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See page 123.

Fuel Economy on Testing Plants and Railways.

By *H. H. Vaughan, Assistant to Vice
President, Canadian Pacific Ry.*

Most of us have at one time or other been confronted with the statement that there was a terrific waste in the operation of a steam engine, something like 5% of the heat developed by the coal burned under the boiler, being all that was transformed into useful work. That such a statement is true is easily shown by comparing the coal consumption of an ordinary engine, taking say 4 lbs. of coal per h.p. hour, and the work that is the equivalent of the heat in the coal. A horse power is 33,000 foot pounds of work per minute, so that a horse power hour is 1,980,000, or very nearly two million foot pounds of work. Four pounds of coal will develop about 60,000 b.t.u. of heat and as the mechanical equivalent of heat is 778 foot pounds per b.t.u., the total work that is the equivalent of the heat contained in the four pounds of coal is about 46,000,000 foot pounds. As only 2,000,000 or under one-twentieth of this is developed useful work, the statement that 95% is wasted is entirely true and cannot well be denied. As is well known, the larger part of this 95% is not waste at all in the proper sense of the word, but is the necessary result of the natural laws governing the action of heat engines. We are very much in the position of trying to utilize sea water, pumped into a tower at Winnipeg, for power purposes. If the tower were 200 ft. high and the discharge were into the river at a height of 750 ft. above sea level, the best possible efficiency that could be obtained would be by using 200 ft. out of the total head of 950 ft. available, or about 21%. The 79% that was lost on account of the impossibility of utilizing the total down to sea level would not be waste, but power rendered unavailable on account of the conditions under which it was supplied. While not by any means an exact simile, such a case does to a certain extent resemble the conditions under which heat can be used in the heat engine. The heat that can possibly be utilized depends on the proportion of the range of temperature through which the engine works to the initial temperature, and the initial temperature, like the height of the water tower, is not measured from the level at which we can use it, but from the absolute zero of temperature, about 465 degrees below zero Fahrenheit. The most perfect form of heat engine therefore working between a temperature of

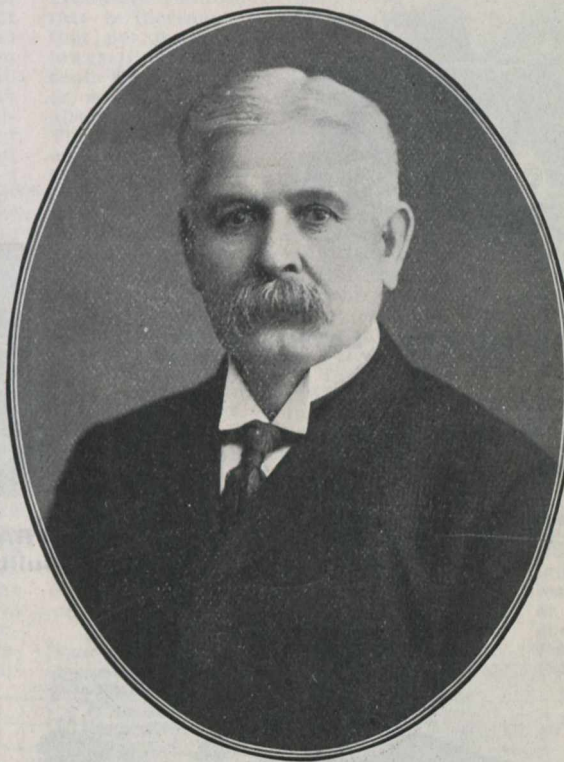
390 degrees, or that of steam at 200 lbs. pressure, and 60 degrees, the temperature of the atmosphere, could then only have an efficiency of 330/855 or 38%. It is needless to say that nothing approaching this could practically be realized, not only because such extreme efficiency would be more expensive than the results would justify, but also because any such engine would have to be of a totally different type to the existing steam engine, which cannot work under the conditions demanded for the most econ-

This definition, while it may appear rather complicated, really specifies a perfect steam engine, working as a steam engine does, with steam at boiler pressure and an exhaust pressure determined by conditions, but with perfect expansion and an entire absence of all the losses due to the cylinder condensation, compression, and the various other causes which prevent an actual engine from obtaining the greatest possible economy. Such losses are however, more or less avoidable, and it is the aim of the steam engineer to reduce them by compounding, superheating, and other means, so that the ideal engine thus set up may be fairly taken as a standard which may be approached, although never equalled, by an actual steam engine.

It is interesting to examine the degree to which the steam locomotive has so far approximated this ideal engine, and for the information in connection with steam locomotives we can use the results obtained in the tests conducted on the testing plant at the St. Louis Exposition in 1906. The conditions under which these engines worked may be taken as a boiler pressure of 200 lbs. and an exhaust pressure of 6 lbs., and with these limits the ideal engine would require about 250 b.t.u. per h.p. per minute, or 12.8 lbs. of steam per hour at boiler pressure. The simple locomotives tested required from 23.6 to 28.9 lbs., while the compounds required from 19.0 to 27.0 lbs., so that compared to an ideal steam engine under the same conditions, the efficiency of the simples was 54 to 44%, and of the compounds 67 to 47%.

The ideal engine taking 250 b.t.u. per h.p. per minute, or 15,000 b.t.u. per hour has an efficiency of 17%. This is obtained by multiplying 15,000 by 778, which gives the work that is the equivalent of that amount of heat, 11,670,000 foot pounds, and dividing this by 1,980,000, the foot pounds equal to the work of one h.p. hour. As the engines on the testing plant may be said to have had an efficiency of about 50% for the simples, and 60% for the compounds, we see that the actual heat efficiency was from 8½ to 10% based on the total heat delivered to them in the steam, so that even in the case of these particular engines there is 90 to 91½% of the heat in the coal that cannot be used, that the fireman cannot be blamed for.

The efficiency of the engine is however, only one of the factors determining the proportion of the heat in the coal that can be developed as useful work. The boiler, while not limited by the same conditions as the engine, is still unable to deliver in the steam the full amount of heat that is generated by the coal



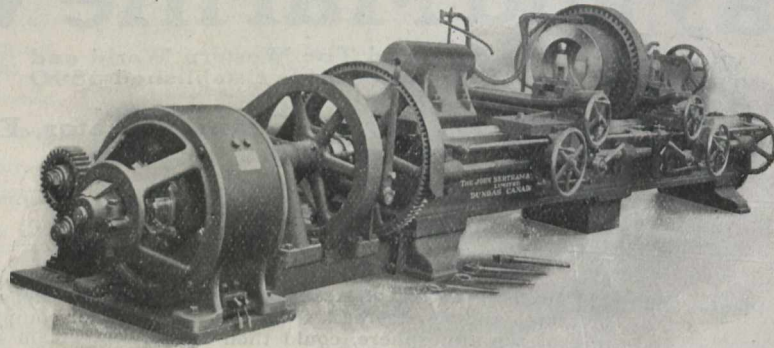
WILLIAM DOWNIE,
General Superintendent, Atlantic Division,
Canadian Pacific Railway.

omical heat engine. In order, therefore, to afford a practical working comparison, the definition of an ideal steam engine has been adopted, as follows:—

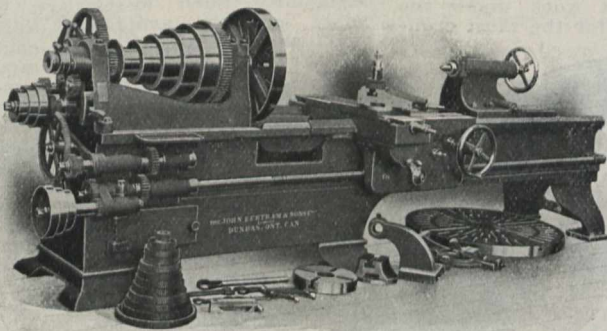
"A perfect engine receiving steam at its upper limit of pressure equal to that measured close to, but on the boiler side of the engine stop valve, and continuing this pressure and temperature up to cut-off. Beyond cut-off the steam is assumed to expand adiabatically in the cylinder down to a pressure equal to the back pressure against which the engine is working. The steam is then exhausted from the cylinder at constant pressure corresponding to the lower limit of temperature."



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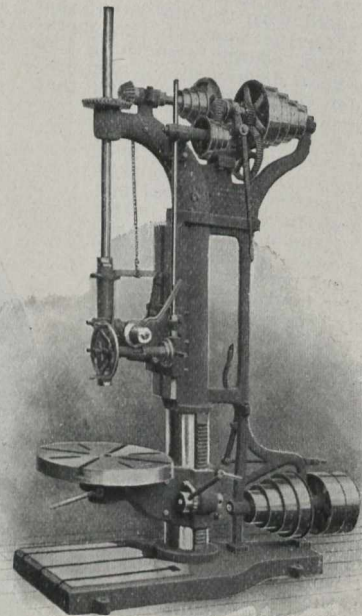
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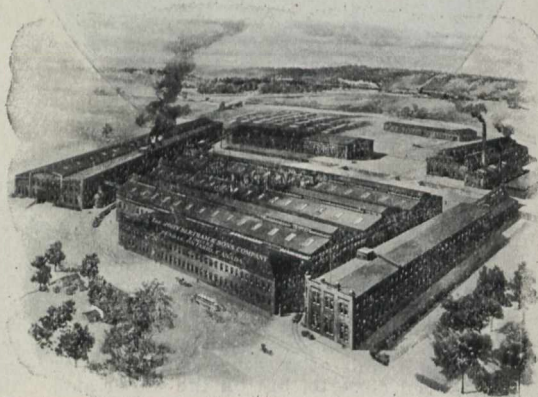
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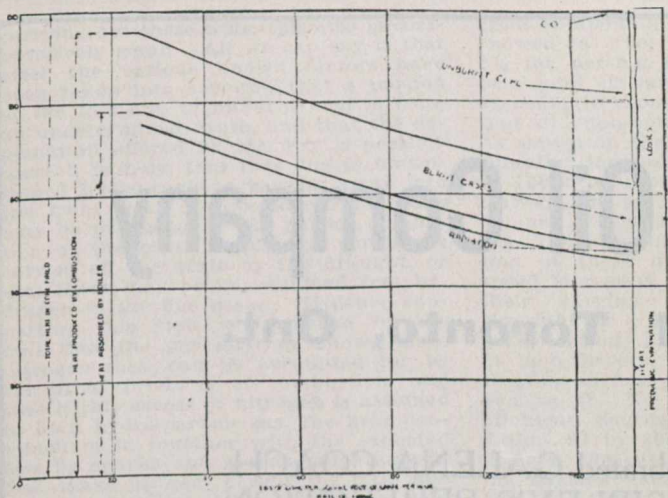


FIG. 1.

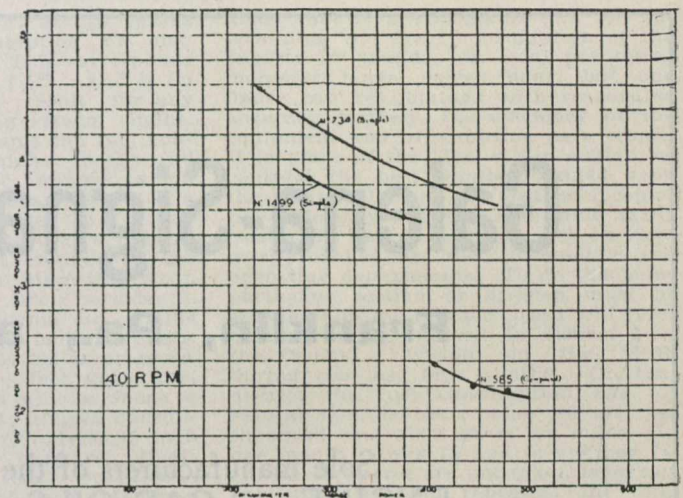


FIG. 2.

burned. The losses are however, nothing like as serious as those which take place in the conversion of the heat in the steam into work, and are only due to the combustion not being entirely perfect, the radiation of heat from the boiler, and to the heat contained in the gases that pass away into the stack. Under favorable conditions the sum of these losses may only amount to about 20%, so that 80% of the heat developed by the fuel may be actually present in the steam delivered by the boiler. In locomotive practice, however, boilers are not worked under as favorable conditions as are stationary boilers, on account of the enormously larger amount of steam that has to be generated by a boiler of a given size. In place of evaporating 3 lbs. of water per square foot of heating surface per hour and burning 15 lbs. of coal per square foot of grate, as much as 16 to 18 lbs. of water are evaporated and 120 to 140 lbs. of coal burnt. This increase in capacity, while necessary in order to obtain the output from a locomotive boiler that would require a whole battery of stationary boilers, is only rendered possible by a sacrifice of economy, or in other words the efficiency of the locomotive boiler is generally considerably less than the 80% mentioned above. The reasons for this loss in efficiency in the boilers at the St. Louis Exposition were thoroughly investigated by Lawford H. Fry, and figure 1 shows one of the results of the calculations made by him, which is exceedingly interesting. It is one of several which he presented in his paper on "Combustion in Locomotive Fireboxes" before the Institute of Mechanical Engineers, and refers to the trial of the New York Cen-

tral balanced compound engine no. 3000. The diagrams for the other engines are generally similar, with some exceptions that will be mentioned later. The efficiency of the boiler, which is shown by the lowest line, is slightly over 70% when coal is burnt at the rate of 30 lbs. per square foot per hour, and is gradually reduced to about 46% as the rate is increased to 120 lbs. per square foot per hour. The space between the lowest line and the next above it represents the heat radiated away by the boiler, so that this line shows the total heat absorbed by the boiler from the coal. The space above the two upper lines is the loss from unburnt coal. The loss from imperfect combustion, or from the formation of carbon monoxide, is represented by the space between the highest line and the top of the diagram. This diagram is very interesting. In the first place it shows that at low rates of combustion the locomotive boiler is just as efficient as any, as the line showing the heat utilized would evidently be about 80% at a rate of 20 lbs. per square foot per hour, and in the next place, the losses from imperfect combustion are exceedingly small. This loss was not, however, as small as this in all the engines tested, as in one of them it became about 16% at the maximum rate of combustion. This is thought to have been due to insufficient ashpan openings, and it attracted general attention to that detail of the engine. On most engines, however, this loss was small, and it is evident that from the cause, there need not be very much

loss on a locomotive. It must be remembered that the firing at St. Louis was about as perfect as possible and the running conditions uniform, but from the fact that insufficient air causing a dull fire ran this loss up to 16% in place of 2 or 3%, it is evident how easily a loss in efficiency may be caused by heavy or intermittent firing which does not keep the fire in a clean bright condition. The heat wasted by the burnt gases is almost constant. This peculiar fact due to the decreased amount of air per pound of coal required at the higher rates of combustion which compensated for the increased temperature at which the gases passed into the front end. The same thing occurs in all the tests and shows how well the fires were kept free from holes and the grates properly and uniformly covered. The important loss, which increases as the rate of combustion increases, is that from unburnt coal. This loss is not entirely explained. The larger part of it is accounted for by the sparks and coal pulled through the tubes and stack without being burnt, but this is not sufficient to account for the entire loss. The loss from sparks is known to be about 20% of the total coal burnt, at the highest rate of combustion, and the balance of the loss is accounted for in different ways. Mr. Fry considers a large portion of it is due to unconsumed hydro-carbons, but it is not definitely known whether this is really the correct explanation. It is possible that the line showing the heat lost from the burnt gases should be rather higher, which would decrease the loss shown as unburnt coal. There is also a loss due to good coal shaken down into the ashpan, but with the care taken in

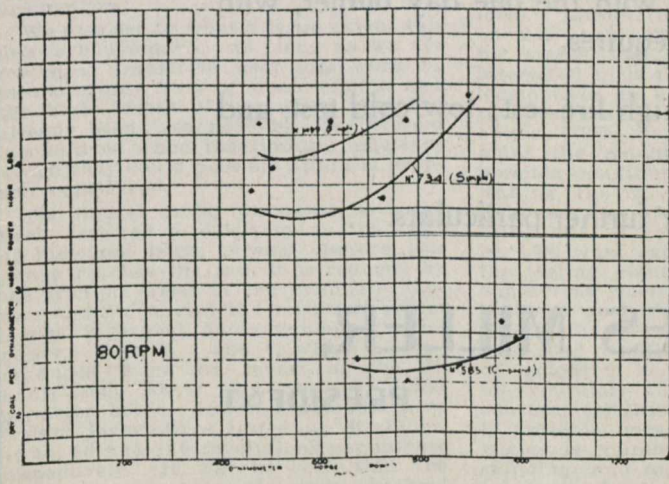


FIG. 3.

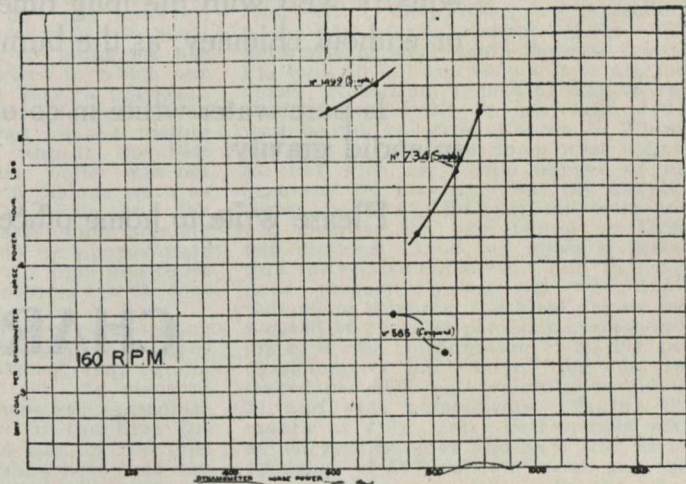


FIG. 4.

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carrying out these tests, this also is comparatively small. All we can say is that after the various known factors have been taken into account, that a portion of the loss due to unburnt coal is from an undetermined cause, and that the explanation offered by Mr. Fry is possibly correct, namely, that it is due to unconsumed hydro-carbons passing away into the front end. He considered that this may be produced by the partial distillation of the particles of coal which are carried off the grate by the draught, or that there may be unconsumed free hydrogen in the flue gases. Evidence supporting this view is furnished by the fact that the gas analysis shows more nitrogen than can be accounted for by the other products of combustion, and that if this excess of nitrogen is assumed to be a hydro-carbon gas, the heat contained in it, together with the expected loss by sparks and a reasonable ashpan loss, make up very closely the total loss through unburnt coal. There is here possibly a chance for better economy, that we have hitherto not suspected, but it may be stated that so far as can be learned from the tests, it will not be obtained from the use of a brick arch as it was found that its value consisted in the reduction of the loss by imperfect combustion, due to the formation of carbon monoxide. The engine from which this diagram of heat balances was obtained was fitted with an arch and, as it shows, the loss from carbon monoxide was exceedingly small. On the engines not having a brick arch there was a considerable loss from this cause, amounting to as much as 16% at higher rates of combustion, and although it so happened that these same engines were subject in each case to unfavorable conditions, there is still good evidence to support the claim made that a properly proportioned brick arch will effect a saving in coal of 5 to 10%.

These points however, while interesting, do not affect the main information given by this diagram, which it may be stated, is from the most efficient boiler tested at St. Louis. It shows that, under the most perfect conditions of testing, uniform work, economical firing and a boiler in as good condition as possible, the heat accounted for in the steam is from 50 to 70% of the heat in the coal, as the rate at which the coal is burnt decreases from 110 to 40 lbs. per square foot of grate per hour. If this efficiency is combined with that of the engine, which as previously stated varied from 8½ to 10%, we find that the total efficiency of the locomotive, under testing plant conditions varies from 4½ to 7%, so that we see that the general statement of a loss of 95% of the heat present in the coal, is confirmed by the best results that have so far been obtained from locomotives.

We also see to what a large extent this loss is unavoidable as long as we are forced to transform heat into work by means of any form of steam engine, and the high degree of perfection that has already been reached by our present locomotives when the limiting efficiency which they could possibly attain is properly considered.

The figures so far discussed have entirely referred to efficiency on the basis of indicated horse power. Before this power reaches the rail, it is reduced by the friction losses in the cylinders, motion and axles, and the resultant power is what is termed the dynamometer horse power. Figs. 2, 3 and 4, which are reproduced from the report of the St. Louis tests, show the coal per dynamometer horse power hour for three freight locomotives tested at St. Louis, at 40, 80 and 160 revolutions per minute respectively. It will be seen that the most economical results were obtained from no. 585, a Michigan Central Rd.

compound, which at low speeds showed a fuel consumption of only 2¼ lbs. per h.p. hour. This corresponds to a total efficiency of 7.5%, and is an exceedingly economical result for any type of non-condensing steam engine. As shown on the diagrams the fuel consumption increased at higher speeds, and at 160 revolutions per minute, which corresponds to 30 miles an hour for a 63 inch wheel, it amounted to 3½ lbs. Fig. 5 shows roughly the coal consumption of these different engines as the speed increased, and is interesting when their varying types are considered. No. 1499 is a Pennsylvania Rd. simple consolidation, 22 by 28 inch cylinders, 56 inch drivers, 205 lbs. boiler pressure. Heating surface 2844 sq. feet, grate area 49.2 sq. ft. No. 734 is a Lake Shore & Michigan Southern Rd., simple consolidation, 21 by 30 inch cylinders, 63 inch drivers, 200 lbs. boiler pressure. Heating surface 2858 sq. feet. Grate area 33.7 sq. feet. No. 585 is a Michigan Central Rd. compound consolidation, 23 and 35 by 32 inch cylinders, 63 inch drivers, 210 lbs. boiler pressure. Heating surface, 31681 square feet. Grate area 49.4 square feet.

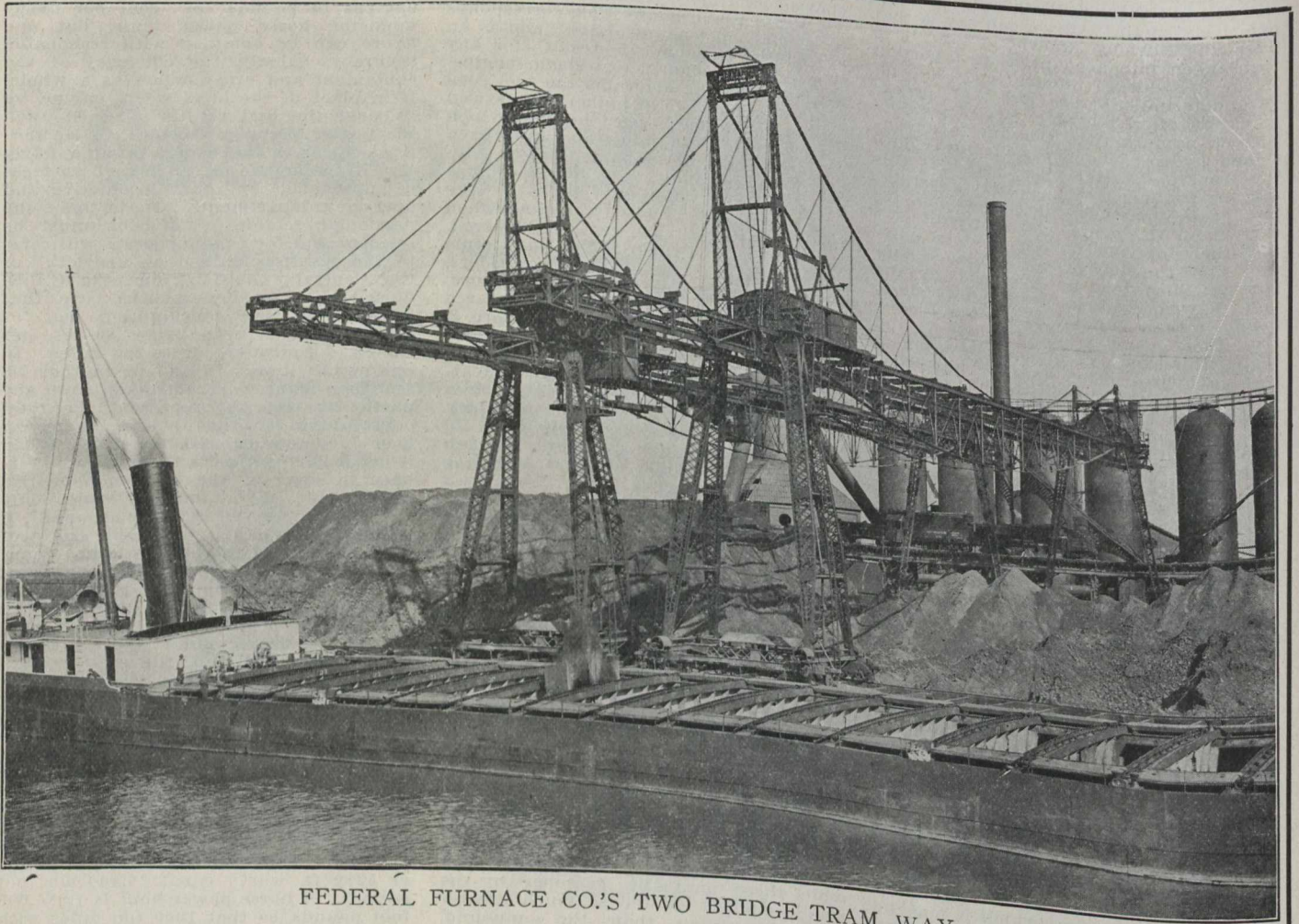
The compound engine is evidently far more economical than the simples, but it should be remembered that the conditions on a testing plant are more favorable to this type of engine than are those in regular road service. On the testing plant, they are working absolutely uniformly, everything is maintained as constant as possible during the time the test is conducted, and it is under these conditions, as we know, that the best results from a compound engine can be obtained. The boiler efficiency of no. 585 was also exceedingly good, and in fact a large proportion of the economy is due to this, as no. 734 showed only from 70% to 82% of the boiler efficiency of 585, and that of no. 1499 showed very poor results at the higher rates of evaporation, due to the insufficient air supply. Still while there may be reasons why the simple engines showed so much greater fuel consumption than the compound, there are no reasons why the compound should show more, and the fact remains that a steam locomotive under the best conditions, has developed a dynamometer horse power hour at a coal consumption of 2¼ to 3½ lbs., corresponding to a total efficiency of 4.9 to 7.5%.

We have found therefore that in order to realize what are avoidable and what are unavoidable losses in the conversion of heat into work by a steam engine or locomotive, it is necessary to consider first what degree of economy could be obtained by an ideal steam engine working under certain limiting conditions, and then consider with what perfection our existing locomotives approach that ideal. Locomotives do not however, operate upon testing plants, but in hauling trains, and the real point we are interested in is the extent to which our locomotives in actual service approach the best results which it is possible to obtain. We know that on the testing plant the machinery was in the best possible condition, the boiler was not leaking, the valves and pistons were as tight as they could be made, and the firing was as good as it could possibly be. To what extent do we approximate the testing plant results and how does our actual efficiency compare with that obtained upon them?

Unfortunately when we are dealing with road conditions there are a number of factors to be considered that cannot be accurately allowed for. In place of constant conditions there are exceedingly variable ones, part of the time the engine is running and part of the time standing, and any comparison that can be made must necessarily be more or less approximate. No estimate can be

made that is a reasonable one for determining the exact consumption of the engines in pounds of coal per dynamometer horse power hour, but one figure can be obtained with reasonable accuracy, namely, the efficiency of the equipment and organization as a whole. If in place of the ideal steam engine we consider the best results obtained upon the testing plant as the ideal of locomotive efficiency, we can determine fairly closely the degree to which such an ideal is approached by our locomotive and operating departments. To do this some particular section or division must be selected and for this purpose I will refer to the results obtained on district 1 of the Central Division on the C.P.R. during the last few months. On that district the fuel consumption has for several months been below 80 lbs. per thousand equivalent gross ton miles. In one month it was 75 and in another 76, and these figures are not taken from any particular test but represent the total consumption on the division, averaging over 7000 tons of coal a month. When it is considered that, although the difference in level of the two ends of this division of 420 miles is small, only 150 ft., the heavier tonnage is uphill, it is doubtful whether this result has ever been equaled in this or any other country, especially where the large amount of traffic which it includes is taken into account. It is therefore a good example to consider for comparison with an ideal engine, but on account of the hill condition on the east end, the section from Ignace to Winnipeg is preferable in place of the entire district.

The coal records available on the road show the total coal consumed per 1000 equivalent gross ton miles, and cannot therefore be directly compared with the coal per dynamometer h.p. hour. Supposing, however, a train had an average resistance over a division of 5 lbs. a ton, so that 1000 tons gave a resistance of 5000 lbs. This 5000 lbs. pulled one mile or 5280 ft. would equal 26,400,000 foot pounds. A horse power hour is 1,980,000 foot pounds, so that 1000 ton miles with a train having a resistance of 5 lbs. per ton is the equivalent of 12.8 h.p. hours. This is evidently proportional to the resistance, so that if the average resistance of the train were 10 lbs. per ton, 1000 ton miles would equal 25.6 horse power hours and so on. I cannot give the exact figure for the resistance of a train from Ignace to Winnipeg, but the figure obtained for a very similar district, Outremont to Smith's Falls, was 4.50 lbs. eastbound and 7.00 lbs. westbound. The difference in level is 2.6 ft. per mile which accounts for 1 lb. per ton from an average of 5½. From other figures we have, I believe the figure of 7 lbs. per ton is slightly high and that figure for a level undulating road with short grades not exceeding 0.5 or 0.6% would be about 5½ lbs. The difference in level would increase this to 6½ tons up hill and reduce it to 4½ lbs. down. Now from Ignace to Kenora the grade averages 2.7 ft. per mile down west bound, and from Kenora to Winnipeg 2.53 ft. per mile down west bound, so that with very little danger of inaccuracy we may say that the average resistance is 4½ lbs. per ton west and 6½ lbs. per ton east bound on these two sections. 1000 ton miles is therefore the equivalent of 11.5 and 16.6 h.p. hours respectively, and if we assume that when working, the ideal engine has a speed of 20 miles per hour corresponding to a coal consumption of 2.7 lbs. per dynamometer h.p. hour, the coal required per 1000 e.g. ton miles would be 31 and 44½ respectively. Taking the month of July this corresponds with actual results of 61 and 86½ lbs., or an efficiency of 51% in both cases, and this in a sense may be said to be the efficiency of the operation as a whole. This



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however is not exactly fair, it does not mean that the ideal engine could possibly do the work on 51% of the coal. On the testing plant, the fire is in good condition when the test is started and finished, the engine does not have to turn a wheel except the drivers, there are no air pumps or electric headlights to run, while on the road every pound of coal has to be accounted for, and the resistance of the engine is, even when the machine friction is deducted, certainly equal to that of the train. Suppose we consider our ideal engine under these conditions. The average length of the sections is 139 miles, the amount of coal lighting up, and that which must be knocked out at the end of the run, is about 2000 lbs. If we assume that the average length of trip is 10 hours and the air pump takes 30 double strokes a minute during that time, on a full train, the air pump will take about 2000 lbs. of coal west bound, and 1100 lbs. east bound. The headlight requires 60 lbs. of coal per hour and if burned 6 hours out of 24 or 25% of the time will average 150 lbs. per trip. We have therefore 4150 lbs. west bound and 3250 lbs. east bound per trip required by the road engine or 30 and 23 lbs. per mile respectively. We have in addition to allow for the power required to draw the weight of the engine, so that making these allowances the coal required by an ideal engine would be as follows:—

WESTBOUND.	
Per 1,000 ton miles for actual power developed	31.0 lbs.
Additional for weight of engine	2.1 lbs.
Additional for air pump, etc.	13.9 lbs.
Total	47.0 lbs.
EASTBOUND.	
Per 1,000 ton miles for actual power developed	44.5 lbs.
Additional for weight of engine	5.3 lbs.
Additional for air pump, etc.	18.8 lbs.
Total	68.6 lbs.

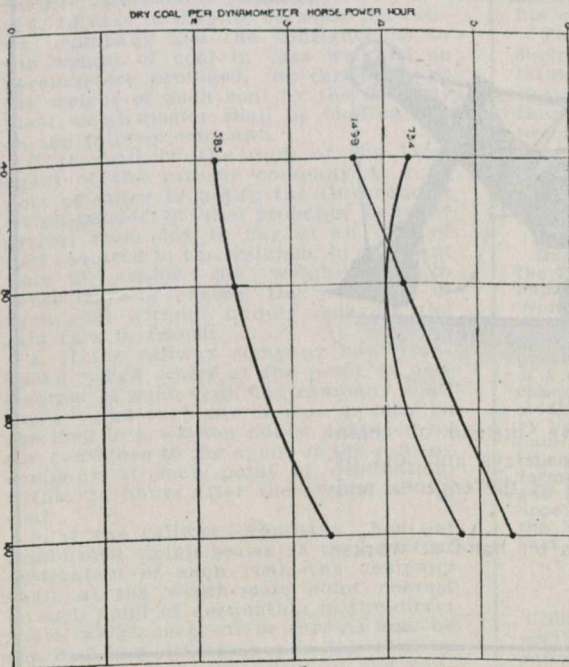


FIG. 5.

The net efficiency obtained therefore is 77% and 79% respectively, or considering the roughness of this calculation about 75 to 80%. This appears to be a very creditable record. We do not of course know whether the engine is as economical as that at St. Louis, but we have had almost exactly similar engines on this road and have found that under favorable conditions their economy is practically the same as that of the D 10 class which were in use on this

district while under other conditions the D 10 were superior. We may safely say therefore that this district has come within 25% of testing plant conditions, so far as we know them, and to you, members of this Club, who are also engaged in this work, I can only say that you have done well, but let us get after that other 25%.

The foregoing paper was read before the Western Canada Railway Club recently.

Steam-Turbine Electric Locomotive.

Some particulars were given in our last issue respecting a new type of locomotive which is being constructed in Scotland. It is described as a steam-turbine electric locomotive; and as a turbo-electric combination. In general design it will not differ very materially from the ordinary locomotive now in use. Steam is raised in a boiler of the usual locomotive type, fitted with a superheater, the supplies of water being drawn from tanks disposed on either side of the boiler, and the coal is carried in side bunkers. The steam is led from the boiler to a high-speed impulse turbine running at 3,000 revolutions per minute, to which is directly coupled a continuous-current, variable-voltage dynamo. With this generator electrical energy ranging from 200 to 600 volts is supplied to four series-wound traction motors, the armatures of which are built on the four main or driving axles of the locomotive.

The exhaust steam from the turbine is passed into an ejector condenser, and is finally, with the circulating condensing water, discharged into the hot well. Owing to the steam turbine requiring no internal lubrication, the water of condensation is free from oil, and can consequently be discharged from the hot well direct into the boiler by means of a feed pump. In this manner the water can be used over and over again, and the water carried in the supply tanks actually serves as circulating water in the condensing operations. Circulation is effected in a closed cycle by means of small centrifugal pumps, driven by auxiliary steam turbines, placed alongside the main turbine and dynamo. The water thus flows from the tanks through the first pump, by means of which it is forced through the condenser, where it serves to condense the exhaust steam from the turbine, then to the hot well, from which it is pumped to a cooler at the front of the engine, where it comes in contact with a blast of cold air caused by the movement of the locomotive and a fan which serves to cool it, and then it returns to the tank for further use. In so cooling the water, however, the usual exhaust blast which induces the draft through the furnace and boiler tubes is lost. To remedy this deficiency, a forced draft is supplied by means of a small turbine-driven fan, placed within the radiator or cooler, so that while it serves to cool the circulating water it also induces a blast of hot air to the fire. The cab of the locomotive carries a small switchboard, on which are mounted the controller for grouping the four motors, according to what draw-bar pull is required, in series or parallel, as well as the regulator for controlling the electrical circuit voltage, and consequently the speed of the train. The whole of this main and auxiliary machinery is mounted upon a strong under-frame, carried on two eight-wheeled com-

pound bogies, to facilitate negotiation of curves at high speed. Each bogie carries two of the four driving motors, as already mentioned. It will thus be seen that in reality an articulated system is adopted.

The first engine to be built on these lines is approaching completion, and its performances are awaited with great interest. The experiments which have already been made upon an extensive scale lead the builders to believe that such a locomotive as this would possess great possibilities and offer a complete solution to the traction question of to-day. In any large well-equipped locomotive establishment an engine can be produced for a low figure in comparison with the electric locomotive, and by the adoption of the new combination it is not anticipated that the prime cost will be very appreciably enhanced.

Enormous Purchases Imminent.

"Rodolphe Forget, M.P., President of the Richelieu and Ontario Navigation Company, estimates that \$500,000,000 will be spent this year throughout Canada by the Dominion Government, the railways, large corporations, mergers, traction systems and in other operations of the larger business houses. He anticipates that the Ottawa Government will spend about \$100,000,000, and is of opinion that the money required for the consummation of the mergers now in sight and others to follow will foot up to about \$150,000,000, while several more hundreds of millions will be required to meet expansion in all avenues of trade and commerce, which will be felt from one end of the Dominion to the other."

The largest buyers of equipment supplies and other goods for carrying out the works referred to above will be the steam and electric railway and steamship companies, railway and canal contractors, etc., the people who subscribe for and thoroughly read the Railway and Marine World, who depend on it for information relating to their business and who look to its advertising pages when they are in the market for goods.

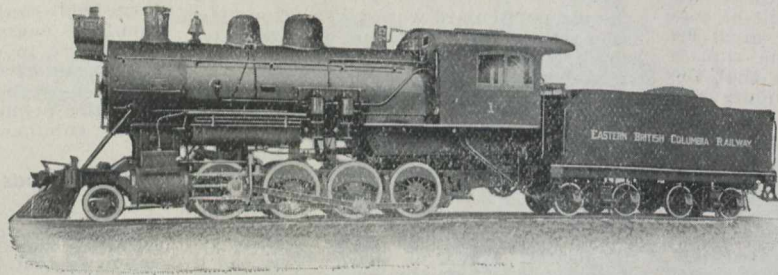
The National Transcontinental Commissioners are reported as expecting to have the road from Moncton to Winnipeg completed during 1912.

The Ontario Court of Appeal has denied the C.P.R. the right of appeal to the Privy Council from the order of the Railway Committee of the Privy Council for the construction of a bridge across the tracks at Yonge St., Toronto.

In the Victorian (Australia) Parliament the Minister of Railways said, during a recent debate: "I think Victoria is to be congratulated on the possession of three railway commissioners who are good business men. Our railways are managed, not perhaps as well as they might be, but as well as they can be under the circumstances. The improvement that has been effected since Mr. Tait came here, by himself and his colleagues, is a matter for congratulation, not only to parliament, but to the people generally."

The Temiscaming and Gowganda Transport Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Toronto, to transport in the Nipissing district and elsewhere in Ontario, passengers and merchandise, "whether alive or dead," and to own and utilize the necessary vehicles, horses, etc., for such transport, and to carry on a general express business; to enter into contracts with the Ontario Government, the T. & N.O.R. Commissioners, and any railway or other company, and to deal in grain and supplies generally. The provisional directors are:—J. H. Gauthier, Gowganda; J. D. McMurrich, J. Harris, J. S. McLean, Toronto; T. G. Ferriss, Windsor; V. E. Taplin, S. Willows, New Liskeard, and W. Jamieson, Renfrew, Ont.

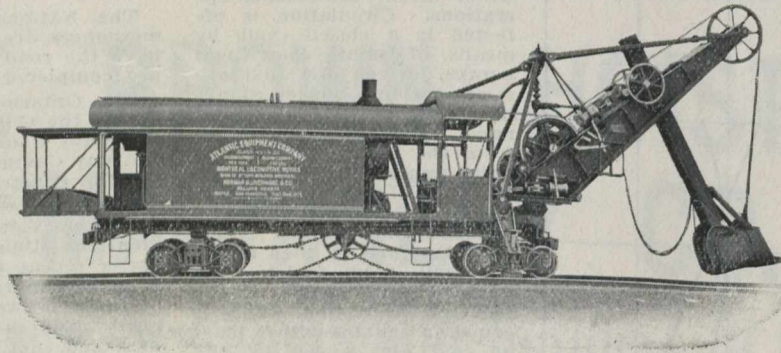
LOCOMOTIVES FOR ALL CLASSES OF SERVICE



Consolidation Type Freight Locomotive. Built for Eastern British Columbia Railway.

Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39,200 pounds.

ATLANTIC STEAM SHOVEL



Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

Finished, interchangeable spare parts always on hand at works.

MONTREAL LOCOMOTIVE WORKS, LIMITED
BANK OF OTTAWA BUILDING, MONTREAL, CANADA

Weighing Coal in Ontario.

The Board of Railway Commissioners passed order 8982, dated Nov. 22, 1909, as follows: Re application of Retail Coal Dealers' Association for order that all railway companies weigh all coal carried by them received from foreign countries at the port of entry, and for other matters; it is ordered as follows:—

1. In the event of the consignee of any car or cars of bituminous coal shipped from the United States for final delivery at a point in Ontario, desiring to have such car or cars weighed at the port of entry, he shall be at liberty to give a written notice to the local agent of the railway company receiving such car or cars at such port of entry for delivery or furtherance, that he wishes to have any or all the cars weighed, such notice to be given before the coal is received by such railway companies; and upon the receipt of such notice, it shall be the duty of the company to weigh, free of charge, at such port of entry, all cars covered by the notice.

2. Any consignee may give a general or continuing written notice that he wishes to have all such cars consigned to him weighed as above provided.

3. For the purpose of such weighing at the port of entry, the cars to be weighed may remain coupled one to another in a train.

4. The weighing of coal at the port of entry, under the provisions of this order, shall be under the supervision and control of a Government weigh-master, to be appointed or named by the Minister of Customs, whose duty it shall be to prepare in triplicate a certificate of the weight of the coal in each car weighed.

5. The Government weigh-master shall deliver one of the originals of such certificate to the railway company, if desired; attach another to the way-bill, or send it by mail to the consignee; and preserve the third in his possession for further reference if required.

6. In case of dispute between the railway company and the consignee as to the weight of coal in cars weighed as hereinbefore provided, the certificate of the weight of such coal by the Government weigh master shall be binding upon the railway company.

7. It shall be the duty of the local agent of the railway company at such port of entry to notify the Government weigh-master of the probable hour of arrival from day to day of all cars of coal required to be weighed, in sufficient time to enable the weigh-master to supervise and control the weighing of such coal without unduly delaying the said cars in transit.

8. If the railway company has established weigh scales at the point of destination of such coal, the company shall there weigh such car or cars as may be specified in a written notice delivered by the consignee to the agent of the railway company at such point of destination, within 24 hours after the arrival of the coal.

9. If the railway company has not established weigh scales at the point of destination of such coal, the company shall, at the weigh-scale point nearest to such point of destination in the direct route, weigh such car or cars as may be specified in a written notice delivered by the consignee to the agent of the railway company at such point of destination, a reasonable time before such car or cars shall have reached the said weigh-scale point.

10. For the services required to be performed by the railway company under clauses 8 and 9 hereof, the railway company may charge and collect from the consignee 5c. for every ton of coal in the car, with a minimum of \$1 and a maximum of \$2 per carload; but no charge shall be made and no amount collected for such service, if the weight of

the coal be more than 500 lbs. less than the weight of the coal at the port of entry, or if, the coal not having been weighed at the port of entry, the weight be more than 500 lbs. less than the weight shown by the weigh bill to be in the car at the time of shipment, plus the

A Veteran Railway Official's Opinion

Wm. Whyte, Second Vice-President of the Canadian Pacific Railway is one of the very ablest, best known and most popular railway officials in Canada. He has risen to his present commanding position by untiring industry, exceptional ability and the valuable faculty of having the confidence of the entire public. His jurisdiction covers the whole of the company's affairs throughout the vast territory extending from the head of Lake Superior on the east to Vancouver Island on the west and embraces Northwest Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. The circular announcing his appointment, issued by Sir Thomas G. Shaughnessy in December, 1903, was one of the most sweeping which ever emanated from a railway office. It read as follows:—

"Wm. Whyte has been elected Second Vice-President, with office at Winnipeg, in general charge of the maintenance and operation of the Company's western lines, and, under the President's direction, of the administration of the Company's affairs in the territory between Lake Superior and the Pacific coast. Officers of departments will report to their respective chiefs, as heretofore, but they will consult with the Second Vice-President, and keep him fully informed about all matters affecting the territory in his charge."

The opinion of a man occupying such a position on any matter relating to the railway interests is of the greatest importance and we therefore especially value and appreciate Mr. Whyte's opinion of our paper which was conveyed to our Managing Director some little time ago in the following letter:—

Canadian Pacific Railway,

Winnipeg, March 8, 1909.

Dear Mr. Burrows.—In your letter of the 27th ultimo you asked me for my impressions of the Railway and Marine World published by you.

I have much pleasure in stating that your periodical contains matter regarding the railway and marine field of a most comprehensive and accurate character, which is strong and clear evidence of the great care exercised by you in collecting the information. I have no hesitation in saying that I receive a great deal of benefit and information from reading the Railway and Marine World, and I express the hope that it may long continue to be the useful periodical of information that it is.

Yours very truly,

W. WHYTE,
Second Vice-President.

The accuracy of our reading matter is similarly recognized by railway officials generally, this accuracy ensures the paper being thoroughly read and therefore greatly enhances the value of the advertising pages.

weight of the car itself as shown by the tare.

11. On notice in writing that he wishes to have the empty car weighed, being given by the consignee of any such coal to the agent at the point of destination of the railway company hauling the same to such point (if a weigh-scale point)

within five hours from the unloading of any car containing such coal, the company shall weigh the car at such point, and for such service may charge and collect from the consignee \$1 per car; but no such charge shall be made and no amount be collected for such service if the actual weight of the car exceeds the tare marked on it by more than 500 lbs.

12. This order shall apply only to ports of entry and points of delivery in Ontario.

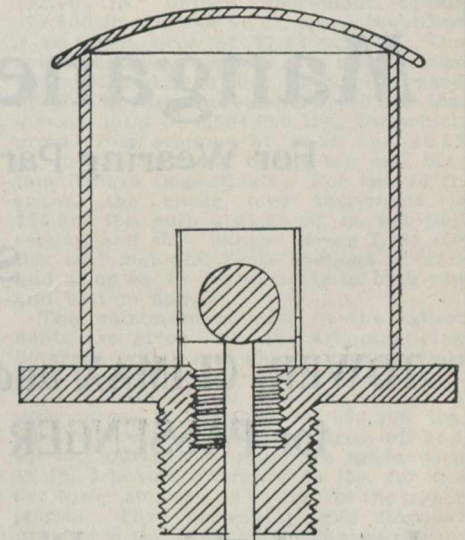
13. Any person or company affected by this order may, after one year from the date hereof, apply to the Board to vary or rescind it.

Order 7261, dated May 31, 1909, is rescinded.

Automatic Oil Cup for Locomotive Guide Bars.

By H. J. Varlow, General Foreman C.P.R., Fort William, Ont.

The consumption of oil on a railway is of serious importance but it is necessary that it should be watched closely to avoid all waste possible. I have noticed engines arrive at the round houses with the oil dropping on the guide bars. Owing to the needle not being closed the oil that remains in the cup drops on the floor and is wasted, I do not say the closing of the needle is omitted wilfully, but it does occur. The engineer may possibly have his attention fixed on some important work to report and forgets to close the needle in the cup. The accompanying sketch shows how this may be



remedied. It is not necessary to make a new cup. Remove the needle in your old cup and bore a hole half an inch deep in the bottom for a five-eighths screw. Take a piece of brass, turn one end down and screw five-eighths of an inch, bore a three-sixteenths hole through, bore out the top three-quarters of an inch in diameter, and one inch deep, put six holes a quarter inch round the bottom so the oil can flow on the centre, put a half inch diameter ball inside, bore the bottom to a slight radius. You will find the ball will sit over the centre of the three-sixteenths hole and prevent any leak of oil when the engine is at rest. As soon as the engine moves vibration will cause reciprocal motion on the ball and the oil will drop. By using this device the waste of oil on the guide bars can be reduced to a minimum.

A public subscription list for the construction of an opera house at Victoria, B.C., includes the following: C.P.R. \$15,000; G.T.P.R. \$10,000; Mackenzie, Mann and Co. \$10,000; B.C. Electric Ry. \$5,000.

