

soul.

Both by temperament and training, it is the economic side of things which has always appealed to me most. Railways are commercial concerns, and the tunnel is an essential part of a great railway. If it cannot be justified in a commercial sense, if it cannot pay interest on its cost, it has no right to exist. This economic aspect of engineering works has come into great prominence of late years, and

scale first in England, where population was already dense, and traffic was waiting to be carried in large volume. A railway once built, even on what we should now consider very crude lines, was practically sure of paying its way from the very start, and the cost was a minor consideration as soon as the potentialities of the steam railway came to be understood. It was when the building of railways extended to this continent of great dis-

tances, and at the same time sparse population, that it was found that not only were fixed charges a very heavy drain on railway earnings, but that capital was very hard to get in any case, and had to be brought in from outside, hence the difference in cost between the early American roads and the English ones, and the expedients of sharp curvature, heavy grades, and cheap construction, which were used to reduce the capital cost; and hence the fact that so much English capital went into American roads. As time went on, and the traffic became heavier, and as, too, other lines were built between the same termini and competition became keen, there came the era when the balancing of cost against more perfect location and construction began to be a regular study, and while I think a good many of the earlier engineers, Latrobe, for instance, had thought a good deal about these matters (their works shewed that they did), it was Wellington who first committed his ideas to paper, and his writings are still useful as well as monumental.

**The element of location**, which conduces more than any other to reduce the cost of haul, is, of course, that of gradients, and in reducing gradients in rough country there is very often a strong temptation, less often an absolute necessity, to resort to tunnelling. Hence nearly all our tunnels are in the two great mountain ranges of the continent, one east and the other west of the Mississippi River. There are a few, however, on this continent, for the construction of which there are other or contributing causes; and a great many on the other side of the Atlantic, cases where property damage was to be avoided at almost any cost, or where navigation interests were paramount, and a tunnel was more practicable than a high level bridge. The Detroit-Sarnia and Hudson River tunnels are instances of the latter class, and the Baltimore and Washington tunnels are instances of the former, and to this class our own Montreal tunnel also properly belongs.

Towards the close of 1906, more than 12 years ago, I was instructed to commence surveys and location for the Canadian Northern Ry. from Montreal westward, primarily to the Georgian Bay, and eventually, as it turned out, to Port Arthur, to connect with the western system, which had already developed to very considerable proportions. My headquarters were at that time in Montreal, so that it was natural that a great deal of my spare time should be devoted to what was in any case the problem of greatest interest and best worth studying out. Montreal and its problems and growth were not a new matter to me, for I had spent three years of my earlier life at McGill University, had geologized on Montreal Mountain with Sir William Dawson, and one of my closest friends was a prominent business man and an ex-mayor of Westmount.

The Canadian Northern, two or three years before, had purchased and completed the Chateaugay & Northern Ry. from Hochelaga to Joliette, and about the same time acquired the Great Northern Ry. of Canada, extending from Hawkesbury to Riviere a Pierre on the Quebec & Lake St. John Ry., which constituted a sort of overflow system by which part of the grain brought from Parry Sound by the Canada Atlantic found its way to an elevator in Quebec. The Superintendent of this eastern system was offered one of the farms near Longue Pointe, and we combined to purchase this for the railway, and by this means secured an approach to

the river front, and within a very short time thereafter, a connection with the Harbor Commissioners' tracks. This had already secured for the road an ocean terminal, and it developed later that from this farm, now the Longue Pointe yard (and a very busy yard indeed), there extended a very marked depression clear across the island to the Riviere des Prairies, and the only one of its kind between Racine and Bout de l'Isle. Everywhere else there was a high, broad-backed ridge of limestone to the north of the mountain itself, and to the south a long talus slope of sand and glacial drift.

The Northern Colonization Ry., afterwards the Quebec, Montreal & Occidental Ry., and now part of the C.N.R., climbed over the top of the limestone at Mile End, at an elevation of 200 ft. above the river, and down again with a very strenuous grade of 90 ft. to the mile, to Hochelaga. The Ontario & Quebec Ry., the C.P.R.'s entry from the southwest, climbed over talus debris, and dropped similarly, although not so viciously, to the Windsor St. Station.

Our discovery gave us an entry somewhat circuitous, it is true, but with a short maximum grade of 30 ft. to the mile.

**This, then, was the obvious route** for a freight line from the west to Montreal harbor, and it must be remembered that the C.N.R. was at that time purely a granger road and interested almost exclusively in the hauling of wheat to the seaboard. Here, therefore, was the starting point of the survey to Port Arthur, and we still hope to see this line built at a very early date. The surveys west showed that an excellent line could be had north of the Great Lakes to Port Arthur at moderate cost; in proportion to cost probably the best long distance line in the world. The Pacific coast extension also gave wonderful results, and the system promised to be easily the best of all the transcontinental lines on this continent or any other. While, however, this arrangement was entirely satisfactory as regards through freight traffic to and from the west, it did not meet the requirements of the local traffic, both passenger and freight, of the city itself. Moreover, a transcontinental, such as that described, must of necessity have a suitable terminal in the eastern metropolis to make it complete and well balanced, and this became the new study of the location staff.

**Montreal proper**, as everyone knows and many have said, is wedged in between the river and the mountain, on a narrow strip of territory consisting first of a river flat half a mile wide, and farther back a terrace 70 ft. higher, and of about the same width, extending to the mountain slope. Up to 30 years ago the site was an ideal one for a city of moderate size, although even then it was remarkable among American cities for its density of population. While Toronto was building up, with detached houses with lawns and gardens, Montreal adhered to long terraces of houses of grey limestone, built right up to the street, and extending for miles almost without a break. Only on the slopes of the mountain the "seats of the mighty," of the Allans, the Redpaths, the Angus's, and other merchant princes showed more attractive surroundings, even if built on a sharp slope. Westmount was then in its infancy and was deterred in its growth by the long distances from the commercial center of the city.

Thirty years ago was marked by the advent of the C.P.R. and the selection of

Montreal as its headquarters. Montreal began to grow very rapidly indeed, and is said to be increasing in population nearly 10% a year, and has now a population of over 800,000. Montreal a few years ago had an area of 19 square miles, and a population of 580,000. Cleveland, with about the same population, occupied 45 square miles; Boston, with 670,000, covered 43 square miles. Between 1900 and 1910 Montreal added 10,000 people to each square mile, New York only 4,000, and Chicago only 2,500. Montreal, to use the words of a writer in an American paper, was "choking to death for want of room." In its efforts to find this it has extended down the river almost to Bout de l'Isle, and upward almost to Lachine, and answers much more closely even than Duluth itself, to the Eastern Yankee's description of that city as being "25 miles long, a mile wide, and pretty nearly a mile high."

The long-sighted men, my business friend for one, and Sir Wm. Van Horne for another, had repeatedly cast wistful and prophetic eyes towards the hinterland, "the great beyond" on the other side of the mountain. The Montreal Tramways Co. built a line around it, and Sir William suggested a tunnel of about 1,000 ft. to reduce the extreme summit of the Cote des Neiges hill. Only at one point had any actual expansion in this direction taken place, and this was largely due to the C.P.R. Mile End station and the Tramways Co.'s extensions to it. This was along the extensions of St. Lawrence, Main and St. Denis Streets, and later of Park Ave. This question of city expansion was one consideration which led to the conception and inception of the Montreal tunnel, but it was not by any means the only, or the principal one.

**Topography.**—To most Canadians the mention of the St. Lawrence suggests a river running east and west. It carries east and west commerce, and Sault Ste. Marie is pretty nearly due west of Montreal, and Port Arthur only three degrees farther north; but the St. Lawrence proper, from Lake Ontario to the sea, flows northeast, and at Montreal it runs almost due north and south. It is the Ottawa which is the east and west river, and it is the Ottawa valley which has been in the past the great highway of commerce, and which has resumed this place as the route of the two transcontinental roads. The result is that the direct route from the heart of Montreal to the west, lies directly through the mountain, and almost at right angles to the river and the great thoroughfares of St. Catherine, St. James and Notre Dame Streets, which parallel it. As grade separation was an essential feature of any terminal scheme, this was a very important consideration.

**Three railways had already entered Montreal from the west.** The Grand Trunk entered it when the problem was a comparatively simple one. The Victoria bridge was located at what was considered the best point for a bridge, as was the St. Anne's bridge over the Ottawa. The intermediate line was built as directly as possible between them, and one of the pioneer roads of Canada, the Lachine Portage Ry., was used as an approach to a dead end station in the outskirts of the city at that time. The main line did not touch Montreal as it then existed.

Thirty years later, the Northern Colonization Ry. was built from Ottawa, and it climbed over the northern toe of the mountain as already described, and entered the extreme northern end of the city, and, after absorption by the C.P.R.,



the Place Viger station. Ten years later still came the Ontario & Quebec Ry., which paralleled the Grand Trunk from Vaudreuil to Dorval, and then rose over the terrace and followed along its edge to the present Windsor St. station. What the governing ideas were in selecting this location I can only guess, having never met the designer, but a desire to eliminate property damages and grade crossings as far as possible is evident, and the solution has been accomplished in a very clever way. It is on the whole a very satisfactory entry, but the C.P.R. is under the disadvantage, with the double approach, of having to keep up two separate terminals and a great number of passengers have to travel across town from one to the other, in coming, for example, from Quebec to Toronto. It may almost be said that there are three terminals, for the Mile End station is getting to be very popular with short distance passengers to and from the north and west. The Windsor St. approach is very interesting, not only as a very good piece of work, but as showing the development of railway ideals, and the demands of the public in respect of abolition of crossings and concealment and suppression of smoke and noise.

**Advent of C.N.R.**—Nearly 30 years after the C.P.R. comes the Canadian Northern. Thirty years makes a great difference in a problem of this kind. Land values have grown prodigiously in the meantime, due to the ever increasing congestion. And the education of the public, assisted by a railway commission anxious to please it, has gone on apace. Grade separation has become absolutely essential, and the absolute abolition of smoke and noise almost so. At the same time, and from the railway point of view, passenger trains have become longer and heavier, and harder to haul, so that grades must be flattened to the utmost, especially in regard to starting and stopping. Maintenance of way and operating expenses have been increasing in a much faster ratio than the corresponding passenger rates and receipts. Only the increasing volume of traffic, offset the growing discrepancy, and served to stave off the bankruptcy of the railways.

The passenger business alone was not the only thing to be considered. The Grand Trunk, during its 60 years of occupancy, and the C.P.R. during its shorter term of existence, had surrounded and honeycombed Montreal with a network of industrial spurs, sidings, and yards, in every direction. The Canadian Northern had only one small yard in the extreme north end, and its connection on the same terms as the other lines with the Harbor Commissioners' tracks for overseas business. But business to and from the local industries, the wholesale houses, cold storage plants, etc., etc., has to be hauled from 3 to 5 miles by motor trucks to Moreau St. The handicap is altogether too great. In the district bounded by McGill St., the Lachine Canal, Windsor St. produced, and Lagachetiere St. alone, there are something like 150 of these smaller industries and plants, and a great many more within a mile radius of the Haymarket Square. Passenger business may perhaps be described as the spiritual and intellectual function of the railway body corporate, but freight is the wholesome and nourishing food which enables it to do its work and carry on its functions. The passenger service is the side which appeals to the ordinary layman passenger, just as a man's face and bearing does to a new acquaintance, but he cannot keep up the prepossessing appear-

ance unless he has his stomach full, and some little money in his pocket.

We have here a number of essentials to be provided for and a still greater number of desiderata, also many things to avoid. The most important necessity of all at the moment perhaps was the finding of the necessary capital. Railway terminals are expensive things at the best, and this was an era of extravagance in this respect. The Pennsylvania had spent many millions on its New York entry. The New York Central was following suit with a magnificent scheme, better balanced financially, but still enormously expensive. Kansas City was building a joint \$45,000,000 terminal, and St. Paul was considering a scheme which involved encroachment on the rights of its very respectable and oldest citizen, the Mississippi River—almost as old and respectable as the Montreal mountain itself, although somewhat dirtier. But these were all in connection with roads of long standing and financial strength. They were improvements and consolidations rather than new schemes. The Canadian Northern, while it had been earning at a great rate, was also extending and building equally fast, and had largely discounted its future in its borrowings. Even in a growing northwest, it takes some months before a new piece of road can earn its own living, and some of the C.N.R. construction was of a nature and through such country as could not be expected to yield any adequate income except as part of the completed system.

**The most obvious route** was to parallel the two older roads and it was very seriously proposed, but the writer for one never took to the proposition. It was neither the inexpensive route of the older Grand Trunk, nor could the very neat grade separations which the C.P.R. effected 30 years ago be repeated and duplicated. The C.P.R. line had been badly bent in order to effect its entry. Everything pointed to the north, instead of the south shore of the Ottawa, as being the Canadian Northern's proper route, and in this case the bend would become a right angle elbow. The right of way would be absolute destruction for 2 miles or more, and grade separation could be effected only by a continuous track elevation for the same distance. It would have been plagiarism of the worst and most expensive type. It was proposed to join with the Grand Trunk, but this would merely have mitigated some of the evils of parallelism, not removed them, and the Canadian Northern would have lost its identity and its independence at a most important point, and neither of these propositions would have been any solution of the freight problem.

**The tunnel was the obvious solution** of the whole question, and it was adopted by the writer at a very early stage, but how was the money to be found? Here came in the question of expansion, of a greater Montreal. The piercing of the mountain, the inauguration of a fast and frequent electric service through it, would vastly enhance the value of the inaccessible lands beyond. Thousands of acres, sloping gently towards the Back River, were available, if they were once brought within easy reach of the business and shopping district. As soon as the programme was announced, real estate men would quickly absorb all the available land, subdivide it and sell at enormous profit. Why should not a syndicate be formed which would take this part of the business out of the hands of the real estate men, buy up the land and out of

the prospective profits finance the construction of the tunnel? The idea once suggested took root, and some of the great financiers of the world became directly interested in it, and the idea of the tunnel entrance became an established one.

But this merely fixed the principle of the tunnel, not the line of it, and there were several lines suggested other than that adopted. A line just south of Park Ave. was strongly advocated, the reason given being that it would be closer to the surface and much of it could be built by the cut-and-cover method. It was pointed out in rebuttal that this would disorganize all the underground economy of the district, sewers, water pipes, and gas, and that the streets would be impassable and the abutting properly uninhabitable during the whole time of construction, unless the enormously costly methods of the New York subways were adopted. So far from being an extravagance, the bold line under the highest part of the mountain was the cheapest, in that it avoided all property damage, except for about 2,000 ft. on the city end.

This argument prevailed finally and the bolder line was adopted, but there was still a good deal of latitude in the choice of line. At the west end a long strip of property was offered, reaching nearly to the Back River. It so happened that on this property was the best point at which to cross the C.P.R.'s Atlantic and North Western line, so this end was promptly and satisfactorily settled. The east end was the subject of longer debate and some warmth of argument. Most English-speaking people think of Montreal as extending from the mountain to Dorchester St., and from Park Ave. to the confines of Westmount, with an addition for business purposes extending east and south for half a mile from the Place d'Armes, and of St. Catherine St. as being the main and only important artery. This is only a small part of Montreal in reality, but the conviction in the Anglo-Saxon mind that this is Montreal, the whole of Montreal, and nothing but Montreal, is almost as fixed and ineradicable as the Englishman's idea that the whole world is centered about his own tight little island. As a result of this obsession, it was difficult to get any site off St. Catherine St. even seriously considered. A line near University Ave. was actually adopted, and abandoned only when it was shown that this was of no use except for purely passenger business; that there was no chance for extension eastward, and that it must for all time to come remain a dead end branch 6 miles long, and worse in this respect than either the C.P.R. or the G.T.R.

Finally, the present line was adopted mainly for the reasons that it gave a continuous line from the mountain to the water front, with opportunity to connect with the Harbor Commissioners' tracks, and through them with the system extending to Quebec and Chicoutimi; that in doing this it passed through some of the best freight producing districts in Montreal, and that it did all this with a minimum of property damage and with an absolute avoidance of grade crossings or even distortion of street grades. There is, further, an avowed intention on the part of the Harbor Commission to build a dam across the river to St. Helen's Island and a bridge from it to the east shore, which will furnish a route for such roadways and railways as care to avail themselves of it. It is more than probable that the Quebec, Montreal & South-

ern and the Intercolonial will avail themselves of the chance, for the Grand Trunk's great bridge is already congested and overcrowded, but this is a matter for the future.

The choice of a station site on this route was another matter of debate, which it is somewhat irrelevant to go into now. The choice, for the present at any rate, is on Lagauchetiere St. within easy reach of Dorchester St., but not so far below the surface as the latter.

**Grades Through Tunnel.**—Closely allied to the question of alignment and in some respects even more important is that of grades. I have already alluded to the increasing length and weight of passenger trains. The C.N.R.'s standard trans-continental train averages 11 cars, and with this its Pacific type locomotives get over the 1% grades of the Lake Superior Division with reasonable ease. On the other hand, if the grade is flattened too much, on a long tunnel and approach such as this, trouble with drainage is apt to occur, especially in winter. The grade through the tunnel is 6/10 of 1%, or 32 ft. per mile, and is continuous from end to end; the west portal being thus 100 ft. higher than the east. From the west portal the same rate of grade carries us down through the Model City for nearly the same distance. The long cutting on the west approach, was introduced with a purpose, viz.: to allow the civic expansion to go on overhead without too much distortion of street grades.

In consideration of the electrical operation, the headroom required under the bridges was reduced from the regulation 22½ ft. to 16½ ft., and the problem of grade separation rendered so much the easier of accomplishment. Near Cartierville the Montreal Park & Island Ry., and a main road alongside it, have been carried underneath. Absolute grade separation is thus secured, not only through the city itself and its transmontane annex, but for the entire length of the electric zone, nearly 9 miles, and Cartierville, a promising suburban settlement on the bank of the Riviere des Prairies, is now brought within 18 or 20 minutes of the heart of the city.

The tunnel itself is a very interesting one and ranks among the great tunnels of the world, being 3.25 miles long. Only the three great Alpine tunnels, the Mount Cenis, the St. Gothard, and the Simplon, completely eclipse it in length, and there is only one in Canada which is longer, the C.P.R. Rogers Pass tunnel. It was predicted beforehand that the difficulties would be comparatively few, and so it turned out. Very little water was met with, and this where it was expected, near the west portal, at the contact between the limestone and the older rocks on which it rests unconformably. The core of the mountain was almost exclusively Essexite, a basaltic volcanic rock, somewhat hard to drill, but otherwise quite unobjectionable.

It was at first thought that most of it would not require lining, and had it been a steam operated road in the open country, it is quite probable that very little lining would have been put in, but its nearness to the terminal, and the adoption of the trolley system, which meant support from the roof, made even a small fall a very serious matter, as it would both delay and endanger the traffic. Some little seaminess and disintegration showed itself after exposure to the air, and in the end it was all lined with a thin sheeting of concrete, except about 1,000 ft. This applies to the rock section.

For something over half a mile at the

city, or east, end, the roof ran into clay, although the bottom and most of the wall remained in limestone. This clay was known beforehand to exist, and it is of a very plastic and semifluid formation and contains numerous shells such as now exist in northern seas. On account of its semi-fluid nature, and because this section led under streets and close to the foundations of buildings, it was decided to take this out under a shield protection, the shield being followed up with an arch of concrete blocks pre-cast in voussoir shape.

Practically no leakage, even of water, was ever visible during the progress of the work, and yet considerable settlement of the street overhead took place. Probably the moisture evaporated and escaped as invisible vapor. A great many of the houses had been set down on this soft clay and had suffered from settlement before the work was started; the further settlement was therefore of less consequence than it would otherwise have been. Through this section the individual tracks are carried in separate tunnels with a thin wall between them. The same is true of a few hundred feet at the West Portal, but the body of the tube is a single opening.

The heading was a "bottom" one 8 x 12 ft. and was put through with very good speed. For a time, in fact, the American record for hard rock tunnelling was broken by an average advance of 26 ft. a day for a whole month. As soon as a sufficient advance had been made, the enlargement to full section was commenced, the arch being taken out first, and the two "benches" afterwards.

As the east end is in the city and there was no means of getting rid of large quantities of material except by teaming for several miles, this work had to be done from the west end, and for this reason the heading was driven faster from this end, and this meant working down hill. Under these circumstances the small flow of water was particularly fortunate, as the amount of pumping was small.

**Shafts.**—In order to expedite the work, a shaft was sunk 250 ft. one mile from the west end. This made it possible to follow up with the enlargement on the westerly mile without interference from the heading from the shaft, but as a matter of fact the rapid progress of the heading was to a large extent wasted, because the war intervened, and work on the enlargement was impeded by the difficulty in finding the necessary capital to carry it on. The shaft was, however, designed to carry an elevator in the future to a substation at its foot, and with this in view, was sunk to one side of the center line of the tunnel. This, as may be imagined, greatly increased the difficulty of alignment of the tunnel. To offset a line on the surface, to two plumb lines, only some 12 ft. apart and 250 ft. long, and then offset this line again at the bottom of the shaft, was an operation requiring care and patience, but it was accomplished without appreciable error by H. T. Fisher and his staff. A second shaft was sunk, some 70 ft. just to the north of Sherbrooke St., and at the bottom of this the shield was put together. A third shaft was projected at Pine Ave., but considerable opposition was met with from the wealthy residents of the neighborhood, and it was abandoned, and undoubtedly the advantage from it would merely have expedited the driving of the heading, not of the completed tunnel. A fourth shaft was sunk on Dorchester St., and it was from this that a large quantity

of material was removed, because there happened to be a very large and almost vacant piece of property at this point, on which material could be wasted for the time being, until the tunnel became available for hauling it away.

**Anecdotes.**—Mr. Brown, in his enthusiastic belief in and support of everything connected with the tunnel working, got into some rather amusing situations which he relates himself with considerable humor. On one occasion he was dining in a house almost over the line of the tunnel, and his host took occasion to remonstrate against the heavy blasting which sometimes shook the house and made his women folk nervous. Brown assured him that this had been stopped altogether and only the lightest of charges were being used, and especially at night. Just then a tremendous shot was fired, and all the front windows were smashed. It was a very embarrassing moment, and Brown had some difficulty in preserving his dignity and his host's respect.

On another occasion a discussion arose with reference to the effect of the vibration, occasioned by moving trains on some of the delicate instruments in McGill University, which is almost immediately over the line of the tunnel; the seismograph, for instance, which is intended expressly for recording terrestrial vibrations. Brown stoutly maintained that there would be no effect whatever, and that in New York a similar instrument near the subway had taken less notice of the blasting and the subsequent train running, than it had of the San Francisco earthquake 3,000 miles away. He suggested that the instrument be set up in a basement on McGill College Ave. while a blast was being fired, and they would see for themselves how absurdly small the effect was. The suggestion was acted on, the instrument set up, the blast was fired, and the seismograph went out of business altogether.

**Reasons for Electrification.**—As mentioned previously, the tunnel was planned from the beginning for electric traction. No effort was made to avoid the inevitable in this respect. It was felt that while very much cheaper in initial cost, a steam service through such a long tunnel would not be popular with the public; fans and artificial ventilation would have to be installed, and that even outside the tunnel, on the city end, there would be a strong opposition to steam operation over the streets, and justly so, for Montreal is already more saturated with coal smoke than even Toronto.

Some will remember the fatal disaster in the St. Clair tunnel, when it was operated by steam locomotives, although this is not much more than one-third the length of the Montreal one. Some minor mishap necessitated a stop at the lowest point in the tunnel, and some of the train hands were asphyxiated by the waste gases from the locomotive before help could be got to them. Even on a passenger train, although the trip lasted a very few minutes, there was a certain sense of suffocation and a feeling of relief when the trip was over. This accident precipitated the inevitable change to electric traction, and in the case of the Pennsylvania and Detroit tunnels, electricity was installed from the very first.

In the Montreal tunnel, in actual experience, the air is just as fresh as it is outside, and there is quite a marked natural circulation through it. The air at the city end is nearly always warmer than that at the west, or country, end, and

rises from the terminal excavation, causing a strong draught of cool air from west to east. With the west end warmed up by a westerly sun, while the east is in shadow, the current will very probably be reversed, but the normal conditions seem to be as above.

The electrification work, which is a very interesting study in itself, was under the very able charge of W. C. Lancaster. A study was made for developing power at St. Ursule falls, on the Canadian Northern line, some 60 miles east of Montreal, and transmitting to Montreal, but the power was not very reliable, and to make it so meant a lot of interference with vested rights and privileges, which threatened to raise the capital cost and resultant charges to a point which meant that it would cost more per h.p. than it could be obtained for from the Montreal Light, Heat & Power Co., and an arrangement was made with that company to supply the necessary power.

The system is a direct current of 2,400 volts, much higher than we have been accustomed to up to the present. The locomotives take the current by a pantograph from a trolley wire, and weigh 80 tons. The third rail system was considered, but on account of the heavy snowfall about

Montreal, and occasional accumulations of ice, it was not considered desirable. In actual test these locomotives haul a 7 or 8-car train against the adverse 6/10% grade through the tunnel in 7 minutes, or practically 30 miles an hour.

The electric zone extends at present only to Cartierville, which on account of its being a convenient point at which to establish a divisional yard with locomotive house and shops, was considered the best point at which to make the change. It is altogether probable that as the intermediate country gets settled up with suburban residences, a movement which has already commenced, it will be extended to St. Eustache, a very prosperous town with beautiful surroundings, and we hope eventually to Ottawa. Only the heavy cost of installation prevented this being done in the first place. The route to Ottawa, lying as it does along the banks of the river, and generally within sight of it and of the Laurentian Hills beyond, is quite the most attractive of the four existing ones, and within a mile of being the shortest. It has already made a good start in popularity, and with the additional attraction of electric traction, it should pretty nearly monopolize this business.

## Cash Payment for Railway Transportation Charges Ordered.

The Canadian Railway War Board's executive committee issued circular 86, Nov. 20, as follows:—Effective Jan. 1, 1919, the collection of transportation charges, including demurrage and storage charges, by railways operating in Canada, for services rendered, shall be on a cash basis, and, effective as of that date, credit accommodations then in existence which may be in conflict with the following regulations shall be cancelled.

1. Tickets shall be sold only for cash in advance of service. Baggage charges are subject to the same rule as tickets, except c.o.d. baggage, and storage charges, which must be paid in cash before delivery.

2. In cases where the enforcement of this rule with respect to freight, will retard prompt forwarding or delivery of the freight, or the prompt release of equipment or station facilities, carriers will be permitted to extend credit for not exceeding 96 hours after receipt for shipment of a consignment if it be prepaid, or after delivery at destination if it be a collect consignment, provided the consignor, if it be a prepaid consignment, or the consignee, if it be collect, file a surety bond, either individual or corporate, in an amount satisfactory to the carrier's treasurer or other properly designated officer. The form of such bond shall be as per form attached, conditioned upon and providing for payment of all charges within 96 hours after forwarding, or delivery, of the freight. Upon receipt and acceptance of such bond a carrier may accept and forward prepaid consignments or may deliver collect consignments in advance of payment of all charges thereon to the amount covered by the bond. Failure to pay such charges within the time prescribed will automatically cancel such credit.

3. Treasurers or other properly designated officers of individual carriers are required to arrange and conduct all matters relating to such credits. They shall designate the amount and accept or re-

ject the surety offered. Bonds may be required and accepted for individual consignments, or blanket bonds may be accepted from individual shippers or consignees to cover all of their consignments for a given period; the period of the credit in such cases shall, however, be limited to 96 hours on each shipment, as prescribed in the preceding paragraph.

4. In case of any question as to accuracy of charges, bills must be paid as rendered, and claims presented for alleged errors. This will not prevent adjustments by agents of obvious errors.

5. Freight consigned to "order," or to "order notify," shall be delivered only upon surrender to the carrier's agent of the original bills of lading for such freight and the payment of the freight charges thereon, as hereunder provided; provided, however, if such bill of lading be lost or delayed the freight may be delivered in advance of surrender of the bill of lading upon receipt by the carrier's agent of a certified cheque for an amount equal to 110% of the invoice, or upon receipt of a surety bond, either individual or corporate, acceptable to the carrier's treasurer or other properly designated officer, in an amount for twice the amount of the invoice.

6. Advice to the foregoing regulations shall be promptly given to all to whom credit accommodations are now given, to the end that the regulations may be put into effect at the time specified with as little inconvenience as possible.

7. Cheques, within the instructions issued by the individual railways to their agents, will be considered as payment in cash.

8. The foregoing regulations shall apply to shipments delivered to and received from consigners and consignees by cartage companies, as well as to shipments handled direct between consignor or consignee and carrier.

9. Until otherwise ordered, the foregoing regulations shall not apply to transportation service rendered Dominion

Government departments, nations allied with Canada in war, the various provincial governments of Canada, the counties and municipal governments, transportation and authorized cartage companies.

The following supplement was issued Nov. 23:—For the guidance of those concerned in determining what constitutes delivery of freight at destination, as provided for in circular 86, and for the purpose of defining, when transportation charges are due, the following notice is issued:—

a. Transportation charges are due and payable when carload, or less than carload, freight is placed in storage, either on the property of the carrier or in private warehouses. If charges are not collected from the warehouse company, they should be collected from the consignee under the terms of circular 86 at, or immediately succeeding, the time of placement in storage and not after final delivery to consignee.

b. Cars consigned to bonded customers or to regular responsible customers are to be considered delivered when placed upon sidings or team tracks of so called plant facility industrial railways, either those connecting directly with the road, haul carrier or those located on terminal switching lines.

c. Cars will be considered to be delivered when placed on interchange tracks with industrial railroads.

d. Under the provisions of paragraphs b and c, cars will also be considered as delivered when constructively placed as provided by demurrage rules.

e. The provisions of paragraphs b, c and d do not apply to "common carrier" industrial railways, so long as in good faith deliveries are promptly made by them to consignees, and the trunk line carriers agent is furnished with adequate information with respect to such deliveries so as to permit the prompt rendition of the freight bills.

See also "Cash Payment for Railway Transportation" on another page.

**Park Incline Ry., Montreal.**—At the annual meeting of the Park Incline Ry., in Montreal, Dec. 10, a resolution was passed favoring the winding up of its affairs by voluntary liquidation. The reports presented showed a steady falling off in receipts since 1913, when the profits were \$2,240, permitting the payment of a 4% dividend. In 1914, the profits were \$1,460, and a 2% dividend was declared; in 1915, the profits were \$387, and the dividend was passed; in 1916, the profits were \$1,300, and a 2% dividend was declared. In 1917 the loss was \$1,542, and the loss for 1918 was \$2,201. The company applied recently to the city council for a reconsideration of the terms of the franchise, but without result. The franchise calls for a daylight service from May 1 to Oct. 31.

The Canadian Northern and Grand Trunk Railways have made an arrangement whereby tickets reading through both Toronto and Montreal may be routed via Ottawa, using the Canadian Northern between Toronto and Ottawa, and the Grand Trunk between Ottawa and Montreal. Round trip tickets may be routed both ways by Ottawa, or in one direction via Ottawa, and in the opposite direction via G.T.R. This arrangement applies for direct sale of tickets and for exchange of coupons, both one way and round trip tickets of any line issue, after passengers have travelled part of their journey. Such exchanges are to be made at Toronto or Montreal.

## Handling of Returning Troop Trains on the C.P.R.

A. D. MacTier, Vice President, Eastern Lines, C.P.R., has issued the following circular to officers and employes:—

The soldiers of Canada will, from now on, be returning home in considerable numbers each week. These men have endured dangers and suffered hardships such as to entitle them to every care and attention which we can give in assisting them to reach their homes with all the dispatch and every comfort possible. Men in all branches of the service can contribute materially in their respective positions towards accomplishing what is required in this respect, and it is expected that this assistance will be rendered.

Special care should be exercised to have the cars for the troop trains properly inspected, thoroughly cleaned and ventilated, well watered, and fully supplied for heating and lighting. These features should receive special attention at divisional points en route as well as at the starting point. Locomotives ordered for troop trains should be, if possible, even more closely inspected than ordinarily, so as to guard against any breakdown and consequent delays in transit, and every effort should be made to have them turned out on time, with both locomotives and train crews, to take their trains forward without detention.

Troop trains are to be given every possible dispatch, within defined speed and other regulations, and in so far as is consistent with safety, are to be given preference over all other trains, including regular passenger trains. In the event of a troop train locomotive breakdown on the road, the locomotive which can be made most quickly available, even if taken from a regular passenger train, is to be used to handle the troop train, so that it will incur the least possible delay. Practically all troop trains will be equipped with commissary or dining cars, but in the event of anything occurring to interfere with proper arrangements in this respect, special attention should be given to any required arrangements at dining stations, advices to the men regarding such arrangements, and proper time allowance for meals.

Divisional officers should, through their respective dispatching offices, keep each other fully and properly advised of the movement of troop trains, and of anticipated times of arrival at connecting divisional points. One of the most important features in the handling of troop trains is the care required in estimating the time of their arrival at destination points, and the movement of the trains so as to reach such points at the times anticipated. Station staffs at destination points should be fully and promptly advised of the expected time of arrival of troop trains, with all particulars available as to the names of steamships from which the passengers come, and any other known details. This information should be promptly and regularly posted on station bulletin boards and corrected from time to time as may be necessary. Operators should keep in close touch with the movement of the trains so that the information posted may be up to the minute. Train enquiry clerks should be at all times fully informed in connection with the trains and their movement, and they, as well as all other station staff concerned, will be expected to deal courteously and patiently with all enquirers, giving them correctly and clearly the fullest information pos-

sible in response to their enquiries. What is particularly desired is that all officers and employes concerned shall, in so far as possible, place themselves in the position of the father, mother, wife, sister, or other relative of the returning soldier, and deal with them as they would wish to be dealt with under similar conditions. All this being accomplished, it will add

substantially to the welcome the company desires to give to returned soldiers, as well as to the comfort and convenience of relatives and friends who desire to welcome them.

Officers will please arrange to have copies of this circular posted and distributed so as to come to the notice of all concerned.

## Canadian Pacific Railway's Honor Roll 39.

Adams, James E.	Stationary fireman	Schreiber	Wounded
Allen, James G.	Clerk	Kingston	Wounded
Anderson, Carl	Wood machinist	Ogden Shops	Wounded
Antilla, John E.	Trainman	Revelstoke Div.	Wounded
Archer, Wm.	Assistant agent	Hillcrest	Killed in action
Barnby, Jesse D.	Porter	Calgary	Killed in action
Barton, George	Steam fitter	Glen Yard	Died of wounds
Batchelor, Chas. H.	Yardman	Vancouver	Wounded
Baxter, Geo. L.	Brakeman	Lethbridge	Presumed dead
Beaton, Alex.	Operator	Wapella	Killed in action
Beattie, John J.	Rodman	Sudbury	Wounded
Bennett, Thos.	Carpenter	West Toronto	Wounded
Bolton, Wilberly J.	Clerk	Winnipeg	Wounded
Borg, Paul	Car cleaner	Toronto	Wounded
Bowes, Victor A.	Clerk	Calgary	Wounded
Brae, Fredk. D.	Clerk	Victoria	Wounded
Brereton, Thos.	Car repairer	Glen Yard	Wounded
Brophy, Alex.	Air brake cleaner	Winnipeg	Wounded
Brown, Chesley	Clerk	Toronto	Wounded
Brown, James	Laborer	London	Wounded
Bucke, Phillip P. F.	Clerk	Brandon	Wounded
Bulmer, Henry W.	Porter	Calgary	Wounded
Cameron, Wm.	Fireman	Outlook	Wounded
Carter, Emerson C.	Chef	Calgary	Gassed
Charlton, Geo. S.	Brakeman	Medicine Hat	Wounded
Christie, Thos. C.	Trainman	Fort William	Wounded
Churchman, Alfred H.	Storeman	Winnipeg	Wounded
Cole, Jno.	Clerk	Montreal	Killed in action
Cope, Edward W.	Brakeman	Quebec District	Wounded
Cox, Leonard	Fitter's helper	Fort William	Died of wounds
Craig, Lyle A.	Clerk	Winnipeg	Wounded
Croker, Wm. T.	Constable	Montreal	Died of wounds
Cronk, Homer R.	Assistant agent	Napinka	Died of wounds
Cruikshank, Robert	Car repairer	Brandon	Wounded
Curry, Sydney	Fitter's helper	Winnipeg	Killed in action
Cushman, Russell	Dist. freight agent	Saskatoon	Killed in action
Dawson, George	Electrician	Regina	Gassed
Dean, Wm. R.	Clerk	North Toronto	Killed in action
Dick, C. G.	Ditchrider	Brooks	Wounded
Donaghy, David S.	Clerk	Vancouver	Wounded
Donald, Terence F.	Apprentice	Angus	Wounded
Donald, Wm.	Trainman	Brandon	Wounded
Doyle, Terrance F.	Yardman	Winnipeg	Killed in action
Drummond-Hay, L. V.	Clerk	Winnipeg	Killed in action
Dryden, Vaughan T.	Stenographer	Calgary	Wounded
Duften, William	Cook	Vancouver	Wounded
Duval, Edward W.	Superintendent	Saskatoon	Killed in action
Ewart, Douglas M.	Resident engineer	West Toronto	Killed in action
Fletcher, Thos.	Blacksmith	McAdam	Killed in action
Fraser, Chas. R.	Clerk	Calgary	Gassed
Freeman, George	Operator	Halifax	Wounded
French, Jas.	Car checker	Guelph	Wounded
Gardiner, Jas. H.	carpenter	Brownville Div.	Wounded
Gougeon, Philemon J.	Conductor	Cranbrook	Wounded
Graham, James	Wiper	Wilkie	Wounded
Gray, Henry H.	Fireman	Fort William	Killed in action
Gray, Norman	Wiper	Kenora	Gassed
Greenless, Malcolm	Clerk	Vancouver	Killed in action
Griffin, Thos. H.	Assistant agent	Griffin	Wounded
Hambleton, Albert	Conductor	Moose Jaw	Wounded
Harris, Karl M. W.	Apprentice instructor	Ogden	Wounded
Harrison, Mark	Assistant agent	Blairmore	Died of wounds
Henderson, Wm. J.	Storeman	Brandon	Presumed dead
Hewis, Harry	Fireman	Winnipeg	Killed in action
Hicks, Peter	Sectionman	Bothwell	Wounded
Hicks, Wm.	Car repairer	Moose Jaw	Wounded
Hill, Sam	Clerk	Victoria	Wounded
Hill, W. H.	Fireman	Winnipeg	Killed in action
Holloway, Thomas J.	Fireman	Fort William	Wounded
Holmes, Chas.	Spring maker	Angus	Wounded
Horton, Thomas H.	Storekeeper	Regina	Wounded
Hume, Edward	Laborer	Calgary	Wounded
Hunter, Harold E.	Clerk	Guelph	Wounded
Illif, Thos. C.	Fireman	Kenora	Died of wounds
Irving, James J.	Constable	Fort William	Died of wounds
Jalbert, Louis	Fitter's helper	Sudbury	Wounded
Jebson, Fred	Engineer	Calgary	Wounded
Johns, Edward	Fireman	Swift Current	Wounded
Kendall, John J.	Fireman	MacLeod	Wounded
King, Jas. C.	Clerk	Kenora	Wounded
Laur, Lemen J.	Trainman	London Div.	Killed in action
Le Gros, Chas. A.	Clerk	Winnipeg	Killed in action
Linn, David	Brakeman	Medicine Hat	Wounded
Lowes, Thomas M.	Clerk	Windsor	Wounded
Luttrell, Robert	Machinist	Angus	Wounded
McBurney, Hy.	Car inspector	St. John	Wounded
McDonald, Alex.	Wreck crane operator	MacTier	Wounded
MacDonald, Chas. R.	Fireman	Cranbrook	Wounded
MacKay, Archie K.	Engineer	Kenora	Wounded
McLeod, Nell	Operator	Toronto	Wounded
McNally, John	Fireman	Sutherland	Killed in action
McQuarrie, Hugh S.	Fireman	Minnedosa	Wounded
Maisey, Walter	Car repairer	Ogden	Gassed
Marshall, Robert	Clerk	Vancouver	Wounded
Maxwell, Leonard G.	Operator	Bruce Division	Wounded
Milligan, W. C. H.	Fitter	North Bay	Wounded
Moore, James	Waiter	B.C. Coast Service	Presumed dead
Moore, Jas. Wm.	Silver cleaner	Vancouver	Wounded
Murray, Joseph	Foreman	West Toronto	Wounded

Murray, Wm.	Trucker	Estevan	Killed in action
Newby, Leonard	Clerk	Calgary	Wounded
Nicholson, Robert	Waiter	Montreal	Wounded
O'Brien, Edward G.	Car service agent	Montreal	Wounded
Page, S. J.	Cook	Winnipeg	Wounded
Tartington, Albert W.	Stationary fireman	Toronto	Wounded
Pierce, Edward G.	Operator	Ontario District	Gassed
Pringle, Jos. N.	Checker	Toronto Freight	Wounded
Pulford, Fredk. M.	Clerk	Weyburn	Killed in action
Rawn, Fredk. W.	Clerk	Toronto	Wounded
Rees, Herbert J.	Fireman	Fort William	Killed in action
Rennie, Frank B.	Stenographer	Regina	Wounded
Richmond, Robert A.	Clerk	Moose Jaw	Killed in action
Ritchie, Robert	Carpenter	Winnipeg	Killed in action
Robertson, Walter B.	Storeman	Winnipeg	Wounded and missing
Robison, Norman	Wiper	Medicine Hat	Died of wounds
Ross, Alex. J.	Trainman	London	Concussion
Ross, Wm.	Checker	Calgary	Wounded
Rowlette, Archibald G.	Visual tester	Winnipeg	Wounded
Rye, John	Boilermaker	Angus	Wounded
Saunders, Frank	Car repairer	North Bay	Wounded
Smith, Arthur	Messenger	Brandon	Killed in action
Smith, Geo. H.	Fireman	Brandon	Wounded
Smith, Wm.	Boilermaker	Winnipeg	Killed in action
Sparling, Harry	Assistant agent	Elm Creek	Died of wounds
Stock, Sidney W.	Clerk	Calgary	Wounded
Swindells, Albert	Porter	Regina	Wounded
Todd, James W.	Apprentice	Winnipeg	Gassed
Travis, Ernest W.	Porter	Ottawa	Wounded
Trodd, Reuben R.	Machinist	Angus	Gassed
Turton, Samuel	Laborer	West Toronto	Wounded
Veasey, Ernest G.	Section foreman	British Columbia Dist.	Wounded
Vidal, Cyril	Clerk	North Bay	Killed in action
Waldi, Adam	Storeman	Nelson	Killed in action
Wallace, George	Fireman	Chapleau	Wounded
Watt, Victor D.	Trainman	Minnedosa	Wounded
Waugh, Henry	Clerk	Montreal	Wounded
Websdale, Jas. F.	Brakeman	Medicine Hat	Died of wounds
Wensley, Frank	Call boy	Moose Jaw	Wounded
Wight, John H.	Freight clerk	Saskatoon	Died of wounds
Williams, John	Apprentice	Winnipeg	Killed in action
Wood, Geo. F.	Sleeping car cond'r	Moose Jaw	Wounded
Woodward, Geo.	Assistant foreman	Calgary	Wounded
Wren, Arthur	Fireman	Fort William	Presumed dead
Zetterland, John	Conductor	Brandon	Wounded

Shown on honor lists to date—killed, 775; wounded, 1,675. Total, 2,450.

## Birthdays of Transportation Men in January.

Many happy returns of the day to:—

J. Abrams, Wharf Freight Agent, C.P.R., Vancouver, B.C., born at Manchester, Eng., Jan. 24, 1870.

W. U. Appleton, Superintendent of Motive Power, Canadian Government Railways, Moncton, N.B., born there, Jan. 29, 1878.

R. Armstrong, Superintendent, Brandon Division, Manitoba District, C.P.R., Brandon, born at Kingston, Ont., Jan. 27, 1865.

J. A. Audrain, Trainmaster, Saskatoon Division, Saskatchewan District, C.P.R., Saskatoon, Sask., born at St. John's, Jersey, Channel Islands, Jan. 23, 1883.

L. E. Ayer, General Agent, Canadian Northern Ry., St. Louis, Mo., born at Henderson, Ia., Jan. 11, 1877.

F. X. Belanger ex-General Freight and Passenger Agent, Temiscouata Ry., Riviere du Loup, Que., now Traffic Manager, Fraser Companies, Ltd., Edmundston, N.B., born at Chlorydormes, Que., Jan. 20, 1876.

G. McL. Brown., European Manager, C.P.R., London, Eng., born at Hamilton, Ont., Jan. 20, 1866.

F. J. Buller, Cashier and Paymaster, Eastern Lines, Canadian Northern Ry., born at Lindsay, Ont., Jan. 30, 1874.

J. E. Dalrymple, Vice President, G.T.R., G.T.P.R., and Central Vermont Ry., Montreal, born there Jan. 1, 1869.

A. Davidson, Commercial Agent, Grand Trunk Pacific Ry., and G.T.P. Coast Steamship Co., Vancouver, B.C., born at St. Henri, Montreal, Jan. 29, 1885.

G. J. Desbarats, C.M.G., Deputy Minister of Naval Service, Ottawa, Ont., born at Quebec, Que., Jan. 27, 1861.

J. E. Everell, Superintendent, Montmorency Division, Quebec Ry., Light and Power Co., Quebec, Que., born at Cap Rouge, Que., Jan. 1, 1863.

J. E. Giles, Locomotive Foreman, Canadian Northern Ry., Lucerne, B.C., born at Toronto, Jan. 18, 1882.

Gordon Grant, Chief Engineer, Quebec and Saguenay Ry., and Consulting Engineer, Railways and Canals Department, Ottawa, born at Dufftown, Scotland, Jan. 2, 1861.

G. F. Hichborn, formerly Agent, Great Eastern Fast Freight Line, New York, born at Boston, Mass., Jan. 13, 1875.

C. Hood, ex-Local Freight Agent, C.P.R., Saskatoon, Sask., now of Winnipeg, born at Edinburgh, Scotland, Jan. 20, 1864.

D. W. Houston, Superintendent, Regina Municipal Ry., Regina, Sask., born at Bathurst, N.B., Jan. 3, 1879.

Carl Howe, Traffic Manager, Michigan Central Rd., Chicago, Ill., born at Berrien Springs, Mich., Jan. 11, 1870.

H. J. Humphrey, Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, born at Berrys Mills, N.B., Jan. 26, 1879.

W. C. Hunter, ex-Manager New Brunswick Coal and Ry. Co., now of Montreal, born at St. John, N.B., Jan. 4, 1865.

H. G. Kelley, President, G.T.R. and G.T.P.R., Montreal, born at Philadelphia, Pa., Jan. 12, 1858.

W. J. Lynch, General Manager, Quebec Ry., Light, Heat and Power Co., Quebec, Que., born there, Jan. 17, 1882.

C. R. Mackenzie, General Manager's Assistant, Western Lines, Canadian Government Railways, Winnipeg, born at Toronto, Jan. 10, 1883.

John Macrae, Locomotive Foreman, C.P.R., Swift Current, Sask., born at Springburn, Glasgow, Scotland, Jan. 30, 1879.

J. A. Macdonald, Manitoba Public Utilities Commissioner, Winnipeg, born at Ganoquoque, Ont., Jan. 6, 1857.

G. C. Martin, General Traffic Manager, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., born at Creemore, Ont., Jan. 2, 1866.

H. Mitchinson, Safety Engineer, Western Lines, Canadian Government Rail-

ways, Winnipeg, born at Gateshead on Tyne, Eng., Jan. 18, 1882.

William Phillips, Canadian Representative, Cunard Steamship Co., Montreal, born at Toronto, Jan. 31, 1870.

W. Pratt, General Superintendent, Sleeping and Dining Cars and Hotels, Canadian Northern Ry., Winnipeg, born at Sibbertoft, Northamptonshire, Eng., Jan. 18, 1870.

John Pullen, President, Canadian Express Co., Montreal, born at Shepton Mallet, Eng., Jan. 23, 1863.

Ralph M. Reade, Superintendent, City Division and Quebec County Railways, Quebec Railway, Light & Power Co., Quebec, born at Llanelly, Wales, Jan. 1, 1868.

L. J. Rouleau, Commercial Agent, G.T.R., Quebec, Que., born at Montreal, Jan. 6, 1879.

C. Senay, General Agent, C.P.R., Quebec, Que., born at St. Cesaire, Que., Jan. 31, 1873.

A. F. Stewart, Chief Engineer, Eastern Lines, Canadian Northern Ry., Toronto, born at West Bay, N.S., Jan., 1864.

J. G. Sullivan, ex-Chief Engineer, Western Lines, now Consulting Engineer, C.P.R., Winnipeg, born at Bushnells Basin, N.Y., Jan. 11, 1863.

Ross Thompson, ex-Chief Engineer, and Managing Director, St. John and Quebec Ry., Fredericton, N.B., now of Montreal, born at Newry, Ireland, Jan. 1, 1865.

T. H. White, Chief Engineer, Canadian Northern Pacific Ry., Vancouver, B.C., born at St. Thomas, Ont., Jan. 27, 1848.

A. Wilcox, General Superintendent, Central District, Canadian Northern Ry., Winnipeg, born at Kincardine, Ont., Jan. 2, 1865.

**A Great Northern Ry. Construction Suit.**—Judgment was given in the Court of Appeals, Montreal, Nov. 21, in an action brought by John Hyde as liquidator of the Great Northern Ry. Construction Co. against J. G. Scott, for the return of bonds aggregating a par value of \$6,000, or in default the sum of \$3,418.54, the amount realized by the sale of the bonds. The bonds in question formed part of \$1,500,000 of bonds distributed by the company among its shareholders. The allegation was that the construction company sublet its contract for the construction of the Great Northern Ry. (Canada) to Ross, Barry and McRae; that it received cash, bonds and stock from the railway company, and distributed among its shareholders \$1,500,000 of the bonds, prior to the completion of the contract let to Ross, Barry and McRae. The construction company subsequently went into liquidation and the sub-contractors had not been settled with. At the original hearing of the action the court decided that the liquidator had failed to establish his right to recover, but the Court of Appeal, with a dissentient, held that the distribution was illegal, and the bonds, or the sum which Mr. Scott admitted he received for them, should be returned. Judgment was entered accordingly.

**Engineering Institute of Canada, Calgary Branch.**—It was reported at the annual meeting, Dec. 8, that of the 76 members and associates on the roll, 25% are on active service with the Canadian forces. Following are the officers elected for the current year:—Chairman, G. W. Craig; Secretary-Treasurer, C. M. Arnold; Assistant Secretary, W. H. Marshall; Executive Committee:—W. Pearce, A. S. Dawson, F. H. Peters, B. L. Thorne, A. S. Chapman.

## Establishment of Per Diem Bureau for Canadian and United States Traffic.

The Canadian Railway War Board has issued the following circular:—With a view to simplifying the handling of car hire accounts as between United States railways operating under federal control and other lines, it has been arranged to establish a per diem bureau which will act as a clearing house in the handling of accounts between the various systems of railways as above mentioned. Draft of the general regulations which have been formulated to govern the working of the revised arrangement is enclosed herewith. It is anticipated that amongst the benefits to be derived from the new system will be the avoidance of long outstanding claims, such as have existed heretofore, and reduction in the work in the individual car accounting offices. As soon as further details of the new system have been decided upon it is proposed to have a meeting of the car accounting officers of member lines here, in order that the matter may be fully explained to all concerned, and to dispose of any questions of a local nature that may arise.

Rules for settlement of per diem, including reclaims and passenger car hire, between federal, non-federal, Mexican and Canadian roads (other than industrial roads).

On all settlements between federal, non-federal, Mexican and Canadian roads (other than industrial roads), the Code of Per Diem Rules shall govern, except as hereinafter modified.

Each non-federal road shall be assigned to a federal road, with which it shall make settlement for per diem, reclaims and passenger car hire as provided for in these rules.\*

Settlement for freight and passenger equipment cars between federal and non-federal roads. Freight cars:

a. Each non-federal road shall report to the federal road to which it is assigned all per diem earned by railway owned cars on its line (with the record of receipt and delivery of such cars), and to which it shall pay all per diem due.

b. Each federal road shall be responsible for the payment of per diem on cars owned by the non-federal road, or roads assigned to it, while they are away from home. The non-federal road shall submit monthly statement to the federal road to which it is assigned, showing all per diem earned on its cars while they are away from home, with record of interchange with the home road.

c. A federal road switching cars for a non-federal road may reclaim an amount equal to the actual time (with a minimum of 5 days on any one car\*\*), which shall be paid by the non-federal road to the federal road to which it is assigned.

d. A non-federal road switching cars for a federal road may reclaim an amount equal to the actual time (with a minimum of 5 days on any one car\*\*) which shall be paid by the federal road to which the non-federal road is assigned.

e. When a non-federal road, under its contract with the U.S. Railroad Administration, is allowed a special per diem reclaim on cars delivered to it, such reclaim shall be paid by the federal road to which it is assigned and shall not be in addition to any switching reclaim herein established.

f. After the responsibility has been established that a reclaim is due to or from a non-federal road from or to a federal road under per diem rule 14, or

on account of special conditions, settlement shall be made with the federal road to which the non-federal road is assigned.

g. When cars are handled under per diem rule 5, or held under per diem rule 14, by one non-federal road, for another non-federal road, reclaim settlement shall be made direct by such non-federal roads.

h. When per diem earnings of cars of non-federal ownership cease or are suspended, as provided by per diem rules 7 and 8, notice in accordance with these rules shall be transmitted to the federal road responsible for settlement with owner and to the owner of the car\*\*\*.

i. When per diem earnings of any car on a non-federal road cease, or are suspended, as provided by per diem rules 7 and 8, notice in accordance with these rules shall be transmitted to the owner and to the federal road to which the reporting non-federal road is assigned\*\*\*.

\*Each non-federal road (other than an industrial road) shall insert in its registration in the Official Railway Equipment Register the name of the federal road to which it is assigned.

\*\*A car received loaded and delivered loaded in switching service shall be considered as two cars.

\*\*\*Specific instructions as to the names of officers of the respective roads to whom these reports are to be forwarded should be inserted in each carrier's registration in The Official Railway Equipment Register.

### Passenger cars:

j. Each non-federal road shall report and pay to the federal road to which it is assigned the mileage and per diem earned by each railway passenger equipment car on its line.

k. Each federal road shall be responsible for the payment of mileage and per diem on passenger equipment cars owned by the non-federal road or roads assigned to it while they are away from home. The non-federal road shall submit monthly statement to the federal road to which it is assigned, showing all mileage and per diem earnings on its passenger equipment cars while away from home.

l. Each federal road shall make monthly reports to car owner, showing the wheelage of non-federal roads passenger equipment cars on its line. Each non-federal road shall make wheelage reports to car owner for all foreign passenger equipment cars on its line.

Settlement for freight and passenger equipment cars between Canadian and United States roads:

A bureau shall be established by the U.S. Railroad Administration, for the purpose of maintaining a record of the interchange of all railway cars and for the settlement of per diem, reclaims and passenger car hire, between U.S. and Canadian roads.

### Freight cars:

m. Each Canadian road shall report monthly to the bureau all per diem earned by railway cars (other than Canadian roads' cars) on its line, showing the name of road delivered to and date of such delivery.

n. The bureau shall report monthly to each Canadian road all per diem earned by its cars while on roads in the U.S. and Mexico.

o. Reclaims under per diem rules 5 and 14, and special conditions due from U.S. and Mexican roads to Canadian roads shall be reported by the federal roads to the bureau, in such detail as may be re-

quired by the bureau. These reclaims shall be included in the bureau's reports to the proper Canadian roads.

p. Reclaims under per diem rules 5 and 14, and special conditions due from Canadian roads to U.S. and Mexican roads shall be included on Canadian roads' per diem reports to the bureau, in such detail as may be required by the bureau. Each federal road shall report to the bureau reclaims due from Canadian roads in such detail as may be required by the bureau.

q. Each federal road shall notify the bureau and the car owner respecting cessation or suspension of per diem under per diem rules 7 and 8 on Canadian roads' cars on its road, or on non-federal roads assigned to it, and obtain acknowledgment of receipt thereof from the bureau.

r. Each Canadian road shall notify the bureau and the car owner of the cessation or suspension of per diem, as provided by per diem rules 7 and 8, on U.S. and Mexican roads' cars while on its line.

### Passenger cars:

s. Each Canadian road shall report monthly to the bureau all mileage and per diem earned by railroad passenger equipment cars (other than Canadian roads' cars) on its line, showing the name of road delivered to and date of such delivery.

t. The bureau shall report monthly to each Canadian road all mileage and per diem earned by its passenger equipment cars while on roads in the U.S. and Mexico.

u. Each federal road handling passenger equipment cars of Canadian roads shall submit monthly statement to the bureau, showing mileage and per diem earnings of such cars on its rails and the rails of non-federal roads assigned to it.

v. Each federal and non-federal road shall make monthly reports to the car owners, showing by car number the wheelage of Canadian roads' passenger equipment cars on its line.

Settlement between United States and Mexican roads' freight and passenger cars:

w. The U.S. Railroad Administration shall establish a bureau for the purpose of maintaining a record of the interchange of all railway cars between U.S. and Mexican roads. The bureau shall arrange to secure such reports as it deems necessary for this purpose.

**U.S. Sleeping Car Charges.**—The additional passage charge of 16 2/3% of the normal one-way fare required from passengers travelling in standard sleeping cars and parlor cars, and 8 1/3% of the normal one-way fare required from passengers travelling in tourist sleeping cars, which has been in force for some months in the United States, was abolished by the Railroad Administration Dec. 1.

**Discrimination in Car Distribution Punished.**—I. K. Dye, formerly General Manager, Coal & Coke Rd., Baltimore, Md., who was convicted recently for discrimination in the distribution of coal cars to mines in which he owned no stock, in favor of mines in which he was financially interested, has been fined \$1,000 and sentenced to 6 months imprisonment.

**Canadian Avro Co., Ltd.**, has been incorporated under the Dominion Companies Act, with \$2,500,000 authorized capital and office at St. John, N.B., to build, own and operate aeroplanes, balloons, dirigible airships, hydroplanes, etc.

## The Railway Terminals etc., at St. John, N. B.

By C. C. Kirby, Division Engineer, C.P.R.

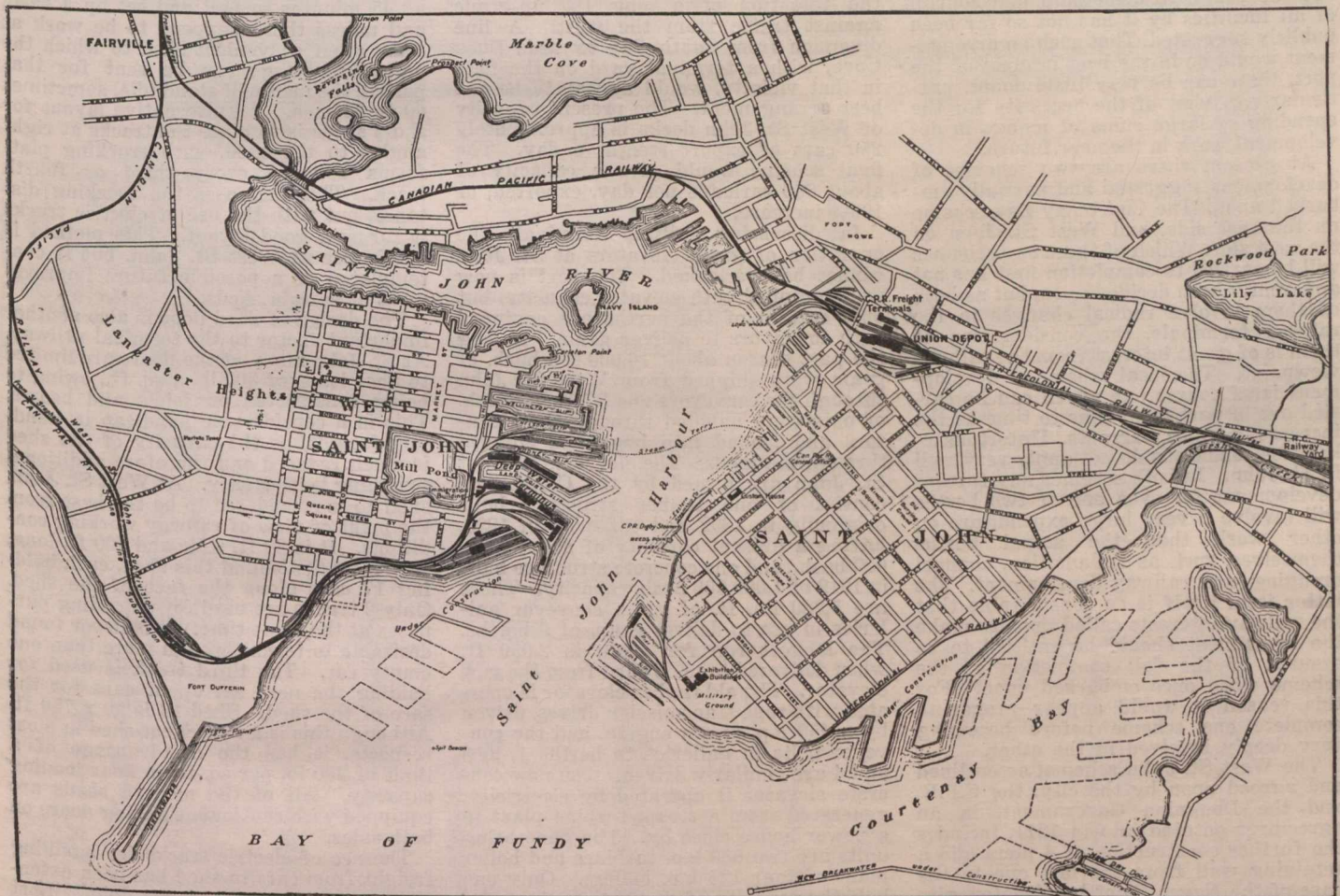
The St. John, N.B., railway terminals present an interesting problem in regard to their future extension to meet the development of the port. The present terminal layouts are the result of slow growth from small beginnings, and, consequently, the growth has been along the line of least resistance and low cost, rather than with the fulfillment of a pre-arranged plan. In this respect St. John is probably no different from most other old cities. The high ground surrounding the harbor on four out of its five sides presents considerable difficulty toward obtaining ideal layouts, or even barely possible working conditions.

The city is served by 2 main lines of

and follows a short branch line into Bay Shore yard. Bay Shore is the terminal for freight trains from the west. It has a working capacity of about 800 cars and is equipped with a 12 stall locomotive house and the usual locomotive terminal facilities of coal plant, ashpit, water tank, etc. It is a turn-around point only for freight locomotives running between St. John and McAdam, the latter being the maintaining station. From Bay Shore yard cars are handled to the West St. John docks by yard locomotive service. There are three main line tracks connecting the two yards, operated under the control of a general yardmaster in charge of both yards. The distance between the

sheds 7, 14, 15 and 16. The C.P.R. owns the grain elevators and about one half of the conveyor galleries and the Dominion Government owns the other half. The railway tracks are owned by the C.P.R., except alongside of certain of the government owned sheds, where the government owns the tracks also. The city owns and maintains the trestle supports upon which the tracks are carried alongside of the city sheds. On the city side of the harbor the Canadian Government Rys. own the ocean terminal sheds at Long Wharf and the grain elevator and conveyor at Reed's Point, but the city owns the shed at the latter point.

The Canadian Government Rys. termin-



Canadian Pacific Railway and Canadian Government Railways Terminals at West St. John and St. John, N.B.

single track railway. The C.P.R. enters from the west and the Canadian Government Rys. from the east. The distance from Montreal to St. John via C.P.R. is 477 miles; by Canadian Government Rys. via Intercolonial and National Transcontinental 702 miles. The distance from Winnipeg to St. John by C.P.R. is 1,884 miles and by Canadian Government Rys. 1,906 miles. The terminals consist of the West St. John facilities, owned by the C.P.R., and the city facilities, owned by the Canadian Government Rys. The distance between West St. John and Long Wharf is 5.6 miles.

The C.P.R. terminals include a small yard of about 100 cars working capacity at Fairville, at which point all West St. John export freight leaves the main line

two yard offices is 1.71 miles. At West St. John, the working yard capacity is about 1,000 cars, including cars actually set up along sheds and wharves.

There are 10 ocean wharves, known as berths 1 to 7 inclusive and 14, 15 and 16. In addition, there are a few wharves served by the railway which are exclusively used for local or coast traffic. At St. John, both railways do the work themselves of delivering and receiving freight into and out of the wharf sheds. There is no harbor commission or terminal railway company operating here as at other ports. The ownership of the wharves and sheds lies between the railways, the city, and the Dominion Government. On the west side the city owns sheds 1 to 6, the government owns no. 6 extension and

als lie wholly on the city side of the present harbor and comprise 2 ocean berths at Long Wharf, a passenger station and local yard at Mill St., a passenger car yard at Gilbert's Lane, and locomotive terminal at Island Yard, also a belt line railway running around the city proper along the harbor front. The belt line serves a number of industries and small wharves used for coast traffic as well as the new grain elevator at Reed's Point.

The layout of St. John Harbor can best be described as similar to the letter Y, the city proper lying in the crotch of the St. John River estuary and Courtenay Bay. The West St. John ocean terminals lie on the western side of the stem of the Y and the Canadian Government Rys. ocean terminals are proposed to be built in future

along the sides of the eastern arm. The present Canadian Government Rys. ocean wharves lie near the head of the western arm on the inner side. The Canadian Government Rys. passenger and freight terminal yards lie across the city at the head of the two arms of the Y and connect with the C.P.R. at the union station near Long Wharf.

The fact of there being so many distinct interests involved in the operation and maintenance of the railway tracks, wharves, sheds, grain elevators and conveyors, is to some extent a handicap to the proper development of the port, as any continuity of policy is impossible under such conditions. Beside the city and the C.P.R., the Dominion Government is represented by three different departments, Railways, Public Works and Marine and Fisheries. The creation of a harbor commission is under consideration for the carrying out of certain functions, but the complete ownership and control of all facilities by it has not so far been publicly suggested. That such an arrangement would be in the best interest of the port, there can be very little doubt, particularly in view of the necessity for the spending of large sums of money in development work in the near future.

At present there are two schemes of development suggested and partially embarked upon. The Courtenay Bay scheme on the east side, and West St. John on the west side. Which of these two schemes will be carried to completion first has not apparently been decided upon, but as both of them involve radical changes in the railway terminals, the consideration of them is of great interest from the railway viewpoint. The ideal scheme of development is of course one which can be carried out in part from time to time as the increase in traffic warrants. Unfortunately these conditions do not apply very well in St. John. In both schemes any further development for even one or two berths will involve a very large expenditure on other work than the actual berths themselves, such as reclamation, channel dredging, and railway development. The latter item itself is so considerable that the railway interests called upon to make the investment should be entitled to be assured of the full completion of the scheme when once embarked upon. For this reason it would appear proper to complete one scheme before becoming very deeply involved in the other.

The West St. John scheme, as outlined and agreed upon by the city, the C.P.R. and the Dominion Government, in an agreement entered into in 1911, includes the further construction of 4 piers and a retaining wall from the last one to the base of the Negro Point breakwater, giving 8 more berths than there are at present. The area between the site of the piers and the shore is to be filled in and used for railway purposes to serve the piers. The construction of the piers and retaining wall is an obligation upon the Dominion Government, as is also the filling in of the area behind the piers for 400 ft. from the end wall of the basins. The filling in of the remaining area is an obligation upon the C.P.R. So far 2 berths have been constructed by a piecemeal process of construction of one berth at a time, and these berths have been reached by the railway company extending out from its original location. The tracks to these berths approach in a fan shape from directly behind. These tracks fan out from the base of a very heavy grade down from Bay Shore yard and sharp curvature. Unfortunately any further extension of these tracks by fanning out to reach more of

the new piers will not be possible on account of the grade and curvature. The construction of the next pier will therefore necessitate a radical rearrangement of trackage. This rearrangement cannot be carried out without the reclamation of area between the new piers and the shore and the construction of the retaining walls to protect the filling. When this has been done the railway yard will require to be built at right angles to its present direction and a new entrance to it to be built at wharf level around Fort Dufferin point. This entrance could not be reached from the present Bay Shore yard, as the latter lies 66 ft. above dock level and too close at hand to make grades. Bay Shore yard would therefore have to be abandoned as the terminal yard and a new terminal constructed at some point farther back. A site for such a terminal could be found just west of the Fairville yard, but this would mean the retention of a long 1% up-grade against traffic from the west. A line diversion from South Bay towards Duck Cove, with a terminal yard on the flats in that vicinity, would appear to be the best arrangement. The present capacity of West St. John docks is approximately 250 cars of export freight a day. The final scheme would give a capacity of about 500 carloads per day, exported, or 100% increase.

In discussing railway terminals the operation of grain elevators at St. John cannot be overlooked. The port is now well equipped with elevator capacity, but only certain of the berths are equipped with conveyors to deliver grain. During the past season about 16,000,000 bush. of grain were shipped from West St. John through the conveyors and 3,500,000 bush. of oats were handled through the elevators and loaded into bags and shipped through the sheds. The elevators at West St. John are owned by the C.P.R. and consist of one timber structure built originally in 1892 and extended in 1898, having a present capacity of about 600,000 bush., and one concrete structure built in 1912 of 1,000,000 bush. capacity. There are 5,280 lin. ft. of grain conveyor galleries in use to deliver grain at 6 berths. The longest run for grain is 2,950 ft. when delivered to no. 6 shed from the new elevator. The old timber elevator is operated with rope transmission drives, driven by a 450 h.p. steam engine, and the conveyor belts in galleries to berths 1, 2, 3 and 4 are similarly driven. The new concrete elevator is operated by electricity, generated from a steam turbine plant in a power house close by. The generating units are two 600 h.p. turbines and boiler plant of four 125 h.p. boilers. Only one half the capacity of generating plant and boilers is generally used, the other half being held as spare. The condensing water for the turbines is obtained by pumping sea water from a nearby basin with an electrically driven 8 in. centrifugal pump. The 2 elevators are operated in conjunction with one another and are connected together with two 36 in. belts. The operation of both houses is under one general foreman, and grain can be delivered from the new house at any one of the 6 grain berths, and from the old house it can be delivered at 4 of the berths. An extension of the grain conveyor galleries to the new berths 14 and 15 is under consideration by the Dominion Government. On the city side of the harbor a new 500,000 bush. concrete elevator has recently been erected by the Canadian Government Rys., but has not yet been put into use.

The conveyor systems make the cost of

handling grain at St. John very high in comparison with some other ports. Since the war began the operation of bagging oats has been extensively carried on at West St. John. This is done by elevating the grain into bins and then delivering it through a spout to machines which feed it into bags, the bags are then sewn up by hand and loaded into cars and switched around to the wharf sheds.

The design of wharf sheds has a very important bearing on railway terminal layouts. At St. John, practically all of the sheds are reached from tracks laid parallel with them. This works out very well where the sheds are sufficiently long to enable enough cars to be set up alongside to keep the unloading gangs employed from one meal hour to another. Unfortunately at all of the older sheds this is not the case and time is lost by having to switch the cars during working hours. In most cases it takes as much as 45 minutes to pull and set up a shed, and unless there happens to be work at some other convenient shed to which the unloading gangs can be sent for that period, the men will stand idle, sometimes 60 to 90 men. An alternative layout for short sheds is to place the tracks at right angles to the shed, with trucking platforms between every third or fourth track. This increases the trucking distance, but with the use of electric trucks it forms a good layout. This method is not in use at West St. John, but is contemplated as a possible future improvement at certain sheds.

The design of shed floor is also another important factor to the terminal railway. At St. John many of the floors are limited to floor loads of 300 lb. a sq. ft., owing to being constructed on joists and beams. This is a considerable handicap in handling freight, as the capacity of the shed is much reduced and therefore additional switching is necessary. At West St. John, shed 15 is considered to be the best from the point of view of railway working conditions. It is 80 ft. wide and 700 ft. long, with 3 tracks behind this shed, each holding 17 cars along the face of the shed. Only 2 tracks are used for unloading purposes at the same time. It is never found desirable to truck through more than one empty car. The third track is used for holding the next set up of cars for the face of the shed. Shed 16 is 90 x 750 ft. Although this is an excellent shed in most respects, it has the disadvantage of a limit of 300 lb. per sq. ft. in floor loading capacity. All of the modern sheds are equipped with continuous sliding doors on both sides.

The use of electric trucks for handling freight from cars to shed has been extensively adopted at West St. John. Last winter 26 trucks were in service. It has been found in practice there that an electric truck is economical for use as compared with hand trucking where the trucking distance is over 75 ft. Two sets of trucks are generally necessary, owing to the time required to charge them, which is about 6 to 8 hours. A truck will operate for about 12 hours with one charge. A double set of trucks is, of course, only required when working day and night shifts. An electric truck has approximately three times the capacity of a hand truck. It has also a number of uses, such as hauling heavy shipments across the floor of the shed when loaded on dollies.

At St. John only single deck sheds have so far been used for handling freight. The use of double deck sheds would appear to be desirable, although the extreme range of tide presents some difficulties.



With export freight loaded into the upper floor and import freight into the lower floor it should be quite feasible to handle freight without the use of hand cranes and using only the ships' derricks. The freight loaded into the upper floor from cars would be required to be raised by elevators and electrically trucked.

As a rough estimate of unloading export freight from cars, it is found at St. John that one car per hour is an average rate with general commodities and an average trucking distance of not more than about 75 ft. One gang of truckers,

of 6 men and a checker, works each car.

One of the most recent improvements in railway facilities at West St. John is the erection of a 20,000 gall. conical bottom steel water tank. The water supply is received at about 60 lb. pressure from the city main and is regulated by an altitude governing valve on the intake main. The tank is provided with a 10 in. spout and also a 10 in. connection to a water standpipe. The tank is heated by a steam coil supplied from the elevator power house close by. The steam coil and water pipes are enclosed in a 6 ft. diameter steel

cylinder underneath the bottom of the tank. This cylinder has not yet been provided with a frost-proof casing outside, as is the usual practice, and it is not the intention to use one as there is a better chance to keep the steel work properly painted without a casing. No trouble from frost has yet been experienced.

The foregoing paper was read before the Engineering Institute recently.

In connection with this article, the map of St. John harbor, published in Canadian Railway and Marine World for December, pg. 568, will be found of interest.

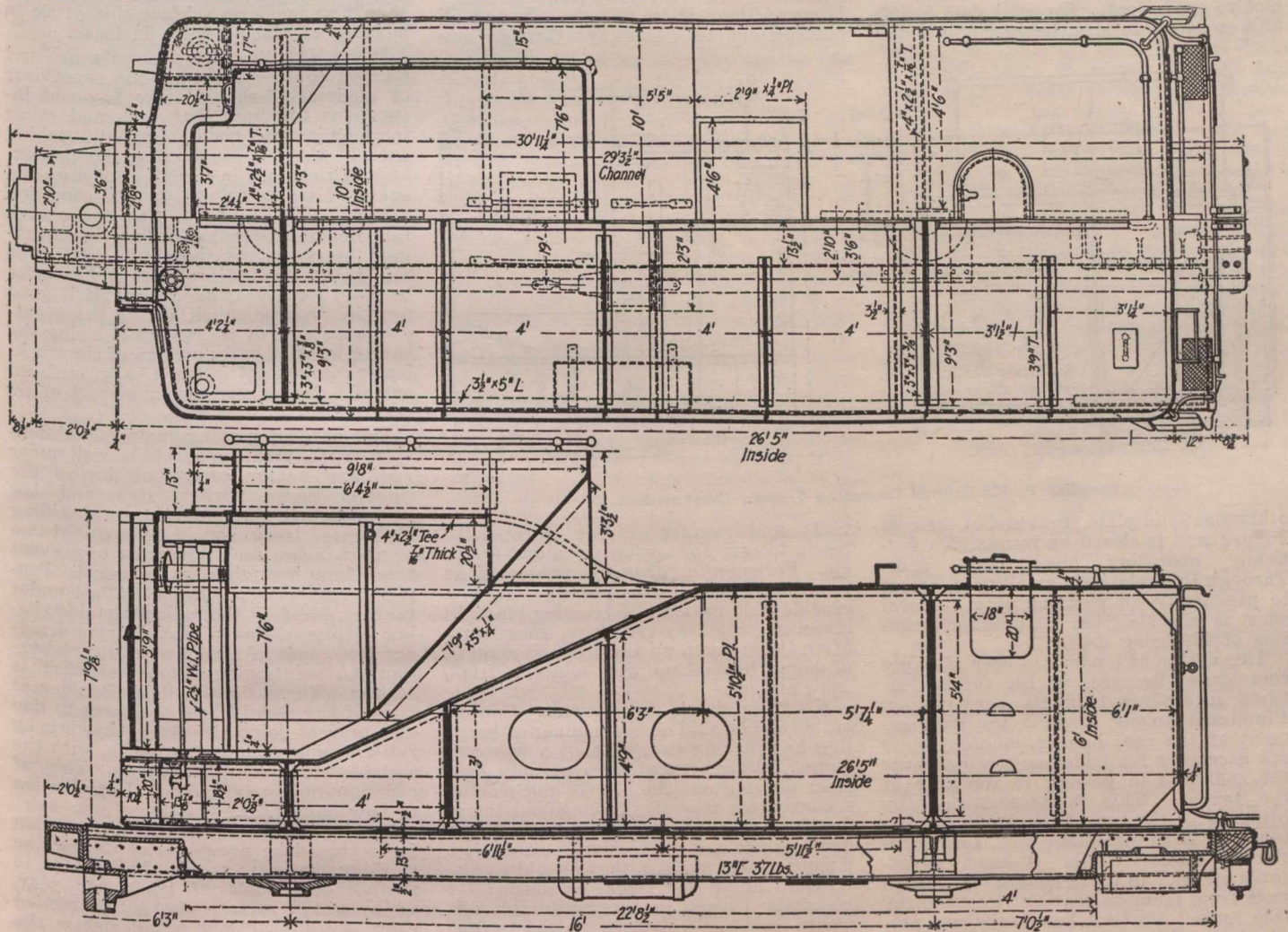
## Canadian Pacific Railway Locomotive Tenders.

The C.P.R.'s standard locomotive tender, which for several years has been remarkable for a number of original ideas incorporated in its design, has recently

a number of years.

Without other modification to the tank portion of the tender, a new form of coal container has been applied, same having

The tanks of C.P.R. tenders are constructed with the idea of making them carry their own load without the assistance of a heavily constructed underframe.



Canadian Pacific Railway Locomotive Tender. Plan and longitudinal section.

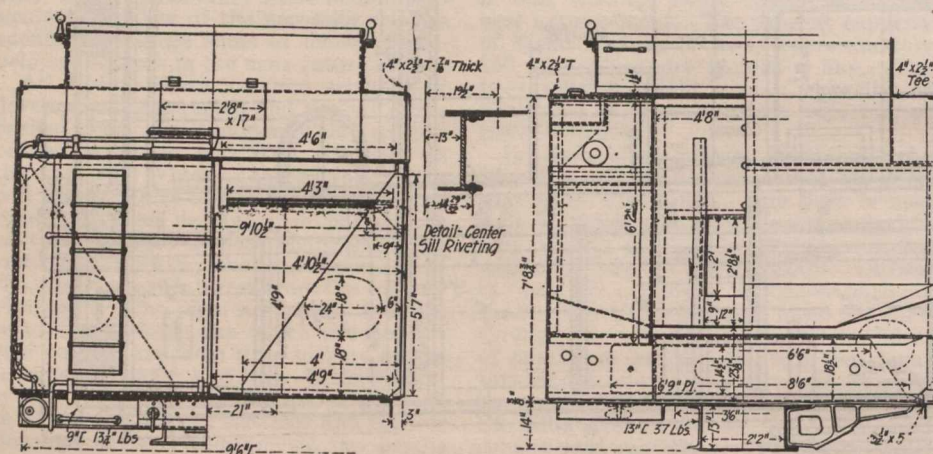
undergone a number of modifications designed to promote both its utility and the safety of the engine and train crews working in connection therewith. As formerly constructed, the tender had a slope sheet at the usual angle which necessitated the use of a supplementary hinged sheet covering the upper half and arranged so as to permit of its being lifted by means of an air cylinder inside the water compartment when it was desired to throw the coal from the back part of the coal space forward to the shovel sheet. This form of coal passer has likewise been a standard feature of C.P.R. tenders for

slope and bottom sheets independent of the tank with the former placed at an angle about 30 degrees steeper than formerly, the result being that coal automatically delivers itself at the shovel sheet and the coal passing arrangement has been dispensed with. This, of course, serves to diminish somewhat, the coal carrying capacity of the tender, but the advantages gained through the elimination of the coal passer and the fact that quantities of fuel no longer remain inert in the coal space for indefinite periods of time are felt to be a full compensation for this seeming disadvantage.

This is accomplished by dividing the water space longitudinally on the center line, and transversely over the bolsters, as well as at intermediate points, where it was originally desired to support the load of coal on the slope sheet, with plate diaphragms. These not only make of the tank a self supporting structure, but serve at the same time to reduce the surging of the contents and make the tender ride more smoothly. Either side of the rear bolster diaphragm are large triangular gusset plates tending to supplement the transverse diaphragms in their function of stiffening the structure. The cor-

ners of the diaphragms are cut off to simplify attachment and to permit of equalization of the contents in the several compartments of the tank, in addition to which there is a series of 12 by 18 in. oval openings 18 in. above the bottom, which, in addition to serving the above purpose, also facilitate interior inspection, cleaning and repairs. The well of the tank is placed just back of the rear bolster diaphragm and underneath the well the longitudinal diaphragm is so cut and perforated as to serve the purpose of a ladder for entering the tank. This form of tank structure requires the minimum in the way of underframe construction, the latter consisting merely of a pair of 13 in. channels terminating in draft housings at either end and fitted with the necessary castings in the form of center-plates, bolster arms and filling pieces.

The tender is designed for application to locomotives having the vestibuled cab, a further standard feature of C.P.R. locomotive equipment. The coal gate is but  $32\frac{1}{2}$  x 24 in. in size, being cut into the



Canadian Pacific Railway Locomotive Tender. Cross sections.

otherwise solid plate front end of the coal hopper, and is closed by means of a vertically operating steel plate slide. Through this relatively small gate, access to practically all portions of the shovel sheet is possible from the fireman's position of the firing deck.

This design of tender has been strongly commended because of the safety features incorporated in its construction. Prominent among these is the arrangement of the coal bunker, whereby it is not necessary for trainmen to climb over the coal pile in getting to the rear of the tender. This is accomplished by bringing in the top of the bunker a distance of 15 in. on either side, forming a runway of that width. A hand rail affords security to those having occasion to pass from front to rear or vice versa by this route. Vertical hand rails are provided at the rear corners immediately above corner steps, a further safety measure which is of especial value in switching. The frame extends beyond the end of the tank a sufficient distance to afford a platform on which to stand, there being a corrugated step plate near either end and a longitudinal hand rail across the back end of the tank at suitable height. Access to the top of the tank from the rear platform is had by means of a ladder placed near the left-hand corner for that purpose, and around the top of the tank, at the rear, is still another hand rail for the safety of men having to climb over the back of the tender.—Railway Review.

## Programme for a Season's Track Work.

By M. Donahoe, Roadmaster, C. & A. Rd.

**Spring.**—No track should be tamped until the frost is all out of the ballast below the ties, other than in spots where the track is settled or frost heaved too much out of cross level or surface to safely carry and maintain gauge on frost shims between the rail and ties. Smoothing, lining track, removing frost shims, and tamping ties solid to the rail should be the track force's first spring work after the frost is out below the ties, gauging and tightening bolts to have been cared for during the winter months, other than it should be a fixed rule that wherever track is worked in the way of smoothing up, surfacing, renewing ties, etc., the bolts should be always tightened and protruding spikes driven to the rail.

Next in order for the foreman on outlying sections is to remove any and all obstructions to waterways through cul-

trench and easily pull out.

The new tie should be chosen as to thickness and width for the space to be applied, using large or broad end ties under joints, a broad or narrow tie between the narrow and broad ties remaining in track as the case may be, also consider thickness of new tie with depth of trench remaining from old tie removed, proper spacing of ties to be reasonably maintained at all times. On curves requiring super-elevation for high speed trains, also carrying slow speed drag trains, the broad end of ties should be generally placed under inner rail of curve which has to carry the greater tonnage of the two rails. To save time of lining end of ties to rail, generally done by a mark on shovel handle or spike maul handle, a chalk line should be made on surface side of tie in advance of placing them in track.

When old ties for renewals are not marked for the foreman, the supervisor or roadmaster should make frequent inspections to know that each and every foreman is using good judgment in taking out old ties by considering the importance of the track in carrying tonnage and speed of trains as well as the condition and distribution of old ties under each rail, remembering that ordinarily on tangent track where there are two good sound ties, a poor tie will often do service between for a year or longer. It is good practice to accomplish all, or the greater percentage, of tie renewals during the spring work or early portion of the working season, except in track to be surfaced out of a face where the labor cost of tie renewal is a smaller item.

**Summer.**—Beginning summer maintenance, track surfacing should be well under way and nearly completed during the summer season. Broken stone and slag ballast track, to maintain good riding high speed track, should be surfaced two or more inches each third year to prevent track from becoming center bound. Provide a cushion of additional ballast under the ties and fork the ballast shoulder below bottom of ties to provide good drainage from ends of ties, preventing vegetation and maintaining a stone ballast cross section with as little ballast shoulder at ends of ties as will hold the track to line and prevent joint ties from skewing by rail creeping on one-way traffic, with the assistance of anti-rail creepers. This, of course, requires an additional application of new ballast.

On six mile sections a sufficient section force should be provided for during the working season to enable the foreman to surface two miles of track per year, which would surface the entire section every third year and would reduce the practice of trenching and spotting in ties in stone and slag ballast track each year. During the late spring and early summer season vegetation gets a good start, requiring a swath to be mowed on the dirt shoulder and outside the ballast line, and in some cases weeding out the ballast.

Mowing the right of way should be done systematically at a certain period according to localities. Some roads have to mow their right of way twice during a season. Right of way should be burnt off clean as soon as dry enough after being mowed, to prevent growth of weeds, rank vegetation, and damage by fire to adjoining property.

In localities where winter weather is

verts and surface ditches parallel to track, to care for spring rains and freshets. Foremen in yards and yard sections have, in addition to their routine work, a considerable renewal of crossing plank in street and highway crossings, after being often times taken up and reset on account of being heaved up with winter's frost, snow and ice.

Next in order is tie renewals. Considerable can be said on the manner of handling and placing ties, without a waste of words. Many track foremen only consider digging out the old tie and placing a convenient new tie, spiking and tamping it to the rail. To be brief, if the season's ties are not received earlier than during winter months, they should be distributed along the track, as needed for renewals, except in cuts and high fills where they would obstruct waterways and roll down the slope of high hills. At such points they should be heaped at ends of such cuts and fills, thereby saving approximately a cent a tie to pile and two cents to truck and distribute for renewals later on. In spotting in ties in all kinds of ballast, the ballast bed should not be picked down or lowered any more than is absolutely necessary to fit the thickness of new tie to the surface of rail. In removing old tie, spring up the track rails one inch, or as much as can be raised by not permitting the kind of ballast at hand to run under the ties and hump the track. Ballast can best be trenched out one inch below bottom of old tie to be removed. Spring up rail one inch, drive old tie in

too severe to lay rail, it can best be done in the spring and summer seasons providing it is cared for by being surfaced and tie spaced, or else anchored before winter.

**Autumn.**—Some surfacing may be left over to be completed in the early autumn. On roads with small forces it is necessary that summer work begin early and end late in the fall. Next in order of autumn work is ditching, widening banks, building up dirt shoulder, etc. All surface ditches should be cleaned out, shaped up and deepened as may be necessary. Particular attention should be given to ditching and draining of ballast in cuts holding water where trouble is experienced from frost heaving track during winter months. Also provide good drainage about interlocking plants, switches, railroad crossings, street crossings, water cranes, etc. Sufficient ballast should be removed from between the ties to a depth of four or more inches, about all switches, spring rail frogs, guard rails, and all movable parts of track equipment, to have good working clearance for removal of frost, snow and ice as well as surface drainage. In busy yards there should be, if possible, a system of drainage from all switches to a catch basin where surface drainage cannot be very well maintained. It is also good practice to arrange the work so as to smooth up and line all outlying main track to the best possible condition just before the beginning of winter so as not to be compelled to do shimming and spike lining early in the winter, or after the first frost goes into the ballast, hindering tamping.

**Winter.**—Track work on outlying sections should consist generally of renewing bolts, spikes, gauging, and repairing and rebuilding of right of way fences, cutting and burning hedge, as weather conditions permit. Roads having much shimming to do during the winter, should provide track forces with shop made shims, ranging in thickness from  $\frac{1}{4}$  to  $1\frac{1}{2}$  in. or more, spike bored to fit the different rail base sections. Where high shimming is necessary, say from  $\frac{3}{4}$  to  $1\frac{1}{2}$  in. thick, the shim should be about 12 in. long, and shims from  $\frac{1}{2}$  to 3 in., which should be the limit in thickness of frost shims, other than for unusual conditions, should be 18 in. long, with holes bored for boat spikes, as well as rail spikes.

During winter months every road has an accumulation of cinders that should be distributed and unloaded on branch lines for ballast, building up shoulder, etc. In yards when the forces are not engaged at removing snow and ice, such work can be done as changing rail, adzing ties and turning in rail, applying tie plates and rail braces, renewing frogs and switches, changing angle bars, bolting, spiking, cleaning up at intervals when the ground is clear of snow or thawing, re-setting crossing plank, flanging, and numerous other works.

In localities where the winter weather is reasonably mild, where there is not much snow or ice, new rail can be laid more economically during the winter by having a better class of well organized labor to do the work, thus giving an early start in the spring to surface and care for the new rail. It also helps to retain the track forces through the winter, and if careful attention is given to proper expansion and shimming over low ties, the rail can be laid and cared for as well as if done during the summer. Where rail creeps, apply anchors.

In localities where there is much snow during the winter, a good equipment and organization should be kept at suitable points and in first class condition for use.

In addition to snow ploughs, flangers, etc., camp and commissary cars should be provided for the laborers. Section foremen and engineers should keep the dispatcher advised of local conditions along the line as to length and depth of drift accumulating so that the worst places can be given attention first.

After a heavy fall of snow commences to thaw, where practicable a trench should be cut through the snow in the ditches to provide easy outlet for the melting snow water, and not having it running at random on and across the track, but following the ditches. In yards where the snow fall is heavy, it is often necessary, and a good practice, to load the snow on flat cars and dispose of it at the nearest suitable place. In large terminals the melting of snow and ice from about switches and interlocking plants is gradually gaining favor and is a very good manner of removing sleet and snow from about switch points and interlocking movements. Yard forces have considerable lowering or opening up of small trenches to do to provide drainage from switches during the winter months, even though such trenching is done before winter.

**Labor.**—In accordance with the re-trenchment policy in vogue on the average railway for some time past, such re-trenchments consist almost entirely of uses of material and labor. It might be advantageous to establish some unit to measure the performance of section gangs, by having a system of performing certain work at a given period. Assuming the track conditions in general to be about the same, as should be, and if they are not they should be made so by the assistance of floating gangs, put it up to the section foreman to keep up his track systematically to the general average.

To secure the most efficient organization the maintenance forces should be nearly uniform throughout the year. This, of course, is not entirely practicable on all roads, or on parts of some roads, on account of winter weather conditions, but many of the more pronounced fluctuations in the forces as practiced on some railroads can be eliminated.

In the employment of men during the early spring, when the better or more choice of good track labor can be procured, the foreman should always endeavor to secure the most efficient and intelligent men possible. Generally, the native is the best laborer if he can be depended upon to remain through the harvest season, otherwise foreign labor had better be procured when the pick of such labor can be had during the early season. The employees who do not measure up to this standard should be eliminated from the service if a better class can be secured for the wages paid. One or more inefficient and incompetent men in a gang will often times influence the entire organization of that gang and possibly extend the detrimental influence to neighboring gangs.

**The C.P.R. President's New Year's Greeting.**—E. W. Beatty, K.C., President C.P.R., sent the following message to officers and employes Dec. 31:—"I extend greetings and best wishes for the happiest new year in the history of Canada, with her victorious soldiers returning home, her fame world-wide, and the blessing of peace assured. Confidence in the prosperity and development of our country is more than ever justified, and I trust that officers and employes will aid that development by taking deep and active interest in every movement that may help to solve Canada's problems."

## The Canadian Railway War Board's Work.

**Accident Reports.**—The board has called the railways' attention to the Board of Railway Commissioners' general order 244, relative to reporting of certain classes of accidents to that board. Clause 4 of the order stipulates that railway employes affected shall be provided with a copy of paragraph 2 of the order, reading as follows:—

"2. That in the case of derailments, collisions, failure of locomotive boiler or any of its appurtenances, and highway crossing accidents attended by personal injury, and in the case of any damage to any bridge, culvert, viaduct, or tunnel so as to render the same impassable or unfit for immediate use, the conductors or other employes of every such company shall, at the expense of the company and at the same time they report to the company, send to the board, addressed to its Chief Operating Officer, a telegram containing the following information:—Date and place; name of railway; number and description of train or trains, locomotive or locomotives concerned; number of passengers, employes or others killed and injured; a short and concise statement of the apparent cause of the accident; name and title of person sending report."

Complaints have reached the Canadian Railway War Board that the instructions embodied in clause 4 of the order have not been complied with in some instances, and it is directed hereby that all railways subject to instructions from the Board of Railway Commissioners take the necessary action towards notifying their employes without delay.

## Canadian Pacific Railway Construction, Betterments, Etc.

**St. John, N.B., Facilities.**—Lord Shaughnessy, Chairman of the Board; E. W. Beatty, President, and A. D. MacTier, Vice President, C.P.R., visited St. John, N.B., Dec. 6 and 7 and looked over the facilities at the port. A deputation representing the city council and the board of trade waited on them, and discussed a number of matters. President Beatty expects to make a longer visit to St. John in the near future, when matters at issue between the city and the company will be taken up.

**Leaside-North Toronto.**—We are officially advised that the company laid, during 1918, two miles of second track on the line between Leaside and North Toronto. This piece of work was described in detail in Canadian Railway and Marine World for Sept., 1918, pg. 378.

**Water Service at Regina.**—A press report states that a second water tank is being built at Regina, Sask., alongside the existing tank, which will bring the water storage capacity at that point up to 80,000 gall. The pipe supply line between Pilot Butte and Regina is being put into first class condition. It is expected that this additional storage capacity will enable the company to supply all its requirements.

**New Slip at Pier A, Vancouver.**—A press report states that construction on an additional slip at Pier A, Vancouver, B.C., which is expected to cost \$60,000, will be started in the near future. The present facilities, it is stated, provide for the operation of transfer barges on one tide only, and the additional slip will enable a much more expeditious handling of traffic. (Nov., 1918, pg. 488.)

## Canadian Transportation Men, Engineers, Etc. in the War.

**Canadian Engineers.**—The Canadian Sapper, the Canadian Engineers official magazine, published at Seaford, Sussex, Eng., had an article recently by Lt.-Col. T. V. Anderson, commanding the Cana-

very small concern at first—was organized at Shorncliffe, with a nucleus of officers and men sent from Canada. With the 2nd Canadian Division came another signal company and three more field com-

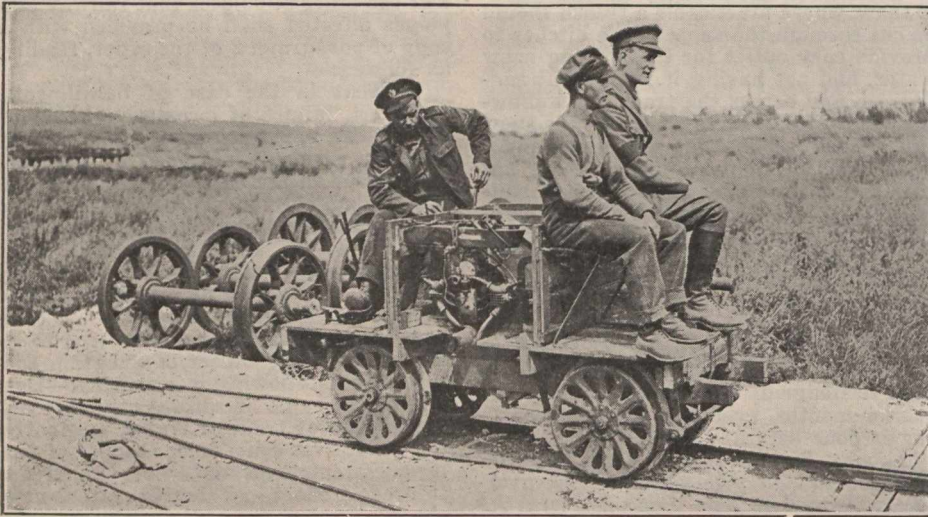
grown from small to quite large numbers; and it has, of course, been necessary for the training depot to be increased in proportion.

In connection with the foregoing, we have received the following additional information. The Canadian Engineers in France were reorganized a few months ago, and the units were reinforced to battalion strength, with a corresponding step up in rank for all concerned. There are now three battalions of engineers, with a strength of 1,000 each, to a division, instead of three companies with a strength of 216 each as formerly.

The Timiskaming & Northern Ontario Railwaymen's Patriotic Association, up to Sept. 30, contributed \$94,868.56 to the Canadian Red Cross Society and the Canadian Patriotic Fund.

### PERSONAL NOTES.

**Major C. A. Bell**, of Toronto, formerly a mining engineer, who lost both legs at the opening of the battle of Amiens, has been awarded a bar to his military cross. He joined the Canadian Expeditionary Force, as a sapper in the Canadian Engineers, and obtained his majority recently. The official record of the act for which he received the bar to his cross is as follows:—"For conspicuous gallantry and devotion to duty during an attack. In spite of heavy shelling, he took his company across 'no man's land' and built a track into the enemy's territory. He was badly wounded in both legs and head, but the track, about two miles long, was ready for guns and transport in a wonderfully short time, and the success of the undertaking was due to his energy and fine example. M. C. gazetted Jan. 1, 1917."



The Mechanical Bug, on the British Western Front.

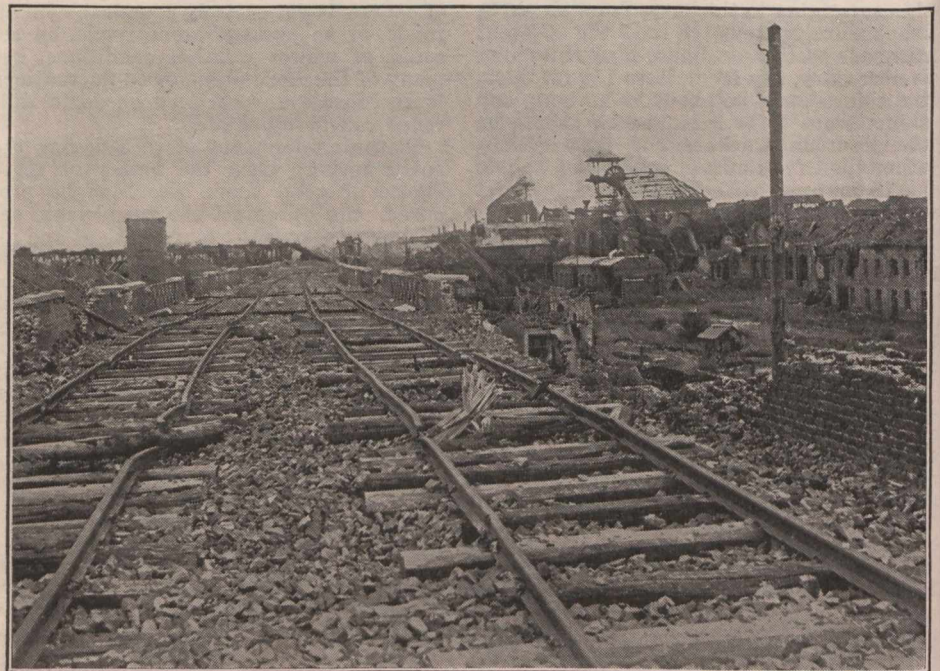
A "locomotive" made by Canadian Tramways Corps officers, aided by a corporal. The engine was from a motor cycle, the fly wheel from a once famous sugar refinery, and the belt from a mine-head, afterwards smashed by artillery fire. Canadian official photograph. Copyright reserved.

dian Engineers training depot there, from which the following extracts are taken: When in Canada the call for men first came in 1914, none came forward more readily than those suitable for the Canadian Engineers. At first, it was only proposed to send two field companies and one signal company with the 1st Canadian Division, but shortly before sailing a third field company was added. After a memorable voyage, the convoy reached Plymouth, and the troops went under canvas on Salisbury Plain towards the end of October. A very wet winter set in shortly afterwards, the camp became a regular sea of mud, and it was considered desirable to get the troops into huts as quickly as possible. The three field companies were, in consequence, employed for most of their period in England, on the construction of hutments in the vicinity, and were thus compelled to forego, until reaching the front, much of the technical training which they should have had.

Canada had never before sent engineer units on active service, and, while the volunteers in their ranks were as fine a body of men as one could wish for, the majority—and this applied also to a number of the officers—had little conception of the services actually required of engineers in the field. If there were many within the C.E. units themselves not conversant with these requirements, there were few indeed of other branches of the service who had any appreciation of them whatever. So it fell to the lot of these pioneers of the Canadian Engineers not only to learn their own work under service conditions, but also to learn how this should be properly applied to the assistance of other arms in the field. That their methods of work should have been followed by the units which came later, speaks highly for the adaptability of these first companies.

When the engineers of the 1st Canadian Division proceeded to France in Feb., 1915, they left behind them only their base details, a mere handful of men, available as first reinforcements. Shortly afterwards, however, the C.E.T.D.—a

panies, formed in Canada and trained in England, which proceeded to France in Sept., 1915. Towards the end of the year the first two army troops companies, closely followed by the first two tunnelling companies, arrived also from Canada, and about this time the third tunnelling company was raised in France, the personnel being selected from the Canadian infantry units in the field. For a



Portion of Badly Shelled Track on the British Western Front in France.

British official photograph. Crown copyright reserved. Photograph loaned by C.P.R.

few months, towards the end of 1915, the Canadian field troop worked with the Canadian Corps. Its personnel was, however, entirely Royal Engineers. Now followed, in fairly quick succession, the formation of the engineer units required by the later divisions, together with more army troops companies. Thus we see how the Canadian Engineers in the field have

**Gunner H. Brown**, son of M. H. Brown, District Freight Agent, Ontario District, C.P.R., Toronto, is among the war prisoners released recently from Germany in accordance with the armistice terms. He enlisted in Sept., 1915, in the 34th Battery, and was taken prisoner at the battle of Zillebeke, June 2, 1916.

**C. E. Goodman**, formerly travelling

business representative, Canadian Railway and Marine World, who enlisted with the 1st Tank Battalion, C.E.F., and went overseas June 3, 1918, has sent us copies of the Tank Tatler, the battalion's newspaper. The October number details the origin of the tank battalions and the organization of the First, with its history.

**Lt.-Col. A. M. Gordon**, one of the Canadian army chaplains, who has been awarded the D.S.O. for gallant services, and who was Assistant Pastor of St. Andrews Presbyterian Church, Ottawa, before going overseas, is a brother of W. G. Gordon, Transportation Engineer, Canadian Electric Co., Toronto.

**Lt.-Col. H. T. Hughes, C.M.G., R.C.E.**, was born in London, Eng., May 1, 1873; was articled to Alexander & Gibson, London, Ont., in 1893, was Assistant Engineer, C.P.R., 6½ years, and Assistant Engineer, Quebec & Lake St. John Ry. and Great Northern Ry. of Canada, 4 years. Admitted A.M. Canadian Society of Civil Engineers, 1899. Served in 8th Royal Rifles, Quebec, and 10th Q.O.C.H., Quebec, as Lieutenant. Received commission in R.C.E. in 1914, and served with the corps in Toronto, Halifax, Victoria, and Kingston. Camp engineer at Valcartier in 1914. Organized personnel for the C.E.T.D. and acted as O.C., C.E.T.D., England, until appointed C.R.E., 2nd Division. Proceeded to France, September, 1915. Appointed C.R.E., Corps Troops, May, 1917. Appointed Companion of the Order of St. Michael and St. George, June 3, 1916. Mentioned in dispatches, June 13, 1916, and Jan. 1, 1917.

**Corporal A. Jackson**, Canadian Railway Troops, has been awarded the Military Medal for conspicuous gallantry and devotion to duty while engaged on light railway patrol. Though slightly wounded, he, with a sapper, went to the assistance of a battery near his railway line, which had had its camouflage wood and sandbags ignited by heavy enemy shell fire, and after fighting the flames for half an hour under continuous shell fire, they smothered the fire. They then repaired the line, which had been damaged by shell fire, and re-railed the train. His fine devotion to duty saved the light railway train and much battery ammunition.

**Brigadier-General W. Bethune Lindsay, C.M.G., D.S.O., R.C.E.**, was born at Strathroy, Ont., Nov. 3, 1880. Entered R.M.C., Kingston, Ont., 1897. Graduated 1900. Upon graduation, was appointed Assistant Engineer, Marine and Fisheries Department, Ottawa, from 1900 to 1904. Upon the organization of the R.C.E. in 1904, was gazetted Lieutenant, R.C.E., July 1, 1904; was Divisional Engineer, Military Districts 3 and 4, July, 1904, to Aug., 1905. From that time on he acted as Command Engineer or C.R.C.E. in most of the Canadian military districts. In 1914 he was C.R.C.E., district 10, and on the outbreak of war volunteered for service. Appointed O.C., Divisional Engineers, Valcartier, Aug., 1914, which was afterwards taken over by Brigadier-Gen. Armstrong. He then took command of the 2nd Field Company; was promoted Lieut.-Col. and C.R.E., 1st Canadian Division, Sept. 13, 1915; promoted Brigadier-General and Chief Engineer, Canadian Army Corps, Mar., 1916. Mentioned in dispatches Jan. 1 and 2, 1916; Jan. 1, 1917, and Jan. 1, 1918. Appointed C.M.G. June 2, 1916, and D.S.O. Jan. 1, 1918.

**Col. C. Weldon McLean, D.S.O.**, with two bars, son of Brig.-Gen. H. H. McLean, M.P., K.C., formerly President, St. John, N.B., Railway, has been elected to the British House of Commons, for Brigg,

Lancashire, as a supporter of the Unionist Government.

**Lieut. J. G. Troup**, of the Gordon Highlanders, and formerly in the Superintendent's office, C.P.R., Winnipeg, was among the Canadians decorated with the Military Cross, at Buckingham Palace, London, Eng., recently. He enlisted as a private in the 27th Battalion, and rose to the rank of sergeant, and on Sept. 23, 1915, was gazetted Second Lieutenant in the Gordon Highlanders, Imperial Army. He was wounded in Nov., 1916, and promoted to Lieutenant in Oct., 1917, and a month later was awarded the Military Cross, after which he was invalided to England.