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Steel Castings (Acid Open Hearth System)

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Toronto Office: 703 TEMPLE BUILDING

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Cap Rouge Viaduct, N. T. Ry.

The Cap Rouge viaduct, which has been built on the National Transcontinental Railway near Quebec, is a single track structure about 3,345 ft. long over all with a maximum height of nearly 173 ft. from low water to base of rail. It contains about 4,500 tons of steel and has thirty-one 40 ft. towers and one single bent supporting thirty-three 40 ft. and twenty-nine 60 ft. plate girder spans and one 150 ft., one 160 ft., and one 125 ft. riveted truss deck spans.

Several comparative estimates were made considering the longitudinal force specified, and indicated that the maximum rigidity and minimum total cost would be secured by the adoption of comparatively wide towers and moderate length connecting spans, which were finally fixed of the dimensions already stated, but which it was considered by the contractors would have been substantially as economical if the lengths of the towers had been increased 10 ft. more. The standard of 40 ft. was, however, adopted in deference to the general attitude taken by the engineers of proportions of high viaducts and it has proved very satisfactory in construction and operation.

The towers are of special construction and are interesting on account of the make up of the columns and the system of bracing, which avoids all intermediate horizontal transverse struts and eliminates them from the centre panels in the longitudinal faces of the towers. This column design has been somewhat modified in subsequent structures proportion-

ed by the same designers to provide better for the transportation and erection stresses and to reduce the wide painting area in the interests of maintenance.

The structure is designed for dead loads of 1,350 lbs., 1,500 lbs., and 3,000 lbs. per linear foot of the 40 ft., 60 ft. and 150 ft. spans respectively, and for the "class heavy" live load and unit stresses conforming to the Dominion government specifications of 1905 which

provide for two 180 ton engines 48 ft. long followed by a train load of 4,750 lbs. per linear foot. Wind pressure is assumed at 30 lb. per square foot of exposed train and viaduct surface and impact is allowed for by the formula $(l. l.)^2 \div (d. l. + l. l.)$.

All plate girders have a uniform depth of 6 ft. and sustain maximum calculated stresses of 158,800 lbs. direct shear plus 115,000 lb. impact increment, equals 273,800 lb. for the 60 ft. span, requiring a sectional area of 27.38 sq. in. The corresponding moments give a net flange stress of 2,119,000 lbs., which, increased by the impact increment, 1,465,000 lbs. gives a total of 3,584,000 lbs., for which gross cross sections of 44.26 and 40.12 sq. in. are provided in the top and bottom flanges respectively. For the 40 ft. spans, the shear plus increment is 226,800 lbs. with a 22.68 sq. in. net web section and the flange stress 1,963,400 lbs. with net and gross sections of 21.5 and 23.06 sq. in. respectively to both top and bottom flanges.

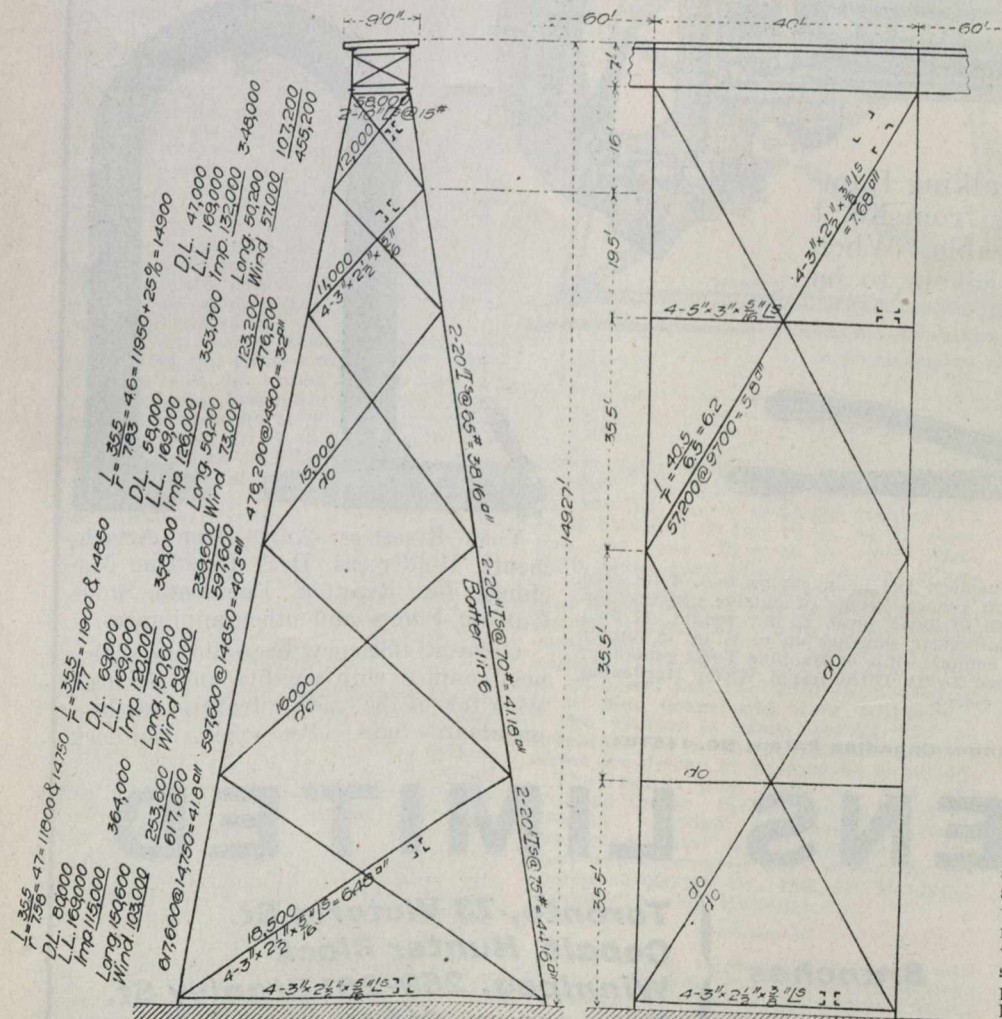
The maximum stresses in the tallest bents are given in the accompanying diagram, which also shows the materials used for the members. In bents 110 ft. high to base of rail, the maximum column stress is reduced to 557,300 lbs. with a required sectional area of 34.1 sq. in., and the columns are made with 18 in. I-beams weighing 60 lbs. for the two lower stories and 55 lbs. for the upper stories. The horizontal and diagonal bracing is the same as for the maximum bent.

The height of the viaduct does not fall below 100 ft., except near the ends, at one of which is located the 125 ft. span and the single bent. At the other end there are three towers with their pedestals from 53 to 95 ft. below the base of rail. In all of them the columns are made with 18-in. 55 lb. I-beams. The columns are battered 1:6, which increases the uniform transverse distance 9 ft. apart on centres at the top to from 24 ft. 4 in. to 56 ft. 4 in. at the base.

The column posts are made in lengths of about 32 ft. for the upper stories, which are uniform and vary according to the irregularity of the ground for the lower story. Each section is made with a pair of 18 in. I-beams spaced 15 in. apart on centres with their webs transverse to the axis of the viaduct and their flanges connected by double latticing with flat bars. Successive sections are spliced with double web and flange cover plates, the latter being made about 3 ft. long and extending beyond the inner edges of the columns to serve as jaws receiving the field riveted ends of the horizontal and diagonal, longitudinal



CAP ROUGE VIADUCT, NATIONAL TRANSCONTINENTAL RAILWAY.

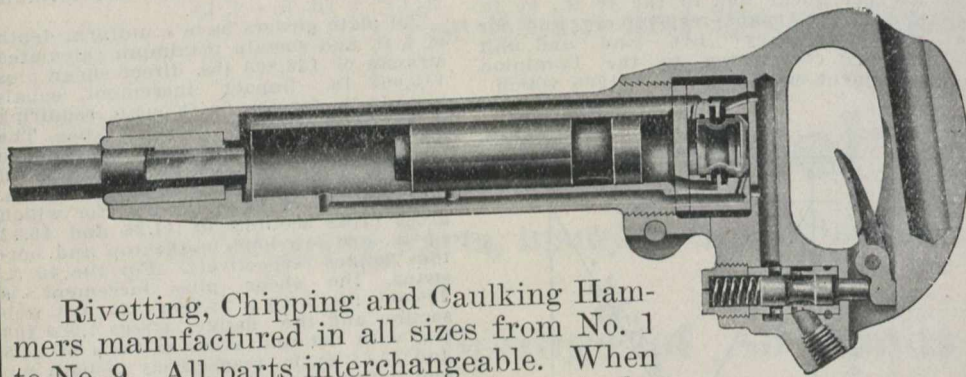
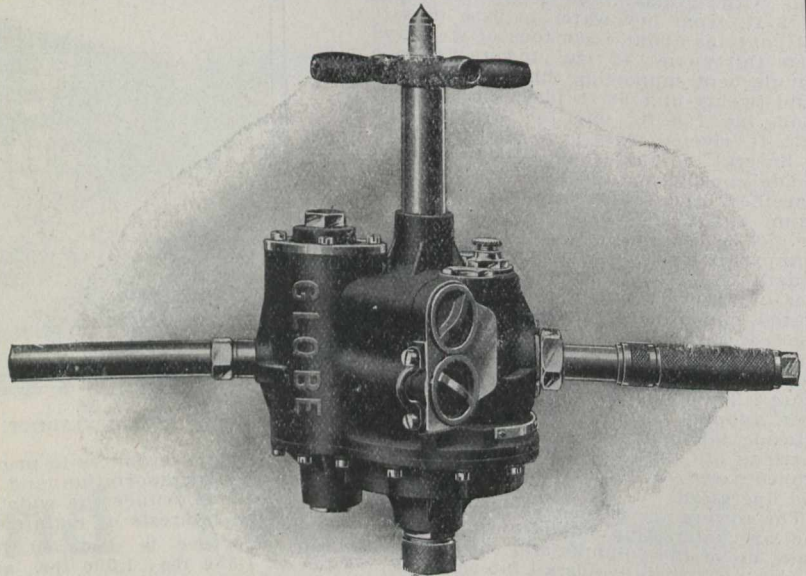


TYPICAL STRAIN SHEET OF TALL TOWER, CAP ROUGE VIADUCT.

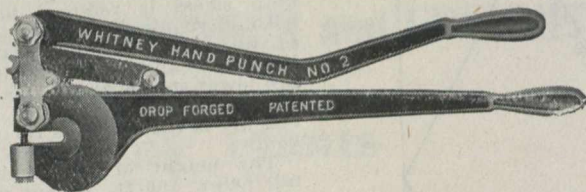
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Globe Drills. These tools are patented and manufactured by J. W. Tierney exclusively for the Globe Pneumatic Engineering Co. The workmanship and material is of the very best. Sizes and capacities from 9-16 in. to 3½ in. Reversible or Non-Reversible Drills, reciprocating type. Air pressure required, 60 to 100 lbs. per sq. inch.

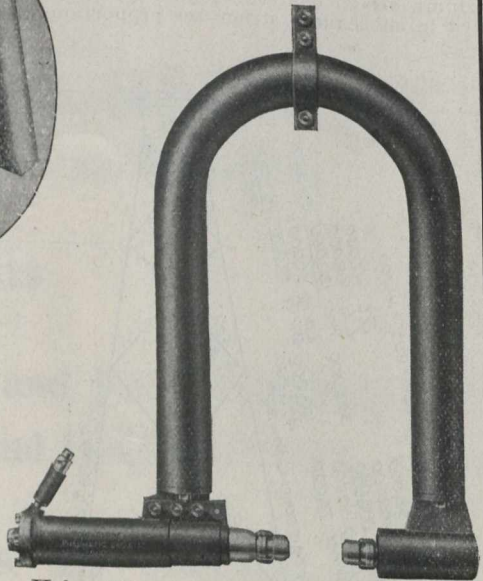


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Yoke Riveters, Angle Iron Attachments, Holder-ons, Deck Rivetting Machines, Jam Riveters, Pneumatic Stone Cutting Plants and other appliances.

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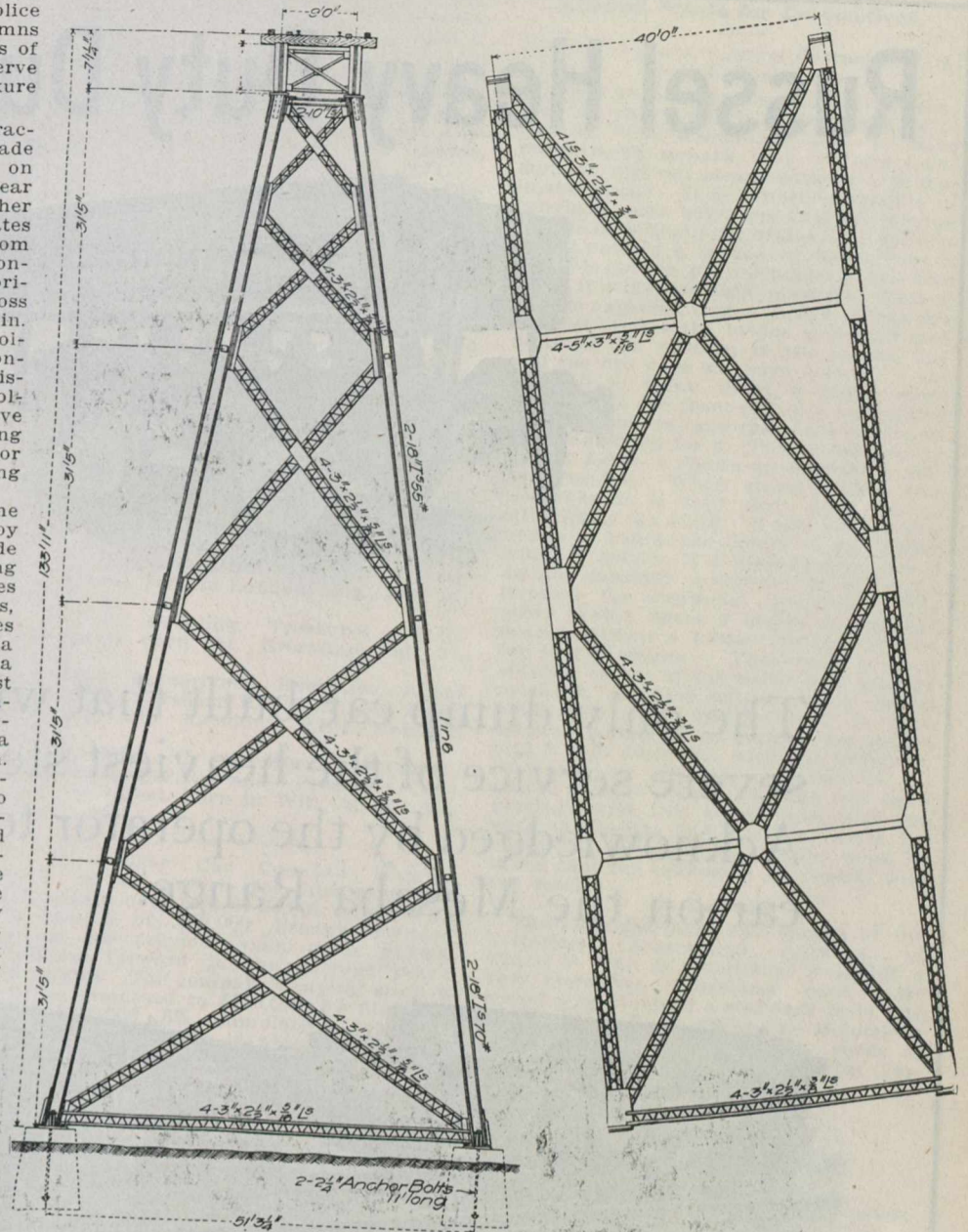
braces. Pairs of 8 x 3 in. angles about 4 ft. long are riveted to the flange splice plates on the inner sides of the columns to form jaws for the field connections of the transverse X-braces and also serve to add considerable resistance to flexure for the columns at these points.

All diagonal members in the tower bracing have rectangular cross sections made with four 3 x 2 1/2 in. angles latticed on all sides. All diagonals are cut to clear at intersections and are spliced together and with double flange cover plates which, in the case of the top and bottom panels of the longitudinal bracing, connect them also to the continuous horizontal struts which have I-shape cross sections made with two pairs of 5 x 3 in. angles back to back latticed. The column bases are seated on separate concrete pedestals and pairs of vertical distribution angles are riveted to the column webs at the lower end and have bearing plates on top, thus forming pockets and seats for two 2 1/4 in. anchor bolts 11 ft. long at each column footing of the high towers.

At the upper end of the column, the webs of the I-beams are connected by longitudinal diaphragms which are made with vertical 18 in. I-beams 3 ft. long reinforcing the 36 x 3/4 x 38 in. cap plates which, at the ends of the long spans, have guide strips riveted on both edges to engage a cast-iron bed plate with a spherical upper surface finished to a radius of 36 in. A corresponding cast steel bearing plate is finished with a concave surface between which and the convex iron casting there is interposed a sheet lead filler 1-16 in. thick and 21 in. in diameter. The horizontal upper surface of the concave casting is grooved to receive the lower one of a pair of polished Tobin bronze plates 22 in. square and 5-16 in. thick. The upper plate is countersunk riveted to the 1 7/8 in. sole plate on the bottom flange of the girder. The girder is thus free to slide longitudinally on the bronze bearings and to be deflected in any direction on the convex casting without materially disturbing the concentric application and distribution of its load on the column top. The cast fillers are bolted between the longitudinal edges of the shoe plate on the girder and the cap plate on the column and are cored for 1 15-16 in. turned bolts which engage round holes in the fixed ends of the girders and slotted holes in the expansion ends.

The 60 ft. girders have 72 x 3/4 in. web plates with top flanges made with a pair of 8 x 8 x 3/4 in. upper angles and two 6 x 6 x 3/4 in. lower angles riveted over them with their horizontal flanges downwards, making an H-shape cross section which, with one-eighth of the web, gives a gross section of 44.26 sq. in. The bottom flanges have T-shape cross sections, are made with a pair of 8 x 8 x 3/4 in. angles and two 17 x 9-16 in. flange cover plates. The 40 ft. girders also have 72 x 3/4 in. web plates. Their top and bottom flanges are the same and are each made with two 8 x 8 11-16 in. angles. All girders are divided into panels 6 to 7 ft. long by pairs of 5 x 3 1/2 in. intermediate vertical web stiffener angles and 6 x 6 in. end vertical angles. The 60 ft. spans have top and bottom flange X-bracing of single 3 1/2 x 3 in. angles. The 40 ft. spans have top lateral bracing only. Both spans being provided with the usual transverse vertical sway bracing frames at the ends and at alternate panel points.

The 150 ft. span has trusses 25 ft. deep, proportioned for a maximum top chord stress of 768,700 lbs., for which a sectional area of 45.4 sq. in. is required, and is made up with four 6 x 3 1/2 x 9-16 in. angles, two 18 x 7-16 in. web plates and one 2 x 1 1/2 in. cover plate. The truss is divided by vertical posts into six panels, each with a single diagonal member. The 125 ft. span corresponds to the



TYPICAL TOWER, CAP ROUGE VIADUCT.

150 ft. span, except that it has only five panels. The maximum chord stress is 522,000 lbs., and a sectional area of 37.6 in. is provided by two 15 in., 50 lb. channels and one 18 x 1/2 in. cover plate. Both spans have top and bottom lateral X-bracing, made, in the end panels, with four angles each. The vertical posts are braced transversely with sway frames composed of 3 1/2 x 3 1/2 and 6 x 3 1/2 in. angles. The trusses are spaced 16 ft. 11 in. apart and the track is carried on 54 in. floor beams and 48 in. stringers.

The viaduct is being erected with an overhead two-boom traveler. All field rivets are driven by pneumatic hammers.

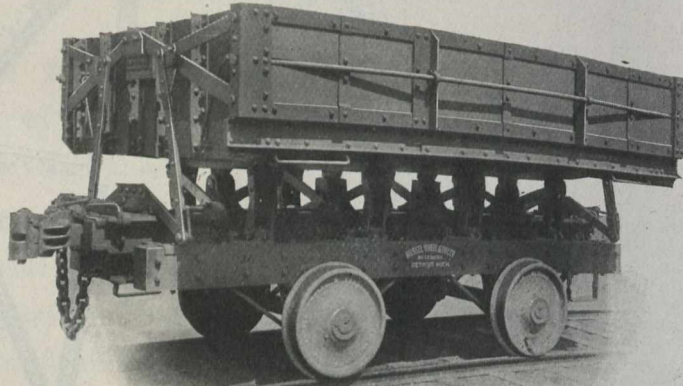
The viaduct was designed and constructed under the direction of R. F. Uniacke, Bridge Engineer National Transcontinental Ry. Commission. The steel was fabricated and erected by the Dominion Bridge Co., Ltd., of Montreal, Phelps Johnson, Manager.

S. R. Jecks, messenger Dominion and Western Express Cos., Montreal, writes: "I can assure you I would not be without your very interesting and valued paper, the Railway and Marine World."

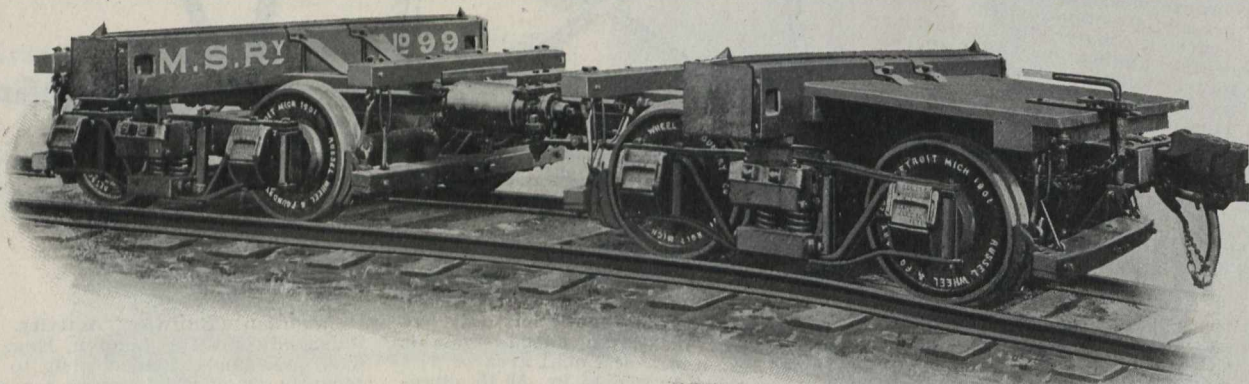
Canadian Railway Activity. — Geo. Paish, editor of the London, Eng., Statist, who paid an extended visit to Canada recently, is contributing a series of articles to that paper. In the first one he says:—"A third factor of great import is the ability and far-sightedness of Canada's statesmen. They recognize that the essential thing to be worked for is to open up the country and to admit population to the natural wealth. All the energies of the statesmen of the entire country, Dominion and Provincial, are at the moment directed to the extension of railways. This is the platform upon which the Ministries have been returned to office, and it is this policy they are pledged to carry out. Everything possible is being done to encourage and to stimulate railway construction, both in the prairie districts and between the prairies and the sea coast, east, west and north."

The Ontario Government received \$416,936 from taxes levied on railways in the province during the last financial year, against \$400,227 in the previous year. Of this \$30,000 is applied towards the expenses of the Ontario Railway and Municipal Board.

Russel Heavy Duty Dump Cars



The only dump car built that will stand the severe service of the heaviest steam shovels. Acknowledged by the operator to be the best car on the Mesaba Range.



RUSSEL LOGGING CARS

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 Detroit, Mich., U.S.A.

February Birthdays.

Many happy returns of the day to—
 S. A. Baker, Canadian Freight and Passenger Agent, Chicago Great Western Ry., Toronto, born at Morrisburg, Ont., Feb. 1, 1877.
 B. H. Bennett, General Agent Chicago and North-Western Ry., Toronto, born at Cobourg, Ont., Feb. 6, 1858.
 F. L. C. Bond, Resident Engineer G.T.R., Montreal, born there Feb. 21, 1877.
 Thos. Britt, General Fuel Agent C.P.R., Montreal, born there Feb. 3, 1871.
 F. W. Churchill, C.P.R. ticket agent, Collingwood, Ont., born in London, Eng., Feb. 6, 1853.
 H. R. Charlton, General Advertising Agent G.T.R. and G.T.P.R., Montreal, born at St. John's, Que., Feb. 9, 1866.
 F. W. Cooper, Resident Engineer C.P.R., London, Ont., born there Feb. 16, 1880.
 R. Crawford, Northwest Agent Northern Navigation Co., Winnipeg, Man., born at Kingston, Ont., Feb. 21, 1870.
 E. A. Evans, Chief Engineer Quebec Ry., Light and Power Co., Quebec, born at Kensington, London, Eng., Feb. 26, 1855.
 E. H. Fitzhugh, First Vice President G.T.R. and Vice President Central Vermont Ry., Montreal, born in Montgomery County, Mo., Feb. 1, 1853.
 L. O. Genest, General Storekeeper C.P.R. Western Lines, Winnipeg, born at St. Henri, Levis County, Que., Feb. 16, 1856.
 T. C. Hudson, Master Mechanic C.N.Q.R. and Q. & L. St. J. Ry., Quebec, Que., born at Brockville, Ont., Feb. 20, 1873.
 W. Jackson, C.P.R. ticket agent, Clinton, Ont., born there Feb. 4, 1860.
 C. Gardiner Johnson, Lloyd's Agent for British Columbia, Vancouver, B.C., born at Dumblane, Perthshire, Scotland, Feb. 8, 1857.
 R. S. Logan, Assistant to President G.T.R. and G.T.P.R., Montreal, born at St. Louis, Mo., Feb. 13, 1864.
 D. C. Macdonald, City Freight Agent C.P.R., Winnipeg, born at Elmsdale, N.S., Feb. 9, 1874.

D. MacPherson, Assistant Chief Engineer Transcontinental Ry. Commission, Ottawa, born at Bath, Ont., Feb. 2, 1858.
 T. McNabb, Master Mechanic Alberta Ry. and Irrigation Co. at Lethbridge, Alta., born in Scotland, Feb. 16, 1849.
 J. K. McNeillie, Superintendent District 2, Ontario Division, C.P.R., London, Ont., born at Toronto, Feb. 23, 1874.
 C. S. Maharg, Superintendent District 3, Western Division C.P.R., Calgary, Alta., born in Dufferin County, Ont., Feb. 4, 1867.
 A. Z. Mullins, Commercial Agent G.T.R., Grand Rapids, Mich., born at Appin, Ont., Feb. 14, 1862.
 A. H. Robinson, Superintendent Elgin and Havelock Ry., Havelock, N.B., born at Elgin, N.B., Feb. 2, 1862.
 A. E. Rosevear, Assistant General Freight Agent G.T.R., Montreal, born Feb. 20, 1863.
 H. H. Schaefer, Division Freight Agent Intercolonial Ry., St. John, N.B., born at Cologne, Germany, Feb. 10, 1848.
 J. G. Scott, ex-General Manager Quebec and Lake St. John Ry., Quebec, born there Feb. 13, 1847.
 G. Spencer, Superintendent District 1, Lake Superior Division C.P.R., North Bay, Ont., born in London, Eng., Feb. 21, 1865.
 H. E. Suckling, Treasurer C.P.R., Montreal, born at Gibraltar, Feb. 27, 1851.
 Hugh Sutherland, Executive Agent Canadian Northern Ry., Winnipeg, Man., born at New London, P.E.I., Feb. 22, 1845.
 Sir Wm. C. VanHorne, K.C.M.G., Chairman C.P.R. and President Cuba Co., Montreal, born in Will County, Ill., Feb., 1843.

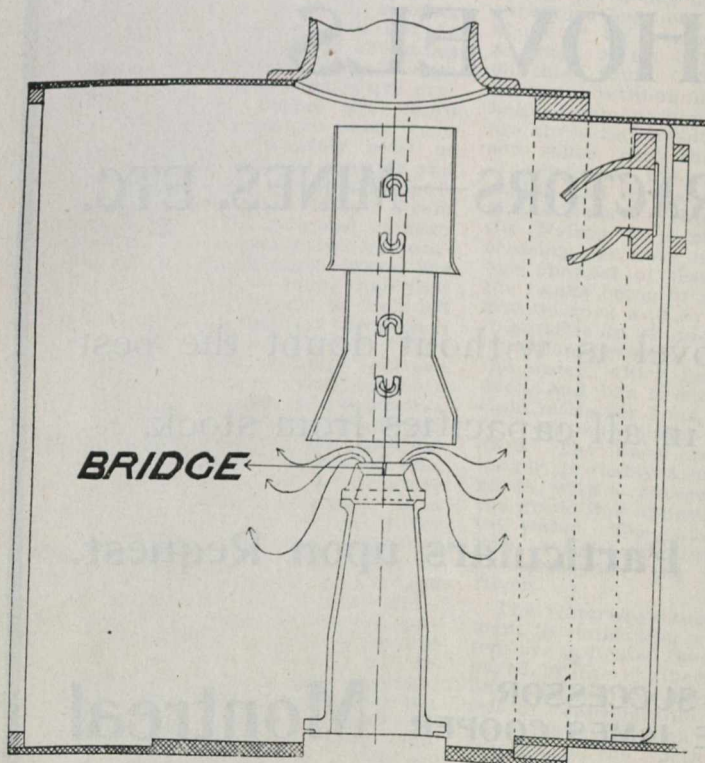
The Silliker Car Co., Ltd., Halifax, N.S., in its report for the past year showed a net profit of \$4,000, which with a balance of \$14,000 brought forward from the previous year, made \$18,000 carried forward to the current year's accounts. The company's capital stock is to be increased to \$750,000, by the issue of \$250,000 5% cumulative preferred stock, of which it is proposed to issue one-half at once.

Exhaust Nozzle for Locomotives.

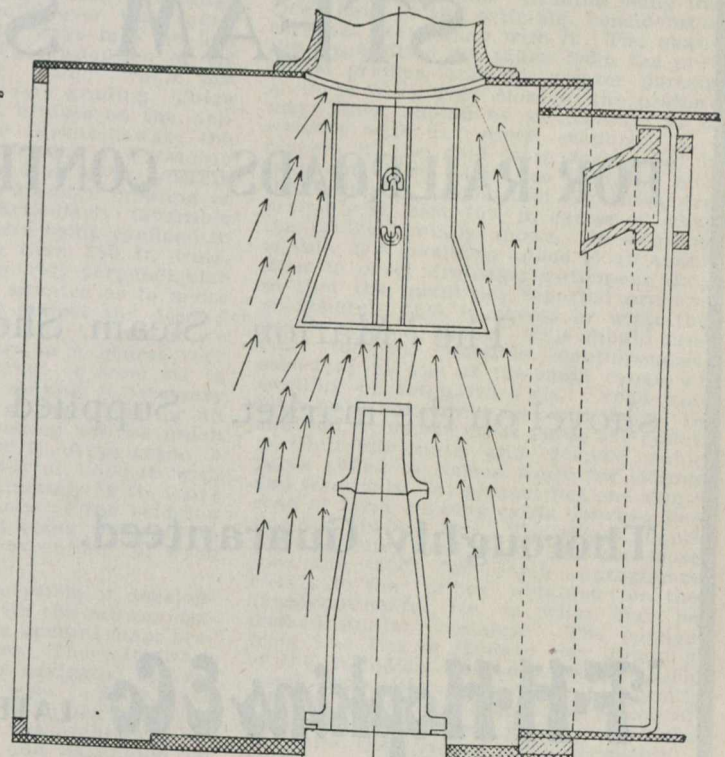
By H. J. Varlow, General Foreman C.P.R., Fort William, Ont.

There are a great many different opinions on this subject. Engineers frequently raise discussions and I have heard some remark that certain locomotives will not steam without a bridge in the nozzle. It is almost impossible to convince some engineers that the engine will steam without the bridge. My opinion is that putting a bridge or bar across a nozzle is not the proper plan; in the first place, it will cause back pressure. This is not the only obstruction caused. When the exhaust strikes the bridge it is split and destroys the vacuum in the smoke box and the fire does not burn evenly. I am inclined to think there is much more work put in the front end of a locomotive than is beneficial and that does not do all that is claimed for it. The accompanying sketch figure 1 shows an exhaust nozzle with bridge. When steam strikes this the exhaust is split and does not go straight up the stack. It will be seen this nozzle is below the centre of the boiler which I believe is a disadvantage and I do not consider a number of petticoats improve the steaming qualities. The other sketch figure 2 shows an exhaust nozzle without a bridge which will give far better results. The nozzle is level with the centre of the boiler and has one petticoat. I would suggest for an engine with 21½ inch cylinder and 28 inch stroke a nozzle bored parallel 3½ inches and 5 inch diameter, with one petticoat. This can be lowered or raised as required to suit. There will be less back pressure with this nozzle than with one with the bridge and a much better vacuum will be obtained. Care must be taken that the exhaust is set central with the stack.

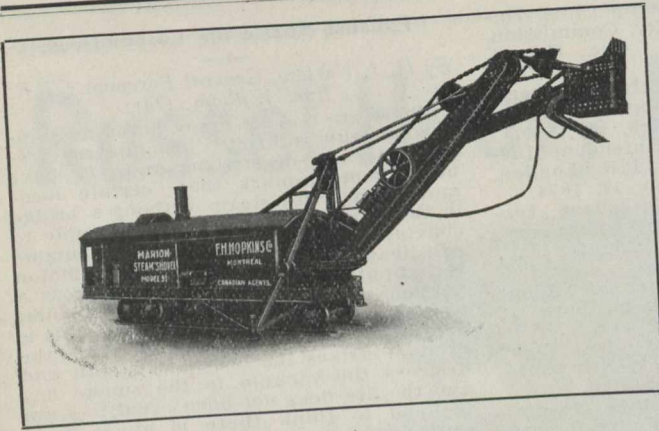
The commissioners and officers of the Victorian (Australian) railways, of which T. Tait is Chairman, sent out a very attractive Christmas card, illustrated with views of a standard train, the Commission's head offices, the Melbourne central station, the railway yards at North Melbourne, and a beautiful Victorian fern scene.



EXHAUST NOZZLE FOR LOCOMOTIVES. FIG. 1.

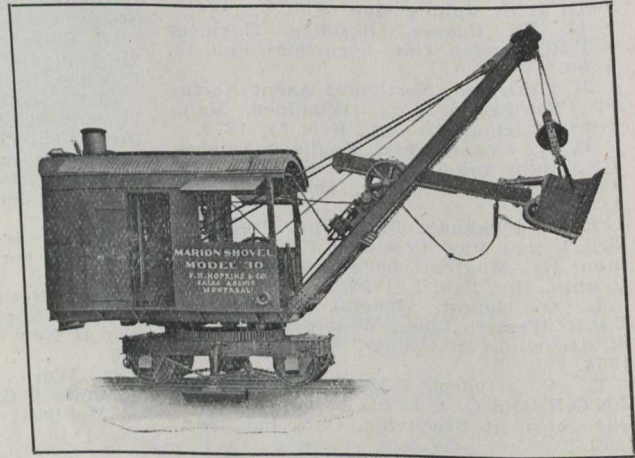


EXHAUST NOZZLE FOR LOCOMOTIVES. FIG. 2.



“Marion” Standard Steam Shovels

“Marion Revolving” Steam Shovels



“MARION” STEAM SHOVELS

FOR RAILROADS—CONTRACTORS—MINES, ETC.

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Montreal

A Railway to Hudson's Bay.

The surveys for the proposed railway to Hudson Bay have been made under the charge of Jno. Armstrong, C.E., and the instructions for the preliminary surveys were conveyed to him in a letter from the Deputy Minister of Railways dated July 10, 1908. Four parties were organized at Winnipeg, the first two being despatched to Pas Mission, Aug. 30, and the other two Sept. 19. A small additional party was organized to undertake the exploratory work, and for the collection of general information as to the country through which the proposed line will run. The first party completed its field work, Mar. 11, 1909; the second 13 days later; the third April 6, while the two other parties completed their work on the railway route, April 1, and were engaged until July on survey work on the harbors at Port Nelson and Fort Churchill. The chiefs of the staffs worked out the plans and estimates after the withdrawal of the parties from field work.

THE CHURCHILL ROUTE.—The first section of approximately 120 miles is through a comparatively level country, affording easy grades and cheap construction. The territory is underlaid with limestone in horizontal or flat beds, rarely rising above the general level to any extent, and when it does so it is in such a way as to be easily avoided by the railway line. Owing to this condition the rock cutting on this section will be practically nil. The balance of the grading on this section will largely be in clay loam material, probably 70%, the remainder being of sand, gravel and swamp or muskeg. What is called muskeg in this country is not a true muskeg, but would be more properly defined as swamp. Good bottom is usually obtained at a depth of 3 or 4 ft., and very seldom exceeds 7 or 8 ft. The stream crossings will be light, with the exception of the Saskatchewan river crossing. Frog River, the connection between Moose Lake and Cormorant Lake, is a navigable stream for small boats, and as crossing is low down it will probably be necessary to provide a swing span of some kind. As a 50 or 60 ft. opening will do, the sum required will not be large. The second section of 120 miles is through granite country, and although the same general characteristics are preserved the granite ridges are more abrupt, and will necessitate some rock cuttings, although fortunately most of them will be small. All the streams and lakes throughout these two sections possess more or less valuable timber. From mile 240 to 360 is the roughest country encountered, and considerable exploratory and extra preliminary work has failed to find any better route than that adopted. In this territory is included the rise between the basin of the Nelson River and that of the Churchill. The actual height of the summit between the two rivers is not very great, but both approaching and leaving this summit a heavily rolling or undulating country is encountered, and requires the development of a considerable length of line, and the introduction of much curvature to secure the grades adopted, at a reasonable cost. On the Nelson River side of this ridge a considerable amount of heavy work will be necessary, but on the Churchill slope although the yardage to be moved will be heavy it is not anticipated that much rock will be encountered. The fourth section, extending from mile 36 to Port Churchill will require the moving of only a light yardage, but the northern 70 miles being over the tundra, or barren lands, may prove to be a more expensive piece of work than the profile would indicate. W. J. Clifford made a trip through this section in June to examine it after the snow had dis-

appeared. He does not anticipate any serious difficulty or danger in construction, the chief drawback being from the fact that although the material is such as would usually be classified as common excavation, so much frost will be encountered that probably a considerably greater price will have to be paid for its handling than for common excavation. The timber over sections 3 and 4 is not of very much value. A few ties and some timber for temporary work may be obtained but only in small quantities. The bridging on the whole will average light, the only two bridges of great importance being the Saskatchewan crossing and the Deer River crossing about mile 350. The curvature as estimated from the projected location averages 9° 55' per mile. The grades adopted, viz.: 0.4 northbound and 0.6 southbound, have been obtained without great effort, and although some development was required on section 3, the ease with which they were obtained on the remaining sections seems to justify their use all through for the sake of uniform grades on all engine divisions.

THE NELSON ROUTE.—The route selected towards Port Nelson follows the Churchill route for some 150 miles or thereabouts. Unlike the Churchill route, the Nelson route does not resolve itself into natural divisions each presenting different characteristics peculiar to itself, but throughout maintains a generally uniform appearance so that the description given for the first division of the Churchill route may be applied in a general way to the whole of the Nelson route. It is not expected that the rock work will amount to very much, the major portion of the grading being in clay loam with smaller percentages of sand, gravel and swamp. The tundra is not encountered on this route, the whole line being through timber not appreciably different from that described on the first 200 miles of the Churchill route. It may be mentioned that sand and gravel has been found sufficiently often to justify the belief that ballast may be had without unduly long hauls, except on the northern 70 or 80 miles of the Churchill route. It may be found there, but as yet it has not been noticed. The curvature has been estimated to average about 5° 30' per mile over this route. A grade of 0.4 both ways may be had on this route. The adoption of 0.6 against southbound traffic would not help alignment nor save grading. There are three important bridges on the Nelson route, viz.: the Saskatchewan, the crossing of the Nelson at Manitou rapids, and the second or lower crossing of the Nelson. The Manitou crossing of the Nelson is a particularly favorable crossing, the river here being confined in one channel of less than 350 ft. wide, the banks being of merely perpendicular granite rock and so situated as to make it possible to choose almost any desired elevation between 50 and 100 ft. above the water, which here is of course very deep, and has a current of from six to eight miles per hour, making it necessary to cross with either a single span or an arch. The lower crossing will be much longer, probably 3,000 ft., from grade to grade, with a waterway of 1,500 ft. with the grade line approximately 80 ft. above the water. The balance of the bridging will be light, trestles being sufficient in all cases with the exception of Frog River.

The waterways susceptible of development in connection with the railway system are indicated on a general map, prepared by the engineers. The waterways have all been recently navigated by vessels of considerable size. Trips have been made between Winnipeg and Edmonton, on the North Saskatchewan; between Medicine Hat and Saskatoon on the South Saskatchewan, and between Grand Forks, N.D., and Winnipeg, on

the Red River. These river routes are open to the navigation system touched by the proposed railway. The Nelson River has a discharge of approximately 150,000 cubic feet per second, at Lake Winnipeg, and as it is fed by a number of other rivers, the discharge at Port construction of the railway by Subst-Nelson is estimated at about 200,000 cubic ft. per second. The discharge of the Churchill River at Fort Churchill is estimated at 40,000 cubic ft. per second at low water, and there is no possibility of improving it so as to give inland communication by water. The only available site for docks is out near Cape Merry, with the railway terminals from two to three miles up stream. At Port Nelson, not only is there open a great stretch of improvable waterways inland, but there is a good site for docks and terminals adjoining an easily accessible supply of stone, etc., for construction, and the defence of the port would be comparatively easy.

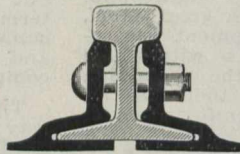
THE ESTIMATES are based on right of way 150 ft. wide with the necessary allowances added for sidings and terminals. A few miles of heavy clearing will be encountered, but the average over the whole line will be comparatively light. The first 200 miles will be through spruce and jack pine with a small proportion of poplar and tamarack. The northern 100 miles of the Churchill route will have practically no clearing. The northern 200 miles of the Nelson route will be through spruce with a small proportion of jack pine and tamarack and will probably have from 12 to 15 acres per mile to clear. A large portion of the clearing on both routes could probably be done for \$25 or \$30 an acre, but owing to the heavier clearing encountered at intervals an average price of \$40 an acre has been decided upon. It is somewhat difficult to estimate the cost of grubbing without an actual location profile. One and a half acres per mile has been used for 400 miles of both lines, using the price \$100 an acre which seems to be the price bid by contractors almost universally. The work will class as light, a large proportion of it being such as can be done with heavy grading or breaking ploughs. Grading being the chief item in the estimate, considerable care has been taken with it. The quantities submitted are taken from the projected profiles, and the greater portion of these being very close to the preliminary lines, should be as accurate as is possible without cross sections. Engineers in the field were instructed to take out these quantities liberally, and the estimates submitted by them are probably at least 10% in excess of what the profile actually shows. In addition to this, 25% has been added to all quantities to cover drainage, settlement, &c., so that the quantities reported are approximately 35% in excess of what the profile actually shows. This should provide for all possible contingencies, especially as one of the main causes of swelling of estimates, viz.: road and farm crossings, is not met with here. In addition, 1,100,000 cubic yards are added to Churchill route and 900,000 cubic yards added to Nelson route for sidings and terminals. At present not one single road or farm crossing exists between The Pas and Hudson Bay. The prices adopted, \$1.80 for solid rock, 65c. for loose rock and 30c. for earth approximate closely to the prices obtained on the Transcontinental Ry. in what may be termed similar country. The portion from The Pas to Hudson Bay Junction of the Canadian Northern Ry., a much worse proposition, was done at a profit, for 25c. during the high wage period of 1906 and 1907. These prices quoted are of course the average. The accessibility of the work will not be so difficult as supposed. The first section has rail communication to The Pas with a fairly

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has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fourteen (14) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence.

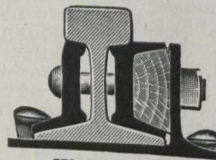
HIGHEST AWARDS

Paris, 1900;
Buffalo, 1901; St. Louis, 1904



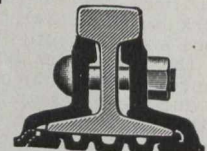
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50,000
miles
in use



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Pittsburg, Pa.
Troy, N. Y.

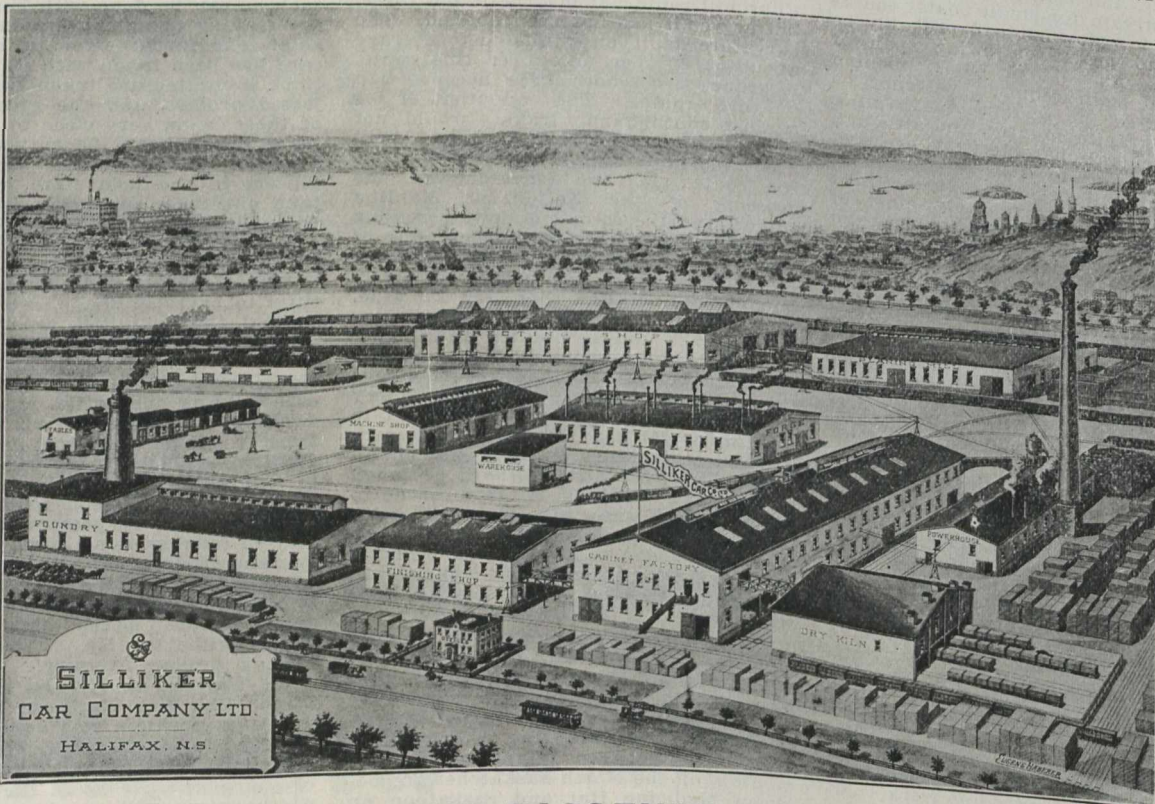
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good steamboat connection already established to Moose Lake, 50 miles along the route. The construction of wagon or sleigh roads from this point on will be easy. The second section, with communication from Winnipeg via Lake Winnipeg and the Nelson River, can be made quite adequate for the comparatively small sum of \$15,000 or \$20,000. In case the Churchill route is selected this will be more expensive. The third section may be supplied from Churchill or Nelson if so desired. In the case of Nelson good water connection being possible for 60 or 70 miles inland. In case the Churchill route is selected probably steam shovels will be required on a section of about 35 miles near Split Lake. These water routes suggested are not recommended for the transport of such plant as this, but will be useful for all lighter supplies and materials. On the Nelson route no steam shovel work is anticipated, except blasting—the plant for which will follow along behind the track.