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

**St. Charles River Bridge.**—Work on the cofferdams of the new Ste. Anne railway bridge on the St. Charles River at Quebec, is reported to be in progress, and it was expected everything would be in readiness to start the masonry work by Jan. 1. This is part of the work being carried out by Quinlan & Robertson for the Public Works Department. The bridge is used by the C.N.R.

**Mount Royal Tunnel & Terminal Ry.**—The Board of Railway Commissioners, Dec. 4, reserved its decision on the company's application for approval of transfer tracks and connections between its tracks and those of the Jacques Cartier Union Ry., a G.T.R. subsidiary.

**Ottawa-Toronto Line.**—Tenders were received to Dec. 14, for the removal of the present substructure of the bridge at the Trent River crossing at Glen Rose, mileage 43.5 on the Maynooth Subdivision, about 13 miles north of Trenton, Ont., and the construction in place thereof of 7 concrete piers. We were officially advised Dec. 18, that the contract will not be awarded for the present, it having been decided to carry the work over to the summer.

**Ottawa-Port Arthur Line.**—We are officially advised that a contract is about to be let for the erection of a steel bridge at mileage 147.4 on the Pembroke Subdivision, where the Little Madawaska River enters Trout Lake, 10 miles east of Brent, the divisional point in Algonquin Park. The two abutments are 15 ft. and 17 ft. high, respectively, and rest on a very hard, compact sand and gravel formation about 6 ft. below the river bed. The superstructure will consist of a 68 ft. through plate girder span. The existing structure is a 6-span pile trestle bridge. The new bridge is being built in line with the company's policy of replacing wooden structures with more permanent work, but its construction is being hastened owing to the fact the lumber companies wish to drive logs down the river in the spring, and the railway wants to give them a proper clearance for their drive.

**Cherry St. Yards, Toronto.**—We are officially advised that a contract, covering the grading for 3 additional team tracks of 500 ft. length, at the Cherry St. yards, Toronto, has been let to Verrochio and Costalleni, Toronto.

**Fort William, Ont.**—Construction is reported to be in progress on a platform for loading and unloading cattle, on property recently acquired off Vickers St., between Bethune and Cameron Streets.

**Union Station for Port Arthur.**—The Port Arthur, Board of Trade has been collecting information in connection with a project for the erection of a union station in that city, and is reported to have sent a memorandum on the subject to

President D. B. Hanna. A deputation from the board of trade expects to arrange for an interview with the directors in Toronto on an early date.

**Elrose Jct.-Alsask Branch Line.**—Track has been laid this year westerly from Eston, the formal terminus of a branch 84.4 miles long from Elrose Jct., for about 40 miles, and in the new time table which came in operation at the end of October provision was made for operating a train service on 20 miles of the new mileage. The stations are as follows: Snipe Lake, mileage 90.9; Madison, mileage 97.6; Glidden, mileage 104. Track laying is reported to have been completed to mileage 121. We were officially advised at the end of June (see Canadian Railway and Marine World, July, pg. 293), that it was intended to extend this line during this year from Easton 43 miles to Alsask, where the Saskatoon-Calgary lines crosses the Saskatchewan-Alberta boundary.

**Hanna-Medicine Hat Extension.**—Grading is reported to have been completed on this line for about 40 miles, to within a few miles of the Red Deer River. The construction programme for 1918, as detailed in Canadian Railway and Marine World for July, pg. 293, set out that some grading had then been completed out of Hanna, and that an additional 47 miles would be done during 1918, carrying the work up to the Red Deer River. The contractor for the grading is W. A. Dunton, Winnipeg. An unconfirmed report says that tracklaying is expected to be gone on with during the winter.

**Oliver-St. Paul de Metis Line.**—Ballast is reported to have been completed to mileage 22 from Oliver, and ballast is reported to have been distributed on the remaining 22 miles of right of way, on which track has been laid. The bridge at Waskatenow Creek is reported to have been completed and a water tank built. Beyond mileage 44, bridging and other work is reported to be in progress to mileage 100, to which point the grading had been practically completed prior to 1918.

### President D. B. Hanna's Message to Canadian National Railways' Employes.

D. B. Hanna, President Canadian National Railways, issued the following circular Dec. 24:—As a first official greeting to all employes of the Canadian National Railways, this Christmas message is to wish for you and yours the continuation of peace and good will. With the new year close at hand, which we enter under such changed conditions, it is opportune to ask your co-operation in making a success of government owned railways in the wider field which the combined system now serves. Our duties to this end should be regarded as a public trust. Our aim must be efficient transportation service, which we know can only be achieved through the loyal support of all employes. At this time we are getting back some of those who have so well represented Canada on Flanders fields. Those who return to our service we welcome. It should hardly be necessary to say to our employes that while travelling on our lines returned soldiers should be treated with all consideration and respect, and that their journey should be made as comfortable as possible for them, also that information as to returning soldiers should be handled with special care and thought of the great importance of such information to those personally concerned."

## Government Control of United States Railways.

President Wilson, in addressing the U.S. Congress at Washington, Dec. 2, said, among other things:—

"The question which causes me the greatest concern is the question of the policy to be adopted towards the railways. I frankly turn to you for counsel upon it. I have no confident judgment of my own. I do not see how any thoughtful man can have who knows anything of the complexity of the problem. It is a problem which must be studied, studied immediately, and studied without bias or prejudice. Nothing can be gained by becoming partisans of any particular plan of settlement.

It was necessary that the administration of the railways should be taken over by the government so long as the war lasted. It would have been impossible otherwise to establish and carry through under a single direction the necessary priorities of shipment. It would have been impossible otherwise to combine maximum production at the factories and mines and farms, with the maximum possible car supply to take the products to the ports and markets; impossible to route troop shipments and freight shipments without regard to the advantage or disadvantage of the roads employed; impossible to subordinate, when necessary, all questions of convenience to the public necessity; impossible to give the necessary financial support to the roads from the public treasury. But all these necessities have now been served, and the question is, what is best for the railroads and for the public in the future.

"Exceptional circumstances and exceptional methods of administration were not needed to convince us that the railways were not equal to the immense tasks of transportation imposed upon them by the rapid and continuous development of the industries of the country. We knew that already. And we knew that they were unequal to it partly because their full co-operation was rendered impossible by law and their competition made obligatory, so that it has been impossible to assign to them severally the traffic which could best be carried by their respective lines in the interest of expedition and national economy.

"We may hope, I believe, for the formal conclusion of the war by treaty by the time spring has come. The 21 months to which the present control of the railways is limited after formal declaration of peace shall have been made will run at the farthest, I take it for granted, only to Jan., 1921. The full equipment of the railways which the federal administration had planned could not be completed within any such period. The present law does not permit the use of the revenues of the several roads for the execution of such plans, except by formal contract with their directors, some of whom will consent while some will not, and therefore does not afford sufficient authority to undertake improvements upon the scale upon which it would be necessary to undertake them. Every approach to this difficult subject-matter of decision brings us face to face, therefore, with this unanswered question: What is it right that we should do with the railways, in the interest of the public and in fairness to their owners?

"Let me say at once that I have no answer ready. The only thing that is perfectly clear to me is that it is not fair either to the public or to the owners of

the railways to leave the question unanswered and that it will presently become my duty to relinquish control of the roads, even before the expiration of the statutory period, unless there should appear some clear prospect in the meantime of a legislative solution. Their release would at least produce one element of a solution, namely, certainty and a quick stimulation of private initiative.

"I believe that it will be serviceable for me to set forth as explicitly as possible the alternative courses that lie open to our choice. We can simply release the roads and go back to the old conditions of private management, unrestricted competition, and multiform regulation by both state and federal authorities; or we can go to the opposite extreme and establish complete government control, accompanied, if necessary, by actual government ownership; or we can adopt an intermediate course of modified private control, under a more unified and affirmative public regulation and under such alterations of the law as will permit wasteful competition to be avoided and a considerable degree of unification of administration to be effected, as, for example, by regional corporations under which the railways of definable areas would be in effect combined in single systems.

"The one conclusion that I am ready to state with confidence is that it would be a disservice alike to the country and to the owners of the railways to return to the old conditions unmodified. Those are conditions of restraint without development. There is nothing affirmative or helpful about them. What the country chiefly needs is that all its means of transportation should be developed, its railways, its waterways, its highways, and its countryside roads. Some new element of policy, therefore, is absolutely necessary—necessary for the service of the public, necessary for the release of credit to those who are administering the railways, necessary for the protection of their security holders. The old policy may be changed much or little, but surely it cannot wisely be left as it was. I hope that the Congress will have a complete and impartial study of the whole problem instituted at once and prosecuted as rapidly as possible. I stand ready and anxious to release the roads from the present control and I must do so at a very early date if by waiting until the statutory limit of time is reached I shall be merely prolonging the period of doubt and uncertainty which is hurtful to every interest concerned."

### Director General McAdoo Favors Continued Government Control.

Shortly after President Wilson had addressed Congress, as quoted above, W. G. McAdoo, Director General of U.S. Railroads, wrote the chairman of the Senate Committee on Interstate Commerce, and the chairman of the House of Representatives Committee on Interstate and Foreign Commerce, maintaining that it would be impossible to obtain legislation during the present session of Congress providing a permanent solution of the railway problem, and that it would be impracticable and opposed to public interest to attempt private operation of the roads under the present laws. In speaking of the carrying out of necessary improvements in the national railway system, Mr. McAdoo said: "The period of two years is entirely too short a time within which to plan and carry out the

comprehensive improvements which ought to be made to meet the country's requirements under peace conditions. Many of the improvements could hardly be completed and put into operation inside of the two-year period and under such circumstances and facing a change to private management at the end of two years it would be unwise in the highest degree to make the improvements and impossible to secure the hearty co-operation of the railway corporations." He emphasized the alleged inadequacy of present legislation with respect to the division of authority over railway corporations between state and federal commissions as an important argument against the return of the roads to private control in the near future.

### The Railway Companies Case.

At a meeting of the Railway Executives' Advisory Committee in New York Dec. 4, resolutions were passed advocating restoration of the railways to private corporations, opposition to government ownership, acceptance of the principle of "reasonable, responsible and adequate governmental regulation," adherence during the remaining period of federal control to a policy of preparing the carriers for the readjustment, and provision by Congress of a system of governmental regulation, which, while safeguarding the public, will be uniform, businesslike and empowered to deal equitably with wage and labor conditions. Representatives were present from practically all of the big trunk lines of the country.

At the close of the meeting T. De Witt Cuyler, chairman of the committee, issued a statement which, in part, follows: "Today's meeting showed that the railway companies want a readjustment which will give the best possible system of transportation to the country. They neither expect nor wish to escape adequate responsible public regulation. They want a relation between rates, wages and dividends which will stimulate business, adequately reward labor and attract the volume of new capital needed for expansion. They want, therefore, regulation which is helpful and constructive, as well as corrective."

On Dec. 12, the railway executives representing 125 roads and 92% of the mileage of the country, gave out a formal statement in which they declared that Director-General McAdoo's suggestion that the government retain control of the railroads until Jan., 1924, "would simply lead to delay and confusion, demoralization of the organization of the roads both on their corporate and operating side and defer indefinitely a satisfactory settlement" of the railway problem. The executive, the statement said, have reached the conclusion that "there is sufficient time under the term of the present act, to fully consider the railway situation in all its aspects and arrive at a plan that would be just to the country."

**Travellers' Aid Work at Railway Stations.**—In connection with the holding of a tag day in Montreal, Dec. 14, in aid of the Travellers' Aid Committee's work, A. D. MacTier, Vice President, C.P.R., writing to Mrs. E. E. Latter, representing the committee in that city, expressed his appreciation, after several years observation of the work done, of all that the women who were on duty to receive and advise travellers at the stations were doing, and expressed the hope that the work would be extended.

## Canadian Northern Railway Directors' Inspection of Canadian Government Railways.

As stated in Canadian Railway and Marine World for December, D. B. Hanna, President, left Toronto, Nov. 26, for a trip over the C.G.R. in Quebec, the Maritime Provinces and Eastern Ontario, accompanied by most of the other directors, viz.: A. J. Mitchell, Vice President; Major Graham A. Bell, C.M.G., acting Deputy Minister of Railways and Canals; Robt. Hobson, Hamilton, Ont., and R. T. Riley, Winnipeg. Other directors joined them en route, viz.: A. P. Barnhill, K.C., of St. John, N.B., at Ottawa; Sir Hormisdas Laporte, at Montreal, and Thos. Cantley, of New Glasgow, N.S., farther down the line. The party also comprised M. H. MacLeod, Vice President, Operation, Maintenance and Construction; and R. P. Ormsby, Secretary, C.N.R. S. J. Hungerford, Assistant Vice President, accompanied the party to Quebec, and F. P. Brady, General Manager, Eastern Lines, joined them at Montreal. Division and other local officials joined the party en route, travelling through their respective jurisdictions.

The party travelled by a special train of official cars and a baggage car. From Toronto they went to Ottawa by C.N.R., thence to Montreal by G.T.R., leaving there Nov. 27 at 2.30 p.m. for Montreal, where they were entertained to dinner at the St. James Club. They left Montreal that night by I.R.C. and on arriving at Chaudiere the train was stopped for some time. Early on the morning of Sept. 28 they went over the Quebec bridge and the N.T.R., to Quebec, arriving there at 11 a.m. They left Quebec that afternoon, reaching Riviere du Loup at 11 p.m., where they stayed the balance of the night, leaving there Sept. 29 at 10 a.m., and going on to Chatham, where they spent the night. Chatham was left on the morning of Sept. 30 and Moncton reached at noon, where they spent the balance of that day and Sunday, Dec. 1, until 7.45 p.m., when they left for Cape Tormentine. On Dec. 2 they left Cape Tormentine by the car ferry steamship Prince Edward Island, arriving at Borden, P.E.I., at 8.30 a.m., and visiting Summerside and Charlottetown, leaving the latter place at 4 p.m. and arriving back at Cape Tormentine at 7.45 p.m., leaving at once for New Glasgow, which was reached Dec. 3 at 4 a.m. They left New Glasgow the same day at 2 p.m., stopped over at Mulgrave and Point Tupper, and reached North Sydney at 8.45 p.m., staying there all night. On Dec. 4 they visited Sydney Mines and Sydney, leaving the latter place at 7.30 p.m., and arriving at Halifax, Dec. 5, at 7.25 a.m. They left Halifax the same day at 10 p.m., arrived at St. John, N.B., Dec. 6, at 6.25 a.m. and left there at midnight for Fredericton, which was left on Dec. 7 at 11.25 a.m., Montreal being reached Dec. 8 at 7.30 a.m., and the party stayed there that night and the following day, looking over the tunnel, terminals and other property. Montreal was left Dec. 9 at midnight via C.N.R. for Ottawa, where Dec. 10 was spent until 4 p.m., when they left for Toronto, arriving there during the night.

The party spent some time at the Quebec bridge, making an inspection of the structure, and the yards on both sides of the river, and immediately on reaching Quebec Mr. Hanna had a conference with the mayor. Among the questions discussed were the running of I.R.C. trains over

the bridge into Quebec, and the opening of the National Transcontinental Ry. St. Malo shops, and the mayor stated that he was preparing a memorandum on the needs of Quebec in connection with the N.T.R. and the terms of the contract entered into between the Dominion Government and the city. Subsequently the party inspected the Louise docks, the C.P.R. terminal facilities at the Palais station, the Canadian Northern Ry. and Quebec & Lake St. John Ry. terminals, and the site of the proposed new union station. The Quebec Harbor Commissioners entertained the party at luncheon at the Chateau Frontenac.

The memorandum referred to by the mayor, and which was forwarded to Mr. Hanna subsequently, asked that the obligations of the contract of August, 1910, under which the city gave \$2,000,000 of river frontage to the Dominion Government, be fulfilled. These obligations are that the principal workshops of the system be located in the city. The St. Malo shops were erected at a cost of \$2,000,000 and are capable of employing 1,500 men. They have not been put in operation, and the rolling stock is being hauled 1,350 miles to Winnipeg for repairs. The contract also calls for the expenditure of \$2,000,000 on the St. Lawrence waterfront in Champlain Ward, including deep water dock frontage, storehouses and other terminals, towards providing which nothing has been done. The city would also like to have carried out the obligation to take a share of the grain trade of the west to the port; the provision of new rolling stock on the line to Winnipeg; the establishment of direct ocean passenger and mail traffic to and from Quebec; the establishment of passenger traffic over Quebec bridge and the consideration of the Champlain market property question.

At Moncton, N.B., after an inspection of the Canadian Government Railways general offices, representatives of the city council and board of trade were received by the directorate in the general offices. A number of points were brought up for consideration, among them being the question of the removal of the general offices and various officials from Moncton; the rumored cutting down of the shop staffs, the question of a second track between Moncton and Halifax, and the rumored direction of traffic to St. John, via McGivney Jct. Mr. Hanna, in reply, pointed out that the directors were making their first official trip over the eastern lines to see things for themselves, and to hear all that could be said at the various centers, so that they might be able to formulate a policy. There was not the slightest intention of removing any of the shops from Moncton, but as to what office changes, or what departments, if any, would be moved, he could not say, but nothing would be done without full consideration. It is the directors' intention to manage the system entirely free from any political influence whatever. In connection with the management of such a railway system as the Canadian National Railways, it is necessary to have central offices somewhere, and these will be in Toronto.

Thos. Cantley, one of the directors, and President of the Nova Scotia Steel & Coal Co., said that in his opinion the building of certain portions of the National Transcontinental Ry. was an act of monumental

folly that was almost criminal. If the money that had been expended on the eastern portion of that line had been expended on double tracking the I.R.C., there would be no need of resolutions calling for that work now. Sir Hormisdas Laporte, R. Hobson, A. P. Barnhill, K.C., R. T. Riley, G. A. Bell and A. J. Mitchell, other directors, also spoke, as well as F. P. Brady, General Manager, Eastern Lines.

At Cape Tormentine, N.B., and at Port Borden, P.E.I., the directors looked over the car ferry terminals, and subsequently inspected the work in progress in laying a third track on certain of the lines on the island, to provide for the operation of standard gauge rolling stock. Civic and other deputations were received at Charlottetown, and representations made as to the people's needs in regard to railway accommodation.

After having inspected the lines and terminals on Cape Breton Island, together with the car ferry terminals on both sides of the Strait of Canso, which separates the island from the mainland of Nova Scotia, the party reached Halifax, Dec. 5, and had a conference with the city council and board of trade. Mr. Hensley brought up the question of differential rates; the mayor raised the question of the Y on the track on Kempt Road, Fairview, and the matter of the building of a new passenger station at the ocean terminals; H. R. Silver dealt with the matter of adequate facilities for the storage of products, and A. H. Whitman raised the question of warehousing. Mr. Hanna, in reply, stated that the Fairview crossing was a question of engineering and would receive attention. The other matters would also receive full consideration; but there was so much to do in connection with the whole system that it was not always possible to deal with the interests of any one section just as the people of that particular section might desire. A resolution in favor of double tracking passed by the board of trade was put in by G. F. Pearson, and matters connected with an elevator system were raised by A. H. Whitman. After luncheon, the directors made a thorough inspection of the ocean terminals, and the work in progress there, and then visited Dartmouth.

At St. John, N.B., the party visited the St. John Drydock & Shipbuilding Co.'s works at Courtenay Bay, and the site of the proposed drydock, and discussed the railway facilities required in connection with the same. Then they had a conference with the mayor, the city commissioners, the board of trade, and other representative men. A memorandum was presented by the board of trade, mentioning, among other matters, the necessity for a general development of the harbor in order that the ocean carrying trade might be extended, and it was suggested that this could be done by the appointment of a Dominion Harbor Commission. Closer connection with the National Transcontinental Ry. by a route via McGivney Jct. was suggested; also a more extended system of government railway terminals in the main harbor of the port; a new railway passenger station; improved warehouses for freight; considerable trackage extensions, and an improved passenger train service. Mr. Hanna replied in general terms, pointing out that the directors were making a gen-

eral inspection of the whole system, in order to gather information before adopting any policy or plans. The directors had to consider what was essential for the operation of the entire system, and for the development of the trade of the Dominion. Subsequently the party looked over the new elevator, and visited the railway properties in the city. After luncheon with the mayor at the Union Club, they left for Fredericton.

At Fredericton, on Dec. 7, the directors received a civic and trade delegation, which discussed the question of a union station for the city, a new railway bridge across the river in the city, the suggested McGivney Jct. connection with the National Transcontinental Ry., and the provision of a connection between the St. John & Quebec Ry. west of Fredericton with the railways in Maine. The party left Fredericton about noon for Montreal via McGivney Jct. and the National Transcontinental Ry. to Levis.

The provision of a direct connection between the National Transcontinental Ry. and St. John, N.B., has been agitated ever since the project for building the line was made public. After considerable discussion, plans were made in 1909 for building the St. John & Quebec Ry. from Grand Falls to St. John, but the building of the northern section from Centerville to Grand Falls is at present in abeyance, and the section south of Gagetown has been diverted to a connection with the C.P.R. at Westfield. In this way the purpose of building the St. John & Quebec Ry. has been defeated, as it has no connection with the National Transcontinental Ry., and does not enter St. John. The most recent proposal is to provide such a route via McGivney Jct., which is at mileage 79 on the old Canada Eastern Ry., running between Newcastle and Fredericton, and at mileage 96 from Moncton on the National Transcontinental Ry. The proposition is that export freight be diverted from the N.T.R. at McGivney Jct., taken over the old Canada Eastern line into Fredericton, thence over the St. John & Quebec Ry. and the C.P.R. into St. John.

**Steel Rails for Canadian Railways.**

We are officially advised that up to Dec. 10, the Dominion Iron & Steel Co., Sydney, N.S., had rolled 113,661 tons of steel rails out of the 225,000 tons first ordered by the Dominion Government, and that 102,723 tons had been shipped to railways as follows:—

	First quality	Second quality
Canadian Copper Co. ....	39	.....
Canadian Government Railways	16,903	2,519
Canadian Northern Ry.....	21,369	2,519
Canadian Pacific Ry.....	35,213	4,533
Grand Trunk Ry.....	17,276	2,108
Toronto, Hamilton & Buffalo Ry. ....	663	33
Totals. ....	91,463	11,260

**C.P.R. Tie Reserve.**—A deal has been completed whereby the C.P.R. adds more than 17 square miles of timber to its tie reserve, between the town of Yahk and the International Boundary, in British Columbia. The company already owned 86 square miles of this timber, but in order to develop it to advantage, it was necessary to acquire an additional acreage, which was held by the King Lumber Co., of Cranbrook, of which Hon. J. H. King, Minister of Public Works for British Columbia, is the President. It is estimated that the timber in this tie reserve will scale close to half a billion feet.

**The St. John & Quebec Railway Situation.**

The Premier of New Brunswick on his return to Fredericton, N.B., recently from a conference of the premiers of the different provinces with the Dominion Government, gave out a statement as to what had transpired. Among the important questions discussed in which the province is interested was the future of the St. John & Quebec Ry., or as it is more commonly called in New Brunswick, the St. John Valley Ry. The premier stated that the New Brunswick Government's request was that the Dominion Government, in formulating its railway policy for the future, should take over this line from the province and incorporate the ownership, as well as the operation, with the Canadian National Railways. As explained in documents handed to the Dominion Government, and in a letter published over the signature of E. S. Carter, Secretary St. John & Quebec Ry., the position is as follows:—

The present project for the construction of a railway down the St. John River Valley, from Grand Falls to St. John, was promoted in 1909 by the business men of the various towns. The people wanted a direct connection with the National Transcontinental Ry. at Grand Falls, so that traffic from the west could be taken to St. John. The negotiations with the Dominion Government resulted in the making of an agreement under which the province was to guarantee the bonds of a constructing company for \$25,000 a mile and the Dominion Government was to operate the line for 60% of the receipts. The necessary legislation was passed and the St. John & Quebec Ry. Co. was formed by A. E. Gould and his associates to build the line, their project including some lines in addition to those for which the government guaranteed bonds. The plans for the line as surveyed and approved by the Dominion Government provided for the construction of two large bridges across the St. John's and the Kennebecasis Rivers, for which the Dominion Government voted substantial subsidies, in addition to a subsidy at the usual rate for the railway mileage. Upon the faith of that contract the New Brunswick Government guaranteed the company's bonds, and upon the strength of that guarantee \$4,250,000 was borrowed for construction purposes. In 1912 the Dominion Government cancelled the subsidy voted for the construction of the line for the mileage between Grand Falls and Andover, and subsequently the bridge proposals were held up.

The constructed line runs from Centerville through Fredericton to Gagetown, and the extension from Gagetown to a connection with the C.P.R. at Westfield is under construction. This construction has all been carried out on the National Transcontinental Ry. standard by the New Brunswick Government, upon the Gould company's failure to carry out its contract. There remains in a trust company's hands the proportion of the money borrowed on the strength of the guaranteed bonds, for the construction of the Centerville-Grand Falls section of the line, and the balance of the portion available for the Gagetown-Westfield line. The province is paying about \$170,000 interest, in addition to providing funds to carry on construction. It is contended that this liability was undertaken upon the strength of the Dominion being a partner in the concern, and of the National Transcontinental Ry. connection,

which would have meant traffic for the line. Seeing that this connection is not being provided, and considering the heavy cost of construction (undertaken in view of the promise of that connection), the province contends that the Dominion Government ought to take over the line and relieve the province of all liability. Another argument put forward is, that the Dominion Government, in taking over the Canadian Northern Ry. and allied lines, has relieved several provincial governments of liability under their guarantees.

**Steam Railway Track Laid in 1918.**

A table of new track laid in 1918 by steam railways throughout Canada, made up from official replies to Canadian Railway and Marine World's annual circular, is given below. The total is 121.32 miles of new track, against 230.16 miles of new track laid in 1917. The new mileage was laid by five railways, the largest being by the Canadian Northern Ry., viz., 45.14 miles. With the exception of 4.18 miles of track laid on the Grand Trunk Pacific Ry. to secure an entrance into Saskatoon over the C.P.R., the whole of the track laid during the year was on lines owned by the Dominion Government, the New Brunswick Government, and the British Columbia Government. The distribution of the track laid by provinces was: British Columbia, 50 miles; New Brunswick, 32; Saskatchewan, 27.15; Quebec, 10; Alberta, 2.17.

	Miles.	Miles.
Canadian Northern Ry.		
Moose Jaw terminals to Grand Trunk Pacific Ry., Sask.....	1.31	
Glidden to mileage 122.88, Sask....	21.66	
Hanna towards Medicine Hat, Alta.	2.17	
Glen Lake to mileage 30, Malabot district Vancouver Island, B.C....	20.00	
Grand Trunk Pacific Ry.		45.14
Duro to Enger, Sask.....	3.23	
Harfeld to Yorath, Sask.....	0.95	
Pacific Great Eastern Ry.		4.18
From 12 miles north of Clinton, B.C., for 30 miles north.....		36.00
Quebec & Saguenay Ry.		
Mileage 15 from Cap Tormentine to Baie St. Paul, mileage 25.....		10.00
St. John & Quebec Ry.		
Queenstown to Westfield, N.B.....		32.00
Total .....		121.32

During 1917, the Essex Terminal Ry. laid 10 miles of track, connecting the quarries yard at Windsor with the steel works at Ojibway, of which we were not advised in time for inclusion in the table for that year.

The C.P.R. reconstructed 2 miles of track between Leaside Jct. and North Toronto, during 1918.

**Workmen's Compensation Board of New Brunswick.**—The Lieutenant-Governor has approved of regulations made by the Workmen's Compensation Board for the province. The first regulation distributes into seven classes the various industries affected by the act. Transportation interests come under the following classes:—Class 3—steel shipbuilding and repairing; car shops. Class 5—wooden ships. Class 6—excavation, construction and operation of electric railways; electric power lines and appliances; construction of telegraphs and telephones. Class 7—stevedoring; pile driving, and subaqueous construction; operation of steam railways and navigation.

Immediately on the signing of the armistice between the allied powers and Germany, there was considerable congestion of telegraphic business, and all cable business from the general public was refused for some time. After a few days the business became practically normal, and public messages were again handled.



# Transportation Appointments Throughout Canada.

**Canadian National Railways, Canadian Government Rys., Canadian Northern Ry.**  
**LORNE W. MITCHELL**, Treasurer, Canadian Northern Ry. and allied transportation companies, has resigned, on being appointed Head Auditor, T. Eaton Co., Ltd., Toronto.

**EUGENE ERNEST FAIRWEATHER**, M.A., LL.B., heretofore Departmental Solicitor, Railways and Canals Department, Ottawa, has been appointed Assistant Counsel, Canadian National Rys. Office, Ottawa.

**H. F. ALWARD**, heretofore General Solicitor and General Claims Agent, Canadian Government Rys., Moncton, N.B., has been appointed General Solicitor, Canadian National Rys. Office,

Rys., Moncton, N.B., has been appointed Passenger Traffic Manager, Canadian National Rys. Office, Toronto.

**A. T. WELDON**, heretofore General Freight Agent, C.G.R., Moncton, N.B., has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Matapedia, Que., and Edmundston, N.B., and east thereof. Office, Moncton, N.B.

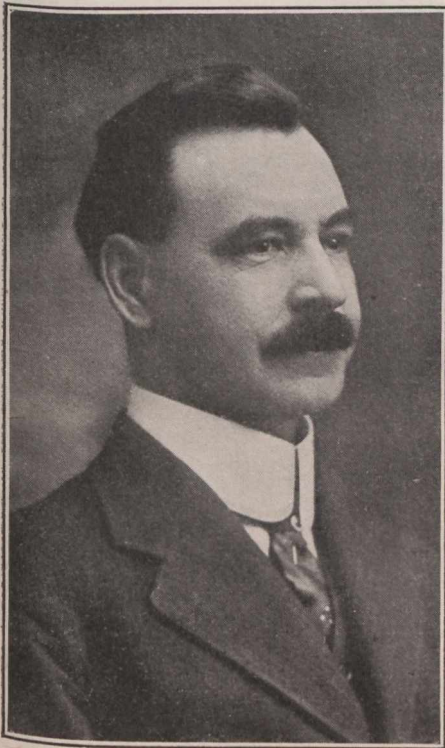
**GUY TOMBS**, heretofore Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal, has been appointed Assistant Freight Traffic Manager, Canadian National Rys. lines west of Matapedia, Que., and Edmundston, N.B., to, but not including, Port Arthur and Armstrong, Ont. Office, Montreal.

**W. G. MANDERS**, heretofore General

Passenger Agent, Eastern Lines, Canadian Northern Ry., Toronto, has been appointed General Passenger Agent, Canadian National Rys., lines in Quebec and westerly to Port Arthur and Armstrong, Ont. Office, Toronto.

**R. CREELMAN**, heretofore General Passenger Agent, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Assistant Passenger Traffic Manager, Canadian National Rys., Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

**OSBORNE SCOTT**, heretofore Assistant General Passenger Agent, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed General Passenger



**J. E. Morazain**,  
 General Superintendent, Quebec Division, Eastern Lines, Canadian National Railways.



**R. L. Fairbairn**,  
 General Passenger Agent, Quebec Lines and west to Port Arthur, Ont., Canadian National Railways



**J. P. Driscoll**,  
 General Superintendent of Car Service, Canadian Northern Railway.

**Montreal.**  
**ARCHIBALD J. REID, K.C.**, and **REGINALD H. M. TEMPLE**, heretofore Assistant Solicitors, Canadian Northern Ry., Toronto, have been appointed General Solicitors, Canadian National Rys. Office, Toronto.

**LOUIS LAVOIE**, heretofore Purchasing Agent, C. G. Rys., Railway Department, Ottawa, who has been appointed Assistant General Purchasing Agent, Canadian National Rys., will remove from Ottawa to Toronto, Jan. 1, with 10 other members of the staff.

**GEO. H. SHAW**, General Traffic Manager, Canadian Northern Ry., Toronto, having resigned, and **D. A. STORY**, Freight Traffic Manager, Canadian Government Rys., Moncton, N.B., having retired, **GEO. STEPHEN**, heretofore Freight Traffic Manager, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Freight Traffic Manager, Canadian National Rys., Toronto, and **H. MELANSON**, heretofore Passenger Traffic Manager, Canadian Government

Freight Agent, Western Lines, Canadian Northern Ry., has been appointed Assistant Freight Traffic Manager, Canadian National Rys. lines, Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

**J. M. HORN**, heretofore Assistant General Freight Agent, Western Lines, Canadian Northern Ry., has been appointed General Freight Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

**J. M. MACRAE** has been appointed Assistant General Freight Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

**A. BROSTEDT**, heretofore District Freight and Passenger Agent, Canadian Northern Ry., Vancouver, B.C., has been appointed Assistant General Freight and Passenger Agent, British Columbia Lines, Canadian National Rys. Office, Vancouver, B.C.

**R. L. FAIRBAIRN**, heretofore General

Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

**W. L. STITT** has been appointed Inspector of Sleeping, Dining and Parlor Cars, Eastern Lines, Canadian National Rys. Office, Toronto.

**E. L. CLARKE**, who has recently been discharged from military service, has resumed his position as Inspector, Sleeping and Dining Car and News Service, Canadian National Rys., Winnipeg.

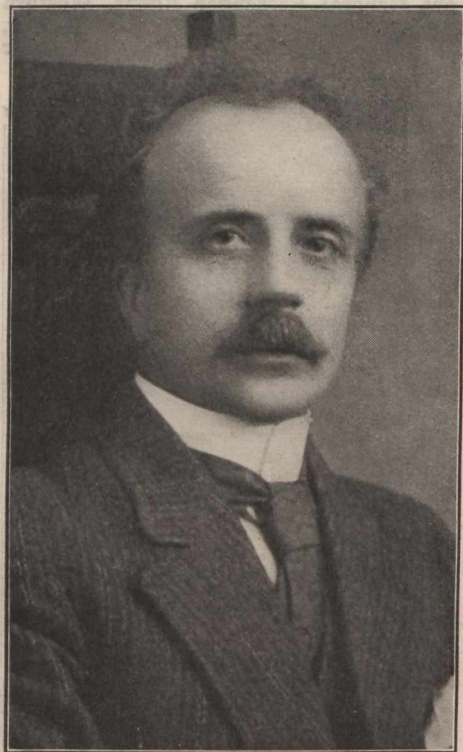
**W. A. KINGSLAND**, heretofore General Superintendent, Quebec Lines, Canadian Northern Ry., has been appointed Assistant General Manager, Canadian Northern Ry. lines east of Port Arthur, Ont., and C.G.R. lines east of O'Brien, Que. Office, Montreal.

**L. S. BROWN**, heretofore General Superintendent, Eastern Lines, C.G.R., Moncton, has been appointed General Superintendent, Maritime Division, Canadian National Rys., which is east of and including Mont Joli, Que., and Halifax

and Southwestern Ry. Office, Moncton, N.B.

JAS. BAIN, heretofore General Superintendent, Halifax & Southwestern Ry., has been appointed Superintendent, H. & S.W.R., reporting to L. S. Brown, General Superintendent, Canadian National Rys., Moncton. Office, Bridgewater, N.S.

J. E. MORAZAIN, heretofore Superintendent, Montreal-Mont Joli District, C.G.R., Levis, Que., has been appointed General Superintendent, Quebec Division, Canadian National Rys., embracing C.G.R. lines between Mont Joli and Montreal, Pacific Jct. and O'Brien, Que., including O'Brien, and all Canadian Northern lines east of Ottawa, north of the St. Lawrence River. Office, Quebec, Que.



W. C. Blake,  
Divisional Accountant, Canadian National  
Railways, Winnipeg.

W. J. ATKINSON, heretofore Assistant Superintendent, District 1, Intercolonial Division, C.G.R., Levis, Que., has been appointed Superintendent, District 5, Quebec Division, Canadian National Rys., vice E. L. Desjardins, transferred. Office, Edmundston, N.B.

W. F. SAWYER, heretofore agent and station master, C.G.R., Levis, Que., has been appointed Assistant Superintendent, District 5, Quebec Division, Canadian National Rys., vice F. Griffin, transferred. Office, Edmundston, N.B.

E. L. DESJARDINS, heretofore Superintendent, District 5, Intercolonial Division, C.G.R., Edmundston, N.B., has been appointed Superintendent, District 1, Quebec Division, Canadian National Rys., vice J. E. Morazain, promoted. Office, Levis, Que.

F. GRIFFIN, heretofore Assistant Superintendent, District 5, Intercolonial Division, C.G.R., Edmundston, N.B., has been appointed Assistant Superintendent, District 1, Quebec Division, Canadian National Rys., vice W. J. Atkinson, transferred. Office, Levis, Que.

J. GRAHAM, heretofore Superintendent, Locomotive Shops, Canadian Government Railways, Moncton, N.B., has been appointed Superintendent, Motive Power

and Car Shops, Canadian National Railways, Moncton, N.B.

F. W. HARTSHORN has been appointed Assistant Superintendent, Montreal Division, Quebec District, Canadian National Rys. Office, Joliette, Que.

Following are the officials of the Maintenance of Way Department, with their territory:—

Bridge and Building Department—Toronto Division—O. KERR, Bridge and Building Supervisor, Rosedale, Toronto.

Ottawa Division and Brent Terminal to milepost 1, North Bay Subdivision—P. MCGINTY, Bridge and Building Supervisor, Ottawa, Ont.

Nipissing Division, excluding Brent Terminal, but including Foley Terminal to milepost 1, Oba Subdivision—F. MCKAY, Bridge and Building Supervisor,



A. Wilcox,  
General Superintendent, Central District, Canadian  
Northern Ry., and Canadian Government  
Railways west of O'Brien, Que.

Capreol, Ont.

Superior Division—W. J. COUGHLIN, Bridge and Building Supervisor, Hornepayne, Ont.

Track Department—Toronto Division—Muskoka Subdivision, from mileage 4.5 to north end Bowes St. bridge, Parry Sound, Duncan cutoff to C.P.R. connection and Orillia Subdivision—E. MYERS, Roadmaster, Rosedale, Toronto.

Trenton Subdivision, to mileage 103 and Toronto Terminals, including Leaside—W. M. JACKLIN, Roadmaster, Rosedale, Toronto.

Maynooth and Irondale Subdivisions—D. McDONALD, Roadmaster, Trenton, Ont.

Ottawa Division—Picton Subdivision—Trenton Terminals to mileage 103 on Trenton Subdivision and to heels of east and west frogs of Y; Tweed and Rideau Subdivisions, from Trenton to west switch of crossover at Harrowsmith—G. ROSEBUSH, Roadmaster, Trenton, Ont.

Brockville and Rideau Subdivisions, from east switch of crossover at Harrowsmith to Hurdman, including Ottawa Terminals, to milepost 1, Pembroke Subdivision—O. OGDEN, Roadmaster, Ottawa.

Pembroke Subdivision, from milepost 1 westerly, and Brent Terminal to mile-

post 1 on North Bay Subdivision—W. H. HENDERSON, Roadmaster, Pembroke, Ont.

Nipissing Division—North Bay Subdivision, from milepost 1 westerly, and Capreol Terminals to south and west yard limit boards—T. BROWN, Roadmaster, Capreol, Ont.

Sudbury Subdivision, from Bowes St., Parry Sound, to south yard limit board, Capreol, and Sudbury and Parry Sound Terminals—E. HAYSTEAD, Roadmaster, Capreol, Ont.

Ruel Subdivision, from west yard limit board, Capreol, westerly and Foley Terminals to milepost 1, Oba Subdivision—P. VICKS, Roadmaster, Capreol, Ont.

Superior Division—Oba Subdivision,



A. T. Weldon,  
Assistant Freight Traffic Manager, Canadian  
National Railways.

from milepost 1 westerly and Hornepayne Terminal to milepost 1, Long Lake Subdivision—R. FURGUSON, Roadmaster, Hornepayne, Ont.

Long Lake Subdivision, from milepost 1 to east yard limit board, Jellicoe—J. McMAHON, Roadmaster, Hornepayne, Ont.

Nipigon Subdivision, westerly to mileage 141.6, and Jellicoe Terminal to east yard limit board—G. S. WARNER, Roadmaster, Jellicoe, Ont.

C. MARTIN, heretofore Roadmaster, Canadian Northern Ry., Yarker, Ont., has been transferred to Bancroft, Ont., as sec-

The grouping of the Ontario District Subdivisions has been rearranged as follows:—

Toronto Division (449.6 miles)—C. L. HARRIS, Superintendent, Rosedale; L. W. BULLER, Assistant Superintendent, Rosedale; Muskoka, Maynooth, Orillia, Trenton, Irondale Subdivisions, and Toronto Terminals.

Ottawa Division (451.6 miles)—W. R. KELLY, Superintendent, Ottawa; P. H. FOX, Assistant Superintendent, Trenton; Pembroke, Tweed, Brockville, Rideau, Picton, Kingston Subdivisions, and Trenton and Ottawa Terminals.

Nipissing Division (442.8 miles)—G. A.

Agent, Toronto, has been transferred to HOAG, Superintendent, Capreol; A. H. CAVANAGH, Assistant Superintendent, Capreol: North Bay, Sudbury, Ruel Subdivisions, and Sudbury, Parry Sound, Brent and Foley Terminal.

Superior Division (446.5 miles)—G. N. GOAD, Superintendent, Hornepayne: Oba, Nipigon, and Long Lake Subdivisions.

W. F. HEFLIN has been appointed Chief Dispatcher, Canadian National Rys., Capreol, Ont., vice J. B. Smith, assigned to other duties.

J. R. CAMERON, Assistant General Manager, Western Lines, Canadian Northern Ry., has had his jurisdiction extended to include all Canadian Government Railways lines west of O'Brien, Que. Office, Winnipeg.

A. WILCOX, General Superintendent, Central District, Canadian Northern Ry., has had his jurisdiction extended to include all Canadian Government Railways lines west of O'Brien, Que. Office, Winnipeg.

A. T. FRASER, heretofore Division Engineer, Canadian Northern Ry., Edmonton, Alta., has been appointed Chief Engineer, Western Lines, Canadian National Rys. Office, Winnipeg.

B. T. CHAPPELL, heretofore Superintendent, Pacific District, Western Lines, Canadian Northern Ry., Vancouver, is reported to have been appointed General Superintendent, Prairie District, Western Lines, Canadian National Rys., with office at Saskatoon, Sask.

H. R. ARTHUR, heretofore Inspector of Transportation, Vancouver, has been appointed acting Superintendent, Pacific District, Western Lines, Canadian National Rys., in place of B. T. Chappell, Superintendent, Vancouver, who is reported to have been promoted to the Prairie District. Office, Kamloops Jct., B.C.

G. E. SMART, heretofore Superintendent of Car Department, C.G.R., Moncton, N.B., has been appointed General Master Car Builder, Canadian National Rys., with jurisdiction over all lines. Office, Toronto.

W. U. APPLETON, heretofore Superintendent of Car Department, C.G.R., Moncton, N.B., has been appointed Mechanical Superintendent, with jurisdiction over Motive Power and Car Departments, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

C. E. MCCOY, heretofore Assistant Superintendent, Car Department, C.G.R., Moncton, N.B., has been appointed Master Car Builder, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

T. MADDEN, heretofore General Foreman, Car Shops, C.G.R., Moncton, N.B., has been appointed Assistant Superintendent of Shops, Car Department, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

H. W. SHARPE has been appointed Master Mechanic, Quebec District, Eastern Lines, Canadian National Rys. Office, Quebec, Que.

E. G. THEOBOLD, heretofore Car Foreman, Canadian Northern Ry., Joliette, Que., has been appointed District Car Foreman, Quebec District, Canadian National Rys. Office, Quebec, Que.

T. C. HUDSON, heretofore Master Mechanic, Quebec District, Canadian Northern Ry., Joliette, Que., has been appointed General Master Mechanic, Eastern Lines, Canadian National Rys. Office, Montreal.

HUGH CAMERON, Mechanical Engineer, Canadian Northern Ry., Toronto, has resigned to enter the Robinson Con-

F. BARNARD has been appointed As-nector Co.'s service at Montreal.

A. H. EAGER, heretofore Assistant Superintendent of Rolling Stock, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Mechanical Superintendent in charge of Locomotive and Car Departments, Western Lines, Canadian National Rys. Office, Winnipeg.

A. McCOWAN, heretofore Supervisor of Car Work, Canadian Northern Ry., Winnipeg, is reported to have been appointed Master Car Builder, Western Lines, Canadian National Rys., at Winnipeg.

W. C. BLAKE, heretofore chief clerk to General Auditor, Canadian Northern Ry., Winnipeg, has been appointed Divisional Accountant, Canadian National



Major F. L. C. Bond,  
Chief Engineer, Grand Trunk Railway.

Rys. Office, Winnipeg.

A. E. MACDONALD has been appointed acting Superintendent, Division 1, Western District, Canadian National Rys., vice W. E. Roberts, transferred. Office, Dauphin, Man.

W. E. ROBERTS, heretofore Superintendent, Division 1, Western District, Canadian Northern Ry., Dauphin, Man., has been appointed Superintendent, Division 3, Western District, Canadian National Railways, vice M. Helston, assigned to other duties. Office, Edmonton, Alta.

HUGH SUTHERLAND, Executive Agent, Canadian Northern Ry., Winnipeg, has resigned.

Canadian Pacific Ry.—W. N. TILLEY, K.C., Toronto, has been appointed Consulting Counsel.

W. M. THOMPSON, heretofore Superintendent of Traffic, Eastern Lines, C.P.R. Telegraphs, Montreal, has been appointed Superintendent of Telegraphs, Eastern Division, Montreal.

J. MITCHELL has been appointed Superintendent of Traffic, Eastern Lines, C.P.R. Telegraphs, Montreal, vice W. M. Thompson, promoted.

W. D. NEIL, heretofore Superintendent of Telegraphs, Eastern Division, Montreal, has been appointed Superintendent of Telegraphs, Ontario Division, vice C.

D. Leighty, transferred to the Operating Department. Office, Toronto.

L. B. H. CLARKE has been appointed Assistant Superintendent, Brownville Division, New Brunswick District. Office, McAdam, N.B.

W. WELLS, heretofore Division Master Mechanic, Farnham Division, Quebec District, Farnham, has been appointed Night General Foreman, Locomotive Shop, Angus shops, Montreal.

J. C. BROWNE, heretofore Freight the duties of inspecting stations.

R. BARNWELL, heretofore Assistant Purchasing Agent, Winnipeg, has been appointed General Tie Agent, Western Lines, Winnipeg.

Canadian Pacific Ocean Services, Ltd.—C. E. BENJAMIN, heretofore General Passenger Agent, Trans-Pacific Lines, Montreal, has been appointed Passenger Traffic Manager, in full charge of passenger services on Atlantic and Pacific Oceans. Office, Montreal.

Grand Trunk Ry.—W. J. BEYERS, conductor, is reported to have been appointed General Yardmaster, Coteau, Que., vice C. C. McCullough, transferred.

J. S. McADAM, heretofore Chief Dispatcher, Ottawa Division, Ottawa, Ont., has been appointed Trainmaster, Districts 31 and 32, with office at Madawaska, Ont.

W. E. WEEGAR, Trainmaster, District 30, Ottawa, Ont., has had his jurisdiction extended to include Ottawa Terminals.

H. E. LANDON, dispatcher, has been appointed Chief Dispatcher, Onawa Division, Ottawa, Ont., vice J. S. McAdam, promoted.

C. C. McCULLOUGH, heretofore General Yardmaster, Coteau, Que., has been appointed General Yardmaster, Ottawa, Ont., vice A. B. McNaughton, resigned to go to G.T.R. lines in New England.

E. S. COOPER has been appointed Trainmaster, District 4, Montreal, vice W. J. Nixon, transferred.

W. J. NIXON, heretofore Trainmaster, District 4, Montreal, has been appointed Trainmaster, District 5. Office, Brockville, Ont.

A. R. HANNAFORD, heretofore of the Engineering Department, Toronto, has been appointed Assistant Engineer, Hamilton Division, Ontario Lines, vice James Boyd, deceased. Office, Hamilton, Ont.

The Montreal Division has been extended to include territory from the west yard limit board at Turcot, Que., to the west yard limit board at Brockville, Ont. All matters pertaining to District 5 and Brockville terminal, formerly addressed to J. D. McMILLAN, Superintendent, Belleville, Ont., are addressed to J. J. CONNOLLY, Superintendent, Montreal.

Grand Trunk Ry. Lines in New England.—A. B. McNAUGHTON, General Yardmaster, G.T.R., Ottawa, Ont., has been appointed Superintendent, G.T.R. Lines in New England, under the U.S. Railroad Administration, with office at Island Pond, Vt.

Grand Trunk Pacific Ry.—E. HACKING, heretofore General Car Foreman, has been appointed Master Car Builder, and his former position has been abolished. Office, Transcona, Man.

D. CHIVERS, heretofore Car Foreman, Watrous, Sask., has been appointed Car Foreman, Regina, Sask., vice H. E. Jell, assigned to other duties.

R. LAING, heretofore Assistant Car Foreman, Melville, Sask., has been appointed Car Foreman, Watrous, Sask., vice D. Chivers, transferred.

F. CLARK has been appointed Locomotive Foreman, Melville, Sask., vice A. J. Bell, resigned.

sistant Car Foreman, Melville, Sask., vice R. Laing, promoted.

C. B. Thompson, Assistant Superintendent, Biggar, Sask., has had his office transferred to Saskatoon, Sask.

Pere Marquette Ry.—S. J. BOYLE, heretofore Trainmaster, Detroit, Mich., has been appointed Trainmaster, St. Thomas, Ont.

H. PLASTOW, heretofore dispatcher,

has been appointed Night Chief Dispatcher, St. Thomas, Ont.

W. F. THOMPSON, heretofore yard conductor, has been appointed Night Yardmaster, St. Thomas, Ont.

Toronto Union Station.—W. VAUGHAN, Assistant to Superintendent, has been appointed acting Superintendent, during the absence on leave for three months, of J. J. BECK.

## Railway Rolling Stock Orders and Deliveries.

The International Nickel Co., Copper Cliff, Ont., has received 116 specially designed service cars from Canadian Car & Foundry Co.

The National Steel Car Co. has shipped recently to Canadian Government Railways, 244 box cars, and has also shipped 4 dump cars and 65 coal hopper cars, in knock down shape, for the Bengal Nagpur Ry., India.

The Canadian Northern Ry. received the following additions to rolling stock, during Nov., 1918, ordered by the Dominion Government: 707 steel frame box cars, 40 tons capacity, from Canadian Car & Foundry Co., and 118 ballast cars, 50 tons capacity, from Eastern Car Co.

Canadian Government Railways received the following rolling stock during Nov., 1918: 73 coal cars, 50 tons capacity, and 9 flat cars, 40 tons capacity, from Eastern Car Co.; 20 remodelled box cars, 30 tons capacity, converted to heater cars, from Canadian Car & Foundry Co.; and 1 ballast car, 50 tons capacity, from C.G.R. Transcona shops.

The G.T.R. has received 13 Mikado locomotives from Canadian Locomotive Co., which were built under order from the Dominion Government. Following are the chief details:—

Weight on drivers.....	213,500 lb.
Weight, total.....	283,000 lb.
Wheel base of engine, rigid.....	16 ft. 6 in.
Wheel base of engine, total.....	35 ft. 1 in.
Wheel base of engine and tender.....	68 ft.
Heating surface, firebox.....	242 sq. ft.
Heating surface, tubes.....	3,398 sq. ft.
Heating surface, total.....	3,640 sq. ft.
Driving wheels, diar.....	63 in.
Journals, main.....	11 x 20 in.
Journals, others.....	10 x 20 in.
Cylinders, diar, and stroke.....	27 x 30 in.
Boiler, type.....	Extended wagon top, radial stay
Boiler pressure.....	180 lb.
Tubes, no. and diar.....	240—2 in.; 32—5 3/4 in.
Tubes, length.....	20 ft.
Grate area.....	56.5 sq. ft.
Weight of tender loaded.....	166,000 lb.
Water capacity.....	9,000 U.S. gall.
Coal capacity.....	12 tons
Tank, type.....	Water bottom with vestibule connections
Truck wheel diar.....	34 in.
Journals.....	6 x 11 in.
Brake beam.....	High speed, M.C.B. heads
Superheaters.....	Locomotive Superheater Co.
Staybolts.....	Tate Flexible
Valve gear.....	Walschaert
Hard grease cellars.....	Franklin
Journal boxes.....	McCord
Brake beams.....	Simplex
Air brakes.....	Westinghouse ET 6

The Canadian National Railways management, at Toronto, has placed several orders for rolling stock recently, has asked for tenders for more, and is preparing to ask for further tenders. The orders placed already, and those under consideration, will total about \$20,000,000. The following orders have been given:

Canadian Car & Foundry Co., Montreal, 100 Colonist cars; Pullman Co., Chicago, 50 colonist cars. The management was desirous of ordering all the colonist cars in Canada, but as sufficiently early delivery could not be given by Canadian car builders, a third of the order was given to the Pullman Co. These cars will have

the following dimensions:

Length over end sills.....	73 ft. 6 in.
Length between truck centers.....	57 ft. 6 in.
Length over buffers about.....	82 ft. 4 1/2 in.

They will have 16 sections each, and smoking room compartment. Special attention has been given in the designing of these cars to provide suitable accommodation for handling troops. The interior layout conforms to the latest Board of Railway Commissioners and Interstate Commerce Commission's recommendations. The exterior will be of steel, and the interior of wood. They will be equipped with 6-wheel trucks, with the latest type of clasp brake, and will be lit by electricity.

Canadian Car & Foundry Co., Montreal, 20 baggage cars, with the following general dimensions:

Length over end sills.....	73 ft. 6 in.
Length between truck centers.....	57 ft. 6 in.

The interior layout will conform to the latest Board of Railway Commissioners and Interstate Commerce Commission's recommendations. The exterior will be of steel and the interior of wood. A double board floor will be provided, with slats, for handling fish. The underframe and trucks will be the same as for the colonist cars referred to above. They will be equipped with the heaviest type of friction brake, specially designed for heavy train service.

Preston Car & Coach Co., Preston, Ont., 25 cabooses, Canadian Northern Ry. standard, and the following general dimensions:

Length over all.....	35 ft. 2 in.
Length over end sills.....	30 ft. 0 in.
Outside width.....	9 ft. 3 in.

The C.N.R. management has also asked for tenders for 12 sleeping cars, 6 dining cars, 150 refrigerator cars, 750 box cars, 500 stock cars, 750 coal cars, 250 ballast cars and 500 flat cars.

The C.N.R. management is also considering asking tenders for about 50 locomotives, probably 25 Pacific type, and 25 either consolidation or switching.

## The Canadian National Railways Inaugurated.

The following order in council was passed at Ottawa Dec. 20:—"Whereas the Minister of Railways and Canals reports that by the order in council dated Nov. 20, 1918 (P.C. 2654), the persons, from time to time comprising the board of directors of the Canadian Northern Ry. (which controls and operates the Canadian Northern Ry. System) were appointed a board of management of the Canadian Government Railways; That, as a matter of convenience in connection with the operation of both systems under one management, the use of one name as a collective or descriptive title for both systems is highly desirable, and refers to the established use of the term Canadian Northern Ry. System as a descriptive (but not corporative) title for all lines of railway owned or controlled by the Canadian Northern Ry. Co., and also to

the use of the name Canadian Government Railways, which is also merely one of description; That the use of such a title is a mere matter of description for convenience of reference and does not create a new legal corporate entity, or affect in any manner whatsoever the legal status or the rights or obligations of the individual corporations collectively so denoted.

"Therefore His Excellency the Governor General in council doth hereby order and direct the board of directors aforementioned to use as a collective or descriptive designation the name Canadian National Railways, in lieu of the names Canadian Northern Ry. System, and Canadian Government Railways, wherever such last mentioned names are or may be at present used (including, without restricting the generality of the foregoing, all operated and traffic forms) in respect of the whole of the lines of railway and railway properties controlled or operated by the board; provided that deeds, leases, agreements, and documents of all kinds requiring execution under seal shall continue to be drawn and executed under the respective corporate names of the corporations (including the Crown), owing or entitled to the properties affected thereby, and that nothing in this order shall be taken to restrict or enlarge or otherwise affect the liability of such respective corporations for any of their respective acts or omissions, the corporate entity in each case being preserved and the rights and liabilities remaining the same as heretofore, notwithstanding the use of the collective or descriptive designation herein ordered."

D. B. Hanna, President, issued the following circular Jan. 1:—"Effective this date, the railways heretofore known as the following, viz.: Canadian Northern Ry. System, Eastern and Western Lines; Canadian Government Railways, National Transcontinental Ry., Intercolonial Ry. of Canada, Prince Edward Island Ry., will be operated under the name of the Canadian National Railways, the headquarters of which will be in Toronto. In operating and corresponding, officers of any of the above mentioned railways will in future use the name Canadian National Railways. We shall be obliged if in future the public and our connections will address their communications and reports to the proper officers of the Canadian National Railways."

**A Freight Damage Suit.**—The Boston & Maine Rd., and the Grand Trunk Ry. were defendants in an action brought in a Quebec court recently by J. Ratskowski to recover \$2,062.27 damages to 6 bales of goods in transit from Boston, Mass., to Montreal. In the Superior Court, at the original hearing, the action was dismissed as against both companies. An appeal was taken and judgment was given in the Court of Review, Nov. 29, confirming the lower court's judgment insofar as the G.T.R. was concerned, but holding the Boston & Maine Rd. liable for the amount claimed, with costs in both courts. The railway company undertook to deliver the goods in Montreal, the court held, in the condition in which it received them. The lower court held that the plaintiff could not recover because he had not affirmatively proved that the bales were in good condition when shipped, but the railway company's receipt was to the effect that it received them "in apparent good order and condition." If the company wished to avoid its liability, it must affirmatively prove that the goods were in a damaged condition when received.

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ADVERTISING RATES furnished on application.  
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## Cash Payment for Railway Transportation.

In connection with the circular ordering cash payment for railway transportation charges, published on page 5 of this issue, the Canadian Railway War Board issued the following additional circular Dec. 12, to Canadian railways:—

In order that railway employes may have as complete an understanding as possible of what is required of them in carrying out regulations calling for cash settlement of transportation charges, the following instructions (with such changes in form as may be necessary to meet local conditions) are suggested for issuance to employes concerned:—

Instructions relative to the collection of transportation charges, issued by the Canadian Railway War Board, become effective on Jan. 1, 1919, and copy of such instructions are incorporated as a part hereof, for the information and guidance of all concerned.

A sufficient supply of the instructions will be sent to all agents to enable them to transmit a copy to each credit patron at their station. Application blanks and form of bond prescribed will be furnished by agent's or vice president's (finance) office to all patrons who may be entitled to a credit of not exceeding 96 hours, as called for in paragraph 2 of the board's instructions, which should be executed and delivered to the freight agent at the point where credit is desired, the application to be recommended by the agent, and the bond and application forwarded to the vice president (finance).

Where credit is desired at more than one station, a separate bond must be taken for each station.

Upon receipt of advice from vice president (finance) that parties desiring credit have filed with him a satisfactory bond, 96 hours credit may be allowed. The 96 hour credit period begins from the time freight is received by the railway company, in the case of forwarded freight, or the time of delivery, as defined in supplement 1 to circular 86, in the case of received freight.

As the intent of the instruction is to have all business conducted on a cash basis, the 96 hour privilege should not be applied for, except in cases where settlement cannot be made otherwise.

At points where there are no banking facilities, or where firms have no accounting office, an arrangement can be made, subject to approval of vice president (finance), whereby firms' representatives may settle by giving railway agent a sight draft on such firm. These drafts, when duly authorized, can be remitted (with expense bills attached if required) to treasury department, as cash.

These instructions automatically cancel all present credit arrangements, including authorized transfers to audit office of bills for collection at midnight, Dec. 31, 1918.

Agents must without fail at once notify the vice president (finance) when any firm or individual granted credit defaults in payment of charges due, and will cancel the credit privilege in such cases in accordance with the board's circular 86, rule 2.

In the event of default in payment of transportation charges within the credit period, and unless settlement is promptly made thereafter, the vice president may take immediate steps to realize upon the bond of the individual or firm who has not made settlement.

Premiums on all bonds and all expenses

incident thereto, shall be borne by the applicant to whom the accommodation is granted.

Bonds given to cover credit accommodation shall not include liability for the delivery of freights consigned to "order notify" prior to surrender of original bill of lading; bonds for each bill of lading transaction must be given as provided for in the board's instructions.

The foregoing instructions and the board's instructions must be carefully studied by all concerned and receipt acknowledged to the auditor of agencies.

When the foregoing instructions and those on an earlier page of this issue were made public, J. E. Walsh, Manager Transportation Department, Canadian Manufacturers Association, arranged for a conference between representatives of the association and of the railways, at which the new regulations were protested against, and as a result the Canadian Railway War Board issued telegraphic instructions to the railways postponing the effective date of the regulations to March 1. The regulations will be further considered by a committee of the Canadian Manufacturers Association, and it is expected that they will be modified in certain particulars.

## Electric Railway Lines Acquired by Canadian Northern Railway.

The Toronto Suburban Ry., which operates 10.26 miles of lines on streets and highways in the western portion of Toronto and in the town of Weston, and two interurban lines on private right of way, one from Weston to Woodbridge, 13 miles; and one from Lambton to Guelph, 46.3 miles, a total of 69.53 miles, and which is controlled by Sir Wm. Mackenzie and associates, is being acquired by the Canadian Northern Ry. and will be operated as part of the Canadian National Railways.

The Canadian Northern Ry. is also acquiring the Toronto Eastern Ry. Co.'s charter and other property, which are also controlled by Sir Wm. Mackenzie and associates. This line is projected to run from Toronto to Cobourg, Ont. A contract was let and construction started in 1914, grading being done from Bowmanville west to Pickering Village, 19.5 miles, and track was laid and ballasting done from Bowmanville to Whitby, 14.5 miles. No overhead or other electrical work was done and, owing to the war, all construction was stopped.

The Chatham, Wallaceburg & Lake Erie Ry., also controlled by Sir Wm. Mackenzie and associates, will not, it is said, be taken over by the Canadian Northern. Its Toronto offices, heretofore in one of the C.N.R. buildings in Toronto, have been removed to 43 Victoria St.

The Board of Railway Commissioners passed order 27907, Nov. 29, re order 25254, Aug. 11, 1916, which suspended until further order item 8-B in supplement 5 to F. C. Airy's tariff C.R.C. 1972, and continuing in effect item 8-A in supplement 4 to tariff C.R.C. 1972, covering the arrangement whereby fish in carloads is carried by express at net weight from Edmonton, Alta., to U.S. points, and upon hearing the matter in Edmonton, the Express Traffic Association of Canada being represented, and on the report of the Board's Chief Traffic Officer, it ordered that order 25254, Aug. 11, 1916, be rescinded.

## Nationalization of British Railways.

**Conditions of Government Control During War.**—The following summary of the conditions under which the government took control of the railways on the outbreak of war, will be of interest. It was prepared by the U.S. Railroad Wage Commission and submitted to the Director General of U.S. Railroads last spring, with a recommendation that U.S. railway employes wages be increased.

The legislation under which the British Government was empowered to assume control of the railway systems of the country was in existence many years before the beginning of the war. The Civil War in the United States had shown the value of railways for military purposes; and the Franco-Prussian war proved conclusively that railways were absolutely essential to the conduct of all military operations. The lesson of this war was immediately recognized by Great Britain, and in 1871 the Regulation of the Forces Act was passed. Although minor legislation had previously been enacted as to the regulation of the railways to military needs, and although a small number of relatively unimportant laws were subsequently passed, the Regulation of the Forces Act of 1871 was the fundamental legislation which provided for government control of railways for military purposes. Sec. 16 of this act authorized the government, in any emergency in which it might be expedient that the government have control over the railroads of the United Kingdom, to empower any person or persons to take possession of any railway in the United Kingdom and of the plant belonging thereto, or of any part thereof; and it was under the provisions of this section of the act that on Aug. 4, 1914, the King, by order in council, declared that the government was to assume control of the railways in Great Britain, this control to be "exercised through an executive committee, composed of general managers of railways, which has been formed for some time, and has prepared plans with a view to facilitating the working of these provisions of the act." Since the outbreak of the war orders have been issued under this existing pre-war legislation, but no additional legislation has been necessary, and the railways have been administered for the government, but not by the government, through a railway executive committee, the organization and composition of which was provided by this pre-war legislation. This committee is made up of the general managers of 14 railways, representing about three-fourths of the entire steam railway mileage in Great Britain. The members of this committee, however, have also continued to act as general managers of their own systems, the general personnel of each railway has been retained as far as possible, and the routine of operation has proceeded along much the same lines as before the outbreak of hostilities.

The act of 1871 provided that government control should remain in force for one week at a time only, but could be prolonged from week to week so long as the emergency continued, so that in practice it has been necessary to renew each week the order by which government control was established.

In regard to the financial questions involved in the establishment of government control, sec. 16 of the Regulation of the Forces Act of 1871 contained the following provisions: "There shall be paid

to any person or body of persons whose railway or plant may be taken possession of in pursuance of this section, out of moneys to be provided by parliament, such full compensation for any loss or injury they may have sustained by the exercise of the powers of the Secretary of State under this section as may be agreed upon between the said Secretary of State and the said person or body of persons, or, in case of difference, may be settled by arbitration."

**Compensation to the railways.**—To determine the compensation which these provisions stipulated was to be paid to the railways in case of government control, it was not necessary to resort to arbitration, the basis of compensation being fixed by a mutual agreement between the government and the railways. According to the terms of this agreement, the railways placed their organizations unreservedly at the command of the military authorities, for the transportation of troops and of military equipment and supplies, and further provided that military traffic should be given priority over all other traffic. It was agreed that he government would not pay the railways for any military traffic, as such; but the government agreed to pay each railway monthly an amount which would be sufficient to bring its net income for the period to an amount equal to the net income for the corresponding period of the calendar year 1913—that is, the government guaranteed to maintain the net income of each road at the same amount as in 1913, a year in which the net income of the railways was the greatest ever recorded—with the qualification (added later) that the amounts so paid by the government to the railways during the last five months of 1914 would be sufficient to make the net income for the whole of 1914 equal to the net income for the whole of 1913. On the other hand, if any railway earned a net income greater than that earned during the corresponding period of 1913, it was required to turn the excess over to the government. For the purpose of this agreement, "net income" meant the total revenue derived from railway and subsidiary transportation operations, less expenses of operation and taxes; that is, the net income before the deduction of interest, fixed charges, and dividends. Later this definition was modified so that the government would bear a 4% interest charge on all capital invested in new railway property since Aug., 1914. This agreement was to continue as long as the government exercised control over the railways in accordance with the provisions of the Regulation of the Forces Act of 1871.

Under the operation of this agreement the government has paid the railways from 5 to 10% of their normal pre-war revenues, whereas the amount of governmental traffic handled by the railways during the war has undoubtedly been considerably in excess of 10% of their total traffic.

Since railway control was assumed by the government there has been little increase in freight rates, but passenger rates soon began to be increased through the abolition of various forms of reduced rates, while on Jan. 1, 1917, all passenger rates were increased 50%.

**The Irish Railways.**—When the government took over control of the British railways, as provided by the Regulation of

the Forces Act, the Irish railway systems were not included. For more than two years after the outbreak of war these systems continued to be operated and controlled by their own managements, but by the end of 1916 the employes of these systems were insisting upon war bonuses as great as those paid railway employes in Great Britain, and the Irish railways announced that they could not meet wage increases in competition with the British Government. Failing in an effort to bring about an agreement between the Irish railway managers and their employes, the government brought the Irish railways under government control on Jan. 1, 1917, on practically the same conditions as govern the British railways. A distinct railway executive committee was established, but the government agreed to maintain the net incomes of the railways at their normal levels.

The question of the nationalization of railways is a live issue in Great Britain at present. A statement made by Right Hon. Winston Churchill, at Dundee, Scotland, Dec. 5, briefly and directly, that the government proposes to nationalize the railways of the three kingdoms, taken in conjunction with a statement on the following night by Right Hon. W. H. Long, that the question is a very big one and will want a great deal of thinking out, is sufficient evidence that the matter has been under the government's consideration, as one of the means of dealing with the immense transportation interests of the country in returning to a peace basis.

### The Dominion Government's Railway Policy, etc.

Sir Thomas White, Finance Minister, and acting Prime Minister, when in Toronto, Dec. 16, gave out a statement calling attention to the things accomplished by the Union Government during its first year of office. Among other things he said: "The Government has completed the purchase of the Canadian Northern Ry. and consolidated all the government owned railways, including the Intercolonial and National Transcontinental, under a board of directors of business men who will operate the roads in the national interest. For the better co-ordination and direction of the immense railway traffic arising out of the war, the Canadian Railway War Board, composed of the chief executives of the principal Canadian railways, was formed and has rendered most excellent service, avoiding serious difficulties which would otherwise have arisen.

"The Minister of Railways has, during the year, contracted for 185 locomotives, 8,500 freight cars and 100,000 tons of rails. Orders are now being placed for 200,000 additional tons of rails, and 100 colonist cars."

**French Railway Reconstruction.**—The Chamber of Deputies, on Dec. 31, voted the government to advance 600,000,000 francs for the re-establishment of the railways after the war; 480,000,000 francs are to be devoted to the employes and 120,000,000 to repairs and rolling stock. During the debate, the Minister of Public Works said that 27,000 American cars would be delivered soon. With regard to the railways built in France by the U.S. army, he declared that if the negotiations now going on reached a satisfactory end, the roads would be kept and improved.

## Orders by Board of Railway Commissioners for Canada.

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

General order 255. Nov. 20.—Amending general train and interlocking rules, approved by order 7563, July 12, 1909.

General order 256. Nov. 20.—Amending pars. 1 and 2 of rule 102 of the general train and interlocking rules.

General order 257. Dec. 6.—Amending rule 33 of general train and interlocking rules, approved by order 7563, July 12, 1909.

General order 258. Nov. 25.—Amending rule 26 of the General Train and Interlocking Rules approved by order 7563, July 12, 1900, by directing that railways display a blue flag by day and a blue light by night at a height of 5 ft. above rail level on steel frame secured to rail; day signal to be 22 x 28 in., set at right angles to track and located between switch and first engine, car or train occupying track, all switches leading to regular repairs tracks to be locked with special locks and keys carried by foremen in charge of repair work.

27868. Nov. 19.—Authorizing British Columbia Electric Ry. to charge increased commutation fares as published in tariff C.R.C. 7, effective Dec. 1.

27869. Nov. 19.—Extending to Aug. 31, 1919, time within which gates may be erected at crossing of C.N.R. and C.P.R. at Bay Bridge Road, Belleville, Ont.

27870. Nov. 19.—Relieving G.T.R. from providing further protection at Vigar Crossing, Richmond, Que.

27871. Nov. 20.—Authorizing C.N.R. to cross road allowance between Secs. 1 and 2, Tp. 51, Range 11, west 4th meridian, Alta.

27872. Nov. 18.—Authorizing Grand Trunk Pacific Ry. to build spur for Upper Fraser Valley Lumber Co., Ltd., Cariboo District, B.C.

27873. Nov. 16.—Authorizing G.T.R. to rebuild bridge carrying highway between lots 17 and 18, Con. 28, St. Marys, Ont.

27874. Nov. 18.—Authorizing Town of Stoney Plain, Alta., to carry 5th Meridian road allowance across C.N.R. and G.T.P.R.

27875. Nov. 18.—Ordering C.N.R. to build station at Rosebud, Alta., and install a passing track, to be completed by Sept. 1, 1919.

27876. Nov. 20.—Authorizing C.N.R. to build across road allowance between Sec. 25 and 26, Tp. 53, Range 7, west principal meridian, Alta.

27877. Nov. 20.—Authorizing Bell Telephone Co. to build telephone lines in underground conduit in London, Ont.

27878. Nov. 23.—Approving Canadian Northern Ontario Ry. revised location through Indian Reserve, Commanda Tp., Nipissing District, from mileage 347.2 to 353.8 from Montreal.

27879. Nov. 22.—Authorizing Halifax & Southwestern Ry. to build two spurs for Davison Lumber & Mfrg. Co., Bridgewater, N.S.

27880. Nov. 22.—Authorizing Canadian Northern Ontario Ry. to build spur for S. L. Lambert, near Grave Yard Lake, Beaumont Tp., Sudbury District.

27881. Nov. 23.—Authorizing London & Port Stanley Ry. to build branch to Military Convalescent Home, Westminster Tp., Ont.

27882. Nov. 22.—Extending to Jan. 22, 1919, time within which C.P.R. shall install electric alarm bell at crossing of King St. West, Ingersoll, Ont.

27883. Nov. 22.—Extending to Oct. 31, 1919, time limited by order 27282, June 1, during which Lake Erie & Northern Ry., pending installation of interlocking plant at Brantford, Ont., was authorized to operate over crossing there.

27884. Nov. 22.—Approving agreement between Bell Telephone Co. and St. Marys, Medina, and Kirkton Telephone Co., in Huron, Perth, Middlesex and Oxford Counties, Ont.

27885. Nov. 23.—Approving Canadian Northern Ontario Ry. revised location through Beaucage and Pedley Tps., Nipissing District.

27886. Nov. 25.—Dismissing C.P.R. application for order re heater charges on fruit cars from Minneapolis, St. Paul and Sault Ste. Marie, to Calgary, 27461; and also to Winnipeg, and suspending order 27458, pending further order.

27888. Nov. 22.—Approving agreement, Oct. 26, between Bell Telephone Co. and Hampshire Telephone Co., Simcoe County, Ont.

27889. Nov. 26.—Relieving G.T.R., in so far as northbound trains which stop at Norwich station are concerned, from providing further protection at the first crossing north of Norwich station, Ont.; and prohibiting standing of cars on siding west of main track, closer to highway than 150 ft.

27890. Nov. 26.—Extending to June 15, 1919, time within which Canadian Northern Ry. shall complete moving station building, siding, and loading platform at Looma, Alta.

27891. Nov. 25.—Authorizing C.P.R. to build siding for P. Lund & Son, Lethbridge, Alta.

27892. Nov. 26.—Authorizing G.T.R. to build siding and spur for Imperial Steel & Wire Co., Nottawasaga Tp.

27893. Nov. 27.—Approving C.P.R. clearances of canopy and extension at Gordon, Ironside & Fares siding, Winnipeg.

27894. Nov. 26.—Approving Canadian Northern Ry. drawing, showing combined culvert and road crossing for watercourse at Portage Lake, McDougall Tp., Parry Sound District, Ont.

27895. Nov. 26.—Authorizing Essex Border Utilities Commission to build sewer across G.T.R. in Walkerville Tp., Ont., and at 2 points in Ford City, Ont.

27896. Nov. 21.—Dismissing application of New York Central and Rutland Rds. for order staying enforcement of general order 199, June 24, 1917, as amended by general order 226, Apr. 4, 1918, pending decision of U.S. courts on jurisdiction of Interstate Commerce Commission to make order in similar terms.

27897. Nov. 28.—Authorizing Toronto, Hamilton & Buffalo Ry. to open for traffic its second main line between Stoney Creek and Kinnear, Ont.

27898. Nov. 28.—Authorizing G.T.R. to build spur for Ontario Government on Lot 15, Concession 6, Hunter Tp., Nipissing District.

27899. Nov. 29.—Approving Canadian Northern Ry. drawings showing abutments proposed to be erected where C.P.R. ballast pit spur crosses under C.N.R. in Lot 12, Con. 4, Scarborough Tp., Ont., at mileage 12.9 from Todmorden.

27900. Nov. 26.—Approving agreement, Nov. 8, between Bell Telephone Co. and Maidstone Tp., operating Maidstone Municipal Telephone System, Essex County, Ont., and rescinding order 12264, Nov. 11, 1910.

27901. Nov. 27.—Authorizing Village of Turcotte, Que., to make highway crossing over C.P.R. at Garneau Jct., in lieu of farm crossing as at present.

27902. Nov. 27.—Authorizing Grand Trunk Pacific Branch Lines Co. to build spur for Spicer Coal Co., in Secs. 18 and 13, Tp. 48, Range 19 and 20, west 4th meridian, Alta.

27903. Nov. 27.—Ordering Edmonton, Dunvegan & British Columbia Ry. to fence right of way through east 1/2 of Sec. 31, Tp. 72, Range 5, west 5th meridian, Alta., and install farm crossing for S. Wraight, Sawridge, Alta.; work to be completed by Dec. 31.

27904. Nov. 28.—Authorizing Saskatchewan Highways Department to make public highway over C.P.R. north of Sec. 14, Tp. 32, Range 14, west 2nd meridian.

27905. Nov. 29.—Approving Canadian Northern Ry. drawing showing proposed reconstruction of bridge over creek on west leg of Y at Brockville, Ont.

27906. Nov. 29.—Amending order 27846, Nov. 9, re crossing of Jacques Cartier Union Ry. by Mount Royal Tunnel and Terminal Co.'s track, at mileage 5.25 from Montreal terminal.

27907. Nov. 29.—Rescinding order 25254, Aug. 11, 1916, re rates on fish from Edmonton, Alta., to U.S. points.

27908. Dec. 3.—Relieving Canadian Northern Ry. from providing further protection at Newboyne Road, Bastard Tp., Ont.

27909. Dec. 2.—Approving agreement, Oct. 9, between Bell Telephone Co. and Plane Settlement Telephone Co., Hastings County, Ont.

27910. Dec. 3.—Ordering C.P.R. to build interchange and storage tracks to provide for separate access for C.N.R. and C.P.R. to elevators in Port Arthur; cost to be divided as may be agreed between the two companies, and rescinding order 27225, May 15.

27911. Dec. 3.—Ordering Canadian Northern Ontario Ry. to build at expense of the parishes of St. Placide and St. Benoit, Que., a platform at Cote Double, Que., similar to platforms provided at St. Benoit and St. Herman; cost not to exceed \$300; and rescinding orders 24911 and 27664, Apr. 17, 1916, and Sept. 12, 1918.

27912. Dec. 6.—Ordering Bell Telephone Co. to file with board and deliver to Montreal and other municipalities opposing company's application, further detailed particulars, such as an analysis of plant values, gross revenues, expenses, etc., from and including 1913 to Sept. 30, 1918.

27913. Dec. 4.—Authorizing G.T.R. to build siding and spur for Canada Machinery Corporation, on part Lot 3, 10th Con., North Dumfries Tp., Ont.

27914. Dec. 7.—Ordering Canadian Northern Ry. to restore by Dec. 23, commodity rates on canned goods from points on its St. Catharines Division to points on Canadian Government Railways, in existence prior to Aug. 12, as increased by order in council P.C. 1863.

27915. Dec. 6.—Authorizing C.P.R. to rebuild bridge 96.45, Wawanosh East and Hullett Tps., Ont.

27916. Dec. 10.—Ordering Hamilton Radial Electric Ry. to carry out terms of agreement by putting into effect following service from Burlington, Ont.: 6, 8 and 10 a.m., and 1, 5 and 7 p.m.; and from Hamilton, Ont.: 7.10, 9.10 and 11.10 a.m., and 4.10, 6.10 and 11.10 p.m.

27917. Dec. 9.—Approving agreement, Nov. 5, between Bell Telephone Co. and Algoma Central & Hudson Bay Ry.

27918. Dec. 11.—Authorizing Alberta Public Works Department to make highway over C.P.R.

in Sec. 9, Tp. 8, Range 5, west 5th meridian.

27919. Dec. 9.—Authorizing Niagara, St. Catharines & Toronto Ry. to build spur for McKinnon Columbus Chain Co., St. Catharines, Ont.

27920. Dec. 10.—Approving agreement Nov. 11, between Bell Telephone Co. and the Selby Telephone Co., Lennox, Addington and Hastings counties, Ont.

27921. Dec. 11.—Ordering Pere Marquette Ry. to construct new culvert on north 1/2 of lot 15, Con. 4, Orford Tp., Ont.

27922. Dec. 11.—Relieving G.T.R. from providing further protection at highway crossing near Henfryn station, Ont.

27923. Dec. 12.—Declaring that rate and minimum weight applicable from Collingwood, Ont., to Vancouver wharf, B.C., by G.T.R. and C.P.R. all rail route from Dec. 5, 1917, to Oct. 31, 1918, on carload shipments of nails in boxes or kegs when destined to foreign ports in the tariff was rate shown in Special Joint Export Freight Tariff G.T.R. C.R.C. E-3677, as applicable from Toronto and Hamilton, Ont.

27924. Dec. 12.—Dismissing, on grounds of no jurisdiction, application of Kitchener, Guelph, Waterloo and Barrie, Ont., for order fixing flat rates per cord or per carload instead of by weight on firewood from Algonquin Park to municipalities and institutions at cost.

27925. Dec. 10.—Relieving Grand Trunk Pacific Ry. from providing further protection at highway crossing near Pope, Man.

27926. Dec. 9.—Extending to June 15, 1919, time within which the Canadian Northern Ry. is required to erect a third class station at Durban, Man.

27927. Dec. 12.—Approving clearance of C.P.R. coal tipples and works over tracks for Cadman Collieries, Ltd., on C.P.R. Mountain Park Coal Branch, Alta.

27928. Dec. 12.—Approving C.P.R. protection by gates at Douglas Ave., St. John, N.B.; Bridge and Grand Sts., Quebec; St. Hubert St., Montreal; Moore St., Carleton Place; Church St., Peterborough; Waterloo and Adelaide Sts., London; King, Adelaide and William Sts., Chatham, Ont.; and ordering gates to be provided at Horne St., Ingersoll, Ont.

27929. Dec. 12.—Ordering C.P.R. to maintain watchman at Powell St. crossing, Vancouver, B.C., between 7 a.m. and 12 p.m., until further order.

27930. Dec. 10.—Relieving C.P.R. from providing further protection at crossing near Guelph Jct., Ont.; trees at northeast and southwest angles to be removed by May 1, 1919.

27931. Dec. 16.—Extending to May 30, 1919, time within which Niagara, St. Catharines & Toronto Ry. shall install interlocking plant at G.T.R. crossing, as required by order 27545, July 31.

27932. Dec. 17.—Approving of Pere Marquette Ry. bylaw authorizing C. M. Booth, General Freight Agent, and W. E. Wolfenden, General Passenger Agent, to prepare and issue tariffs of tolls.

27933. Dec. 18.—Authorizing C.P.R. to build spur for Credit River Works, Ltd., west of Hurontario St., Toronto Tp., Ont.

27934. Dec. 16.—Authorizing C.P.R. to build spur for Corrugated Paper Box Co., York Tp., Ont.

27935. Dec. 17.—Authorizing Drury, Dennison and Graham Tps., Ont., to make public highway crossing over Algoma Eastern Ry. at mileage 13.90, Graham Tp., Ont.

27936, 27937. Dec. 16.—Authorizing Canadian Northern Ontario Ry. to build 2 spurs for E. Benoit, Ruel, Ont.

27937, 27939. Dec. 16.—Authorizing Canadian Northern Ontario Ry. to build 2 spurs for Spanish River Pulp & Paper Mills, Ltd., Ruel, Ont.

27940. Dec. 16.—Ordering G.T.R. to file plans showing improved facilities to be installed in its Chatham yards, Ont.; work to be completed by May 31, 1919.

27941. Dec. 5.—Authorizing C.P.R. to build extension to Associated Charities' spur for McCracken Bros., Winnipeg.

27942. Dec. 17.—Authorizing G.T.R. to open for traffic its revised line through Campbellford, Ont., from mileage 32.62 to 34.06 from Cobourg wharf.

27943. Dec. 19.—Authorizing G.T.R. to rebuild bridge carrying highway across track at milepost 91.16, near Kingsey, Ont.

27944. Dec. 19.—Authorizing G.T.R. to build extension to siding for City of Hamilton, Ont.

27945. Dec. 20.—Approving plans for reconstruction of bridge by Railways and Canals Department over St. Charles River at Quebec, Que.

27946. Dec. 11.—Authorizing Canadian Northern Ry. to remove agent at Moscow, Ont.; telephone to be installed and caretaker appointed to keep station clean and heated for passengers.

27947. Dec. 20.—Ordering Canadian Northern Ry. to install track and loading platform at Wayne, Alta.

27948. Dec. 20.—Relieving Lake Erie & Northern Ry. from providing further protection at crossing of Mount Pleasant Road near Brantford, Ont.

27949. Dec. 20.—Extending to May 31, 1919, time within which C.P.R. is authorized to build spur for Rob Roy Mills, Ltd., Durham, Ont.

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

**Alberta & Great Waterways Ry.**—An Edmonton, Alta., press report states that work is to be started at once upon an 8-mile extension from near the present end of steel at mileage 275.40, to the Clearwater River for the development of oil fields in the vicinity. The completion of the line to McMurray, about 15 miles, will, it is said, be considered by the Alberta Government in connection with the railway programme for 1919. (Nov., 1918, pg. 488.)

**Calgary & Fernie Ry.**—The Dominion Parliament is being asked to extend the time within which the company may build its projected railway, authorized in 1906, from Calgary, Alta., to Fernie, B.C. Hough, Campbell and Ferguson, Winnipeg, are solicitors for applicants. (Sept., 1917, pg. 350.)

**Calgary & South Western Ry.**—A general meeting of shareholders was called to be held at Calgary, Alta., Dec. 16, to elect directors, complete the organization of the company, and to consider and, if thought advisable, to authorize the directors to enter into a contract with the Great West Construction Co., for the building of the projected railway from Calgary to the Fish Creek coal fields, 70 miles. (April, 1918, pg. 146.)

**Essex Terminal Ry.**—We are officially advised that during 1918 the company laid 2 miles of sidings in Quarrie's yard, Windsor, Ont. The grading was done by the Quick Contracting Co., Windsor, and the tracklaying, etc., by the company's own forces. The Quarrie yard is connected with the steel plant at Ojibway, Ont., by a line 10 miles long, on which track was laid in 1917, but which was not reported in time for use in our table showing track laid in that year. (Sept., 1918, pg. 390.)

**Grand Trunk Pacific Ry.**—Steps are being taken in the Swift Current district, Sask., to bring pressure to bear on the company to start construction during this year on the projected branch from Watrous southwesterly to Swift Current. The branch would serve the Lenian and Stewart Valley settlements and the country north of Waldeck. The surveys for the branch have been made and the Saskatchewan Government has authorized the guarantee of bonds in aid of construction, as well as for terminals in Swift Current.

The G.T.P. Branch Lines Co. has applied to the Commissioner of Irrigation at Calgary, Alta., to divert water from Archydale Coulee, and the right to construct the necessary works to enable the water to be used in the company's tanks, buildings and engines at Archydale, on the Moose Jaw Northwesterly Branch.

**Grand Trunk Ry.**—The Lachine, Jacques Cartier & Maisonneuve Ry. Co., a G.T.R. subsidiary, is applying to the Dominion Parliament for an extension of time for the building of its railway round Montreal from Lachine to Maisonneuve.

We are officially advised that during 1918, the company laid 0.62 of a mile of track in extension of its yard at Campbellford, Ont. (Dec., 1918, pg. 540.)

**Hudson Bay Ry.**—H. T. Munn, who arrived in Ottawa recently, after two years prospecting work on Southampton Island and Baffin's Land, is reported to have stated that, as far as grain is concerned, his experience makes it obvious that the Hudson Bay route is impracticable. With the straits open only for a short time in the year, it would be impossible to get

out more than a few shipments. The fishing industry has great possibilities, and the Hudson Bay Ry. should be a food line for central Canada. There is nothing of great mineral value in the Arctic regions, so far as he had visited them, but there are Arctic products which would justify exploitation, such as furs, blubber, oil and ivory. (Oct., 1918, pg. 438.)

**Medicine Hat, Alta.**—Some years ago the city of Medicine Hat, Alta., built a spur line of about 4 miles from the C.P.R. to give access to an industrial area which was being developed. At the end of 1911 a proposition was made to the city council by the Ansley Coal Co., that if the city would construct an extension of the spur line to the city boundary nearest to the company's mine, the company would build a spur from the mine to connect with the city line. After some negotiations, the proposition was agreed to, the company got plans approved by the Board of Railway Commissioners showing a line about three miles long connecting with the proposed extension of the city spur line. The Medicine Hat ratepayers passed a bylaw in Dec., 1912, authorizing the issue of \$20,000 of debentures to defray the cost of the extension of its spur line to the city boundary. The city line was extended to the municipal boundary, but nothing was done in the way of construction on the mine spur. The last information we received about it was in July, 1913, when R. O. Sweezy, General Manager, Montreal Engineering Works, was quoted as stating that the Ansley coal carrying spur line would probably be electrified in the then near future, and operated in connection with an electric railway which his company proposed to build in Medicine Hat.

Nothing further was heard of the project until recent advices as to the development of the Swan and Smith property, which, we are advised, has been renamed the Ajax mine. The company's spur line, under construction, was described in Canadian Railway and Marine World, September, pg. 390, and we have since been advised that owing to the impossibility of obtaining labor, the work of completing the spur line has been delayed. The grading is finished for 3.5 miles from the mine, and connected with the city spur, and the old spur is being regraded on a revised location, which eliminates 129 degrees of curvature in half a mile. We were advised, Nov. 25, that track laying was in progress.

We are also advised that the new opening to the mine is completed, bricked up and enclosed, and that the poles for the power line from the city to the mine are erected and ready for the delivery of power for the operation of two coal cutting machines. The estimated immediate output of the mine is 300 tons a day, but this will be increased to 1,000 tons a day. The estimated quantity of coal in the Swan and Smith holdings in this district is 15,000,000 tons, of which it is expected to mine 90%. The market for the product is in the three prairie provinces.

Medicine Hat ratepayers voted recently in favor of a bylaw granting aid to the company to build the spur line. The bylaw provides that the city guarantees that the C.P.R. will supply the rails for the spur on a rental basis; that the company will be enabled to run its cars across certain streets over which the spur line passes within the city limits; for the leasing of a locomotive and passenger car

to carry the mine employees to and from their work, and to supply power at 1½¢ per kilowatt hour. C. Le B. Miles is the engineer in charge of construction. (Sept., pg. 390.)

Since the foregoing was put in type, we were advised, on Dec. 19, that track had been laid to the mine, that electric wires were up and that two machines were cutting coal in a stratum that will be from 6 to 8 ft. deep a little further in.

**Pacific Great Eastern Ry.**—We are officially advised that track has been laid from the old end of track, 12 miles north of Clinton, B.C., for 30 miles, and that work is in progress for 12 miles further north. The contract is being carried out for the British Columbia Government by the Northern Construction Co., Vancouver. (Dec., 1918, pg. 541.)

**Quebec & Saguenay Ry.**—A press report of Dec. 10, stated that the bridge at Baie St. Paul over the Riviere de Gouffre was expected to be completed by the end of December. The bridge is a fixed steel span, 165 ft. long, with accommodation for foot passengers, carried on two piers and abutments.

We are officially advised that grading has been completed from Baie St. Paul to Murray Bay, 25 miles, and is ready for tracklaying. This work will be gone on with early in the spring.

It is reported that it is expected to be able to put on a temporary passenger train service as far as Murray Bay in June, and a complete permanent freight and passenger traffic to Murray Bay in the autumn. (Nov., 1918, pg. 488.)

**Quebec Central Ry.**—We are officially advised that the company has under contemplation as projects to be carried out in the future an extension of its line from Scotts to the south end of Quebec bridge, 19 miles, and the building of a line from Las Frontier, on its Chaudiere Division, to St. Pamphile, Montmagny County, Que., 25 miles.

**St. John & Quebec Ry.**—We are officially advised that track has been laid on the extension of this line from Gagetown to the C.P.R. at Westfield, N.B., between Westfield and Queenstown, 30 miles. Ballasting has not been started. The total length of the extension is 37.8 miles, of which 7.8 miles is yet to be completed. The Nova Scotia Construction Co., Halifax, N.S., is the general contractor, and C. O. Foss is Chief Engineer. The line is owned by the Province of New Brunswick. (Dec., 1918, pg. 541.)

**Toronto, Hamilton & Buffalo Ry.**—G. A. Mountain, Chief Engineer, Board of Railway Commissioners, met representatives of the G.T.R. and the city of Hamilton, Dec. 19, to discuss some of the T.H. & B. R. yard plans, and their relationship to the development plans outlined by the city. A press report states that an attempt will be made to come to an agreement early in the year, rather than that an order be made by the board directing the T.H. & B. Ry. to separate grades.

**Toronto Terminals Ry.**—J. R. Ambrose, Chief Engineer, is reported as having said recently that the new union station building in Toronto will be ready in the spring, and that, failing the elevation of tracks along the esplanade, as originally planned, temporary tracks will be laid on the present levels. Temporary wooden buildings will be required with access to the tracks from overhead bridges. (July, 1918, pg. 285.)



# Minimum Weight on Canned Goods in Carloads.

Sir Henry Drayton, Chief Commissioner, Board of Railway Commissioners, gave the following judgment Dec. 6:—

Complaints have been made as to the increase in the minimum weight applicable to canned goods, in carloads, moving at commodity rates. These complaints have been forwarded from points in New Brunswick, Nova Scotia, Prince Edward Island, and Ontario. The question has been taken up actively by this board with the Canadian Railway War Board, which in the first instance commenced the campaign for heavier loadings. Owing to car shortages and the great expense in railway operation, it was apparent to everybody that, to the full extent that minima could be increased, and a more intensified use made of the equipment available for public business, without at the same time throwing burdens upon the traffic carried, increases ought to be made; and these increases, speaking generally and apart from the question of flour, which was specifically dealt with by the board, were arrived at by conferences with interested shippers. No action whatever was taken by the board in connection with canned goods.

The Canadian Railway War Board, on Nov. 21, 1918, wrote: "We have had a thorough investigation made into the circumstances and are unable to find that proper grounds for this complaint exist. The communications which reached you from a few of the dealers in canned goods appear to have been inspired by the Dominion Canners, Ltd., which, for reasons of its own, seems to have undertaken a campaign to nullify the efforts which have been made by the railways and a large proportion of their patrons to increase the railway efficiency by reducing to the minimum the amount of wasted effort involved in hauling an unnecessarily high proportion of tare weight of equipment. Enclosed, for your information, is copy of a circular letter received here as having been addressed by the Dominion Canners, Ltd., to its customers. Further comment in connection with this communication appears to be unnecessary. Prior to the receipt of the enclosed communication, no complaint was registered, so far as we can ascertain, by any of the local dealers who subsequently wrote you. It is the consensus of opinion of those who are well acquainted with the canned goods business in the Maritime Provinces that in the vast majority of instances there is no difficulty in maintaining the 40,000 lb. minimum, and that the dealers, if permitted to do so by the larger shippers such as the Dominion Canners, Ltd., will readily adapt their handling arrangements to the 40,000 lb. minimum. It will be remembered that consignees, if they find it absolutely necessary to depart from the present commodity minimum, are permitted to ship 24,000 lb. at the regular 5th class rate. In the west the minimum on canned goods is 60,000 to 70,000 lb. and cars have been so loaded for many years. It will be remembered, also, that the minimum made effective by the U.S. Food Administration is 60,000 lb., and these regulations have been in effect in that country for some months."

The copy of the letter claimed to have been written by the Dominion Canners, Ltd., on June 20, 1918, and referred to in the Canadian Railway War Board's letter, is as follows: "We understand that the Canadian Railway War Board has asked

the Board of Railway Commissioners for authority to increase minimum weights on canned goods from 24,000 to 60,000 lb. We are advising you of this because we know this will have a serious effect on your business, as in many instances it is not possible for you to make up carloads of 60,000 lb., and the tendency will be to throw this business into the large centers and force the dealers in your districts to pay the excess freight between carload and less carload on their purchases. If this ruling will injuriously affect you at all, we suggest that, without using our name, you take this matter up with your member of the Dominion house; also send your protest to the Canada Food Board, as well as the Canadian Railway War Board."

The Dominion Canners, Ltd., is very largely interested in the question. The great bulk of the movement is originated by it, and it is naturally interested in obtaining as favorable transportation terms for its products as possible.

The letter of the Canadian Railway War Board and copy of the circular letter of June 20, 1918, were forwarded to the Dominion Canners, Ltd., for its answer and comments, and the board has received the following reply: "The understanding was that when these minimum weights were increased from 30,000 to 40,000 lb., that it was for a war measure only and for the duration of the war only. Furthermore, you have a letter from the Canadian Manufacturers Association regarding this same subject, having it fully understood that the increase was put into effect with the understanding between the railways and the shippers that same would expire at the end of the war. Under these circumstances we do not feel it necessary to enter into full details regarding this increased minimum, as we can stand the inconvenience and extra expense until peace is actually declared. At this time we expect that the minimum will be automatically reduced again to 30,000 lb. If, however, the railways do not intend to do this, then we wish to seriously object to continuation of 40,000 lb. as minimum for canned goods to points covered by commodity rates to Eastern Canada after peace has been declared."

Canned goods, of course, can be sent at the appropriate class rate in as small quantities as may be desired, and the minimum regulation applies merely to the lower commodity rate. The old minimum was 30,000 lb. The present minimum is 40,000 lb. The Canadian Railway War Board at one time endeavored to have the minimum raised to 60,000 lb., which would have resulted in loading to capacity of the older box cars and a loading to 75% capacity of the newer cars, which usually have a capacity of 80,000 lb., while others now go as high as 100,000 lb. The minimum of 60,000 lb. would have meant that 75% of the loading capacity of the car would have been utilized; the former minimum of 30,000 lb. meant the utilization of but 50% of the older type of car and 38% of the 80,000-lb. car equipment.

In view of the letter of the Dominion Canners, Ltd., which represent, as stated, the chief trade interest on the question, no action should be taken on the present application, but the matter will be left open for future consideration on any complaint which that company, or others interested, may desire to make subsequent to the declaration of peace.

# Change in General Train and Interlocking Rules.

The Board of Railway Commissioners have passed the following orders:—

General order 257. Dec. 6, 1918. Re application of Canadian Northern Ry. for an order to amend rule 33 of General Train and Interlocking Rules approved by order 7563, July 12, 1909. Upon reading what is filed in support of the application, urging the advantages of standardization for safe and efficient operation of railways; and upon the report and recommendation of the board's Chief Operating Officer, it is ordered that the said rule 33 be struck out and the following substituted therefor:—

"33. Watchmen stationed at public road crossings must, by day, display a standard metal disc, and, by night, a green light, to warn pedestrians and persons in vehicles that a train is approaching. Red signals must be used by them only when necessary to stop trains."

General order 258. Nov. 25, 1918. Re rule 26 of the General Train and Interlocking Rules approved by order 7563, July 12, 1909, providing that a blue flag by day and a blue light at night, be displayed at one or both ends of an engine, car, or train for the protection of workmen engaged in, under, or around cars on regular repair tracks; and re the question of requiring additional protection of workmen so engaged as contemplated by circular 150, Jan. 29, 1917, and supplement 1 thereto, Nov. 2, 1917, as well as supplement 2, Mar. 17, 1913, to circular 98, copies of said circular and supplements having been served upon the railway companies with the request that they show cause why the recommendations embodied in such circular and supplements should not be adopted and put in practice on their respective railways. Upon reading the answers filed on behalf of the companies, the reports of the board's inspectors, and the recommendation of its Chief Operating Officer, it is ordered as follows:—

1. That all railway companies within the legislative authority of the Parliament of Canada, operating by steam, are hereby directed to display the blue flag by day and the blue light by night, required by rule 26 of General Train and Interlocking Rules, at a height of 5 ft. above rail level, on a steel frame secured to the rail; the day signal (flag) to be 22 x 28 in. in size, set at right angles to the track, and located between the switch and the first engine, car, or train occupying the track.

2. That all switches leading to regular repair tracks of every such railway company, be locked with special locks, and keys carried by the foreman in charge of the repair work, or other responsible party, whose duty it shall be to see that employes and workmen, so engaged, are warned, and are clear from cars or engines before any switching movement is made on such track; and also that the switches are relocked after the switching movement is completed.

**Railway Lands Patented.**—Letters patent were issued during Nov., 1918, for Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Calgary & Edmonton Ry.....	29,735.40
Canadian Northern Ry.....	875.82
Edmonton, Dunvegan & British Columbia Ry. ....	200.03
Qu'Appelle, Long Lake & Saskatchewan Rd. and Steamboat Co.....	12,652.00
<b>Total .....</b>	<b>43,463.25</b>

## Canadian Government Railway Construction, Betterments, Etc.

A stores building being erected at Campbellton, N.B., consists of one story, 80 ft. 10 in. long, by 31 ft. wide, with an average height of 12½ ft., on a concrete basement. The basement is divided in two, one section, 35 ft. 5 in. x 29 ft., being for oil tanks, and the second, 46½ ft. x 29 ft., for miscellaneous stores. The basement has a clear inside height of 7 ft. On the west side of the building is a platform, 47 x 30 ft., at car floor height, for storing heavy castings, etc., and along the front of the building is a trucking platform 8 ft. wide at car floor height. The main building and platforms are of wood, semi-mill construction; the basement walls and floor are of concrete. A lavatory and rest room is provided in the main building for employees. Access to the stores basement is by a ramp at the east end of the building, and the oil basement is provided with a hatchway of sufficient size to allow oil tanks to be lowered through. The heavy castings platform is provided with bins 4 x 5 ft. for storing the castings. These bins are made in double rows of 6 bins, with a 5 ft. trucking space between each row. The bins are roofed over with a light roofing to protect the contents from the weather. As the contents will consist mainly of rough castings, it will only be necessary to protect them from heavy snowfalls.

The oil storage system consists of the following tanks and pumps:—two 1,000 gall. tanks for locomotive oil; 1,000 gall. tank for cleaning oil; 482 gall. tank for valve oil; 482 gall. tank for superheater oil; 482 gall. tank for passenger car oil; 482 gall. tank for mineral seal oil; 482 gall. tank for l.t. burner oil; 482 gall. tank for freight car oil; 100 gall. tank for gasoline. The tanks are equipped with storage indicators, which will show at a glance the quantities of oil on hand. The gasoline tank will have a graduated dip stick to show the quantity on hand at any time. In front of each pump is a fill box, by which it will be possible to fill each tank from barrels. The 1,000 gall. tanks are also provided with car fills, so that each tank may be filled directly from tank cars if required.

Ten standard gallon pumps are provided, complete with meters, which will tally the number of gallons passing through, from 1 to 10,000, and then repeat, which makes it possible to keep a constant check on the quantity of oil issued. The pumps are also provided with locks, quick acting nozzles, and discharge registers. The pumps are all placed in one section of the stores building and railed off with tube railing. For cleanliness and safety, the walls and floors in the pump section are tiled, so that the floor can be kept free of oil drippings, which, with wood or plain concrete flooring, would soak in and increase the fire hazard.

The contractor for the building is A. Landry, St. Octave, Que.

**St. John, N.B., Wharves, Etc.**—Commissioner Bullock was reported to have received recently from the C.G.R. engineering department, a proposition in regard to replacing the tracks on the repaired sections of McLeod and Pettingill wharves. The work on the wharves was reported to be 75% completed.

**Campbellton Freight Offices.**—A press report states that the house at Campbellton, N.B., at one time occupied by the late Evan Price, a former Superintendent, will

be removed to a site adjoining the freight sheds, and be converted into offices for the freight staff. (Nov., pg. 493.)

**Cut-off Near Campbellton, N.B.**—We are officially advised that there is under construction a cut-off, extending from mileage 4.7, on the Campbellton Subdivision, to mileage 7.4 on the St. Leonard Subdivision, 2.7 miles. This piece of line will enable traffic to be carried on between the Intercolonial Ry. and the International Ry. of New Brunswick more efficiently, and will render it possible to remove the tracks of about seven miles of the latter line. The contractor is R. B. Stewart, Tide Head, N.B. When the contract was let in Sept., 1918, it was expected to have the work finished by Dec. 31, but we are advised that track has not yet been laid.

**Prince Edward Island Ry.**—A steamship with a cargo of steel rails for widening the gauge on the P.E.I.R. went ashore in New York harbor at the end of November, which is expected to result in delaying the work considerably.

## Obscuring Headlights on Locomotives Backing at Night.

In the uniform code of train rules the diagram depicting the signal indications under rules 19 and 19D shows the headlight burning when locomotive is backing up at night. In order that confusion may be avoided, and uniform practice obtain, it has been decided, after consultation between the Board of Railway Commissioners for Canada and the Canadian Railway War Board, that that portion of the explanatory notes referring to rules 19 and 19D, relative to the above mentioned diagram, shall be amended by adding thereto the sentence "Headlights must be obscured," thus making the amended notes to read, respectively, as follows:—

"Engine running backward by night as an extra train, without cars, or at the rear of the train pushing cars.

"White flags at AA and white lights at BB (see rule 21).

"Lights at CC as markers, showing green at side, and in direction engine is moving, and red in opposite direction (see rule 19).

"Headlights must be obscured.

"Engine running backward by night without cars, or at rear of train pushing cars, and displaying signals for a following section.

"Green flags at AA and green lights at BB (see rule 20).

"Lights at CC as markers, showing green at side and in direction engine is moving, and red in opposite direction (see rule 19).

"Headlights must be obscured."

The foregoing will continue in effect until such time as a revision of the diagram is made, or the present rule book is reprinted.

**Coal Lands for C.P.R.**—Pittsburg, Pa., press dispatch, Dec. 24.—Canadian Pacific Ry. officials are said to have been given an option on the J. V. Thompson coal lands. The reported price is \$8,000,000, and if the deal goes through there will be a payment of 42c on the dollar for the unsecured creditors. This is the land which the J. J. Hill interests originally optioned.

**C.P.R. Station Gardens.**—The first prize in the war garden competition for 1918, on the C.P.R. Western Lines, was awarded to the Regina Division, with 202 gardens; the Portage Division coming second with 111 gardens. It is reported that a total of 284 acres was brought under cultivation in the 15 divisions of the Western Lines during the year.

## Freight and Passenger Traffic Notes.

The C.P.R. is carrying on a special advertising campaign in Manitoba, Saskatchewan and Alberta, to promote winter traffic to the Pacific coast.

The C.P.R. has placed in operation additional mixed trains, running three days weeks between Lethbridge and Cardston, and between Lethbridge and Coutts, Alta.

Travel restrictions on railways imposed by the Alberta Board of Health, in connection with the influenza epidemic, were practically all raised Dec. 5, and the railways restored the former train services where there had been reductions.

It was announced in Washington, D.C., Dec. 11, that no further restrictions on the private use of railways would be instituted, and that the U.S. Railroad Administration would give the public the best service of which the railways were capable.

The daily, except Sunday, trains, nos. 601 and 602, heretofore operated between Toronto and Tweed, were cut off between Havelock and Tweed, Dec. 1. The train from Toronto to Havelock, with the corresponding Havelock-Toronto trains; are being continued.

The C.P.R. trains on the Waldo Subdivision are being operated Mondays and Fridays, instead of Mondays and Thursdays as heretofore. These trains operate from Caithness, through Waldo to the end of track, 10.8 miles, in the Crowsnest Pass district.

The Winnipeg City Council's works committee is reported to have recommended the council not to extend the hours during which railways may switch across public streets, a privilege desired principally by the Midland Ry. of Manitoba (Great Northern Ry., U.S.).

The C.P.R. train 31, operated between Brownville Jct., Me., and Sherbrooke, Que., and the corresponding train from Sherbrooke to Brownville Jct., daily except Sundays, have been discontinued between Sherbrooke and Megantic, but are being continued between Megantic and Brownville Jct.

Director General McAdoo, of the United States Railroad Administration, is reported to have stated in Washington, D.C., Dec. 10, that steps were being taken to restore a normal passenger service on U.S. railways, and that a first step would be taken within a few weeks to add a number of trains to existing schedules.