On the Churchill route a sufficient amount of timber for ties, piles, and temporary work may be had convenient to the line on the southern portion as far as mile 240, but beyond this point none can be had. For this reason piling has been quoted as 50c. per foot on the Churchill route, as against 40c. on the Nelson route, where timber may be had all the way to the bay. With the exception of the Saskatchewan River crossing and the crossing of the Deer River on the Churchill route all waterways have been estimated for, as temporary wooden structures. On the Nelson route the Saskatchewan crossing and the two crossings of the Nelson are to be steel and concrete, all others wood. The expedition is practically the first which has obtained definite and specific information of the country through which it is proposed to run, but inasmuch as practically all the work was done in the winter months with everything frozen solid and under 3 or 4 ft. of snow it is perhaps too much to expect that a proper estimate of water openings could be made. For this reason temporary wooden structures of such a nature as will suffice for from seven to 10 years has been estimated for. During this period close observation of the waterways will enable the engineers to specify with more certainty the style and size of opening required. With this closer knowledge of what is required, and with the increased facilities for handling cement and other materials for permanent structures, the final cost will probably be less than if an attempt were made to construct them now. Cedar timber for culverts may be had f.o.b. cars in Winnipeg for \$18 and \$20 a thousand, and with freight added is worth \$22 to \$25 at The Pas. The price of \$40, thus leaving from \$15 to \$18 for framing and contingencies, is probably high enough to cover the cost of what little excavation may be needed. If timber native to the country can be used, such as spruce and tamarack, a considerable saving may be effected.

The iron for bridge and other work, steel rails and ties are estimated at current prices; tracklaying at about \$500 a mile; ballasting at \$1,000 a mile; and water tanks, etc., in accordance with the general practice, altered to suit the special requirements of the line. A 5,00 ft. side track is estimated for at every eight miles, with a station-house, and accommodation for two section crews at every alternate siding. On the Nelson route, 410 miles, there will need to be four sets of divisional buildings, and the same on the Churchill route of 477 miles.

The estimates as submitted by Mr. Armstrong were:—

	Churchill Route.	Nelson Route.
Clearing	\$280,000	\$280,000

Grubbing	60,000	60,000
Grading	4,870,000	3,000,000
Piling	90,000	80,000
Timber in culverts	130,000	112,000
Timber in bridges and trestles	220,000	176,000
Iron in bridges and culverts	130,000	105,000
Steel rails, 0 lb.	2,160,000	1,820,000
Angle bars	134,000	114,000
Bolts and nuts	36,000	31,200
Spikes	132,600	113,100
Ties	850,000	580,000
Track-laying	283,500	241,500
Switches	75,000	60,000
Water tanks	150,000	125,000
Steel bridges, steel	185,000	650,000
Steel bridges, concrete	90,000	180,000
Ballasting	567,000	483,000
Telegraph lines	143,100	123,000

Total

The Deputy Minister of Railways has increased the estimate for the actual

tuting 80 lb. for 60 lb. steel, thus adding to the cost, in the case of the Churchill route, \$720,000 for steel rails and \$45,000 for fastenings, bringing the total cost up to \$11,351,520; and in the case of the Nelson route, \$600,000 for steel rails and \$40,000 extra cost of fastenings, bringing up the estimated cost to \$8,981,800. The estimated cost of station buildings, shops, etc., are as follows:—

	Churchill Route.	Nelson Route.
Station buildings, telegraph stations, section houses, round houses, shops, etc.	\$1,700,000	\$1,647,600
Two 4,000,000 bush. elevators	4,000,000	4,000,000
Yard facilities at terminals	320,000	320,000
Engineering, law costs and 10% for contingencies.	1,737,152	1,476,940
	\$7,757,152	\$7,444,540

The cost of harbour works, piers, dredging, exclusive of lighthouses and buoying channels, is estimated at \$6,675,000 in the case of Fort Churchill, and \$5,065,000 in the case of the Port Nelson. These estimates show a total estimated cost of railway from The Pas to Fort Churchill, with all the necessary buildings, and the provision of harbor works for the accommodation of coast-wise and ocean vessels, of \$19,108,672; and for a railway from The Pas to Port Nelson with all the accommodation as in the case of Fort Churchill of \$16,426,340.

The southern terminus of the railway as planned, whichever point may be selected as the terminus on Hudson Bay, is at the Pas Mission, to which point the Canadian Northern Ry. has already a line in operation. The Chief Engineer of the present surveys suggests the possibility of constructing lines southerly from The Pas to Saskatoon, and another from Etomimi, the point of divergence of the C.N.R., Prince Albert and Pas Mission lines to Yorkton. The first line, Mr. Armstrong says, would open up a very fertile country along the Carrot River and give an outlet for the valuable timber areas along the northern slope of the Pasquia Hills. This line would be through open prairie country and a first-class road could be constructed for \$20,000 a mile. The second suggested line would give communication over the lines of other companies to Regina and other centres in eastern Saskatchewan and western Manitoba. This line will also be prairie work, and its cost should not exceed \$20,000 a mile.

A. R. Macdonnell, a contractor for the construction of a large mileage on the Temiskaming and Northern Ontario Ry., and the Commissioners having failed to agree in the final settlement of the construction accounts, the matter was referred to arbitration. The arbitrators sat Jan. 11, but counsel on both sides disputed the scope of the reference, and the contractor decided to apply to the Attorney-General for a fiat to enable him to take proceedings against the Commission in the courts.

Alberta and Great Waterways Railway.

In our last issue, in giving a summary of the prospectus of the company's bonds issued in England, we stated that an arrangement had been made with J. P. Morgan & Co., of New York, to place the bonds on the London market through its British house, J. S. Morgan & Co. We are advised that the arrangement was made direct between the A. & G.W.R. Co. and the London house.

We are advised that two reconnaissance surveys have been made from Edmonton, Alta., to Fort McMurray, 350 miles. About 90 miles have been located from Edmonton, with an alternative survey; three parties are in the field, and it is hoped to complete location to Lac la Biche by the end of April. Further location surveys to Fort McMurray or its vicinity will be gone on with during the season. It is said that the selection of Fort McMurray as the northern terminus would necessitate a 2 1/2 pusher gradient and that consequently there may be a change in the proposed route at that end. Last year work was started about 15 miles north of Edmonton, and some 10 miles were graded by E. Manders, sub-contractor. Further contracts for grading will be sub-let in the near future and we are advised that it is hoped to complete the line from Edmonton to Lac la Biche, 150 miles, this year. A telegraph or telephone line, or possibly a combination one, will be built concurrently with the railway.

The President, Chief Engineer and General Manager were in Montreal together in January, and a contract was given the Algoma Steel Co. for between 30,000 and 40,000 tons of 56 lbs. rails for delivery this year and next. Orders for other material were given as follows:—Bolts, Toronto Bolt & Forging Co.; spikes, Peck Rolling Mills; fish plates and angle bars, Nova Scotia Steel & Coal Co. The Canada West Construction Co., contractors for construction, will buy some locomotives and flat cars and a steam shovel. Press reports from Edmonton state that sub-contracts have been let to the MacInnes Lumber Co., Edmonton, and to J. Walker, Fort Saskatchewan, for timber for culverts, bridges and for the line as far as Lac la Biche.

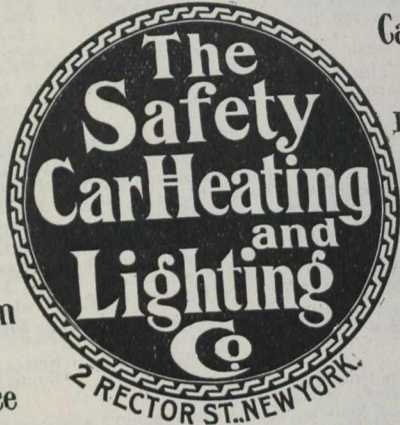
The company's officers are:—President, W. R. Clarke, President United States Trust Co., Kansas City, Mo., who for the present has headquarters at Edmonton and Montreal; Chief Engineer, J. A. L. Waddell, of Kansas City, Mo., who has his present headquarters at Edmonton; General Manager, E. A. James, formerly Manager Canadian Northern Ry., who now lives at Victoria, B.C., but will establish his headquarters at Edmonton in the spring; General Counsel, G. D. Minty, Winnipeg. Mr. Clarke is in general charge of all the company's interests; Mr. Waddell has charge of surveys and construction. In our last issue Bertrand R. Clarke, of Kansas City, was erroneously mentioned as Vice President of the A. & G.W.R. Co. He is President of the Canada West Construction Co., Ltd., which has the contract to build the railway.

The construction of this line will open up a tremendous mileage of interior navigation from Fort McMurray, or its vicinity, via the Athabasca River, Athabasca Lake, Slave River, Great Slave Lake and Mackenzie River to the Arctic Ocean, and bring the whole of the 3,500 miles of waterways in the Mackenzie basin into connection with the Dominion railway systems. It is probable that the A. & G.W.R. Co. will place steamboats on the river and lake routes.

The C.P.R. is reported to have completed plans for a \$100,000 hotel to be built at Arrow Lake, B.C.

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Most brilliant illumination made possible by the Pintsch System using perfected Mantle Lamps and Safety Axle Driven Dynamo Electric System a product of sixteen years experience and now operating successfully on leading roads

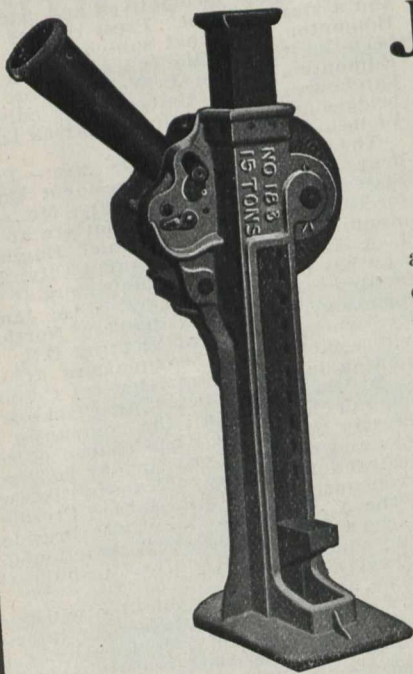


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GEARED LEVER TRACK JACK No. 183, with automatic lowering device; has four times the lifting capacity of the Plain Lever Jack. Specially adapted for wrecking work.

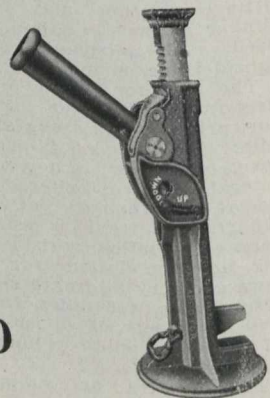
TOGGLE TRIP TRACK JACKS, Nos. 38 and 39, for line work and yard duty. The superior construction of these Jacks increases the grip and friction 40 per cent. or more above others of similar type.

FULL AUTOMATIC JACK, strong and reliable, combines highest efficiency with simplicity of mechanism.

Write for Bulletins giving full description of working parts of Joyce Crydland Jacks.



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Full Automa
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Railway Commissioners' Traffic Orders.

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

CONCURRENCE IN JOINT TARIFFS.

9894. Dec. 11.—Whereas notices of concurrences in joint tariffs are not required by secs. 335 and 336 of the Railway Act relating to international traffic, traffic from Canada through a foreign country into Canada, and from a foreign country through Canada into a foreign country; and whereas the Railway Act, sec. 333, provides "that where traffic is to pass over any continuous route in Canada operated by two or more companies, the several companies may agree upon a joint tariff for such continuous route, and the initial company shall file such joint tariff with the Board, and the other company or companies shall promptly notify the Board of its or their assent to and concurrence in such joint tariff; it is ordered that the following form of certificate shall be used in notifying the Board of assent to and concurrence in a joint tariff, or in a supplement thereto, applicable between points in Canada, that has been published and filed by another company, and to which the company giving assent and concurrence has been made a party; the certificate to be used for one schedule only, to be printed on paper eight inches wide by eleven inches long, and to be mailed to the Chief Traffic Officer of the Board:—

(Name of concurring company in full) Department
(Place and date).....

No. C. C. (from 1 progressively).

THE BOARD OF RAILWAY COMMISSIONERS
FOR CANADA.

This is to certify that the (name of concurring company in full) assents to and concurs in the publication and filing of the joint tariff (or joint supplement) described below, and hereby makes itself a party thereto and bound thereby.

(Full title and C.R.C. No. of schedule concurred in.)

Date effective

Issued by..... (Company.)

This certificate to be signed with the name and title of the official of the concurring company appointed by by-law of the company to prepare and issue tariffs, or by some person duly authorized to sign for him, such person to affix his name in full and his name and authority for the purposes of this Order to be communicated to the Board. And it is further ordered that in lieu of the individual certificate hereinbefore prescribed, the Board is prepared to receive a general certificate of concurrence in the following form, in all joint tariffs and supplements thereto, applicable between points in Canada, that have been published and filed by other companies named therein, and to which the company giving assent and concurrence has been made a party; the certificate to be mailed to the Chief Traffic Officer of the Board:

(Name of concurring company in full) Department
(Place and date).....

No. G.C. (from 1 progressively).

THE BOARD OF RAILWAY COMMISSIONERS
FOR CANADA.

This is to certify that the (name of concurring company in full) assents to and concurs in all joint tariffs and supplements thereto, that may hereafter be published and filed by (the name of company in full), in which this company is named as a party thereto, in so far as such schedule contains rates which apply, within Canada, to or via (not from) this company's points.

This certificate to be signed in person by the official of the concurring company appointed by by-law of the company to prepare and issue tariffs. And it is further ordered that the company which prepares and issues the joint tariff shall, against the name of each of the other concurring companies, show in small type the C.C. or G.C. number, as

the case may be, of the certificate of concurrence of such company in such joint tariff. That two copies of all certificates of concurrence shall be filed with the Board, one marked "duplicate," which will be stamped with the date of receipt by the Board and returned to the sender; and it is further ordered that under sec. 323 of the Railway Act, the only procedure in the case of objection to any joint tariff shall be by formal application by the objecting company to the Board for an order disallowing the said tariff. The circular re concurrence certificate issued by the Board September 16, 1904, and Feb. 15, 1905, are rescinded. This order shall come into effect on Feb. 1, 1910.

MILLING-IN-TRANSIT PRIVILEGES.

9032. Dec. 21.—Re application of W. S. Tilston, Manager Transportation Bureau Montreal Board of Trade, under sec. 323 of the Railway Act, for an order directing the C.P.R. to publish tariffs covering the milling-in-transit privilege on corn received at Montreal by rail from its Georgian Bay elevator ports and from Detroit, which is ground at Montreal, and the product of which is re-shipped thence to C.P.R. points east in the Provinces of Quebec and New Brunswick for domestic consumption and for furtherance by water to outports; and re application of the Canada Flour Mills Co., of Chatham, Ont., for an order directing the G.T.R. and the C.P.R. to restore the milling-in-transit privilege on United States corn enjoyed by the applicant company under an arrangement with the said companies, the said arrangement having been withdrawn some years ago. Upon hearing the application, Mr. Tilston appearing in person for the Montreal Board of Trade, and in the presence of counsel for the C.P.R. and the G.T.R. Companies, no one appearing for the Canada Flour Mills Co., and what was alleged; it is ordered that the said applications be dismissed.

RATES ON IRON AND STEEL FROM ST. JOHN, N.B.

9099. Dec. 21. Re complaint of James Pender & Co., the Maritime Nail Co., and the Portland Rolling Mills, St. John, N.B., complaining against increase in rates on coarser articles of iron and steel from St. John to points on the Quebec Central Ry., via Megantic, from 16 1/2 c. per 100 lbs. on carloads and 25c. per 100 lbs. on less than carloads, to 22 and 33c. per 100 lbs. on carloads and less than carloads respectively; and applying for an order directing the C.P.R. to restore the former rates: Upon hearing the complaint, Mr. McDonald, Manager of the Maritime Nail Co., appearing for complainants, and W. B. Bulling, Assistant Freight Traffic Manager C.P.R. for that company, it is ordered that Supplement 3 to Special Tariff C.R.C. no. 937, increasing said rates be disallowed, and the railway company is directed to restore, not later than Jan. 10, 1910, the former rates on the said traffic.

METALLIC SHINGLE RATES FROM EASTERN POINTS.

9128. Dec. 21.—Re application of Kemp Manufacturing and Metal Co. and Winnipeg Ceiling and Roofing Co., both of Winnipeg, under sec. 315 of the Railway Act, for an order directing the railway companies to equalize their freight rates on metallic shingles and metallic siding from eastern points to Manitoba, Saskatchewan and Alberta, as against the freight rates charged on the unmanufactured material. It is ordered that order 653, July 5, 1905, made upon the application of the Canadian Manufacturers' Association and the manufacturers of metallic shingles, directing the C.P.R., the G.T.R., the C.N.R., and such other railway companies as are represented by the Canadian Freight Association, to establish commodity rates on metallic shingles, in carloads, equal to the rates at which metallic shingles, in carloads, were carried immediately before the change of classification in March, 1901,

and to apply the same rates on metallic siding, and directing mixed carloads of the two articles to be carried at the rates charged on straight carloads,—in so far as it relates to or has affected shipments to points west of and including Port Arthur, from points in Canada east thereof, and from Winnipeg and St. Boniface, Man.—be rescinded. It is further ordered that order 1004, dated March 24, 1906, in so far as it relates to shipments between and within the territories hereinbefore described, be rescinded. And it is further ordered that order 6188, dated Feb. 2, 1909, made herein, dismissing the application, be rescinded.

LUMBER RATES, B.C. TO ALBERTA.

9187. Jan. 7.—Re complaint of J. A. Maddaugh, of Vancouver, B.C., of an overcharge of \$52.18 on a shipment of four carloads of lumber from Maddaugh siding, B.C., on the Vancouver, Westminster & Yukon Ry., to Stony Plains, Alta., on the C.N.R., applying for an order to extend the operation of order of 7277, of June 16, 1909, to cover points on the C.N.R.; and for an order directing the V. W. & Y., the C.P., and the C.N.R. Companies to refund to complainant \$52.18. It is ordered that the Great Northern Ry. Co., operating the V., W. & Y. R., forthwith publish and file joint rates on lumber and other articles covered by the joint tariff hereinafter mentioned, from points on the V., W. & Y. R. between Vancouver and New Westminster, not inclusive, to points on the C.N.R., via Vancouver, or New Westminster, and the most convenient and practicable points of interchange between the C.P. and C.N. Railways,—the said joint rates to be 1c. per 100 lbs. higher than the joint rates from Vancouver and New Westminster to the points shown in the C.P.R. Joint Tariff C.R.C., no. W. 847, or as it may be amended; the V., W. & Y. R. to be allowed 2 1/2 c. per 100 lbs.; the C.P. and the C.N. Railways to agree upon the apportionment of the balance of the joint rates. And it is further ordered that the V., W. & Y., the C.P., and the C.N. Railways, be authorized to refund to the complainant \$52.18 on said shipment of lumber from Maddaugh siding, B.C., to Stony Plains, Alta.

WOOD PULP RATES FROM THOROLD.

Re application of J. Davy, of Thorold, Ont., for an order directing the Niagara, St. Catharines and Toronto Ry. to refund \$219.83, alleged excess freight charges collected from applicant on shipments of wood pulp from Thorold to Suspension Bridge, N.Y.; and for an order directing the N. St. C. and T. R. to restore and maintain a rate of 2c. per 100 lbs. on further shipments between the said points. It is ordered that that part of the application directing the N. St. C. and T. R. to refund \$219.83, being the additional 1c. per 100 lbs. paid on 42 carloads shipped from Nov. 15, 1908, when the 3c. rate went permanently into effect, to Sept. 29, 1909, the date of this application, be dismissed. And it is further ordered that the joint rate of 3c. per 100 lbs. at present in force on wood pulp, in carloads, from Thorold to Suspension Bridge, via the N., St. C. and T. R. and the M.C.R. be, disallowed, and the N., St. C. and T. R. is required by Jan. 15, 1910, to restore the joint rate of 2c. per 100 lbs. which was in effect on the said traffic prior to Feb. 1, 1908, and Nov. 15, 1908.

The action brought by M. A. Pigott, against the Guelph and Goderich Ry., for a sum approximating \$500,000 for work done on construction, after being in hearing before the Ontario Courts for 28 days, was withdrawn, a settlement having been reached. The court dismissed the action, directing each party to pay their own costs.

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FORGINGS

In Rough, Rough Turned or Smooth Finished

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Plain, Cold Twisted or Deformed

BAR STEEL

STEEL BARS

For

CONCRETE REINFORCEMENT

STEAM RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1909.

In the following table the column headed gross earnings includes passenger and freight earnings, as well as miscellaneous earnings; the next four columns give the operating expenses classified under their various headings, while the last gives the net earnings, which is arrived at by deducting the totals of the four columns referred to from the figures in the gross earnings column. The minus mark (—) before figures in the net earnings column shows that there was a deficit in the operations of the line to the extent of the figures given. The numbers in brackets—thus (1)—after the name of a railway refer to notes on page 105. The cents have been omitted in all cases, and the figures in the totals show the aggregate earnings, etc., including the cents, omitted from the detailed items.

Name of Railway	Mileage	Passenger Earnings	Freight Earnings	Gross Earnings	Maintenance of Way and Structures	Maintenance of Equipment	Traffic and Transportation Expenses	General Expenses	Net Earnings
Alberta Ry. & Irrigation Co. (1)...	111.82	\$ 80,991	\$ 200,588	\$ 294,278	\$ 84,266	\$ 29,868	\$ 71,312	\$ 21,029	\$ 87,801
Albert Southern.....	19.00								
Algoma Cent. & Hudson Bay (2)...	89.64	17,010	229,181	304,730	35,054	52,341	120,308	17,535	79,490
Atlantic & Lake Superior (3).....	100.00	31,119	59,009	93,553	28,361	20,300	37,514	7,586	-208
Atlantic, Quebec & Western (3)...	20.00	6,174	10,637	16,826	6,530	1,140	12,983	3,400	-7,228
Bay of Quinte (4).....	89.37	41,163	108,020	153,652	25,109	25,594	71,669	9,314	21,964
Bedlington & Nelson (5).....	23.97	162	1,583	1,745	4,005	228	1,043	477	-4,010
Bessemer & Barry's Bay.....	5.00		3,107	3,107	3,134	1,475	5,230	2,146	-8,879
Brandon, Sask. & Hudson Bay (5)...	69.45	29,070	39,843	68,940	31,884	9,059	47,842	3,701	-23,547
British Yukon (6).....	90.32	81,012	239,083	326,612	50,312	16,028	53,097	11,903	195,269
Brockville, Westport & N. W.....	45.00	32,192	25,575	57,768	9,930	3,375	18,539	39,305	18,463
Bruce Mines & Algoma (38).....	17.28								
Buctouche & Moncton (7).....	32.00	9,986	17,444	27,430	8,410	2,336	8,700	2,896	5,086
Campbell'd, Lake Ontario & W. (8)...									
Canada Atlantic (16).....	396.41	440,297	1,320,882	1,813,945	377,750	282,039	929,217	43,290	181,647
Central Counties (16).....	38.49								
Canada Southern (25).....	382.19	2,240,967	5,492,113	7,766,465	817,334	945,987	2,648,427	128,242	3,203,472
Canadian Government—									
Intercolonial (9).....	1,450.37	3,004,490	5,543,349	8,602,986	1,642,398	2,040,823	5,147,327	221,972	-449,535
Prince Edward Island.....	269.33	166,308	155,838	323,084	115,084	70,398	213,476	12,186	-88,061
Canadian Northern (10).....	2,490.24	2,107,100	7,488,670	10,581,767	1,405,212	1,193,677	3,966,310	308,308	3,708,258
Canadian Northern Ontario (10)...	332.73	130,601	194,733	332,553	88,711	53,636	211,589	24,276	-45,660
Canadian Northern Quebec (10)...	266.80	224,877	498,250	739,603	162,407	77,073	391,778	47,067	61,276
Canadian Pacific (11).....	9,608.30	22,374,718	46,774,714	70,438,424	9,875,550	10,882,347	26,992,311	1,514,239	21,173,975
Cape Breton.....	31.00	5,319	2,606	8,043	5,444	1,640	7,256	3,266	-9,563
Caracquet (12).....	68.00	14,747	37,282	52,030	20,767	8,699	20,527	4,085	-2,048
Carillon & Grenville.....	13.00	1,532	78	2,508	1,951	1,115	1,664	45	-2,266
Central Ontario (13).....	140.13	84,815	163,472	267,437	49,379	16,751	73,166	6,532	121,606
Crow's Nest Southern (5).....	74.18	19,102	157,469	178,387	142,174	17,272	64,658	13,178	-58,897
Cumberland Ry. & Coal Co. (14)...	32.00	18,079	86,159	104,238	21,183	12,394	17,337		53,322
Dominion Atlantic (15).....	278.87	388,686	405,703	796,774	117,513	60,164	275,657	45,070	298,366
Eastern British Columbia.....	14.00	1,953	5,000	6,959	4,729	1,507	5,785	284	-5,347
Edmonton, Yukon & Pacific (40)...	4.50								
Elgin & Havelock.....	28.00	3,521	10,118	13,644	5,837	890	5,577	791	720
Esquimalt & Nanaimo (11).....	78.00								
Grand Trunk (16).....	3,108.44	10,017,218	17,662,990	28,024,007	3,672,594	3,878,960	11,046,167	802,341	8,623,942
Grand Trunk Pacific (16).....									
Gulf Shore (12).....	16.78								
Halifax & SouthWestern (10).....	369.81	188,444	181,056	372,782	114,047	41,246	177,479	24,906	15,104
Hampton & St. Martins.....	30.00	4,784	8,175	12,974	4,129	588	5,251	851	2,152
Hereford (17).....	52.85	18,792	45,828	64,870	27,504	11,190	40,043	2,425	-16,293
International Ry. of N.B. (18).....	80.00								
Inverness Ry. & Coal Co. (10)...	61.00	23,157	162,927	187,220	37,692	27,385	41,458	8,591	72,091
Irondale, Bancroft & Ottawa.....	48.00	6,716	20,241	26,958	10,308	5,015	12,139	5,514	-6,019
Kaslo & Slocan (5).....	23.37	3,140	13,861	17,010	10,419	2,747	10,785	704	-7,645
Kent Northern (19).....	27.00	7,702	9,729	17,432	3,920	300	6,828	1,591	4,792
St. Louis & Richibucto (19).....	7.00								
Kettle River Valley.....	20.00	82	1,549	1,631	1,817	160	598	168	-1,113
Kingston & Pembroke (11) (37)...	109.80	56,103	126,856	179,350	47,717	21,344	71,881	9,201	29,203
Klondyke Mines.....	31.81	13,481	30,926	44,428	16,238	2,671	17,063	12,465	-4,911
Lake Erie & Detroit River (20)...	198.81								
Lenore Mount Sicker (38).....	12.00								
Liverpool & Milton.....	5.75	444	11,414	11,858	873	2,222	4,587	397	3,778
London & Port Stanley (20).....	23.66	36,495	69,411	110,628	33,323	18,396	80,831	4,967	-26,890
Lotbiniere & Megantic.....	30.00	5,818	24,064	33,442	9,941	2,752	10,889	6,124	3,734
Magnetawan River (16).....	1.91								
Manitoba Ry.....	350.68								
Manitoulin & North Shore Ry. (2)...	15.83	1,552	39,687	41,239	7,781	5,611	12,388	7,855	7,602
Maritime Coal Ry. & Power Co. (21)	15.00	7,090	36,711	43,887	5,720	5,167	18,877	2,881	11,240
Marmora Ry. & Mining Co. (13)...	9.60								
Massawippi Valley (22).....	35.46	69,775	108,333	178,729	37,664	14,736	91,990	4,875	29,461
Midland of Manitoba (5).....	91.77	9,760	54,875	64,749	35,129	7,082	34,909	2,398	-14,771
Montreal & Atlantic (11).....	163.40	197,177	626,154	845,097	213,446	116,557	396,953	25,309	92,829
Montreal & Province (16).....	58.60	51,214	37,373	90,610	20,809	1,002	40,653	1,825	26,318
Montreal & Vermont Jct. (16).....	23.60	55,335	78,687	134,097	15,736	847	44,191	4,441	68,979
Morrissey, Fernie & Michel (23)...	10.85	7,952	69,330	77,282	11,227	11,224	33,561	20,272	996
Napierville Jct. (30) (37).....	27.06	4,381	40,498	43,822	5,446	1,726	21,206	2,042	13,399
Nelson & Fort Sheppard (5).....	55.42	27,506	42,098	73,068	53,109	8,622	45,138	3,220	-37,023
New Brunsw'k Coal & Ry. Co. (24)...		18,631	38,101	69,372	23,174	14,758	27,936	10,104	-6,602
New Brunswick & P.E.I.....	36.00	11,011	21,007	32,110	10,555	4,964	9,647	5,325	
New Brunswick Southern.....	82.35	19,472	21,623	41,401	29,205	10,213	25,063	4,804	-27,884
New Westminster Southern (5)...	24.10	51,116	41,260	92,652	18,268	7,114	44,069	2,827	20,371
North Shore Ry.....		361	2,718	3,080	631	137	2,059	63	187

(Continued on page 105)

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

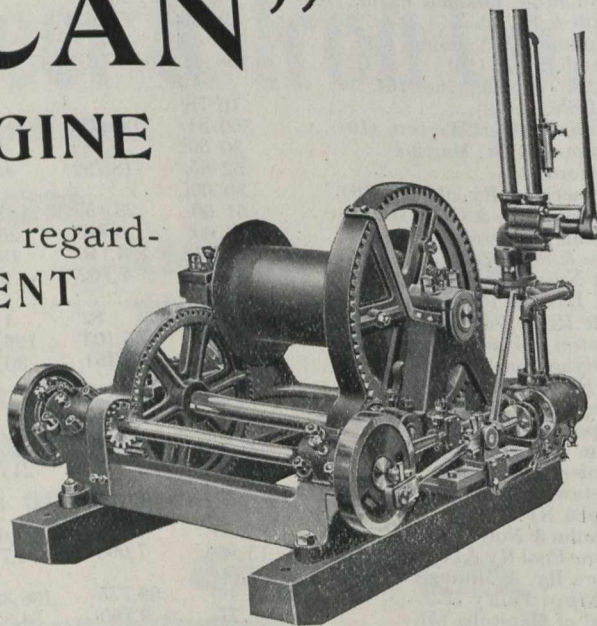
"I learn from _____ the Master Mechanic here, that an engineer running between _____ and _____ discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

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NEW YORK

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NEW ORLEANS

Steam Railway Statistics for the Year Ended June 30, 1909—(Continued from page 103)

Name of Railway	Mileage	Passenger Earnings	Freight Earnings	Gross Earnings	Maintenance of Way and Structures	Maintenance of Equipment	Traffic and Transportation Expenses	General Expenses	Net Earnings
Nosbonsing & Nipissing.....	5.50		23,299	23,299	7,455	3,494	12,548		
Nova Scotia Steel & Coal Co.....	12.50	2,248	3,527	5,776	3,923	2,018	5,326		-5,492
Orford Mountain.....	55.10	7,173	22,960	30,250	14,055	2,665	18,152	3,222	-7,746
Ottawa & New York (25).....	56.90	67,204	69,260	139,410	97,251	16,492	71,442	5,743	-51,520
Pembroke Southern (16).....	21.36								
Pere Marquette (20).....		152,220	2,210,490	2,372,155	167,930	329,704	265,531	53,115	995,873
Phillipsburg Ry. & Quarry Co.....	6.00		4,351	4,351	216			31	4,104
Pontiac & Renfrew (38).....	4.25								
Princeton Branch, W. C. Ry. (17).....	5.10	7,720	17,193	24,914	3,059	1,220	5,218	328	15,088
Qu'Appelle, Long Lake & Sask. (10).....	255.50								
Quebec Bridge & Approaches (28).....									
Quebec & Lake St. John (10).....	286.50	258,149	362,977	631,389	109,596	111,091	298,776	33,744	78,178
Quebec & New Brunswick (27).....									
Quebec Central.....	222.00	356,622	658,010	1,020,482	152,669	138,103	373,360	60,884	295,564
Que., Montm'cy & Charlev'x (29).....	27.00	11,676	40,833	57,193	4,902	6,337	23,480	7,230	15,242
Que., Mon. & Southern (30) (37).....	191.91	110,833	124,290	234,993	60,437	33,768	117,304	17,799	5,622
Red Mountain (5).....	9.59	3,917	17,834	22,162	14,668	4,178	46,687	3,812	-47,185
Rutland & Noyan (25).....	3.39	8,883	3,520	12,403	1,297	1,749	6,013	460	2,883
St. Clair Tunnel & Approaches (16).....	2.25		277,052	277,093	23,120	22,521	57,862	3,185	170,402
St. John Valley & Riv. du L'p (31).....									
St. Lawrence & Adirondack (25).....	46.12	174,295	247,674	422,232	68,849	31,027	166,573	7,039	148,741
Salisbury & Harvey.....	50.00	11,917	18,768	30,836	16,340	7,069	12,140	1,913	-6,629
Schomberg & Aurora (10).....	14.40								
Spokane & British Columbia.....	3.70	58	760	819					
Stanstead, Sheff'd & Chambly (16).....	43.00	34,970	38,098	73,350	1,117	140	291	170	-899
Sydney & Louisburg (32).....	62.99	19,296	327,143	349,287	54,239	2,808	42,386	1,816	3,519
Temiscouata.....	113.00	83,508	143,143	230,148	51,082	99,652	137,072	41,751	16,571
Temiskaming & Northern Ont. (33).....	264.74	526,459	710,070	1,324,129	133,165	31,029	75,080	10,659	62,295
Thousand Islands (4).....	6.33	10,819	19,957	32,971	3,641	126,868	467,539	43,610	552,946
Toronto, Ham. & Buffalo (25) (34).....	83.67	254,483	534,543	796,443	135,509	71,637	288,325	26,584	274,386
Trans-Canada (35).....									
Vancouver, Victoria & E. Ry. (5).....	178.49	86,131	313,484	402,539	133,559	36,489	197,014	14,954	20,521
Victoria & Sidney (5).....	16.26	20,247	22,533	42,927	9,165	4,431	14,270	2,459	12,599
Victoria Term. Ry. & Ferry Co (5).....	1.14	2,089	3,122	5,488	694	332	4,184	517	-241
Wabash (36).....		595,410	1,524,515	2,123,208	226,300	360,000	982,064	77,078	477,763
Wellington Colliery.....	10.75	3,353	44,111	47,464	15,841	9,275	22,348		
York & Carleton.....	10.50	1,845	3,530	5,375	1,396	310	2,470	60	1,139
Totals.....	24,104.17	45,282,326	96,685,076	145,056,336	21,153,274	21,510,303	58,083,411	3,853,094	40,456,251

Notes to Steam Railway Statistics

- The Alberta Railway and Irrigation Co.'s lines include the lines of the Alberta Ry. and Coal Co., and the St. Mary's River Ry. It is all standard gauge, but there is a third rail on 20 miles, making a gauge of 3 ft. It has trackage rights over 1.60 miles of C.P.R. tracks.
- The Algoma Central and Hudson Bay Ry. and the Manitoba and North Shore Ry. are owned by the Lake Superior Corporation.
- The Atlantic, Quebec and Western Ry. has under construction an additional 82 miles. It has trackage rights over 1.75 miles of the lines of other companies. It has power to acquire the Atlantic and Lake Superior Ry., formerly the Baie des Chaleurs Ry.
- The Bay of Quinte Ry. has trackage rights over 19 miles of another company. The Thousand Islands Ry. is also owned by the same interests.
- The Great Northern Ry. owns and operates the following lines in Canada: Brandon, Saskatchewan and Hudson Bay Ry.; Midland Ry. of Manitoba; Crow's Nest Southern Ry.; Kaslo and Slocan Ry.; Red Mountain Ry.; Nelson and Fort Sheppard Ry.; Vancouver, Victoria and Eastern Ry. and Navigation Co.; New Westminster Southern Ry.; Victoria Terminal Ry. and Ferry Co., and Victoria and Sidney Ry. The Midland Ry. of Manitoba has trackage rights over 0.99 mile of another company's line. The Bedlington and Nelson Ry. mileage includes 8.67 miles operated under lease. The Nelson and Fort Sheppard Ry. mileage includes 5.42 miles of leased lines. The New Westminster Southern Ry. and the Vancouver, Victoria and Eastern Ry. have each trackage rights over 1.48 miles over the Fraser River Bridge owned by the British Columbia Government.
- The British Yukon Ry. is the Canadian portion of the line operated as the White Pass and Yukon Route, connecting with steamers on the Yukon River to Dawson in summer, and with stages in the winter.
- The Buctouche and Moncton Ry. is the charter name of the railway operated as the Moncton and Buctouche Ry.
- The Campbellford, Lake Ontario and Western Ry. is reported as having 40 miles under construction.
- The Intercolonial Ry. mileage does not include the Windsor branch 32 miles, operated by the Dominion Atlantic Ry. It has 16 miles of second track. It operates its trains into Montreal over the G.T.R., its trackage rights over foreign lines being 40.36 miles.
- Mackenzie, Mann & Co. (Ltd.) interests own or control and operate the following railways:—Canadian Northern Ry.; Canadian Northern Ontario Ry.; Canadian Northern Quebec Ry.; Edmonton, Yukon and Pacific Ry.; Halifax and South Western Ry.; Inverness Ry. and Coal Co.; Quebec and Lake St. John Ry.; Schomberg and Aurora Ry. and the Qu'Appelle, Long Lake and Saskatchewan Ry. The Canadian Northern Ry. figures include the statistics relating to traffic over the Manitoba Ry., which it operates under a lease from the Government of Manitoba. The lines included in the Manitoba Ry. are the Northern Pacific and Manitoba Ry., Winnipeg Transfer Ry., Portage and North Western Ry., and Waskada and North Eastern Ry. Its earnings, etc., also include those of the Qu'Appelle, Long Lake and Saskatchewan Ry., and of the Edmonton, Yukon and Pacific Ry., which report mileage separately. The Canadian Northern Ontario Ry. has trackage rights over 3.80 miles into the Union Station, Toronto. The Halifax and South Western Ry. has 2.30 miles of trackage rights over the Intercolonial Ry. into Halifax.
- The Canadian Pacific Ry. mileage includes 2,905.90 miles of main line and 3,053.10 miles of branch lines owned; and 3,649.30 miles of leased lines. It has 385.10 miles of second track; and has trackage rights over 37.30 miles of other companies. The C.P.R. returns include the earnings and expenses of the Esquimalt and Nanaimo Ry. The lines operated by the C.P.R. include the Montreal and Atlantic Ry., which has 6.40 miles of second track, and a leased line—Lake Champlain and St. Lawrence Junction Ry. The C.P.R. also owns with the New York Central and Hudson River Ry., the Toronto, Hamilton and Buffalo Ry.
- The Caraqueet Ry. operates the Gulf Shore Ry.
- The Central Ontario Ry. operates the line owned by the Marmora Ry. and Mining Co. (formerly the Ontario, Belmont and Northern Ry.).
- The Cumberland Ry. and Coal Co. also owns the Springhill and Oxford branch, 14 miles, but it is not being operated.
- The Dominion Atlantic Ry. operates under agreement the Windsor branch of the Intercolonial Ry., 32 miles, which is included in the D.A.R. mileage, but not in that of the I.C.R. It has also trackage rights over 14.42 miles of other lines.
- The G.T.R. mileage includes the Buffalo and Lake Huron Ry., 161.30 miles, leased and partly owned. The G.T.R. figures include the earnings, etc., of the Magnetawan River Ry. It has 706.48 miles of second track, and has

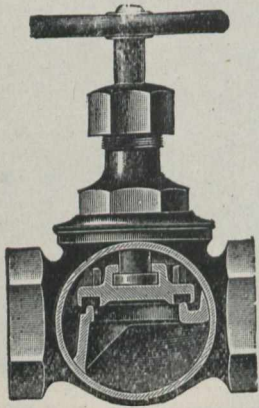
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trackage rights over other lines totalling 13.71 miles. I also owns the Canada Atlantic Ry. and the St. Clair Tunnel Co., which report separately, and the G.T. Pacific Ry., which reports 945 miles of track laid, but does not report any earnings or expenses for the year under review. It also controls the Central Vermont Ry. which operates the Montreal and Province Line; the Montreal and Vermont Jct. Ry. and the Stanstead Shefford and Chambly Ry. The Canada Atlantic Ry. mileage includes the Ottawa, Arnprior and Parry Sound Ry.; it also operates under lease the Central Counties Ry., and the Pembroke Southern Ry., which report mileage separately.

(17) The Hereford Ry. is owned and operated by the Maine Central Rd., which also owns the Princeton branch, Washington County Ry.

(18) The International Ry. of New Brunswick was originally known as the Restigouche and Western Ry. Although 80 miles are reported completed it had not been opened for public traffic.

(19) The Kent Northern Ry. earnings and expenses include those of a leased line. The St. Louis and Richibucto Ry., which reports its mileage separately, whenever it has been operated of recent years it has been by the Kent Northern Ry.

(20) The London and Port Stanley Ry., practically owned by the City of London, Ont., is leased to the Lake Erie and Detroit River Ry., which is owned and operated by the Pere Marquette Rd., a U.S. company. The P.M.R. has trackage rights over 136.78 miles of other Canadian lines.

(21) The Maritime Ry., Coal and Power Co., owns the line formerly owned by the Canada Coals and Ry. Co.

(22) The Massawippi Valley Ry. has trackage rights over 2.95 miles of another company's lines. It is operated by the Boston and Maine Rd.

(23) The Morrissey, Fernie and Michel Ry. includes 5.03 miles of leased lines. It is owned by the Crows Nest Pass Coal Co.

(24) The New Brunswick Ry. and Coal Co. owns and operates the old Central Ry. of New Brunswick. It is operated by a commission appointed by the New Brunswick Government.

(25) The New York Central and Hudson River Rd., owns the Ottawa and New York Ry., and the St. Lawrence and Adirondack Ry. It also controls the Toronto, Hamilton and Buffalo Ry.; the Rutland Rd., which owns the Rutland and Noyan Ry.; and the Michigan Central Rd., which controls the Canada Southern Ry. This line has 226.18 miles of second track on main lines, and 16.80 miles of second track in branches and spurs. The Ottawa and New York Ry. operates 1.90 miles under trackage rights. The St. Lawrence and Adirondack Ry. mileage includes 13.30 miles of leased lines, and it has also trackage rights over 8.92 miles of other companies lines.

(26) The North Shore Ry. owns the line formerly known as the Beersville Coal and Ry. Co.'s line.

(27) The Quebec and New Brunswick Ry. is reported as having three miles of its total length of 135 miles, under construction.

(28) The Quebec Bridge is reported as having 10 miles of approaches under construction.

(29) The Quebec, Montmorency and Charlevoix Ry., reports as to the section of the Quebec Ry., Light and Power Co.'s lines upon which steam trains are operated. There are 6.00 miles of second track.

(30) The Quebec, Montreal and Southern Ry., includes the old East Richelieu Valley Ry., the United Counties Ry., and the South Shore Ry. It is owned by the Delaware and Hudson Co., which also owns the Napierville Jct. Ry.

(31) The St. John Valley and Riviere du Loup Ry. is reported as being projected from Fredericton to Woodstock, N.B. Six miles are reported as constructed.

(32) The Sydney and Louisburg Ry. is owned by the Dominion Coal Co. It has trackage rights over 1.20 miles of other lines.

(33) The Temiskaming and Northern Ontario Ry. is owned by the Province of Ontario and is operated by a Commission.

(34) The Toronto, Hamilton and Buffalo Ry., is owned by the New York Central and Hudson River Rd., and the C.P.R. It has 2.04 miles of second track and has trackage rights over 4.36 of foreign lines.

(35) The Trans-Canada Ry. is reported as being projected from Roberval, Que., to Port Simpson, B.C. Sixty miles are said to be under construction westerly from Roberval. We question the accuracy of this statement.

(36) The Wabash Rd. does not own any track in Canada, but operates over G.T.R. tracks under lease.

(37) The gross earnings of the Kingston and Pembroke Ry., Napierville Jct. Ry. and Quebec Montreal and Southern Ry. are given as less than the totals of the figures given in the columns for passenger and freight earnings. In the column of the statistical tables for other earnings from operation the figures for these three companies are preceded by "Cr." and the amount of the figures—\$3,610, \$1,058 and \$190, respectively—deducted from the total freight and passenger earnings give the total gross earnings.

(38) The Albert Southern Ry., Bruce Mines and Algoma Ry., Lenore Mount Sicker Ry., Pontiac and Renfrew Ry., are not being operated.

Great Northern Ry. Construction, Etc.

Ayr to International Boundary.—Surveys are reported to have been completed for the construction of a line from Ayr, Cass County, N.D., to Surrey, Ward County, about 140 miles. Ayr is about 20 miles west of Fargo, and Surrey about six miles east of Minot, from near which point a line runs to Crosby, just south of the International Boundary between Montana and Saskatchewan.

Vancouver, Victoria and Eastern Ry.—The construction force on the section of the line between Keremeos and Princeton, was paid off just before Christmas, 1909, and the boarding cars converted into flat cars. A train service was put on to Princeton, Dec. 27.

The Dominion Parliament is being asked to authorize a further extension of time within which the company may construct the lines authorized by its original act, British Columbia Statutes, chap. 75, 1897; Dominion Statutes, 1898, chap. 89, and 1905, chap. 172.

Tenders have been asked for the construction of a section of the line from Princeton to Tulameen, and for a section easterly from Abbotsford to Hope, 78 miles. These sections will complete the line with the exception of the section through the Hope Mountains. In reference to this section the engineers are undecided whether to adopt a route involving eight miles of tunnel work, or 25 miles of open work. The tunnel route is the shorter and more direct, but it is also the more expensive, and the question is whether the saving in cost of operation will compensate for the extra cost of construction. Representatives of several firms of contractors have gone over the two sections for which tenders are asked, and it is expected that contracts will be let at an early date, and that construction will be started in the spring. (Jan., pg. 29.)

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	\$ 843,500	\$613,900	\$229,600	\$26,700+
Aug.	807,100	602,700	204,400	18,300+
Sept.	1,076,800	765,300	311,500	60,400+
Oct.	1,384,200	903,500	480,700	60,600+
Nov.	1,517,600	970,100	547,500	134,000+
Dec.	1,160,300	825,000	334,400	49,300+
Inc.	\$5,789,400	\$4,681,400	\$2,108,000	\$350,100+
	\$ 1,154,300	\$ 804,200	\$350,100

Approximate earnings for three weeks ended Jan. 14, 1910, \$360,600, against 262,500, for same period 1909.

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

Gross earnings, working expenses, net profits, increases or decreases over 1908-9, from July 1, 1909:

	Earnings.	Expenses.	Net Profits.	or Decrease
July	7,140,029.93	4,660,159.20	2,479,870.73	205,297.48+
Aug.	7,426,984.62	4,462,926.75	2,964,057.87	385,159.16+
Sept.	8,323,178.03	4,891,288.86	3,431,889.17	317,281.40+
Oct.	9,744,593.87	5,358,209.08	4,386,384.79	1,731,080.48+
Nov.	9,075,963.93	5,383,625.98	3,692,337.95	1,471,258.60+

\$41,710,753.38824,756,300.47\$16,954,452,9185,110,027.12+

Inc. \$7,954,939.78 \$2,844,942.66 \$5,110,027.12.....

Approximate gross earnings for Dec., 1909, \$8,118,000, and for 2 weeks ended Jan. 14, \$2,657,000, against 6,878,000 and 2,068,000 for same periods 1908-9.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for Nov., 1909, \$270,967.59; expenses, \$193,187.57; net revenue, \$77,780.02; against \$232,191.27 operating revenue; \$158,755.54 expenses; \$73,435.73 net revenue for Nov., 1908. Aggregate operating revenue for five months ended Nov. 30, 1909, \$1,483,377.76; expenses, \$984,981.55; net revenue, \$498,396.21, against \$1,170,629.57 operating revenue; \$823,924.88 expenses; \$346,704.69 net revenue for same period 1908. Approximate gross earnings for Dec., 1909, \$235,080, and for two weeks ended Jan. 14, \$91,877 against \$223,671 and \$86,620 for same periods 1908-09.