J. A. Everell, Superintendent Montmorency Division, Quebec Ry., Light & Power Co., is reported to have said that the company was preparing for an extensive advertising programme in Canada and the United States for tourist business during next summer, and that the timetable for the summer would provide for the more frequent running of trains, both steam and electric, than in previous years.

**Railway Supplies Wanted in France.**—Sir John Willison, President Canadian Reconstruction Association, stated recently that among the tremendous quantities of materials required for the French State railways are: wheels for locomotives, freight and passenger cars, straight and bent axles, iron fittings, spare parts for freight and passenger cars, cast iron and cast steel lubricating boxes, locomotive steam cylinders, rails, bars, spikes, cut and wire nails.

## Mainly About Railway People Throughout Canada.

**Andrew Aitken**, who resumed his duties recently as Assistant Superintendent, Toronto Terminals, C.P.R., was born at Decewsville, Ont., Oct. 12, 1872, and entered railway service in July, 1890, since when he has been, to July, 1896, freight checker, baggage master, switch tender, and draw bridge tender, G.T.R., Merriton, Ont.; July, 1896, to Aug., 1897, brakeman, G.T.R., Niagara Falls, Ont.; Jan. to Mar. 8, 1898, yard helper, yard foreman and yardmaster, C.P.R., Vancouver, B.C.; Mar. 8, 1898, to Nov. 13, 1912, General Yardmaster, C.P.R., Vancouver, B.C.; July 22, 1913, to July 1, 1914, Yardmaster, C.P.R., North Toronto, Ont.; July 1, 1914, to May 1, 1917, General Yardmaster, C.P.R., Toronto; May 1 to Oct. 15, 1917, Traffic Manager, during construction of aviation camps at Armour Heights at Leaside, Toronto; Oct. 15 to Nov. 29, 1917, General Yardmaster, C.P.R., Toronto; Nov. 29, to Dec. 13, 1917, Assistant Superintendent, Toronto Terminals, C.P.R.; Dec. 13, 1917, to Nov., 1918, Traffic Manager for Reconstruction Committee formed to handle matters at Halifax, N.S., following the disastrous explosion in the harbor in Dec., 1917.

**Walter U. Appleton**, who has been appointed Mechanical Superintendent, Eastern Lines, Canadian National Rys., Moncton, N.B., was born there, Jan. 29, 1878, and entered railway service, Oct. 12, 1890, since when he has been, to Sept., 1895, junior clerk, Intercolonial Ry., Moncton, N.B.; Sept., 1895, to May, 1899, machinist apprentice, same road; 1900, clerk; 1901 to 1903, machinist; 1903 to 1909, chief clerk to Superintendent of Motive Power; 1909 to 1913, Assistant to Superintendent of Motive Power; 1913 to Feb., 1918, General Master Mechanic; Feb. to Dec., 1918, Superintendent of Motive Power, Canadian Government Rys., all at Moncton.

**J. T. Arundel**, who retired recently as General Superintendent, Ontario District, C.P.R., was entertained to dinner at Toronto, by a number of his former colleagues, and presented with a five piece silver tea service, from the Ontario District officials.

**James Bain**, who has been appointed Superintendent, Halifax & Southwestern Ry. (Canadian National Rys.), Bridgewater, N.S., was born at Pictou, N.S., May 24, 1860, and entered transportation service in May, 1875, since when he has been, to Mar., 1876, in operator and dispatcher's office, Intercolonial Ry., Truro, N.S.; Mar., 1876, to June, 1879, operator and ticket agent, I.R.C., Stellarton, N.S.; June, 1879, to Nov., 1881, in operator and dispatcher's office, I.R.C., Truro, N.S.; Nov., 1881, to June, 1882, chief operator, Western Union staff, Direct U.S. Cable Co., Tor Bay, N.S.; June, 1882, to Apr., 1886, dispatcher, I.R.C., New Glasgow and Truro, N.S., and Moncton, N.B.; Apr. to Oct., 1886, dispatcher, Missouri Pacific Ry., St. Louis, Mo.; Oct., 1886, to May, 1892, chief dispatcher, Quebec & Lake St. John Ry., Quebec, Que.; May, 1892, to Nov., 1899, Manager's Assistant, same road, Quebec, Que.; Nov., 1899, to Dec., 1907, Superintendent, Q. & L. St. J. R., Lower Laurentian Ry., and construction of Great Northern Ry. of Canada, Quebec, Que.; Dec., 1907, to May, 1913, Superintendent, Halifax & Southwestern Ry., Bridgewater, N.S.; May, 1913, to Nov., 1918, General Superintendent, same road, Bridgewater, N.S.

**Major F. L. C. Bond**, who has been ap-

pointed Chief Engineer, G.T.R., Montreal, was born there in 1877, and educated at Montreal High School, Collegiate Institute and McGill University, graduating



**W. U. Appleton**,  
Mechanical Superintendent, Eastern Lines,  
Canadian National Railways.



**H. E. Bissell**,  
Land and Tax Agent, Grand Trunk Pacific Ry.

in 1898, when he entered G.T.R. service, since when he has been, to 1901, Assistant Resident Engineer, Eastern Division; 1901 to 1902, engineer in charge of double track construction; 1902, night superin-

tendent on construction of the Park Ave. tunnel, New York; 1902 to 1913, Resident Engineer, Eastern Division, G.T.R.; 1913 to 1916, when he went overseas, Division Engineer, G.T.R., Montreal.

**Lafayette S. Brown**, who has been appointed General Superintendent, Maritime Division, Canadian National Rys., including Canadian Government Rys. east of Mont Joli, Que., and the Halifax and South Western Ry., at Moncton, N.B., was born at Nelson, N.B., Oct. 19, 1864, and entered I.R.C. service, Jan. 15, 1880, since when he has been, to Dec. 20, 1881, cleaning locomotives, and machinist helper, Newcastle, N.B.; Dec. 20, 1881, to Sept. 5, 1882, shunting in Newcastle yard and learning telegraphy; Sept. 5, 1882, to Nov. 25, 1883, assistant agent, Newcastle, N.B.; Nov. 26, 1883, to Oct. 4, 1898, train dispatcher, Moncton and Ste. Flavie District, Campbellton, N.B.; Oct. 4, 1898, to April 30, 1912, Chief Dispatcher, New Glasgow, N.S.; May 1, 1912, to July 31, 1913, Assistant Superintendent, Moncton and Ste. Flavie and Fredericton to Loggieville, N.B., Newcastle, N.B.; Aug. 1, 1913, to June 1, 1917, Superintendent, Truro, Sydney and Oxford District, Intercolonial Ry., latterly known as District 4, Intercolonial Division, Canadian Government Rys., New Glasgow, N.S.; June 1 to Sept. 17, 1917, Assistant General Superintendent, Eastern Lines, Canadian Government Rys., Moncton, N.B.; Sept. 17, 1917, to Dec., 1918, General Superintendent, Eastern Lines, Canadian Government Rys., Moncton, N.B.

**Capt. A. E. Doucet**, civil and consulting engineer, Quebec, and formerly District Engineer, National Transcontinental Ry., has been elected President of the Quebec Garrison Club.

**John Patrick Driscoll**, who has been appointed General Superintendent of Car Service, Canadian National Railways, Toronto, was born at Montreal, Apr. 4, 1866, and entered railway service in June, 1879, since when he has been, to July, 1883, clerk, G.T.R., Montreal; July, 1883, to 1888, chief clerk to Car Accountant, C.P.R., Montreal; 1888 to 1894, chief clerk to Superintendent of Car Service, C.P.R., Montreal; 1894 to 1903, Car Accountant, C.P.R., Montreal; 1903 to Nov., 1918, Superintendent of Car Service, Canadian Northern Ry., Winnipeg.

**Albert H. Eager**, who has been appointed Mechanical Superintendent, Western Lines, Canadian National Rys., Winnipeg, was born at Waterloo, Que., July 15, 1868, and entered railway service, June 1, 1885, since when he has been, to June 1, 1893, machinist apprentice, Southeastern Ry. and C.P.R., Farnham, Que.; June 1, 1893, to Aug. 10, 1899, machinist, C.P.R., Farnham, Que.; Aug. 10, 1899, to Nov. 1, 1901, Locomotive Foreman, C.P.R., Farnham, Que.; Nov. 1, 1901, to Mar. 1, 1903, Locomotive Foreman, C.P.R., Megantic, Que.; Mar. 1, 1903, to May 1, 1906, General Foreman, C.P.R., Cranbrook, B.C.; May 1, 1906, to June 1, 1907, General Foreman, C.P.R., Calgary, Alta.; June 1, 1907, to Nov. 1, 1908, District Master Mechanic, C.P.R., Kenora, Ont.; Nov. 1, 1908, to May 1, 1910, Locomotive Foreman, C.P.R., Calgary, Alta.; May 1, 1910, to Aug. 1, 1915, Superintendent of Shops, Canadian Northern Ry., Winnipeg; Aug. 1, 1915, to Dec., 1918, Assistant Superintendent of Rolling Stock, Western Lines, Canadian Northern Ry., Winnipeg.

**Anthony C. Egan**, who has been ap-

pointed Auditor of Agencies, Canadian Northern Ry., Toronto, was born at Winnipeg, Oct. 6, 1883, and entered railway service in 1901, since when he has been, to 1904, accountant, C.P.R., Winnipeg; 1904 to 1909, in accounting department, Canadian Northern Ry., Winnipeg; 1909 to 1911, Chief Travelling Auditor, same road, Winnipeg; 1911 to 1918, Auditor of Agencies, Western Lines, same road, Winnipeg.

**J. L. Englehart**, Chairman, Temiskaming & Northern Ontario Ry. Commission, Toronto, advertises having lost a certificate for 54 shares of C.P.R. stock.

**Harry Gray Foreman**, who has been appointed Assistant Treasurer, Canadian Northern Ry. System, Toronto, was born there, Sept. 2, 1882, and entered railway service Sept. 15, 1898, since when he has been, to June 15, 1902, clerk, General Auditor's office, Lake Erie & Detroit River Ry., Walkerville, Ont.; June 15, 1902, to Feb. 15, 1903, clerk, Accountant's office, Engineering Department, Pere Marquette Rd., Detroit, Mich.; Feb. 15, 1903, to June 15, 1909, clerk, Accounting Department, Canadian Northern Ry., Toronto; June 15, 1909, to Nov., 1916, chief clerk, Accounting Department, Canadian Northern Ry., Toronto; Nov., 1916, to Dec. 31, 1918, Chief Accountant, Canadian Northern Ry., Toronto.

**C. E. Friend**, who has been appointed Comptroller, Canadian Northern Ry., Toronto, was born at Brighton, Eng., Oct. 12, 1871, and entered railway service in Jan., 1894, since when he has been, to Oct., 1896, secretary to Traffic Manager, C.P.R., Winnipeg; Oct., 1896, to June 1, 1901, Assistant to Superintendent, Canadian Northern Ry., Winnipeg; June 1, 1901, to July, 1910, Auditor, same road, Winnipeg; July, 1910, to Dec. 1, 1918, General Auditor, same road, Winnipeg.

**Gerard G. Ruel**, who has been appointed Counsel, Canadian National Rys., Toronto, was born at St. John, N.B., July 5, 1866, and studied law there, subsequently graduating in law at Harvard University, Cambridge, Mass., in 1889. He practised in St. John for a number of years, and was for some time a partner in the law firm of Blair, Ruel & Blair. From July, 1899, to Oct. 1, 1905, he was Law Clerk of the Railways and Canals Department, Ottawa; from Oct. 1, 1903, to 1909, Assistant Solicitor, and from 1909, Chief Solicitor, Canadian Northern Ry., Toronto.

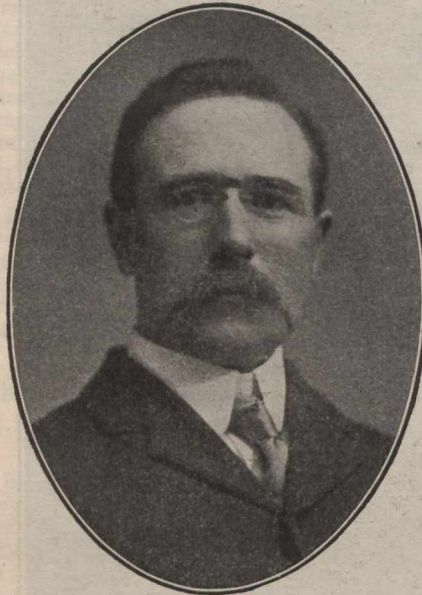
**Grant Hall**, Vice President, C.P.R., and Mrs. and Miss Hall, who have been living at the Ritz-Carlton since arriving at Montreal, have taken up their residence at 1 Macgregor St.

**Grant Hall**, Vice President, C.P.R., has been nominated to act as one of the representatives of the Citizens' Protective Committee on the board of arbitration to settle wages disputes of civic employes at Montreal.

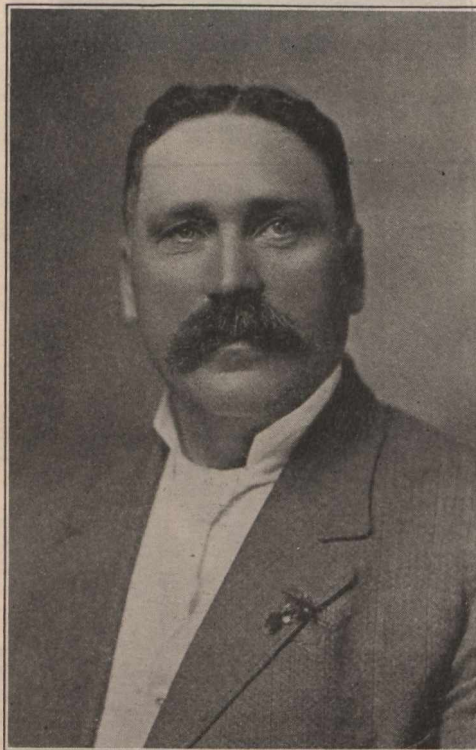
**William Harrison**, Manager of the refreshment rooms at the Toronto Union Station, for the Canada Railway News Co., died at Toronto, Dec. 15. He had been in the company's service for 28 years, and prior to coming to Toronto, in 1915, was in a similar position at Kingston, Ont.

**Arthur J. Hills**, who has been appointed Assistant to President, Canadian National Railways, Toronto, with the duties defined in Canadian Railway and Marine World for Dec., 1918, pg. 553, was born at Toronto, Feb. 15, 1879, and educated at Ridley College, St. Catharines, Ont., Upper Canada College, Toronto, and the University of Toronto. He entered railway service in Apr., 1899, since when he

has been, to June, 1901, Stores and Material Agent, Construction Department, Canadian Northern Ry., in Manitoba; June, 1901, to Dec., 1903, clerk in General Superintendent's office, same road, Winnipeg; Dec., 1903, to Jan., 1908, in Third Vice President's office, same road, Toronto; Jan., 1908, to July, 1914, Superintendent, Canadian Northern Ontario Ry., To-



**J. Bain**,  
Superintendent, Halifax & Southwestern Railway.



**L. S. Brown**,  
General Superintendent, Maritime Division,  
Canadian National Railways.

ronto; July, 1914, to Aug., 1916, General Superintendent, Eastern Lines, Canadian Northern Ry., Toronto; Aug., 1916, to Feb., 1917, in Third Vice President's office, same road, Toronto; Feb. 10, 1917, to Dec., 1918, Assistant to the Executive, same road, Toronto.

**J. M. Horn**, who has been appointed General Freight Agent, Canadian National Rys., Winnipeg, was born at Allanton Mills, Lanarkshire, Scotland, Apr. 12,

1880, and entered railway service in July, 1890, since when he has been, to 1900, abstract clerk and biller; 1900 to 1901, checker, local freight office, Northern Pacific Ry., Winnipeg; May, 1901, to 1902, rate clerk, local freight office, Canadian Northern Ry., Winnipeg; 1902 to Apr., 1904, chief clerk to Local Freight Agent, same road, Winnipeg; Apr., 1904, to May, 1909, City Freight Agent, same road, Winnipeg; May, 1909, to Mar., 1916, District Freight Agent, same road, Edmonton, Alta.; Mar., 1916, to Dec. 31, 1918, Assistant General Freight Agent, Western Lines, same road, Winnipeg.

**Louis Lavoie**, who has been appointed Assistant General Purchasing Agent, Canadian National Railways, Toronto, was born at Rimouski, Que., June 22, 1879, and entered railway service Oct. 1, 1894, since when he has been, to Nov., 1901, clerk, General Manager's office, Intercolonial Ry., Moncton, N.B.; Nov., 1901, to Aug., 1902, stenographer to Manager's Assistant, same road, Moncton, N.B.; Aug., 1902, to Sept., 1904, secretary to General Superintendent, same road, Moncton, N.B.; Sept., 1904, to Nov., 1909, chief clerk to General Superintendent, same road, Moncton, N.B.; Nov. 1, 1909, to Mar., 1910, Purchasing Agent, Canadian Government Railways, Ottawa, Ont.; Mar., 1910, to Nov., 1918, Purchasing Agent, Canadian Government Railways, Railways and Canals Department, Ottawa, and from 1913, also Purchasing Agent for Hudson Bay Railway and the Port Nelson terminals.

**Lorne W. Mitchell**, who has resigned his position as Treasurer, Canadian Northern Ry. System, and allied companies, on being appointed Head Auditor, T. Eaton Co., Ltd., Toronto, was born at Port Elgin, Ont., Mar. 12, 1879, and entered railway service Jan. 1, 1900, since when he has been, to Jan., 1902, stenographer in Mackenzie, Mann & Co.'s office; Jan., 1902, to Jan., 1903, Assistant to Purchasing Agent (the late A. W. Mackenzie), Mackenzie, Mann & Co., and Inverness Coal & Ry. Co.; Jan., 1903, to June, 1907, Assistant to Treasurer, Canadian Northern Ry., and to Purchasing Agent, Eastern Lines, C.N.R.; June, 1907, on the death of A. W. Mackenzie, to July, 1910, acting Treasurer, C.N.R., and Purchasing Agent, Eastern Lines, C.N.R.; July, 1910, to Dec. 31, 1918, Treasurer, C.N.R., and allied transportation companies, all at Toronto. Mr. Mitchell was entertained to dinner at the Albany Club, Toronto, Dec. 30, by a number of Toronto C.N.R. officers and officials, including D. B. Hanna, Vice President, who occupied the chair; A. J. Mitchell, C. A. Hayes and M. H. MacLeod, Vice Presidents; R. P. Ormsby, Secretary; R. C. Vaughan, Assistant to President; S. J. Hungerford, Assistant Vice President; and R. H. Temple, A. J. Hills, D. Crombie, J. D. Morton, R. S. Gossett, H. G. Foreman, C. E. Friend, H. K. Wicksteed, R. L. Fairbairn, A. L. Graburn, W. H. Grant, F. J. Buller, H. G. Hanna, C. Price Green, T. J. McCabe, Eustace Smith, C. P. Young and Scott Griffin. Mr. Hanna, on behalf of himself and other officers and officials, presented Mr. Mitchell with a silver tea service and a gold watch. The several speakers expressed warm appreciation of Mr. Mitchell's business abilities and popularity, and while regretting his departure from the service, one of them said it was not a time for sadness, but rather for happiness and pleasure at Mr. Mitchell having made such a rapid advance in his career.

**Jules Edouard Morazain**, who has been appointed General Superintendent, Que-

bec District, Canadian National Rys., Quebec, Que., was born at Wheatland, Que., July 31, 1875, and entered railway service May 3, 1890, since when he has been, to May 21, 1890, freight clerk, C.P.R., Drummondville, Que.; Aug. 1, 1890, to Jan. 8, 1881, night operator, C.P.R., Foster, Que.; Jan. 9, 1891, to Aug. 12, 1891, day operator, C.P.R., Richford, Vt.; Aug. 12, 1891, to Aug. 15, 1892, at college at Sherbrooke, Que.; Aug. 15, to Sept. 26, 1892, night operator, C.P.R., Sutton, Que.; Sept. 26, 1892, to Feb. 9, 1894, night and day operator, C.P.R., Highlands, Que.; Feb. 9 to July 15, 1894, day operator, C.P.R., Richford, Vt.; July 15 to Oct. 12, 1894, relieving agent and operator at various points, C.P.R.; Oct. 12, 1894, to May 27, 1895, day operator, C.P.R., Highlands, Que.; May 27, 1895, to Sept. 24, 1901, agent, C.P.R., Highlands, Que.; Sept. 24, 1901, to Nov. 15, 1908, agent, C.P.R., Mile End, Que.; Nov. 15, 1908, to Feb. 1, 1913, General Agent, Operating Department, C.P.R., Quebec, Que.; Feb. 1 to Dec. 3, 1913, Assistant Superintendent, District 3, Eastern Division, C.P.R., Quebec, Que.; Dec. 3, 1913, to Feb. 7, 1914, Assistant Superintendent, District 2, Eastern Division, C.P.R., Montreal; Feb. 7 to Oct. 21, 1914, Assistant Superintendent, District 3, Eastern Division, C.P.R., Montreal; Oct. 22, 1914, to Feb. 10, 1915, acting Superintendent, District 1, Eastern Division, C.P.R., Farnham, Que.; Feb. 11, 1915, to Apr. 1, 1916, Assistant Superintendent, District 3, Eastern Division, C.P.R., Montreal; Apr. 1 to Nov., 1916, Superintendent, District 1, Transcontinental Division, Canadian Government Rys., Quebec, Que.; Nov., 1916, to Dec., 1918, Superintendent, District 1, Intercolonial Division, Canadian Government Rys., Levis, Que.

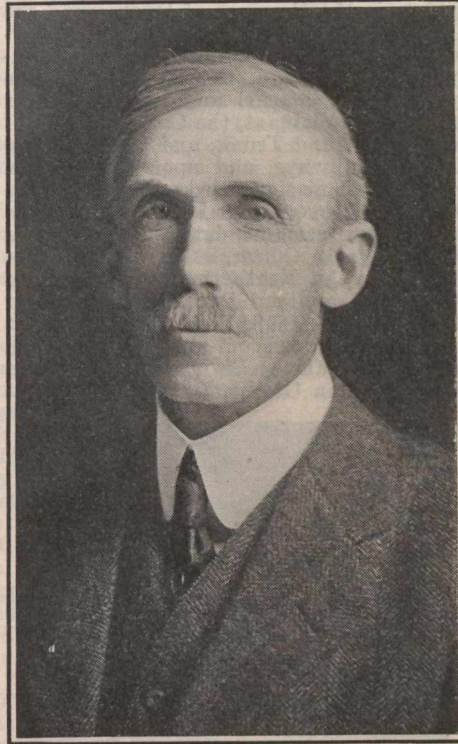
**G. N. Palmer**, who has been appointed Auditor of Disbursements, Canadian Government Rys., Moncton, N.B., was born at Hampstead, N.B., Feb. 22, 1873, and entered the Intercolonial Ry. service Sept. 28, 1898, since when he has been, to Feb. 1, 1907, clerk in Accounting Department; Feb. 1, 1907, to Oct. 16, 1918, Auditor of Disbursements, Moncton, N.B.

**F. H. Phippen**, K.C., who has retired as General Counsel, Canadian Northern Ry., Toronto, was born at Belleville, Ont., Aug. 26, 1862. He studied law with R. C. Clute, now one of the judges of the Exchequer Division of the High Court of Justice in Ontario, and subsequently in Blake, Lash & Cassel's and Barwick & Aylesworth's offices, Toronto. He was called to the Ontario bar Feb., 1885, passing first out of 60 candidates, and was called to the Manitoba bar in Aug., 1885, again passing first. He entered Macdonald, Tupper, McArthur & Dexter's firm in Winnipeg in May, 1885, and became a partner in Macdonald, Tupper & Phippen, which firm, with additions to its partnership, continued until he was appointed a judge of the Manitoba Court of Appeal in July, 1906, which position he resigned Apr. 12, 1909, on his appointment as General Counsel, Canadian Northern Ry., Toronto. He was formerly counsel for the Manitoba & Southwestern Ry. Co., and for the C.P.R. Land Department, and his practice was almost entirely devoted to corporation work. He is opening an office in Toronto and will practise there. He is one of the executors of Cawthra Mulock, of Toronto, who died in November, leaving a very large estate. He has been appointed a vice president of the National Iron Works, Ltd., Toronto, of which Mr. Mulock was President.

**Arthur Skidmore**, Chief Engineer of

Power House, G.T.R., Stratford, Ont., was on Dec. 19 fined \$500 and sentenced to 30 days imprisonment, for having in his possession several copies of a banned publication. He was released Dec. 31 and the fine remitted.

**George Edward Smart**, who has been appointed General Master Car Builder,



**D. A. Story**,  
Ex Freight Traffic Manager, Canadian Government Railways.



**R. Walton**,  
Master Mechanic, Farnham Division, Quebec District, Canadian Pacific Ry.

Canadian National Rys., Toronto, was born at Edinburgh, Scotland, Dec. 23, 1873, and entered railway service in 1892, since when he has been, to 1897, in various positions in car shops, G.T.R., Mont-

real; 1897 to 1904, Car Inspector, G.T.R., Montreal; 1904 to 1906, General Inspector of Heating and Lighting, Eastern Lines, C.P.R., Montreal; 1906 to 1909, General Car Inspector, Eastern Lines, C.P.R., Montreal; 1909 to Sept. 30, 1913, Division Car Foreman, in charge of passenger and freight car work, Eastern Lines, C.P.R., Montreal; Oct. 1, 1913, to Feb., 1918, Master Car Builder, Canadian Government Rys., Moncton, N.B.; Feb. to Dec., 1918, Superintendent of Car Department, Canadian Government Rys., Moncton, N.B.

**D. A. Story**, who has retired as Freight Traffic Manager, Canadian Government Rys., Moncton, N.B., was born at Halifax, N.S., Oct. 26, 1853, and entered railway service, May 26, 1869, since when he has been successively, clerk in audit department, telegraph auditor, train dispatcher, and secretary to Superintendent, Nova Scotia Ry., Halifax, N.S. After the taking over of the Nova Scotia Ry. by the government as a part of the Intercolonial Ry., he was clerk in the General Freight Agent's office, Moncton, N.B., and, later, freight agent and accountant, Halifax station, N.S.; from July 1, 1894, to Oct. 19, 1898, he was acting agent, Halifax, N.S.; Oct. 19, 1898, to Sept. 1, 1907, Division Freight Agent, Northern Division; Sept., 1907, to June 1, 1917, General Freight Agent, Intercolonial Ry.; June 1, 1917, to Dec. 31, 1918, Freight Traffic Manager, Canadian Government Rys., Moncton, N.B.

**H. C. Taylor**, who has been appointed Car Service Agent, Ontario District, C.P.R., Toronto, was born at Wingham, Ont., Nov. 5, 1887, and entered railway service in 1904, since when he has been, to 1906, operator, G.T.R.; 1906 to 1908, operator and agent, Timiskaming & Northern Ontario Ry.; 1908 to 1910, operator and agent, Lake Superior Division, C.P.R.; 1910 to Feb., 1917, dispatcher, Lake Superior Division, C.P.R.; Feb. to Apr., 1917, Chief Traffic Supervisor, C.P.R., Montreal; Apr., 1917, to Nov. 15, 1918, Chief Dispatcher, C.P.R., Smiths Falls, Ont.

**L. C. Thomson**, formerly General Storekeeper, Eastern Lines, Canadian Northern Ry., Toronto, who was loaned by the company to the Imperial Munitions Board, early in 1916, and who has since then been Superintendent of Transportation for the board at Ottawa, handling the transportation of all products ordered by the board, will probably return to his old position at Toronto in the near future, and it is likely that his former jurisdiction will be extended to cover all Canadian National Railways lines east of Port Arthur, Ont., and O'Brien, Que.

**Guy Tombs**, who has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Montreal, was born near Lachute, Que., Nov. 22, 1877, and entered railway service in Sept., 1892, since when he has been, to Apr., 1895, junior import clerk, C.P.R., Montreal; Apr., 1895, to Aug., 1897, secretary to General Manager and Secretary, United Counties Ry., St. Hyacinthe, Que.; Sept., 1897, to May, 1899, chief clerk to Canadian Agent, Central Vermont Ry., Montreal; June, 1899, to June, 1900, rate clerk, Division Freight Office, G.T.R., Montreal; June, 1900, to Apr., 1901, Travelling Freight Agent, Central Vermont Ry., St. Johns, Que., and St. Albans, Vt.; May, 1901, to May, 1903, General Freight and Passenger Agent, Great Northern Ry. of Canada, Quebec, Que.; May, 1903, to June, 1912, General Freight and Passenger Agent, Canadian Northern Quebec Ry.,

also from Apr. 1, 1908, same position, Quebec & Lake St. John Ry., and also from Apr., 1910, Montreal Representative, Canadian Northern Steamships, Ltd.; June, 1912, to Nov., 1916, General Freight Agent, Quebec Division, Canadian Northern Ry., Montreal; Nov., 1916, to Feb., 1917, General Freight Agent, Eastern Lines, Canadian Northern Ry., Montreal; Mar. 1, 1917, to Dec., 1918, Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal.

**J. E. Walsh**, who has been Manager, Transportation Department, Canadian Manufacturers Association, at Toronto, for 11 years, has been appointed General Manager of the association, succeeding **J. F. M. Murray**, who has been appointed as its Ottawa representative.

**A. T. Weldon**, who has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Moncton, N.B., was born at Dorchester, N.B., Mar. 6, 1876, and entered transportation service in 1890, since when he has been, to Apr., 1900, in different capacities in the Freight Department, Intercolonial Ry.; Dec., 1901, to Aug., 1904, in Division Freight Agent's office, I.R.C., Halifax, N.S.; Aug., 1904, to May 1, 1907, Secretary, Halifax Board of Trade; May 1 to Nov. 18, 1907, General Sales Agent, Port Hood-Richmond Ry. Coal Co., Halifax, N.S.; Nov. 18, 1907, to 1909, Division Freight Agent, I.R.C., Halifax, N.S.; 1909 to Oct. 1, 1914, General Freight and Passenger Agent, Black Diamond Steamship Co., Montreal; Oct. 1, 1914, to June 9, 1917, Assistant General Freight Agent, Canadian Government Rys., Moncton, N.B.; June 9, 1917, to Dec. 31, 1918, General Freight Agent, Canadian Government Rys., Moncton, N.B.

**E. R. Wood**, President, Dominion Securities Corporation, and one of the Canadian Northern Ry. directors, left Toronto early in December for a holiday in California, where he has a house.

### Traffic Orders by Board of Railway Commissioners.

#### Commodity Rates on Canned Goods.

The Chief Commissioner, Sir Henry Drayton, gave the following judgment Dec. 6:—This application was heard at Toronto, Oct. 17, 1918. It was represented by the Canadian Northern Ry. that these rates were cancelled by the Intercolonial Ry., and that the Canadian Northern, while perfectly willing to maintain rates, could not maintain them in view of the Intercolonial's attitude. At this time the Intercolonial was operated independently of the Canadian Northern, and the Intercolonial, as a government road, was not subject to the board's jurisdiction. The matter, however, was taken up by the board with the Intercolonial's management, with the view of adjusting the situation if possible. The Intercolonial's management has taken the stand that it did not cancel the rates or require their cancellation, but that they were cancelled by the Canadian Northern. It would appear that the real difficulty between the systems interested rests on divisions. The rates ought never to have been taken out. Whatever the merits may be as between the different systems, the matter is now entirely in the hands of the Canadian Northern management, which now controls and operates the Intercolonial. I am of the opinion that an order should go providing that the former joint rates, as increased by order in council P.C. 1863, should immediately

be put into effect by the Canadian Northern. The district suffering is entitled to the service, and the necessary order ought now to go.

Order 27914. Dec. 7. Re complaint of Dominion Cannery, Limited, against the cancellation by Canadian Northern Ry. of commodity rates on canned goods from points on its St. Catharines Division to points in the Province of Quebec and the Maritime Provinces on the Canadian Government Rys. Upon hearing the complaint at Toronto, Oct. 7, 1918, in the presence of counsel and representatives for the complainant, the Canadian Northern, the Grand Trunk, and the Canadian Pacific Railways, and upon reading the written submissions filed on behalf of the Canadian Government Rys., and upon the report and recommendation of the board's Chief Traffic Officer, it is ordered that the Canadian Northern Ry. be required to restore and put into effect, not later than Dec. 23, 1918, the commodity rates on canned goods from shipping points on its St. Catharines Division, to points on the Canadian Government Rys. in exist-



**John Gunion Rutherford, C.M.G.**  
Who has been appointed a member of the Board of Railway Commissioners for Canada.

ence prior to Aug. 12, 1918, as increased by order in council P.C. 1863.

#### Rate on Nails from Collingwood.

27923. Dec. 12. Re complaint of Imperial Steel & Wire Co., that the Grand Trunk and Canadian Pacific Railways unjustly discriminate against Collingwood, Ont., in favor of Toronto, Hamilton and other points, in their published rates on nail shipments to Vancouver wharf for export. Upon reading the complaint, the written submission filed on behalf of the respondent railways, and the report of the board's Chief Traffic Officer, it is declared that the rate and minimum weight lawfully applicable from Collingwood, Ont., to Vancouver wharf, B.C., by the all rail route of the Grand Trunk and Canadian Pacific Railways from Dec. 5, 1917, to Oct. 31, 1918, on carload shipments of nails, in boxes or kegs, when destined to the foreign ports enumerated in the tariff, was the rate shown in Special Joint Export Freight Tariff, G.T.R.,

C.R.C. no. E. 3677, as applicable from Toronto and Hamilton.

#### Rate on Cordwood from Algonquin Park.

27924. Re application of cities of Kitchener and Guelph, and the towns Waterloo and Barrie, and the Lands, Forests and Mines Department for the Ontario Government, for an order fixing flat rates per cord or per carload, instead of by weight, upon shipments of firewood from Algonquin Park to municipalities and public institutions at cost. Upon reading what is filed in support of the application, and on behalf of the G.T.R. and the report of the board's Chief Traffic Officer, and upon its appearing that the board is without jurisdiction to make the order applied for, it is ordered that the application be dismissed.

### Warnings of Switching in Cities, Towns and Villages.

The Board of Railway Commissioners passed general order 256, Nov. 20, as follows:—Re sec. 276 of the Railway Act, as amended by sec. 7 of chap. 37 of 7-8 George V, repealing subsec. 1 of sec. 276 of the said act, and substituting therefor the following:—

"Whenever in any city, town, or village, any train not headed by an engine is passing over or along a highway at rail level which is not adequately protected by gates or otherwise, the company shall station on that part of the train, which is then foremost, a person who shall warn persons standing on, or crossing, or about to cross, the track of such railway."

And re rule 102 of the General Train and Interlocking Rules, paragraphs 1 and 2 of which read as follows:—

"When cars are pushed by an engine (except when shifting and making up trains in yards where there are no public highway crossings at rail level), a flagman must take a conspicuous position on the front of the leading car.

"Whenever in any city, town, or village cars are passing over or along a highway at grade not headed by an engine moving forward in the ordinary manner, a man must take a conspicuous position on the foremost car, or tender, if that is in front, to warn persons on the highway."

Upon the report and recommendation of the board's Chief Operating Officer, it is ordered that paragraphs 1 and 2 of rule 102 of the General Train and Interlocking Rules be rescinded and the following substituted therefor:—

"1. When cars are pushed by an engine (except when shifting and making up trains in yards where there are no public highway crossings at rail level, or where there are public highway crossings at rail level adequately protected by gates, or otherwise), a flagman must take a conspicuous position on the front of the leading car.

"2. Whenever in any city, town, or village, cars not headed by an engine are passing over or along a highway which is not adequately protected by gates, or otherwise, at rail level, a man must take a conspicuous position on the foremost car to warn persons on the highway."

The Prince Edward Island Aerial Transportation Co. is being projected, with \$25,000 authorized capital and headquarters at Charlottetown, to operate an airplane service between Charlottetown, Summerside and Georgetown, P.E.I., Pictou, New Glasgow and Halifax, N.S., and Moncton, N.B., for the transportation of mails and express, and later on, passengers. A committee of five business men has been formed to take the matter in hand.

The Edmonton, Dunvegan & British Columbia Ry., with its subsidiary lines has brought about a considerable development of the fisheries on northern Alberta lakes. There are reported to be over 100 teams hauling fish from the different lakes to the shipping points at Lac la Biche, Enelda and Athabasca, on the railways. The shipments are principally to United States points.

# Electric Railway Department

## Increases in Electric Railway Freight and Passenger Rates.

**British Columbia Electric Ry.**—Burnaby municipality has decided to appeal against the Board of Railway Commissioners' decision raising the fares on the company's Burnaby Lake line, and notice of the appeal has been served on the company.

See also "The British Columbia Electric Ry.'s Victoria Franchise, Fares, etc.," on another page of this issue.

**Edmonton Municipal Ry.**—J. H. Moir, Superintendent, Edmonton Municipal Ry., presented the following report recently:—"As all the cars are one-man operated and giving excellent results, it gives me great pleasure to place the employes on record for services rendered in making this class of operation a success. We have a cleaner record than with the old system. The damage claims up to the present time in 1918 amount to \$916.82; in 1917 they were \$14,094.06.

"On the present schedule we are operating 620 car hours a day. The maximum wage per car hour for one man is 50c. This for 620 car hours totals \$310. The maximum wage per car hour for 2 men (45c an hour each) is 90c. This for 620 car hours totals \$558. The above figures show a saving of \$248 a day, or \$90,520 a year. Without a doubt, one-man operation is the only remedy at present, to keep the expenses at a minimum.

"By comparing 1917 with 1918, the revenue to the end of October shows a considerable improvement, and the expenses are somewhat lower, as follows:

	1917.	1918.
Expenditure .....	\$540,281.07	\$534,717.41
Revenue .....	427,995.96	396,162.76
Operating expenses.....	329,585.77	322,224.51
Deficit .....	144,118.31	106,721.36

"Deficits for five years to end of October:—

1914 .....	\$190,139.06
1915 .....	126,632.20
1916 .....	96,263.43
1917 .....	144,188.31
1918 .....	106,721.36

"The influenza epidemic cut into the revenue for October. The earnings dropped to \$35,691.60, making a loss of approximately \$6,000 for that month, and for November \$12,000. The deficit for the next two months will be approximately \$32,000, making a deficit for the 12 months of 1918 of \$138,000. The revenue for the same period will be approximately \$73,000, making the total revenue for the year \$499,966.05. I gave an estimate at the beginning of the year of a deficit of \$116,000, but without a doubt we will have a loss of about \$22,000 owing to the epidemic alone. Had it not been for this, my estimate would have been correct.

"The total operating expenses for the year will be approximately \$386,561.68, the total revenue \$499,496, and the surplus on operation \$112,934.32. The proportion of operating cost to revenue has as follows:—1915, 78%; 1916, 67%; 1917, 80%; 1918, 77%.

"During the first 10 months of 1918 we carried 8,453,224 passengers, an increase of 239,000 over the same period of 1917. In October there was a reduction of 83,302 over the previous month, owing to the closing of the churches, theatres, etc., and in November we anticipate a further decrease of approximately 200,000. Under the circumstances, it is doubtful if the total passengers for 1918

will reach the figures attained in 1917, viz., 10,086,213.

"For 1919 we expect much better results, as all cars operating will be of the one-man type, and the cost of material will probably be on the decline. We hope to have an increase in the passenger traffic, owing to the return of the soldiers who left this city to take part in the war. I have given next year's progress considerable thought, and have come to the conclusion that by very careful management and the co-operation of the city commissioners, it will be possible to make a record showing for this utility.

"I would certainly recommend that an adjustment be made in our fares as soon as possible. Every street railway from coast to coast is asking for an increased fare, in most cases to 6c or higher. The Boston Elevated Railway, representing \$125,000,000 capital, has been taken over by the state, and the stockholders guaranteed a fair dividend. The fare charged is 7c and should this not cover the cost of operation, the deficit is to be charged to the community. Similar conditions apply to the Bay State Railway, with 900 miles of track, and many more roads would no doubt be glad to operate under similar conditions.

"Assuming that in 1919 we carry 10,200,000 passengers, and the fares are adjusted as follows:—5 tickets for 25c, good only until 8.30 a.m.; 4 tickets for 25c, or 7c cash fare, available from 8.30 a.m. until 11 p.m.; 2 tickets for 10c cash fare after 11 p.m.; children's tickets, 10 for 25c. The average fare would be 6c, and the passenger receipts for the year, \$612,000. Adding \$12,000 for miscellaneous revenue, the total revenue would amount to \$624,000. As our total expenses would certainly be under this figure, the result would be a surplus."

**Fort William Municipal Ry.**—The Fort William, Ont., City Council has passed a bylaw authorizing the charging of increased fares on the municipal railway from Jan. 1, as follows:—Five cents cash, or 5 tickets for 25c; children from 5 to 12 years, 5c each, or 8 tickets for 25c; children under 5 years, free. Workmen's tickets are abolished. These fares to be in effect from 5.30 a.m. to midnight, and double fares to be charged from midnight to 5.30 a.m.

**Hamilton Radial Electric Ry.**—See under "Hamilton Radial Electric Ry. Ceases Operation Owing to Low Fares," on another page of this issue.

**The London & Port Stanley Ry.,** which is owned by the City of London, Ont., and operated by a commission, of which Sir Adam Beck is chairman, was heretofore authorized by the city to charge a 30c fare between London and Port Stanley and return on Wednesdays and Saturdays, from May 15 to Oct. 15, for both adults and children. The distance between the two places being 26 miles, or 52 miles for the round trip, this fare has always been considered to be too low, and it has tended to concentrate the traffic on two days of the week. We are officially advised that during the summer of 1918, out of 84,528 tickets sold at London for Port Stanley, 42,557 were sold on Wednesdays and Saturdays. This excess of traffic worked out in such a way that, in

addition to keeping a number of the company's own cars idle five days a week, provision had to be made to handle the extra traffic on the other two days of the week by renting from 6 to 12 steam railway cars. This was not considered a good arrangement, and the city council was asked to agree to the withdrawal of the 30c rate. The council consented and, on Dec. 17, authorized an amendment to the agreement, under which the Wednesday and Saturday fares will in future be 50c for adults and 25c for children, thus making the fare the same on all days of the week. This 50c fare for adults is still less than 1c a mile, and it is a question if that rate will pay.

**Moncton Tramways, Electricity & Gas Co.**—The New Brunswick Public Utilities Commission, on Nov. 27, made an interim order putting in operation a temporary schedule of rates, tolls and charges for natural gas, electric current and street railway fares, as set out in a schedule annexed to the company's application. Heretofore the company had a 5c cash fare and sold tickets, good at all hours, 6 for 25c, and workmen's tickets, good during limited hours, 8 for 25c. The order authorizes the company to charge a straight 5c fare and to abolish the workmen's tickets.

The order is based on an agreement between the company and the city council reached on Nov. 26, after a conference with E. B. Reesor, Vice President and General Manager. The matter had been under discussion for some time, the main difficulty in the way of a settlement having to do with the rates for gas. The new schedule is to remain in force for four months from the date of the order, unless a final decision of the board is given sooner. The board directed that R. Carter make an investigation and audit of the company's affairs and report to the board within three months, or sooner if practicable. He is a chartered accountant at Halifax, N.S.

**Moose Jaw Electric Ry.**—In a general statement on the civic affairs of Moose Jaw, Sask., by the mayor and city commissioner Mackie, the following reference is made to the Moose Jaw Electric Ry.'s affairs:—

"The company has been operating in the city since Sept., 1911, and by the agreement entered into between the city and the company, the company, at the expiry of five years after the signing of the agreement, to pay taxes on 50% of its real and personal property and a rental of \$250 a mile for each mile of unpaved streets over which the company's lines run, and \$500 a mile on paved streets. The company, through its superintendent, advised the city that the railway was being operated at a loss and as there was no immediate prospect of the railway paying, the company desired some measure of relief from the city in the way of increased fares and a rebate of taxes. On Sept. 7, the city commissioners reported to the council fully in connection with the company's financial position, and your commissioners cannot do better than quote the concluding paragraphs of this report, as it sets forth concisely their opinion as to the measure of relief which should be granted.

"The operating expenditures would be reduced by at least \$10,000 annually were the one-man system of operating street cars adopted, and the council should do everything in its power to secure legislation to have the one-man system made legal, not only as a means of conserving labor, which is admittedly scarce, but also because, with the small cars in operation here, there would be no trouble in its working. It would also enable the company to employ a better type of motormen and pay increased wages. Wages have risen enormously in the last six years and there is no logical reason why the street railway fares should not be raised as a result of this. Indeed there is now hardly a city in Canada where a street railway is in operation where the fares have not been increased or where the increases are not under consideration. The city should place a bylaw before the ratepayers for the purpose of increasing the fare to a straight 5c ticket, which would yield an increase of revenue of about \$12,000. If the above recommendations are carried out there is no reason why, if the council is so advised, the railway company should not, in the near future, carry out repairs to the 4th Avenue overhead bridge, but pending such repairs, it should be asked to extend the track along Coteau St. to 9th Ave. S.W. The city should also insist on a sum being set aside each year for depreciation, and no dividend paid until all legitimate charges are met. In connection with the street railway situation, the question of the safety of 4th Avenue overhead bridge also came up and the lumber is now on order to put this bridge in a safe and satisfactory condition."

The matter of the street railway's future was discussed in connection with the municipal elections. H. Bamford, one of the candidates for mayor, is reported to have said that the street railway had spent \$780,000 in the city and this was one of the concerns which had sunk their money and were looking for returns. He understood the company was losing from \$150 to \$200 a day. The city was lucky that the street railway was not publicly owned. Regina and Saskatoon had large deficits from their service and it was a good thing that Moose Jaw had not. He understood the council must do something to assist or the railway would have to close down. Even if the company was permitted to charge a 5c straight fare, was exempted from taxation, and was allowed to use the one-man car, this would not meet the case, and the question was, Does Moose Jaw want the street railway?

**Ottawa Electric Ry.**—Particulars of the company's application to the Board of Railway Commissioners for power to increase the fares charged on its Rockcliffe-Britannia line, were given in Canadian Railway and Marine World for Dec., 1918, pg. 556. The company desired the new tariff to come into force Nov. 15, but at the hearing on Nov. 18, the tariff was suspended, and after hearing part of the argument, the further hearing of the case was postponed to Dec. 2. On that date F. H. Chrysler, K.C., for the company, put in a statement showing for the line in question a car mileage of 69,801 miles; cost of operation, \$11,529.38; revenue, \$5,196.34; deficit, \$6,333.04 for the two months ended Oct. 15, 1918. The representatives of the municipalities were heard at length, and the commission reserved judgment.

**Sherbrooke Ry. & Power Co.**—Negotiations between the company and the city

council with respect to an increase of fares in Sherbrooke, Que., extending over several months, were brought to a termination Dec. 2, when the council passed the following resolution:—"That the city council prepare and submit to the ratepayers who are qualified on real estate a bylaw to amend the existing bylaw to the effect that the Sherbrooke Ry. and Power Co. be granted for five months the increased rates mentioned in its correspondence, and that the city council will within the next five months prepare a new contract on terms to be agreed upon between the city and the company."

The new fares agreed on between the company and the council are as follows:—Day, 6c cash, or 5 tickets for 25c; night, 15c cash. Limited tickets, good from 6 to 8 a.m. and from 4 to 7 p.m. on week-days, 6 for 25c. School children's tickets, good from 8 a.m. to 6 p.m. on week days, 7 for 25c.

The fares which have been in force for some time are: Day, 5c cash, or 6 tickets for 25c; night, 10c cash; workmen's tickets, good from 6 to 8 a.m., 12 noon to 1 p.m. and 6 to 7 p.m., 8 for 25c. School children's tickets, 10 for 25c.

The matter which caused the extension of the discussion of the matter over such a lengthened period was not so much the question of fares, as the improvement of the lines, etc. We are officially advised that negotiations with respect to details of the franchise have been going on in a more or less active form during the past seven years. On Nov. 1, the company notified the council that it would be necessary to have a new and workable franchise put into force, subject to revision by the Quebec Public Utilities Commission, every year if operations were to be continued. In the event of the council not being willing to grant a new franchise, the company offered to sell the lines at a price to be fixed by arbitration. The council allowed the matter to drift, the committee having the matter in charge, while admitting the necessity for increasing the fares, confining itself entirely to the matter of increased service and betterment of lines, in connection with which the company made a counter proposition. At a meeting of the council Nov. 18, this counter proposition was ignored, and a resolution was passed, without prejudice to an action pending against the company, and on condition that the company give guarantees that it will fix its track and roadbed in accordance with the terms of the contract of Oct. 3, 1910, within a month, and fulfil the other obligations of the contract when ordered to do so by the council, the council will pass and submit for the approval of the electors a bylaw granting increased fares on the scale mentioned above. The company's counter proposition was considered by the council Nov. 25, but was laid on the table. This proposition was to the effect that in consideration of the granting of increased fares, the company would, early next spring, lay a second track on Wellington St., from Strathcona Square to King St., and pay \$1,000 a year for the upkeep of the roadbed between the tracks, no responsibility to be assumed by the city as a result of any interruption of the service. No further progress was made and on the following day the council was notified that unless an arrangement was made the car service would be stopped on the night of Nov. 30. On Nov. 29, the city proposed that the company continue operations under the original contract for two months, during which interval a new arrangement could be made. This the company refused to accept, and issued a

statement to the public explaining its position. The service was stopped at midnight on Nov. 30, and on Dec. 2 the council passed the resolution above, with the result that the company resumed its service on the morning of Dec. 3.

**Winnipeg Electric Ry.**—As stated in Canadian Railway and Marine World for Dec., 1918, the Manitoba Public Utilities Commission is conducting an investigation into the company's affairs to ascertain at what figures the fares to be charged in future should be fixed. The investigation was opened Nov. 25, and subsequently it was claimed by the City Solicitor that the company was selling commercial light and power below cost and was forcing the deficit on its street car system. The city claimed that all parts of the company's undertaking should be investigated with a view to showing exactly how much money had been invested by the shareholders in each one of them.

**Winnipeg, Selkirk & Lake Winnipeg Ry.**—The Manitoba Public Utilities Commission began the hearing, on Dec. 2, of the company's application for power to charge increased fares. The company asks for permission to do away with family ticket books, and to increase the rates of both commutation tickets and ordinary fares by from 15 to 20%. In support of the application, E. Anderson, K.C., stated that the company was facing a deficit of \$25,048.15 a year, and that if the increases asked for were granted, the deficit would still be in the neighborhood of \$20,000 a year. The municipalities through which the company's lines pass challenged the commission's jurisdiction, holding that sec. 4, chap. 166, of the Public Utilities Act had never been extended by the municipalities in question to cover the operation of this utility. The representatives of the town of Selkirk and of one other municipality pointed out that the agreements with the company provided that there was not to be any increase of fares because of certain concessions made by the municipalities. The application was entertained by the commission and final judgment reserved.

**Electric Railway Snow Plough.**—The Hydro Electric Power Commission of Ontario is having a double end, double track snow plough built by Canadian Car & Foundry Co. It is of wood construction, equipped with arch bar trucks, with wheels 30 in. diam., and fitted with hand brakes. Following are the chief details:

Length over cutter plates.....	37 ft.	1½ in.
Truck centers .....	16 ft.	8 in.
Height from rail to top of plough at center .....	12 ft.	6½ in.
Height from top of rail to top of plough at ends.....	11 ft.	1½ in.
Height from rail to top of eave at center .....	12 ft.	3½ in.
Width at eaves.....	10 ft.	1½ in.
Truck wheel base.....	4 ft.	10 in.

**Cost of Service vs. Service at Cost.**—R. W. Perkins, President, Shore Line Electric Ry., Norwich, Conn., is reported as having said, in referring recently to the service at cost plan of electric railway operation, as authorized by the Massachusetts Legislature: "It is good so far as it goes, but it is just as important for the state to provide that the company gets the cost of service as that passengers get service at cost. The two expressions are not always synonymous."

**Tramway Working Hours in Great Britain.**—The National Transport Workers Federation has presented, to all the municipal and privately owned tramways, a demand for a working week of 44 hours, at the present weekly wages.



## Hamilton Radial Electric Railway Ceases Operation Owing to Low Fares.

As stated in Canadian Railway and Marine World for Nov., 1918, the Board of Railway Commissioners directed the Hamilton Radial Electric Ry. to operate the minimum of service required by the franchises granted by the municipalities, and on Oct. 17, without making an order, advised the municipalities and the company to get together with a view of amending the franchise bylaws in such a manner that the passenger tariff might be increased. The company accordingly restored the train schedule as directed, and several meetings were held by the municipalities, but E. P. Coleman, General Manager, is reported to have said that at a meeting held Nov. 23, the municipalities asked for two weeks to consider the company's request that the question of rates be left to the Board of Railway Commissioners, and that any bylaws fixing fares be rescinded. A meeting of residents of Burlington was held Nov. 29, representatives of the company being present, when a committee was appointed to meet the company and discuss the best method of effecting a settlement. In the discussion the mayor stated that the council had decided to stand on the bylaw, and General Manager Coleman stated that he had received instructions to discontinue the service. A conference with the committee was held Nov. 30, but nothing was arrived at, as subsequently notice was given by the company that the service would be discontinued on Dec. 7 at 2 a.m. At a special meeting of the Burlington Town Council Dec. 2, a committee was appointed to take such action as might be desirable in order to preserve the town's rights under the bylaw. On Dec. 5, the company's General Manager stated that in view of the negotiations in progress, the date of the discontinuance of the service had been changed to Dec. 13, and he gave the town solicitor a copy of the proposed schedule of fares, including ordinary fares, workmen's monthly tickets and family commutation monthly tickets; fares for school children to remain as before. Representations were made to the Board of Railway Commissioners, which issued the following order, no. 27916, on Dec. 10:—

Re complaint of Burlington Beach Commission, the Town of Burlington, the townships of Burlington and Nelson, and the City of Hamilton, against the reduction in train service by the Hamilton Radial Electric Ry. between Hamilton and Burlington, in violation of the terms of the agreement entered into between the Town of Burlington and the railway under authority of a bylaw passed by the town. Upon hearing the complaint at Toronto, Oct. 17, 1918, in the presence of counsel for the complainants and the railway, the evidence offered and what was alleged at the hearing; and upon reading the written submissions filed in support of the complaint and on behalf of the railway; and its appearing that the proposed reduced train service is in violation of the said agreement, it is ordered that the railway be directed to carry out and perform the terms of said agreement by putting into force and effect forthwith the following train service, namely: To leave Burlington 6 a.m., 8 a.m., 10 a.m., 1 p.m., 5 p.m., and 7 p.m. To leave Hamilton 7.10 a.m., 9.10 a.m., 11.10 a.m., 4.10 p.m., 6.10 p.m., and 11.10 p.m. That the service provided at the hours named shall be adequate and suitable to accommodate all traffic offered for carriage upon the

railway.

On Dec. 10, the Burlington Town Council considered a report from the committee appointed Dec. 2, in which it recommended the suspension of the bylaw for a year, during which period the rates prevailing on the steam railway should prevail on the H. R. Ry. This report was adopted.

The service was discontinued on Dec. 13, at 2 a.m., in accordance with the company's notice, and on the following day a protest was made to the Board of Railway Commissioners, and Sir Henry Drayton, Chief Commissioner, in a judgment, concurred by Commissioners McLean and Boyce, said:—"Since order 27916 was issued, requiring the Hamilton Radial Electric Ry. to carry out and perform the terms of its agreement with the municipality of Burlington by putting into force and effect forthwith the train service therein referred to, and since the board's reasons supporting this order were forwarded to the parties, telegrams have been received from the Burlington Beach Commission and the municipalities of Hamilton and Burlington to the effect that the company has ceased operating.

"At the time the municipalities' application was heard in Toronto, on Oct. 17, 1918, the position was made perfectly clear and understood by the municipalities. That position was that the H.R.E. Ry. had a large floating debt, was still losing money, and was living on advances made by the Dominion Power and Transmission Co., and that, unless the company's rates were increased as applied for, the company would be bound to stop operation.

"The hope was then expressed by the board that the municipalities would get together and either make some arrangement with the company for an advance in the rates, which, in view of municipal agreement, confirmed by Dominion statute, the board could not order, or that the municipalities would take over the property and operate it themselves. The company's representatives expressed themselves as willing that this should be done. At the hearing the municipalities were advised that, if they desired, notwithstanding the fact that the service was not a remunerative one and notwithstanding the fact that the company was financially embarrassed, as the company had entered into an agreement, the board would issue an order requiring the agreement to be carried out and the service required to be supplied under it given.

"Since the hearing, representatives of the municipality of Burlington, who are very largely interested, came to Ottawa and requested that a formal order, as indicated, should be issued. The telegrams received request the board to take action to enforce the order that has been made, and to require the company to continue its operations. In view, not only of what happened at the hearing, but also of the information that the Burlington representatives obtained at Ottawa, it might be thought that no further explanation was necessary. It apparently is.

"The board's action on the present case is only taken, and can only be taken, under the jurisdiction vested in it to enforce agreements. The board's order already issued defines the service that ought to be given under the agreement and directs that that service should be given. As explained to Burlington, a method in which the board's orders were

enforced is covered by sec. 46 of the Railway Act, under which any party interested may make the board's order a judgment of the Exchequer Court or of any superior court in any of the provinces, when the order becomes immediately enforceable as an order of any of these courts. In addition to this, the company may be proceeded against under the provisions of sec. 427, providing for the collection of penalties.

"The real difficulty is that in all probability, as already pointed out, owing to the financial position of the company and the fact that the operation of the railway is carried on at a loss, no relief will be obtained by the public who urgently require the continuation of the service. This conclusion has already been pointed out. In order to have the service it was necessary for the municipalities in whose hands, in this particular case, the matter of rates rests, instead of with the board, so as to adjust the rate that the losses which the company was suffering, and which they endeavored to be relieved of, would disappear or else that the municipalities get together, take over the system and operate it themselves. Unfortunately, this has not been done. There is nothing more that the board can do, and it regrets that its efforts to bring the parties together have been unsuccessful.

"As already pointed out, the board's action is taken under the agreement. The provision in the agreement dealing with default provides that if the company neglects to run electric cars on the railway for the accommodation of the public, as provided by the bylaw, etc., for three successive months, the company shall then forfeit all privileges and rights which it may have acquired."

In order to provide to some extent for the traffic, motor busses, promoted by the Hamilton City Council, are being run at certain hours from Hamilton to Burlington; another service, promoted by the Burlington Beach Commission, is being operated at certain hours between Hamilton and Burlington Canal, and on Dec. 17, the Hamilton City Council decided to appeal to the Board of Railway Commissioners for an order directing the Grand Trunk Ry. to provide a service. The G.T.R. gave a suburban service prior to the building of the H.R.E. Ry., and early in 1917 the city applied to the board to have this service reinaugurated, but without effect.

The Burlington Town Council wrote General Manager Coleman Dec. 18, calling attention to sec. 427 of the Railway Act, and stating that if the H.R.E. Ry. did not comply with the Board of Railway Commissioners' order, dated Dec. 10, the council would proceed under the section to recover penalties for every car not operated, and also to proceed against Mr. Coleman personally.

A Hamilton press dispatch of Dec. 29 says:—"After weeks of discussion and negotiation over the question of a service on the radial line between Hamilton and Burlington, the company, failing to get Burlington's consent to an increase in fares, or to leave the matter of service and fares in the hands of the Board of Railway Commissioners, has decided to place its affairs in the Exchequer Court and have the company declared insolvent. The following telegram was sent to Ottawa Oct. 28:—"Owing to insistence on operation of Hamilton Radial Electric Ry., we are obliged to declare that the

company is unable to meet its engagements with its creditors, and proceedings are being taken to place the company in the hands of the Exchequer Court forthwith."

### Accident Suit Against London Street Railway.

An action brought against the London St. Ry. by F. B. Jarvis, teamster, to recover \$2,000 damages for injuries alleged to have been sustained in an accident on the company's railway, was taken from the jury by Mr. Justice Rose, at the High Court sittings at London, Ont., Dec. 10, and a non-suit was entered.

The plaintiff was a passenger on one of the company's p.a.y.e. cars, on Nov. 29, 1917. As the car was approaching one of the regular stopping places at Ashland Ave., the conductor thoughtlessly opened the rear exit door, before the car came to a stop, and the plaintiff stepped off. The plaintiff was thrown sideways, severely bruising his left shoulder and straining the muscles of his back and neck, no bones being broken. He was laid up for several weeks, after which he claimed damages for lost time at \$10 a day, which he alleged was the rate he had been earning on contract work as a teamster, and contended that the company was liable for the exit door having been opened before the car came to a full stop. The company made liberal offers of settlement, but plaintiff would not accept any of them, and the action went to trial.

In directing the entry of a non-suit, the judge is reported to have held that the opening of the rear exit door on a car of the type in question was not an invitation to passengers to step off.

### The Toronto Railway Car Shortage Penalty.

The Toronto Ry.'s appeal against the penalty of \$24,000 imposed by the Ontario Railway and Municipal Board, for the company's non-compliance with the board's order to place 100 additional cars in service by Jan. 1, 1918, was dismissed by the First Appellate Court, Dec. 19, and the board's decision upheld. The amount of the penalty covers 24 days to, and including, Apr. 17, 1917, and, as the order has not been carried out, the company is apparently liable for \$1,000 a day for each day since Apr. 17, until the order is carried out.

The Chief Justice's judgment held that the appellant did not comply with the order of Feb. 27, 1917, is admitted, but it is contended that it, in good faith, made all possible efforts to comply with it, but was unable to comply, owing to the impossibility, because of the war and other conditions, of getting the cars built for it, or to obtain the steel and the labor necessary for the building of them if that work had been undertaken by the appellant itself.

The Chief Justice continued: "It was no doubt shown that these difficulties existed to some extent, and were sufficient to have rendered the putting in service of 100 cars by Jan. 1, 1918, difficult, but it is undoubted also that the appellant took no proper steps to obtain contracts for the supply of the cars to be delivered at the earliest date at which car builders would have been willing to have delivered them, and it is clear, I think, from the statement of the appellant's General Manager that if it had been practicable to have obtained the cars in time the

appellant would not have bought them because of the very large sum that it would be necessary to expend in the purchase of them. The position of matters today, as to the putting in service of the first 100 cars, is precisely the same as it was when the order of Feb. 27, 1917, was made, and, in my opinion, the appellant has not done all that it could and should have done to ensure the putting in service of these cars at the earliest possible moment."

The judgment points out that the proper course for the company to take was to apply to the board to rescind or vary the order. After dealing with the various arguments put forth by the company's counsel in regard to the validity of the order and the jurisdiction of the board, the Chief Justice concluded: "Applying this rule (referring to one as to the constitutional validity of a provincial enactment) we ought, in my opinion, to hold that in the Ontario Railway and Municipal Board Act, 1906, the legislature must be taken to have constituted a tribunal, the members of which should be appointed under its authority as provided by sec. 4 (2), rather than that the legislature created a superior court and usurped an authority which it did not possess, but which was vested in the Governor General."

It is reported that the company intends taking a further appeal to the Imperial Privy Council, on the question of the validity of the order.

### Electric Railway Finance, Meetings, Etc.

**British Columbia Electric Ry. and subsidiary companies.**

	Oct. 1918	Oct. 1917	4 months to Oct. 31, 1918	4 months to Oct. 31, 1917
Gross	\$580,354	\$491,964	\$2,114,137	\$1,842,476
Expenses	456,028	393,508	1,751,662	1,551,321
Net	124,326	98,456	362,475	291,155

**Calgary Municipal Ry.**—Total earnings for 10 months ended Oct. 31, \$542,770.57; expenditures, \$560,545.56; deficit, \$17,774.99. Commissioner Graves is reported to have stated that the traffic was light during October, owing to the influenza epidemic and the enforcement of the mask bylaw, and that similar conditions prevailed during the earlier part of November. The commissioners expected that the December traffic would enable the year to be closed with a deficit of about \$15,000.

**Edmonton Radial Ry.**—The report on the E. R. Ry. for the 9 months ended Sept. 30, issued by the city's public utilities department shows as follows:—

	1918.	1917.
Total revenue	\$392,304	\$357,830
Operating and maintenance charges	288,975	297,728
Net deficit after meeting capital charges	\$87,914	\$129,521

**Lethbridge Municipal Ry.**—The results of the operation of this municipal railway, as reported by the city commissioners, for 1917, as compared with 1916, were:—

	1917.	1916.
Earnings	\$50,150.09	\$47,812.55
Rentals	2,053.79	1,826.99
Gross revenue	\$52,203.88	\$49,639.54
Expenses	81,081.84	77,564.43
Deficit	\$28,877.96	\$27,924.89
Passengers carried	1,052,094	1,028,698
Car miles	262,812	280,391
Revenue per car mile	19.86c	17.70c
Total cost per car mile	30.85c	27.66c
Passengers per car mile	4	3.66
Average fare per passenger	4.76c	4.06c

**Niagara, St. Catharines & Toronto Ry.**—The ratepayers of Niagara Falls, Ont., are to vote Jan. 1 on the question of purchasing the company's subsidiary, the Niagara Falls, Wesley Park & Clifton Tramway Co., with all its real and personal property, on payment of the actual value to be determined by the Ontario Railway and Municipal Board.

The railway extends from Bridge St., Niagara Falls, Ont., to Montrose, in Stamford Tp., 4.56 miles. The franchise expires in March and April, 1920. We are officially advised that there have not yet been any negotiations with respect to the purchase with the company.

**Regina Municipal Ry.**—The city auditor's report for the 10 months ended Oct. 31, laid before the Regina, Sask., City Council recently, said:—"The street railway deficit at the end of the 10-month period was \$51,493.82, compared with an estimated deficit for the year of \$46,824.82. The big addition of over \$9,000 to the street railway deficit in the past month is principally attributed to the influenza epidemic which was responsible for heavily cutting into the traffic during the last two weeks of the month."

**Regina Municipal Ry.**—

Deficit for Nov., 1918	\$9,449.38
Deficit, 10 months to Oct. 31	51,493.82
Total deficit for 11 months	\$60,943.20

**Toronto Civic Railway.**

	Nov., 1918	Nov., 1917
Revenue	\$28,084.28	\$24,850.69
Passengers	1,701,445	1,481,471

**Toronto Ry.**—The company was, on Dec. 9, reported to have sold to New York bankers \$1,000,000 of 2-year 6% notes, to finance \$1,500,000 of notes which matured Dec. 1. It is said that the company has agreed to pay to the trustees \$43,500 in each month, beginning Jan. 1, for the retirement of the notes by purchase in the open market, at a price not exceeding par, and interest, making the total payments during the life of the notes sufficient to retire the entire amount. The company also agrees to pay as far as permitted, by law, all Canadian and U.S. taxes, including any normal U.S. income tax deductible at the source up to 4%. The balance of the money required to retire the old issue was appropriated from income.

**Toronto Ry., Toronto & York Radial Ry. and allied companies.**

	Oct. 1918	Oct. 1917	10 months to Oct. 31, 1918	10 months to Oct. 31, 1917
Gross	\$1,048,478	\$1,043,886	\$10,645,075	\$9,934,998
Expenses	557,908	599,073	5,759,861	5,331,378
Net	490,570	444,813	4,885,214	4,603,620

**Winnipeg Electric Ry., and subsidiary companies.**

	Oct. 1918	Oct. 1917	10 months to Oct. 31, 1918	10 months to Oct. 31, 1917
Gross	\$295,005	\$301,722	\$2,969,142	\$2,733,516
Expenses	261,441	209,761	2,289,891	2,071,428
Net	33,564	91,961	679,251	662,088

The deficit for October, after allowing for fixed charges, was \$23,235.39.

**Coal Saving by "Skip-Stop."**—Six months operation under the "skip-stop" system adopted by United States street railways as a coal conservation measure, shows a saving in coal, or its power equivalent, in 24 states of 687,122 tons, annually, according to the latest figures announced by the U.S. Fuel Administration. Reports from the other states are not yet available.

**Four jitney drivers were fined in Vancouver** recently for breaches of the bylaw stopping the operation of jitneys in the city on and since Sept. 13. Charges against ten other jitney owners were withdrawn, as they had ceased operating.

## The Death of James D. Fraser.

Jas. Dewar Fraser, Secretary-Treasurer, and one of the directors, of the Ottawa Electric Ry. Co., died with startling suddenness in Ottawa on Dec. 17. Although he had not been quite in his usual robust health for some months previously, he was at his office regularly, and even his closest associates had no apprehension about him. He left his office about 5 p.m., and went to the Rideau Club, where he dined, as he frequently did, and at about 9.30, while playing billiards, he fell suddenly to the floor. Two doctors, who were watching the game, rushed to him, but he was dead, the cause being given as apoplexy.

Mr. Fraser was born at St. Andrews, Que., Mar. 26, 1851. When 15 years old he started work as a clerk in the registry office at L'Original, at the same time learning telegraphy. He was employed subsequently by the W. C. Edwards Co., lumbermen, at Rockland and Thurso. From 1871 to 1882 he was accountant and telegraph operator for W. McClymont & Co., lumbermen, Ottawa, and from 1882 to 1891 was Secretary-Treasurer, Ottawa City Passenger Ry., which operated horse cars. In 1891 he was appointed Secretary-Treasurer, Ottawa Electric Ry. In 1893 he was also appointed Secretary-Treasurer, Ottawa Car Co., now Ottawa Car Manufacturing Co., and in 1906 was elected a director. In 1913 he was elected a director, Ottawa Electric Ry. Co., and in 1914 was also elected a director, Ottawa Traction Co., of which he was also Secretary-Treasurer. In addition to those positions, he was a director and Secretary-Treasurer, Wallace Realty Co. He was a member of the Canadian Electric Railway Association's executive committee continuously since 1911, was Vice President in 1914-1915 and President in 1915-1916.

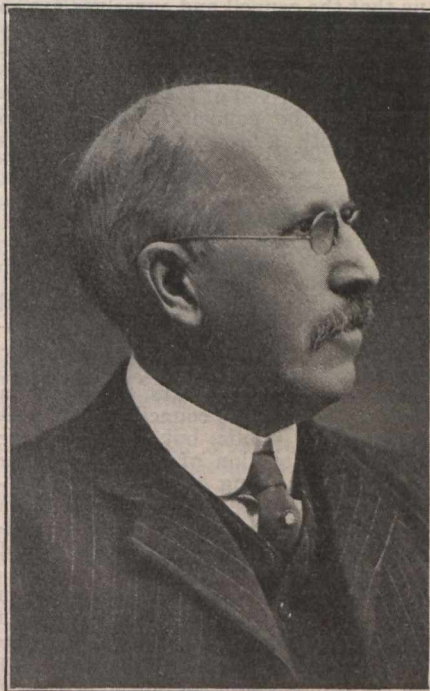
Mr. Fraser never lost his interest in telegraphy. He had an instrument on the large office table used jointly by Thos. Ahearn and by him, and with the instruments in both their houses they used the telegraph for communicating with each other more than the telephone.

While Mr. Fraser was of a most unassuming, and almost retiring, disposition, he took an active interest in many matters pertaining to Ottawa's progress. He was a member of the city council in 1891, 1894 and 1896, and devoted considerable time to the Protestant General Hospital, of which he was a director. In his younger days he took a keen interest in sports, and was for some time President, Ottawa Amateur Athletic Club. He was a member of the Ottawa Golf Club, where he played considerably, and spent many evenings, and also a member of the Gatineau Fish and Game Club at Thirty-one Mile Lake, where he enjoyed frequent visits. He was a Presbyterian, and unmarried, and was most devoted to his three sisters, their families, and his deceased brother's family, and left his estate to be divided among them.

The news of Mr. Fraser's death caused very general regret in Ottawa, where he was well known and esteemed by thousands of citizens. It was a severe blow to Thos. Ahearn and Warren Y. Soper, President and Vice President of the Ottawa Electric Ry., with whom he had been associated in business for some 25 years and of whom he was a close personal friend. His associates in the Canadian Electric Railway Association, to whom he had endeared himself during a number of

years, will miss him very much. To the writer of this article, who enjoyed his friendship for nearly 20 years, and who has spent considerable time with him in Ottawa during frequent visits there, his death is a great loss and personal grief. The writer will always cherish his memory as that of a true friend, a valued advisor and a most lovable character.

The funeral to Beechwood Cemetery, Ottawa, on Dec. 20, was attended by hundreds of Ottawa citizens of all classes, and by a number from outside places, among them J. E. Hutcheson, General Manager, Montreal Tramways Co., who was associated with Mr. Fraser for many years in the Ottawa Electric Ry.'s management. The Ottawa Electric Ry. and the Ottawa Car Manufacturing Co. were represented by a number of officials; the Board of Railway Commissioners by S. J. McLean, Commissioner, and A. D. Cartwright, Secretary; and the Canadian Electric Railway Association by two



James Dewar Fraser.

members of the executive committee, G. Gordon Gale, Vice President and General Manager, Hull Electric Co., and Acton Burrows, the association's Honorary Secretary-Treasurer. The association's president, A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., much regretted being unable to attend, having to sit on that day as one of the members of a board of conciliation between the Niagara, St. Catharines & Toronto Ry. and its men.

The Ottawa Journal said editorially:—"The sudden death of J. D. Fraser must have come as a distressing shock to many of his friends because to all appearance he was still a man not very far past the prime of life. That he was nearly 68 years of age could have been realized by but few of those who knew him. His cheeriness, general interest in life, and physical haleness did not seem to be abated. Perhaps it was a happy ending for Mr. Fraser, but not the less a distressing one to others who regarded him with affection as a valued friend, a kindly

and generous gentleman and a public-spirited citizen. Mr. Fraser was one of the not too numerous men who never say an unkindly thing about anyone. Independent in his own judgments and firm in his views, he had a wide tolerance for all who thought differently to himself. Such men as he constitute a valuable salt in any community. The Journal begs to pay a tribute of heartfelt respect and esteem to his memory."

### Proposed Purchase of Ottawa Electric Railway by City.

The Ottawa City Council, after having had under consideration for some time the question of a new franchise for the O. E. Ry., or its purchase by the city, has decided to submit three questions to be voted on by all municipal electors at the municipal elections on Jan. 6, as follows:

If not earlier acquired, are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. at the expiration of its franchise in 1923, by arbitration, as provided by the agreement between the city and the railway?

Are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. by arbitration, as provided by the agreement between the city and the railway, at such date prior to 1923, as may be mutually agreed upon?

Should the Ottawa Electric Ry. be acquired by the corporation, are you in favor of it being managed by an appointed commission?

### Mainly About Electric Railway People.

A. S. Fraser, Master Mechanic, British Columbia Electric Ry., Victoria, B.C., has left the company's service, having received a civic appointment at Kamloops, B.C.

J. W. Lyon, of Guelph, Ont., one of the promoters of the proposed hydro electric radial railway system for Ontario, was one of the speakers at the dinner given the Hon. Robt. Rogers, ex Minister of Public Works, in Toronto, Nov. 28.

P. A. Moncrieff has been appointed assistant Traffic and Transportation Manager, Calgary Municipal Ry. The employes union grievance committee protested to the mayor and commissioners, Dec. 16, against the appointment, complaining that he had been appointed over senior men.

R. C. Bisette, heretofore agent, Chatham, Wallaceburg & Lake Erie Ry., Chatham, Ont., has been appointed accountant, vice A. C. Johnstone, deceased. He entered the company's service in Jan., 1914, as stenographer to the General Manager, and in Dec., 1914, was appointed freight clerk; Aug., 1915, chief clerk, Freight Office, and was, from Mar., 1916, to Oct., 1918, agent, all at Chatham, Ont.

C. F. Waugh, heretofore traffic and freight claims clerk, Chatham, Wallaceburg & Lake Erie Ry., Chatham, Ont., has been appointed Auditor. He entered the company's service in Dec., 1913, as stores clerk, and was, from Sept., 1914, to Jan., 1915, freight clerk; Jan. to Aug., 1915, chief clerk; Aug., 1915, to Mar., 1916, agent; and from Mar., 1916, to Oct., 1918, traffic and freight claims clerk, all at Chatham.

## The British Columbia Electric Railway's Victoria Franchise, Fares, Etc.

One of the results of the granting increased wages to the B.C. Electric Ry. employes in July, 1918, was that the company approached the Victoria City Council, asking for an amendment to its franchise to allow it to charge a 6c fare, instead of the existing 5c fare, in order to help to meet the increased wages. The council at first refused to consider the matter, but later on it decided to discuss it on condition that certain concessions in the way of reduction in lighting rates, maintenance of pavements, etc., should be made. The company's propositions in connection with these matters were outlined to the council in a letter by George Kidd, General Manager, on Aug. 30. He asked the city to pass a bylaw authorizing the company to charge a 6c fare, with transfer privileges, in return for which concession the company would put in force the recommendations of the Shortt report that the Victoria franchise be brought into harmony with the Vancouver franchise, except as to the proportion of gross earnings paid, and to apply the Vancouver scale for lighting in so far as practical in Victoria. The principal change which this suggestion would make in the charter would be with respect to the maintenance of track allowance. The company would be prepared to take over the maintenance of the 5.33 miles of track allowance in macadam, and the 18.82 miles of permanent roadway which is in good or fair condition, leaving 4.85 miles of track allowance to be maintained by the city. The company would also desire the passing of a bylaw to eliminate the jitney traffic in the city.

The city council's committee held several meetings for the discussion of the proposition, and reached certain conclusions, which have been incorporated into a draft agreement which was laid before the council Nov. 26, and subsequently sent on to the company. This agreement, it was proposed to make for two years, after which it was to be subject to revision at the instance of either party. Certain sections of the proposed agreement practically embody the company's suggestions as to between-track maintenance of streets, but there are also included provisions for the construction of certain additional lines on a two-third majority vote in the city council; for the regulation of traffic; for the payment to the city of 5% of the gross annual of railway receipts within the city limits, monthly; for the charging of Vancouver rates for light, gas and power; and for the appointment of a receiver in case of violation of the terms of the agreement.

A letter from A. T. Goward, the company's Manager at Victoria, was laid before the council Dec. 10, in which he said: "After very careful consideration of the conditions proposed, it seems to us that the original reason for our request has been lost sight of. At the time of the strike last June demands made by the men for increased wages were so large that the company found it could not meet these demands unless it was able to take in more money on the cars; and to help the company to do this a request was made that it be allowed to charge a fare of 6c, with full transfer privileges. The company felt that it was entitled to this raise in fare, inasmuch as the price of all other commodities had gone up, even the price charged by the city for its domestic

water supply, and because other cities in Canada and the United States had recognized the necessity of giving help and had granted similar and, in many instances, larger increases in the rate of fare.

"I refer to these things, as I am anxious to point out that it was because of the vital necessity of securing financial assistance that our company approached the council. Should the conditions laid down by the council have to be accepted before such assistance is granted, the position of the company would be worse than it is at present, inasmuch as the amount of increase in revenue to be derived through the 6c fare would be far more than given away in the concessions sought by the council.

"After very careful consideration, therefore, we have to say that, although we shall be only too pleased to discuss the various clauses with the mayor and council, should they so wish, still it seems to us that the council and ourselves are so far apart and the idea of giving us any help—as suggested by the conditions proposed by the council—so remote, that no good will be arrived at by further discussion unless the council is prepared to meet us with a desire of granting us relief."

### The Hamilton Street Railway Situation.

The Hamilton City Council's special committee, which, under the chairmanship of Alderman Langs, has been investigating the street railway situation there during the last two years, presented a lengthy report to the council Dec. 20. It was not made public, but was laid over for the consideration of the council for 1919. In presenting the report, Alderman Langs expressed himself as being in favor of the city taking over the Hamilton St. Ry. lines upon the expiration of the franchise in 1928.

A press report says the committee in the report has arraigned the company in no uncertain manner. It calls for an improved service. It asked that all cars unfit for use be scrapped and that 25 new cars be provided. The report recommends that all faulty tracks be relaid, that a 10-minute service be given to the western city limits, that Sherman Ave. be double tracked, that the line on Stuart St. be extended to Queen St. and along Queen St. to King St., a crosstown service from the head of Wentworth St. to the York St. line, and the company to be asked to furnish daily statements of its operations. The city will also be required to renew pavements to Herkimer St., York St., Margaret St., Main St. and Wentworth St. Figures from government blue books showed a profit on the street railway for the fiscal year 1917 of \$194,114, and a loss on the Brantford & Hamilton Ry. of \$85,000. There was also a loss on the H. G. & B. E. Ry. of \$11,500, and a loss of \$28,000 on the Hamilton Radial Electric Ry. for the same period. There was a profit of \$6,000 on the Hamilton & Dundas Electric Ry.

The Hamilton Spectator says editorially:—"This report, taken in conjunction with the radial impasse, makes it quite evident that, in justice to the city and the municipalities with whose interests Hamilton is so closely identified, a general

clean-up of the present intolerable situation should be insisted upon. The suggestion we have formerly made that the municipalities and the city should get together and arrange first for an adequate service in consideration of reasonable rates still stands good. It seems the only fair way out of the trouble."

### Electric Railway Employes Wages Arbitrations.

**Grand River Ry., Lake Erie & Northern Ry.**—The Minister of Labor has appointed a board of conciliation to deal with the question of wages, etc., for these companies' employes. F. H. McGuigan, Toronto, represents the companies, and J. G. O'Donoghue, Toronto, represents the men.

**The Niagara, St. Catharines & Toronto Ry.** board of conciliation, which sat during the early part of December, to deal with matters in dispute between the company and its employes, consisted of Judge Livingstone, Welland, Ont., chairman; Albert Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., Kingsville, Ont., and President, Canadian Electric Railway Association, representing the company, and J. F. Marsh, on behalf of the employes. The conductors and motormen asked an increase of 13c an hour for the first six months, increasing to a maximum of 55c for passenger men and 60c for freight men, and a number of other concessions. The board unanimously recommended an increase of 7c an hour, making the new rates as follows:—

Passenger trainmen—1st year, 39c an hour; 2nd year, 41c; third year, 43c; after third year, 45c; after 10 years continuous service, a bonus of 2c an hour.

Freight conductors and engineers—First, second and third years, 47c; after third year, 48c; after 10 years continuous service, a bonus of 2c an hour.

Freight brakemen and polemen—First 6 months, 40c; second 6 months, 41c; after first year, 43c.

Barnmen, shopmen and linemen were increased 7c an hour, section foremen to \$10 0a month, regular section men, 35c an hour; sub-station operators, \$100 a month; towermen, 1st class, \$85 a month; towermen, 2nd class, \$75 a month.

**Toronto Railway.**—The Minister of Labor in Nov., 1918, established a board of conciliation to deal with a dispute concerning wages between the company and its employes, the members being J. A. Barron, County Judge, Stratford, Ont.; F. H. Phippen, K.C., Toronto, representing the company, and H. A. Harper, representing the men. Several sittings have been held, but the proceedings had not been completed up to Dec. 31.

**London & Lake Erie Ry. & Transportation Co.'s Dismantling.**—The London, Ont., City Council has been offered by the company its right of way to Grand Ave., with the bridge, for \$8,750. The section of the right of way offered is said to have cost \$4,000, and the bridge \$16,000. The company having paid the taxes, etc., due the city of St. Thomas, Ont., the connection between its lines and those of the St. Thomas Municipal Ry. was not removed, and the removal of the rails, etc., which are being taken up, to the steam railway yards for shipment was continued.

The Kitchener & Waterloo St. Ry. service between Kitchener and Waterloo, Ont., was suspended, Oct. 14, until further notice, owing to the influenza epidemic.

## Electric Railway Problems and Operation in Montreal.

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

The following address was made at a luncheon of the Kiwanis Club, in Montreal recently, by Mr. Graves:—

Electric railways on this continent have suffered immeasurably by conditions which have prevailed during the past world war, on account of the high prices which have been and are prevalent, for material used, in the operation and maintenance of the properties, also in the high rate of wages. In some instances an increase of 700% in the price of material has been noted. The industry, unlike private or quasi public enterprises, has not been able to adjust the selling price of its commodity to meet these unforeseen conditions—the result is obvious, maintenance of the physical property has lagged and any of you who have to do with operating properties know that maintenance is cumulative and, if not currently cared for, results ultimately in complete renewals at a much increased cost. I have noted recently an article on tramway maintenance in a current magazine, in which it is stated that no reconstruction of track had been undertaken in England in the past four years, and that in the next three years there will be required 320,000 tons of rail, when normally only 20,000 tons were required annually. The same conditions apply in both Canada and the United States, only to a lesser degree.

The electric railways in this country and in the United States have also suffered through over regulation by governmental and local governing bodies and commissions, with the net result that it scarcely knows where it stands. Their revenues have been regulated, the disposition of their revenue has been regulated, the operation in detail has been regulated; and last, but not least, the returns to the shareholders have been regulated until, I am quite sure, the industry is just on the point of going into retreat to recuperate, but thanks to the indomitable spirit of its several managements, it has been able to "carry on," but I can assure you that it, as an industry, is sick, and the one large factor in this particular disease is regulation, and the one specific cure is more revenue, until such time as more normal conditions prevail.

Many plans of regulation have been predicated by regulating bodies, on the theory that the service should be furnished to the public at cost and without profit to anyone. Included in this cost of service is the cost of the capital necessary for furnishing such service. It is evident that the term cost, as applied to the operation of an electric railway, represents, under a flat rate of fare, the aggregate cost of the service, and not the cost to each individual; since the difference in the length of haul, and the difference in cost of operation upon various parts of the same system, make it impossible to charge each passenger in accordance with the service rendered. By this general and brief statement of the end which regulating bodies desire to attain, you can readily see that the more bodies appointed to consider the affairs of electric railways, the more plans of operation and regulation we will have, and in the ultimate, the confusion resulting has left the affairs and policies of the companies in a chaotic state. Fortunately, in Montreal this matter of regulation has been definitely settled for a long term of years.

Few people realize the amount of capital invested in the transportation of the public to and from its daily vocations. In this city, which is probably a fair average example of the larger cities on this continent, this investment reaches \$70 per capita, or in other terms, \$200,000 per mile of track operated.

Under the recent contract entered into between this company and the City of Montreal, there are certain provisions regarding good management. The first is through an allowance of an operating profit of one-eighth of 1%, which the company receives if it keeps its operating expenses within the amount fixed by the Tramways Commission; this percentage being in the total amount of the operating expenses. The second is a three way division of surplus, after paying the cost of the service rendered as fixed by the terms of the contract, the reserve fund receiving 50%, the city 30% and the company 20%.

One might discuss at length, various other phases of electric railway and public utility operation, but my purpose is only to call your attention to the several salient features of this ultra modern contract under which this company is operating, and the fact that its affairs in detail are supervised by a very able commission, whose members give their entire time to the problem confronting it, assures to the public the maximum of service at the lowest cost, and it is, of course, the management's endeavor to earn the reward offered.

**Traffic.**—The Montreal Tramways Co. has a personal dealing with some 650,000 people daily, and for sake of comparison, we may say, with every man, woman and child in Montreal, although this is not strictly true, and from that statement, you who are accustomed to dealing with the public can particularly realize, owing to the perversities of human nature, that from 650,000 view points we cannot be perfect; but as a manufacturer and producer of that necessary commodity, transportation, we endeavor, as in other manufacturing industries, to maintain efficiency, in all details, that our earning power may be maintained.

To carry on this business, the company has available some 1,200 passenger and freight cars, of which a large majority are in service at some time during the day, running in the course of a year 25,000,000 car miles; and in this former statement is one of the greatest bugbears of the management of a street railway service, that is, that for about 80% of the time an enormous investment in equipment is tied up with no producing, and therefore no earning, capacity. Can you imagine the plant of the Steel Co. of Canada, of the Canada Cement Co., or any other large industry, shut down for 8 of their 10 hour operating day and for the other 2 hours running at 40 to 60% overload? You will readily see that the problem of giving the trainmen sufficient hours of work to enable them to earn in total a living wage, is a serious one and involves an immense amount of labor in the making of running schedules and assignment of the men to the best advantage both to themselves and the company. Each and every car has a schedule prepared for its operation and in the ultimate this schedule works very much the same as a steam railway timetable, and it is the endeavor of the operating depart-

ments to maintain this strictly. Obviously, however, interruptions in service due to obstruction by other traffic than our own, and from causes beyond our control, tend to disarrange this schedule frequently.

**Power.**—In order to operate these cars, the company maintains 8 power stations, both hydro and steam, with a total output of 35,000 k.w. direct current, and, as in the case of the cars, this maximum output is only used during a small part of the 24 hours, and also, as in the case of the cars, a large investment in land, buildings and machinery is necessarily idle and non revenue contributing during that time.

We are, as rapidly as circumstances permit, enhancing our use of hydro power, but due to interruption of supply from various causes, we have found that to protect ourselves and maintain the uninterrupted service which our patrons, the public, demand, it is necessary to practically duplicate the power output in steam generation as a stand-by, and to this end we installed recently one of the largest steam turbine generators manufactured and have the same in operation, and more recently have duplicated that generator, and the additional one is now delivered to us and will be installed in the future. These generators have an output of 17,500 h.p. at normal load.

During the past few years, the problem of obtaining an adequate supply for this enormous output of energy, has been a serious one, and aside from this, we saw the price of coal mounting until it doubled, but fortunately, through foresight, we have been able to introduce such economies in the operation of our power plants as to reduce the pre-war consumption to fit the supply obtainable, but to accomplish this end a large expenditure was necessary. This was made in spite of the rapidly diminishing purchasing power of the small fare which we received; and the result has been that there has been practically no interruption due to lack of power.

**Mileage.**—The Montreal Tramways Co. operates a total of 270 miles of single track in the city and on Montreal Island. The investment in tracks alone amounts to upwards of \$70,000 a mile, at this time. Compare this with the cost of steam railway trackage of \$18,000 to \$20,000 a mile. I cite these figures to illustrate how little conception the public in general has of the costs entering into a property of this size.

Recently a prominent chief engineer of a steam railway, while observing the installation of a large intersection at Guy and St. Catherine Streets, remarked to me that it must have cost the company as much as \$10,000, and he was quite surprised when I told him that particular piece of work when finished would reach \$28,000, and at the present time would probably be near \$35,000.

Within recent years the municipalities through which we operate have been demanding better and smoother tracks. To accomplish this, the company, with the consent of the City of Montreal, has adopted a grooved girder rail weighing 115 lb. a yard, and would, under normal conditions, have installed many miles, but the steel mills have been unable to roll rails on account of war demands, and the result is that we have outstanding orders for several thousand tons since 1916.

Under the recent contract with the city,

the company has been obliged to take over and maintain approximately 1,000,000 sq. yd. of paving in and between its tracks. This has added a very serious maintenance expense to our operation, but we hope in time to have it in such condition that the public may well be proud of its streets.

On the whole, and in conclusion, it is the company's endeavor to give to Montreal's citizens the best street railway service on the continent, and we feel that we are coming measurably close to that goal. We invite constructive criticisms; and complaints, however small, are promptly investigated, and, if justifiable, are remedied; but to finally accomplish this result, we must have the support of the public, and in addition to such support, we must have adequate revenue from fares.

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

**Brantford Municipal Ry.**—Brantford, Ont., ratepayers were asked to vote, Jan. 1, on a bylaw authorizing the issue of \$125,000 to be expended upon the extension and improvement of the municipal railway, and for additional equipment. The Terrace Hill extension which is proposed, would start at the junction of Market and Marlboro Sts. and extend to St. Paul and Brant Avenues, the exact route, however, not being definitely settled. The amount asked for would also provide for the additional equipment necessary for this line, and for two cars ordered already.

The city council has ordered an investigation to be made by the city engineer as to the condition of the line to Paris. (Nov., 1918, pg. 505.)

**The Hull Electric Co.**, during 1918, laid 0.593 mile of new track on St. Joseph Boulevard, Hull, Que., from Montcalm St. to Montclair Ave., and reconstructed 0.734 mile of old single track on Montcalm St., from Main St. to St. Joseph Boulevard, the new line being a double track one. (July, 1918, pg. 308.)

**London St. Ry.**—A London, Ont., press report of Dec. 13 stated that a petition was being circulated for presentation to the city council asking that the company be called upon to construct an extension of its line on Quebec St., from Dundas St. to Lorne Ave., and across that avenue to join the north belt route at Adelaide St. Under the company's contract with the city, an additional mile of line has to be built for every increase of 2,000 in the city's population, and it is claimed that the company ought to build several miles of lines in order to meet its obligations. This matter appears to have been discussed by several associations in the city, and it also appears that there has been some informal discussion with the company. The President of the company was reported Dec. 13 to have stated that there would be some trouble in financing new construction. The company had not paid any dividends during the past two years, and while it was in a non-dividend paying condition it would not be able to raise new capital. (Feb., 1918, pg. 77.)

**Moncton Tramways, Electricity & Gas Co.**—At a recent meeting of the Moncton, N.B., City Council, the question of suburban extension was raised. E. B. Reesor, Vice President and General Manager, stated that the suburban line had been abandoned, and the wires and poles removed. The line was unsafe, and did not pay. He hoped the abandonment of the

line was not final. If the council would meet the company something might be done, as he thought the people would agree to a 10c rate for the line. If a line was again to be run to the suburban district, the Church St. route was the only possible one. No definite action was taken. (Sept., 1918, pg. 403.)

**New Brunswick Power Co.**—The New Brunswick Public Utilities Commission concluded its hearing, and reserved judgment, Nov. 27, on the company's application for authority to remove the rails and trestle from Rodney Wharf, West St. John, and the city's counter application asking the re-establishment of the car service on the wharf. The company contended that the wharf was unsafe, that it would cost a prohibitive amount to repair it, and that the traffic did not pay. It is said that before giving judgment the commission will have an engineer report on the wharf condition. (Dec., 1918, pg. 559.)

**Nova Scotia Tramways & Power Co.**—Controller Murphy, reporting to the Halifax, N.S., Board of Control, Dec. 10, said: "The growing traffic north of Young St. has been called to my attention with a view of asking the N.S.T. & P. Co. to continue its Barrington St. line north from Young St. to Roome St. I would suggest that this matter be placed before the company with a request that the service to the end of their old line be re-established. I feel that the public demand now justifies this being done." The report was approved. (Sept., 1917, pg. 369.)

**Toronto & York Radial Ry.**—Work is reported to have been started south of Aurora, Ont., on the short piece of line which will connect the company's Metropolitan Division with the G.T.R. This will enable the company to give a freight connection to factories located in the western part of the town. (Dec., 1918, pg. 560.)

### Electric Railway Notes.

The London, Ont., city board of control decided recently to ask the London St. Ry. if it would consider favorably a proposition to have it operate a London-Lambeth line.

The Lethbridge, Alta., Municipal Ry. is, we are officially advised, contemplating the purchase of a 300 k.w. d.c. generator, 600 volts, for direct connection to its present engine, 360 r.p.m.

British Columbia Electric Ry. employes on the mainland contributed \$128,500 to the Victory Loan through their own organization. One hundred per cent. of the employes of the head office took bonds.

Calgary Municipal Ry. put a new car schedule into effect Dec. 2, including extra cars on a number of lines for the rush hours. A report stated that 20 extra cars would be put on for the rush hour traffic.

The Montreal Tramways Co. has put on sale books of 50 regular tickets, and books of 60 limited tickets, at \$2.50 each. This is no reduction in the regular rates and books are only on sale at the company's offices.

The Dominion Trades and Labor Congress' Ontario Executive has asked the Ontario Government to fix an 8-hour day instead of 10 for electric railway employes, and to abolish running boards on electric railway cars.

A large body of citizens has petitioned the Regina, Sask., City Council to restore a full service to the Scarth and Fifteenth

Street route, or at least a full service on the route from the C.P.R. station to the Legislative Buildings, between certain hours daily. A one-car service is being given on the line.

Sir Adam Beck and J. E. Richards, Manager of the London & Port Stanley Ry., appeared before a London, Ont., City Council committee recently, and asked for power to fix the holiday rates for 1918 between London and Port Stanley at 50c for adults and 25c for children. The matter was left over until the regular meeting of the committee.

The Toronto Ry. appeal against the judgment in favor of the City of Toronto, to recover \$14,391.47 for removal of snow thrown on the sides of streets by the company's sweepers in cleaning the tracks, came before the Appeal Court at Toronto, Dec. 17. The company was given 10 days to take a reference if it so desires, but if not, the appeal is to be dismissed with costs.

The Montreal Tramways Co. has divided its Notre Dame St. line into two sections, the eastern and western, with a common central terminus at Place d'Armes. The eastern section runs from Place d'Armes to First Avenue, and to Dominion Park as needed, and the western section runs from Place d'Armes to Church Ave., Cote St. Paul. The new arrangement was put into effect Dec. 1.

The arbitration proceedings relative to the taking over by the City of Toronto, of the Toronto & York Radial Ry.'s Metropolitan Division were adjourned recently to Jan. 7, owing to the absence of A. B. Ingram, Vice Chairman, Ontario Railway and Municipal Board, through illness in his family, and of Prof. Swain, one of the witnesses, who was overseas dealing with projected reconstruction matters for the American Society of Civil Engineers, but who was expected to return early in January.

A report has been current for some time that the Montreal Light, Heat & Power Co. is negotiating with the Montreal Tramways Co. to acquire the power part of the latter's undertaking, and M.L.H. & P. Co.'s shares have steadily advanced in price during the time the report has been in circulation. The negotiations are said to be semi-official and to be confined to a study of the values of the different properties and the possible benefits that would result to both companies if the M.L.H. & P. Co. became the sole distributor of electricity for power and suchlike purposes, and the M. T. Co. confined itself to the electric railway.

The London, Ont., City Council had a discussion on Dec. 16 on its differences with the London St. Ry., which was raised on a motion to cancel the franchise, on the ground that the company was disobeying the city's regulations. The motion, which also suggested the operation of the line as a municipal undertaking, was rejected, but a resolution endorsing the spirit of the original motion and passing the question on to the new council was adopted.

**One-Man Cars for Saskatchewan.**—The Regina City Council was informed Dec. 18, by the Deputy Minister of Railways for Saskatchewan, that the Legislature would be asked to amend the Railway Act, so as to permit the operation of one-man cars on electric railways in the province, and the city was invited to send representatives to state its views on the matter when the measure comes before the committee.

# Marine Department

## Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

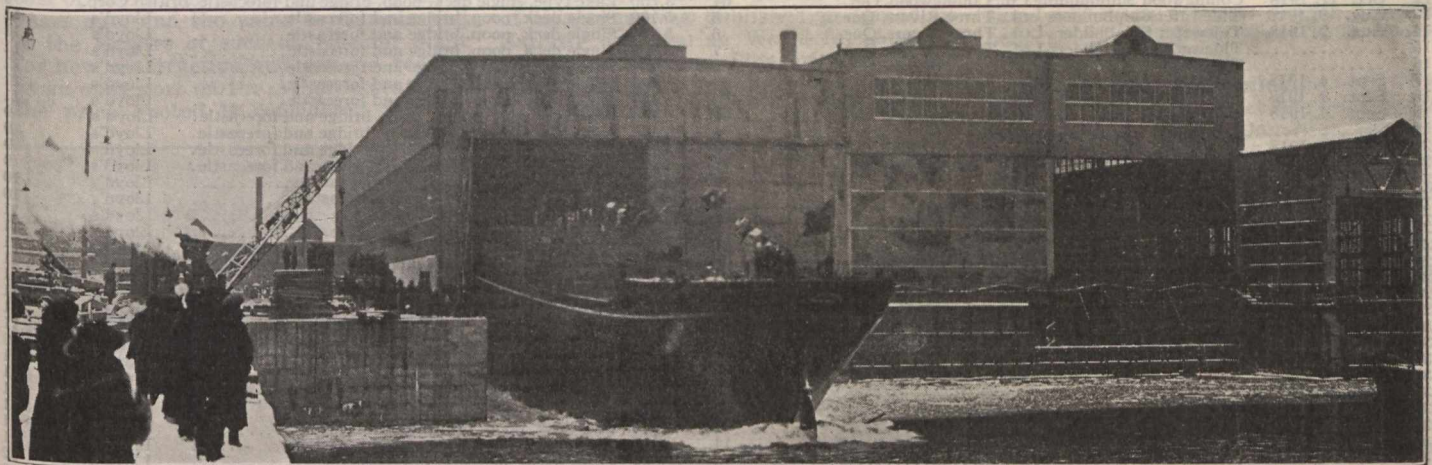
**Classification.**—All vessels ordered by the Department will be loaded to a free-board mark, in accordance with the British Board of Trade's rules, as arranged by the classification authority. They will all have wireless equipment and apparatus.

**Flags for Steamships.**—The Marine Department has had designed a house flag to be flown on all its merchant marine vessels. The flag is 12 x 6 ft., and the design consists of a Greek cross in blue

chant Marine, Limited, is being incorporated under the Dominion Companies Act, the stock of which will be owned by the Dominion Government. Subsidiary companies, Canadian Voyageur, Limited, and Canadian Pioneer, Limited, are also being incorporated to own those vessels respectively, and other subsidiary companies will be incorporated to own each of the other vessels separately as they are built.

**Orders for Steamships.**—Canadian Railway and Marine World for December con-

Collingwood Shipbuilding Co., Kingston, Ont. ....	1	3,750	3,750
J. Coughlan & Sons, Ltd., Vancouver, B.C.	4	8,100	32,400
Davie Shipbuilding & Repairing Co., Lauzon, Que. ....	2	5,100	10,200
Halifax Shipyards, Ltd., Halifax, N.S. ....	2	8,100	16,200
Halifax Shipyards, Ltd., Halifax, N.S. ....	2	10,500	21,000
John L. Mullen Construction Co., Prince Rupert, B.C. ....	2	8,100	16,200
Nova Scotia Steel &			

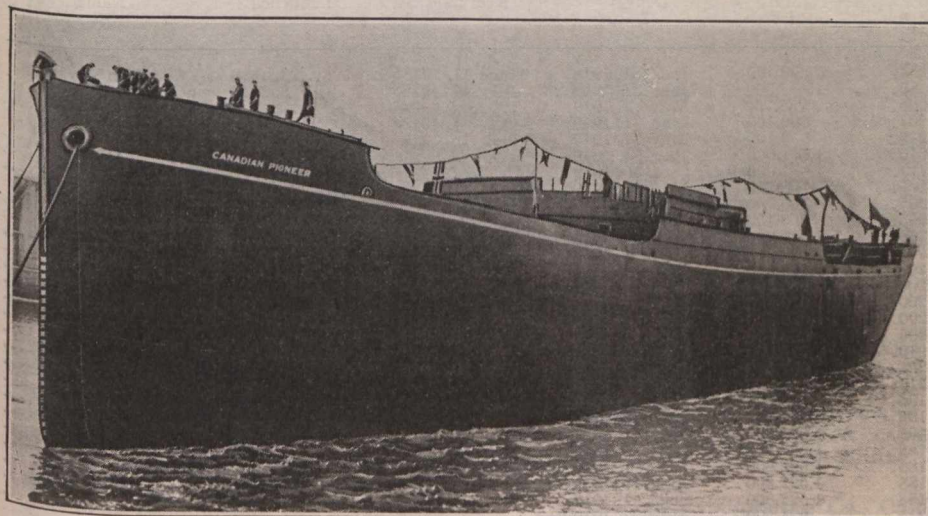


Hull of the Steel Cargo Steamship, Canadian Pioneer, for Dominion Government, by Canadian Vickers, Ltd., Montreal, leaving the ways, Dec. 3, 1918.

on a white ground, with a ball 18 in. diam. in the center, carrying a yellow anchor, and in the upper staff quarter is shown the Canadian beaver. The burgee pennant is 14 x 6 ft., and has the name of the vessel in blue letters on a white ground.

tained particulars of orders placed by the Marine Department for 39 steel cargo steamships. Since then orders have been authorized for 6 more, making 45 in all. Full particulars of the orders are given in tables 1 and 2 on the next page.

Coal Co., Ltd., New Glasgow, N.S. ....	2	2,800	5,600
Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	4	3,400	13,600
Port Arthur Shipbuilding Co. ....	2	4,300	8,600
Tidewater Shipbuilders, Ltd., Three Rivers, Que. ....	4	5,100	20,400
Victoria Machinery Depot, Victoria, B.C.	2	8,100	16,200
Wallace Shipyards, Ltd., Vancouver, B.C. ....	2	4,300	8,600
Wallace Shipyards, Ltd.	2	5,100	10,200
	45		263,850



Hull of Steel Cargo Steamship, Canadian Pioneer, for Dominion Government, launched at Montreal, Dec. 3, 1918, by Canadian Vickers, Ltd.

The vessels will, of course, also fly the blue ensign, with the Canadian insignia in fly.

**Operation of Steamships.**—As announced previously in Canadian Railway and Marine World, the steamships being built for the Dominion Government will be operated in connection with the Canadian National Railways and under the same management. A general holding company, the Canadian Government Mer-

chant Marine, Limited, is being incorporated under the Dominion Companies Act, the stock of which will be owned by the Dominion Government. Subsidiary companies, Canadian Voyageur, Limited, and Canadian Pioneer, Limited, are also being incorporated to own those vessels respectively, and other subsidiary companies will be incorporated to own each of the other vessels separately as they are built.

	No.	Tons each	Total tonnage
British American Shipbuilding Co., Welland, Ont. ....	4	4,350	8,700
Canadian Vickers, Ltd., Montreal ....	2	4,300	8,600
Canadian Vickers, Ltd.	6	8,100	48,600
Collingwood Shipbuilding Co., Collingwood, Ont. ....	4	3,750	15,000

**Order in Council re Halifax Shipyards, Ltd., Order.**—Canadian Railway and Marine World for December, 1918, stated that the Dominion Government had passed an order in council authorizing the Minister of Marine to make a contract with Halifax Shipyards, Ltd., for 2 steel cargo steamships of 10,500 tons d.w. each at \$197.50 a ton. We have since received a copy of the order in council passed Nov. 20, as follows:—

The committee of the Privy Council have had before them a report, dated Nov. 15, 1918, from the Minister of Marine and Fisheries, submitting that he has had under consideration a memorandum, prepared by the Naval Constructor to the Marine Department, relative to shipbuilding, and submitted by the Deputy Minister of Marine and Fisheries, stating:—That, under date of May 15, 1918, the Halifax Shipyards, Ltd., placed a proposal before the department offering to construct, at works to be established in Halifax, 3 steel cargo vessels of the shelter deck type of approximately 10,000 tons d.w. capacity, and having a speed on trial of 11 knots an hour, at a cost of \$195 per long ton ascertained d.w. each.

That as the design for this new type

could not be completed in sufficient time to permit of the first shipbuilding berths being occupied when available, the Halifax Shipyards, Ltd., accepted from the department, in lieu of their proposal, a contract for 2 vessels of the standard 2-deck type of about 8,100 tons d.w. capacity which could be proceeded with imme-

diately, and 2 vessels of approximately 10,500 tons d.w. capacity. That the new design has been sufficiently advanced to permit of a contract now being entered into with the Halifax Shipyards, Ltd., and is of the following leading particulars:—  
 Length b.p. .... 430 ft.  
 Breadth moulded ..... 56 ft.

Depth moulded to upper deck..... 30 ft.  
 Depth moulded to shelter deck..... 38 ft.  
 Deadweight capacity in tons..... 10,500

That all other general features are in accordance with modern practice in cargo boat construction; that the vessels are designed to Lloyd's highest class, British Board of Trade and Canadian steamship

Orders for Steel Cargo Steamships for Dominion Government. Table 1.