MINERAL RANGE ROAD.—Operating revenue for Nov., 1909, \$70,838.12; expenses, \$59,705.72; net revenue, \$11,132.40, against \$66,326.16 operating revenue; \$54,726.52 expenses; \$11,599.64 net revenue for Nov., 1908. Aggregate operating revenue for five months ended Nov. 30, 1909, \$369,495.17; expenses, \$308,138.37; net revenue, \$61,306.80, against \$362,502.84 operating revenue; \$284,978.77 expenses; \$77,524.07 net revenue for same period 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Total operating revenue for Oct., 1909, \$1,915,981.22; expenses and taxes, \$835,702.09; operating income, \$1,080,279.13, against \$1,518,210.31 total operating revenue; \$781,279.73 expenses and taxes; \$736,930.58 operating income for Oct., 1908. Aggregate operating revenue for four months ended Oct. 31, 1909, \$5,934,041.26; expenses and taxes, \$3,098,764.76; operating income, \$2,835,276.50, against \$4,928,144.43 aggregate operating revenue; \$2,831,222.11 expenses and taxes; \$2,096,922.32 operating income for same period 1908. Approximate earnings for Nov., \$2,121,623; for Dec., 1909, \$1,586,725, and for two weeks ended Jan. 14, 1910, \$682,846 against \$1,730,385; \$1,481,910 and \$586,184 for same periods 1908-09.

Grand Trunk Ry. Earnings, Expenses, Etc.

The following figures give the earnings of the G.T.R., the C.A.R., the G.T. Western Ry., and the D.G.H. & M. Ry., separately, for Nov., 1909, as compared with Nov., 1908:

	1909.	1908.
Earnings	\$2,965,000	\$2,786,127
Expenses	2,209,000	1,986,473
Net earnings	\$756,000	\$799,654
CANADA ATLANTIC RAILWAY.		
	1909.	1908.
Earnings	\$209,000	\$175,807
Expenses	143,000	130,029
Net earnings	\$66,000	\$45,778
GRAND TRUNK WESTERN RY.		
	1909.	1908.
Earnings	\$492,000	\$437,813
Expenses	392,000	352,101
Net earnings	\$100,000	\$85,712
DETROIT, GRAND HAVEN AND MILWAUKEE RY.		
	1909.	1908.
Earnings	\$173,000	\$148,535
Expenses	123,500	122,237
Net earnings	\$49,500	\$26,298

Approximate earnings for Dec., 1909, \$3,564,380, and for 2 weeks ended Jan. 14, \$1,379,910, against \$3,185,257 and \$1,181,458 for same periods 1908-09.

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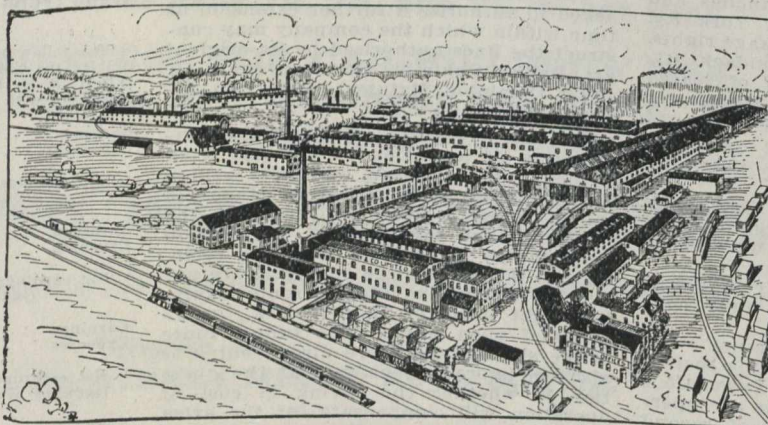
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Car Wheels, Axles, Forgings, Castings, Bar Iron & Steel, Etc.

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.**Algoma Central and Hudson Bay Ry.—**

We are advised that it was expected to have the survey completed by Jan. 20, for the connection between the company's existing line and the C.P.R. main trans-continental line. As soon as the quantities, etc., can be worked out, it is expected to ask for tenders for the construction of the line. No further progress has been made with the proposal for the completion of the line between the present end of track and Hawk Lake Jct. (Jan., pg. 19.)

Anglo-Newfoundland Co.—At the annual meeting of the shareholders of the Amalgamated Press in London, England, Dec. 15, Lord Northcliffe made a lengthened reference to the progress of the Anglo-Newfoundland Co., in which it is largely interested. After referring to the development work on the pulp mills, etc., he said: "You have been informed that we have constructed a railway from Grand Falls to our harbor at Botwood, which must not be confused with our railway from Millertown Jct. to Millertown. Our new railway reflects great credit on our engineers, who carried out the work in the short space of nine months. We have purchased our rolling stock in parts, and are setting it up ourselves on the spot, and I think it will compare favorably with that turned out by the great English and American railway companies."

We are advised that the company has constructed and has in operation 22 miles of railway, from Grand Falls, via Bishop's Falls, to Botwood Harbor. The gauge is 3 ft. 6 in. The company is not now constructing any further lines, and has no present intention of constructing any more. W. Scott, Grand Falls, Nfld., is Chief Engineer.

Millertown Jct., referred to in Lord Northcliffe's report, is a station on the Reid-Newfoundland Ry. 310 miles from St. Johns, and some maps of Newfoundland show a line running from that point to Millertown at the north-easterly end of Red Indian Lake. Millertown is situated 56 miles from Grand Falls, and Grand Falls itself is 270 miles from St. Johns.

Atlantic, Quebec and Western Ry.—Application is being made to the Board of Railway Commissioners for permission to construct a branch line of half a mile from near the terminal station at Gaspe to the wharf proposed to be constructed by the Department of Public Works at Adam's Bluff, Gaspe. (Jan., pg. 19.)

British Columbia and Manitoba Ry.—See Northern Empire Ry.

Bruce Mines and Algoma Ry.—Application is being made to the Ontario Legislature to extend the time for the construction and completion of its authorized railway and branches for five years from May 1, 1910, and to declare the act incorporating the company in force notwithstanding any neglect or default in complying with the provisions of the amending acts passed in 1903 and 1905. (July, 1909, pg. 475.)

Burrard Inlet Tunnel and Bridge Co.—The Dominion Parliament is being asked to incorporate a company with this title to construct a tunnel under the first narrows of Burrard Inlet and a bridge over the second narrows, with the necessary approaches, from the south shore at Vancouver to the opposite shore to connect with present and future line of street railways and railways, and to construct one or more lines of railway not exceeding 10 miles long. The bridge and tunnel to be constructed to provide steam and street railway tracks as well as for all kinds of ordinary traffic.

Power is also asked to construct a railway from the northern ends of the bridge and tunnel easterly along the shore line of the municipality of North Vancouver to Deep Cove, on the north arm of Burrard Inlet, and westerly along the shore line of the city of North Vancouver to Horse Shoe Bay on Howe Sound. It is asked that the works be declared to be for the general advantage of Canada. Burns and Walkem, Vancouver, B.C., are solicitors for applicants.

Calgary and Fernie Ry.—Application is being made to the Dominion Parliament to extend the time for the construction of the railway authorized by chap. 71, of the statutes of 1906, as amended by chap. 89 of the statutes of 1908, and for such other powers as may be necessary. Pringle and Guthrie, Ottawa, are the solicitors. (July, 1909, pg. 475.)

Central Ontario Ry.—Application is being made to the Dominion Parliament to authorize the company to enter into agreements, for any of the purposes specified in section 361 of the Railway Act, with the following companies or any of them:—C.P.R.; G.T.R.; Brockville, Westport and North-Western Ry.; Irondale, Bancroft and Ottawa Ry.; Canadian Northern Ontario Ry., and the Marmora Ry. and Mining Co. (Dec., 1909, pg. 881.)

Comox Harbor to Campbell Lake, B.C.—The British Columbia Legislature is being asked to incorporate a company to construct a railway from 750 ft. east of the south-east corner of lot 8 on the fore shore of Comox Harbor, north-westerly for about 20 miles to the south-east end of Campbell Lake. Power to construct branch lines is also asked. The line is to be used mainly for logging purposes. Davis, Marshall and MacNeill, Vancouver, are solicitors for applicants.

Diamond Coal and Ry. Co.—Application is being made to the Alberta Legislature to incorporate a company with this title to construct "all conveniences of transportation," to construct railways, tramways, or roads of any kind, and in particular to construct a railway from the C.P.R. or one of its branches to the vicinity of Diamond City, with power to acquire, sell to, or amalgamate with similar companies. Johnstone and Ritchie, Lethbridge, Alta., are solicitors for applicants. (Jan., pg. 19.)

Eagle Lake to Barkerville, B.C.—Application is being made to the British Columbia Legislature to incorporate a company to construct a railway from the projected line of the G.T. Pacific Ry. at Eagle Lake, following the watershed of the Willow River to the Cariboo road at Barkerville, B.C., and to construct branch lines to any point within 25 miles of the main line. D. S. Tait is solicitor for applicants.

Erie, London and Tillsonburg Ry.—The Dominion Parliament is being asked to extend the time within which the company may construct the lines authorized by its act of incorporation, chap. 90 of the statutes of 1906, and the amending act, chap. 106, of the statutes of 1908. (Nov., 1909, pg. 829.)

Farmers' Ry.—A press dispatch from Prince Albert says D. W. Hines, President of this projected railway, was given the option of leaving the country within a fixed time or being taken to the Brandon Asylum, and that he has chosen to return to his home in Hannah, N.D. The despatch adds that he says he will continue the work of promoting the railway. (Dec., 1909, pg. 881.)

Ha Ha Bay Ry.—Under the heading of the Chicoutimi Pulp Co., on page 847, of our issue of Nov., 1909, it was stated that the pulp company proposed to construct an electric railway from its mills to the River du Moulin district, Que. We are advised that this is incorrect, and that

the pulp company has no intention of constructing any railway, either now or later. The charter for the construction of a railway through the territory named is held by the Ha Ha Bay Ry. Co., which has under construction a line from deep water at Ha Ha Bay to Mathias station, on the Quebec and Lake St. John Ry., with a branch to Chicoutimi. The roadbed and culverts are practically completed, and the work of construction is being proceeded with. It is expected that track will be laid early in the summer and that by the end of the summer a regular train service will be in operation over the whole line, which is to be operated by steam. J. F. Grenon, Chicoutimi, Que., is Chief Engineer. The President of the company is Senator Choquette, Quebec, and the Vice President is J. E. A. Dubuc, Director General and Secretary of the Chicoutimi Pulp Co. (Jan., pg. 19.)

Howe Sound, Pemberton Valley and Northern Ry.—Application is being made to the British Columbia Legislature to authorize the company to connect the terminus of the line at Newport, at the head of Howe Sound, with Vancouver, and any intermediate point by telephone or telegraph, and to extend the northern terminus of the line from Anderson Lake to Lillooet. The company is also asking authority to increase its capital stock to \$2,500,000, and its bonding powers from \$20,000 to \$25,000 a mile of railway. McEvoy, Whiteside and Robertson, Vancouver, are the solicitors. (June, 1909, pg. 413.)

Indian River Ry.—During the past year the Maine Central Rd. had a survey made for a line from Grant's Pond, Me., to Megantic, Que., with a 1% equated gradient. The route is covered by the charters of the Rangeley Lake and Rumford Falls Ry. Co. in Maine and the Indian River Ry. Co. in Quebec, both charters being now held by the Maine Central Rd. Co. The I. R. Ry. located a line 18.1 miles long, between the boundary line and Megantic, some six or seven years ago. The survey made last fall was for the purpose of ascertaining whether or not a more favorable location could be obtained. The only village through which either the original location, or the line run last fall, would pass is Woburn. According to the survey made last fall the distance from the boundary line to Megantic is 26.1 miles. It is not probable, we are advised, that construction will be commenced during the current year. T. L. Dunn, Chief Engineer of the Maine Central Rd., is also Chief Engineer of the I. R. Ry. (Sept., 1909, pg. 649.)

Intercolonial Ry.—The extensions and branches under survey are: Diversion of line at Chatham, N.B., and branch to wharves, 8.5 miles; cut-off east of Moncton to new transportation yard, 1.5 miles; diversion of line, George's River to Letche's Creek, near Sydney, N.S., 13.5 miles. (Jan., pg. 19.)

International Ry. of New Brunswick.—We are advised that 85 miles of track have been laid and ballasted from the Campbellton end of this line, and that all the grading has been completed to St. Leonards, N.B. The total length of the line is 114 miles. It is expected that a regular train service will be placed in operation over the first 57 miles of the line from Campbellton at an early date, the company having the necessary rolling stock on hand. (Jan., pg. 19.)

Iron Range Ry.—The Ontario Legislature is being asked to extend the time within which the company may commence and complete the railway, the construction of which was authorized by chap. 127 of the statutes of 1908. Dowler and Dowler, Fort William, Ont., are the solicitors. (May, 1908, pg. 331.)

Khutze Inlet Easterly.—The British Columbia Legislature is being asked to

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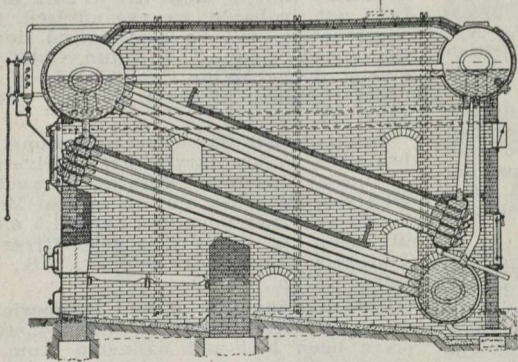
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incorporate a company to construct a railway from the head of Khutze Inlet, near the mouth of the Khutze river, easterly along the course of the river for about six miles, and branch lines. Burns and Walkem, Vancouver, are solicitors for applicants.

Lac Seul, Rat Portage and Keewatin Ry.—Application is being made to the Ontario Legislature to extend the time within which the company may commence and complete the railway the construction of which was authorized by chap. 102 of the statutes of 1903 and the amending act, chap. 128 of the statutes of 1908. Dowler and Dowler, Fort William, Ont., are the solicitors. (May, 1909, pg. 357.)

London and Port Stanley Ry.—At a meeting of directors, Jan. 17, the question of the electrification of the line was considered, and it was decided to have a conference with Hon. A. Beck, Chairman of the Hydro-Electric Power Commission, with a view of obtaining information as to the supply of electric power. A committee consisting of Aldermen Richter, Eckert, Jeffries, and Ex-Mayor Stevely (directors for the London city council) was appointed to consider the matter. (Jan., pg. 19.)

Manitoulin and North Shore Ry.—We were advised Jan. 18, that a party was in the field making a survey between what is known as Krean Hill and Espanola, at which point the line crosses the C.P.R. Sault Ste. Marie branch. The work is well under way, and it is expected that a favorable route will be obtained. Construction between Krean Hill and Gertrude Mine, which is a 10-mile extension of the line already completed from Sudbury to Gertrude is progressing very satisfactorily, and it is anticipated that tracklaying will be started as soon as the snow is gone. (Jan., pg. 21.)

Michigan Central Rd.—A press report states that plans for the remodeling and enlargement of the shops, the reconstruction of the roundhouse, and the rearrangement of the yards, at St. Thomas, Ont., are almost completed. The only work which is likely to be taken in hand during the current year is the roundhouse. The new structure, it is proposed, will be erected on the vacant property between the present shops and First Avenue. This will make way for the shop improvements. The present suggestion is that the existing main shop be enlarged and turned into a boiler shop, and that a new machine shop be erected on the site of the existing roundhouse. The question of the supply of electric power of these shops came up at a meeting of the city council's power committee, Jan. 14. (Dec., 1909, pg. 883.)

Monarch Ry.—Application is being made to the Ontario Legislature to incorporate a company to construct a railway, to be operated by steam, electricity, or other motive power, from the northerly limits of Toronto northerly to Barrie, thence north-westerly to Orillia, and northerly to Penetanguishene, with a branch from Barrie to Owen Sound and Wiarton. Power is also asked to construct branch lines and to make connections with the G.T.R., the C.P.R., and the Canadian Northern Ry. Corley, Price and Co., Toronto, are the solicitors.

Northern Empire Ry.—British Columbia and Manitoba Ry.—Press dispatches from Edmonton, Alta., Dec. 16, stated that at a meeting of shareholders the charters of these two projected railways were transferred to a new company "capitalized at \$4,500,000 subscribed and deposited in the Bank of Montreal, which was to be used to commence immediate construction of the line." The Northern Empire Ry. has its offices at Edmonton and its officers and directors were elected there. The dispatch gave their names as follows:—President, H. S. Crawford, broker, Ottawa; other directors: J. H. McKinnon, wholesale grocer, Sudbury, Ont.; C. Brown, capitalist, Montreal;

C. B. Price, Sudbury; W. E. Brown, Ottawa; Chas. Patton, broker, Montreal; J. W. Gamble, capitalist, Ottawa; Henry Roy, Ottawa. The party then proceeded to Lethbridge, Alta., the official headquarters of the British Columbia and Manitoba Ry., and organized that company. The officers elected were:—President, D. L. McKinnon, Sudbury, Ont.; First Vice President, M. J. Fagan, Ottawa; Secretary-Treasurer, C. Brown, Ottawa.

The dispatch outlined the company's plans as follows:—On May 1 a party of engineers will leave the city to run the preliminary surveys north to Fort McMurray, and through the mountains to the Yukon. It will be their object to also search for a feasible pass through the mountains. The probability is that the Pine pass will be the one used. Construction will be proceeded with both north and south of Edmonton. The line runs from boundary to boundary, and will parallel the Calgary and Edmonton Ry. from the International boundary as far as Edmonton to the west of that line. From Edmonton the line will proceed to Lac la Biche and Fort McMurray, and from there across country to Peace River crossing and thus into the mountains and to Dawson. A branch is also projected east from Fort McMurray to Fort Churchill on Hudson Bay.

Later press despatches, dated Jan. 11, state that Lord A. E. F. Somerset, brother of the Duke of Beaufort, and J. E. Leiter, of Chicago, Ill., are among those interested in the construction of these two railways. Lord Albert Somerset, while in Vancouver, B.C., stated that the syndicate had secured the whole of the interests represented by the two former companies, that a new company was in process of formation, and that it was not anticipated that there will be any difficulty in raising the capital necessary for this enterprise.

It may be pointed out that the route from Edmonton via Lac la Biche to Fort McMurray is the same as that of the Alberta and Great Waterways Ry, some grading on which was done last year, and for the further construction of which arrangements are already well under way. Much of the matter in the press dispatches above quoted should probably not be taken seriously.

The Dominion Parliament is being asked to extend the time within which the company may construct it authorized railway.

Pacific and North Western Ry.—The Dominion Parliament is being asked to incorporate a company with this title to construct a railway from the International boundary between British Columbia and Alaska, between the 136th and the 137th degree of west longitude, generally westerly to the International boundary between Yukon and Alaska, near the 63rd parallel of north latitude. W. J. Boland, Toronto, is solicitor for applicants. The starting point of this projected line is the vicinity of the Chilcot Pass.

Prince Edward Island Ry.—The branch line under construction between Harmony and Elmira, P.E.I., will be 10 miles long. The contractors are Whitehead Bros., Grand Falls, N.B. (Dec., 1909, pg. 885.)

Quebec Central Ry.—The new line from St. George to St. Justine, Que., was recently inspected by the Director of Railways for the Provincial Government, and a certificate was issued authorising its opening for traffic Jan. 1. (Jan., pg. 23.)

Reid Newfoundland Ry.—The principal business which will be discussed at the current session of the colonial Legislature will be the extension of the railway lines on the island, in connection with which an agreement has been made between the Government and the Reid Newfoundland Co. (Jan., pg. 23.)

Rural Ry. Co. of Manitoba.—Application is being made to the Manitoba Legislature to incorporate a company with this title, to construct a railway on the east side of the Red River from St. Boniface to the International boundary at Emerson, and on the west side of the river from Winnipeg also to the International boundary together with power to construct a railway in the municipalities of Springfield and Macdonald, with all powers usually conferred upon railway companies. Bernier, Knott and Bernier, Winnipeg, are solicitors for applicants.

Saskatchewan and Southern Ry.—The Saskatchewan Legislature is being asked to incorporate a company with this title to construct the following lines of railway: From Estevan westerly to near Romford, thence north-westerly to Moose Jaw; from Moose Jaw north-westerly to tp. 23, range 5, west of the third meridian, thence to the Elbow of the Saskatchewan River; from near Estevan, on the first mentioned line, northerly to Stoughton, on the C.P.R. Arcola branch; and from between tps. 2 and 4 in ranges 13 and 14, northerly to Francis, on the C.P.R. Arcola branch. Balfour, Martin, Casey and Brown, Regina, Sask., are solicitors for applicants.

Southampton Ry.—The New Brunswick Legislature is being asked to incorporate a company with this title to construct a railway from the C.P.R. to the Pokiok bridge in York county. The provisional directors named are:—J. E. Stewart, Andover, N.B.; J. K. Pinder, M.L.A., Southampton, N.B.; H. H. McNally, M.D., P. A. Guthrie, Fredericton, N.B.; D. Gilman, Dumfries, N.B.; W. E. Triles, Salisbury, N.B.; A. C. Hagerty, M.D., Ellsworth, Me.

Temiskaming and Northern Ontario Ry.—The discovery of gold in the Porcupine Lake country, to which this line gives the nearest railway point of access, has led the Commissioners to investigate the possibilities for traffic. F. Dane, one of the commissioners, accompanied by the Chief Engineer and other officials, left Toronto Jan. 13, for the purpose of making a visit of inspection. They intended to leave the railway at mileage 222 and strike across country for the Porcupine Lake.

As a result of Mr. Dane's visit, it is said that a new station will be established at mileage 225, or 20 miles north of Matheson, from which a road to the Porcupine district may be developed. The people of Matheson, said Mr. Dane, have already spent \$3,200 fixing up a route into the Porcupine country, and have a four-horse stage running daily. A telephone line is being constructed into the country by local enterprise.

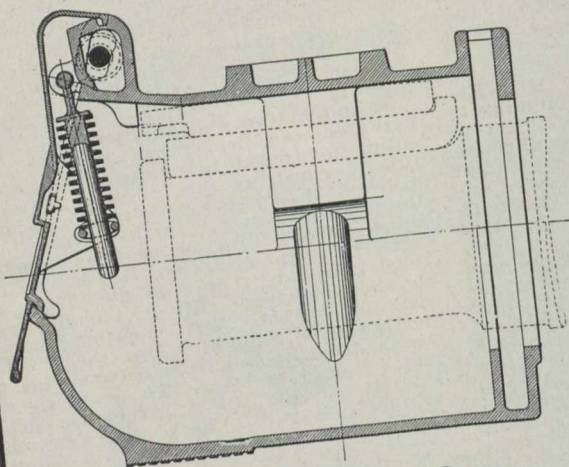
The Toronto City Council is asking the Ontario Legislature to amend section six of the Corporation's act of 1906 as to the construction of railway tracks on roads or lands of corporations to provide sidings to manufacturing industries in Ashbridge's Bay neighborhood.

Toronto, Haliburton and Pembroke Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title with power to construct a railway from Barry's Bay, southerly to Haliburton, Ont.; or, as an alternative, from the intersection of the Ottawa, Arnprior and Parry Sound Ry. (Canada Atlantic Ry.), with the boundary between Lyall and Jones tps., thence westerly to Haliburton. Thomson, Tilley and Johnston, Toronto, are solicitors for applicants.

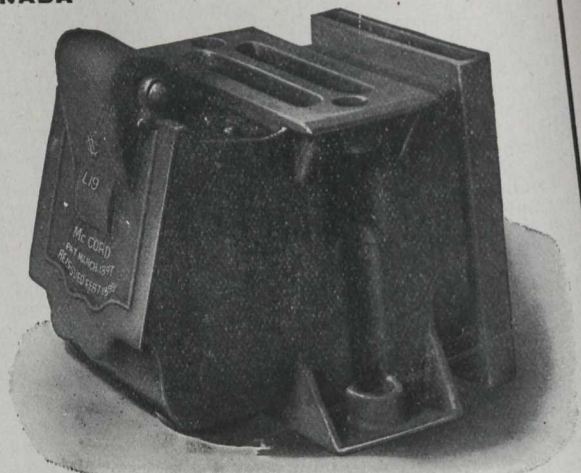
Western Canadian Collieries.—We are advised that the Western Canadian Collieries, owning the Frank and Grassy Mountain Ry., has laid 8,200 ft. of new sidings at its Bellevue colliery, Blairmore, Alta. At present it is not contemplated to make any improvements on the F. and G.M.R. (Dec., 1909, pg. 887.)

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Railway Statistics for 1908-1909.

In submitting his annual report of the steam railway statistics for the year ended June 30, 1909, J. L. Payne, Comptroller of Railway Statistics, refers to the expansion and betterment in statistical data made possible by the system which has been in effect for the past three years. In 1907 the foundation may be said to have been laid; in 1908 a commencement was made on the superstructure; this year the new edifice will be seen to be taking definite shape. Analytical comparisons are now possible which in the past could not even have been attempted. The time limit for sending in the statistical information was placed at Aug. 31 so as to have the statistics completed as soon as possible after the assembling of Parliament. The returns reached Ottawa earlier than in any preceding year, and, while there was not a single delinquent, the Schomberg and Aurora Ry. and the Kettle River Valley Ry. returns were so meagre as to be of no practical value.

The total railway mileage in Canada on June 30, 1909, was 24,104, an addition of 1,138 miles as compared with 514 for the year ended June 30, 1908. The total mileage given does not include the trackage of the National Transcontinental Railway, of which 675 miles was opened for traffic during the year, although officially returned as being still under construction. It is not possible to say how many miles of line were under construction in the Dominion on June 30, 1909, the term being wholly relative. It is estimated, however, from information received that at least 3,300 miles were in process of construction on the date indicated. The distribution of railway mileage with the increase for the year, by provinces, is as follows:—

		Increase.
Ontario	8,229.11	296.21
Quebec	3,662.94	89.29
Manitoba	3,205.30	94.39
Saskatchewan	2,631.34	550.04
Alberta	1,321.52
British Columbia	1,795.94	63.11
New Brunswick	1,547.25	37.89
Nova Scotia	1,350.53	6.48
Prince Edward Island	269.33	1.83
Yukon	90.91

In Alberta there has been considerable railway construction in progress during the past two years, but it was all returned as being still under construction on June 30. The mileage of second track increased from 1,211 on June 30, 1908, to 1,464 on June 30, 1909, while the mileage of yard and siding tracks increased from 4,546 to 4,761. This growth of second track and yard and siding track has a direct bearing on transportation facilities. Adding together the first, second and yard and siding tracks a total of 30,330 miles is obtained. With the exception of less than 100 miles, all tracks in the Dominion are laid with steel rails. Compared with other countries Canada has the largest railway mileage in proportion to population, while in relation to area it has the smallest.

The capital invested is \$1,308,481,416, of which \$647,534,647 is represented by stocks and \$660,946,769 by bonds and other funded debt. These figures show an increase of \$40,109,298 in stocks, and of \$29,077,105 in bonds, etc. The report says:—"The capital obligations arising out of these stock and bond issues amount to \$54,285 per mile of line. But that result is quite misleading, since, before such a calculation can properly be made, certain facts have to be taken into account. For example, the total of \$1,308,481,416 includes the stock and bond liability of the G.T. Pacific, while the mileage of that line is not embraced in the total of 24,104 miles forming the divisor. On the other hand, the mileage of government owned lines in Canada forms a part of the 24,104, against which there is not any issue of either stock or

bonds. Therefore, in dealing primarily with corporation railways the capital liability of the G.T. Pacific must be eliminated, along with the mileage of government owned lines. This process reduces the money side of the equation to \$1,222,089,976 and the mileage to 21,965. On this basis the result is \$55,638, which correctly represents the stock and bond liability of Canadian corporate railways per mile." The Great Northern Ry. (U.S.) has constructed eight lines in the Western provinces, aggregating 527 miles, in respect of which a capital liability of \$11,110,600 has been recorded. The mileage of government owned and operated lines, with their capital cost is as follows:—

	Mileage.	Cost.	Per mile.
Intercolonial	1,447	\$88,006,989	\$60,820
Prince Edward Island	269	7,707,259	28,651
Temiskaming and Northern Ont.	265	13,867,015	52,329
New Brunswick Coal and Ry. Co.	58	1,964,640	33,873
Total	2,039	\$111,545,903

It was stated in the report for 1907-08 that an effort would be made to revise the capital statements of the railways. Serious obstacles were interposed, however, and it was not found practicable to complete the task. The inquiry was carried to a point of establishing a basis for the reporting of the capital liability for 1909-1910, and it is anticipated the revision will be brought to a satisfactory issue in the next report. The object of this revision will be to eliminate dead and duplicate liability, of which the aggregate is very considerable—probably exceeding \$200,000,000. This inaccuracy has been due to the system—rather than to any intention to misrepresent, and in part it came about from the ignorance of the facts in the Department. This situation is not, however, peculiar to Canada. It exists in all countries where the controlling interest in lines has changed hands, or where the transfer of operating rights has taken place in any considerable degree.

The subsidies paid to railways during the year were, \$3,291,601, contributed as follows:—By the Dominion, \$2,500,612; by the provinces, \$397,111; by municipalities, \$393,878. Since 1876 the Dominion has aided railway construction to the extent of \$135,549,987.71; the provinces to the extent of \$35,588,526.15, and municipalities to the extent of \$17,824,823.60. The Dominion Government had also expended to June 30, 1909, \$30,301,342.15 upon the construction of the National Transcontinental Ry., between Moncton, N.B., and Winnipeg. In addition to cash subsidies paid, the Dominion and Provincial Governments have guaranteed bonds of several railway companies, and have voted 55,116,017 acres of land in aid of construction.

The number of passengers carried during the year was 32,683,309, against 34,044,992 in 1907-08; the number of passengers carried one mile was 2,033,001,225 against 2,081,960,864; the number of passengers carried one mile per mile of road was 84,342, against 90,654, a decrease in the density of traffic of 6.312; the number of passengers carried per mile of railway was 1,355 against 1,482, a falling off of 127; the average receipts per passenger per mile were 1.921 or within .001 of the figure for the previous year; the average number of passengers in each train was 51, a decrease of three; the average passenger journey was 62 miles or one mile more than in the previous year.

The number of tons of freight handled was 66,842,258, an increase of 3,771,091 tons; the number of tons hauled one mile was 13,160,567,550, against 12,961,512,519; the number of tons hauled one mile per mile of line was 545,991, a decrease of 18,383; average receipts per

ton mile, 0.727c.; revenue freight train mileage, 40,304,900 against 40,476,370; mixed train mileage, 7,061,370; mileage of traded freight cars, 775,543,414; mileage of empty freight cars 281,175,615; average haul of freight, 197 miles against 206; average number of loaded cars per freight train 16.37 against 16.04; average number of tons per loaded freight car, 16.98, against 17.33; average receipt per ton per mile .727c. against .723c. The commodities carried were classified as follows:—

	1908-09.	1907-08.
Products of mines	23,931,061	22,636,227
Products of agriculture	11,963,263	9,396,967
Products of forests	11,595,007	12,912,226
Manufactures	7,902,592	6,655,719
Miscellaneous	6,234,372	6,938,135
Products of animals	2,807,487	2,472,359
Merchandise	2,393,285	2,008,067
Total	66,880,019	63,019,900

Of this tonnage 36,075,101 tons originated on the various lines reporting, and 30,754,918 were received from connecting lines and other carriers.

The aggregate earnings for the year were \$145,056,336.19, a decrease of \$1,861,977.42. The distribution was as follows:—Passenger service, 31.21%; freight service, 66.65%; station and train privileges, 0.35%; telegraphs, rents and other sources, 1.79%. The operating expenses were \$104,600,084.43 or \$2,704,058.08 less than the previous year; the net revenue, therefore, being \$40,456,251.76, an increase of \$842,080.66. The net earnings were equal to \$1,678.40 per mile of railway, or \$46.50 less than in the previous year, and represented 3.09% on a capitalization of \$1,308,481,416. Thirty-six railways reported a deficit for the year, and this has been the case with these same railways for years. The gross earnings per mile of railway amounted to \$6,017.93, against \$6,397.21; net earnings per mile of line, \$1,678.40, a decrease of \$46.50; average revenue per passenger, \$1.195; average receipts per ton of freight, \$1.432; earnings per passenger train mile, \$1.150 against \$1.228; earnings per freight train mile, \$2.041, against \$2.008; earnings per train mile for all trains, \$1.816, against \$1.868.

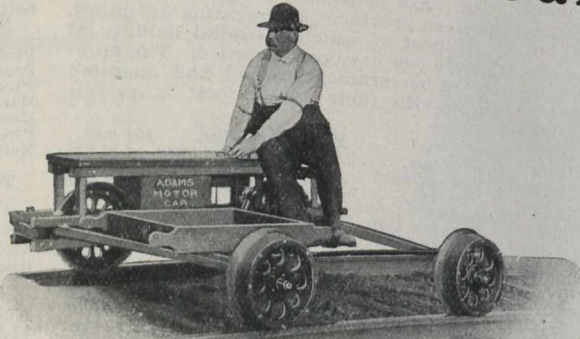
The proportion of operating expenses to gross earnings was 72.11 against 73.04 in the previous year. The distribution of operating expenses was:—Way and structures, 20.22%; equipment, 20.56%; traffic expenses, 3.63%; transportation expenses, 51.89%; general expenses, 3.70%. The multiplication of items and subdividing of accounts has, for the time being, made it difficult, in some cases impossible, to carry out close comparisons with the figures of previous years. The operating expenses represent \$4,339.53 per mile of line, as compared with \$4,672.30 in the previous year; the cost of running a train one mile, using the mileage of all trains as a basic factor, was \$1.309 against \$1.254.

Eastern Canadian Passenger Association.—At the annual meeting in Montreal, Jan. 4, the following were elected: Chairman, C. Hartigan; Executive Committee, G. W. Vaux, W. Stitt, Thos. Henry; Rules Committee, G. W. Vaux, W. Stitt, G. Tombs, J. W. Hanley, E. O. Grundy, F. F. Backus, W. H. Underwood, J. M. Lyons, N. Mooney; Secretary, G. H. Webster.

The Royal Trust Co., Montreal, has entered an action in the New Brunswick Courts against the Alexander Gibson Railway and Manufacturing Co., Marysville, N.B., for the foreclosure of a mortgage of \$440,000 and interest from Nov. 18, 1899, at 6%. The company owned the old Canada Eastern Ry., extending from Fredericton to Chatham, N.B., about 125 miles, which was taken over in 1904 by the Dominion Government, and is now operated as part of the Intercolonial Ry.

THE MAN ON THE CAR

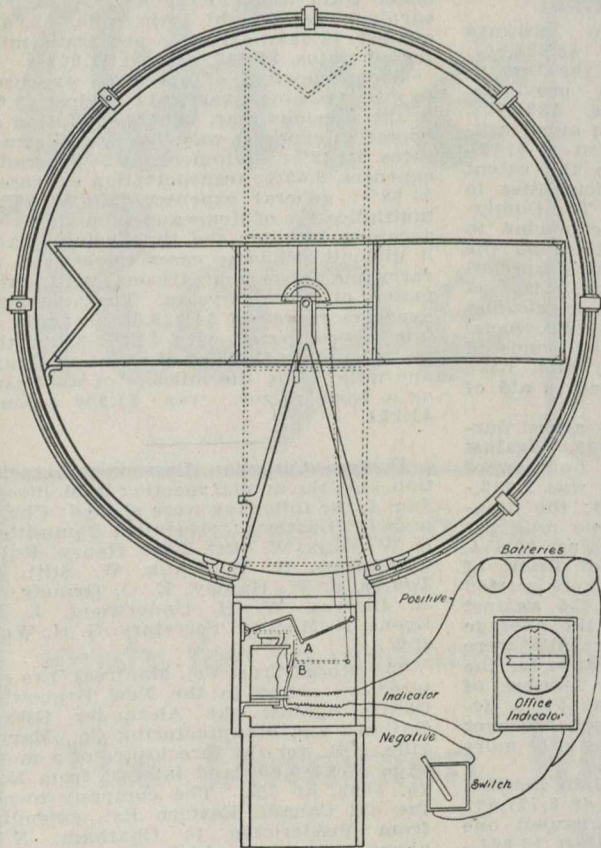
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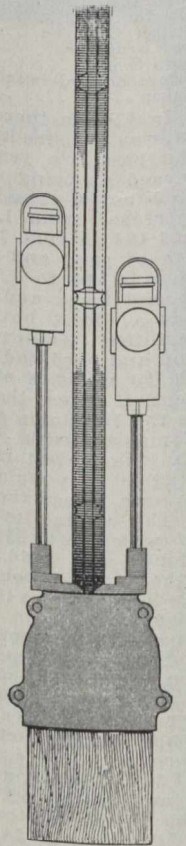
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Passenger Meetings at Buffalo.

Three important passenger meetings were held at the Hotel Lafayette, Buffalo, N.Y., in Jan. The rate clerks met on Jan. 18 and 19, to prepare the rate sheets, which were approved at the general meeting on Jan. 20.

President C. F. Bielman, T.M., White Star Line, Detroit, Mich., took the chair at the International Water Lines Passenger Association meeting.

A. A. Heard, General Passenger Agent Delaware & Hudson Co., on behalf of Capt. C. H. Nicholson, ex-Traffic Manager Northern Navigation Co., of Ontario, and now Manager Grand Trunk Pacific Ry. Pacific Coast Steamships, presented Mr. Bielman with a silver mounted gavel made from wood used in the construction of the Northern Navigation Co.'s s.s. Hamonic.

The executive committee having reported in favor of the admission of the following lines, they were elected members:—Chicago & South Haven Line, Eastern Steamship Co., Plant Line.

The Secretary reported that at the end of 1909 there were 39 member companies, one had retired and three joined, making the present membership 41.

T. J. Kennedy, General Superintendent Algoma Central S.S. Co., sent notice of the company's withdrawal from passenger business, and tendered its resignation of membership.

C. H. Nicholson sent notice of his resignation from the Northern Navigation Co.'s service and appointment as Manager G.T.P.R. Pacific Coast Steamships, and resigned as chairman of the audit committee.

Messrs. Kennedy and Nicholson were nominated for honorary membership, to be voted on at next year's meeting.

A resolution of condolence with the family of R. Maxwell, Traffic Manager Star Cole Line, who died Aug. 30, 1909, was adopted.

The constitution was amended by providing that any transportation line of North America, performing a regular passenger service, is entitled to representation in the Association. This eliminates the words "east of and including the Mississippi River."

The following were elected by acclamation:—President, W. M. Lowrie, G.P.A., Northern S.S. Co.; Vice President, T. H. Henry, T.M., Richelieu & Ontario Navigation Co.; Secretary, M. R. Nelson, C.C., P.D., Northern Steamship Co.; Executive Committee, A. A. Heard, G.P.A., Champlain Transportation Co., and Lake George S.B. Co.; J. J. Cheesman, T.M., United States and Dominion Transportation Co.; Capt. F. Elliot, Supt. Ottawa Division, Ottawa River Navigation Co.; Auditing Committee, E. E. Horsey, T.M., Lake Ontario & Bay of Quinte S.S. Co.; C. C. Brown, G.P.A., Eastern S.S. Co.; R. C. Davis, G.P.A., Goodrich Transportation Co.

President-elect Lowrie having taken the chair, it was decided to hold the next meeting on the same date and at the same place as the Niagara Frontier Summer Rate Committee.

The Niagara Frontier Summer Rate Committee's meeting was presided over by the Chairman, A. A. Heard, G.P.A., Delaware and Hudson Co., who stated that it had been called to compile for the information of interested lines summer fares from Niagara Falls, Toronto, Montreal, Quebec, Detroit, Port Huron and miscellaneous points for season of 1910.

On behalf of the committee, T. Henry, T.M., Richelieu & Ontario Navigation Co., presented for W. J. Lynch, P.T.M., Michigan Central Rd., who was chairman in 1908, a gavel made from wood used in the construction of the s.s. Rochester, the first R. & O.N. vessel under the U.S. flag, and which will go into service

next season between Youngstown and Ogdensburg, N.Y.

A. A. Heard was presented with a gavel which D. A. Loomis, General Manager Champlain Transportation Co., had had made from wood from the hull of the schooner, Royal Savage, flag ship of General Arnold, commander of the "American" flotilla on Lake Champlain, which was sunk near Valcour Island, Oct. 11, 1776, where a part of her hull has since lain. In 1886, a diver secured relics from the wreck, consisting of cannon balls and pieces of lumber.

J. F. Fairlamb, G.P.A., New York Central & H.R. Rd., was elected Chairman for the current year, Jas. Morrison, C.R.C., Canadian Pacific Ry., being re-elected Secretary.

Mr. Fairlamb having taken the chair, the Secretary reported that fares had been compiled by the rate representatives on Jan. 18 and 19, and they were adopted.

The Maine S.S. Co. and the Memphremagog S.S. Co. were elected members.

It was decided to issue the meeting's proceedings for the information of interested lines as usual.

Rochester, N.Y.; Detroit, Mich.; New York City and Montreal were proposed for the next place of meeting, the ballot being in favor of Rochester by a large majority.

In the absence of Chairman C. H. Nicholson, T. Henry, T.M. Richelieu & Ontario Navigation Co., presided at the Great Lakes & St. Lawrence River Rate Committee's meeting.

E. E. Horsey, G.M. Lake Ontario & Bay of Quinte S. B. Co., was elected Chairman for the current year and took the chair.

The representatives of the various steamship lines announced their rates for the ensuing season and the Canadian railway companies gave notice of their routing rates to shore ports on upper lake business, all of which will be embodied in the rate sheets.

It was decided to hold the 1911 meeting at Rochester, N.Y., immediately following the Niagara Frontier Summer Rate Committee meeting.

Railway Rolling Stock Statistics.

During the year ended June 30, 1909, there were added to the rolling stock of the various Canadian railways 97 locomotives, 2,070 freight cars and 166 passenger cars. On that date there were in service 3,969 locomotives, 117,779 freight cars, and 4,192 passenger cars. In addition to these there were reported to be 65 locomotives and 9,345 cars under lease and 7,859 other cars in the companies' service. The available motive power was equivalent to 165 locomotives for every 1,000 miles of line, a decrease of four. This reduction is largely due to the fact that the new mileage had not been brought up to the standard of the older lines in regard to equipment. The average tractive power of locomotives has been steadily rising for years, so that the 97 locomotives added may be considered to represent a hauling capacity sufficient to compensate for the loss of motive power per 1,000 miles as expressed in number of engines. The passenger car supply is equivalent to 174 cars for every 1,000 miles of line, and the freight car supply 4,887 cars for every 100 miles of line. Although the number of cars showed an increase the additions to stock did not keep pace with the expanding mileage. The total carrying capacity of the freight cars was 3,385,313 tons, an increase of 107,919 tons over the previous year. The aggregate car supply was equal to one car for every 567 tons of freight, against 545 tons; the average carrying capacity of the cars was 28.70 tons, against 28.28 in the previous year.

Shelters. Stations and Agents.

The Board of Railway Commissioners passed the following order, 9160, Jan. 6.—Re complaint of Winnipeg Jobbers and Shippers Association alleging unsatisfactory service rendered by railway companies in connection with shipments of freight to flag stations and applying for an order directing the companies, where the traffic warrants, to appoint permanent agents to take charge of business at such stations. It is ordered:

1. That all railway companies subject to the Board's jurisdiction within six months from the date of this order, do construct and maintain, upon their lines of railway, in Manitoba, Saskatchewan and Alberta, at stations (other than regular agency stations) from or to which freight (l.c.l.) and passenger traffic is carried, suitable shelters or waiting rooms for the accommodation of freight and passengers, the said shelters to be provided with proper doors and windows and not to be below the standard of the plans and specifications attached, no. 1 (A or B, as may be decided upon).

2. That appurtenant to the said shelters and at proper and convenient locations, shall be erected within the time aforesaid, proper and convenient platforms and approaches.

3. All freight traffic delivered to such points shall be placed in the said shelter, and the carrier shall not be relieved from liability under the release approved by order 6242, unless this direction is complied with.

4. That at all stations or shipping places upon the said railway from or to which the total freight and passenger earnings of the company for the last fiscal year, or where the average earnings for the last three fiscal years, amount to not less than \$15,000, of which \$2,000 shall represent inward traffic, the said railway companies shall forthwith construct and equip suitable and proper stations, not to be below the standard of plans and specifications attached, no. 2, and shall likewise forthwith appoint and continue a permanent agent at such point or points.

5. That at all non-agency points where the business of the company consists solely or principally of grain shipments and the same amounted to at least 50,000 bush. for the previous year, temporary grain agents shall be appointed and continued during the grain shipping season, being from September 15th to December 31st, in each year.

Capital Seeking Investment in Steam and Electric Railways, Etc.

A well known transportation official in London, Eng., who is an old subscriber to the Railway and Marine World, has written our Managing Director, as follows:—

"An agent of a very influential and strong syndicate here has asked me if I know of any railway charters, either steam or electric, cold storage plant, docks, or other similar propositions in Canada which require financing. He states that his principals are ready to take up any good proposition of this kind and finance it, and I immediately thought that you would be the best one to know if there was anything of the kind offering, as you seem to have a bigger grasp of all things pertaining to railways than any other man in Canada. If you know of one or two propositions, I would be glad if you would give me particulars of them."

Holder of charters of undoubted value and promoters of any enterprise referred to in our correspondent's letter are invited to communicate with us, giving full particulars, and in the case of any proposition we would feel justified in recommending, we would put them in communication with the syndicate referred to.

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Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Nov., 1909, \$52,211, against \$50,870 for Nov., 1908. Cumulative net profits for five months ended Nov. 30, 1909, \$213,489. Approximate traffic receipts for Dec., \$31,523, against \$28,432 for Dec., 1908. Aggregate traffic receipts for six months ended Dec. 31, 1909, \$203,986.

Canadian Pacific Ry.—The Dominion Parliament is being asked to authorize the issue of bonds for \$25,000 a mile in respect of the construction of certain branch lines and to authorize the company to issue debenture stock in lieu of the bonds. The bill also authorizes the company to make by-laws providing for the election of two or more vice presidents, who need not be members of the board of directors, and defining their duties. Provision is made one-fifth instead of one-fourth of the directors retiring each year. Another section provides that the intent of sec. 2 of the C.P.R. Act, 1893, in so far as it relates to the aggregate amount of preferred stock which the company may issue, is to fix a definite limit to the company's power to issue such stock, and that notwithstanding any other provision relating to such stock the amount of such preferred stock outstanding may equal but shall not exceed at any time one-half of the aggregate amount of the ordinary stock then outstanding.

Dominion Atlantic Ry.—Gross earnings for Nov., 1909, \$110,200, against \$96,868 for Nov., 1908. Aggregate earnings for five months ended Nov. 30, \$720,000, against \$701,235 for same period 1908.

At a meeting of the Halifax, N.S., Board of Trade, Jan. 18, the President stated that it was understood that the Canadian Northern Ry. interests had acquired the Dominion Atlantic Ry. together with its steamships. The D.A.R. Co.'s stock is owned in Great Britain, and a Halifax barrister has recently been in London, Eng., carrying on some negotiations with the company.

Grand Trunk Pacific Ry.—The Supreme Court gave judgment recently in the case of the G.T.P.R. Co. and the Dominion Government arising out of the issue of guaranteed stock. In 1903, by statutory agreement, the bonds were guaranteed to the extent of 75% of the cost of construction of the western division, but not to exceed \$13,000 per mile of the prairie section and \$30,000 per mile of the mountain section. During the next year it was found that these bonds would not realize 75%, and a new agreement was made, striking out the limitations as to the mountain section, and providing that the Government implement its guarantee in such a manner as may be agreed upon, so as to make the proceeds equal to 75% of the cost. The company claimed to be entitled to sell the bonds, and if they realized less than 75% the Government should pay them the difference. The Government contended that it was only obliged to be surety for payment, and not to pay cash. The Governor-General in council submitted a number of questions to the Judges of the Supreme Court, upon which the judgment is based. In effect the court holds that the Government is not bound to make good any difference between the sale price of the bonds and 75% of their face value.