Contract	Contract date	Builder	Yard No.	Tonnage d.w.		speed, Knots
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal.....	66	4,300	Single deck, poop, bridge and forecastle.....	Lloyd's 100A1 11
2	May 22, 1918	Canadian Vickers Ltd., Montreal.....	67	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.....	61	3,750	Lake type, single deck, poop, bridge and forecastle.....	Brit. Corporation 9
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.....	100	4,300	Single deck, poop, bridge and forecastle.....	Lloyd's 11
5	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.....	106	4,300	Single deck, poop, bridge and forecastle.....	Lloyd's 11
6	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.....	101	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
7	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.....	102	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.....	62	3,750	Lake type, single deck, poop, bridge and forecastle.....	British Corp. 9
11	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.....	63	3,750	Lake type, single deck, poop, bridge and forecastle.....	British Corp. 9
12	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.....	64	3,750	Lake type, single deck, poop, bridge and forecastle.....	British Corp. 9
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.....	5	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
14	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.....	6	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
15	.....	Tidewater Shipbuilders Ltd., Three Rivers, Que.....	7	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
16	.....	Tidewater Shipbuilders Ltd., Three Rivers, Que.....	8	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.....	459	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
18	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.....	460	5,100	Single deck, poop, bridge and forecastle.....	Lloyd's 11
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	39	3,400	Lake type, single deck, poop, bridge and forecastle.....	Lloyd's 9
19a	.....	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	41	3,400	Lake type, single deck, poop, bridge and forecastle.....	Lloyd's 9
20	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	40	3,400	Lake type, single deck, poop, bridge and forecastle.....	Lloyd's 9
20a	.....	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	42	3,400	Lake type, single deck, poop, bridge and forecastle.....	Lloyd's 9
21	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.....	1	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 10
22	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.....	2	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 10
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	68	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
24	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	69	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
25	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	70	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
26	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	71	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
27	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	72	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
28	Oct. 11, 1918	Canadian Vickers Ltd., Montreal.....	73	4,300	Single deck, poop, bridge, and forecastle.....	Lloyd's 11
29	.....	Victoria Machinery Depot, Victoria, B.C.....	1	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
30	.....	Victoria Machinery Depot, Victoria, B.C.....	2	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.....	15	3,750	Lake type, single deck, poop, bridge and forecastle.....	British Corp. 9
32	.....	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	43	4,300	Single deck, poop, bridge and forecastle.....	Lloyd's 11
33	.....	Port Arthur Shipbuilding Co., Port Arthur, Ont.....	44	4,300	Single deck, poop, bridge and forecastle.....	Lloyd's 11
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.....	11	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
35	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.....	12	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
36	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.....	13	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
37	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.....	14	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.....	3	10,500	Three deck, poop and forecastle.....	Lloyd's 12
39	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.....	4	10,500	Three deck, poop and forecastle.....	Lloyd's 12
40	.....	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	5	2,800	Single deck, poop, bridge and forecastle.....	Lloyd's 8½
41	.....	Nova Scotia Steel & Coal Co., New Glasgow, N.S.....	6	2,800	Single deck, poop, bridge and forecastle.....	Lloyd's 8½
42	.....	John L. Mullen Construction Co., Prince Rupert, B.C.....	1	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
43	.....	John L. Mullen Construction Co., Prince Rupert, B.C.....	2	8,100	Two deck, poop, bridge and forecastle.....	Lloyd's 11
44	.....	British American Shipbuilding Co., Welland, Ont.....	4	4,350	Single deck, poop, bridge and forecastle.....	British Corp. 10
45	.....	British American Shipbuilding Co., Welland, Ont.....	5	4,350	Single deck, poop, bridge and forecastle.....	British Corp. 10

Orders for Steel Cargo Steamships for Dominion Government. Table 2.

Contract No.	Builder	Price per d.w. ton	Total Price	Approximate Delivery Date	Keel Laid	Launched	Name
1	Canadian Vickers Ltd.....	\$207.	\$ 890,100	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	Canadian Vickers Ltd.....	180.	1,458,000	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	Collingwood Shipbuilding Co.....	205.	768,750	May 1, 1919	.....	.....	.....
4	Wallace Shipyards Ltd.....	207.	890,100	Mar. 31, 1919	Oct. 1, 1918	.....	.....
5	Wallace Shipyards Ltd.....	217.	933,100	May 31, 1919	Nov. 15, 1918	.....	.....
6	Wallace Shipyards Ltd.....	210.	1,071,000	July 31, 1919	.....	.....	.....
7	Wallace Shipyards Ltd.....	210.	1,071,000	Sept. 30, 1919	.....	.....	.....
10	Collingwood Shipbuilding Co.....	205.	768,750	May 15, 1919	.....	Dec. 21, 1918	Canadian Warrior
11	Collingwood Shipbuilding Co.....	205.	768,750	July 15, 1919	.....	.....	.....
12	Collingwood Shipbuilding Co.....	205.	768,750	July 1, 1919	.....	.....	.....
13	Tidewater Shipbuilders Ltd.....	200.	1,020,000	Aug. 1, 1919	.....	.....	.....
14	Tidewater Shipbuilders Ltd.....	200.	1,020,000	Sept. 1, 1919	.....	.....	.....
15	Tidewater Shipbuilders Ltd.....	200.	1,020,000	May 1, 1919	.....	.....	.....
16	Tidewater Shipbuilders Ltd.....	200.	1,020,000	July 1, 1919	.....	.....	.....
17	Davie Shipbuilding & Repairing Co.....	200.	1,020,000	Nov. 1, 1919	.....	.....	.....
18	Davie Shipbuilding & Repairing Co.....	200.	1,020,000	Nov. 8, 1919	.....	.....	.....
19	Port Arthur Shipbuilding Co.....	205.	697,000	June 1, 1919	Dec. 9, 1918	.....	.....
19a	Port Arthur Shipbuilding Co.....	210.	714,000	Sept. 30, 1919	.....	.....	.....
20	Port Arthur Shipbuilding Co.....	205.	697,000	July 1, 1919	Dec. 10, 1918	.....	.....
20a	Port Arthur Shipbuilding Co.....	210.	714,000	Oct. 31, 1919	.....	.....	.....
21	Halifax Shipyards Ltd.....	195.	1,579,500	Dec. 19, 1919	.....	.....	.....
22	Halifax Shipyards Ltd.....	195.	1,579,500	Apr. 1920	.....	.....	.....
23	Canadian Vickers Ltd.....	188.	1,522,800	May 1, 1919	Aug. 26, 1918	.....	.....
24	Canadian Vickers Ltd.....	188.	1,522,800	June 1, 1919	Nov. 30, 1918	.....	.....
25	Canadian Vickers Ltd.....	188.	1,522,800	July 1, 1919	Dec. 2, 1918	.....	.....
26	Canadian Vickers Ltd.....	188.	1,522,800	Aug. 1, 1919	.....	.....	.....
27	Canadian Vickers Ltd.....	188.	1,522,800	Sept. 1, 1919	.....	.....	.....
28	Canadian Vickers Ltd.....	215.	924,500	May 27, 1919	.....	.....	.....
29	Victoria Machinery Depot.....	198.	1,603,800	Jan. 31, 1920	.....	.....	.....
30	Victoria Machinery Depot.....	198.	1,603,800	Nov. 30, 1920	.....	.....	.....
31	Collingwood Shipbuilding Co.....	205.	768,750	Nov. 1, 1919	.....	.....	.....
32	Port Arthur Shipbuilding Co.....	215.	935,250	Nov. 1, 1919	.....	.....	.....
33	Port Arthur Shipbuilding Co.....	215.	935,250	Nov. 15, 1919	.....	.....	.....
34	J. Coughlan & Sons.....	198.	1,603,800	July 31, 1919	.....	.....	.....
35	J. Coughlan & Sons.....	198.	1,603,800	Aug. 31, 1919	.....	.....	.....
36	J. Coughlan & Sons.....	198.	1,603,800	Sept. 30, 1919	.....	.....	.....
37	J. Coughlan & Sons.....	198.	1,603,800	Oct. 31, 1919	.....	.....	.....
38	Halifax Shipyards Ltd.....	197½	2,073,750	Aug. 1, 1920	.....	.....	.....
39	Halifax Shipyards Ltd.....	197½	2,073,750	Nov. 1, 1920	.....	.....	.....
40	Nova Scotia Steel & Coal Co.....	210.	588,000	Oct. 1919	.....	.....	.....
41	Nova Scotia Steel & Coal Co.....	210.	588,000	Nov. 1919	.....	.....	.....
42	John L. Mullen Construction Co.....	198.	1,603,800	Feb. 1920	.....	.....	.....
43	John L. Mullen Construction Co.....	198.	1,603,800	June 1920	.....	.....	.....
44	British American Shipbuilding Co.....	215.	935,250	Nov. 1919	.....	.....	.....
45	British American Shipbuilding Co.....	215.	935,250	June 1920	.....	.....	.....

\$52,691,450



inspection requirements; that a third deck has been added in the new design in excess of the number of decks stipulated by the Halifax Shipyards, Ltd., in its original offer; that it is estimated on the present cost of materials and labor that the value of the vessels is increased \$2.50 a ton d.w. each through this addition; that the Halifax Shipyards, Ltd., offers to construct and deliver to the department 2 vessels of this type at a cost of \$197.50 a long ton ascertained d.w.; that the company states that one berth will be available for construction during Feb., 1919, and one berth during Mar., 1919; that having regard to the large initial expenditures to be made by this company in laying out and developing the new plant at Halifax, the erection of workshops and the purchase of machinery, the cost of which is upward of 200% in excess of the cost of similar shops and machinery three years ago, and the value to Canada and to the Empire of such an efficient plant for new construction and general repairs at an open port on the Atlantic seashore, the price quoted is considered fair re-

to facilitate the shipping of Canadian pulp and paper products to foreign countries and to have asked for definite information as to the tonnage required, the destination of the proposed shipments, etc.

**Canadian Vickers, Ltd., Montreal.**—The first of the ocean going steamships to be built in Canada for the Dominion Government, was launched at this yard, Nov. 23, and the second one was launched there Dec. 3, both being christened on the latter date by Lady Borden, wife of the Dominion Premier. The names given were, Canadian Voyageur and Canadian Pioneer respectively. The Canadian Voyageur has the following principal dimensions: length 320 ft., breadth 44 ft., depth moulded 25 ft., tonnage d.w. 4,350. The keel was laid June 10, and she proceeded to Quebec under her own steam, Dec. 11, for completion there. A full description of this type was published in Canadian Railway and Marine World for August, 1918. The Canadian Pioneer's dimensions are as follows: length 400 ft., breadth 52 ft., depth moulded 31 ft.; tonnage d.w.

**John L. Mullen Construction Co., Prince Rupert, B.C.**—The Dominion Government has given a contract to this company, which has its headquarters at Pittsburg, Pa., for the construction of 2 of the standard type steel cargo steamships of 8,100 tons d.w. capacity each.

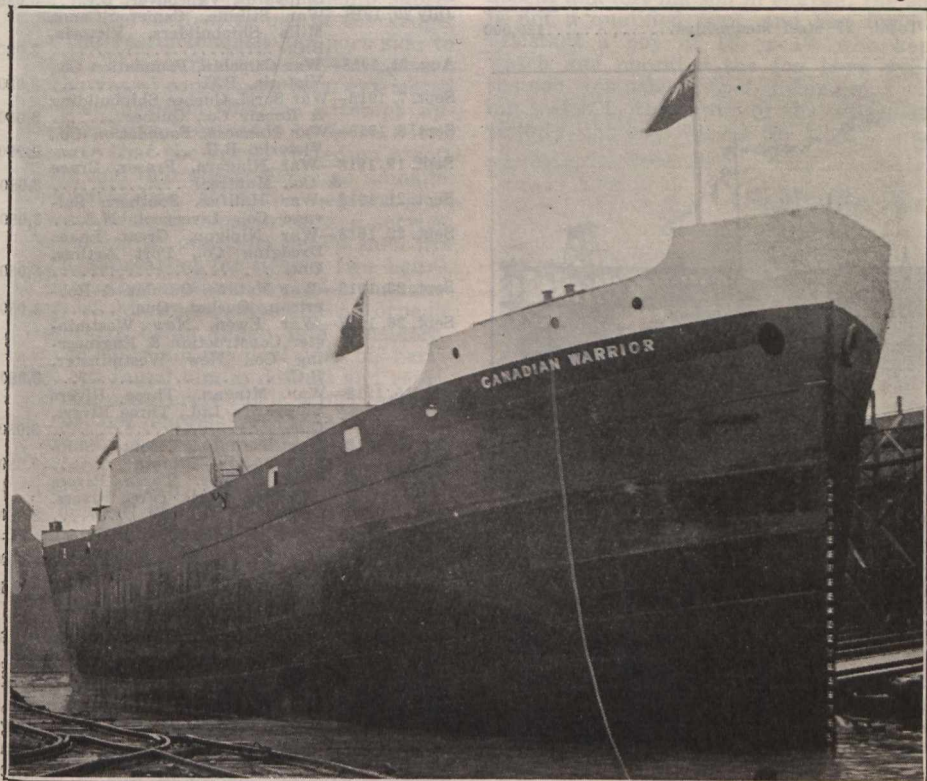
**Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.**—The 2 steel cargo steamships of 2,800 tons d.w. capacity each, which have been ordered by the Dominion Government, are specially designed for the West Indies trade. The company will build the machinery for these vessels, as well as the hulls. The hull angle frames have been rolled and the general structural work is passing through the shops. The engines and boilers are also under construction. Both keels will be laid during January, and it is expected that delivery will be made in the early autumn. The general dimensions will be as follows: length between perpendiculars 270 ft., beam 38 ft., depth moulded 20½ ft.

**Port Arthur Shipbuilding Co., Port Arthur, Ont.**—A contract has been given this company by the Dominion Government for two steel cargo steamships of the 4,300 ton type. The dimensions will be: length 320 ft., breadth 44 ft., depth 25 ft., draft, loaded, 21 ft. 2 in. This is the first of the government orders to be placed at any yard on the Great Lakes, for vessels of this size, and they will each have to be taken through the Welland Canal in two sections, and joined on the St. Lawrence.

**The Victoria Machinery Depot, Victoria, B.C.,** is reported to be considering the lease of a site on the old Songhees Indian Reserve, from the B.C. Government, for the construction of a modern steel shipbuilding plant, where it will build the 2 steel steamships of 8,100 tons d.w. capacity ordered for the Dominion Government. C. J. V. Spratt, President, is reported to have stated that the company is prepared to take over about 6 acres for extensions to its plant, and that vessel construction will be commenced as soon as the steel begins to arrive. The plates and other materials are expected during January.

**Wallace Shipyards, Ltd., Vancouver, B.C.**—Keels for the 2 steel cargo steamships for the Dominion Government, each of 4,300 tons d.w. capacity, were laid on Oct. 1 and Nov. 15 respectively. It is expected that the first of these vessels will be launched about the middle of February, and the second one about the middle of March. As soon as these vessels are off the ways, keels will be laid for the 2 steamships of 5,100 tons d.w. capacity, and launchings are anticipated in June and August.

**Trent Canal Construction.**—The Dominion Government is considering proceeding with the completion of the construction of the Trent Valley Canal, to connect Lake Ontario with Georgian Bay. The first section, from Lake Ontario to Lake Simcoe, was opened to navigation, June 3, 1918, and portions of the second section, from Lake Simcoe to Georgian Bay, were under contract, but work was suspended in consequence of the war. It is proposed that the suspended contracts be proceeded with until things become normal, when further contracts will be let, to enable the completion to be made. The idea of connecting Lake Ontario and Georgian Bay, via the Trent Valley, was mooted in the early days of the 19th century, and construction was commenced in 1817.



Canadian Government Merchant Marine Cargo Steamship, Canadian Warrior, immediately after launching by Collingwood Shipbuilding Co., Dec. 21, 1918.

muneration; that it is considered advisable, owing to the prevailing shortage in tonnage, to utilize to the fullest extent shipbuilding berths as they become available for new construction;

That as the price quoted is considered fair, the Naval Constructor to the department recommends the acceptance of the offer. That the Deputy Minister concurs in the above. The Minister, approving, recommends that he be authorized to enter into a contract with Halifax Shipyards, Ltd., for the construction of 2 steel cargo steamers of approximately 10,500 tons d.w., three-deck type, at the price named. The committee concurs in the foregoing and submits the same for approval.

**Pulp and Paper Freight.**—The Minister of Marine is reported to have notified the Canadian Pulp and Paper Association of his willingness to do everything possible

8,100. The keel was laid July 17, and she proceeded to Quebec, Dec. 6, in tow, for completion there.

The keels of three other vessels of the two-deck type, 8,100 tons d.w. capacity each, were laid Aug. 26, Nov. 30 and Dec. 2, respectively.

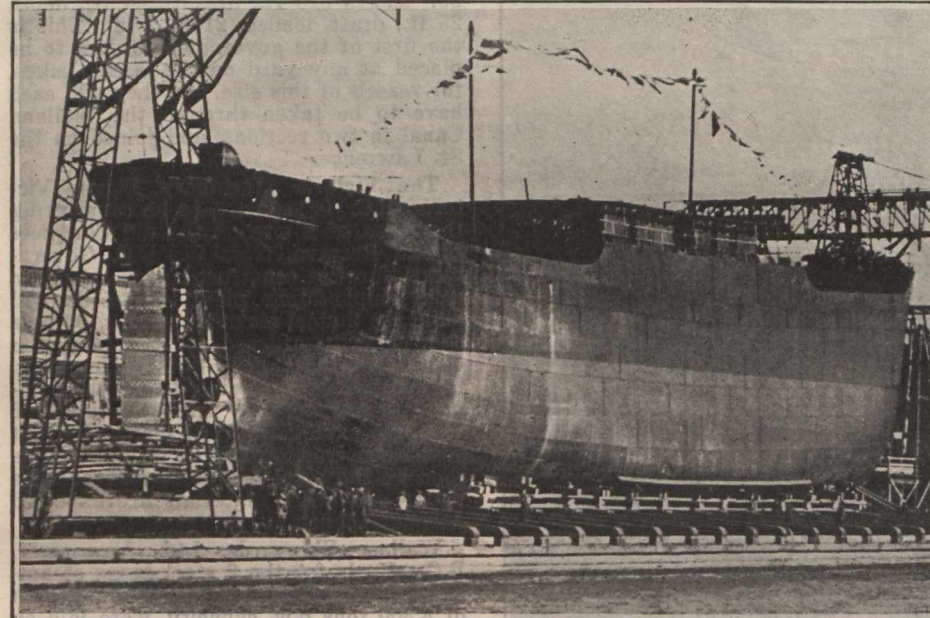
**Collingwood Shipbuilding Co., Collingwood, Ont.**—The first of the steel steamships under construction at this plant for the Dominion Government was launched Dec. 21, and named Canadian Warrior. She is of the single deck, lake type, 3,750 tons deadweight capacity, a complete description of which has been given in a previous issue. Three other vessels of this type to be built at Collingwood will be named Canadian Recruit, Canadian Signaller and Canadian Gunner. The company is also building a similar vessel at its Kingston plant, but no name has yet been decided on.

## Cargo Steamship Building in Canada for British Government.

**Polson Iron Works, Ltd., Toronto.**—The third of the steel cargo steamships being built by this company for the British Government under order from the Imperial Munitions Board, was launched Dec. 21, and named War Aquila by Lady Pellatt. The War Aquila is 3,500 tons d.w. and is of the following dimensions: length over all 261 ft., beam moulded 43½ ft., depth moulded 23 ft. She is equipped with triple expansion, surface condensing engines, with cylinders 20½, 33 and 54 in. diam. by 36 in. stroke, supplied with steam by 2 Scotch boilers 14 by 12 ft. at 180 lb., and has complete electric lighting plant, winches, windlasses, steam and hand steering gear and evaporating machinery. Keels for 2 other vessels for the British Government are being laid for delivery in the early part of the current year.

**Launchings of Steamships.**—Following are particulars of steamships ordered by the Imperial Munitions Board for the British Government, and which had been launched up to Nov. 15, giving in each

	Shipbuilding Co., Port Arthur, Ont. ....	3,400
July 29, 1918	—War Charger, J. Coughlan & Sons, Vancouver, B.C. ....	8,800
Aug. 19, 1918	—War Chief, J. Coughlin and Sons, Vancouver, B.C. ....	8,800
Aug. 21, 1918	—War Weasel, British-American Shipbuilding Co., Welland, Ont. ....	3,500
Sept. 6, 1918	—War Witch, Collingwood Shipbuilding Co., Collingwood, Ont. ....	2,900
Sept. 19, 1918	—War Taurus, Polson Iron Works, Ltd., Toronto ....	3,500
Sept. 28, 1918	—War Faith, Canadian Vickers Ltd., Montreal ....	7,000
Sept. 28, 1918	—War Noble, J. Coughlan & Sons, Vancouver, B.C. ....	8,800
Sept. 28, 1918	—War Storm, Wallace Shipyards, Ltd., Vancouver, B.C. ....	4,600
Oct. 5, 1918	—War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	3,400
Oct. 15, 1918	—War Hydra, Polson Iron Works, Ltd., Toronto ....	3,500
Oct. 24, 1918	—War Fiend, Midland Shipbuilding Co., Midland, Ont. ....	3,400
Oct. 26, 1918	—War Karma, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	3,400
Oct. 29, 1918	—War Joy, Canadian Vickers, Ltd., Montreal ....	7,000
Dec. 21, 1918	—War Aquila, Polson Iron Works, Ltd., Toronto ....	3,500
	Total, 27 steel steamships.....	129,000



Steel cargo steamship, Le Quesnoy, 4,300 tons d.w., just prior to launching by Dominion Shipbuilding Co., Toronto, for private owners.

case the date of the launching, the name of the steamship, the name and address of the building company and the deadweight tonnage:—

Steel Steamships.		
May 18, 1917	—War Dog, Wallace Shipyards North Vancouver, B.C. ....	4,500
July 9, 1917	—War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N.S. ....	1,800
Aug. 19, 1917	—War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	4,300
Nov. 3, 1917	—War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	3,400
Mar. 16, 1918	—War Camp, J. Coughlan & Sons, Vancouver, B.C. ....	8,800
Mar. 23, 1918	—War Power, Wallace Shipyards, North Vancouver, B.C. ....	4,600
Apr. 3, 1918	—War Isis, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	3,400
May 8, 1918	—War Wizard, Collingwood Shipbuilding Co., Collingwood, Ont. ....	2,900
May 21, 1918	—War Bee, Nova Scotia Steel & Coal Co., New Glasgow, N.S. ....	2,400
May 27, 1918	—War Osiris, Port Arthur Shipbuilding Co., Port Arthur, Ont. ....	3,400
June 8, 1918	—War Earl, Canadian Vickers Ltd., Montreal ....	7,000
June 29, 1918	—War Duchess, Canadian Vickers, Ltd., Montreal ....	7,000
July 20, 1918	—War Hathor, Port Arthur	

Wooden Steamships.		
Dec. 28, 1917	—War Songhee, Foundation Co., Victoria, B.C. ....	3,080
Jan. 4, 1918	—War Nootka, Western Canada Shipyards, Vancouver, B.C. ....	3,080
Jan. 24, 1918	—War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C. ....	3,080
Feb. 16, 1918	—War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
Mar. 6, 1918	—War Selkirk, Western Canada Shipyards, Vancouver, B.C. ....	3,080
Apr. 10, 1918	—War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
Apr. 11, 1918	—War Comox, New Westminster Construction & Engineering Co., New Westminster, B.C. ....	3,080
Apr. 11, 1918	—War Masset, Foundation Co., Victoria, B.C. ....	3,080
Apr. 13, 1918	—War Tyee, Pacific Construction Co., Coquitlam, B.C. ....	3,080
Apr. 25, 1918	—War Haida, Cameron-Genoa Mills, Victoria, B.C. ....	3,080
Apr. 27, 1918	—War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
May 11, 1918	—War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que. ....	3,080
May 11, 1918	—War Sioux, Port Arthur Dredging Co., Port Arthur, Ont. ....	3,080
May 21, 1918	—War Atlin, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
May 23, 1918	—War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C. ....	3,080
June 12, 1918	—War Skeena, Cameron-Genoa	

	Mills Shipbuilders, Ltd., Victoria, B.C. ....	3,080
	—erton, Quebec, Que. ....	3,080
June 14, 1918	—War Edensaw, New Westminster Construction & Engineering Co., B.C. ....	3,080
June 15, 1918	—War Babine, Foundation Co., Victoria, B.C. ....	3,080
June 24, 1918	—War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
June 28, 1918	—War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que. ....	3,080
June 29, 1918	—War Ontario, Toronto Shipbuilding Co., Toronto ....	3,080
July 5, 1918	—War Huron, Fraser, Brace & Co., Montreal ....	3,080
July 5, 1918	—War Erie, Fraser, Brace & Co., Montreal ....	3,080
July 6, 1918	—War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C. ....	3,080
July 12, 1918	—War Sumas, Pacific Construction Co., Port Coquitlam, B.C. ....	3,080
July 24, 1918	—War Squash, Wm. Lyall Shipbuilding Co., Vancouver, B.C. ....	3,080
July 27, 1918	—War Gaspé, Quinlan & Robertson, Quebec, Que. ....	3,080
July 27, 1918	—War Ottawa, Fraser, Brace & Co., Montreal ....	3,080
Aug. 5, 1918	—War Chilkat, Western Canada Shipyards, Vancouver, B.C. ....	3,080
July 29, 1918	—War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C. ....	3,080
Aug. 31, 1918	—War Camchin, Foundation Co., Victoria, B.C. ....	3,080
Sept. 7, 1918	—War Sorel, Quebec Shipbuilding & Repair Co., Quebec ....	3,080
Sept. 8, 1918	—War Nanoose, Foundation Co., Victoria, B.C. ....	3,080
Sept. 19, 1918	—War Niagara, Fraser, Brace & Co., Montreal ....	3,080
Sept. 21, 1918	—War Halifax, Southern Salvage Co., Liverpool, N.S. ....	3,080
Sept. 22, 1918	—War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont. ....	3,080
Sept. 23, 1918	—War Matane, Quinlan & Robertson, Quebec, Que. ....	3,080
Sept. 26, 1918	—War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C. ....	3,080
Oct. 15, 1918	—War Mingan, Three Rivers Shipyards, Ltd., Three Rivers, Que. ....	3,080
Oct. 26, 1918	—War Toronto, Toronto Shipbuilding Co., Toronto ....	3,080
Nov. 2, 1918	—War Radnor, Three Rivers Shipyards, Ltd., Three Rivers, Que. ....	3,080

Total, 45 wooden steamships.....138,600  
Aggregate deadweight tonnage of 27 steel and 45 wooden steamships launched, 267,900 tons.

**Steamship Management.**—The various vessels built for the British Government, under contracts placed by the Imperial Munitions Board, are, on completion, registered in the name of the Shipping Controller, London, Eng., and are then assigned by him to different firms in the United Kingdom, which act as managing owners on behalf of the British Government. Following are vessels built in British Columbia, which have been completed and assigned to managing owners:

War Cariboo, War Nootka, War Puget, War Selkirk, War Songhee, War Yukon. Managing owners, H. Fernie & Sons, 7 Rumford St., Liverpool, Eng.

War Comox, War Tyee. Managing owners, R. & J. H. Rea, 20 Water St., Liverpool, Eng.

War Atlin, War Cayuse, War Edensaw, War Ewen, War Kitimat, War Sumas. Managing owners, J. Cook & Sons, 62 Marischal St., Aberdeen, Scotland.

War Babine, War Camchin, War Haida, War Masset, War Nanoose, War Skeena, War Stikine. Managing owners, Easton, Grieg & Co., 30 George Square, Glasgow, Scotland.

War Casco, War Chilkat, War Nicola, War Squash, War Tanoo, War Tatla. Managing owners, John Hardie & Co., 11 Bothwell St., Glasgow, Scotland.

## Dominion Wreck Commissioner's Judgments on Casualties, Etc.

Judgments have been delivered recently, in connection with investigations into the causes of the following casualties:—

### Stranding of s.s. Siberian Prince.

Held at Montreal before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Commander G. E. Bridge and C. J. Stuart, R.N.R., as nautical assessors. The s.s. Siberian Prince, British owned, stranded on Egg Islet, N.S., June 29, bound from Newport News, Va., to Halifax, N.S., for convoy. Dirty weather was met off the Nova Scotia coast. The court found that while the master, H. A. Camp, who had not been on the coast before, had taken casts at different times, and seeing that the depth decreased from 23 to 10 fathoms, he should, at the last sounding, have stopped ship and anchored, or awaited developments. Instead, he continued at half speed, which the court considered was a thoughtless action, and also that there was no show of seamanship subsequent to the ineffective use of the kedge, when the vessel touched her port side to a bank. The court expressed the opinion that the vessel could have been extricated from her position, but no attempt appeared to have been made to do so. It is fortunate that the vessel rested on a soft bottom, and that she suffered no damage. The master has, since the beginning of the war, been in constant active service, experiencing at one time heavy shell fire from a submarine for nearly two hours, and in another instance, by quick manoeuvring of his vessel, avoided a torpedo. These facts being taken into consideration, the court did not deal with his certificate, but found him in default and reprimanded him severely for lack of prudence, and for not exercising the seamanship required by a master in such a case, being of opinion that if a little resourcefulness had been shown, the vessel could have been floated off the following day. The court also considered that at least one officer should have been on the bridge with the master, to attend to the telegraph and steering, and while the first officer, D. Shaw, was exonerated, he showed in some respects a lack of loyalty and was lukewarm in meeting his responsibilities, having already frequented the coast, whereas the master had not. He was therefore cautioned to act up to his responsibilities in future. There was nothing in the evidence indicating other than bad judgment and lack of proper seamanship.

### Grounding of s.s. Celtic Prince.

Held at Montreal, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and F. Nash, as nautical assessors, into the causes of the grounding of the British s.s. Celtic Prince on Barnaby Island, off Rimouski, Que., on July 8. The evidence showed that the vessel was carefully navigated from the time of leaving Newcastle upon Tyne, Eng., up to a very brief period before grounding. Although thick and misty weather was encountered in the St. Lawrence, points of land were discerned and the bearings taken placed the distances as intended. Metis fog signal was heard, and the shore sighted, and speed was reduced by one half. Varying depths were obtained by soundings, and when 14 fathoms were found, the speed was further reduced to slow, and when land was perceived, the engines were ordered full speed astern, but without avail. The

court held that when 14 fathoms was obtained, the vessel should have been stopped, especially as the Father Point signal had not been heard, which of itself should have caused apprehension and called for the exercise of greater prudence. The plea that there was an unusual set of the current inshore could not be entertained, as the log showed that the vessel was set inshore at every course. The court therefore held that the master, A. H. McKegg, erred in judgment in proceeding at half speed in such shallow water, under the conditions shown in the evidence, and therefore censured him. The evidence as to the operation of the Father Point lighthouse fog horn was contradictory, but no information was obtained by which criticism of a direct nature could be made against the assistant keeper, but the court made the following comments thereon: The keeper was absent and left his son in charge; the son is not a qualified man, and had for his assistant a boy of 16 or 17, who kept watch and operated the fog horn while the son was asleep; that instead of keeping watch in the tower or the immediate vicinity, the boy was on the wharf, some

1,300 ft. from his post, near the vessel Eureka, apparently relying on a call from the Eureka, should necessity arise. On these grounds the court criticized the absence of the keeper from his post during the navigation season, and considered it a most serious matter to leave the operation of such an important lighthouse in the hands of one whose knowledge of the mechanism is unknown, and worse still that such a responsibility should rest on a boy. There is too much property at stake for such important posts to be left in charge of what the court considered irresponsibles and incompetents, incompetent, because the trend of the evidence caused the court to surmise, and rightly, that the assistant was not observant enough nor sufficiently experienced to decide for himself when it was time to operate the signal. On the statement that the fog horn is 50% less in sound this year than last, the court suggested that a competent engineer examine the machinery and remedy the defect, if any.

Tide Tables for Canadian Eastern Coasts, prepared by the Tidal and Current Survey of the Naval Service Department, of which W. Bell Dawson, M.A., D.Sc., is Superintendent, have been published in pamphlet form for 1916, and can be obtained on application to the department at Ottawa.

## Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie canals during 1918.

ARTICLES.	Eastbound.		Total.
	Can. Canal.	U. S. Canal.	
Lumber . . . . .m. ft. b. m.	10,535	286,384	296,919
Flour . . . . .Barrels	2,861,890	5,366,954	8,228,844
Wheat . . . . .Bushels	32,238,605	90,479,541	122,718,146
Grain, other than wheat . . . . .Bushels	11,781,009	19,019,612	30,800,621
Copper . . . . .Short tons	22,979	63,099	86,078
Iron Ore . . . . .Short tons	10,097,643	50,312,617	60,410,260
Pig Iron . . . . .Short tons	.....	.....	.....
Stone . . . . .Short tons	7,000	9,382	16,382
General Merchandise . . . . .Short tons	25,772	36,071	61,843
Passengers . . . . .Number	12,938	4,354	17,292
Westbound.			
Coal, soft . . . . .Short tons	873,471	14,897,039	15,770,560
Coal, hard . . . . .Short tons	81,125	2,129,925	2,211,050
Iron Ore . . . . .Short tons	5,000	136,036	141,036
Mfgd. Iron and Steel . . . . .Short tons	8,637	30,130	38,767
Salt . . . . .Short tons	22,505	58,502	81,007
Oil . . . . .Short tons	8,301	325,833	334,134
Stone . . . . .Short tons	6,832	378,795	385,627
General Merchandise . . . . .Short tons	232,606	199,988	432,594
Passengers . . . . .Number	14,010	3,688	17,698
Summary.			
Vessel passages . . . . .Number	5,073	15,537	20,610
Registered tonnage . . . . .Net	10,021,217	51,079,027	61,100,244
Freight—			
Eastbound . . . . .Short tons	11,633,170	54,602,382	66,235,652
Westbound . . . . .Short tons	1,238,477	18,156,298	19,394,775
Total Freight . . . . .Short tons	12,921,647	72,758,680	85,680,327

## COMPARATIVE STATEMENT FOR 1917 AND 1918.

		Total Traffic for	
		Season 1917	Season 1918
Vessels: Steamers . . . . .	Number	19,569	17,067
Sailings . . . . .	"	1,943	1,634
Unregistered . . . . .	"	1,373	1,909
Total . . . . .	"	22,885	20,610
Lockages . . . . .	"	14,611	14,903
Tonnage: Registered . . . . .	Net	65,307,233	61,100,244
Freight . . . . .	Short tons	89,813,898	85,680,327
Passengers . . . . .	Number	38,339	34,990
Lumber . . . . .	M. ft. B. M.	350,609	296,919
Flour . . . . .	Barrels	8,450,039	8,228,844
Wheat . . . . .	Bushels	185,899,449	122,718,146
Grain . . . . .	Bushels	67,423,980	30,800,621
Copper . . . . .	Short tons	118,812	86,078
Iron Ore . . . . .	"	61,374,090	60,551,296
Mfd. and Pig Iron . . . . .	"	102,082	38,767
Coal, soft . . . . .	"	15,763,654	15,770,560
Coal, hard . . . . .	"	2,562,199	2,211,050
Salt . . . . .	"	84,565	81,007
Oil . . . . .	"	262,489	334,134
Stone . . . . .	"	517,001	402,009
General Merchandise . . . . .	"	658,365	494,437

The Canadian canal was opened April 23 and closed Dec. 17, 1918, season 239 days.  
The U.S. canal was opened April 20 and closed Dec. 14, 1918, season 239 days.

## The Minister of Marine on the Dominion Government's Shipbuilding Programme, Etc. Suspension of Marine Wartime Regulations.

The Minister of Marine, the Hon. C. C. Ballantyne, M.P., in speaking in Montreal Dec. 3, after the launching of the steel cargo steamship *Canadian Pioneer*, by Canadian Vickers, Ltd., congratulated the company on the manner in which it was performing its contract for building that vessel of 8,100 tons d.w., and also the *Canadian Voyageur*, of 4,300 tons d.w., which was launched a short time before, and which, he said, would be ready to proceed to sea under her own steam in a few days thereafter. The *Canadian Voyageur's* keel was laid June 11, and the *Canadian Pioneer's* on July 18. Mr. Ballantyne, in continuing, said:—

I am reminded that when I was one of the harbor commissioners for the port of Montreal from 1907 to 1912, with my late colleagues, G. W. Stephens and L. E. Geoffrion, after long negotiation with the Vickers Co. of London, Eng., we concluded satisfactory arrangements with them, whereby they decided to establish a branch of their business at Montreal, and not only erect the splendid modern shipbuilding plant that we are now in, but also the large floating dock that has a lifting capacity of 25,000 tons. It is interesting to know that the 30 acres of land that the Vickers works are situated on were reclaimed from the bed of the river by dredging.

It is a special pleasure for me to witness the development of steel shipbuilding in Canada, not only in the Vickers works, but in the other 16 yards that are building steel ships for the Government, from Nova Scotia to British Columbia. I am pleased to announce that the government has under construction at present 39 steel steamships, viz., lake type, 9 vessels; 4,300 ton type, 6 vessels; 5,100 ton type, 8 vessels; 8,100 ton type, 14 vessels; 10,500 ton type, 2 vessels.

I have always been a great believer in Canada possessing the necessary enterprise, skill and ability to build steel ships and I am naturally very pleased and proud that our country is making such progress in this new enterprise; and I hope that as the builders of steel ships in Canada gain more experience and knowledge they will be able to compete more effectually with other countries that have been so long in the shipbuilding industry. Canada requires tonnage and very badly. It is estimated that owing to losses by enemy submarines the world's tonnage is at least 10,000,000 tons short of what it was when war broke out. We must also take into consideration that nearly every ship which is in service today requires repairs and docking, owing to the fact that while the war was on these vessels could not be spared to go into dry dock, and these conditions make the world's tonnage of shipping very much short of what it should be.

Canada requires ships as speedily as they can be built, in order that they can be placed on the Atlantic and Pacific Oceans, as well as on the Great Lakes, to complete the Government's transportation system, and work in conjunction and co-operation with our transcontinental railway system. I have already announced that the government's ships will be managed and operated by D. B. Hanna, President of the Canadian Northern Ry., and his board of directors by the creation of a steamship company, the stock of which will be all owned by the government; in

order that the government and the people may know what profit or losses the government ships are making. Mr. Hanna and his board of directors have been given a free hand by the government to manage the government's system of railways and they will be given an absolute free hand also in the management of the Canadian Government's mercantile marine.

Happily war is now practically at an end, and Canada and its government are confronted with the tremendous peace problems. To retain our present volume of trade and to take the place of the vast sums of money that have been spent during the last few years in Canada for the making of munitions, it is imperative that Canada should vigorously go after export trade. The government has laid the way for this by providing ships. The responsibility now rests upon Canadian manufacturers to rise to the occasion and use every energy to secure export business. The United Kingdom, overseas dominions and our allies are more sympathetically inclined than ever to buy Canadian products, and I hope that the manufacturers and business men of this country realize that this is the most favorable opportunity they have ever had to go after export business. The government is fully seized with this possibility and has a trade commission in London to see that the way is made easy for Canada to get her full share of the vast amount of materials that are going to be required for the restoration of devastated France and Belgium, and also to get her share of the vast amount of products of all kinds that will be wanted by these countries which have been engaged in war for the last four years, to replenish their stocks.

I wish to refer to the splendid part that the mercantile marine has taken in this war. There has been altogether too little reference to it. The British mercantile marine has played a most important and noble part in bringing about the splendid victory that Great Britain and her allies have secured. I wish to take this opportunity, as Minister of Marine, to pay my tribute to the brave men of England's huge mercantile marine, who manned her ships during these four terrible years of war, and so successfully have carried across the oceans millions of soldiers, immense quantities of munitions and provisions and have made it possible for us to so utterly defeat the enemy, with the aid of our allies.

I consider this day is an epoch in the history of Canada, when for the first time a Canadian mercantile marine flag has fluttered to the breeze on the *Canadian Pioneer*, just launched. With the lead that the government has given and its determination to assist Canada in every way to do a large export trade, I hope that in the very near future the flag of Canada's merchant marine may be seen in every important port throughout the world, carrying to those distant countries Canada's production of the mine, field, forest and our industries, and bringing back the importations that Canada will find it necessary to make. All this is possible by co-operation of all of Canada's diversified interests. I wish every success to the *Canadian Pioneer*, the *Canadian Voyageur* and the other government mercantile marine ships that are to be launched in the very near future.

The British Admiralty has suspended the following regulations, restrictions, etc., which were made or imposed owing to war conditions:—

Restriction of the publication of shipping intelligence and the cabling of shipping information.

Restriction of the use of cameras on board ships.

Order requiring special masthead look-outs, except in areas liable to be mined.

Orders for ships to be dazzle painted, subject to proviso that should necessity arise for ships to be again dazzled, cost will fall on the owners.

Instructions for guidance in care and maintenance of armament, except in so far as they relate to discipline, pay and victualling of gun crew, and care and maintenance of armament. Subject to this latter primary duty, gun crews may be employed on watch keeping duties at sea, and quartermaster's duties in harbor, provided mercantile crew not reduced naval crew not employed on manual labor, below Board of Trade requirements, and except in connection with armament, and their mess, berths, and their duties are not in excess of those required of the mercantile crew.

C.B. 415 war instructions for British merchant ships, except so far as they require arrangements to be made for safety of ship life and confidential documents, and compliance with orders of riers by land and water, and for such British or allied naval authorities. Masters to obtain and comply with instructions regarding routes and movements generally and to take all precautions by use of Otter gear, if fitted, keeping a good lookout and strictly following instructions for the avoidance of mined or possibly mined areas.

As regards C.B. 733, wireless telegraph instructions, certain restrictions on the use of wireless telegraphs are suspended, in that British naval shore stations will accept, without coast charge, for the present, messages addressed to, or sent by, owners and agents regarding the safety and working of ship. Private messages are not admissible. Regulations requiring lowering of aerial in British ports are suspended, as is also the use of secret call signs.

All the foregoing provisions apply to allied vessels so far as practicable.

**The Edgewood Shipping Co., Ltd.**, which has been incorporated under the Dominion Companies Act, with \$40,000 capital and office at 220 Board of Trade Bldg., Montreal, was organized to own and operate the schooner *Edgewood*, under construction by the Quebec Shipbuilding & Repairing Co., Quebec. The price to be paid for the vessel is said to be \$160,000, of which \$100,000 has been paid, the balance being due on completion and delivery of the vessel. The directors are: R. A. Carter, shipping, etc., broker, Montreal, President; James Playfair, President and General Manager, Great Lakes Transportation Co., Midland, Ont., Vice President; W. C. Job, President and Manager, Job Bros., St. John's, Nfld., Halifax, N.S., and Liverpool, Eng., and of S. Job, Inc., New York, Second Vice President; G. A. Wood, shipping, etc., broker, Montreal, Secretary-Treasurer; and M. P. Connolly, Quebec.

## Welland Ship Canal Construction Resumption.

The following order in council was passed at Ottawa Dec. 9:—"The committee of the Privy Council have had before them a report, dated Dec. 6, 1918, from the Minister of Railways and Canals representing that, in pursuance of the general policy of immediately resuming construction upon public works of a necessary character, consideration has been given to the condition of the Welland Ship Canal. The Minister states that contracts had been let for 4 of the 9 sections into which this work has been subdivided; the percentage of the work contracted for that has been performed being respectively 69, 59, 32 and 64% under these contracts. That, owing to war conditions, work under these contracts was suspended by order of the minister in Jan., 1917, and the contracts were subsequently cancelled by agreements entered into in the spring of 1918. The total expenditure that has been made aggregates approximately \$16,000,000, which sum included upwards of \$2,000,000 incurred in the acquirement of plant, and settlements of other matters incidental to the suspension of the work. That in view of the special knowledge, experience, organizations and facilities possessed by the former contractors, it was deemed advisable to ascertain terms upon which they would be willing to carry on the work of construction upon the respective sections hitherto held under contract by them. That all the contractors have declined to resume the work under the terms of the original contracts, and have pointed out the impracticability of submitting tenders based upon schedule rates, under the uncertain conditions respecting labor and supplies. They have, however, expressed their willingness to resume work upon a basis of cost plus 8%. The Minister, upon the advice of the Chief Engineer of the Railways and Canals Department, recommends that he be authorized to enter into agreements for the resumption of work upon the respective sections formerly held under contract upon the basis of actual cost, plus a percentage not to exceed 8%, materials, supplies and plant furnished by the department to be excluded in computing cost. The Minister further recommends that such terms, stipulations, conditions and definitions as may to him appear to be in the public interest be included in the foregoing agreements. The committee concur in the foregoing recommendations, and submit the same for approval."

A. J. Grant, heretofore Superintending Engineer, Trent Canal, Peterborough, Ont., has been appointed Engineer in Charge, and John L. Weller, formerly Engineer in Charge, has been appointed Consulting Engineer.

At the time of the suspension of the work on May 2, 1917, it was estimated that contracts on secs. 1, 2 and 5 would have been completed that year, and sec. 3 during 1918, or about a year behind the date specified in the contract.

Sec. 1 extends from Lake Ontario for about 3 miles, and includes pier and trestle work at the entrance to the canal, the construction of lock 1, and canal work to bridge 2. The contract was awarded Aug. 1, 1913, to the Dominion Dredging Co., and the date for completion was set as Apr. 1, 1917. The amount of the contract, as based on schedule rates, was \$3,487,727, and the work is about 69% completed.

Sec. 2 covers the work from bridge 2

to bridge 5, about 4½ miles, including locks 2 and 3. This contract was let Dec. 31, 1913, to Baldry, Yerburch & Hutchinson, Ltd., for completion by Apr. 1, 1917. The amount of the contract, as based on schedule rates, was \$5,377,185.75, and the work was 59% completed.

Sec. 3, from bridge 5 to about half way between bridges 9 and 10, covers the heaviest portion of the whole route, and includes the erection of twin guard gates at Thorold, the single lock 7, the construction of a short stretch of canal below lock 7, and also the three twin locks 6, 5 and 4 in flight, one flight for downbound vessels and the other for upbound vessels, overcoming a descent of 139½ ft. The contract was let Oct. 4, 1913, to O'Brien & Doheny, for completion by Apr. 1, 1917. The amount, based on schedule rates, was \$9,540,050, and it was about 32% done.

Sec. 5, from just above bridge 12 to just above bridge 13, about 2¾ miles, was let to the Canadian Dredging Co., for completion by Apr. 1, 1918, and was about 64% done. The amount of the contract, as based on schedule rates, was \$1,945,788.

A press dispatch from Ottawa, Dec. 26, stated that work on sec. 3 will be continued by Doheny, Quinlan & Robertson, Senator M. J. O'Brien retiring from his connection with the contract.

## A Strained Interpretation of Salvage Laws.

Ottawa press dispatch, Dec. 18.—Alex. Johnston, Deputy Minister of Marine, states that the salvage laws of Canada and the United States do not apply to rescue work or sending of assistance to vessels in distress. He was shown an article appearing recently in a United States magazine, which intimated that the Princess Sophia disaster might have been greatly alleviated if the salvage laws of the two countries had permitted Canadian vessels to go to the assistance of the sinking vessel. The vessels which were standing by the Princess Sophia were U.S. boats, he said, and as they were in U.S. waters, there was absolutely nothing to prevent them from aiding her.

With regard to the salvage laws of the two countries, he stated that they are intended to apply only to the salvaging of wrecks, and not to the rescue of passengers from sinking boats. An extremely strained and unnatural interpretation of the statute might, he said, produce the other meaning, but to intimate that this was in any way the intention of the law was quite incorrect. There was no law to prevent a U.S. vessel entering Canadian waters and assisting a vessel in distress, or vice versa.

It is claimed in the article in question that as under existing laws, both of Canada and the U.S., a U.S. vessel cannot salvage a wreck in British Columbia waters, nor a Canadian vessel do salvage work in U.S. waters, masters of ships are unable to render assistance in cases of dire necessity. Oftentimes, it is stated, it is extremely difficult to draw the line between what would be considered a work of humanity and that which would infringe on salvage laws.

Capt. Victor Blue, commanding the U.S. battleship Texas, has been appointed Chief of the U.S. Bureau of Navigation, succeeding Rear Admiral Palmer.

## A Question of Jurisdiction Over Water Traffic.

The complaint of C. E. Porteous, that the Compagnie Maritime de Levis, was not giving the necessary ferry boat service between the Island of Orleans and Quebec City, came before the Quebec Public Utilities Commission recently. Objection was raised to the commission's jurisdiction, even in a limited degree, over vessels employed in the carrying trade within the province.

The commission's chairman gave judgment on this point on Dec. 17, 1918. It was contended that article 718 of the act appointing the commission did not originally include any jurisdiction over any means of carriage by water; while the amending statute covering vessels engaged in the conveyance of travellers "across or along lakes, rivers or streams," was not intended to cover lines of vessels employed in the carrying trade. The most important point raised was contained in the second objection, which was, whether the authority conferred by the amendment to the act could be exercised in view of the fact that the British North America Act placed navigation under the Dominion's legislative control. Subsection 10, sec. 92, of the B.N.A. Act, however, gave the provinces control of navigation in local waters, and under the authority of that subsection the province licensed ferries, and made regulations for the carrying on of navigation in provincial waters.

The commission held that the part of the St. Lawrence River in which the company's vessels traded was part of the territory of the province. The control which the commission had over the provincial waters was only such as would not trespass on the authority of the Dominion, which, under sec. 91 of the B.N.A. Act, has control over decked boats of certain dimensions, and over their navigation. The commission held that in anything that does not relate purely to navigation, it has authority. The commission concluded that it had authority to act in the matter, but as its decision would probably be appealed, a decision upon the merits of the application would be postponed.

## Instructions for Sailing Vessels on the Atlantic Routes.

The British Admiralty has issued orders regarding sailing vessels, which cancel all previous orders regarding routes and orders for such ships, as follows:—Sailing vessels may sail direct for the United Kingdom, and French and other European ports, as follows, being warned of all dangerous areas now or subsequently notified in current orders: For the Mediterranean, call at Gibraltar for orders regarding dangers and courses; to the United Kingdom and France: (a) Vessels bound for east coast ports, or ports east of Beachy Head or Pointe d'Ailly, must call at Channel port for orders and pilotage, which is essential in these waters; (b) Vessels to other United Kingdom or French ports should, at present, give all coast and navigation marks a good clearance, at least 10 miles, until entering, and on reaching offing of their port should, before attempting to enter, ask patrol vessel for instructions. As these approaches may be clear by the time vessels arrive, they may proceed as in peace if no patrol vessel is met.

## General Shipbuilding Notes Throughout Canada. Licenses for Clearance of Sailing Vessels.

Chester Basin Shipbuilding Co., Malaga, N.S., launched the 4-masted schooner Arthur H. Zwicker, Dec. 4. Her dimensions are: length 180 ft., breadth 36 ft., depth 13 ft.

Cholberg Ship Co., Victoria, B.C.—Of the 9 auxiliary powered schooners which are under construction at this yard, for Norwegian interests, two hulls were reported in frame during December, and a third as one half framed. Ways are reported to be under preparation for a fourth vessel.

S. M. Fields, Parrsboro, N.S., launched the schooner Cape d'Or Dec. 18. She is classified with the American Record, is 373 tons register and is fitted with power for hoisting. On completion, she went to St. John, N.B., to take cargo for the south, on account of La Have parties.

Foundation Co., Victoria, B.C., announces that P. B. Thompson, formerly Superintendent of the company's Portland, Ore., plant, has been appointed Manager, Point Hope and Point Ellice yards, Victoria, vice H. B. Pickering, transferred to Savannah, Ga. He took charge of the plants, Dec. 10, and is superintending the building of 20 wooden steamships for the French Government.

Fraser Brace Shipyards, Ltd., Montreal.—The incorporation of this company,

urer, A. T. Giles; Assistant Secretaries, E. W. Rogers, Chicago, and F. J. Dolan, Port Arthur; Counsel, A. J. McComber, Port Arthur, and R. A. Pringle, K.C., Ottawa; Purchasing Agent, N. S. Thrasher; Shipyard Superintendent, Jno. Miller; Master Mechanic, Jno. Aldridge; Boiler Shop Superintendent, Jas. Whiteacre; Foundry Superintendent, A. Congdon; Superintendent Engineering Department and Chief Draftsman, L. E. Tornroos.