London and Port Stanley Ry.—The report of the Treasurer presented to the directors recently showed the total receipts to be \$15,976.39, as follows:—Rental, \$10,000; interest on rental, \$2,596.60; percentages from Pere Marquette Rd. (leased), \$3,379.79. The expenditures for the year were \$211. The falling off is in the percentage on earn-

ings. In 1908 the city of London received \$6,706.21 from the Pere Marquette Rd., \$3,326.42 more than in 1909. The President pointed out that the right to place in a switch had been granted to the Michigan Central Rd., and a similar request from the P.M. Rd. was now under consideration. The question of the extension of the lease to the P.M. Rd. had been taken up, but after some negotiations had been dropped.

The annual meeting of the shareholders was held Jan. 17. The officers and directors for the current year are:—President, Mayor Beattie; Vice President, Alderman Eckert; other directors: Aldermen Richter, Stevenson, Morgan, Jeffries, Underwood, Ashplant, Ex-Mayor S. Stevely; Secretary, — Baker.

New Brunswick Coal and Ry. Co.—Hon. W. Pugsley, Dominion Minister of Public Works, has filed a bill of complaint in the Supreme Court of Equity, against the New Brunswick Coal and Ry. Co., for an investigation of certain matters arising out of the report of a Royal Commission on the affairs of the Company. The papers filed ask for an accounting of receipts and expenditures of subsidies and moneys received by the company from the Dominion and Provincial Governments, and also all expenditures and appropriations of the proceeds of debentures, bonds, etc., guaranteed by the province, and of the dealings of the company. Mr. Pugsley was Premier of New Brunswick when the transactions investigated took place, the railway being managed by a commission appointed by the New Brunswick Government.

Northern Securities Co.—In the annual report to the shareholders J. J. Hill says the reduction of the dividend rate, as compared with former years, has been occasioned by the fact that in 1909 the company received no income from its holdings in the Crow's Nest Pass Coal Co. Of the 62,108 shares in the C.N.P.C. Co. the Northern Securities Co. holds 27,552. The C.N.P.C. Co. owns the Morrissey, Fernie and Michel Ry.

Orford Mountain Ry.—Application is being made to the Board of Railway Commissioners for a recommendation to the Governor in council for the sanction of a lease of the company's railway to the C.P.R. for 999 years.

Quebec Central Ry.—Gross earnings for Oct., 1909, \$102,764.35; expenses \$68,921.28; net earnings, \$33,842.37, against \$78,244.82 gross earnings; \$57,055.25 expenses; \$21,189.57 net earnings for Oct., 1908. Aggregate gross earnings for four months ended Oct. 31, \$413,870.31; expenses \$264,489.78; net earnings, \$149,380.53, against \$413,788.30 gross earnings; \$20,696.65 expenses; \$143,091.65 net earnings for same period 1908.

Temiscouata Ry.—Net profit on operation for Oct., 1909, \$4,835, and for 10 months ended Oct. 31, \$44,934.

Toronto City and C.P.R. Lines.—At the time of the construction of the Credit Valley Ry., the Toronto, Grey and Bruce Ry., and the Ontario and Quebec Ry., now included in the C.P.R. system, the City of Toronto provided certain amounts in aid of construction in return for which the council was given the right to nominate certain directors. These have been appointed from year to year but it appears that no reports are received from them by council. The Mayor has been investigating the matter and as a result the City Treasurer has been directed to present a report on the whole question. The report will also cover the position of the city with reference to its representation on the directorate of the company which constructed the line from Toronto northerly, forming part of the G.T.R. Northern Division.

White Pass and Yukon Ry.—Aggregate gross earnings for five months ended Nov. 30, 1909, \$829,086.

Q. and L. St. J. Railway Bonds

The Railway Share Trust and Agency Co. of London, Eng., trustees for the Quebec and Lake St. John Ry. prior lien, 1st mortgage, and income bondholders, issued the following circular in Dec.:—The trustees have been informed by the Q. and L. St. J. R. Co. that it will be unable to pay the coupon for interest on the first mortgage bonds falling due Jan. 1, 1910. A proposal has been submitted to the trustees for the reorganization of the company's bonded capital on the following lines:—That a new 4% consolidated perpetual debenture stock of the Q. and L. St. J. R. Co., absolutely guaranteed both as regards principal and interest by the Canadian Northern Ry. Co. should be created sufficient in amount:—To exchange the outstanding prior lien bonds at the rate of £100 of the new stock for every £100 of prior lien bonds. To exchange the first mortgage bonds at the rate of £60 of the new stock for every £100 of first mortgage bonds. To exchange the income bonds at the rate of £10 of the new stock for every £100 of income bonds. To exchange the bonds (£10,000) issued by the Lake St. Joseph Hotel Co., and guaranteed by the Q. and L. St. J. R. Co. at the rate of £100 of the new stock for every £100 of hotel bonds. To provide for the present floating indebtedness of the company, and to provide for additional rolling stock and equipment now required. Interest on the new stock to be payable half-yearly, on Feb. 1 and Aug. 1; the first payment for the period from Feb. 1, 1910, to Aug. 1, 1910, being made on the latter date. That in addition to the Canadian Northern Ry. Co.'s guarantee the new stock will be secured by a trust deed constituting it a first mortgage on the whole of the property and undertaking of the Q. and L. St. J. R. Co. including the Lake St. Joseph hotel property. That power be reserved to the company:—To create charges on any new line of railway hereafter constructed ranking in front of the new stock, provided such charges are guaranteed by the Dominion or by one of the Provinces. To create additional new stock (ranking pari passu with the new stock to be issued as above mentioned) to provide for the purposes following:—To an amount equal to \$30,000 per mile of line of railway hereafter constructed or contracted to be constructed, after deducting therefrom any amount not exceeding \$30,000 per mile for the time being outstanding of any mortgages or securities guaranteed by the Dominion or any Province, and for the time being ranking on such line of railway in priority to the new stock. To an amount equal to the amount by which any mortgages or securities guaranteed by the Dominion or any of the Provinces that may hereafter be secured on the company's railways or any part thereof in priority to the debenture stock exceed \$30,000 per mile of the line on which they are secured as a first mortgage or charge. To an amount equal to the cost price to the company of any rights of way, or land purchased or to be purchased by the company for terminals or any other purposes in connection with the construction, operation and maintenance of the company's lines of railway or any of them. To an amount equal to the cost price to the company of any bonds, stocks, shares or securities of any other company which may hereafter from time to time be deposited with the trustees and specifically mortgaged by way of first mortgage as additional security for the new stock.

The foregoing proposals were submitted at a meeting of bondholders in London, Eng., Jan. 14, but were so strongly opposed that they were withdrawn.

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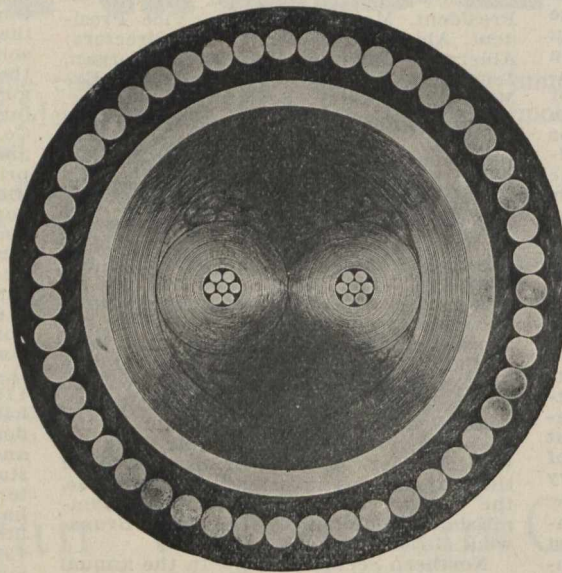
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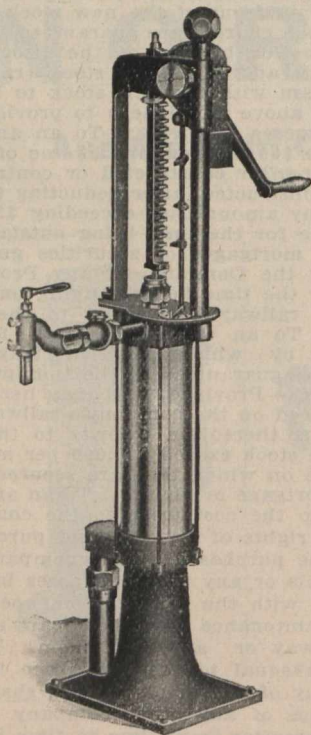


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Orders by the Railway Commissioners.

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

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

8902. Dec. 13.—Authorizing C. S. Hyman & Co. to lay heating pipes on Richmond St., London, under C.P.R.
8903. Dec. 15.—Amending order 3245, July 4, 1907, regulations re locomotives. This order was published fully in our Jan. issue, pg. 47.
8904. Dec. 2.—Authorizing C.N.O.R. to place tracks across G.T.R. near Port Hope, Ont.
8905. Dec. 7.—Authorizing C.P.R. to construct spur for Spietz Furniture Co. and Hanover Portland Cement Co., Hanover, Ont.
8906. Dec. 9.—Authorizing C.P.R. to install half-interlocking with derails, on Richmond St., London, Ont.
8907. Dec. 13.—Ordering C.P.R. to carry highway between Springer and Caldwell tps., Ont., over its tracks.
8908. Dec. 15.—Authorizing G.T.R. to construct sidewalk over Maitland River, Wingham, Ont.
8909. Dec. 8.—Authorizing G.T.R. to construct branch north of Ontario St., Port Hope, Ont.
8910. Dec. 12.—Refusing W. Knetchel & Sons' application for spur to mill at Hanover, Ont.
8911. Dec. 2.—Authorizing G.T.R. to reconstruct highway bridge over its tracks at Margaret St., Berlin, Ont.
- 8912, 8913. Dec. 15.—Authorizing Peck Rolling Mills, Montreal, to operate an overhead carrier and rail line over Montreal and Southern Counties Ry., at Mill St.
8914. Dec. 15.—Approving highway crossing and road diversion between secs. 15 and 22, tp. 33, r. 28, w. 2 m. of G.T.P.R. District, Saskatoon, Sask.
8915. Dec. 15.—Authorizing G.T.P.R. to build across diverted highway through s.e. ¼ sec. 20, tp. 42, r. 25, w. 3 m., Sask.
8916. Dec. 15.—Approving C.N.O.R. location in Pickering tp., Ont.
8917. Dec. 15.—Approving C.N.R. standard plan of overhead highway crossing.
8918. Dec. 15.—Authorizing Winnipeg corporation to place transmission lines across C.P.R. in s.e. ¼ sec. 7, tp. 13, r. 7, e.p.m., Man.
8919. Dec. 15.—Authorizing Bell Telephone Co. to place wires across G.T.R. near Courtland station, Ont.
8920. Dec. 15.—Authorizing Coldstream Telephone Co. to place wires across G.T.R. between Komoka and Strathroy, Ont.
8921. Dec. 15.—Authorizing A. McMichael, Jr., Melfort, Sask., to place wires across C.N.R. at Government Rd.
8922. Dec. 15.—Authorizing C.P.R. to construct spur to the end of its Kootenay Lake wharf, Nelson, B.C.
8923. Dec. 15.—Authorizing G.T.R. to construct spur to Goderich Lumber Co.'s premises, Southampton, Ont.
8924. Dec. 15.—Ordering G.T.P.R. to place two more wires along fences on both sides of its right of way in sec. 2, tp. 12, r. 11, w. 1 m., Man.
8925. Dec. 16.—Approving C.N.R. location through tp. 24, r. 17-15, w. p. m., mile 0 to 14.02, Man.
8926. Dec. 10.—Approving Toronto, Niagara & Western Ry. location from Davenport station to Jane St., Toronto.
8927. Dec. 4. Ordering G.T.R. to remove not later than July 1, additional track crossing King St., Sherbrooke, Que.
8928. Dec. 15.—Authorizing Guelph, Ont., Board of Light and Heat Commissioners to place wires across C.P.R. at Norwich St.
8929. Dec. 16.—Authorizing Bell Telephone Co. to place wires across M.C.R. at Wellington St., Windsor, Ont.
- 8930 to 8932. Dec. 16.—Authorizing People's Telephone Co. to place wires across G.T.R. near Jericho, and near Forest, Ont.
8933. Dec. 16.—Authorizing town of Waterloo, Ont., to lay water main under G.T.R. at John St.
8934. Dec. 7.—Dismissing G.T.P.R. application for order for connection with Canada Iron Corporation's tracks at Mountain Ave., Fort William, Ont.
8935. Dec. 7.—Ordering C.P.R. to fill in with plank space between rails along John and Water Sts., Eganville, Ont.
8936. Dec. 7.—Ordering C.P.R. to construct station with proper facilities for traffic at Eganville, Ont.
8937. Dec. 7.—Authorizing Georgian Bay & Seaboard Ry. to cross G.T.R. mileage 50.5, Victoria Harbor, Ont.
8938. Dec. 2.—Authorizing C.P.R. to construct spur near Sutton station, Que.
8939. Dec. 16.—Authorizing C.P.R. to construct spur near Smelter Jct., B.C.
8940. Dec. 16.—Approving C.N.O.R. location through Frontenac co., mileage 61 to 96, west from Ottawa.
8941. Dec. 7.—Ordering Montreal Park & Island Ry. to stop cars to allow passengers to get off and on at six points in Mount Royal Ward, Montreal.
8942. Nov. 30.—Ordering M.C.R. and P.M.R. to file plans showing location of towers, gates, etc., where they intersect side road running between lots 6 and 7, con. 5, at Highgate and Muirkirk stations, Ont.
- 8943, 8944. Dec. 17.—Approving plans of Atlantic, Quebec & Western Ry. stations at L'Anse aux Gascons and Newport, Que.
8945. Dec. 17.—Authorizing C.N.R. to place wires under Kaministiquia Power Co.'s wires near Kakabeka, Ont.
- 8946 to 8957. Dec. 17.—Authorizing Nipissing Power Co. to place transmission lines across Bell Telephone Co.'s wires at 12 points in Ontario.
8958. Dec. 13.—Authorizing C.P.R. to open for traffic its double track on main line between Fort William and Winnipeg.
8959. Dec. 18.—Authorizing village of Eganville, Ont., to construct highway across C.P.R.
8960. Dec. 18.—Authorizing C.P.R. to divert crossing of Salvage Ave. to proposed crossing of its tracks by Chapman Ave., Grassy Lake, Alta.
8961. Dec. 15.—Authorizing Daly & Morin to lay pipe under G.T.R. at Lachine, Que.
- 8962, 8963. Dec. 17.—Approving C.N.R. location from mileage 88 to 119, up North Thompson River from Kamloops, and from mileage 0 to 7, Lytton, B.C.
8964. Dec. 17.—Authorizing Manitoba Government Telephones to place wires across C.P.R. west of St. Boniface.
- 8965, 8966. Dec. 17.—Authorizing C.N.O.R. to place wires across Bell Telephone Co.'s wires at stations 2928-06 and 2924-54.
- 8967, 8968. Dec. 18.—Authorizing Berlin, Ont., Light Commissioners to place wires across G.T.R. at Waterloo and St. Leger Sts.
8969. Dec. 9.—Authorizing C.P.R. to lay pipe under C.N.R. along Boyne Ave., Morris, Man.
8970. Dec. 18.—Authorizing C.P.R. to construct extension of Eureka Mineral Claim spur, Yale District, B.C.
8971. Dec. 18.—Authorizing C.P.R. to construct two spurs in Weyburn, Sask.
8972. Dec. 18.—Authorizing C.P.R. to construct two spurs at Calgary, Alta, for Y. Shaw and Crown Lumber Co.
8973. Dec. 18.—Authorizing C.P.R. to construct spur for Leitch Collieries, Ltd., mileage 87.11, Crow's Nest Pass Branch.
- 8974, 8975. Dec. 18.—Authorizing C.P.R. to construct spur near Galloway station, B.C., and for La Compagnie Jobin, St. Augustin Parish, Que.
8976. Dec. 20.—Authorizing C.N.O.R. to use for construction purposes only the crossing by its line of the G.T.R. near Brooklin.
8977. Dec. 20.—Authorizing C.P.R. to construct spur through blocks 200 and 201, Regina, Sask.
8978. Dec. 18.—Authorizing Berlin, Ont., Light Commissioners to place wires under G.T.R. at King St.
8979. Dec. 18.—Authorizing Bell Telephone Co. to place wires under M.C.R. at Chippawa St., Chippawa, Ont.
8980. Dec. 18.—Authorizing C. Hudson, Lambton station, Ont., to work steam shovel on coal dump on the C.P.R. on Sunday, Dec. 19, on account of emergency.
8981. Dec. 20.—Authorizing G.T.R. to construct bridge over Chaudiere River at mile post 164.1, 3rd district, near Chaudiere Jct., Que.
8982. Nov. 22.—Ordering all railway companies in Ontario to weigh coal carried by them received from foreign countries at the port of entry if so required. This order is given fully on another page.
8983. Dec. 20.—Approving C.N.O.R. crossings at four streets in Parry Sound, Ont.
8984. Dec. 11.—Prescribing form of certificate to be used by railways in notifying the Board of assent to, and concurrence in, a joint tariff, or supplement, applicable between points in Canada. This order is given fully on another page.
8985. Dec. 20.—Authorizing Ridgetown Fuel Supply Co. to lay gas pipe under P.M.R. in Highgate, Ont.
8986. Dec. 22.—Authorizing Ottawa Electric Co. to place wires across C.P.R. at Billings Bridge, Ont.
- 8987 to 8991. Dec. 22.—Authorizing C.N.Q.R. to construct its lines and tracks across public roads between lots 100 and 105, on lot 195; to divert public road on lot 183; across public roads on lots 2, 26, 27 and 30, Deschambault Parish.
8992. Dec. 17.—Ordering C.P.R. to make repairs and changes to crossing at mileage 1.90 Artemesia sp., Ont.
8993. Dec. 15.—Authorizing Windsor, Essex and Lake Shore Rapid Ry. to operate along Gravel Rd., Sandwich West tp., Ont.
8994. Dec. 21.—Authorizing Manitoba Government Telephones to place wires across C.P.R. north of Purves station.
8995. Dec. 21.—Authorizing Southwold tp., Ont., to lay pipe under G.T.R.
8996. Dec. 22.—Authorizing Dominion Light, Heat & Power Co. to cross with a drain C.N.Q.R. at Pie IX St., Maison-neuve, Que.
8997. Dec. 21.—Authorizing Southwold tp., Ont., to lay drain under G.T.R.
8998. Dec. 21.—Authorizing T.H. Herrington to place telephone line across G.T.R. at Belleville Rd. crossing (Nap-amee), Ont.
- 8999, 9000. Dec. 21.—Authorizing Bell Telephone Co. to place wires across M.C.R. east of Essex station, Ont., and across C.N.Q.R. in Deschambault Parish, Que.
- 9001 to 9004. Dec. 22.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at four points.
9005. Dec. 7.—Authorizing Chatham Gas Co. to lay main under C.P.R. at Inches Ave., Chatham, Ont.
9006. Dec. 22.—Extending until June 15, time within which C.P.R. may complete fencing, erect crossing signals, and install cattle guards along its Snowflake branch extension to Windygates, Man.
9007. Dec. 22.—Authorizing the village of Brussels, Ont., to install a telephone instrument in the C.P.R. station at Walton, Ont.
9008. Dec. 22.—Cancelling order 3507, Aug. 15, 1907, in so far as it approves G.T.P.R. location from John St. to Spadina Ave., Winnipeg.
9009. Dec. 22.—Authorizing Ridgetown Fuel Supply Co. to lay gas pipe under M.C.R. at Highgate, Ont.

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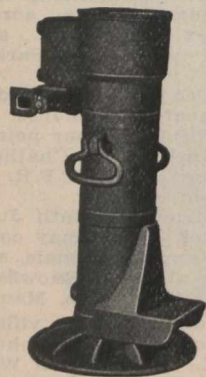
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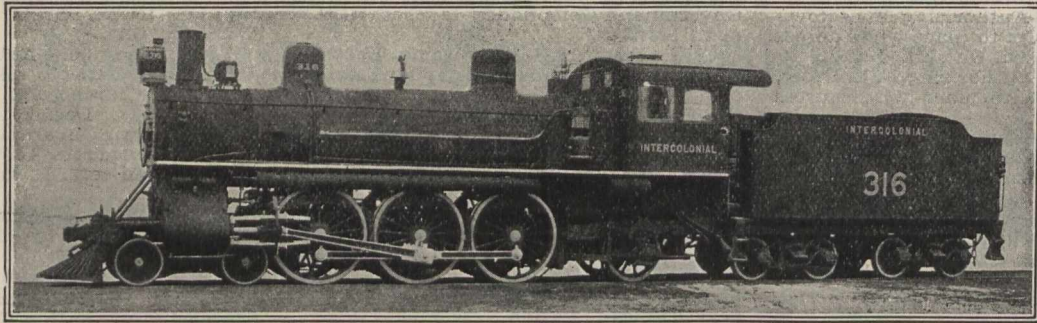
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- 9010, 9011. Dec. 22.—Authorizing the city of Toronto to lay ducts under G.T.R. on John and Wellington Sts.
9012. Dec. 22.—Authorizing Ernestown Rural Telephone Co. to place wires across G.T.R. at Ernestown, Ont.
9013. Dec. 22.—Authorizing F. T. Cross, Farm Point, Que., to place wires across C.P.R.
9014. Dec. 23.—Authorizing Thedford, Arkona & East Lambton Telephone Co. to place wires across G.T.R. at Thedford, Ont.
9015. Dec. 22.—Authorizing Manitoba Government Telephones to place wires across G.T.P.R. at Treat.
9016. Dec. 23.—Authorizing Oxbow Telephone Co. to place wires across C.P.R. at Oxbow, Sask.
- 9017 to 9022. Dec. 22.—Authorizing Manitoba Government Telephones to place wires across C.N.R. at one point; G.T.P.R. at two points, and C.P.R. at three points.
- 9023, 9024. Dec. 22.—Authorizing Alberta Government Telephones to place wires across C.P.R. at two points.
9025. Dec. 22.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. at Gainsborough.
9026. Dec. 20.—Authorizing the city of Hamilton, Ont., to construct bridge across T.H. & B.R. at Garth St.
9027. Dec. 23.—Authorizing Dungannon municipality, Ont., to construct highway crossing over Central Ontario Ry., 300 ft. south of Boy's crossing, Hastings tp.
- 9028, 9029. Dec. 23.—Authorizing J. A. Steele, to lay pipe line under G.T.R., at two points in Humberstone tp., Ont.
9030. Dec. 22.—Authorizing C.P.R. to construct spur for J. H. Ashdown Hardware Co., Calgary, Alta.
9031. Dec. 2.—Dismissing application of J. Davy, Thorold, Ont., that the N.St.C. & T. Ry. refund him \$219.83 on shipments from Nov., 1908, to Sept. 1909.
9032. Dec. 21.—Dismissing Montreal Board of Trade's application for order directing C.P.R. to publish tariffs covering milling-in-transit privileges on corn received at Montreal by rail from its Georgian Bay elevators.
9033. Dec. 24.—Approving change in Vancouver, Victoria and Eastern Ry. location at Hedley, B.C.
9034. Dec. 23.—Ordering Alberta Ry. and Irrigation Co. to provide station accommodation and facilities for traffic at five points.
9035. Dec. 24.—Authorizing Director of Surveys of Alberta to construct highway across C.P.R., n.e. ¼ sec. 3, tp. 10, r. 10, w. 4 m.
- 9036 to 9038. Dec. 27.—Authorizing Esquimalt, B.C., Water Works to lay water main under E. & N. Ry. at three points.
9039. Dec. 27.—Approving location of G.T.P.R. North Portal branch, mileage 50 to 100.
9040. Dec. 27.—Authorizing C.N.O.R. to use seven bridges on its Smallwood-Gowganda Division.
9041. Dec. 24.—Authorizing G.T.P.R. to construct branch on Government reserve, Edmonton, Alta.
- 9042 to 9045. Dec. 24.—Authorizing Bell Telephone Co. to place wires across C.P.R. at three points in Ontario and one in Quebec.
9046. Dec. 27.—Authorizing T. H. Herrington to place telephone wires across Bay of Quinte Ry., Napanee, Ont.
9047. Dec. 24.—Authorizing C.P.R. to construct spur across 23rd St., Saskatoon, Sask.
9048. Dec. 24.—Authorizing C.N.O.R. to construct bridge over Don River, York tp., Ont.
9049. Dec. 27.—Authorizing C.N.Q.R. to construct 10 highways in St. Jerome and St. Sauveur parishes and St. Jerome, Que.
9050. Dec. 24.—Authorizing Blenheim & South Kent Telephone Co. to place wires across M.C.R. at Charing Cross, Ont.
9051. Dec. 28.—Authorizing Manitoba Government Telephones to cross C.P.R. near Mowbray.
9052. Dec. 28.—Authorizing Leeds & Grenville Independent Telephone Co. to place wires across C.P.R. at Hawkins Crossing, Elizabethtown tp., Ont.
- 9053, 9054. Dec. 28.—Authorizing Wroxeter Rural Telephone Co. to place wires across C.P.R. in Howick and Turnberry tps., Ont.
- 9055 to 9057. Dec. 28.—Authorizing Manitoba Government Telephones to place wires across C.P.R. at three points.
9058. Dec. 28.—Authorizing Bell Telephone Co. to place wires across C.N.O.R. near Duncan station.
9059. Dec. 28.—Approving G.T.R. plan showing stress sheet for four 219-ft. truss spans over St. Lawrence River at Coteau, Ont.
9060. Dec. 28.—Authorizing M.C.R. to put into operation interlocking plant at east end yard, Windsor, Ont.
9061. Dec. 27.—Amending order 8976, Dec. 20, 1909, authorizing the C.N.O.R. to use, for construction purposes, G.T.R. crossing near Brooklin, Ont., by adding three clauses re appointment of watchman.
9062. Dec. 27.—Amending order 5973, Dec. 23, 1908, authorizing M.C.R. to cross Ross street, St. Thomas, Ont., by substituting new plans.
9063. Dec. 28.—Authorizing the C.N.R. and C.P.R. to operate trains over crossing of each railway at Gladstone, Man.
9064. Dec. 27.—Authorizing C.P.R. to construct spur for Joliette Sand & Gravel Co., in St. Felix parish, Que.
9065. Dec. 27.—Authorizing St. Maurice Valley Ry. to construct spur for Shawinigan Cotton Co., Shawinigan Falls, Que.
9066. Dec. 27.—Authorizing G.T.R. to construct branch for Bell Furniture Co., Southampton, Ont.
9067. Dec. 28.—Ordering C.P.R. to clean out and put in good order all ditches leading to and from culvert 89.9, near Crookston, Ont.
9068. Dec. 24.—Approving G.T.P.R. location, Prince Rupert easterly, mileage 235.675 to 299.15 Coast District, B.C.
9069. Dec. 28.—Authorizing C.N.Q.R. to build across public road on lots 96 and 97, Portneuf parish, Que.
9070. Dec. 28.—Authorizing N. St. C. & T. R. to use bridge over Government raceway, St. Catharines, Ont.
9071. Dec. 27.—Authorizing C.N.Q.R. to build across Savane Rd., St. Roch parish, Que.
9072. Dec. 28.—Authorizing C.N.R. to carry its Mayfield Branch across C.P.R. near Midale, Sask.
- 9073 to 9094. Dec. 28.—Authorizing C.N.O.R. to build across public crossings in Darlington, Hamilton, Scarboro, and Darlington tps., Ont.
9095. Dec. 29.—Approving supp. 2 to C.R.C. 26, Standard Passenger Tariff, C.N.O.R., to apply between Sellwood Jct. and Gowganda Jct., Ont.
9096. Dec. 29.—Authorizing C.N.O.R. to open for traffic the portion of its line from Sellwood Jct. to Gowganda Jct., Ont.
9097. Dec. 29.—Approving C.N.O.R. location west of Grafton, Ont.
9098. Dec. 29.—Authorizing C.N.O.R. to build across public road at Hillcrest Ave., Scarboro tp., Ont.
9099. Dec. 21.—Disallowing Supplement 3 to Special Tariff C.R.C. E. 937 of Quebec Central Ry. in re rates on iron and steel articles.
9100. Dec. 29.—Authorizing C.N.Q.R. to construct spur to Eastern Canada Portland Cement Co., Dombourg, Que.
9101. Dec. 28.—Authorizing G.T.R. to construct extension of siding along Falstaff St., Stratford, Ont.
9102. Dec. 29.—Authorizing Bell Telephone Co. to place wires across G.N.W. Telegraph Co.'s wires near Sombra Station, Ont.
9103. Dec. 29.—Authorizing Neal Bakling Co. to lay drain under C.P.R. at Windsor, Ont.
9104. Dec. 30.—Authorizing city of Brantford, Ont., to place wires across G.T.R. on Clarence St.
- 9105, 9106. Dec. 29.—Authorizing the Saskatchewan Government Telephones to place wires across C.P.R. at Esterhazy, and between secs. 13 and 24, tp. 47, r. 1, w. 3 m.
9107. Dec. 30.—Authorizing city of Brantford, Ont., to place wires under G.T.R. at Elgin St.
9108. Dec. 29.—Authorizing Bell Telephone Co. to place wires across C.P.R. near Windsor Station, Ont.
9109. Dec. 29.—Authorizing C.P.R. to construct spur for Calgary Power & Transmission Co., Calgary, Alta.
9110. Dec. 29.—Approving C.N.O.R. revised location in Clarke tp., Ont.
9111. Dec. 30.—Approving proposed iron bridge at milepost 10.94, G.T.R., near St. Catharines, Ont.
- 9112, 9113. Dec. 30.—Authorizing C.P.R. to construct spurs for Nominizing Pulp Wood Supply Co., Loranger tp., and McJinnin, Holmes & Co., Sherbrooke, Que.
9114. Dec. 30.—Extending until June 1, time within which C.P.R. may construct subway where it crosses Iberville St., Montreal.
9115. Dec. 29.—Directing G.N.R. to erect station and platform at Port Kells, B.C.
- 9116, 9117. Dec. 30.—Authorizing C.N.O.R. to build across roads in Whitby tp., and between Scarboro and Pickering tps., Ont.
9118. Dec. 30.—Authorizing C.P.R. to reconstruct bridge over Fraser River, Thompson section, B.C.
- 9119 to 9121. Dec. 31.—Authorizing C.N.O.R. to build across public road at three points in Nipissing district, Ont.
9122. Dec. 31.—Extending until May 31 time within which G.T.R. may install gates at College St., Lennoxville, Que.
9123. Dec. 31.—Authorizing C.N.O.R. to build across public road between lots 26 and 27, con. D, station 353, Scarboro tp., Ont.
- 9124, 9125. Dec. 31.—Authorizing C.P.R. to construct spurs for Manitoba Bridge & Ironworks, Winnipeg, and H. E. Parent & Co., Campbell tp., Que.
9126. Jan. 3.—Ordering that C.N.R. provide, at its own expense, day and night watchmen at Pembina St. Subway, Winnipeg.
9127. Jan. 3.—Authorizing C.N.O.R. to construct bridge over Little Rouge River, Scarboro tp., Ont.
9128. Dec. 21.—Rescinding order 653, July 5, 1905, directing C.P.R., G.T.R. and C.N.R. to establish commodity rates on metallic shingles; by directing them to equalize freight rates on metallic shingles and siding from eastern points to Manitoba, Saskatchewan, and Alberta, as against freight rates charged on the unmanufactured material.
9129. Dec. 31.—Authorizing C.P.R. to operate branch in Etobicoke tp., Ont., and also connect with G.T.R.
9130. Dec. 17.—Authorizing C.N.Q.R. to build across Ste. Clair Rd., St. Sauveur parish, Que.
9131. Jan. 4.—Ordering M.C.R. to protect 14 crossings in Colchester, Tilbury East, Maidstone, Tilbury W., Rochester, Raleigh, Aldborough, Molton, Howard, Oneida, and Sandwich East tps., Ont., by watchmen from 7 a.m. to 7 p.m. each day.
9132. Jan. 3.—Approving Vancouver, Victoria & Eastern Ry. Standard Freight Tariff G.N., C.R.C. 663, between all its stations.
9133. Jan. 4.—Authorizing C.P.R. to construct spur for Standard White Lime Co., at Beachville, Ont.

(Continued on pg. 125.)



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LOCOMOTIVES Adapted to every
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With which are incorporated The Western World and The Railway and Shipping World, Established 1890.

An Illustrated Periodical devoted to Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph, Telephone and Contractors' Interests.

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TORONTO, CANADA, FEBRUARY, 1910.

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Alphabetical List of Advertisers

Table listing advertisers and their page numbers, starting with A (Abbott, W. to American Vanadium Co.) and B (Babcock & Wilcox, Ltd. to Butterfield & Co.), then C (Canada Car Co., Ltd. to Crossen Car Mfg. Co.), D (Date, John to Duner Co.), F (Falls Hollow Staybolt Co. to Fuce, E. O.), G (Galena Signal Oil Co. to Greening, The B., Wire Co., Ltd.), H (H. & E. Lifting Jack Co., Ltd. to Hutton, James, & Co.), and I (Illinois Central Railroad to International Mercantile Marine Co.).

Table listing advertisers under letters J, K, and L. J: Jardine, A. B., & Co. (126), Jessop, Wm., & Sons, Ltd. (158). K: Kerr Engine Co., Ltd. (148), Kingsmill, Saunders, Torrance & Kingsmill (123). L: *Legg Bros. (—), Lehigh Valley Railroad (158), Lewis, Rice, & Sons, Ltd. (130), Lufkin Rule Co. (Cover 1).

Table listing advertisers under letter M. M: McAvity, T. & Sons (114), McConway & Torley Co. (146), McCord & Co. (112), Marsh Co. (158), Matheson, L. & Co. (150), Metcalf, John S., Co. (146), Miller Chemical Engine Co. (158), Montreal Locomotive Works, Ltd. (88), Montreal Rolling Mills Co., Ltd. (142), Montreal Steel Works, Ltd. (90), Mudge, B. W., & Co. (114), Mussens Limited (Cover 1 and 92).

Table listing advertisers under letter N. N: New Brunswick Wire Fence Co. (160), Northern Electric & Mfg. Co., Ltd. (150), Northern Engineering Works (162), Norton, A. O. (116), Nova Scotia Steel & Coal Co., Ltd. (106).

Table listing advertisers under letter O. O: Ontario Wind Engine & Pump Co., Ltd. (158), Orford Copper Co. (162), Ottawa Car Co., Ltd. (Cover 1), Otto Bros. (150), Owen Sound Wire Fence Co., Ltd. (144).

Table listing advertisers under letter P. P: Parry Sound Lumber Co., Ltd. (160), Phillips, Eugene F., Electrical Works, Ltd. (148), Piper, The Hiram L., Co., Ltd. (160), Piper, N. L., Railway Supply Co., Ltd. (132), Polson Iron Works, Ltd. (108), Positive Lock Washer Co. (158), Pratt & Whitney Co. (Cover 1), Provincial Steel Co., Ltd. (136), Pyke, J. W., & Co. (136), Pyle National Electric Headlight Co. (104).

Table listing advertisers under letter R. R: Rail Joint Co. of Canada, Ltd. (Cover 1 and 98), Renouf Publishing Co. (140), Rhodes, Curry Co., Ltd. (108), Robb Engineering Co., Ltd. (110), Russel Wheel & Foundry Co. (94).

Table listing advertisers under letter S. S: Safety Car Heating & Lighting Co. (100), Saxby & Farmer, Ltd. (Cover 1), Scully Steel & Iron Co. (134), Willis Shaw Machinery Co. (162), Shaw, Willis, Machinery Co. (162), Silliker Car Co., Ltd. (98), *Smart, James, Mfg. Co., Ltd. (—), Southam Press (148), Standard Coupler Co. (162), Standard Explosives, Limited (122), Standard Paint & Varnish Co., Ltd. (148), Standard Steel Works Co. (144).

Table listing advertisers under letter T. T: Tate Accumulator Co. (134), Taylor & Arnold (124), Toronto Bolt & Forging Co., Ltd. (110).

Table listing advertisers under letter U. U: Union Draft Gear Co. (154), United Typewriter Co., Ltd. (152).

Table listing advertisers under letter V. V: Vulcan Iron Works (136).

Table listing advertisers under letter W. W: Waugh Draft Gear Co. (Cover 1), Williams, A. R., Machinery Co., Ltd. (100), Williams Mfg. Co., Ltd. (154), Wire & Cable Co., Ltd. (Cover 1).

*Advertisements marked with an asterisk appear in alternate issues.

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The Manufacturers' Club of Buffalo, N.Y., on Jan 7, entered a formal complaint with the Interstate Commerce Commission, against the Pullman Co., asking for an order making the charge for upper berths in sleeping cars less than that for lower berths.

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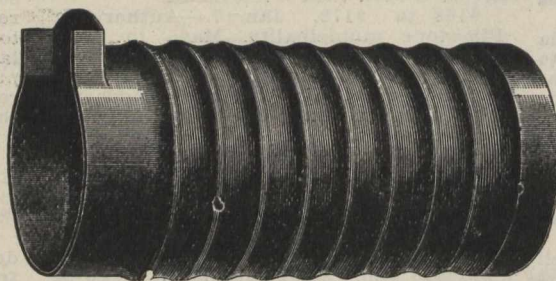
(Continued from pg. 121.)

9134. Jan. 4.—Amending order 8896, Oct. 7, 1909, approving plans of crossings on C.P.R. Toronto-Sudbury branch.
9135. Jan. 3.—Authorizing Alberta Government to place telephone wires across C.P.R. Macleod branch at mileage 79.6.
9136. Jan. 4.—Authorizing Dereham Telephone Co. to place wires across C.P.R. in Dereham tp., Ont.
9137. Jan. 3.—Authorizing Canada Permanent Mortgage Corporation to place electric wires across G.T.R. at Queenston Quarry siding, Stamford tp., Ont.
9138. Jan. 3.—Authorizing Bell Telephone Co. to place wires across G.T.R. telegraph lines at Hammon, Ont.
9139. Jan. 4.—Authorizing Bell Telephone Co. to place wires across C.P.R. near Chatham station, Ont.
- 9140 to 9142. Jan. 4.—Authorizing Bell Telephone Co. to place wires across C.P.R. near Melrose, Chatham and Streetsville stations, Ont.
9143. Dec. 21.—Authorizing town of St. Louis, Que., to extend highway across C.P.R. at Atlantic Ave.
9144. Jan. 4.—Authorizing C.N.O.R. to construct sidings from G.T.R. main line to its right of way near its crossing of G.T.R., in con. D, Scarboro tp., Ont.
9145. Jan. 5.—Amending order 8755, Nov. 25, 1909, authorizing C.N.O.R. to carry its tracks across and to connect with G.T.R. near Brooklin, Ont., by adding additional clauses re junction track, cost of protection, and switching charge.
9146. Jan. 5.—Authorizing Capital Rural Telephone Co. to place wires across C.N.R. east of Regina, Sask.
9147. Jan. 5.—Authorizing Bell Telephone Co. to place wires across Hamilton Radial Ry. on Beach Road, Hamilton, Ont.
- 9148, 9149. Jan. 4.—Authorizing Manitoba Government Telephones to place wires across C.P.R. near Portage la Prairie, and across C.N.R. on Archibald St., St. Boniface.
9150. Jan. 5.—Approving G.T.P.R. proposed road diversion in sec. 12, tp. 48, r. 14, w. 4 m., Northern Alberta.
- 9151 to 9153. Jan. 5.—Authorizing J. P. Edwards for Ontario Public Works Department to construct overhead crossings of C.P.R., Sault Ste. Marie branch, in Baldwin, Hallam and Drury tps., Ont.
9154. Jan. 4.—Authorizing C.P.R. to construct bridge 1658 at Riviere a la Graissee, Que.
9155. Jan. 5.—Authorizing Vancouver, Victoria & Eastern Ry. to open for traffic portion of its line from Keremeos to Princeton, B.C.
9156. Jan. 3.—Ordering that Dominion Ex. Co. restore rate of $\frac{1}{4}$ c. a pound on newspapers carried out of Winnipeg.
9157. Jan. 5.—Authorizing C.N.O.R. to build under and divert G.T.R. tracks near Brighton, Ont.
- 9158, 9159. Jan. 7.—Authorizing C.N.Q.R. to build across boundary road between Ste. Julienne, St. Alexis and St. Jacques parishes, and to divert public road on lots 175, 176 and 177, Cap Sante parish at mileage 38.80 west from Quebec bridge.
9160. Jan. 6.—Ordering construction of shelters and stations and location of agents at certain western points. This order is given in full on another page.
- 9161, 9162. Jan. 7.—Approving plans of Osborne and Heidt drains to be constructed under G.T.R. in Southwold tp., Ont.
9163. Jan. 8.—Authorizing C.P.R. to use bridge 31.1, over Nominating River, Eastern Division.
9164. Dec. 22.—Amending Rule 4 in G.N.W. Telegraph Co.'s Supp. 1, C.R.C. 9, C.P.R. Telegraph Co.'s Supp. 2, C.R.C. 1, and Western Union Telegraph Co.'s C.R.C. 5, in connection with transmission of code messages between points in Canada.
9165. Jan. 7.—Authorizing Saskatchewan Government Telephones to place wires across G.T.P.R. near Zeneta.
9166. Jan. 7.—Authorizing Seymour Power & Electric Co. to place transmission line across G.T.R. in Seymour tp., Ont.
9167. Jan. 10.—Authorizing town of North Battleford, Sask., to place wires across C.N.R. near Victoria St.
- 9168 to 9172. Jan. 7.—Authorizing Pipestone municipality, Man., to place wires across C.P.R. at five points.
9173. Jan. 6.—Ordering C.N.R. to provide better facilities and accommodation for traffic between Rainy River and Fort Frances, Ont.
9174. Jan. 6.—Ordering C.N.O.R. to provide station and platform facilities at Barwick, Ont.
9175. Jan. 10.—Authorizing C.P.R. to construct industrial spurs across Ross Ave. and Xante St., Winnipeg.
9176. Jan. 10.—Authorizing Crow's Nest Southern Ry. to remove interlocking plant where its line crosses C.P.R. near Hosmer, B.C.
9177. Jan. 8.—Approving Rutland Road by-law authorizing C. Hartigan, G.P.A., and G. Cassidy, G.F.A., to prepare and issue tariffs of tolls.
9178. Jan. 8.—Amending order 8808, Sept. 30, 1909, certifying C.N.R. plan, as accepted, of completed railway in s.e. quar. sec. 24, tp. 43, r. 4, w. 3 m., by striking out range 4 and substituting 5.
9179. Jan. 10.—Approving road diversion by G.T.P.R. in sec. 26, tp. 28, r. 19, w. 2 m., Saskatoon district, Sask.
9180. Jan. 8.—Authorizing Chatham Gas Co. to lay pipe under G.T.R. at Lacroix St. crossing, Chatham, Ont.
- 9181 to 9184. Jan. 10.—Authorizing C.P.R. to build across public crossing at station 846.40, mileage 16.3; at station 825, mileage 15.6; station 42-75, mileage 0.80; and station 913.55, mileage 17.3, Cowichan branch.
9185. Jan. 10.—Approving Alberta Ry. & Irrigation Co. by-law appointing P. L. Naismith, General Manager, to prepare and issue tariff of tolls.
9186. Jan. 10.—Authorizing C.N.O.R. to build across public road between lots 20 and 21, con. 4, Hope tp.
9187. Jan. 7.—Ordering G.N.R., operating V. W. & Y. Ry., to forthwith publish and file joint rates on lumber and other articles covered by C.P.R. joint tariff C.R.C. W. 847.
- 9188, 9189. Jan. 8.—Authorizing C.P.R. to use bridges 31.1 and 33.2 on its Nominating section, and five other bridges on its Nominating extension.
9190. Jan. 8.—Authorizing C.N.O.R. to construct bridge over Bowman's Creek, Darlington tp.
9191. Jan. 6.—Ordering G.T.R. to file within 30 days plans of location of gates at intersection of its air loop line with Hamilton & Port Dover Rd., Jarvis, Ont.
- 9192 to 9198. Jan. 10.—Authorizing C.P.R. to build across and divert public road at seven points on its Cowichan Lake branch, B.C.
- 9199 to 9202. Jan. 8.—Authorizing Pipestone municipality, Man., to place wires across C.N.R. at four points.
- 9203, 9204. Jan. 10.—Authorizing Bell Telephone Co. to place wires across G.T.R. near Komoka station, and across Essex Terminal Ry. on McDougall St., Windsor, Ont.
9205. Jan. 10.—Authorizing Capital Telephone Co. to place wires across C.P.R. between secs. 28 and 29, tp. 17, r. 19, w. 2 m., Sask.
9206. Jan. 11.—Approving revised location of C.P.R. Cowichan Lake branch station 0 to 952-45.3.
9207. Jan. 7.—Authorizing Bell Telephone Co. to place wires across T.H. & B.R., Beach St., Hamilton, Ont.
- 9208 to 9213. Jan. 8.—Authorizing Pipestone municipality, Man., to place wires across C.N.R. at six points.
- 9214 to 9224. Jan. 11.—Authorizing Manitoba Government Telephones to place wires across C.N.R. at 10 points, and G.T.P.R. at one point.
9225. Jan. 11.—Authorizing Saraguay Electric & Water Co. to place wires across Bell Telephone Co.'s wires near Pointe aux Trembles, Que.
9226. Jan. 8.—Refusing Western Associated Press application for order directing C.P. and G.N.W. Telegraph Co.'s to furnish telegraph matter at rates established by them for delivery to and publication in one newspaper, and directing that tariffs of tolls covering all this class of telegraph service be filed with the Board not later than Feb. 1.
9227. Jan. 10.—Authorizing Hydro-Electric Power Commission of Ontario to place conduit system under M.C.R. in Stamford tp.
9228. Jan. 11.—Ordering G.T.R. to deepen existing culvert at mile post 1, from Palmerston, Ont.
9229. Jan. 10.—Authorizing C.P.R. to use eight bridges on the New Brunswick Southern Ry.
9230. Jan. 10.—Approving C.N.R. proposed location from mileage 0 to 14 down the Fraser River from Yale, B.C.
9231. Jan. 11.—Authorizing C.P.R. to construct extension across Timmins St., North Bay, Ont.
- 9232 to 9235. Jan. 11.—Authorizing Bell Telephone Co. to place wires across G.T.R. at four points near Hamilton, Ont.
9236. Jan. 11.—Authorizing Seymour Power & Electric Co. to place transmission line across Central Ontario Ry. in Rawdon tp.
9237. Jan. 4.—Authorizing Montreal Light & Power Co. to place wires across C.N.Q.R. and Montreal Terminal Ry. at Laurier Ave., Tetreaultville, Que.
9238. Jan. 11.—Authorizing R. S. Hudson to place wire across G.T.R. at Queenston quarry siding, Stamford tp., Ont.
9239. Jan. 7.—Refusing C.N.O.R. application for order directing G.T.R. and C.P.R. within a specified time to file tariff from U.S. frontier points to non-competitive points on C.N.O.R. in connection with passenger traffic from Pittsburg, Pa., to Muskoka district.
9240. Jan. 10.—Amending order 9026, Dec. 20, 1909, directing T.H. & B.R. to construct highway bridge over its line, at Garth St., Hamilton, Ont., by providing that the city of Hamilton be responsible, pay land damages, if any, caused by raising the grade.
- 9241, 9242. Jan. 12.—Recommending to Governor in Council for sanction, Red Mountain Ry. and Nelson and Fort Sheppard Ry. by-laws re expropriating in and around station premises.
9243. Jan. 10.—Authorizing C.N.O.R. to construct sidings from G.T.R. main line to its right of way near crossing in con. D, Scarborough tp.
9244. Jan. 12.—Authorizing J. P. Edwards for Ontario Public Works Department, to construct overhead crossing of C.P.R. Sault Ste. Marie branch in lot 5, con. 1, Drury tp., Ont.
9245. Jan. 10.—Authorizing C.P.R. to construct spur for Byers & Anglin, Outremont, Que.
9246. Jan. 12.—Amending order 9031, directing N. St. C. & T.R. to restore joint rate of 2c. per 100 lbs. on wood pulp in carloads from Thorould, Ont., by extending time for its restoration.
9247. Jan. 12.—Ordering G.T.R. to install electric bell at Wallace Ave. crossing, Toronto.
- 9248 to 9250. Jan. 12.—Authorizing Bell Telephone Co. to place wires across P.M.R. at three points near Chatham station, Ont.
9251. Jan. 12.—Authorizing Seymour Power & Electric Co. to place wires across Bell Telephone Co.'s wires, at Stirling, Ont.
9252. Jan. 12.—Authorizing Bell Tele-

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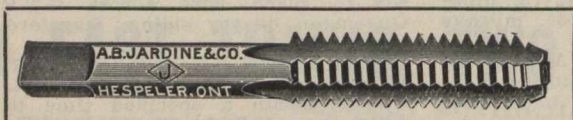
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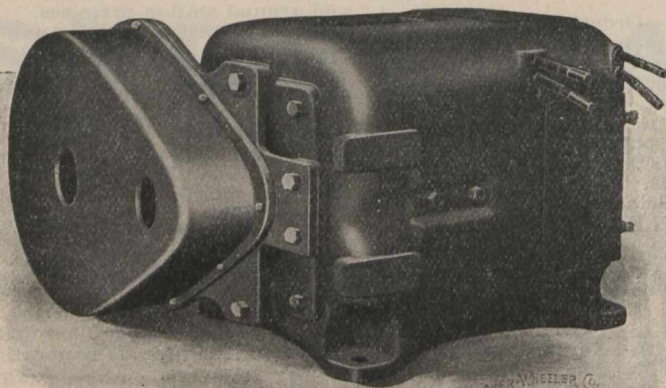
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phone Co. to place wires across C.P.R. near London, Ont.