In our last issue, mention was made of the launching of the ocean steam tug Victoria, and also of a similar tug to be named Murray Stewart, to be delivered before the close of lake navigation. The names given refer to one and the same vessel, the confusion having arisen owing to the Marine Department's refusal to accept the name, Victoria, and her consequent registration under the name, Murray Stewart. She was built for J. F. M. Stewart, Toronto, to Lloyd's classification for ocean going tugs, and has the following dimensions: length over all 126 ft., length between perpendiculars 119 ft., breadth moulded 26 ft., depth moulded 16 ft. 5 in.; tonnage, 240 gross, 80 net. She is equipped with triple expansion engines with cylinders 15, 29 and 47 in. diam. by 36 in. stroke, 850 i.h.p. at 80 r.p.m., and supplied with steam by 2 Scotch boilers

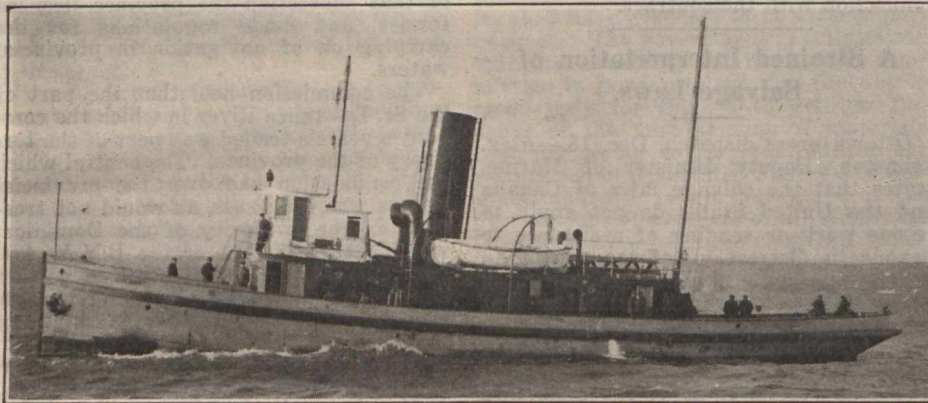
The Commissioner of Customs issued the following notice Dec. 18:—"An order in council has been passed, as set forth below, rescinding the order of Feb. 21, 1918, as published in memo. 2177-B, which memo. is hereby cancelled. In future licenses from the Minister of Customs for the clearance of sailing vessels, as called for in that memo., will not be required. Collectors are to note, however, that memo. 2204-B, requiring a license from the Ships' Licensing Committee for any sailing vessel proceeding on a voyage to a destination outside of Canada, is still in effect."

The order in council referred to above, passed Dec. 16, is as follows:—"The Governor General in council, in view of the changed war conditions, is pleased to order that the restriction upon sailing vessels in order in council 436, of Feb. 21, 1918, prohibiting such vessels from clearing from a port in Canada on any voyage in the prosecution of which the vessel would, in the ordinary course, enter, navigate, or pass through the war zone of enemy submarine activity surrounding the British Islands, or in the waters adjacent thereto, unless a license permitting the vessel to clear on such voyage shall have first been granted by the Minister of Customs, is hereby withdrawn, and the said order in council is rescinded."

The Canadian Northern Ry. Car Ferry Canora arrived at Victoria, B.C., Dec. 7, at 7 p.m., on her trip from Lauzon, Que., where she was built, for the car ferry service between Port Mann and Patricia Bay. She left Lauzon Sept. 30, arriving at Sydney, N.S., Oct. 3, left Sydney Oct. 8 and arrived at Halifax, N.S., the same day, where she remained until Oct. 24. She arrived at Colon, Panama, Nov. 6, and left the Panama Canal Nov. 12, passing San Francisco Dec. 3. The distance between Halifax and Victoria, via the Panama Canal, is approximately 7,550 miles. She would have sailed considerably earlier in the year, but was delayed by an accident in Quebec harbor, the s.s. Sicilian colliding with her on Aug. 6, causing considerable damage, which had to be repaired before she could proceed to sea.

Tidewater Realities, Ltd., Three Rivers, Que., which was incorporated recently, with a capital of \$100,000, to carry on a general real estate business, and primarily to develop St. Maurice Park, Three Rivers, as residential property, is closely associated with Canada Steamship Lines, Ltd., and Tidewater Shipbuilders, Ltd. Special inducements are being offered to employees of the latter company, to acquire houses on the property. The directors are: J. W. Norcross, President; A. J. Gouin, Managing Director; Jacques Bureau, M.P., H. W. Cowan and F. P. Smith. J. I. Hobson is Treasurer.

Ocean Cargo Carriers Co., Ltd., has been incorporated under the Dominion Companies Act, with capital stock of 1,000 shares without nominal or par value, provided that it shall carry on its business with a capital of \$5,000, the company being deemed a private company under the Companies Act and amendments. The head office is to be in Toronto. Power is granted to own and operate steam and other vessels, carry on any other business incidental thereto, and conduct a general navigation business.



Ocean going tug, Murray Stewart, built for J. F. M. Stewart, Toronto, by Port Arthur Shipbuilding Co.

which was mentioned in our last issue, is chiefly for the object of taking over the shipbuilding interests of Fraser Brace & Co., Ltd., as a matter of business convenience. The personnel of the company is the same in each case. The company has an order for 8 wooden steamships for the French Government, some details of which were given in our last issue.

The Harbor Grace Shipbuilding Co., Harbor Grace, Nfld., expected to launch a second schooner during December, of about 300 tons. She was fully rigged with hoisting machinery aboard, and was to be launched all ready for sea. A third vessel is expected to be ready for launching early this year.

Polson Iron Works, Ltd., Toronto.—Keels are being laid for 2 steel cargo steamships for Norwegian interests.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—Following are complete particulars of this company's organization: President, James Whalen, Port Arthur; 1st Vice President, P. G. Chace, New York, N.Y.; 2nd Vice President, R. D. Hubbard, Chicago; Third Vice President and Counsel, A. J. McComber, Port Arthur; other directors: Jas. Playfair, Midland, Ont.; Jno. Burnham and E. W. Rogers, Chicago; General Manager, J. F. Paige; Secretary, A. B. Conmee; Treas-

each 11 by 11 ft., at 175 lb., and she also has surface condenser, evaporator and dynamo.

Pugsley & Robinson, Diligent River, N.S., launched the 4-masted schooner Eugenie Mackay, Dec. 18, for A. B. Mackay, Hamilton, Ont. She is 560 tons register, and is equipped with power for hoisting, stockless anchors, etc., and is classified for 13 years with Bureau Veritas.

The Quebec Shipbuilding & Repairing Co., Quebec, Que., has sold the schooner Edgewood, which is approaching completion at its yard, to the Edgewood Shipping Co., Ltd., Montreal, for, it is reported, \$160,000. She will be equipped with auxiliary power. The company is reported to have decided to commence building, at once, an auxiliary powered schooner of 2,200 tons, similar to the M. P. Connolly, which was wrecked on Sable Island, on her maiden trip a few months ago, and an auxiliary powered schooner of 1,240 tons, similar to the Edgewood, launched recently. It is intended to push these vessels so that they will be ready for service on the reopening of St. Lawrence navigation.

T. H. Rawding, Allandale, N.S., expects to launch a tern schooner during January. She is reported to have been sold to F. H. Ellis and Co., St. John's, Nfld.

## Atlantic and Pacific Ocean Marine.

The Dominion Shipping Co. has been awarded \$183,354 for the loss of its s.s. Heathcote, through collision with Furness Withy & Co.'s s.s. Kelbergen, in the Bay of Fundy in July, 1918.

The St. Lawrence navigation season was officially closed at Montreal, Dec. 17, ten days later than in 1917. The last vessel to pass through was the s.s. Natronco, one of the lake steamships, bound for Halifax, N.S., for ocean service.

The Harrison Line was announced to have resumed its sailings between United Kingdom ports and British Columbia, by way of the Orient, during December, with the s.s. Professor. It is reported that about 20 of the company's steamships were lost during the war, through the enemy submarine campaign.

The master of the s.s. Olympic, Capt. F. Hayes, C.M.G., D.S.O., was presented with a silver salver and an address by the City of Halifax, N.S., Dec. 16, and with a silver loving cup by the Halifax Board of Trade. In making the presentation, the mayor pointed out that during the war, the Olympic had carried more Canadian troops than any other one vessel.

Canadian Robert Dollar Co., which operates the steamships Bessie Dollar, Melville Dollar and Harold Dollar, on a monthly schedule from Vancouver to Shanghai, Hong Kong and Manila, has under consideration the inauguration of a steamship service between Vancouver and India, but we are officially advised that no details have been worked out regarding it.

The Canadian Pacific Ocean Services' s.s. Minnedosa, which arrived at Halifax, N.S., recently from Great Britain, on her maiden trip, was launched by Barclay, Curle & Co., Glasgow, Scotland, Nov. 17, 1917. Her dimensions are: length 520 ft., breadth 67½ ft., depth 43 ft.; tonnage, 14,000; sea speed, 17 knots. She has passenger accommodation for 503 cabin and 1,470 third class.

The Royal Mail Steam Packet Co., which operated a steamship service between Halifax, St. John and the West Indies, has been advised that the British Admiralty has released its steamships Chaudiere and Chignecto from war time service. These vessels were requisitioned early in the war, and taken to England for service there. They were expected to leave England about the end of December, and on arrival at Halifax, they will resume service on their old route.

The Canadian Pacific Ocean Services' Atlantic service is in course of being resumed on a pre-war basis. The steamships Minnedosa, Melita, Metagama, Scandinavian, Scotian, Grampian, Corsican and Tunisian, are being operated between West St. John, N.B., and Liverpool, Eng., on the one class cabin plan, and it is announced that the steamships Alsatian and Empress of Britain will be in service shortly on the three class plan.

The White Star-Dominion Line s.s. Regina, which arrived at Halifax, N.S., Dec. 20, with returning troops, was on her maiden trip to Canada, having been built during war time. She is to be run between Montreal, Quebec and Liverpool, during the St. Lawrence navigation season, and from Halifax, N.S., and Portland, Me., during the winter. She was built by Harland & Wolff, Belfast, Ireland, and is about 16,500 gross tons, 600 ft. long, 68 ft. beam, and has accommoda-

tion for cabin and third class passengers.

P. V. G. Mitchell, Assistant General Manager, White Star-Dominion Line, Montreal, left there, Dec. 17, for Antwerp, Belgium, on behalf of the International Mercantile Marine Co., to take charge of the company's business there during the reorganization of local conditions. Prior to leaving Montreal, he is reported to have said that the company's interests in Europe, before the war, were very large and that to a great extent they centered on Antwerp. Owing to the German occupation and consequent isolation of Antwerp, the business became disorganized, and his task is to find out just what the condition of affairs there is, and to re-establish business connections throughout the continent.

C. E. Benjamin, Passenger Traffic Manager, Canadian Pacific Ocean Services, Ltd., who arrived in Montreal, Dec. 16, from London, Eng., is reported to have said that the steamships Empress of Asia and Empress of Russia, which were transferred from the Pacific to the Atlantic to facilitate the transport of U.S. troops to Europe, had been restored to commercial service and would resume their service between Vancouver and the Orient early in the year. They were then being refitted in an English port, and the first named was to return to the B.C. coast by way of the Panama Canal, carrying returning troops to that province. The second named vessel will return by the Suez Canal, returning troops to Australia on the way.

The Canadian Pacific Ocean Services' s.s. Empress of Britain, which has been engaged on war work practically since the outbreak of war, had, up to the end of November, covered 173,130 miles, while in Admiralty service, and carried 110,000 troops overseas. She took Australian and British troops to Gallipoli, and took them away again, and during the period the Suez Canal was closed to traffic, she made a trip round the Cape of Good Hope, with troops for what was then German East Africa, and also for Mesopotamia. She made eight trips with Canadian troops, and for the first seven months of the war patrolled the South Atlantic as an Admiralty cruiser. She was attacked by submarines about a dozen times and had two narrow escapes. She is at present engaged in repatriating U.S. troops, and is expected to return to her commercial service shortly.

## Ontario and the Great Lakes.

The quantity of grain held in storage on vessels in Port McNicoll harbor, is 7,927,186, the largest yet held there during the winter.

Passenger service on Lake Ontario closed Dec. 21, with the sailing of the Canada Steamship Lines' s.s. Macassa from Toronto for Hamilton.

Canada Steamship Lines' s.s. W. Grant Morden, is reported to have made a record showing for her season's operations, with freight earnings on her final round trip larger than any ever made by any other vessel on the one trip.

The Empire Elevator Co. has deposited plans with the Dominion Public Works Department, giving description of site and plan of works, docks and elevator, which it has built in Thunder Bay, at the mouth of the Kaministikwia River at Fort William.

The mine sweepers Cerisoles and Inkerman, which were built recently by the

Canadian Car & Foundry Co. at Fort William, for the French Government, are reported to have been lost, together with their crews, totalling 76 persons, during a storm on Lake Superior, about Nov. 24. A search party has failed to get any trace of them, but some wreckage, which appears to be parts of these vessels, was found during December, off Grand Marais.

The s.s. Atikokan has been docked at the Collingwood Shipbuilding Co.'s plant at Kingston, for structural alterations. She passed through the Welland Canal recently from the Great Lakes, in two sections, and while being rejoined, it has been thought advisable to make certain alterations in the deck design to enable her to encounter a high sea with comparative safety. She is of the whaleback type of construction, and it is said that the designers' ideas have not been fully realized.

The Toronto Harbor Commissioners interviewed the Minister of Public Works, at Ottawa, Dec. 18, when it was reported that assurances were given that the work to be done in the harbor during 1919, would be sufficient to keep about 800 men fully engaged. The chief work to be undertaken, is the concrete superstructure of the breakwater at the western extremity of the harbor, to protect work already done at that point. A turning basin will also be taken in hand, and located in the industrial area at the east end.

## British Columbia and Pacific Coast.

The Dominion Public Works Department will receive tenders to Jan. 24 for the reconstruction of the dockyard wharf at Esquimalt, B.C.

The C.P.R. has deposited with the Dominion Public Works Department a description of site and plans of a wharf or transfer slip proposed to be built in Burrard Inlet, in Vancouver harbor, slightly west of the prolongation of Thurlow St., northerly to Burrard Inlet.

The Marine Department has decided that the enquiry into the loss of the C.P.R. s.s. Princess Sophia, with approximately 346 lives, on the Vanderbilt Reef, in the Lynn Canal, Oct. 24, will be held at Victoria, Jan. 6, in the Admiralty Court, before Mr. Justice Martin.

A press report from Vancouver, Dec. 16, stated that the 12 auxiliary powered schooners, which were built for Canada West Coast Navigation Co., at Vancouver and Victoria, during 1917, had been purchased by the French Government, and that those not already taken over, will come under the French flag on the completion of their present voyages.

**Caution re Floating Mines.**—The Naval Service Department has been advised that about 25 floating mines were sighted Dec. 8, covering an area of about 15 miles, in the North Atlantic, in lat. N. 39 deg. long. W. 69 deg. 50 min. Vessels are advised to keep a lookout for them and to destroy them by gun fire. If seen, vessels should report by wireless to the U.S. Navy Department.

**Shipbuilding in the United States.**—C. F. Piez, General Manager, U.S. Shipping Board, Emergency Fleet Corporation, advised the Senate, Dec. 17, that from Aug., 1917, to Nov. 23, 1918, that organization had been responsible for the building of 280 vessels, aggregating 1,216,367 gross tons.

## The Dominion Government's Shipbuilding and Canal Policy.

Sir Thomas White, Finance Minister, and acting Prime Minister, when in Toronto Dec. 16, gave out a statement calling attention to the things accomplished by the Union Government during its first year of office. Among other things he said:—

"An outstanding feature of the government's policy has been the establishment of a great shipbuilding industry. Over 40 steel vessels for government account are now under order, the total estimated programme for this and the coming year aggregating over \$60,000,000. The activities of all Canadian shipyards are being maintained at their highest capacity, furnishing employment for an army of workmen and sustaining many subsidiary enterprises of an important national character.

"To provide employment during the periods of demobilization, the Railways and Canals Department is proceeding with the construction of the Welland Ship Canal, work on which has been shut down because of the war. In the same way work will be resumed on the final section of the Trent Canal."

### Mainly About Marine People.

**Jas. McShane**, who died at Montreal, Dec. 14, aged 85, was at one time a member of the old Montreal Harbor Board, and later, harbor master there.

**Jas. Carruthers**, President, Canada Steamship Lines, Montreal, was one of the speakers at the dinner given the Hon. Robt. Rogers, ex Minister of Public Works, in Toronto, Nov. 28.

**August Bedard**, Montreal representative of the Ottawa Transportation Co., died at the Royal Victoria Hospital, Montreal, Dec. 10, aged 68, after about two weeks illness from heart trouble.

**Hon. C. C. Ballantyne**, M.P., Minister of Marine, was reported, Dec. 27, to be confined to his home at Montreal with appendicitis. An operation was performed and he was reported to be progressing satisfactorily.

**Frank McDonnell**, heretofore Assistant to Chairman, Board of Steamship Inspection, Marine Department, Ottawa, who was appointed Chairman, Board of Steamship Inspection, Sept. 23, 1918, to succeed T. R. Ferguson, deceased, was born Oct. 18, 1877, and first entered government service, Mar. 6, 1905, receiving a permanent inside appointment Sept. 1, 1908, being appointed Assistant to Chairman, Board of Steamship Inspection, Oct. 1, 1912. This is a correction of an item published in Canadian Railway and Marine World for Dec., 1918, in which the dates of birth and previous appointment were incorrectly stated, having been copied from erroneous official information.

**John L. Weller**, who has been appointed Consulting Engineer, Welland Ship Canal, was born at Cobourg, Ont., Feb. 13, 1862, and entered government service in July, 1885, since when he has been, to 1885, Assistant Engineer, Trent Canal, Peterborough, Ont.; 1885 to 1888, Assistant Engineer, Murray Canal, Brighton, Ont.; 1888 to 1900, Resident Engineer, St. Lawrence Canals, Cornwall, Ont.; 1900 to 1912, Superintending Engineer, Welland Canal, St. Catharines, Ont.; 1912 to May 2, 1917, Engineer in Charge, Welland Ship Canal, St. Catharines, Ont.

**Miles A. Overend**, Freight Agent for Ontario, White Star-Dominion Line, Toronto, died there, Dec. 28. He was born in England, and came to Canada in 1872, entering the Great Western Ry. service, Hamilton, Ont., in the mechanical department, and continued in that service until the absorption of the road by the G.T.R. in 1884, since when he was, to June, 1885, clerk in General Freight Agent's office, G.T.R., Hamilton, Ont.; June, 1885, to June, 1892, clerk in District General Freight Agent's office, same road, Toronto; June, 1892, to Nov., 1893, clerk in same office, Toronto; Nov., 1893, to May, 1895, Ontario Agent, Canada Atlantic Fast Freight Line, Toronto; May, 1895, to Sept., 1896, City Freight Agent, G.T.R., Toronto; Sept., 1896, to Apr., 1898, Ontario Agent, Canada Atlantic Fast Freight Line, Toronto; Apr., 1898, to Oct., 1905, Foreign Freight Agent, Canada Atlantic Ry., Montreal; Oct., 1905, to Apr., 1906, in private business; Apr., 1906, to Aug., 1911, Travelling Freight Agent, White Star-Dominion Line, Toronto, at which latter date he was appointed Freight Agent for Ontario, for that line.

### Restoration of Canada's Shipping Facilities to a Pre-war Basis.

London, Eng., cablegram, Dec. 12.—Some progress has been made in the work of restoring Canada's shipping facilities to a pre-war basis. Sir George Foster, Minister of Trade and Commerce, has been dealing with the question in conference with the British Minister of Shipping. An agreement on a number of important points has been reached.

Freight and passenger service between Canada and the Orient is to be re-established. The Canadian Pacific Ocean Services steamships, Asia and Russia, which have been employed in European waters in transportation work, will be back with cargoes to Vancouver or Hong Kong, and will then be released to their owners. The

6 freight steamers formerly plying between Vancouver and Australia were all requisitioned by the Admiralty and 5 of these were lost. It is arranged that these are to be replaced as rapidly as possible and a beginning in the freight service will be made at once.

Service between Halifax and the West Indies has already been re-established. The former shipping service between Canada and South Africa was one ship a month. The British Shipping Ministry promises 3 ships between now and May and thereafter a resumption of old service.

In all these services private control of rates will be resumed, as they are re-established. The North Atlantic freight service is likely, however, to remain for a considerable time under the control of the International Maritime Transport Council, which has been co-ordinating and controlling the shipping resources of the allied nations. Rates and cargoes will remain in control of this body, but the amount of space allocated for private commercial business, which was limited last year to from 2 to 5% of the cargo space, will be considerably increased, especially in eastbound ships.

The consent of the Shipping Control to imports into England will be required, but it is thought the disposition will be to encourage the resumption of private trading in goods required here, so far as exigencies of the exchange situation will permit. License to import requires the endorsement of the Treasury, and this may not be forthcoming in cases where the present disadvantageous position of England with respect to exchange would be accentuated. But despite this, opportunities and facilities for private trading between Canada and Great Britain will steadily increase from this time forward. It is expected that Canada will be given a representative on the International Maritime Transport Council, probably Lloyd Harris, chairman of the Canadian Mission to Great Britain.

## Wooden Shipbuilding in Canada for Foreign Countries.

Following is a complete list of licenses granted by the Dominion Marine Department up to Dec. 9, 1918, for building wooden steamships for export:—

1918.	Builder.	Vessels.	Tons d.w.	For
Mar. 14	British American Shipbuilding & Engineering Co., Vancouver, B.C.	20 steamships	3,000	Norway
June 3	LeClaire Shipbuilding Co., Sorel, Que.	4 aux. schooners	1,200	Norway
July 18	Three Rivers Shipyards, Ltd., Three Rivers, Que.	25 vessels	3,000	France
July 18	LeClaire Shipbuilding Co., Sorel, Que.	3 motor vessels	1,000	Norway
Aug. 5	Cholberg Shipyards Co., Victoria, B.C.	3 steamships	1,500	Norway
Sept. 6	LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	Norway
Sept. 12	Davie Shipbuilding & Repairing Co., Lauzon, Que.	12 steam barges	1,500	France
Sept. 12	Fraser, Brace & Co., Montreal	8 steam barges	1,500	France
Sept. 12	New Westminster Engineering & Construction Co., New Westminster, B.C.	5 steam barges	1,500	France
Sept. 12	Wm. Lyall Shipbuilding Co., Vancouver, B.C.	8 steam barges	1,500	France
Sept. 12	Pacific Construction Co., Port Coquitlam, B.C.	2 steam barges	1,500	France
Sept. 12	Northern Construction Co., Vancouver, B.C.	5 steam barges	1,500	France
Sept. 12	National Shipbuilding Corporation, Three Rivers, Que.	10 steam barges	1,500	France
Oct. 12	Foundation Co., Victoria, B.C.	20 steamships	3,000	France
Oct. 12	Davie Shipbuilding & Repairing Co., Lauzon, Que.	1 steamship	1,500	Greece
Nov. 2	New Westminster Engineering & Construction Co., New Westminster, B.C.	3 steamships	3,200	Belgium
Nov. 2	Northern Construction Co., Vancouver, B.C.	4 steamships	3,200	Belgium
Nov. 2	Pacific Construction Co., Port Coquitlam, B.C.	3 steamships	3,200	Belgium
Nov. 15	Pacific Construction Co., Port Coquitlam, B.C.	2 steamships	2,800	Greece
Nov. 17	Wm. Lyall Shipbuilding Co., North Vancouver, B.C.	6 aux. schooners	2,500	Belgium
Dec. 19	LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	Norway
Dec. 19	LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	France

Total, 147 vessels; 339,100 tons d.w. capacity.



## The Deputy Minister of Marine on the Shipbuilding Contracts.

Alex. Johnston, Deputy Minister of Marine, is reported to have stated to the Toronto Globe's Ottawa correspondent recently that in concluding contracts for 45 steel steamships, with an aggregate tonnage of 263,850 tons d.w., to cost \$52,691,450 in all, the department contended that it had made arrangements as good as could possibly be made in this country. Mr. Johnston referred to a statement made recently by C. F. Piez, now at the head of the U.S. Emergency Fleet Corporation, when giving testimony before a Senate committee at Washington, to the effect that the cost of ships in construction in the U.S. would be \$225 a ton.

"But why should the price in Canada and the U.S. be so much more than it is in the British Isles?" he was asked.

"It is almost entirely on account of the greater cost of labor to us," said Mr. Johnston. "Just to show you the impossibility of our producing vessels at the same price as they do in the British Isles, let me quote you some comparative figures of wages paid in our shipyards and in those of Great Britain. Shipwrights in Great Britain are paid \$16.50 a week of 50 hours, while in Vancouver, for less efficient labor, we have to pay \$36.30 for a week of 44 hours, an increase of 120%. In the lake yards \$34.45 is paid to shipwrights, and in Montreal \$27.80. This is not an isolated instance, but applies to all kinds of shipbuilders. Take riggers, who get \$13.20 a week of 50 hours in Great Britain, while in Vancouver they are paid \$33 for a 44-hour week, or 140% more; in the lake yards \$31.50 a week is paid to riggers. Machinists, who get \$14.40 a week of 50 hours in England, get \$29.25 in Montreal, \$35.75 a week in Port Arthur and the lake yards generally, including Toronto, and about the same on the Pacific coast. Riveters are paid \$15.55 for a 50-hour week in England, and \$33 generally throughout Canada."

"Is there a similar difference in the price of steel?" he was asked.

"Our information is that the price of steel in Great Britain is \$53 a ton delivered to shipyards, whereas steel is being delivered at Vancouver for \$102.25 a ton, at Port Arthur for \$89.37, at Toronto for \$78.84, and at Montreal for \$96.89."

On being asked to explain the difference between the price at Pittsburg for steel plates of \$65 a ton and the guaranteed price to the new ship plate mill being erected in Sydney at \$85 a ton, Mr. Johnston said: "You must remember that we made that arrangement before there was any prospect of an armistice, and when the military situation was such that an early ending of the war was very improbable. It was a war expenditure, which we would not have been justified in neglecting at the time. The situation in the U.S. at that time was such that we succeeded in getting only 6,000 tons of plates from March last to the time the armistice was signed. The united efforts of the Marine Department, the War Trades Board and the Canadian War Mission at Washington could not make it any better than this, and if the war had continued the situation would have been worse instead of better. It was intimated to us on more than one occasion that, instead of looking for an improvement, we could expect worse deliveries. The efforts of R. H. McMaster, who was on the Cana-

dian War Mission at Washington, deserve all praise, as through his efforts we got more than we could possibly have obtained otherwise under those circumstances. If the shipbuilding industry were to continue in Canada we had to have a mill to manufacture our own plates.

"You say that we will have to pay \$85, when U.S. plates will be offered at \$65, and we must admit that at once; it is regrettable and unavoidable. We had to do it at the time, and the extra price which we will continue to pay in peace times is really a war expenditure, in that we agreed to pay it on account of conditions made by the war. However, it made the establishment of that industry possible, and will help it to establish itself in the next five years, the price diminishing every six months if the cost of ingots as determined at the end of each six months' period justifies it."

Questioned as to the ratio between the cost of labor to that of material in the construction of ships, Mr. Johnston said that the cost of labor in producing certain sets of boilers and engines amounted in England to \$43,140, compared with \$95,000 in Canada, while the materials for the same engines and boilers in Great Britain would cost \$98,600, and in Canada approximately \$160,000.

"Mr. Piez told the U.S. Senate committee in his evidence that England was paying \$140 a ton. Taking into account the differences in the cost of material and labor here, and the experience of shipbuilders here that labor in England is 25% more efficient, you will see that \$199 a ton as an average condition price is far from being exorbitant. The United States pay more than we do, and their labor costs about the same. They get their steel for the same price at the mill, but the freight is cheaper. The freight rate from Pittsburg to the coast is \$30.80 a ton, and to Halifax only \$11.87 a ton."

It is probable that the plate mill at Sydney will compete at market prices with U.S. mills in Canada and the U.S. for business over and above the Government's requirements. When normal conditions are restored, and there are abundant supplies of steel, coal and ore to enable the general steel plant at Sydney to maintain a maximum production, the cost of producing pig iron and steel, and consequently the cost of producing ingots, will decline. Under the government contract it will get the benefit of any decline in the price of steel ingots which these or any other conditions may bring about. There is little probability, however, that the price paid by the government will ever get as low as the market price until five years have gone by. The government's requirements will not be only for ship's plates, but for plates for many railway purposes as well. Until the ship plate mill begins manufacturing next autumn the government will have to depend on supplies from the U.S. Last summer delays in deliveries held up shipbuilding, but hereafter no such trouble is anticipated by Mr. Johnston.

W. Grant Morden, of the Canada Steamship Lines, London, Eng., Advisory Committee, has been elected to the British House of Commons for the Brentford and Chiswick Divisions of Middlesex as a supporter of the Unionist Government.

## The North Atlantic Passenger Services.

Belfast, Ireland, press dispatch, Dec. 26, 1918.—Contrary to what had generally been anticipated, some large liner tonnage is coming off the ways of British shipyards. Since the signing of the armistice half a dozen large ships have made their maiden voyage or are about to do so.

Enquiry among the British lines brings the explanation that some six months ago the British Admiralty decided that naval construction was in such shape as to permit a switch from naval to mercantile construction. On the strength of this the British shipyards quietly proceeded, it is stated, to complete liner tonnage contracted for long ago, and left in various stages of completion.

The White Star and Dominion lines figure chiefly in the most recent liner deliveries. The Vedic, a new White Star steamship, is a 10,000-ton vessel, and will be operated in one or other of the line's North Atlantic services. The Vedic, which has not yet made her maiden trip to America, was built at the Queen's Island Shipyard of Harland & Wolff, Belfast.

The Dominion Line has two new ships, the Regina, 16,314 gross tons, and the Rimouski, of 10,000 tons, both built by Harland & Wolff. The Rimouski is a sister ship of the Vedic. Besides being important cargo carriers, both the Vedic and the Rimouski will carry one-class passengers, these boats having been specially designed to provide accommodation for those desiring to travel comfortably, but economically.

Another new liner delivered recently by Harland & Wolff is the Minnedosa, of the Canadian Pacific Ocean Services. She is a vessel of 14,000 gross tons with triple screws. She left Liverpool on her maiden trip Dec. 5, and reached St. John, N.B., on Dec. 14, carrying 898 troops and 498 civilians. The Minnedosa is a sister ship of the Melita, which first crossed the ocean in Jan., 1918.

The Alsatian, 18,000 tons, the largest vessel in the Canadian Pacific Ocean Services' fleet, will probably be restored to her regular run in the near future. The Empress of Britain will also be restored shortly to the Canadian North Atlantic service. On the other hand, the Empress of Asia and the Empress of Russia will return to the trans-Pacific run.

Other liners of the C.P.O.S. which have survived the war are: the Virginian, 12,000 tons; the Victorian, 12,000 tons; the Metagama, 12,600 tons; the Scandinavian, 12,100 tons; the Grampian, 12,100 tons; the Scotia, 11,500 tons; the Corsican, 10,000 tons and the Tunisian, 10,000 tons. Sunk during the war were: the Calgarian, 18,000 tons; the Missanabie, 12,600 tons; the Hesperian, 10,920 tons, and the Ionian, 9,000 tons.

St. Lawrence River Improvements Temporarily Disapproved by U.S. Authorities.—A report submitted to Congress by the War Secretary, Dec. 16, contained the statement by the Chief of Engineers, that "until the actual completion of the enlarged Welland Canal and tangible plans for the deepening of the Canadian St. Lawrence River channel and canals from St. Regis to Montreal indicate a prospective navigation by vessels of deeper draft than those now on the Great Lakes," any proposed improvements in the St. Lawrence River between St. Regis, N.Y., and Montreal, to make these waters navigable for ocean going vessels, be disapproved.

## Conversion of an Ocean Steel Dredge into a Freight Steamship at Levis, Que.

An interesting operation in marine work was carried out recently by the National Shipbuilding Co., of Goderich, Ont., at its St. Lawrence dock, Levis, Que. Having undertaken to convert an ocean going steel dredge into a freighter for French shipowners, a quick delivery being specially called for, and there being

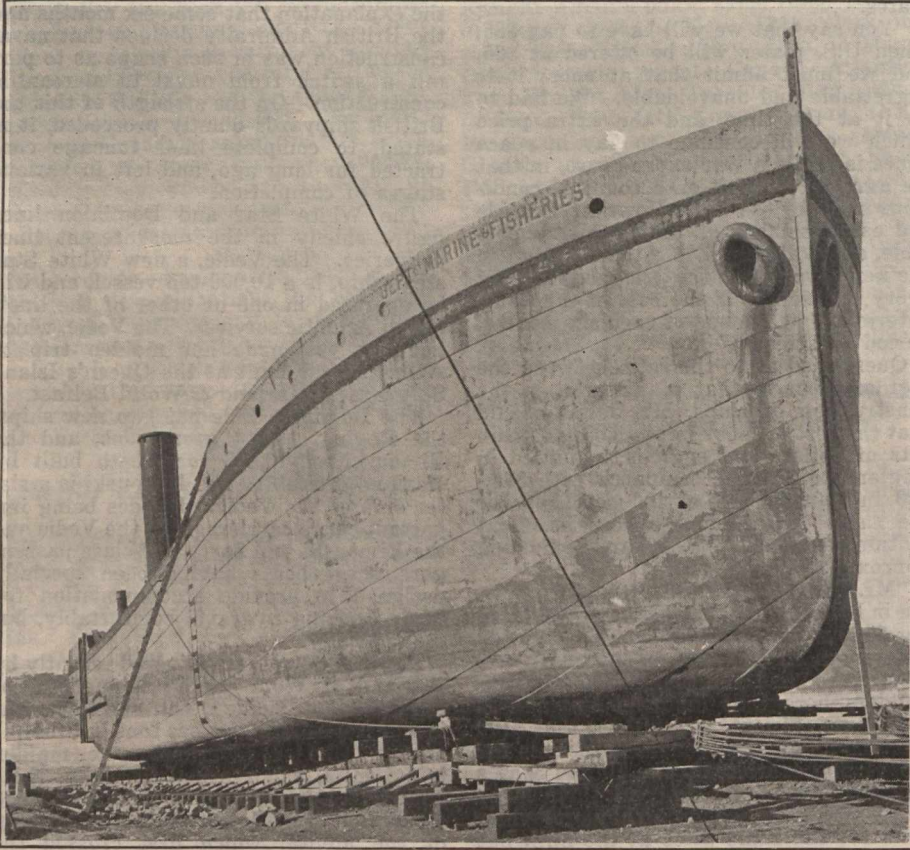
required in a modern shipyard. Owing to the impossibility of securing the necessary machinery and appliances for a regular marine railway in the limited time available, it was decided to use greased ways, instead of the usual steel rollers. The grade of the slipway was fixed at 4%, and it was found that if ad-

of the slip, however, was subsequently reduced to 485 ft., as the bow of the ship was allowed to overhang the cradle by 23 ft.

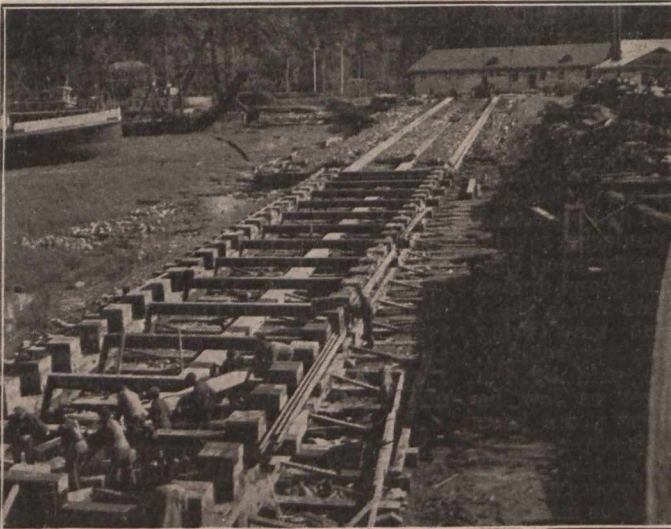
The site selected for the operations contained a wharf of sufficient width to allow of the upper portion of the slip being excavated for a length of 225 ft., the material with which the wharf had been filled originally being shale debris from the adjoining cliffs, provided a good foundation for the ways. Beyond the wharf, soundings taken in the river showed from 4 to 5 ft. of mud and blue clay overlying the rock, and although it would have been preferable to have carried the foundation of the ways down to rock, it was realized that as work could only be carried on during low tide, it would require the remainder of the season to clear the site, consequently the mud only was removed and the cross timbers laid on the blue clay, which on closer inspection proved quite suitable for a solid foundation.

The cross timbers, 12 x 12 in. x 40 ft. long, of B.C. fir, were laid at 4 ft. centers, the next course above being composed of longitudinals, and above this cross timbers again, the whole cribwork being filled in with rock and shale from the wharf excavation. The standing ways were constructed of two 12 x 12 in. oak baulks bolted together with 1 in. bolts at 5 ft. centers, the bolts also passing through the 6 x 15 in. oak guides fixed on the outside of the ways and projecting 3 in. above the surface of same to hold the sliding ways in position.

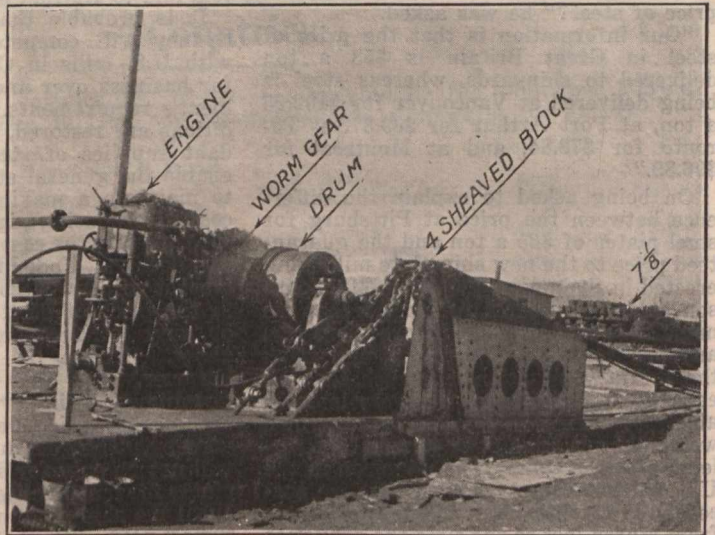
A center way was also provided for a certain distance, to carry the stern of the vessel where the engines and boilers were situated, and where the lines of the hull did not allow of it being supported on the side ways. The sliding ways carrying the cradle, 210 ft. long, were also of oak, a center way 75 ft. long being also provided to carry the stern of the vessel where the greatest weight was concen-



Dredge Galveston, being hauled up the marine railway.



Construction of the cradle at low tide, for hauling up the Dredge Galveston.



Hauling apparatus, engine, worm gear, drum, 4-sheaved block,  $\frac{7}{8}$ -in cables.

no drydock available in which to carry out the work, the company decided to bring the vessel out of the water on a marine railway.

A site having been selected on the St. Lawrence River opposite Quebec, active operations were commenced on the construction of the slipway, together with all the necessary shops and buildings re-

vantage was taken of the highest tides for floating the vessel on to the cradle, a total vertical lift of 11 ft. would be sufficient to ensure the stern being above high water mark for the balance of the season. This lift, on a 4% grade, fixed the hauling distance as 275 ft. and the length of the slip at 508 ft. (viz., length of ship 233 ft., plus haul 275 ft.). The length

of the slip, however, was subsequently reduced to 485 ft., as the bow of the ship was allowed to overhang the cradle by 23 ft. Timbers 12 x 12 in. x 24 ft. long were laid across the sliding ways at 10 ft. centers, with short blocks in between, so that the vessel would be supported by blocking at 5 ft. centers throughout the length of the cradle. This blocking was carried up to a height of 4 ft. above the standing ways at the after end of the cradle and 2½ ft. at the forward end,

these heights being fixed by the draught of the vessel fore and aft and the estimated elevation of the tide on the day fixed for the hauling operation. A margin of 2 ft. was allowed between tide and draught for clearance and vagaries of tides, which were found to vary considerably from the tide tables when the wind was in certain directions.

During the construction of the slipway a large gang was employed cutting away and removing all parts of the vessel not required in the reconstruction; the engines and boilers, however, remained in position, and the total weight when placed on the cradle was approximately 1,000 tons, the dimensions of the vessel being 233 ft. between perpendiculars and 39 ft. beam.

A somewhat difficult problem to solve was the pull required to overcome the initial inertia on greased ways on a 4% grade, though it was considered that once this inertia was overcome the coefficient of friction would not be higher than .10, which, on the 4% grade, represented a total pull of about 140 tons. This diffi-

a fourth one being fixed on the centre line 23 ft. forward of the cradle for locating the position of the bows.

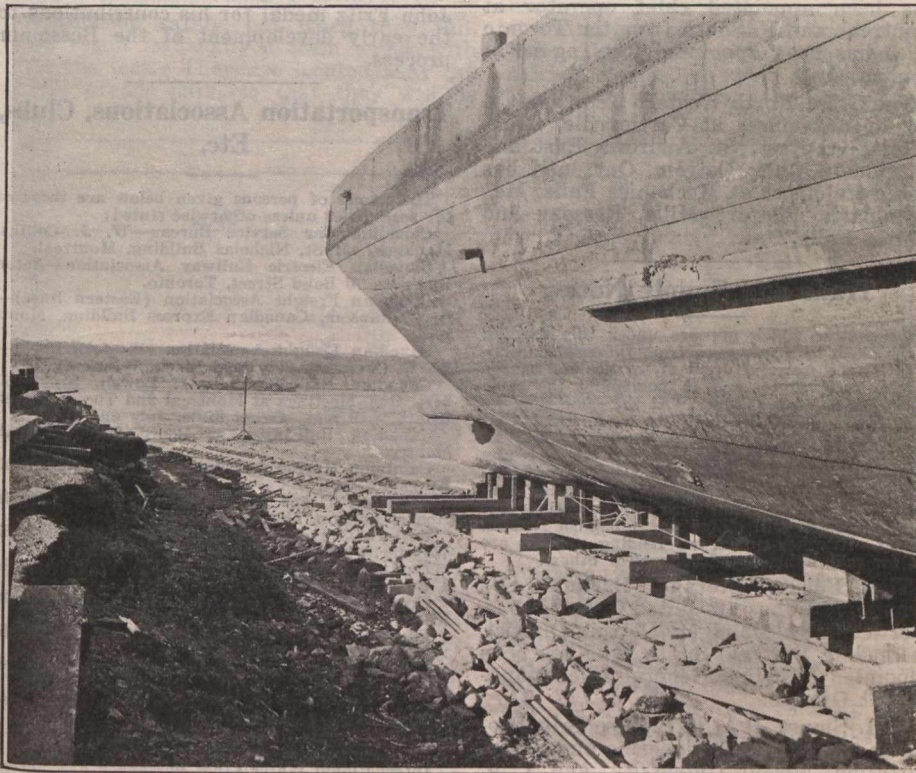
The high tide, occurring at night, made the operation a more difficult one. The vessel was warped into position by cables attached to the wharf on one side and to an anchor and tug on the other, and at 8 p.m. (high tide) was over the submerged cradle, at 8.45 the bows had settled on the blocks at the forward end, and at 9 p.m. the hauling winch commenced to pull on the cradle. As almost the entire weight of the vessel was still water borne, the initial inertia was small and easily overcome, and the cradle moved forward up the ways, with the vessel gradually settling down on same until entirely supported. During this operation very great care had to be exercised in manipulating the mooring cables at the stern, which was subsequently found to have settled within a few inches of the center of the blocks. The cradle steadily mounted the ways, with its huge burden, until the entire hull became visible, looking in the dim light like some monster of the deep

ing loft stores, offices, etc., had been installed and the vessel brought out of the water. The operations here described were carried out under the direction of D. A. Andrus, the company's Manager and Engineer at Levis.

The Gulf of St. Lawrence Shipping & Trading Co., Ltd., the incorporation of which, with \$3,000,000 capital and office at 147 Mountain Hill, Quebec, Que., has been announced previously, is reported to have been granted a subsidy by the Dominion Government for a steamship service during the navigation season, for 5 years, to 1923, at \$70,000 a year, to operate 4 vessels to the west shore of Newfoundland, making four trips a month, and one trip to Gaspé, Prince Edward Island and Pictou, and one between Pictou and Magdalen Islands, on a semi-weekly schedule. One steamship, Guide, was operated at the end of the past season, and it is said that arrangements are being made for the chartering or purchasing of other vessels for service in the spring. The company intends doing a general trading business, in addition to carrying on a passenger, mail and freight service. The officers are: President, C. A. Barnard, K.C., Montreal, a director of Canada Steamship Lines, Ltd., and President, Davie Shipbuilding & Repairing Co., Lauzon, Que.; Vice President, A. E. Doucet, Quebec, formerly District Engineer, National Transcontinental Ry.; Secretary-Treasurer, H. P. Hamel, Quebec; Marine Superintendent, Capt. J. S. Bernier, Arctic explorer; General Manager, J. de S. Bosse.

Steamship Corinthian Wrecked.—Canadian Pacific Ocean Services' s.s. Corinthian, outward bound from St. John, N.B., from Glasgow, Scotland, with general cargo, on Dec. 14, struck on Bolsons Ledge, commonly known as the north-west ledge, Brier Island, at the entrance to the Bay of Fundy, and became a total loss. The crew of 86 were rescued, Dec. 15, by the Dominion Government s.s. Aberdeen and patrol s.s. Festubert. The weather at the time of the casualty was reported as dense fog with a heavy sea running. The master reported that when he left the vessel, the holds were full of water, and that it was impossible to salvage anything. She was built at Belfast, Ireland, by Workman, Clark & Co., in 1900, for the Allan Line, and was 445 ft. long, with a gross tonnage of 7,332. Included in the cargo was 120,000 bush. of wheat. An enquiry was held at St. John, N.B., Dec. 20, when it was reported that the court had decided that the loss was due to indifferent seamanship, and suspended the certificate of the master, Capt. Tannock, for three months, and that of chief officer Simpson for six months.

Dry Dock for Vancouver.—It is reported that a company is about to apply to the Dominion Government under the Drydock Subsidy Act, for a subsidy for the construction of a first class drydock at Vancouver. The report states that the interests concerned in the proposed company, include the Wm. Lyall Shipbuilding Co. and the Pacific Construction Co., both of which carried out wooden shipbuilding contracts for the British Government, through the Imperial Munitions Board, and are now building wooden steamships for the French Government. So far as the Pacific Construction Co. is concerned, Stuart Cameron, Vice President, is reported to have stated, Dec. 13, that this is an old story revamped, that the company has no plans in this connection whatever, and though it has been asked to



Dredge Galveston, in yard, after having been hauled up the marine railway.

culty, however, was successfully overcome in the manner described later on in this article. The hauling engine and drum were bolted down to a heavy concrete foundation, weighing approximately 150 tons, and also anchored back to same with 1 1/4 in. steel rods. Two 2 1/2 in. steel cables were attached to the rear end of the cradle, and passed forward beneath same to the forward end, where they were shackled to two heavy 4 sheaved steel blocks; 3/8 in. steel cables were reaved over 3 sheaves in each block, making a 7 part line on either side, extending to similar blocks fixed in front of the winding drum, the distance between the blocks being 313 ft., each cable being 2,500 ft. long. The cradle was erected in position at the lower end of the ways and weighted with rails and rock; 3 timber uprights bolted on one side of same 50 ft. apart and exactly 19 1/2 ft. from the centre line, acted as guides for bringing the vessel into correct position,

rising from the sea with the water dripping from its sides. The total distance of 275 ft. was covered in 40 minutes, at a mean speed of approximately 7 ft. a minute, and the vessel was high and dry in position adjacent to the shops all ready for reconstruction work. No camber had been given to the ways, but there was no settlement, neither was anything displaced or broken.

In the accompanying illustrations the vessel is shown stripped of bulwarks, bridge deck and all top hamper down to the main deck. The alterations and reconstruction call for increasing the moulded depth by 8 ft., remodelling the stern, new bottom for half the length of the vessel, construction of cargo holds, crew quarters, etc., providing masts, booms, deck winches and all fittings necessary for relaunching completely ready for sea. Within 2 1/2 months of taking possession of the site the necessary machine shops, carpenter shops, mould-

consider a proposition, nothing at all has been decided. Some years ago the company carried on some investigations with the view of establishing a dry dock on the north shore.

**Steamship Control Relinquished in United States.**—The Clyde, Mallory, Merchants & Miners and Southern Steamship Companies were relinquished from U.S. federal control Dec. 5 by order of the Director General of U.S. Railroads. Steamship companies owned by railways will be retained under management of the Railroad Administration. The four lines turned back to private management were taken over by the government, April 13, under war powers of the President, and their operation consolidated with other steamship lines under the Railroad Administration.

**Manchester Liners, Ltd.,** report for the year ended June 30, 1918, mentions that the operations were satisfactory. All of the company's vessels were under requisition and operated on government account, though several were retained in the Canadian trade. The fleet, at the outbreak of war, consisted in 15 vessels, and of these, 8 were sunk by mines or submarines. Two new vessels were built, and five others were purchased. The new vessels, Manchester Brigade and Manchester Division, with capacity for 9,000 tons each, were both in Montreal during the past season.

### Among the Express Companies.

Robt. J. Timpson, heretofore stenographer, has been appointed chief clerk, Superintendent's office, Canadian Ex. Co., Toronto. He entered the company's service Feb. 5, 1907.

Canadian Railway and Marine World for November, 1918, announced that J. H. Chadwick had been appointed agent, Canadian Northern Ex. Co., Edmonton, Alta. We have been officially advised that this is incorrect, J. H. Morrison being the company's agent there.

John T. Madigan, heretofore chief clerk, Superintendent's office, Toronto, has been appointed route agent, Canadian Ex. Co., Hamilton, Ont. He entered the company's service Dec. 1, 1911, as clerk in the Superintendent's office at Toronto, and was promoted to chief clerk Nov. 18, 1912.

F. G. Airy, who was, until recently, in charge of the joint agency, maintained in New York, by the various companies operating in the U.S., for the purpose of publishing tariffs in which all the companies were interested, is now chief clerk in the American Railway Ex. Co.'s tariff bureau.

The Board of Railway Commissioners has fixed hearings for the application of the Express Traffic Association of Canada, on behalf of all express companies operating in the Dominion, for an increase in rates, for the following dates: Jan. 7, at Ottawa; Jan. 13, at Toronto, and Jan. 16, at Montreal.

Henry Samuel Julier, who retired as Vice President and General Manager, American Ex. Co., New York, a few years ago, and Mrs. Julier, celebrated the 50th anniversary of their wedding, Dec. 15. In his early days of service with the company, he was train messenger on the old Buffalo & Goderich Ry., prior to its acquisition by the G.T.R. On his retirement from active service, he was one of the most widely known express officials on the continent.

The Court of Review at Montreal gave judgment Dec. 19, on Omer Jolicoeur's

appeal against the Dominion Ex. Co., claiming \$150 for the loss of a trunk and contents, in transit between L'Epiphanie and Montreal, Aug. 13, 1917, in favor of the appellant, thus reversing the Superior Court's judgment, which limited the company's liability to \$50, in accordance with the company's conditions as set out on its receipt form. The appellant claimed that the conditions were printed in English, which he did not understand, that they were not explained to him, and that the law required the conditions to be printed in both English and French, which contentions were upheld by the Court of Review.

### Telegraph, Telephone and Cable Matters.

The Bell Telephone Co.'s application for increased rates will be heard by the Board of Railway Commissioners at Ottawa, Jan. 8; Toronto, Jan. 13, and Montreal, Jan. 16.

C. W. Macdonald, local agent, C.P.R. Telegraphs at London, Ont., since 1911, has been appointed chief operator at Montreal, and N. Souch from the Toronto office has been appointed local agent at London, Ont.

The Great North Western Telegraph Co. has opened offices at Cartierville, Grenville, La Forest, St. Andrews East and St. Benoit, Que.; Ostrom, Ont., and has closed its offices at Mechanics Falls, Me., Beaumaris, Bedford Mills, Rosseau and Smiths Falls, Ont.

### Trade and Supply Notes.

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

**The Edison Storage Battery Co.,** Orange, N.J., has appointed G. F. Simons, District Sales Manager, Detroit District, succeeding Bertram Smith, who has been appointed Assistant General Sales Manager, at Orange.

V. I. Smart, B.A., C.E., formerly Professor of Railway Engineering and Transportation, McGill University, and J. A. Burnett, E.E., formerly Electrical Engineer, G.T.R., have associated themselves as consulting civil, electrical and mechanical engineers. Office, 821 New Birks Building, Montreal.

**The Brown Hoisting Machinery Co.,** Cleveland, Ohio, announces the following changes in its organization:—Harvey H. Brown, Chairman of Board of Directors; Alex. C. Brown, President; Melvin Pattison, Vice President, General Manager and Director; Robt. G. Clapp, director; John F. Price, director; Ewen C. Pierce, General Manager of Sales.

**Edison Storage Battery Co.**—Bertram Smith, heretofore District Sales Manager, Detroit District, has been appointed Assistant Sales Manager, at the main office, Orange, N.J. J. K. Mahaffey, who has been representing the company in Washington, D.C., in connection with Government business, has been appointed District Sales Manager, Pittsburg District.

**Vapor Car Heating Co.**—R. P. Cooley, heretofore in charge of sales in south-

western region, at Chicago, has been appointed Eastern Sales Manager, at 30 Church St., New York, N.Y., succeeding G. T. Cooke, resigned. N. T. Burns, formerly with the New York Central Rd., has been appointed to the Vapor Car Heating Co.'s sales department at Chicago.

**Robert W. Hunt & Co.**—A reception was held at Chicago, Ill., Dec. 9, in honor of the 80th birthday of Robert Woolston Hunt, President, R. W. Hunt & Co., and a memorial was presented by the board of direction of the American Institute of Mining Engineers, congratulating him on "his notable achievement as a pioneer in the manufacture of iron and steel, and his long and admirable service as a practical director and as a wise critic and counsellor in that art." Other congratulatory messages were received from other engineering societies. He established his bureau of inspections, tests and consultation, in Apr., 1888, was President of the American Society of Mechanical Engineers in 1890, and of the American Society for Testing Materials in 1912, and in the last mentioned year, was awarded the John Fritz medal for his contributions to the early development of the Bessemer process.

### Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacramento Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 553 Church Street, Vancouver, B.C.

### LACHINE, JACQUES CARTIER AND MAISONNEUVE RAILWAY COMPANY.

Notice is hereby given that the Lachine, Jacques Cartier and Maisonneuve Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time for the completion of the construction of the railway referred to in section 1 of chapter 55 of the Statutes of 1917, and for other purposes.

Dated at Montreal, this 25th day of November, A.D. 1918.

W. H. BIGGAR,

Solicitor for the applicants.