9253. Jan. 12.—Authorizing Maidstone municipality, C.P.R., to place telephone wires across C.P.R. near Elmstead, Ont.

9254. Jan. 12.—Authorizing Bell Telephone Co. to place wires across C.P.R. at Waubeck St., Parry Sound, Ont.

9255. Jan. 13.—Approving G.T.P.R. crossings in Yorkton and Saskatchewan districts, Sask.

9258. Jan. 13.—Authorizing C.N.O.R. to build across public road between lot 6 and east half of lot 7, con. A., Hamilton tp.

9259. Jan. 12.—Authorizing Lindsay, Bobcaygeon & Pontypool Ry. to cut off bank of n.w. corner Galbraith's crossing, north of Burkton Jct., Ont.

9260. Jan. 5.—Authorizing T.H. & B.R. to construct two spurs for F. W. Bird & Son, Hamilton, Ont.

C.P.R. Betterments, Construction, Etc.

St. John to Halifax.—C. J. Willis, Amherst, N.S., writing to the daily papers, Jan. 6, says public meetings have been held in numerous municipalities in Nova Scotia with a view to securing an extension of the C.P.R. from its present terminus at St. John, N.B., to Halifax, and that the movement is meeting with public favor. A Halifax paper suggests that the Citadel be acquired by the city and offered to the C.P.R. as an inducement to the company to extend its line to Halifax.

St. John, N.B.—It has been decided by the City Council to send a deputation to Montreal to interview Sir Thos. G. Shaughnessy on the proposed sale to the company of the west side wharves. The construction of these wharves cost the city about \$1,250,000.

Tobique and Campbellton Ry.—A contract has been signed, under the Act granting aid to certain railways, between the Dominion Government and the company, for the construction of a line from Plaster Rock, the terminus of the C.P.R. Tobique Valley line, to Riley Brook, a distance of 28 miles.

Windsor St. Station, Montreal.—The addition to this building, the foundations for which are now being put in, will extend from the present building down Windsor St. to St. Antoine St., 290 ft., with a frontage of 170 ft. on St. Antoine St.

Place Viger Station and Hotel, Montreal.—Plans have been completed for an extensive addition and alterations to be made to this building. The waiting rooms, ticket offices, &c., are to be removed from the present building, which fronts on Craig St., so that the whole of it may be utilized for hotel purposes. At the north end on the ground floor will be a dining-room 85 x 45 ft., a banquet hall 60 x 35 ft., and kitchen 45 x 65 ft. In the centre of the building will be a rotunda 55 ft. in diameter. There will also be writing rooms, barber shop, lavatories, baggage room, news and cigars stands, parcel room and various offices, and the basement will be devoted to servants' dining rooms, locker rooms, laundry, machinery, &c. An octagonal entrance will be provided at the northwest corner of the present building to lead to the midway, and a four-story wing will be built, extending from the rear of the west end of the present building and running along Berrie St. for 300 ft., with a width of 50 ft. The basement will be utilized for storage, baggage, &c., and the whole of the ground floor for station purposes, including a waiting room 112 x 57 ft., with ticket, telegraph, telephone, agent's and other offices, a ladies' waiting room 30 x 30 ft., men's smoking room 35 x 15 ft., baggage room 70 x 83 ft., express room 95 x 25 ft., sleeping and dining car

room 65 x 15 ft., lavatories, &c. The three stories above the ground floor will be devoted entirely to bedroom accommodation, each bedroom having a bath attached. On the second floor, which will include the present hotel dining-room space, there will be 52 bedrooms on the third floor 44 and on the fourth floor 26. At the rear of the hotel and station there will be nine passenger tracks and several storage tracks. These will run parallel with the back of the present hotel building instead of at an angle of about 45 degrees as at present. From the midway steps will be built to the level of Notre Dame St., and a new overhead foot bridge will be erected.

The Montreal City Council has finally adopted a report authorizing the closing of a number of street ends in the vicinity of Place Viger station, on property acquired by the company for yard extension. Under the agreement proprietors of certain other properties have the right of selling to the company at the city's valuation plus 30%, and the company is to build a bridge on Notre Dame St. from Lacroix St. to Montcalm St., continuing the present bridge at its present width.

Montreal to Toronto Second Track.—We are advised that the second track work from Montreal to Smith's Falls, Ont., has been completed, the portion between Vaudreuil, mileage 23.8, and Finch, mileage 79.1, being completed during 1909. The grading between Vaudreuil and St. Lazare, mileage 28.5, where some heavy grade revision work was done, was handled by the company's own forces. From St. Lazare to mileage 44.8, near Dalhousie Mills, the work was done by J. P. Mullarkey, Montreal; and from mileage 44.8 to Finch the work was done by Macdonald and Keefer, Monklans. The culverts and bridge superstructures for the entire distance were built by J. P. Mullarkey. The tracklaying, ballasting and surfacing was done by the company's own forces. C. W. P. Ramsey, Assistant Engineer, had charge of the work.

Toronto Sidings.—The C.P.R., as lessee and exercising the franchises of the Ontario and Quebec Ry., is making application to the Board of Railway Commissioners for authority to construct a branch line of railway along the east side of the Don river to Ashbridge's Bay, Toronto.

Guelph Station.—On a recent visit to Guelph, Ont., General Superintendent Osborne stated that a new station would be built there during this year.

London Roundhouse Improvements.—We are advised that the company has under consideration two or three schemes for roundhouse improvement at London, Ont., but that no decision has been reached. No proposition was made to Sir Thos. G. Shaughnessy on the matter on the occasion of his recent visit there, and consequently he did not make any statement, as reported in the daily press.

Georgian Bay and Seaboard Ry.—Application is being made to the Ontario Legislature by Tiny tp., Ont., for an act confirming a bylaw providing for a fixed assessment on the properties of the company in the township.

Souris, Man., Shops.—A press report states that the company has purchased 400 acres of land adjoining the town, presumably for a shop site to serve the southwestern lines which converge there.

Western Branch Lines.—The company is applying to the Dominion Parliament to authorize a change in the location of the branch line from Killam, Man., power to construct which was granted by sec. 1, chap. 95, of the statutes of 1908, by striking out range 13 and substituting therefor range 12, the starting point of the branch now being some point in tp. 44, ranges 12 or 14, west of the

fourth meridian; and to construct the following additional branch lines:—from tp. 22, range 2, east of the principal meridian, northerly or northwesterly to tp. 34, ranges 5, 6 or 7, west of the principal meridian, and from near Asquith on the Pheasant Hills branch, Sask., to tp. 38 or 39, range 10, 11 or 12, a distance of about 20 miles. An extension of time for the construction of the branch authorized by sec. 1, chap. 55, of the statutes of 1900, sec. 2, chap. 73, of the statutes of 1905, and sec. 1 of chap. 95 of the statutes of 1908 (as amended by this act) is also asked.

Branch Line Plans Approved.—The Minister of Railways has approved plans for the construction of the company's Aldersyde branch, and for the Sedgwick and Ellerslie branch. The first named is under construction from Kipp, Alta., and the second starts from near Wetaskiwin and extends to Ellerslie, also on the Calgary and Edmonton Ry., about five miles from Strathcona, Alta. This branch is projected in connection with the high level bridge to give connection with Edmonton.

Calgary and Edmonton Ry.—Application is being made to the Dominion Parliament to extend the time within which the company may construct the branch lines authorized by chap. 89 of the statutes of 1903 and to authorize the construction of an extension of the Lacombe branch from its terminal point, as authorized by sec. 6, chap. 89, of the statutes of 1903, to a junction with the C.P.R. branch terminating at Outlook, Sask., a distance of about 200 miles.

Strathcona-Edmonton High Level Bridge.—Several contractors have had representatives in Edmonton recently looking over the ground with a view to tendering on the construction of the projected high level bridge over the Saskatchewan River from Strathcona to Edmonton. A deputation arrived in Ottawa Jan. 21 to interview the Dominion Government on the subject of a grant in aid of the project for the construction of general traffic facilities on the bridge.

Edmonton Land Purchases.—Reports from Edmonton, Jan. 11, stated that the company had purchased from the Hudson Bay Co. a considerable area of land in the vicinity of 18th and 29th streets.

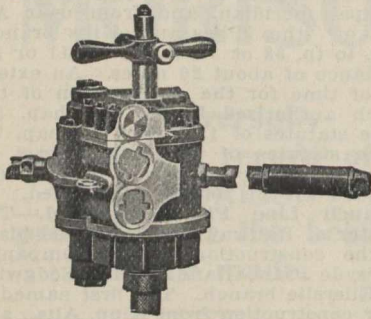
Kootenay Central Ry.—It is reported that at a recent conference of C.P.R. officials in the west it was decided, subject to the approval of the directors, to provide for the construction of 50 miles of the K.C.R. during this year. If the plan is approved in Montreal, the report states that tenders will be asked for in Feb. and work will be started in March. The starting point, it is reported, will be at Warder, on the Crow's Nest Pass line, and the terminal at Golden, the length of the line being 160 miles. The surveys have been completed for this line for several years and show a maximum gradient of 0.4%.

Kootenay Lake Hotel.—We are advised that the company proposes to construct a small tourist hotel at Proctor, but that no plans or estimates have been prepared. Proctor is situated between Kaslo and Nelson, B.C., on one of the C.P.R. steamer routes on Kootenay Lake.

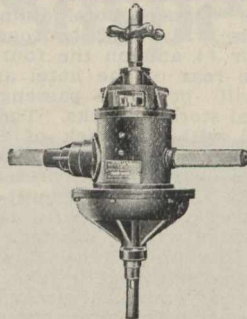
Empress Hotel, Victoria.—A new wing, 116 x 48 ft., is to be built over the present kitchen. It will contain 68 bedrooms, with 47 bathrooms.

Lytton to Hope, B.C.—Press reports state that the company has completed plans for the straightening of the line and the reduction of the gradients on the line between these two points. The location surveys, said to have been just completed, covered a distance of between 65 and 70 miles on the Thompson and Cascade sections. The principal part of the reconstruction will be in the Fraser Canyon, through which the railway runs for about 60 miles.

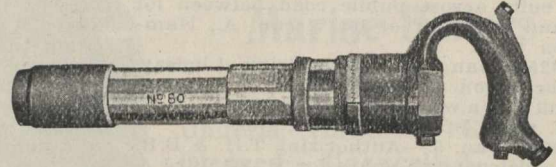
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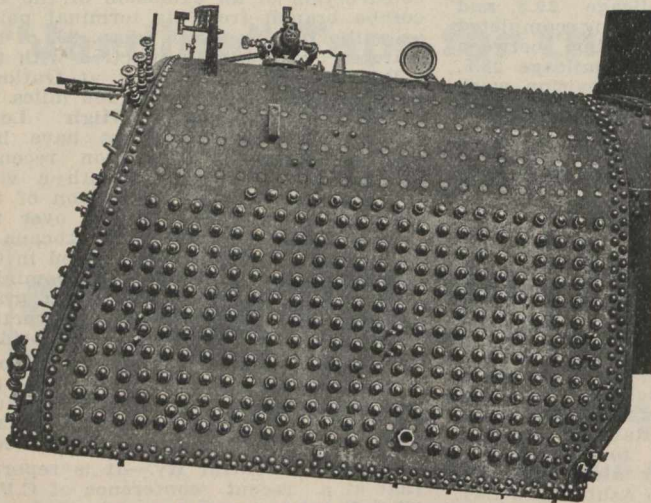
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Canadian Northern Ry. Construction, Etc.

Quebec and Lake St. John Ry.—A contract has been signed, under the act granting aid to certain railways, between the Dominion Government and the company for the construction of a line from the 35th mile of the La Tuque branch to La Tuque Falls, not to exceed five miles.

Canadian Northern Quebec Ry.—During 1909 the company completed its cut-off from Garneau to Quebec, 78 miles, thus giving it its own independent entrance into that city. It also constructed a branch from St. Jacques to Rawdon, Que., bringing into communication with Montreal one of the oldest settled districts to the north. A railway connection with Rawdon was first promoted in 1856, but nothing was done, and the district lay unopened. The company is operating a train service over the line from Hawkesbury to Ottawa, about 58 miles, which line, however, forms part of the mileage of the Canadian Northern Ontario Ry.

Canadian Northern Ontario Ry.—In connection with the company's line from Hawkesbury to Ottawa application was made Jan. 5 to the Board of Railway Commissioners for authority to divert the Ottawa and Montreal road at 29 miles west of Hawkesbury. It was pointed out that the company was seeking to divert a road which it did not have power to cross. The matter was adjourned in order that the township council might have an opportunity of looking into the situation.

The ballasting on the line has been completed and the Ottawa yards are being laid out. The station at Henderson Ave. is only a temporary one, and is being utilized until all the questions with regard to the entrance into the city are settled. The temporary roundhouse which is being erected at the foot of Henderson Ave. is expected to be completed early in Feb. It will accommodate 12 locomotives, and will have a repair shop attached.

The C.N.O.R. at present enters the Union Station, Toronto, by the Don Valley over the C.P.R., and it is reported in real estate circles that recent purchases of land indicate that the company is desirous of securing a line so that an entrance can be obtained on the west. The report states that the land secured will enable the company to construct a line which will connect with its present right of way for the Toronto-Buffalo line at the junction of Davenport Road and Dupont St. The project, however, is in the rumor stage yet.

In connection with the Toronto-Buffalo line the Hamilton City Engineer reported Jan. 14 that the company's engineers were staking out the property of the Electric Development Co.'s power line in the vicinity of Burlington Beach. A Hamilton press report states that Engineers Hanning and Wright are in charge of C.N.O. Ry. survey parties working in the neighborhood. The surveys now being made indicate a line "which will skirt Burlington and run parallel with the G.T.R. to the inlet at the Valley Inn. The surveys have been made for low ground which would mean that the C.N.R. would pass underneath the G.T.R. a short distance west of the high level bridge where the G.T.R. tracks are built high. It would then head around in the direction of the marsh, crossing the Dundas canal on a low swing bridge. A short sharp grade would bring the line in connection with the C.P.R. tracks east of the canal and the C.N.O.R. would probably use those tracks for the western entrance into the city."

The reports circulated in St. Catharines Jan. 11 that a site had been purchased there for a station were, on the

following day, stated to be without foundation.

The Board of Railway Commissioners issued an order, Jan. 1, authorizing the placing in operation of the line between Sellwood and Gowganda Jct., Ont., about 30 miles. A train service was put in operation Jan. 3.

Duluth Winnipeg and Pacific Ry.—The extension of the Duluth, Rainy Lake and Winnipeg Ry., from Virginia, Minn., southerly to Duluth, is to be constructed under the above title. The line has been located between the points named, 75 miles. It does not pass through any places of importance, but runs within a short distance of Eveleth. The work is generally heavy clay and gravel cuttings with about five miles of heavy rock work, including a tunnel of 500 ft. on the south 45 miles. The north 30 miles is lighter work, but passes through a number of swamps and muskegs, which will require draining. The bridging is generally light, excepting where the line enters Duluth, where a number of streets are crossed overhead. It is proposed to construct ore docks at West Duluth, which will require a fairly long trestle approach. D. B. Hanna, Third Vice President C.N.R., is President, and R. P. Ormsby, of Mackenzie, Mann & Co.'s Toronto legal office, is Secretary. H. T. Hazen, Duluth, is Chief Engineer. (Jan., pg. 43.)

The Canadian Northern Ry. has under construction a cut-off of about six miles at Kakabeka Falls, and in connection therewith is carrying out some grade revision work, which will have the effect of facilitating the movement of traffic between Port Arthur and Winnipeg. It is expected that the work will be completed this year.

Work on the Fort Garry station in Winnipeg is well advanced. This station will be used by the National Transcontinental Ry. as the terminus of its line from Moncton N.B., and by the G.T. Pacific Ry. as its terminus for the line to the Pacific coast.

The Winnipeg Board of Control was informed, Jan. 12, that a contract had been let to T. Kelly for the construction of the Pembina St. subway. The work will cost about \$60,000.

A delegation representing the city council of Brandon, Man., had a conference with the C.N.R. officials at Winnipeg Jan. 12, with respect to the erection of the proposed station and hotel there.

A branch line has been completed into Dundee, Man., a distance of four miles, track being laid in 1909.

On the Oak Point branch a further distance of 36 miles has been graded, and is ready for the track. This it is expected will be laid early this year. Plans have been approved by the Minister of Railways for the revision of the route of this branch.

A line has been completed to St. Rose du Lac, southeast of Lake Dauphin, Man., a distance of 15 miles.

A further distance of 10 miles has been graded on the branch through the Turtle Mountain country, Man.

The branch from Hallboro, Man., has been constructed through Rapid City to the boundary of Saskatchewan, a distance of about 50 miles.

The Saskatchewan Legislature has under consideration a bill authorizing the Government to guarantee C.N.R. bonds for the construction of 575 miles of branch lines, of which 175 miles are to be constructed during next season. These lines include one from Moose Jaw, southeasterly to the provincial boundary, where it will join the branch from Maryfield, Man., about 100 miles; from the Brandon-Regina line westerly and northwesterly to Swift Current, 135 miles; from Humboldt to Melfort, 60 miles; from the Goose Lake branch southward, 60 miles; from the Prince Albert-Battleford line to Crooked Lake, about 60 miles.

The Rosburn branch has been ex-

tended from Russell, Man., for 50 miles, and it is proposed to further extend it to a junction with the Winnipeg-Edmonton line at Buchanan, mileage 318 from Winnipeg.

The Thunderhill branch has been extended from the Manitoba boundary for about 10 miles into Saskatchewan. It is proposed to extend this line to a junction with another projected line extending from near Aberdeen on the Winnipeg-Edmonton line to Fenton on the Prince Albert line.

During 1909 the company graded about 165 miles on the line projected from Maryfield near the Manitoba boundary, southern Saskatchewan and southern Alberta, to Lethbridge, and laid steel on 90 miles. The Saskatchewan Legislature proposes to guarantee the company's bonds in respect of the construction of this line through the province. Track was laid during 1909 on a spur line at Bienfait, Sask., 16.4 miles, and connecting with the Maryfield-Lethbridge line.

Track was laid during 1909 on the Goose Lake Branch for a further distance of 55 miles. A train service was put in operation over this branch in Oct., 1909, from Saskatoon to Rosetown, 72 miles. The grading is completed for 25 miles beyond Kindersley, which will be the divisional point on the line to Calgary. The Saskatchewan Government proposes to guarantee the company's bonds for the construction of this line.

During 1909 the company graded, according to a statement made by the Saskatchewan Minister of Public Works, 26.77 miles of the branch from Prince Albert; and the Chief Engineer reported, Jan. 13, that to Dec. 31, 1909, track had been laid on 12.5 miles. This line, it is intended, will be carried on to Battleford, from near the present end of track. A branch will be constructed northwesterly to Crooked Lake, on which the Minister of Public Works recently told the Saskatchewan Legislature that 45.37 miles of grading had been done. This latter line is one of those for which the Saskatchewan Government is asking authority to guarantee a bond issue.

The Saskatchewan Department of Public Works gives the following information respecting the combination railway and traffic bridge at Prince Albert: "This is a steel bridge on concrete piers consisting of five fixed spans of 150 ft. in length and one swing span 260 ft. in length over the navigable channel. The bridge connects Prince Albert with the north bank of the North Saskatchewan river to which point all roads from the north converge. The central portion of the bridge is devoted to the C.N.R. right of way. The highway traffic portion of the bridge consists of two 12 ft. roadway brackets situated on the outside of each truss."

The branch from Vegreville southerly has been completed for 20 miles, and is under construction for a considerable further mileage. It is intended ultimately to connect up this line with the line now under construction from Saskatoon, Sask., to Calgary, Alta., at a point about 80 miles from the latter point.

On the line from Edmonton to Athabasca Landing Alta., a further distance of 22 miles was graded during 1909. Track will be laid on this mileage during the current year. A despatch from Edmonton states that the Alberta Government has received assurances from the company that the line will be completed to Athabasca Landing, a further distance of 36 miles, during this year.

W. Mackenzie, President, reached Edmonton, Jan. 14, on his return from Victoria, B.C., and in the course of an interview stated that work on the main line west will be rushed next season and supplies are being pushed to the front now. The company is also preparing to build into Grand Prairie country next

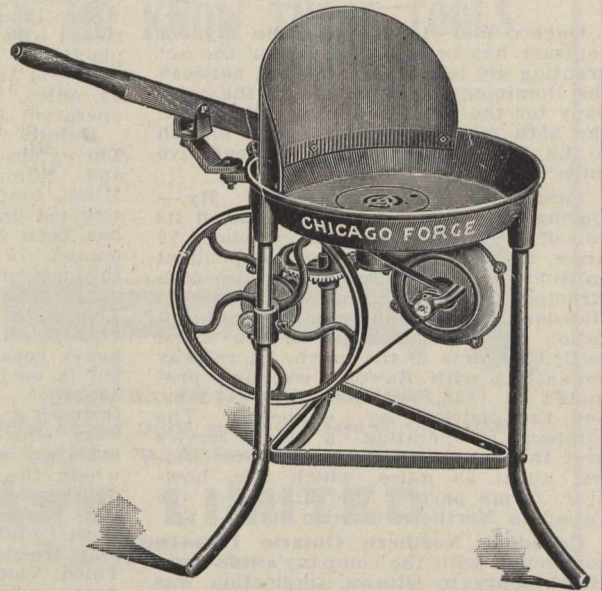
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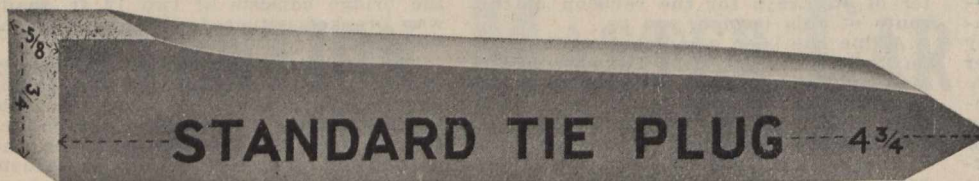
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summer and surveyors are now in the field running preliminary lines. The Alberta government has guaranteed bonds for this section.

With respect to the surveys for the extension of the line westerly from Edmonton to the Pacific coast, B. S. Scott, an engineer in the employ of the Pacific Pass Coal Co., is quoted as stating that the C.N.R. location surveys are being made in the vicinity of the McLeod River, and that the parties are working westerly to the Yellowhead Pass. These surveys are being made for the purpose of securing a route in place of that formerly located, which has been in part taken by the G.T. Pacific Ry.

W. Mackenzie, President; D. D. Mann, Vice President; A. D. Davidson, Land Commissioner, and F. H. Phippen, General Counsel, arrived in Victoria, Jan. 6, for the purpose of completing the agreement with the British Columbia Government for the construction of the section of the line from the western boundary of Alberta to Vancouver. Speaking at a dinner given by the Canadian Club, Jan. 6, Mr. Mackenzie said the C.N.R. had long aimed at reaching the Pacific coast, and now there was every assurance that this policy would be carried into effect. The Premier of British Columbia, who also spoke, said the Government would aim at securing for the people of the province competition with the existing line, and if this competition was secured by the construction of the C.N.R., as he believed would be the case, there would be a complete transformation in the province within five years. A deputation from the Boards of Trade of Vancouver and Victoria waited on the C.N.R. officers, Jan. 11, to discuss rates, and asked that a clause be inserted in the agreement with the Government with regard to freight and passenger rates. The negotiations were brought to a conclusion Jan. 12, and on the following day the Premier said the building of the line was assured.

A report from Vancouver, Jan. 12, states that the entire line between Hope and the Yellowhead Pass, via Kamloops, has been located, with the exception of a stretch of 50 miles between Tete Jaune Cache and the pass. The surveys for this section are being proceeded with under C. F. Hannington. A party under W. K. Gwyer completed a traverse survey of the proposed line through the Fraser River valley between Hope and the New Westminster bridge, about 70 miles. The results, T. H. White, Chief Engineer in charge, is quoted as saying, are very satisfactory. The maximum gradient is 0.4%, and this occurs at only two or three points near Hope. At other points it has been possible to obtain 0.1% gradient. Two small tunnels may have to be driven, one 15 miles below Hope, and the other at Sumas mountain. The first location survey was commenced Jan. 17. (Jan., pg. 43.)

Portland Canal Short Line Ry.—The charter for the construction of this railway is reported to have been secured by Canadian Northern Ry. interests. The line to be constructed will be about 15 miles long, and will connect up some collieries with tidewater on Portland canal, B.C. D. D. Mann, Vice President C.N.R., is reported to be interested in some of the mines which have been developed in the district. (Aug., 1909, pg. 575.)

Victoria and Barkley Sound Ry.—In an interview Jan. 6, W. Mackenzie, President, is reported to have stated that the C.N.R. interests would probably purchase this charter. Negotiations have been in progress between M. E. Carlin, representing the V. and B.S.R., and C.N.R. interests for the sale of the charter. The company has completed surveys for about 40 miles of its projected railway from Victoria. (Aug., 1909, pg. 577.)

Railway Rolling Stock Notes.

The Temiscouata Ry. has received one conductor's van and four box cars from Rhodes, Curry Co., Amherst, N.S.

The Ha Ha Bay Ry., Chicoutimi, Que., will be in the market shortly for two locomotives. J. F. Grenon is Chief Engineer.

The Montreal Locomotive Works has delivered one switching locomotive to the Michigan Central Rd., details of which we have already published.

The C.P.R., between Dec. 15, and Jan. 14, placed orders for the following rolling stock, at its Angus shops, Montreal;—five dining cars, three second class cars, one official car, one box baggage car, four stock cars and 40 box cars.

The I.C.R., between Dec. 12 and Jan. 17, received the following additions to rolling stock:—30 Hart-Otis steel dump cars from the Canadian Car and Foundry Co., Montreal, and six box baggage cars from Rhodes, Curry Co., Amherst, N.S.

The I.C.R., between Dec. 12 and Jan. 17, ordered five first class passenger coaches from the Preston Car and Coach Co., Preston, Ont.; two sleeping cars, three mail cars, two baggage cars, and three colonist cars from the Silliker Car Co., Halifax, N.S.

The 30 coal cars, mentioned in our Nov., 1909, issue as having been ordered from the Dominion Car and Foundry Co., Montreal, by the Intercolonial Ry., are of the Otis bottom drop door type, of 50 tons capacity and are being built under the Hart-Otis Car Co.'s patents.

Owing to an error in the specification supplied to us, of the two locomotives ordered from the Canadian Locomotive Co., Kingston, Ont., by the Quebec Central Ry., they were described in our last issue as moguls, whereas they should have been mentioned as ten-wheelers.

The C.N.R., between Dec. 15 and Jan. 15, received the following additions to rolling stock:—five snow plows from Rhodes, Curry Co., Ltd., Amherst, N.S.; 12 consolidation locomotives from Canadian Locomotive Co., Kingston, Ont., and two second class cars from Preston Car and Coach Co., Preston, Ont.

The C.P.R., between Dec. 15 and Jan. 14, received the following additions to rolling stock:—four M-4 locomotives, five sleeping cars, 68 box cars, 62 flat cars, five vans, 20 stock cars, two flangers, four snow plows, from its Angus shops, Montreal, and one wrecking crane from the U.S.

The 20 coal cars, mentioned in our Nov. issue as having been ordered from the Dominion Car and Foundry Co., Montreal, by the Esquimalt and Nanaimo Ry., are of the Otis bottom drop door type, and are being built under the Hart-Otis Car Co.'s patents. Their dimensions are:—length inside, 36' 9 1/2"; width inside, 9' 7"; height 7 ft.; capacity 50 tons.

The G.T.P.R., between Dec. 16 and Jan. 15, received the following additions to rolling stock:—one large rotary snow plow, no. 395075, from Mussens, Ltd., Montreal; 175 box cars, nos. 310125 to 310299, and eight first class coaches, nos. 2018 to 2025, from the Canada Car Co., Montreal; three wide side door baggage cars, nos. 700 to 702, and two wide side and end door baggage cars, nos. 725 and 726, from Rhodes, Curry Co., Amherst, N.S.

In giving dimensions, etc., in our last issue, of the Pacific type locomotive which the Intercolonial Ry. recently ordered from the Montreal Locomotive Works, we quoted from two sources of information. In one case, the weight in working order was given as 198,500 lbs., and on drivers as 133,500 lbs., while in the other case, the weight in working

order was given as 187,000 lbs., and on drivers as 126,000 lbs. The former two weights are the correct ones.

The C.N.R., between Dec. 15 and Jan. 15, ordered the following rolling stock:—1,000 box cars, 10 first class cars and two cafe-parlor cars, from the Canadian Car and Foundry Co., Montreal; 300 box cars, 50 stock cars, 25 cabooses and four parlor cars, from the Crossen Car Mfg. Co., Cobourg, Ont.; 300 box cars, three first class cars, five second class cars, and four combination passenger and baggage cars, from the Silliker Car Co., Halifax, N.S.; and 100 logging cars from the Russel Wheel and Foundry Co., Detroit, Mich.

Following are the chief particulars of the 1,000 forty ton steel frame box cars, which the Canadian Car and Foundry Co., Montreal, is building for the C.P.R., mention of which was made in our last issue:—

Length inside	36' 0"
Width inside	8' 6 1/2"
Height inside	8' 0"
Centre to centre of truck	26' 10"
Length over buffers	38' 1 1/2"
Side door opening	5' 0"
Wheel base of truck	5' 4"
Top of rail to top of floor	4' 2"
Top of rail to top of running board	13' 4 3/4"
Top of rail to top of brakemast	13' 10"

The Temiskaming and Northern Ontario Ry. has ordered 12 cinder cars of the Otis bottom drop door type, which are being built under the Hart-Otis Car Co.'s patents, by the Canadian Car and Foundry Co., Montreal. Following are chief particulars:—

Length inside	36' 9 1/2"
Width inside	9' 6"
Height inside	8' 3' 10"
Centre to centre of truck	26' 0"
Length over end sills	38' 10"
Height top of rail to top of side	8' 3"
Air brakes	Westinghouse.
Couplers	Tower, 5" by 7"
Draft springs	M.C.B. Class G.
Truck wheel base	5' 6"
Truck bolsters	Simplex.
Side bearings	Susemihl frictionless.
Brake beams	Simplex.
Wheels	Cast iron.
Axles	Steel.
Journals	5" by 9"
Journal boxes	McCord M. I.

Following are details of the 100 Otis bottom drop door steel ore cars, which are being built, under patents of the Hart-Otis Car Co., Ltd., Montreal, by the Canadian Car and Foundry Co., Montreal, for the Canadian Northern Ontario Ry., as mentioned in our last issue:—

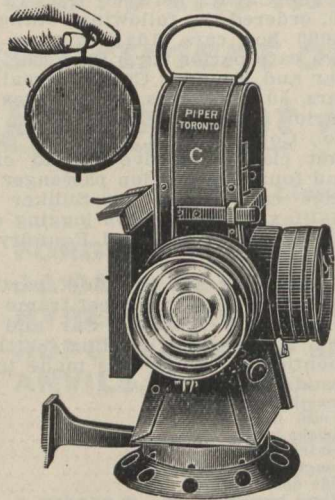
Length inside	19' 1"
Width inside	9' 6"
Height inside	4' 6"
Height from rail to top	8' 11"
Height from rail to floor	4' 5"
Centre to centre of truck	11' 11"
Wheel base of truck	5' 6"
Centre to centre of coupling	24' 0"
Height from top of rail to top of sides	8' 11"
Height from rail to top of floor	4' 5"
Capacity	50 tons.
Brasses	Canadian Bronze Co.
Journal boxes	McCord & Co.
Bolsters and brake beams	Simplex.
Side bearings	Susemihl.
Couplers	Janney.
Air brakes	Westinghouse.
Brake shoes	Steel back.

The three steel snow plows, which were mentioned in our Nov., 1909, issue, as having been ordered by the C.P.R. at its Angus shops, Montreal, are similar to the standard wooden plows in use by the company. The frames for these plows were made by the Dominion Car and Foundry Co. Following are the chief particulars:—

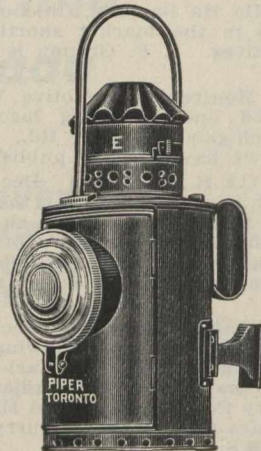
Length	33' 6"
Width	10' 0"
Height, at eaves	11' 6 1/2"
Height at cupola	14' 10 1/2"
Distance between truck centres	18' 0"
Front truck wheel base	4' 2"
Rear truck wheel base	5' 3"
Frame	Structural steel.
Outside sheathing	Steel plate.
Inside lining and floor	Wood.
Truck bolsters	Simplex.
Side bearings	Susemihl.
Air brakes	Westinghouse.
Hand brakes	Inside (hung) and outside.
Couplers	Simplex steel.
Headlight	Pyle National Electric.
Weight complete	63,240 lbs.

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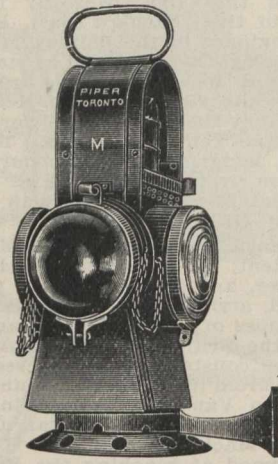
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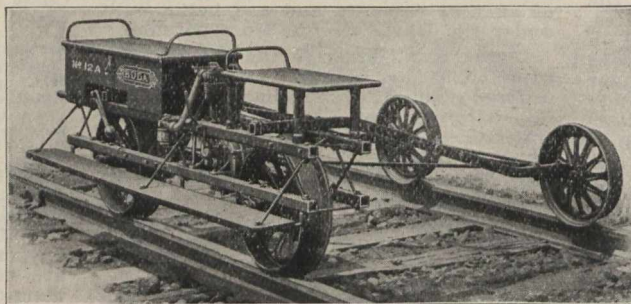
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MAINLY ABOUT PEOPLE.

Sir William C. VanHorne spent a short time at his St. Andrews, N.B., home, early in Jan.

Mrs. A. E. Killam, wife of the I.C.R. Bridge Inspector, Moncton, N.B., died there recently.

R. Forget, Montreal, and A. E. Ames, Toronto, have been elected directors of the Duluth-Superior Ry.

W. D. Reid, President Reid Newfoundland Co., was a visitor to New York, during the early part of Jan.

R. W. Reford was elected Second Vice President of the Montreal Board of Trade, by acclamation, Jan. 14.

C. T. Long, at one time Manager of the Northern Navigation Co., of Ontario, died at Calcutta, India, Jan. 10, aged 47.

The engagement is announced of Miss Clara Hays, daughter of the President of the G.T.R. and G.T.P.R., to H. C. Scott.

Sir Thos. G. Shaughnessy, who has been spending a short holiday in Europe, is expected to return to Montreal, Feb. 11.

G. M. Bosworth, Fourth Vice President C.P.R., left Montreal early in Jan., for England, to meet Sir Thos. G. Shaughnessy.

Jas. A. McAvity, a director of T. McAvity & Son, Ltd., manufacturers of railway supplies, etc., St. John, N.B., died there Jan. 16, aged 72.

H. R. Hammond, son of the late H. C. Hammond, President Northern Navigation Co., was married at Winnipeg, Jan. 5, to Miss A. M. Lemon.

W. Magee, formerly chief clerk Department of Marine, Ottawa, died at Ottawa, Jan. 7, aged 70. He retired from active service Apr., 1908.

Miss Margaret Haney, second daughter of M. J. Haney, Contractor, Toronto, was married there, January 6, to Dr. A. H. Spohn, of Penetanguishene, Ont.

Mrs. and Miss Bosworth sailed for England Jan. 14, to join G. M. Bosworth, Fourth Vice President C.P.R., who sailed a week or two previously.

The following ticket agents have become members of the Canadian Ticket Agents Association recently:—E. C. Higginson, C.N.Q.R., Hawkesbury, Ont.

R. Laurence, who died in Toronto, Jan. 20, aged 71, was in early life engaged in contracting work and constructed a section of the old Northern Ry.

W. D. Matthews, President St. Lawrence & Chicago Steam Navigation Co., left Toronto Jan. 5, with Mrs. and Miss Matthews, for a Mediterranean trip.

J. McCullough, father-in-law of J. W. Norcross, Managing Director Montreal Steamship Co., died at the latter's residence in Toronto, Jan. 4, aged 75.

A. R. Creelman, K.C., General Counsel C.P.R., and the Misses Creelman, returned to Montreal, Jan. 12, from Bermuda, where they had been spending a few weeks.

W. R. Baker, Secretary, and Assistant to the President C.P.R., and Mrs. Baker, were among the Governor General's guests at Government House, Ottawa, Jan. 12.

B. D. D. Rorison, an engineer employed on the construction of the Detroit River tunnel, fell into a shaft at the approach on the Canadian side, Jan. 8, and was instantly killed.

W. Downie, General Superintendent C.P.R. Atlantic Division, St. John, N.B., was presented with an address by officials and employes of the division recently on the occasion of his wedding.

F. H. McGuigan, of the F. H. McGuigan Construction Co., Toronto, and formerly Fourth Vice President G.T.R., has

been elected President of the St. Lawrence Power Co., Cornwall, Ont.

W. Stitt, General Passenger Agent C.P.R., Montreal, was one of the principal speakers at the recent annual dinner of the Boston Railway and Steamship Agents' Association in Boston, Mass.

Lord Strathcona has contributed \$5,000 towards a fund of \$100,000, which is being raised to meet the expenses of the proposed Eucharistic Congress to be held in Montreal, towards the end of this year.

Dr. J. Richardson, who died in Toronto, Jan. 15, was father of Dr. W. A. Richardson who has charge of the medical work in the Grand Trunk Pacific Ry. construction camps west of Edmonton, Alta.

F. E. Barbour, who recently resigned the General Passenger Agency of the Rutland Rd. to enter commercial life, has been elected an honorary member of the Eastern Canadian Passenger Association.

E. H. Pepper, formerly Toronto agent Niagara, St. Catharines & Toronto Navigation Co., died, Jan. 24, at Saskatoon, Sask., having removed to the northwest on account of ill health. He was buried at St. Thomas Ont.

M. McGlade, a C.P.R. locomotive engineer, was fined \$100 and costs, or six months' imprisonment, by the Police Magistrate at Perth, Ont., Jan. 7, for being intoxicated while in charge of a freight train.

M. Leggat, who died at Hamilton, Ont., Jan. 2, aged 81, was, at various times, associated with the Hamilton and Northwestern Ry., and the Hamilton Steamboat Co., for some years being President of the latter.

C. H. F. Plummer, Manager Canadian Lake Transportation Co., Toronto, died there, Jan. 3, aged 32, after an illness lasting about three months, during which he underwent two operations for appendicitis.

D. B. Dover, for 14 years agent G.T.R., at Berlin, Ont., was presented with \$500 and a signet ring by a number of residents recently, on his leaving for Winnipeg, where he has been appointed local freight agent G.T.P.R.

J. D. Barnett, formerly Master Mechanic in charge of the G.T.R. shops at Stratford, has been re-elected a member of the Water Commission for Stratford. He was Chairman of the commission during the past year.

R. Wilson, roundhouse foreman I.C.R., Truro, N.S., was presented with a gold watch, chain and locket by the employes recently, for his work in connection with the establishment of a school of instruction for employes there.

A Steele, General Superintendent Quebec Central Ry., died at Sherbrooke, Que., Jan. 10, suddenly, while engaged in his office, aged 65. He was one of the company's oldest employes, and had been General Superintendent since 1875.

W. Gillespie was presented recently by the G.T.R. car shop employes at Stratford, Ont., with a fur-lined coat on the occasion of his transfer from the position of general car foreman there, to a similar position in the company's shops at Ottawa.

G. H. Webster, consulting engineer, Vancouver, and formerly Division Engineer Pacific Division C.P.R., has been appointed Consulting Engineer for the Port Alberni extension of the Esquimalt & Nanaimo Ry. on Vancouver Island, B.C.

A. L. Lyle was presented recently with a purse of gold by the employes on giving up the position of foreman of the Central Vermont Ry. boiler shop at St. Albans, Vt. He has returned to Stratford, Ont., where his wife has been ill for some time.

H. Wallace, recently appointed General Agent C.P.R., Fort William, Ont., was presented with an address, accompanied by a silver and pearl dessert set, a cut glass bowl and fern centre piece, Jan. 1, by the local freight department staff, Winnipeg, where he was Assistant Local Freight Agent.

A. A. Wiley, President of the Canadian Northwest Steamship Co., which owns the s.s. Neebing, died at the Prince George Hotel, Toronto, Jan. 15, of pneumonia, after four days' illness, aged 50, and was buried at Port Arthur, Ont. He was the surviving partner of T. Marks & Co., steamship and real estate owners.

C. W. Carey, Air Brake Instructor, C.P.R., Montreal, and T. Hay, C.P.R. Claims Agent, North Bay, Ont., were two of those who lost their lives in the accident on the C.P.R. at Webbwood, Ont., Jan. 21, when the train left the track at the entrance to the bridge across the Spanish River. The latter died Jan. 27, as the result of injuries received.

G. E. Graham, who has been appointed Superintendent District 2, C.P.R. Pacific Division, Vancouver, B.C., was presented with a silver service by the business men of Port Arthur, and an illuminated address and \$300 by the business men of Fort William, Ont., recently, on his leaving the dual ports, where he had been Superintendent C.P.R. Terminals.

R. Seeman, of London, Eng., who was largely interested in land development in the western provinces, and who acquired a large tract of land from the Manitoba and Northwestern Ry., of which he subsequently disposed, died recently, at St. Boniface, Man. D. B. Hanna, Third Vice President C.N.R., acted as agent for him there for some time.

G. Robinson, a well known C.P.R. agent, recently retired, died suddenly in Vancouver, B.C., Jan. 8, aged 60. He was first employed by the C.P.R. as chief clerk in the Auditor's office, Montreal, and was subsequently agent at Quebec, Que., Morden, Reaburn, Otterbourne, Stonewall, Emerson and Selkirk, Man. Two of his sons are at present in C.P.R. employ and one with the C.N.R.

C. Hartigan, recently appointed General Passenger Agent, Rutland Rd., St. Albans, Vt., and formerly General Agent, Passenger Department, New York Central Lines, Montreal, was entertained to dinner, Jan. 12, by officials of various lines centred in Montreal. In the course of the evening a set of cut glass table ware and a bouquet of roses were presented to Mrs. Hartigan on behalf of Montreal transportation men, by W. E. Davis, Passenger Traffic Manager G.T.R.

T. B. Hawson, who died in New York, Dec. 31, aged 71, was for some years in the G.T.R. service. He came to Canada in 1861, from England, with W. Wainwright, now Second Vice President G.T.R., where both had been in the Manchester, Sheffield and Lincolnshire Ry. service. He was general Auditor of the G.T.R., and was subsequently connected with one of the fast freight lines, with headquarters in Chicago, Ill. He retired from active service some years ago.

M. M. Reynolds, who has been appointed Third Vice President G.T.R., was for 11 years prior to Jan., 1892, Auditor Mexican National Rd., Mexico, at which date he was appointed General Auditor Central Vermont Ry., St. Albans, Vt., which position he held for a number of years, subsequently returning to Mexico, on the amalgamation of several Mexican railroads under the name of the National Lines of Mexico, as Comptroller. He was appointed Fifth Vice President G.T.R., and Third Vice President G.T.P.R., in Apr., 1908, the former position being held to Jan. 7, 1910.

R. S. Logan, who has been appointed Assistant to the President G.T.R., Mont-

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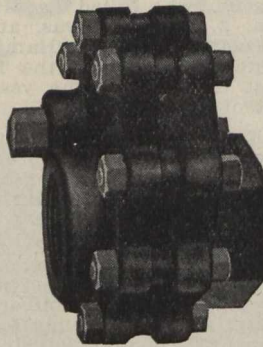
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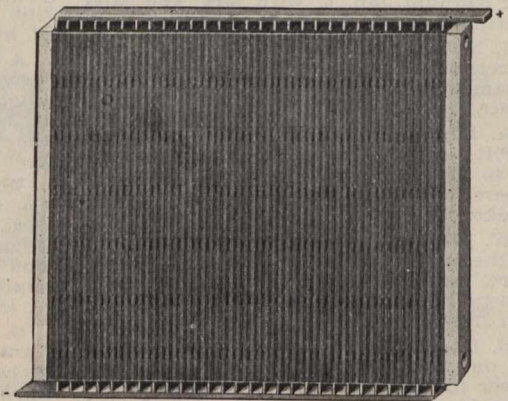
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real, was born Feb. 13, 1864, and was educated in the public schools, St. Louis, Mo. He entered railway service in 1885, with the Receivers of the Wabash, St. Louis and Pacific Ry., as clerk in the General Manager's office, since when he has been, Dec. 1, 1890, secretary to General Manager Wabash Rd.; July 1, 1896, secretary to General Manager G.T.R.; Jan. 1, 1901, Assistant to General Manager G.T.R.; Mar. 15, 1901, Vice President and General Manager Central Vermont Ry.; Mar. 17, 1902, to Jan. 7, 1910, Assistant to Second Vice President and General Manager G.T.R.

A. W. Campbell, who has been appointed Deputy Minister of Railways and Canals and Chairman Government Railways Managing Board, was born at Wradsville, Ont., in 1863, and was admitted to membership in the Canadian Society of Civil Engineers in 1888. He was appointed city engineer of St. Thomas, Ont., in 1891, and was for some years one of the editors of the Municipal World. From 1896 to 1902 he was Provincial Commissioner of Highways, and in the latter year was appointed Deputy Minister of Public Works for Ontario, which position he held to the date of his present appointment. He has also acted as supervising engineer of the Temiskaming & Northern Ontario Ry. construction.

Lord Strathcona has contributed \$25,000 to the emergency fund which was started recently to deal with an epidemic of typhoid fever at Montreal. He has also offered to contribute \$100,000 toward the cost of a water filtration scheme, should such be adopted by the city council. Among other subscribers to the fund are: J. Ross, ex-President Dominion Coal Co., \$1,000; Sir Wm. C. VanHorne, Chairman C.P.R. Board, \$500; Hugh Paton, President Shedden Forwarding Co., \$500; H. and A. Allan, \$500; C. M. Hays, President and General Manager G.T.R., \$250; Sir Thos. G. Shaughnessy, President C.P.R., \$1,000; C. R. Hosmer, director C.P.R., \$1,000; Mrs. Hosmer, \$500; A. A. Allan, \$50.

W. H. Biggar, K.C., who has been appointed General Counsel G.T.R. and G.T.P.R., at Montreal, was born at the Carrying Place, near Trenton, Ont., Sept. 19, 1852, and was educated at Trenton Grammar School and Upper Canada College. He began the study of law in 1875, after having engaged for a short time in mercantile pursuits, and was called to the bar in 1880. He became associated with John Bell, Q.C., then General Counsel G.T.R., in general practice in 1881, and was appointed Assistant General Counsel G.T.R., at Montreal, Jan., 1903, and General Solicitor, Dec., 1904. He was elected Mayor of Belleville, Ont., in 1887, represented West Hastings in the Ontario Legislature from 1890 to 1897, and was made a Q.C. in 1900.

Dr. H. T. Bovey, F.R.S., has resigned the Rectorship of the Imperial College of Science and Technology, England. Before receiving this last mentioned appointment, he was for many years resident in Canada, having been appointed Professor of Civil Engineering and Applied Mechanics at McGill University, Montreal, in 1887. At that time the engineering courses in the University were managed as a branch of the Faculty of Arts, and were without buildings or equipment. The following year, however, a department of applied science was constituted, with Professor Bovey as dean, and to his management and advice the science department owes its development. He was one of the founders of the Canadian Society of Civil Engineers.

E. H. Fitzhugh, who has been appointed First Vice President G.T.R., was born in Montgomery County, Mo., Feb. 1, 1853. He entered railway service in 1873, as clerk in the Master Car Build-

er's office, St. Louis, Kansas City and Northern Ry., since when he has been consecutively, in car mileage office, same road; to 1889, chief clerk to Superintendent, Western Division, Wabash, St. Louis and Pacific Ry.; 1889 to Jan., 1896, Master of Transportation, Wabash Rd., successors to the W., St. L. and P. Ry., Moberley, Mo.; Jan., 1896, to May, 1899, Superintendent Middle Division G.T.R. Toronto; May, 1899, to Dec., 1904, Vice President and General Manager Central Vermont Ry., St. Albans, Vt.; Dec., 1904, to Jan. 7, 1910, Third Vice President G.T.R., Montreal, and Vice President Central Vermont Ry.

G. McL. Brown, who has been appointed European Manager C.P.R., London, Eng., was born at Hamilton, Ont., Jan. 29, 1865, and entered railway service in 1882, since when he has been successively: 1882 to 1885, freight department Northern and Northwestern Ry.; 1885 to 1887, Superintendent's office and other departments G.T.R.; Sept., 1887, to 1902, C.P.R. service at Vancouver as ticket agent, district passenger agent, and executive agent; July, 1902, to Nov., 1905, Superintendent Dining, Sleeping and Parlor Cars and News Service, Montreal; Nov., 1905, to Dec., 1908, General Passenger Agent C.P.R. Atlantic Steamship Lines, Montreal, and from Dec., 1908, General Traffic Agent, London, Eng., in which position he will also continue to act.

R. Armstrong, who has been appointed Superintendent C.P.R. Terminals at Fort William, Ont., was born at Kingston, Ont., Jan. 27, 1865, and entered railway service July 4, 1886, since when he has been, to June 1, 1894, consecutively, operator and agent at Calabogie Ont.; Agent at Lavant, Ont.; ticket and billing clerk at Kingston, Ont., and Agent at Renfrew, Ont., for the Kingston and Pembroke Ry. After two years in private business, he was from June 9 to 30, 1896, operator on the C.P.R. at Weyburn, Sask.; for four years, operator and agent Mountain Section, Pacific Division C.P.R.; two years relieving agent and dispatcher Kootenay Section; four years yard agent, Vancouver; one year agent Vancouver Wharf; and to June 1, 1908, agent, same road, Vancouver; June 1, 1908, to Dec. 31, 1909, General Agent same road, Fort William, Ont.

W. Downie, General Superintendent C.P.R. Atlantic Division, St. John, N.B., whose portrait appears on the first page of this issue, was born at Rock Currie, Ireland, Nov. 12, 1850, and entered railway service 1869, since when his record has been: 1869 to 1870, telegraph messenger Northern Ry. of Canada; 1870 to 1871, telegraph operator same road; 1871 to 1876, train dispatcher same road; 1876 to Oct., 1879, Assistant Superintendent same road; Oct., 1879, to July, 1886, Chief Train Dispatcher Northern and North Western Ry.; July, 1886, to May, 1887, Assistant Superintendent Pacific Division C.P.R. Port Moody, B.C.; May, 1887, to 1897, Assistant Superintendent Pacific Division C.P.R., Vancouver, B.C.; 1897 to Mar., 1901, Superintendent C.P.R. at Vancouver, B.C.; Mar., 1901, to May, 1903, Superintendent C.P.R. lines and steamers in the Kootenay district, Nelson, B.C. He was appointed to his present position in May, 1903.

W. Wainwright, who has been appointed Second Vice President G.T.R., was born in Manchester, Eng., April 30, 1840, and entered railway service Jan., 1858, with the Manchester, Sheffield and Lincolnshire Ry. (now the Great Central Ry.) Manchester, serving successfully as junior clerk Chief Accountant's office, senior clerk same office, and secretary to Assistant General Manager and General Manager. In 1862 he joined the staff of the G.T.R., serving one year as senior clerk in Accountant's office; three years as Managing Director's Secretary; six

years as senior clerk to Managing Director and in charge of the car mileage department; eight years and five months General Passenger Agent; May, 1881 to Jan., 1891, Assistant Manager; Jan., 1891 to May 1896, Assistant General Manager; Apr., 1883, to Sept., 1895, also General Manager North Shore Ry.; May, 1896, to July, 1907, General Assistant; Dec., 1900, to July, 1907, also Comptroller; July, 1907, to Dec. 31, 1909, Fourth Vice President. He is also Second Vice President G.T.P.R.

Archer Baker, European Manager C.P.R., London, Eng., whose death occurred Jan. 15, from bronchial pneumonia, after an illness of a few days, was born at York, Eng., June 21, 1845. He entered railway service, Sept. 24, 1869, since when he had been, to Nov. 1870, clerk to President Missouri Valley Rd; Nov., 1870, to Mar., 1871, clerk to Superintendent Brockville and Ottawa Ry.; Mar., 1871, to July, 1873, Accountant same road and Canada Central Ry.; July, 1873, to Dec., 1876, Secretary and Treasurer same companies; Dec., 1876, to Apr., 1878, Secretary and Treasurer Brockville and Ottawa Ry.; Apr. to July 1878, Assistant General Manager same road and Canada Central Ry.; July, 1878, to June, 1881, General Manager Canada Central Ry.; June, 1881, to May, 1885, General Superintendent C.P.R. eastern Division; May, 1885, to Aug., 1904, European Traffic Agent C.P.R., London, Eng.; Aug., 1904, to July, 1905, European Traffic Manager, same road; and from July 1, 1905, European Manager. The funeral took place at Eltham, Kent, where he resided, and was attended by Sir Thos. G. Shaughnessy and other officials. On instructions, flags were flown at half mast at every C.P.R. chief point from the European continent to Hong Kong. He leaves a widow and one son, A. D. Baker, who is in the C.P.R. Stores Department, Toronto, also two brothers, W. R. Baker, Secretary, and Assistant to the President, Montreal, and F. Baker, Paymaster C.P.R. Pacific Division, Vancouver, B.C.

Randolph Macdonald, who died at Toronto, Jan. 21, was born at Drummondville, Ont., Mar. 30, 1849, and was educated at Galt Grammar School, and at Hellmuth College, London, Ont. He went into railway service in connection with the construction of the Cleveland and Mahoning Branch Rd., in Ohio. Then he was associated with his father and brother in a contract on the Jamestown and Franklin Ry., in Pennsylvania. In 1870 he became a partner with his brother under the firm name of W. E. Macdonald & Co. They built sections of the Intercolonial Ry., sections 1 and 2 of the Lachine canal, the Wellington basin near Montreal, and the Fenelon Falls part of the Trent Valley canal. In 1887 he was awarded the Don improvement contract by the city of Toronto and continued this work in partnership with Alex. Manning under the firm of Manning & Macdonald. From 1891 to 1903 they built the Port Dalhousie harbor works the G.T.R. Midland Division to Campbellford, Ont., the Toronto Esplanade works, the C.P.R. section of the Don River, the Toronto Belt Line Ry., section 13 of the Soulages canal, at Coteau Landing, and section 9 at Coteau du Lac, these two sections costing \$1,200,000, and the St. Lawrence River improvements at Cornwall, Ont. Mr. Macdonald bought out Mr. Manning's interests and carried out a harbor contract at Three Rivers, Que., and in 1907-08, built a 40-mile section of the Walkerton and Lucknow Ry. for the C.P.R., from Proton to Walkerton, Ont., under the firm of Randolph Macdonald Co., which at present holds contracts for the Rosedale section and Rice Lake division of the Trent Valley canal, and for the Cobourg harbor works, Ont.

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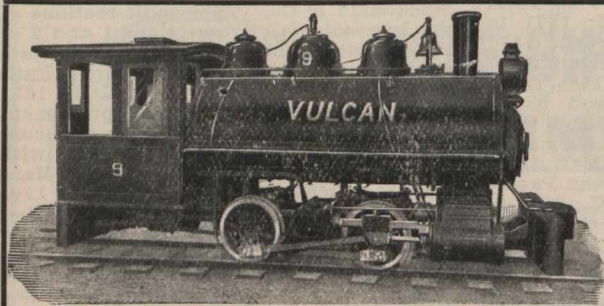
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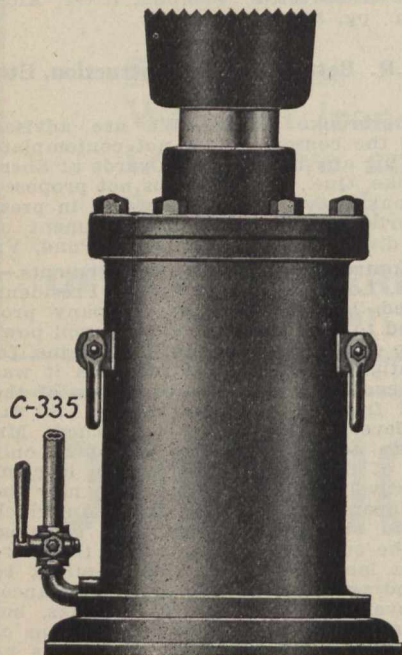
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IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

IN QUEBEC, the Canadian Northern, Quebec and Quebec, and Lake St. John Railways give easy access to the Saguenay, Upper St. Maurice, the Batiscan, the La Tuque game and fish preserve, and the valleys of the St. Lawrence and Ottawa. All good fishing waters, abounding with ouaniche, trout and bass.

IN ONTARIO, the entire range of the Muskokas, the Georgian Bay hinterland, the French, Pickerel, Still and Maganetawan rivers—well stocked with bass, mascalonge, and pickerel, are best reached by the Canadian Northern Ontario Railway.

IN WESTERN ONTARIO and the prairie provinces, the Canadian Northern Railway serves over three thousand miles of splendid territory. The Rainy River section follows the old Dawson fur trail, which is the finest canoe trip on the continent. There is an amplitude of sporting opportunities for the camera hunter, the fisherman and canoeist.

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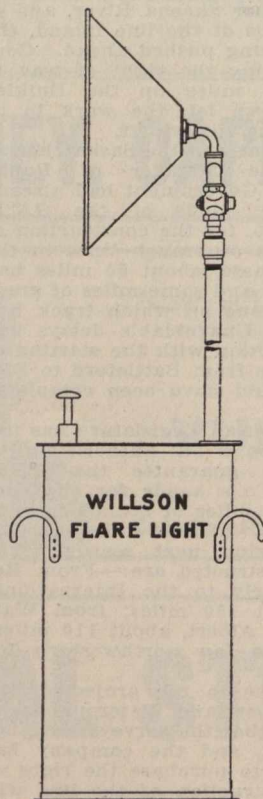
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TRANSPORTATION APPOINTMENTS.

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

Board of Railway Commissioners.—J. H. Shinnick, heretofore brakeman on the G.T.R., Brockville, Ont., has been appointed an inspector in the Operating Department.

Canada Atlantic Transit Co.—See Grand Trunk Ry.

Canadian Northern Ry.—W. I. Munroe has been appointed Chief Dispatcher, District 3, Dauphin, Man., vice C. D. Fisher promoted.

Canadian Pacific Ry.—E. E. Lloyd, heretofore chief clerk to Auditor of Stores and Mechanical Accounts, has been appointed Assistant Auditor of Stores and Mechanical Accounts. Office, Montreal.

H. C. Grout, heretofore Assistant Superintendent District 3, Ontario Division, West Toronto, has been appointed Assistant Superintendent District 1, Ontario Division, vice D. Carmichael transferred. Office, Havelock, Ont.

D. S. Taylor, heretofore Locomotive Foreman at Port Burwell, Ont., has been appointed Locomotive Foreman at Havelock, Ont., vice E. J. Murphy transferred.

F. G. Martyn, heretofore Assistant Superintendent District 2, Ontario Division, London, Ont., has been appointed Assistant Superintendent District 3, Ontario Division, vice H. C. Grout transferred. Office, West Toronto.

E. J. Murphy, heretofore Locomotive Foreman at Havelock, Ont., has been appointed Assistant Foreman at West Toronto, vice W. H. Kirkby transferred.

D. Carmichael, heretofore Assistant Superintendent District 1, Ontario Division, Havelock, Ont., has been appointed Assistant Superintendent District 2, Ontario Division, vice F. G. Martyn transferred. Office, London, Ont.

W. H. Kirkby, heretofore assistant foreman at West Toronto, has been appointed Locomotive Foreman at Port Burwell, Ont., vice D. S. Taylor transferred.

H. Wallace, heretofore Assistant Local Freight Agent, Winnipeg, has been appointed General Agent at Port William, Ont., vice R. Armstrong promoted.

A. G. Hebb, heretofore road foreman, has been appointed District Master Mechanic, District 2, Central Division. Headquarters, Winnipeg. This is a new position.

G. Self has been appointed Assistant Local Freight Agent, at Winnipeg, vice H. Wallace promoted.

L. Fisher, heretofore Road Foreman, has been appointed District Master Mechanic, District 4, Central Division. Headquarters, Souris, Man. This is a change in title only.

T. F. Patterson, heretofore Locomotive Foreman at Kenora, Ont., has been appointed District Master Mechanic at Moose Jaw, Sask., vice L. E. W. Bailey assigned to other duties.

F. D. Warner, heretofore Locomotive Foreman at Field, B.C., has been appointed night foreman at Revelstoke, B.C.

G. McL. Brown, heretofore General Traffic Agent, London, Eng., has been appointed European Manager, vice Archer Baker deceased. Office, London, Eng. He will continue in charge of traffic matters.

E. J. Armstrong, heretofore agent at Manchester, Eng., has been appointed Travelling Freight Agent, with office at 62 Charing Cross, London, Eng., reporting to the General Freight Agent there. The Manchester, Eng., office has been closed. All correspondence hitherto addressed there should be sent to 24 James St., Liverpool, Eng.

Central Vermont Ry.—See Grand Trunk Ry.

Dominion Atlantic Ry.—R. U. Parker, heretofore acting General Passenger Agent, has been appointed General Passenger Agent. Office, Kentville, N.S.

W. J. Johnson has been appointed Assistant Marine Superintendent.

Great Northern Ry.—F. Bell, heretofore Superintendent St. Cloud and Fergus Falls Division, Melrose, Minn., has been appointed Assistant General Superintendent Eastern Division. Office, St. Paul, Minn.

M. Nicholson, heretofore Superintendent Butte Division Great Falls, Mont., has been appointed Superintendent St. Cloud and Fergus Falls Division, vice F. Bell promoted. Office, Melrose, Minn.

C. O. Jenks has been appointed Superintendent Butte Division, vice M. Nicholson transferred. Office, Great Falls, Mont.

Grand Trunk Ry.—E. H. Fitzhugh, heretofore Third Vice President, has been appointed First Vice President.

W. Wainwright, heretofore Fourth Vice President, has been appointed Second Vice President.

M. M. Reynolds, heretofore Fifth Vice President, has been appointed Third Vice President.

R. S. Logan, heretofore Assistant to the Second Vice President and General Manager, has been appointed Assistant to the President.

W. H. Biggar, K.C., heretofore General Solicitor, has been appointed General Counsel. Office, Montreal. The office of General Solicitor is abolished. All reports, etc., formerly addressed to the General Solicitor, will, in future, be addressed to the General Counsel.

M. K. Cowan, K.C., heretofore Assistant Solicitor, has been appointed Solicitor. Office, Montreal.

H. M. Baker has been appointed Commercial Agent G.T.R. Portland route, and Central Vermont Ry., New London route, and will also represent the National Despatch Fast Freight Line, Great Eastern Fast Freight Line and Canada Atlantic Transit Co. Office, 82 Wall St., New York.

F. G. Bement has been appointed Trainmaster districts 25, 27 and 28, vice O. F. Clark, transferred. Office, Durand, Mich.

O. F. Clark, heretofore Trainmaster, Durand, Mich., has been appointed Trainmaster District 29 and Pontiac, Oxford and Northern Ry. Office, Pontiac, Mich.

The following agents have been appointed:—Berlin, Ont., J. Milhausen; Walkerton, Ont., N. J. Dore; St. Polycarpe, Que., J. A. Francoeur; Greenfield, Ont., F. O. Parent; Admaston, Ont., G. F. Pepper; Rock Lake, Ont., J. T. Boss.

Grand Trunk Pacific Ry.—W. H. Biggar, K.C., heretofore General Solicitor, has been appointed General Counsel. Office, Montreal. The office of General Solicitor has been abolished.

D'Arcy Tate, heretofore Assistant Solicitor, has been appointed Solicitor. Office, Winnipeg.

D. B. Dover, heretofore agent G.T.R., Berlin, Ont., has been appointed local freight agent G.T.P.R., Winnipeg.

Government Railways.—A. J. Tingley has been appointed Special Agent I.C.R. and P.E.I.R. Office, Moncton, N.B.

Intercolonial Ry.—See Government Railways.

Michigan Central Rd.—F. E. Robson has been appointed General Attorney, with charge of litigation and of such other matters as may be referred to him by the Vice President or the General Counsel. Assistants in the general offices will report to him. Office, Detroit, Mich.

J. W. Dohany has been appointed Attorney at Detroit, Mich. He will perform such duties as may be assigned to him by the General Counsel or the General Attorney.

T. E. Elsmann has been appointed Chief

of Tariff Bureau. Office, Detroit, Mich.

R. M. Huddleston has been appointed General Auditor. Office, Chicago, Ill.

National Despatch Fast Freight Line, Great Eastern Fast Freight Line.—See Grand Trunk Ry.

New York Central and Hudson River Rd.—N. Mooney has been appointed General Agent Passenger Department, Montreal, vice C. Hartigan, resigned to enter the Rutland Ry. service.

New York Central Lines.—B. B. Mitchell, heretofore General Freight Traffic Manager, Chicago, Ill., has been appointed Assistant to Vice President. Office, New York. The office of General Freight Traffic Manager has been abolished.

Northern Navigation Co.—C. A. Macdonald, heretofore Comptroller, has been appointed Assistant Manager. Office, Collingwood, Ont.

E. W. Holton, heretofore chief clerk Sarnia office, has been appointed Eastern Passenger Agent. Office, Sarnia, Ont.

R. V. Robinson, heretofore chief clerk Claims Department, has been appointed Eastern Freight Agent. Office, Sarnia, Ont.

W. J. McCormack, heretofore agent at Point Edward, Ont., has been appointed agent at Sarnia, Ont.

Prince Edward Island Ry.—See Government Railways.

Quebec Central Ry.—The position of General Superintendent being vacant owing to the death of A. Steele, Jos. Fortin, heretofore agent at Levis, has been appointed acting Superintendent. It is probable that a Superintendent of Transportation and a Superintendent of Permanent Way and Structures will be appointed in the near future.

Quebec Ry. Light and Power Co.—C. E. A. Carr, heretofore Assistant General Manager, has been appointed General Manager, vice E. A. Evans, General Manager and Chief Engineer, who has resigned the former position.

E. A. Evans, heretofore General Manager and Chief Engineer, having resigned the former position, has been appointed Chief Engineer over all the Company's interests.

Railways and Canals Department.—M. J. Butler, Deputy Minister and Chief Engineer of Railways and Canals, and Chairman Government Railways Managing Board, has resigned to become General Manager Dominion Iron and Steel Co., and Dominion Coal Co., Sydney, N.S., the resignation to become effective Feb. 5. A. W. Campbell, heretofore Deputy Minister of Public Works for Ontario, has been appointed Deputy Minister of Railways and Canals and Chairman Government Railways Managing Board, effective Feb. 5. The position of Chief Engineer of the Department of Railways and Canals had not been filled up to Jan. 28.

Rutland Rd.—C. Hartigan, heretofore General Agent Passenger Department New York Central and Hudson River Rd., Montreal, has been appointed General Passenger Agent, Rutland Rd., Rutland, Vt., vice F. E. Barbour, resigned.

Temiskaming and Northern Ontario Ry.—A. J. Farr, heretofore Assistant Freight and Passenger Agent, has been appointed Freight and Passenger Agent, vice W. D. Cunneyworth, resigned. Office, North Bay, Ont.

West Shore Rd.—E. A. Cousino has been appointed General Western Agent, Chicago, Ill., vice Neil Mooney, promoted to Montreal.

The Canadian Pacific Ry. Co. has given notice of calls on all shareholders who subscribed to the recent issue of \$30,000,000 new stock, authorized Oct. 7, 1908, and upon which 20% has been deposited, as follows:—20%, or \$25 a share, on Mar. 9; 20% on May 9; 20% on July 8, and 20% on Sept. 7.

RENOUF Publishing Co. 61 Union Avenue Montreal

BARNES—Ice Formation. With Special Reference to Anchor-ice and Frazil. 8vo, x+257 pages, 40 figures. Cloth, \$3.00.

BOVEY—Theory of Structures and Strength of Materials. Fourth edition, rewritten and enlarged. 8vo, xiii+968 pages, 943 figures. Cloth, \$7.50 net.

TAYLOR-THOMPSON—Treatise on Concrete, Plain and Reinforced. Second edition, revised and enlarged. 8vo, xli+821 pages, 249 figures. Cloth, \$5.00.

LOWE—Paints for Steel Structures. 12mo, 115 pages. Cloth, \$1.00.

LYNDON—Development and Electrical Distribution of Water Power. 8vo, vi+317 pages, 158 figures. Cloth, \$3.00 net.

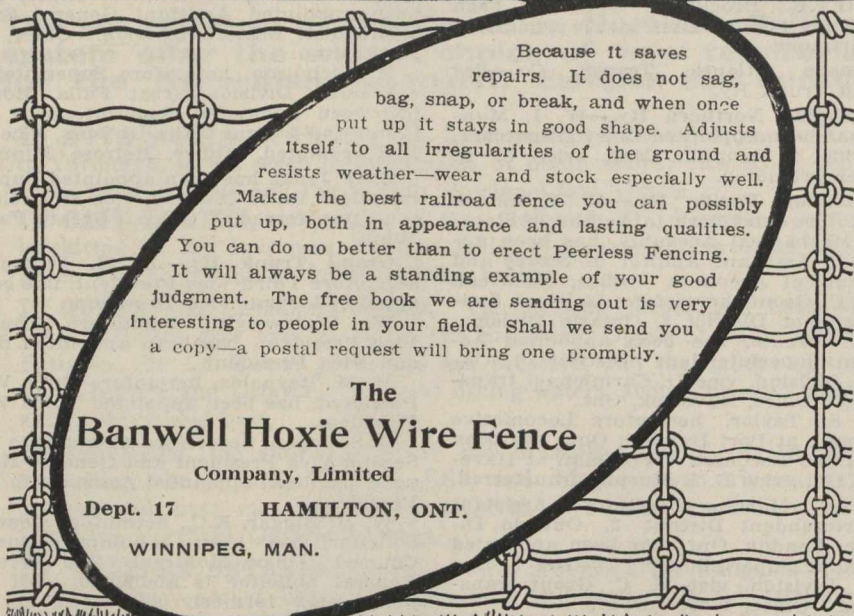
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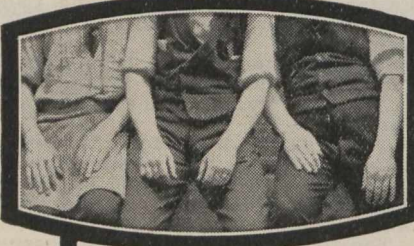
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Steam Railway Track Laid in 1909.

In our last issue we gave a preliminary statement of the steam railway track laid in Canada in 1909. The figures given for the Canadian Northern Ry., and the Canadian Pacific Ry. have been revised and completed. These figures show that 1588.47 miles of new track were laid during the year by the different companies against 1505.95 in 1908. The mileage laid by the different companies is as follows:—

ALBERTA RY. AND IRRIGATION Co.		Miles.	Miles.
From Raley to Wolford.....		8.00	
ATLANTIC, QUEBEC AND WESTERN RY.			
From Port Daniel to Grand Pabos		20.00	
From Grand Pabos to Grand River		10.00	
From Gaspe to Douglstown....		6.00	
			36.00
(1) CANADIAN NORTHERN ONTARIO RY.			
Hawkesbury to Ottawa	57.08		
Udney to Orillia	2.39		
Perry Sound spur	1.00		
Sallywood Jct. northerly	30.02		
			90.49
CANADIAN NORTHERN QUEBEC RY.			
Garneau-Quebec cut off, Quebec end	17.10		
St. Jacques to Rawdon	11.00		
			28.10
CANADIAN NORTHERN RY.			
Dundee branch, Man.	4.00		
St. Rose du Lac, branch, Man.	14.90		
Hallboro branch	69.28		
Rosburn branch, Sask.	45.91		
Goose Lake Line	52.20		
Maryfield Line	68.39		
Bienfait spur, Sask.	16.40		
Prince Albert-Battleford Line, Sask.	12.50		
Vegreville extension, Alta.	19.47		
			303.05
(2) CANADIAN PACIFIC RY.			
From mileage 31.6 to Duhamel, Que.	3.14		
From Tenlon north, Man.	2.40		
From Mowbray to Windygates, Man.	6.80		
From Virden, Man., north.	13.60		
From Weyburn to Forward, Sask.	25.20		
From Asquith to ballast pit, Sask.	7.00		
From Wilkie to Hardisty, Sask.	131.30		
From Wynyard to Lanigan, Sask.	37.10		
From Regina north, Sask.	2.80		
From Kipp to Carmangay, Alta.	28.20		
From Stettler to Castor, Alta.	35.40		
From Langdon north, Alta.	5.80		
Lethbridge cut-off	20.30		
Hector cut-off	4.80		
			323.84
CENTRAL ONTARIO RY.			
From end of steel, near Maynooth, north		1.00	
DIAMOND RY. COAL Co.			
From Kipp to Diamond City ...		6.00	
ESQUIMALT AND NANAIMO RY.			
From Wellington to Parksville..		18.00	
GRAND TRUNK PACIFIC RY. AND BRANCHES.			
From Irmar to Clover Bar	102.00		
From Edmonton to Wolfe Creek	122.00		
From Melville to Balcarras	34.00		
From Melville to Yorkton	25.00		
From Tofield to Camrose	26.00		
			309.00
GREAT NORTHERN RY.			
From Cloverdale to Sumas	2.00		
Burrard Inlet line	1.93		
From Keremeos to Princeton (est.)	42.00		
			45.93
HA HA BAY RY.			
From Waterside to Jonquieres ..		2.00	
INTERNATIONAL RY. OF N. B.			
From mileage 62 to 85		23.00	
MANITOULIN AND NORTH SHORE RY.			
From mileage 13 west of Sudbury to mileage 14.14		1.14	
NATIONAL TRANSCONTINENTAL RY.			
Moncton westerly	13.00		
Chipman westerly	5.00		
Intercolonial crossing, e. and w.	27.00		
Quebec-N.B. boundary, e. and w.	30.00		
Quebec bridge, e. and w.	49.00		
T. & N. O. Jct., e. and w.	44.00		
Ontario and Man. boundary, east	144.00		
			312.00
NORTHERN NEW BRUNSWICK & SEABOARD RY.			
Between Nipisiquit Jct. and Drummond Mines	4.00		
From Newcastle Jct. to ore dock	1.00		
			5.00
PACIFIC COAST MINES (LTD.).			
From Boat Harbor to Fiddicks Jct.		5.67	
QUEBEC CENTRAL RY.			
From St. George to St. Justine..		27.00	
SUPERIOR AND WESTERN ONTARIO RY.			
From Superior Jct. to O'Brien..		8.00	
WINNIPEG CITY POWER PLANT LINE.			
From Lac du Bonnet to Point du Boise	24.00		
From Station 1187 to gravel pit	1.25		
			25.25

Of this mileage 1376.48 miles were laid in connection with three systems as follows, the second column showing the mileage laid by the same lines in 1908:—

Transcontinental Ry.	312.00	170.00
G. T. Pacific Ry.	309.00	460.50
	621.00	630.50

Canadian Northern Ontario Ry.	90.49	11.50
Canadian Northern Que. Ry.	28.10	60.90
Canadian Northern Ry.	303.05	167.80
	421.64	240.20

Canadian Pacific Ry.	323.84	389.88
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Total of the three systems. 1,376.48 1,260.58
Divided by provinces, the track laid during the year compares with that laid in 1908, as follows:—

	1909.	1908.
	Miles.	Miles.
Saskatchewan	457.80	659.70
Alberta	373.17	74.90
Ontario	288.63	238.04
Quebec	171.24	227.14
Manitoba	136.23	166.30
New Brunswick	87.00	67.00
British Columbia	74.40	56.87
Nova Scotia		9.00
Yukon		7.00
	1,588.47	1,505.95

(1) On the Canadian Northern Ontario Ry.'s Hawkesbury-Ottawa line 53 miles were laid in 1908 and the balance, 4.08 miles, in 1909. The 53 miles were not included in the figures received from the company a year ago, so the whole mileage is now included in the 1909 returns.

(2) The C.P.R. Lethbridge-Macleod cut-off has a total length of 35.24 miles, and supersedes the original line of 38.66 miles. Track was laid on 14.83 miles in 1908, and on the remaining 20.40 miles in 1909.

The length of line which the C.P.R. grade revision between Hector and Field supersedes was 4.1 miles, so that the revision adds 4.1 miles to the length of the line.

Trade and Supply Notes.

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

The Northern Engineering Works, Detroit, Mich., has purchased additional land near its present premises for extensions of its northern cranes plant.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, has issued its January calendar, the first of a series of 12 subjects by Stuart Fraser, which it intends to send out monthly during the year.

Tate Bifunctional Accumulators have been specified for the electric lighting of the private car now under construction by the Preston Car & Coach Co. for the Temiskaming & Northern Ontario Railway Commission.

The American Locomotive Co. has issued a bulletin on Mallet articulated compound locomotives, illustrating a number of different designs built by the company for various railways, and giving general specifications, hauling capacity, etc.

In our last issue L. S. Hough was spoken of as sales agent on the staff of Taylor & Arnold of Montreal, General Sales Agents for the Ontario Iron & Steel Co. and the Canadian Railway Equipment Co. The position referred to is held by L. S. Hough.

Wm. Abbott, Montreal, has been appointed agent for Canada and Newfoundland for the Stahlwerk Becker, A. G., Krefeld, Germany, manufacturers of high speed and high grade steel, tungsten and nickel alloys, which are made by the Girod electric process.

Taylor & Arnold, Montreal, have sold to the Silliker Car Co. and to the Preston Car & Coach Co., the heavy cast steel

double body and truck bolsters for use under the seven sleeping, three colonist and three mail cars which the I.C.R. recently ordered from these companies. We are advised that these will be the first bolsters of this description made in Canada.

The Dominion Car & Foundry Co. has decided that in future their various works will be designated as follows:—The Dominion Car & Foundry Co.'s plant at Blue Bonnets, near Montreal, will be known as the Dominion Works, —, Ditchfield remaining as Superintendent. The Canada Car Co.'s plant at Turcot, near Montreal, will be known as the Turcot Work, S. King remaining as Superintendent. The Rhodes, Curry & Co.'s plant at Amherst, N.S., will be known as the Amherst Works. W. M. Robertson, heretofore of the Canada Car Co.'s staff, has been appointed Superintendent at Amherst.

The Canadian Crocker-Wheeler Co., Ltd., which is the Canadian end of the Crocker-Wheeler Co., of ampere, N.J., which has been manufacturing electrical equipment for 22 years, is establishing a manufacturing plant at St. Catherines, Ont. It has secured eight acres of land adjacent to the G.T.R. and the N. St. C. & T.R. on which are buildings with 30,000 ft. of floor space, which were built by the city for the J. M. Rose Co., manufacturers of traction engines. The Canadian Crocker-Wheeler Co. is remodeling these buildings and will erect additional ones within a short time, so as to be fully equipped for manufacturing a complete line of electric apparatus.

The Canada Bolt & Nut Co., Ltd., with a capital of \$2,500,000 and head office at Toronto, has taken over the Toronto Bolt & Forging Co., with bolt mills at Swansea (Toronto) and Gananoque, and rolling mills at Sunnyside, Toronto, the Brantford Screw Co., Brantford, the Belleville Iron & Horseshoe Co., Belleville, and the Gananoque Bolt Co., Gananoque. Lloyd Harris, M.P., of the Brantford Screw Co., is President of the new company, and T. H. Watson, heretofore of the Toronto Bolt and Forging Co., Vice President and General Manager. G. Gillies, President of the Toronto Bolt & Forging Co., having disposed of his holdings, it is intended to concentrate the manufacture of certain lines of work in certain plants, so as to avoid duplication, and the Swansea works will probably be enlarged.

Temiskaming and Northern Ontario Ry.—Owing to the change by which the fiscal year for this railway will in future be closed Oct. 31, the figures here given for 1909 represent 10 months only, as compared with 12 months for the year 1908. Total passenger revenue, \$483,110.89; total freight revenue, \$756,141.66; other revenue from transportation, \$121,972.33; total revenue, \$1,361,224.88; operating expenses, \$794,796.88; net operating revenue, \$566,428.00; received from ore royalties, \$108,516.68; total income, \$674,944.68; hire of equipment, \$19,073.47; net result, for 10 months ended Oct. 31, 1909, \$655,871.21, against \$366,504.53 passenger revenue; \$471,203.41 freight revenue; \$135,357.67 other revenue from transportation; \$973,065.61 total revenue; \$688,397.43 operating expenses; \$284,668.18 net operating revenue; \$134,820.27 received from ore royalties; \$419,488.45 net result, for 12 months ended Dec. 31, 1908.

Diamond Coal Co.—Application is being made to the Alberta Legislature to empower the company to acquire and operate the railway constructed from Kipp to Diamond City, by a company affiliated with it. The company finds from experience that it would be much better to have the railway with the mine and all its auxiliaries joined together in one company.

The Grand Trunk Pacific Ry. Co. has issued through Glyn, Mills, Currie & Co., London, Eng., £1,000,000 of 4% debenture stock, the proceeds of which will be applied to the purchase of additional rolling stock, to be delivered during the current year, for use on the prairie section and on the Lake Superior branch. The issue price is £92-10, and the stock will rank pari passu with £3,000,000 of such stock already issued, and is subject to redemption at £105 by the company any time after Mar. 1, 1936, on giving one year's notice. The issue forms part of an issue of \$25,000,000 (£5,136,900) authorized by chap. 100 of the Dominion statutes of 1906, is secured by a lien on the company's property, and ranks next after the company's second mortgage bonds and Lake Superior Branch bonds. In addition the G.T.R. Co. under an agreement of Jan. 10, has guaranteed the payment of interest on the £2,136,980 of the stock yet unissued, out of the net earnings of the G.T.R. of each year, after making certain deductions. The subscription list closed Jan. 19.

Essex Terminal Ry.—Application is being made to the Dominion Parliament to extend the time for the completion and putting in operation of the authorized railway; to authorize the company to operate vessels; to enter into agreements with other similar companies; to increase the capital stock and bonding powers, and to change the date of the annual meeting. J. H. Coburn, Walkerville, Ont., is the solicitor.

Buctouche Ry. and Transportation Co.—Application is being made to the Dominion Parliament to incorporate a company with this title to construct a railway between Buctouche and Richibucto, N.B., and in connection therewith to operate vessels, and build wharves, docks, etc. Barnhill, Ewing and Sanford are solicitors for applicants.

At a meeting of the Engineers Club of Toronto, Jan. 6, W. Chipman, who had previously been elected President for the current year, declined the position, and C. M. Caniff was elected in his place.

The Governor General visited the C.P.R. Angus shops, Montreal, Jan. 7, where he presented certificates and diplomas to the employes who had passed St. John's Ambulance Association's examination during the past year.

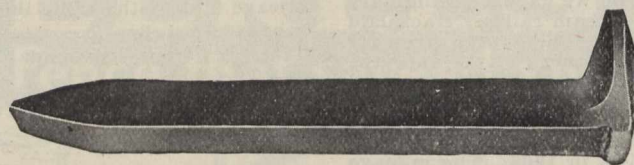
The Canadian Society of Civil Engineers Toronto Branch held its annual meeting, Jan. 6. The officers for the current year are:—Chairman, A. W. Campbell; Secretary-Treasurer, P. Gillespie; Councillors, T. S. Scott, T. C. Irving, Jr., O. W. Smith, N. H. McLeod and A. W. Connor.

During Nov., 1909, 46 employes were killed in the course of their employment on Canadian railways. Twenty-nine deaths were due to derailments (22 being caused in one accident due to a washout in B.C.); seven to being run over; four to falls; two each to collisions and while coupling; and one each to an explosion of boiler and to falling material.

NOTICE is hereby given that the Grand Trunk Railway Company of Canada will apply to the Parliament of Canada, at its present session, for an Act authorizing that company to acquire by purchase or otherwise, and hold, hypothecate, sell, or otherwise dispose of bonds, debentures, or other securities, issued by the Ottawa Terminals Railway Company, by the Lachine, Jacques Cartier and Maisonneuve Railway Company, and by the Grand Trunk Pacific Terminal Elevator Company, Limited, respectively.

W. H. BIGGAR,
Solicitor for the applicants.

Dated at Montreal, this 4th day of January, A.D. 1910.



Railway Spikes

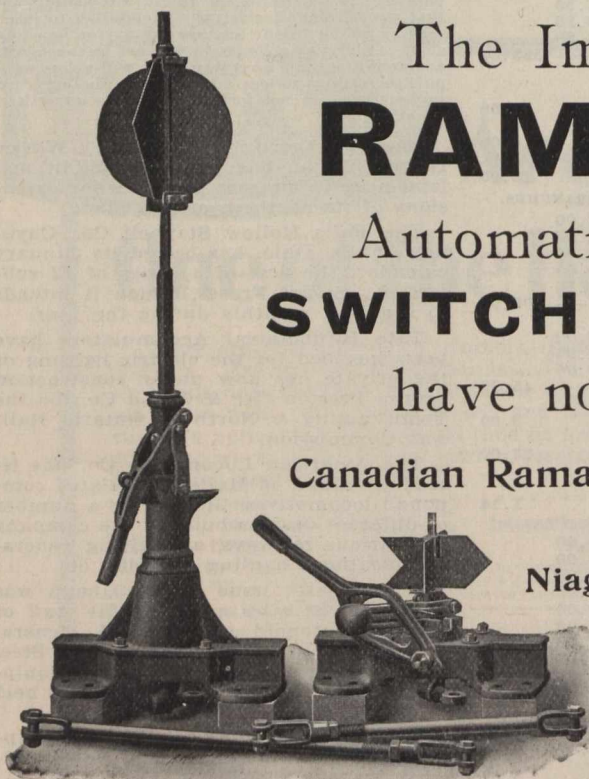
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ELECTRIC RAILWAYS.

Canadian Street Railway Association.

PRESIDENT, D. McDonald, Manager, Montreal St. Ry.; VICE-PRESIDENT, J. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry.; SECRETARY-TREASURER, Acton Burrows, Managing Director, Railway and Marine World.
ASSOCIATION'S OFFICE, 157 Bay St., Toronto.
EXECUTIVE COMMITTEE.—P. Dube, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.
ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.
OFFICIAL ORGAN, THE RAILWAY AND MARINE WORLD.

Electric Railway Statistics for 1908-09.

The report of the Comptroller of Railway Statistics for the year ended June 30, 1909, states that during the year a complete re-organization of the basis of reporting by electric railways took place. The schedules which were sent out by the Department in 1901, when the collection of statistics was first commenced, was probably the best that could be devised; each railway company followed its own method of accounting, and as a result important and useful details were lacking. Mr. Payne adds "The time was opportune for the installation of a new and carefully considered system in relation to statistics. Classifications and schedules were printed and distributed; but this heavy task could not be carried out until nearly six months of the railway year had passed. It had been my privilege, however, to meet the members of the Canadian Street Railway Association on Nov. 11, 1908, and to explain to them the general features of the proposed changes. They heartily approved of the new plan, and expressed their willingness to co-operate. I desire in this way to gratefully recognize the response of electric railway corporations to the demands made upon them under circumstances which must have been exceedingly inconvenient to many of them."

The total mileage of electric lines in Canada is put at 988.97, a decrease of 3.06 miles, whereas there was actually an increase. There has heretofore been some confusion on the part of reporting lines as to the proper method of computing mileage. This difficulty has been removed and hereafter the facts in relation to mileage will be returned on a uniform basis. In addition to the 988.97 miles of main track, there were on June 30, 1909, 215.05 miles of second main track, 83.62 miles of sidings and turnouts, making altogether a total of 1,287.65 miles computed as single track. The paid-up capital aggregated \$91,604,989, of which \$51,946,433 is represented by stocks, and \$39,658,556 by funded debt. The subsidies paid by governments and municipalities amount to \$493,346. The gross earnings from operation were made up as follows:—Passenger, \$14,080,755; freight, \$386,092; mail and express, \$110,452; other earnings, \$34,185. Adding surpluses and other source of income the gross aggregate incomes of the companies amounted to \$15,799,850.93. From this has to be deducted the following items:—Operating expenses (including \$246,192.77 of net loss by certain lines), \$8,885,235.70; taxes, \$843,959.70; interest on funded debt, \$1,213,142.24; interest on floating debt, \$104,573.13; other deductions, \$36,631.99; a total of \$11,083,542.18; leaving a net income of \$4,716,308.75. This net income is equal to a 5.13% on the capitalization. The operating expenses were equal to 59.93 of the gross earnings, against 62.08 in the previous year.

The various lines carried 314,026,671 fare passengers and 81,670,945 transfer

passengers, making 395,697,616 in the aggregate. In previous years the fare passengers only were reported, the total for the year ended June 30, 1908, being 299,099,309. The total car mileage was 60,152,846 of which 737,720 was in connection with the carrying of freight mails and express. There were of all classes 3,544 cars in the service, of which 3,043 were passenger cars; 20 mail, express and baggage; seven combination passenger and freight; 85 work cars; 54 snow ploughs; 90 sweepers, and 93 miscellaneous. The number of employees was 10,557, to whom was paid \$6,761,281.12, equal to 77.84% of the total operating expenses. Of the employees, 545 were employed in general administration; 3,620 in maintenance; and 6,392 in transportation.

During the year 68 persons were killed and 2,139 injured, against 67 killed and 1,937 injured in the preceding year.

Electric Railway Track Laid in 1909.

In our last issue we gave a summary of reports received from electric railway companies showing track laid during 1909 by 12 companies. Returns have since been received from the Niagara, St. Catharines & Toronto Ry., bringing the total mileage laid up to 57.50 miles, as follows:—

	Miles.	Miles.
BRITISH COLUMBIA ELECTRIC RY.		
Extensions in Vancouver, etc., est.	5.00	
New Westminster to Cloverdale, est.	12.00	17.00
CALGARY (MUNICIPAL) ELECTRIC RY.		
Various lines (estimated)	5.00	
CHATHAM, WALLACEBURG & LAKE ERIE RY.		
Pain Court Jct. to Pain Court	4.00	
EDMONTON RADIAL RY.		
Alberta ave. to packing plant	2.52	
9th and Jasper to 21st street	.50	
1st st. to 8th and Vermillion	1.00	
Syndicate to Namayo and Jasper	1.15	5.17
HULL ELECTRIC CO.		
Laurier ave. to Main st.	2.25	
INTERNATIONAL TRANSIT CO.		
Upton rd. to Pine st., S. S. Marie	0.31	
MONTREAL & SOUTHERN COUNTIES RY.		
Montreal to St. Lambert	3.50	
St. Lambert to Montreal South	1.50	5.00
MONTREAL ST. RY.		
Short extensions on various streets	1.60	
MONTREAL PARK & ISLAND RY.		
Henderson to St. Vincent de Paul	2.55	
St. Denis	1.39	
Pie IX	.43	
Cote La Visitation	.96	5.33
NIAGARA, ST. CATHARINES & TORONTO RY.		
From Welland to Port Colborne, Ont.	9.00	
PORT ARTHUR & FT. WILLIAM E. RY.		
Extension in Port Arthur	1.00	
Extension to Canada Iron Corp.	1.50	2.50
SARNIA ST. RY.		
George st. to Wellington st.	0.34	
Total (in part estimated)	57.50	
WINNIPEG ELECTRIC RY.		
Dufferin ave.	2.59	
Academy road	0.46	
Osborne st.	0.33	
Marion st.	0.52	
Notre Dame ave. west	0.17	4.07

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Nov. 1909, \$244,520; operating expenses, \$157,880; net operating earnings, \$86,640; renewal funds, \$16,394; net earnings, \$70,246; approximate income from investments, \$16,500; net income, \$86,746, against \$202,378 gross earnings; \$124,621 operating expenses; \$77,757 net operating earnings; \$14,443 renewal funds; \$63,314 net earnings; \$13,550 approximate income from investments; \$76,864 net income for Nov. 1908. Aggregate gross earnings for five months ended Nov. 30, 1909, \$1,211,692; net earnings, \$541,042, against \$937,589 gross and \$433,074 net for same period 1908.

Halifax Electric Tramway.—Traffic receipts for Dec. 1909, \$16,107.26, and for two weeks ended Jan. 14, \$6,991.77, against \$15,312.78 and \$6,416.72 for Dec. 1908, and two weeks ended Jan. 14, 1909.

London St. Ry.—Gross earnings for Dec. 1909, \$21,674.21; expenses, \$15,469.-

06; net earnings, \$6,205.15; deductions, \$2,441.75; net income, \$3,763.40, against \$20,558.16 gross earnings; \$14,848.66 expenses; \$5,709.50 net earnings; \$2,544.56 deductions; \$3,164.94 net income for Dec. 1908. Aggregate gross earnings for 12 months ended Dec. 31, 1909, \$243,359.39; expenses, \$169,830.44; net earnings, \$73,528.95; deductions, \$28,887.56; net income, \$44,641.39, against \$235,932.-40 gross earnings; \$167,566.72 expenses, \$67,465.68 net earnings; \$28,454.74 deductions; \$39,010.94 net income for same period 1908.

Montreal St. Ry.—Passenger earnings for Dec. 1909, \$333,135.21; miscellaneous earnings, \$4,407.97; total earnings, \$337,543.18; operating expenses, \$212,006.44; net earnings, \$125,556.74; city percentage on earnings, \$15,599.94; interest on bonds and loans, \$14,382.01; rent leased lines, \$498.62; taxes, \$4,000; total charges, \$34,480.57; surplus, \$91,076.17; expenses per cent. of earnings, 62.80, against \$301,329.27 passenger earnings; \$3,555.57 miscellaneous earnings; \$304,884.84 total earnings; \$203,118.97 operating expenses; \$101,765.87 net earnings; \$12,275.79 city percentage on earnings; \$15,306.25 interest on bonds and loans; \$444.46 rent leased lines; \$2,700 taxes; \$30,276.50 total charges; \$71,039.37 surplus; 66.62 expenses per cent. of earnings for Dec. 1908. Aggregate total earnings for three months ended Dec. 31, 1909, \$1,026,441.40; expenses, \$586,878.-97; net earnings, \$439,562.43; total charges, \$96,344.84; surplus, \$343,217.39; expenses per cent. of earnings, 57.18, against \$935,071.10 aggregate total earnings; \$549,195.02 expenses; \$385,876.08 net earnings; \$90,568.93 total charges; \$295,307.15 surplus; 58.73 expenses per cent. of earnings, for same period, 1908.

Niagara Gorge Rd.—The annual meetings of this company and the Lewiston and Youngstown Frontier Ry., were held Jan. 14, at Niagara Falls and Buffalo, N.Y., respectively. Following are the directors for the N.G. Rd. Co. for the current year:—J. T. Jones, H. P. Bissell, B. L. Jones, R. E. Powers, J. A. Jones, F. V. Greene, W. H. Hotchkiss, C. M. Bushnell, R. R. Hefford, W. G. Case, G. C. Rilkey. For the L. and Y.F.R. Co. the directors are the same, with the exception of the last two mentioned. The election of officers will take place at the meeting in Feb. We are advised that there will probably be no change.

Toronto Suburban Ry.—Application is being made to the Ontario Legislature for power to re-arrange and confirm the bond issue, and to grant an increase in the capital stock.

Winnipeg Electric Ry.—Gross earnings for Nov. 1909, \$252,200; expenses, \$125,700; net earnings, \$126,500, against \$229,100 gross earnings; \$105,100 expenses; \$124,000 net earnings for Nov. 1908. Aggregate gross earnings for 11 months ended Nov. 30, 1909, \$2,340,100; net earnings, \$1,171,400, against \$1,964,600 gross earnings, and \$993,900 net earnings for same period 1908.

Militia versus Street Cars.

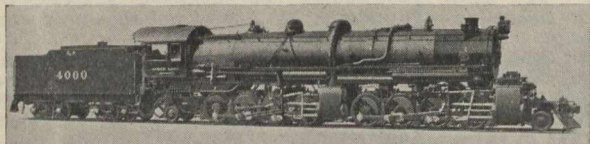
In our July, 1909, issue, we gave particulars of an important issue which had arisen in Winnipeg as to whether the militia or electric railway cars had the right of way on the streets, the Police Magistrate having taken the ground that the militia had and having fined one of the Winnipeg Electric Ry. Co.'s motormen \$5 for not stopping his car during a 90th Rifles parade.

The case was appealed and we are advised that the County Judge has not given any definite decision, but intimated that he would quash the conviction by the Police Magistrate. The solicitor for the 90th Rifles made an application for a stated case before the Court of Appeal, but the County Judge has not decided as to this.

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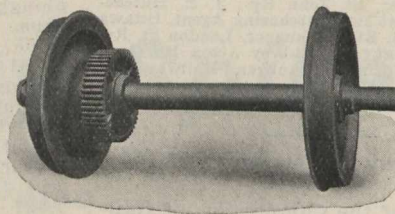
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Sailing from Philadelphia Saturdays.

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Sailing from New York Saturdays.

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Montreal—Quebec—Liverpool**
Montreal to Avonmouth Docks
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RED STAR LINE

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Sailing from New York Wednesdays.

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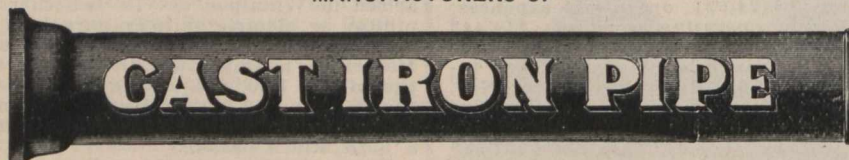
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JAMES THOMSON, J. G. ALLAN, JAMES A. THOMSON, ALEX. L. GARTSHORE,
Pres. and Mang. Director. Vice-President. Secretary. Treasurer.

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ELECTRIC RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1909.

The following abbreviations are used in the names of railways—E., electric; E.R., electric railway; E.S.R., electric street railway; Ry., railway; S.R., street railway. The minus mark (—) in the column for net income or deficit, shows that there was a deficit in the operations of the line to the extent of the figures given. The numbers in brackets—thus (1)—after the name of a railway refer to notes below.

Name of Railway	Mileage	Gross Earnings	Operating Expenses	Taxes, Interest, etc.	Net Income or Deficit	Passenger Car Mileage	Freight Car Mileage	Fare Passengers Carried
Berlin & Waterloo S.R. (1)	3.12	\$ 29,564	\$ 22,797	\$ 5,338	\$ 1,428	89,987		590,705
Leased Berlin & Bridgeport Ry. (1)	2.40	5,324	4,880	1,024	—579	34,400		128,010
Brantford & Hamilton E.R. (2)	23.00	84,039	63,666	57,509	—37,136	246,915	39,141	247,195
British Columbia E.R. (3)	77.78	1,410,007	895,565		514,442	4,647,797	114,934	25,183,739
Cape Breton Electric Co. (24)	11.58	84,919	53,944	47,175	44,720	321,570		1,524,437
Chatham, Wallaceburg & L. Erie (4)	34.00	62,200	28,383	28,925	4,892	104,623	21,932	257,276
Cornwall S.R.	4.00	26,432	23,915		2,516	192,284	12,882	381,536
Egerton Tramway Co. (5)	7.90	43,770	28,526	16,733	5,156	132,887	5,023	916,142
Galt, Preston & Hespeler S.R. (6)	17.81	117,613	68,190	8,026	41,396	223,725	29,251	730,880
Leased Preston & Berlin (6)								
Grand Valley Ry. (7)	38.29	77,221	70,150	1,990	5,080	467,061		693,778
Guelp Radial Ry. (8)	6.00	27,847	22,982		5,064	200,800		567,413
Halifax E. Tramway Co. (9)	9.90	184,927	108,785	9,240	67,009	814,375		4,162,986
Hamilton & Dundas S.R. (2)	7.00	41,192	32,117	15,139	—3,268	119,271	589	423,257
Hamilton, Grimsby & Beamsville E.R. (2)	22.00	92,305	74,573	9,940	9,594	275,801	37,257	431,699
Hamilton Radial E.R. (2)	25.00	119,224	95,950	72,907	—49,632	392,880	21,788	1,013,900
Hamilton S.R. (2)	22.00	327,702	223,657	59,530	44,515	1,620,418		8,076,511
Hull E. Co. (6)	11.51	75,731	76,534	891	29,710	529,837	24,198	955,230
International Transit Co. (10)	3.68	38,071	32,436	30,482	—12,128	283,284		895,198
Kingston, Portsmouth & Cataraqui E.R.	8.00	31,742	30,600	1,664	—1,068	199,680		753,265
Levis County Ry.	10.25	59,691	51,196	12,337	11,842	288,920	6,100	1,555,775
London S.R. (11)	25.73	238,685	162,493	34,034	42,347	1,426,339		6,460,709
Montreal Park & Island Ry. (12)	26.74	272,201	187,249	143,846	—58,895	954,316	3,817	3,438,693
Montreal S.R. (12)	74.68	3,765,137	2,187,190		1,577,947	14,314,541	100,311	93,381,633
Montreal Terminal Ry. (12)	18.22	109,216	98,848	38,972	—29,205	627,670	22,077	1,632,158
Nelson Tramway Co.								
Niagara Falls Park & River Ry. (13)	10.02	133,514	70,315	32,332	37,492	356,652		1,180,882
Niagara St. C. & Toronto Ry. (14)	40.06	231,704	155,934	56,938	18,831	666,969	81,429	2,360,107
Oshawa Ry.	4.00	55,370	41,727	5,824	8,541	40,284	17,203	126,999
Ottawa E.R. (15)	23.40	644,100	417,481	45,472	181,146	3,675,888	15,000	14,216,621
Peterborough Radial Ry.	5.10	28,746	25,001	4,052	—307	257,450		622,145
Port Arthur S.R. (16)	9.32	103,410	65,986		37,423	389,420		
Quebec Ry., Light and Power Co.								
Citadel Division	17.22	287,494	196,509		90,985	1,394,744		6,859,679
Montmorency Division (17)	30.00	151,386	104,246		47,139	327,156		1,271,622
Sandwich, Windsor & Amherstburg Ry. (21)	35.81	171,749	102,203	26,214	77,541	838,673		2,911,358
Sarnia S.R. (22)	8.25	40,264	29,047	3,848	7,369	143,990		645,463
Sherbrooke S.R.	7.00	31,176	32,593	6,637	—8,054	288,020		734,319
Southwestern Traction Co. (23)	28.50	92,865	60,517	35,836	—3,515	304,928	35,611	497,195
St. John Ry. (18)	12.50	163,749	145,713	51,620	65,169	983,648		3,691,809
St. Stephen S.R. (19)	7.00	29,649	26,480	5,524	—2,354	183,960		590,717
St. Thomas S.R. (20)	7.50	18,690	22,235		—3,544	333,032		455,480
Sydney & Glace Bay Ry. (24)	20.98	97,566	60,525	23,858	13,551	256,193	11,154	1,937,880
Toronto Ry. (25)	49.65	3,750,283	1,870,434	791,567	1,088,282	14,839,474		92,850,010
Toronto Suburban Ry.	9.84	40,966	30,147	9,559	1,467	204,344		891,203
Toronto & York Radial Ry. (25)	72.42	333,588	196,182	101,714	35,691	950,200	82,803	3,595,892
Windsor, Essex & L. Shore Rapid Ry.	36.16	85,276	61,818	48,112	—24,657	191,130	55,220	244,280
Winnipeg S.R. (26)	61.62	1,008,614	517,151	353,454	856,072	4,279,590		23,940,885
Yarmouth S.R.	2.00							
	988.97	\$14,824,936	\$8,884,690	\$2,198,306	\$4,962,501 —246,192	59,415,126	737,720	314,026,671
					\$4,716,309	60,152,846		

Notes to Electric Railway Statistics

The companies also carried 81,670,945 transfer passengers, making a total of 395,697,616 passengers carried. One-half of the companies reporting divide the number of passengers carried, into the two classes, the number of transfer passengers carried on the lines reporting being as follows:—Berlin and Waterloo, 21,876; Cape Breton Electric Co., 359,219; Grand Valley Ry., 60,564; Halifax Electric Tramway Co., 342,210; Hull Electric Co., 73,000; International Transit Co., 3,789; Kingston Portsmouth and Cataraqui, 145,872; Levis County Ry., 34,229; London St., 1,020,242; Montreal Park and Island Ry., 341,266; Montreal St., 31,577,363; Montreal Terminal Ry., 115,931; Niagara, St. Catharines and To-

ronto, 18,605; Quebec Ry., Light and Power Co., Citadel Division, 3,266,000; Sandwich, Windsor and Amherstburg Ry., 343,324; Sherbrooke St., 108,951; South-Western Traction Co., 22,259; St. John Ry., 1,318,894; St. Stephen S.R., 23,389; St. Thomas S.R., 151,820; Sydney and Glace Bay, 22,220; Toronto Ry., 34,951,318; Toronto Suburban Ry., 40,648; Winnipeg, 7,307,956.

(1) The Berlin and Waterloo St. Ry. is owned by the town of Berlin, Ont. It leases the Berlin and Bridgeport Ry. from a company.

(2) The Dominion Power and Transmission Co., owns or controls the Brantford and Hamilton Ry.; Hamilton and Dundas Ry.; Hamilton, Grimsby and Beamsville Electric Ry.; Hamilton Radial Ry., and Hamilton St. Ry.

(3) The British Columbia Electric Ry. operates local lines in Vancouver, New Westminster and Victoria, and interurban lines radiating from Vancouver. It has 13.44 miles of second track, and operates over 21 miles of leased lines.

(4) The Chatham, Wallaceburg and Lake Erie Ry. added \$9,141.67 to reserves and special charges, and paid \$14,040 in dividends out of net income.

(5) The Egerton Tramway Co. paid \$5,000 in dividends out of net income.

(6) The Galt, Preston and Hespeler Ry. which also operates the Preston and Berlin Ry. under lease, has 1.36 miles of second track. It is operated in connection with the C.P.R. under a lease. The C.P.R. also owns the Hull Electric Co. This company has 11.51 miles of second

track and operates over 1.82 miles of leased track.

(7) The Grand Valley Ry. mileage includes the lines of the Brantford St. Ry., the G.V. Ry., and the Woodstock, Thames Valley and Ingersoll Ry., which were reported separately in previous years.

(8) The Guelph Radial Ry. is owned by the City of Guelph.

(9) The Halifax Electric Tramway Co. has 3.09 miles of second track.

(10) The International Transit Co.'s line, owned by the Lake Superior Corporation at Sault Ste. Marie, Ont., connects with the Trans St. Mary's Ry. at Sault Ste. Marie, Mich., owned by the same company.

(11) The London St. Ry. has 6.79 miles of second track. It paid \$32,711.76 in dividends out of net income.

(12) The Montreal St. Ry. has 57.18 miles of second track, and operates over 8.58 miles of leased tracks. It reports a surplus of \$1,577,947.17. It owns the Montreal Park and Island Ry., which has 14.61 miles of second track, and paid \$32,711.76 dividend out of the latter's net income. It also owns the Montreal Terminal Ry., which has 4.66 miles of second track.

(13) The Niagara Falls Park and River Ry. has 9.31 miles of second track. It is owned by and operated in connection with the International Ry. of Buffalo, N.Y.

(14) The Niagara, St. Catharines and Toronto Ry. mileage includes the Niagara Falls, Wesley Park and Clifton Ry., and the Port Dalhousie, St. Catharines and Thorold Electric St. Ry., formerly reported separately.

(15) The Ottawa Electric Ry. has 20.64 miles of second track, and operates over 2.22 miles of leased track. It paid \$149,697.34 in dividends out of net income.

(16) The Port Arthur St. Ry. has 6.45 miles of second track. It is operated by a commission appointed by the city councils of Port Arthur and Fort William, Ont.

(17) The Quebec Ry., Light and Power Co. has 6.30 miles of second track on its Montmorency Division. A steam freight service is operated over the Montmorency Division, the returns for which are given in the steam railway statistics.

(18) The St. John Ry. has 6.50 miles of second track. It paid \$48,000 in dividends out of net income.

(19) The St. Stephen S.R. operates over 3.00 miles of leased tracks.

(20) The St. Thomas St. Ry. is owned by the city of St. Thomas, Ont.

(21) The Sandwich, Windsor and Amherstburg Ry. owns and operates the Windsor and Tecumseh Electric Ry. The S.W. and A. Ry. is in turn owned by the Detroit United Ry.

(22) The Sarnia St. Ry. paid \$4,847.18 in dividends out of net income.

(23) The South Western Traction Co. has trackage rights over 2.28 miles of the St. Thomas St. Ry.

(24) The Sydney and Glace Bay Ry. added \$5,299.97 to reserves and special charges, and paid \$10,000 in dividends out of net income. It is owned jointly by the Cape Breton Electric Co. and the Dominion Coal Co.

(25) The Toronto Ry. reports 49.654 miles of "first main track" and 53.205 of "second main track." It added \$150,000 to reserves and special charges account, and paid \$499,805.65 in dividends out of net income. The T. Ry. owns the Toronto and York Radial Ry.

(26) The Winnipeg St. Ry. paid \$614,496.10 in dividends out of net earnings.

F. G. Rumball, of London, Ont., who was interested in the inauguration of the Southwestern Traction Co., recently returned from Honduras, where he has been viewing the country with a view to the building of a railway there.

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Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians.....	10.00 to 25.00 per acre.
Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally).....	8.00 to 15.00 per acre.
Map No. 5—South-Western Alberta.....	8.00 to 15.00 per acre.
Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian.....	10.00 to 25.00 per acre.
Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians.....	10.00 to 25.00 per acre.

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" " " 9.00 " " " 213.70	" " " 73.46	" " " 180.00
" " " 10.00 " " " 239.70	" " " 81.62	" " " 200.00
" " " 11.00 " " " 263.60	" " " 89.78	" " " 220.00
" " " 12.00 " " " 287.60	" " " 97.96	" " " 240.00
" " " 13.00 " " " 311.55	" " " 106.10	" " " 260.00
" " " 14.00 " " " 335.60	" " " 114.32	" " " 280.00
" " " 15.00 " " " 359.50	" " " 122.44	" " " 300.00

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F. T. GRIFFIN, Land Commissioner, Winnipeg.

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British Columbia Electric Ry.—It is proposed to construct about two miles of extensions to the lines in Vancouver city during the year.

In connection with the line connecting Vancouver and New Westminster, D. J. McQuarrie, local manager, stated that there would be an expenditure of \$315,000 upon betterments during the current year. A considerable proportion of this will be expended upon the construction of second track in New Westminster.

The Fraser Valley line, which has been completed to Cloverdale, was placed in operation early in Jan. Tracklaying has been completed to Abbotsford, and grading is being gone on with beyond that point. It is expected that the line will be completed by the fall to Chilliwack, where terminal yards will be laid out, and a power station erected.

The company has purchased property for a terminal site in Victoria, for the proposed extension of its lines to the Saanich district. (Jan., pg. 57.)

Berlin and Waterloo to Conestogo.—As a result of a meeting in Waterloo, Ont., Jan. 7, a committee was appointed to interview the President of the Preston and Berlin St. Ry., with a view of ascertaining the terms upon which the company would extend its line from Berlin to Conestogo.

Dunnville, Wellandport and Beamsville Electric Ry.—Application is being made to the Ontario Legislature to authorize the company to construct an extension of its authorized line of railway from Jordan Harbor to St. Catharines, Ont. J. R. Roaf, Toronto, is the solicitor. (Sept., 1909, pg. 683.)

Fort Erie Ferry Ry.—Application is being made to the Ontario Legislature to consolidate the various acts relating to the company, and to change its name to the Buffalo and Fort Erie Ry. The company also asks power to acquire lands for park or pleasure purposes. The Legislature is also being asked to validate a proposed mortgage to secure a proposed issue of bonds for \$300,000; to extend the company's powers so as to enable it to acquire shares and guarantee the obligations of certain companies, or of any other company with similar objects whose business may be carried on in conjunction with that of the company.

Fort William, Ont.—The city council of Fort William is applying to the Ontario Legislature to authorize among other things, to raise \$137,000 for the improvement of the street railway system within the city. The work proposed to be done with the money obtained will be the construction of a second track on certain streets and some short additional lines. (See Port Arthur and Fort William Electric Ry., Jan., pg. 59.)

Grand Valley Ry.—Southwestern Traction Co.—Negotiations for the purchase of the S.W.T. Co.'s line and franchises by the Grand Valley Ry. are reported to be in progress. The interests controlling the S.W.T. Co. are applying to the Dominion Government for a charter with the title of the London and Lake Erie Transportation Co., and it is stated that as soon as the act authorizing the incorporation of this company is passed, the arrangement will be completed for the merging of the two companies. The lines which the L. and L.E.T. Co. desires power to construct cover those constructed by the Grand Valley Ry. and its allied lines, the Brantford Ry. and the Woodstock Thames Valley and Ingersoll Ry., and the South Western Traction Co.

Hamilton, Waterloo and Guelph Ry.—The owners of property along the right

of way of this projected railway have been given notice that possession will be required by April 1. It is reported that construction will be started early in the spring, and the line completed to Galt by the end of 1911. The company is making application to the Dominion Parliament for an act authorizing it to make a number of extensions of its lines, including one to Toronto. The Toronto city council has given instructions to its legal department to oppose this part of the bill. (Dec., 1909, pg. 929.)

Huronario Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title to construct a line from Collingwood, Ont., through Nottawasaga, Sunnidale, Flos and Vespra tps., to Barrie. W. T. Allan is solicitor for applicants.

London and Lake Erie Transportation Co.—The Dominion Parliament is being asked to incorporate a company with this title for the purpose of constructing and operating a railway from Aylmer, via St. Thomas to London, with a branch from St. Thomas to Port Stanley; through London westerly to Glencoe; from Delaware northwesterly to Strathroy; and from London easterly to Ingersoll, with branches from Ingersoll to Thamesford and to the southern boundary of West Zorra tp., and from London easterly to Brantford, Paris and Woodstock, Ont. These various lines, it is asked, shall be declared to be for the general advantage of Canada. Power is asked to acquire the South-Western Traction Co. lines, which extend from London to Port Stanley, via St. Thomas. The capital of the company is fixed at \$2,000,000, and power is asked to issue bonds for \$25,000 a mile. The lines proposed to be constructed or acquired cover those which have been constructed by the Grand Valley and its allied companies, and by the South Western Traction Co. (Jan., pg. 57.)

Montreal and Southern Counties Ry.—Arrangements have been made for the leasing by this company of the Central Vermont Ry.'s branch from St. Lambert to Waterloo, Que., 59 miles, which is to be electrified, so that both freight and passenger traffic will be operated by electricity.

Morrisburg and Ottawa Electric Ry.—See Morrisburg Electric Ry.

Morrisburg Electric Ry. Co.—Application is being made to the Ontario Legislature to authorize this company to change its name to the Morrisburg and Ottawa Electric Ry. Co. and to extend the time for the construction of the lines authorized. These consist of lines in the vicinity of Morrisburg authorized by chap. 130 of the statutes of 1908, and an extension to Ottawa, authorized by chap. 136 of the statutes of 1909. The company also asks that its capital stock may be reduced to \$500,000 and that it may be authorized to issue bonds to the amount of \$20,000 per mile constructed, and to arrange and contract with any existing railway company for trackage from near Ottawa into that city. I. Hilliard, Morrisburg, Ont., is the solicitor.

J. McFarland, a director, is quoted as saying that arrangements would be made with the New York Central & Hudson River Railroad for a direct connection with its system; that options had been secured on several falls on the Ottawa River west of the city, from which the necessary power would be developed for the operation of the company's lines; that the location surveys had been completed for 18 miles, and estimates were in preparation, so that the grading could be started at an early date, and that the preliminary surveys showed the line would be almost straight from Ottawa to Morrisburg.

The line of railway being promoted by this company is not connected in any way with the projected belt line railway

from Ottawa, passing through Morrisburg, for which the Ottawa and St. Lawrence Electric Ry. has a charter. Some confusion has taken place in regard to these two companies in the past owing to the fact that the one company was generally referred to as the Ottawa and Morrisburg Electric Railway, and not the Morrisburg Electric Ry. With the change of name no further confusion is likely to occur. (Nov., 1909, pg. 849.)

Niagara, St. Catharines and Toronto Ry.—There are before the Board of Railway Commissioners seven applications by this company for locations in Port Colborne and the townships of Crowland and Humberstone, Ont. The applications were adjourned to enable the Board's Chief Engineer to make an examination and report. (Jan., pg. 59.)

North Midland Ry.—Application is being made to the Ontario Legislature for an extension of the time for the commencement and completion of the line authorized by 4 Edward VII., chap. 84, and for other purposes. T. H. Luscombe, London, Ont., is the solicitor.

People's Ry.—Application is being made to the Ontario Legislature to authorize the company to construct the following lines in addition to those already authorized:—From Stratford via Exeter to Grand Bend, with a branch to St. Marys; from near Stratford via Sebringville, Seaforth and Clinton to Goderich, with a branch from Clinton to Bayfield; from Mitchell to Listowel; from New Hamburg to Wellesley; from Baden to Wellesley; from Petersburg via New Dundee to Ayr and from Guelph via Hespeler to Puslinch Lake. (Jan., pg. 59.)

Regina, Sask.—A letter was read at the meeting of the city council, Jan. 3, from solicitors representing local parties who stated that they were prepared through the Western Trust Company of Winnipeg and in conjunction with J. D. McArthur to install a street railway. The council decided to advertise that the city is prepared to consider proposals relative to the granting of franchises for the operation of street railway and gas works, subject to the right of the city to take over the undertakings at the expiration of a definite term of years at a realization to be fixed by arbitration and subject to conditions with regard to charges to be made by the company's outstanding franchises. (See Regina Interurban Tramway Co., Feb., 1909, pg. 137.)

Simcoe Ry. and Power Co.—The Ontario Legislature is being asked to confirm a bylaw of the county of Simcoe and a bylaw of the township of Matchedash, allowing the company the use of certain roads and road allowances for the purposes of a pole line. The company also is asking the Legislature for an extension of time within which it may construct the railway authorized to be constructed by its act of incorporation. W. Finlayson, Midland, Ont., is the solicitor. The Simcoe county council and the Matchedash tp. council are parties to the application for the confirmation of the bylaws. (May, 1909, pg. 367.)

The Toronto city council is promoting a bill in the Ontario Legislature for a variety of purposes, in which it is also asking power to construct and operate surface railways on the streets in territory added to the city since Sept. 1, 1891; to construct a system of underground railways, and issue debentures therefor on obtaining the consent of a majority of qualified ratepayers; to construct and operate surface railways on streets upon which the Toronto Ry. Co. fails or refuses to construct its railway, or which the company may abandon under the agreement of Sept. 1, 1891; and to acquire (expropriating if necessary) the lands, buildings and appliances

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necessary for the operation of the Toronto Ry. Co., including the right to operate a street railway system in Toronto until Aug. 31, 1921.

Toronto Suburban Ry.—The Ontario Legislature is being asked to authorize the company to construct an extension of its authorized line from Brampton to Guelph, and giving it permission to amalgamate or enter into running arrangements with other companies or railways. (May, 1907, pg. 369.)

Western Central Ry.—Application is being made to the Ontario Legislature to authorize the company to guarantee the securities of other companies, the issue of its bonds over acquired railways, constructed or unconstructed; the increase of its bonding powers for its double track, and for an extension of time within which it may construct its authorized lines. Mowat, Langton and MacLennan, Toronto, are the solicitors.

Winnipeg Electric Ry.—The Manitoba Legislature is being asked to pass an act ratifying an agreement entered into between the company and the municipality of Kildonan, on Oct. 25, 1904. (Jan., pg. 59.)

Electric Railway Notes.

The taxpayers of North Toronto on Jan. 1, voted in favor of Sunday cars by a majority of 146.

The Montreal and Southern Counties Ry. has received two interurban cars and one double broom sweeper from the Ottawa Car Co., Ottawa.

The Montreal St. Ry. dividend of 2 1/2% for the quarter ended Dec. 31, 1909, making 10% for the year is payable to shareholders for record Jan. 13, on Feb. 1.

The Ottawa Electric Ry. gave 5,000 free car tickets for the use of school children, for whom the Mayor made arrangements for a visit to the recent fat stock show at Ottawa.

The Toronto Ry. is reported to have decided to put into service during Feb. a number of pay-as-you-enter cars. They will probably be given a trial on some of the busy routes.

A petition has been sent to the Montreal city council, asking it to compel the Montreal St. Ry. to stop its cars on the farther side of a crossing instead of the other, as at present.

The Hull Electric Co. has received one double broom sweeper from the Ottawa Car Co., Ottawa, and has ordered three 50 ft. double truck summer cars, for May delivery, from the Preston Car and Coach Co., Preston, Ont.

C. E. A. Carr has been appointed General Manager Quebec Ry., Light and Power Co., vice E. A. Evans, General Manager and Chief Engineer, who has resigned the former position, and will continue to act as Chief Engineer.

The Calgary St. Ry. has ordered three cars of the pay-as-you-enter type, 46 ft. 6 in. long over all, with 24 stationary seats, from the Ottawa Car Co., Ottawa, and also three similar cars from the Preston Car and Coach Co., Preston, Ont.

The London city council has granted the London St. Ry., the theatre and amusement privileges at Springbank Park for seven years, with the option of renewal for a further three years, in return for a 10c. fare with stopover privileges.

W. E. Middleton, K.C., has been engaged by the Toronto city council to represent the city under an English counsel in the Toronto Ry. appeal on the question of new lines in the city, before the Judicial Committee of the Privy Council in London, Eng., in Feb.

The disputes between Port Arthur and Fort William relative to the operation of

the street railway, are again being discussed, and it has been decided that the whole matter shall again be laid before the Ontario Railway and Municipal Board.

A Vancouver, B.C., dispatch says that on account of complaints from lady passengers the B.C. Electric Ry. Co. has posted a notice that no smoking will be allowed in city cars. Smoking has heretofore been permitted on the rear platforms.

The St. Thomas city council is applying to the Ontario Legislature to repeal the act appointing its Board of Street Railway Commissioners, to abolish the Board, and to place the management and control of the street railway in the council's hands.

A conductor on a British Columbia Electric Ry. car at Vancouver, is said to have been held up, Jan. 5, by two masked and armed men, and robbed of \$15 and his ticket box. It is stated that there was one passenger on the car at the time, and the motorman, neither of whom witnessed the occurrence, nor were disturbed.

J. T. Goldthorpe, one of those interested in the origin of what is now being constructed at the Ontario West Shore Ry., recently sued J. W. Moyes, the engineer responsible for the construction, for the non-fulfilment of a contract. On the case coming before the courts, Jan. 10, it was announced it had been settled out of court.

The Montreal & Southern Counties Ry. will be in the market shortly for eight cars, including motors and trailers, six motor freight cars and six motor flat cars for carrying building material. As soon as it electrifies the Central Vermont Ry.'s St. Lambert-Waterloo branch, which it is leasing, it will require more cars and some electric locomotives.

The Montreal Recorder recently dismissed the action of the city council against the Montreal St. Ry., for overcrowding its cars, and in doing so, stated that the company warned the city of the state of congestion three years ago, and the city has done nothing to alleviate it, and added that the city was suing the company for a state of things for which the city itself was responsible.

The Winnipeg city council has abolished the position of city inspector of street railway service on the ground that no results are following the regular inspection of equipment and service. It was stated that during the past year, the points made by the inspector had received little attention from the company, and it was considered that the service would be the same whether the inspector was on duty or not.

The Hamilton St. Ry. has ordered from the Ottawa Car Co. nine double truck cars, of which the following are the chief particulars:—

Length over end sills	30' 0"
Length of rear vestibule	6' 0"
Length of front vestibule	6' 0"
Length over all	43' 0"
Width over side sills	7' 8"
Width at belt rail	8' 2"
Seats	Longitudinal.
Upholstering	Rattan.
Inside finish	Cherry.
Seating capacity	40

The Winnipeg city council has sent an account to the Winnipeg Electric Ry., for \$2,552.47, which includes a claim for taxes on some cars on which a tax has not yet been paid, and also amounts covering the cost of repairs to breaks to water mains alleged to have been caused by electrolysis, due to electricity escaping from the company's rails. The company repudiates the claim, stating that every reasonable precaution has been taken to guard against electrolysis, and that the city is charging for breaks in mains, whether that was the cause or not. The city solicitor has intimated that unless the company

agrees not to take advantage of the statutory limitations, the city will at once sue for recovery of the amount.

The Toronto Board of Control, Jan. 11, discussed the question as to whether the Toronto and York Radial Ry. should be given permission to lay double tracks in the centre of the road on the Metropolitan division, instead of a single track on the west side as at present. Objection was taken to this, as it was considered that no such permission should be given until an arrangement had been made with the Toronto Ry. for a single fare from the city to Mount Pleasant, which is reached by the Metropolitan Ry., operated by the Toronto and York Radial Ry. Co. The matter was dropped on the city engineer intimating that there was some talk of the C.P.R. elevating its tracks in the north part of the city, and if this were done, the crossing of the C.P.R. on the level would be obviated.

The case of J. McR. Selkirk and W. Simpson against the Windsor, Essex and Lake Shore Rapid Ry., to which W. Newman and A. J. Nelles had been added by an order of the court, came up before Justice Riddell at Toronto, Jan. 9. The plaintiffs claimed \$1,000 under an agreement, for which consideration they were to cease all operations in support of the Essex and Kent Radial Ry. Co., or any other electric railway company in opposition to the W.E. and L.S.R. Ry., and to assist in procuring franchises from Leamington and Mersea. The action as against the company was dismissed, and judgment entered for the plaintiffs against the other two defendants, for the amount claimed. W. Newman and A. J. Nelles signed the agreement as President and Secretary of the company, the liability thus becoming a personal one, it being held that they had misrepresented themselves, being only provisional directors, as the company had not then been organized.

The Canadian Street Railway Association's Executive Committee had a conference with the Board of Railway Commissioners' Chief Operating Officer, A. J. Nixon, at Ottawa, Jan. 11, in reference to the proposed action of the Board to require the equipment of all electric cars with air brakes. The subject was discussed at considerable length, D. McDonald, President; J. Anderson, Vice President, J. E. Hutcheson, Ottawa, and C. B. King, London, presenting the Association's views. E. P. Coleman, Manager Railways Dominion Power & Transmission Co., and E. F. Serxas, Niagara, St. Catharines & Toronto, also specially represented their respective companies. The various companies have no objection to the equipment of double truck cars with air brakes, in fact nearly all such cars are now so equipped, but they object to the use of air brakes on light single truck cars and advanced a number of powerful reasons against such a proposal. It was decided that a series of tests of air and hand brakes be made, and the further hearing of the matter, which was fixed by the Board for Feb. 1, has been postponed to May 3.

Grading Operations at Lorne Park, Ont.

—Some grading work is being done on and near the Electrical Development Co.'s power line right of way. Contracts for teams and men to work ploughs and graders were let to farmers in the vicinity of Lorne Park, some 15 miles from Toronto, early in Jan., but how much work is to be done or what it is for no one seems to know. The power right of way is understood to form the right of way for the Canadian Northern Ry. line from Toronto to Buffalo, and the route of the Hamilton Radial Ry.'s projected line to Toronto, comes in contact with it near Lorne Park. Whatever it is for the work is not regarded as being in the nature of real construction.

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PRESIDENT, F. Plummer, Toronto; COUNSEL, F. King, Kingston, Ont.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, E. E. Horsey, Kingston, Ont. SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

PRESIDENT, W. M. Lowrie, New York. SECRETARY, M. R. Nelson, New York.

The Shipping Federation of Canada.

PRESIDENT, H. A. Allan, Montreal; MANAGER, AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Northern Navigation Co. of Ontario, Ltd.

Following is the report for the year ended Dec. 31, 1909, presented at the annual meeting in Toronto, Jan. 25:—

"Navigation opened on Lake Superior on April 27 and the Georgian Bay on May 1, for the Company's steamers, which were about the same dates as in 1908. Our statement shows an increase of about \$114,000 in gross receipts and \$41,455 in net receipts, as compared with the previous year. This was occasioned by the addition of the steamers Hamonic and Waubic to our fleet, which increased the volume of our passenger business very materially. Last year eight steamers appeared in the balance sheet valued at \$887,955. This year it shows a fleet of 10 steamers valued at \$1,485,394. This difference is accounted for by the addition of two new steamers, the Hamonic and Waubic, which when fully completed will be valued at \$550,000 for the former, and \$58,000 for the latter. The amount spent on them up to this date is on the Hamonic \$542,040, and on the Waubic \$55,398.

"The gross earnings of the Company were \$649,297.21 and the expenditure \$505,202.65, which with the balance at the credit of profit and loss account last year of \$49,637.09, leaves a balance of \$193,731.65, less appropriation for President and directors of \$2,740. Out of this amount your directors have made the following appropriations:—

Claims for 1908 paid in 1909.....	\$2,490.47
Interest on renewal and insurance funds	3,299.16
Renewal fund	24,000.00
Repair and maintenance fund	10,000.00
Written off special improvement account	2,100.00
Interest on advances	10,460.36

and dividend at the rate of 8% per annum, amounting to \$80,000, leaving a balance to be carried forward at credit of profit and loss account of \$58,641.66. The reserve funds now stand as follows:—

Renewal account	\$94,440.78
Marine insurance fund	16,202.31
Profit and loss credit	58,641.66
Total	\$169,284.75

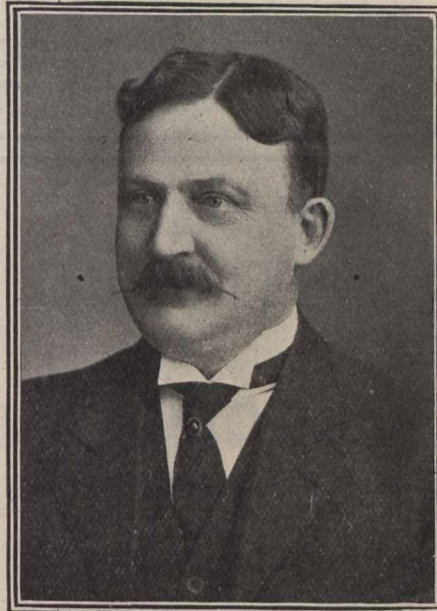
The percentage of expenses of gross earnings (not including claims paid for previous years) are as follows:—1903, 94.16%; 1904, 89.71%; 1905, 80.73%; 1906, 77.73%; 1907, 77.63%; 1908, 80.73%; 1909, 77.80%.

The steamer Hamonic, which went into commission in June, 1909, between Sarnia, Port Arthur, Fort William and Duluth, has proven herself to be a very

successful venture, and she is admitted to be by the general travelling public what was claimed for her in our last report. The steamer Waubic, which was constructed last year to operate on the Midland-Penetang-Parry Sound route is in the same class as the Hamonic for the traffic she was intended, and has fully come up to our expectations in speed and adaptability.

The company's steamers sailing from Sarnia to Lake Superior ports consume about 20,000 tons of coal each year, on which the cost of handling at their docks at Point Edward was 40c. per ton. Your directors, realizing the necessity for cheaper handling of fuel, have built at Point Edward (three miles from Sarnia) a fuelling plant which shows a saving of 25c. per ton in the cost of handling, in addition to saving about four hours' time each trip of each steamer in obtaining her coal.

Your directors being anxious for as many of the shareholders as possible to inspect the company's property propose to offer this year a reduction of 20% off the regular passage rates for any shareholder of record May 15 and any members of their family travelling with them, for one one-way or round trip passage



H. H. GILDERSLEEVE,

Manager Northern Navigation Co. of Ontario.

on any of the Company's steamers during June and July.

ASSETS.	
Ten steamers.....	\$1,485,394.18
Buildings and furniture	14,671.84
Fuel and supplies	11,934.00
Insurance unexpired	17,592.78
Accounts receivable	53,603.96
Stocks and bonds	1,500.00
Bills receivable	2,000.00
Repair and maintenance	10,937.54
Special improvement account	4,300.00
Fuelling plant	19,226.38
	\$1,621,160.68

LIABILITIES.	
To Shareholders:	
Capital stock	\$1,000,000.00
Renewal fund	94,440.78
Marine insurance fund	16,202.31
Profit and loss	58,641.66
Dividend	80,000.00
To the public:	
Bills payable	340,527.70
Accounts payable	4,368.06
Traders Bank of Canada	26,980.17
	\$1,621,160.68

PROFIT AND LOSS ACCOUNT.	
Balance from 1908	\$49,637.09
Appropriation for President and Directors	2,740.00
	\$46,897.09
Gross earnings of steamers	645,291.71
Less total expenditure	505,202.65
Net earnings of steamers	140,089.06

Dividends on stocks and bonds	95.50
Premium on stock sold	3,910.00
Total net receipts for year.....	144,094.56
	\$190,991.65

APPROPRIATIONS.	
To Shareholders:	
Dividend 8%	\$80,000.00
Steamers' renewal fund	24,000.00
Interest on renewal fund \$68,058.73	2,382.05
one year at 3½%	
Interest on insurance fund \$15,285.20	917.11
one year at 6%	
Written off special improvement account	2,100.00
Appropriated for repair and maintenance account	10,000.00
Claims 1908, paid 1909	2,490.47
Interest on advances	10,460.36
Balance carried forward	58,641.66
	\$190,991.65

The President in moving the adoption of the report said the new stock when issued would be offered first to the shareholders. A bylaw was passed fixing the President's salary at \$1,500, five members of the executive committee at \$300 a year each, and a director's fee of \$10 for each meeting attended, with travelling and hotel expenses. The directors were unanimously re-elected, the current year's board being constituted as follows:—President, W. J. Sheppard; Vice President, H. Y. Telfer; Secretary Treasurer, C. E. Stephens; other directors, W. E. Davis, Hon. J. S. Hendrie, F. A. Lett, W. D. Matthews, H. B. Smith.

At a special meeting held immediately afterwards a bylaw increasing the capital stock from \$1,000,000 to \$1,500,000 was confirmed, the President stating that the new stock when issued would be offered first to the shareholders. Another bylaw changing the name to Northern Navigation Co., Ltd., was also confirmed.

Dominion Marine Association.

The annual meeting was held in Ottawa Jan. 27 under the presidency of C. J. Smith, Richelieu & Ontario Navigation Co.

The Vice President, H. H. Gildersleeve, declined election to the presidency owing to lack of time to devote to the duties. F. Plummer, Canadian Lake Transportation Co., was elected President; J. Playfair, Midland Navigation Co., First Vice President; and D. Murphy, Ottawa Transportation Co., Second Vice President.

The Executive Committee is composed as follows: Elected in 1909 for three years, two years yet to serve:—A. B. Mackay, Inland Navigation Co.; S. C. Calvin, Calvin Co.; J. W. Norcross, Mutual Steamship Co. D. Murphy was elected for the remaining two years in place of R. W. Shepherd, who has resigned from the Ottawa River Navigation Co. Elected in 1909 for two years, one year yet to serve:—H. H. Gildersleeve, Northern Navigation Co.; L. Henderson, Montreal Transportation Co.; F. Plummer, Canadian Lake Transportation Co.; J. Playfair, Midland Navigation Co. The following were elected for three years at the recent meeting:—H. W. Richardson, H. W. Richardson & Sons; J. P. Cavanagh, Ogdensburg Transportation Co.; W. F. Wasley, Muskoka Lakes Transportation & Hotel Co.; G. B. Green, Upper Ottawa Improvement Co.

A bill providing for the placing of a load line on vessels trading in Canadian waters was given a first reading in the House of Commons, Nov. 18.

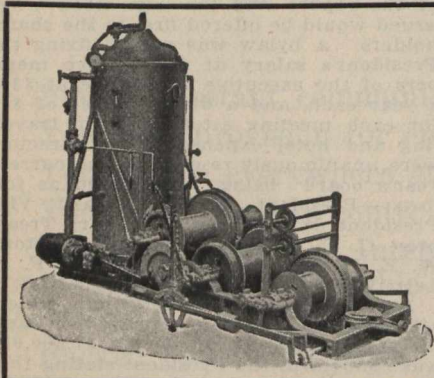
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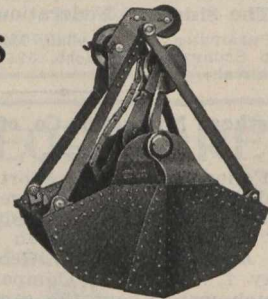
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Niagara Navigation Co., Ltd.

Following is the report for the year ended Nov. 30, 1909, presented at the annual meeting in Toronto, Jan. 11:—

The purchase of the dock at Lewiston, referred to in the last annual report, has been completed, at a cost of \$25,000, this sum being added to real estate and wharves account. The Company now owns a landing place at each of its Niagara River ports of call. The cost of restoring and improving the wharves damaged by the ice jam last spring has been charged against operating expenses for the year. This, with the inconvenience caused by obstruction to navigation early in the season, accounts for the reduction shown in net earnings. The steamers and all the Company's property have been fully maintained. An opportunity is now open to the Company to obtain the ownership of, or a controlling interest in, suitable dock property in Toronto, and your approval of the Board taking steps to secure this important advantage will be asked for. After providing for the dividend, interest on debentures, writing \$25,000 off steamer values, and placing \$5,000 to renewal and betterment fund, the balance to credit of profit and loss account stands at \$133,714.02.

ASSETS.

Steamers	\$59,725.33	
		\$834,725.33
Less written off	25,000.00	
Real estate, wharves, etc.	75,000.00	
Accounts receivable	1,835.56	
Cash in Dominion Bank	93,527.59	
		\$1,005,088.48

LIABILITIES.

Capital stock authorized	\$1,000,000.00	
Subscribed and paid	\$701,700.00	
Debentures outstanding		
4½%	122,000.00	
Accrued interest on same	2,287.50	
		124,287.50
Reserve for renewals and betterments	15,000.00	
Accounts payable	2,318.96	
Dividend 4% payable Jan. 3, 1910 ..	28,068.00	
Balance at credit of profit and loss ..	133,714.02	
		\$1,005,088.48

PROFIT AND LOSS ACCOUNT.

Balance Dec. 1, 1908	\$133,394.48	
Net earnings for year	91,956.79	
		\$225,351.27
Interest on debentures	\$5,501.25	
Written off steamers	25,000.00	
Reserve for renewals and betterments ..	5,000.00	
Dividend 4% paid July 2, 1909	\$28,068.00	
Dividend 4% payable Jan. 3, 1910 ..	28,068.00	
		56,136.00
Balance carried forward	133,714.02	
		\$225,351.27

Note.—The net earnings in 1908 were \$102,510.28, against \$91,956.79 in 1909. The shareholders authorized the directors to acquire the Yonge St. wharf, hitherto leased by the Richelieu and Ontario Navigation Co., and which had already been purchased from the Free-land Estate by the President, E. B. Osler. It was also intimated at the meeting that the company has acquired a dock at Youngstown, N.Y., opposite Niagara-on-the-Lake.

Following are the officers and directors for the current year:—President, E. B. Osler; Vice President, F. B. Cumberland; other directors, Hon. J. J. Foy, C. Cockshutt, J. B. Macdonald, W. D. Matthews, Hon. J. S. Hendrie.

G.T.P.R. S.S. Prince Rupert.

The s.s. Prince Rupert, which was launched at Wallsend-on-Tyne, Eng., Dec. 19, has been built specially to meet the requirements of the Pacific Coast service. When completed, she will present a smart appearance, with straight stem and cruiser stern. There will be two pole masts and three funnels, the centre one bearing the flag device of the

company, a maple leaf in a circle traversed by a band bearing the initials G.T.P. The rounded cruiser stern has been adopted in order to obtain the best lines to give a high speed. In service she will run at 17 to 18 knots an hour, though she may be run at 19 knots an hour. The principal dimensions are: length over all, 320 ft.; breadth, 42 ft. 2 in.; depth, to main deck, 18 ft. She is being built to the highest class under the British Corporation Survey and will also comply with the Board of Trade regulations for passenger steamers. Her gross tonnage will be about 2,859 tons. The machinery will consist of two sets of triple expansion engines balanced on the latest improved systems, ensuring smooth and steady running and the reduction of vibration to a minimum. The accommodation will consist of staterooms, each of two berths, for 220 first class passengers, on the shelter and shade decks, with a few staterooms en suite placed amidships on the shelter deck. Second class passengers will be carried on the main deck forward, and when occasion arises, 1,500 excursionists can be taken aboard. The dining saloon on the main deck is placed at the extreme after end of the vessel, the rounded shape of the cruiser stern making an extremely handsome room, which will be furnished and panelled in oak, the tables being small and placed in bays. The smoking room, at the after end of the shade deck will be furnished and panelled in fumed oak. The music room will be decorated in white enamel and light colors. An observation room will be provided on the shade deck forward of the funnels. It will be panelled in maple and sycamore, and will be very lofty and well lighted by large square windows giving an uninterrupted view of the scenery en route. The vessel is being equipped with wireless telegraph installation, electric light, steam heating and complete refrigerating plant. The rudder is of the balanced type, wholly below the water line, and will be actuated by a telemotor steering gear.

Improvements at Port Colborne

The question of the cost of the improvements at Port Colborne, Ont., was raised in the House of Commons, Jan. 17. The Minister of Public Works stated that the works, so far as they affected his department were complete but, eventually, the superstructure of the inner portion of the western breakwater, which was built of wood, would require to be renewed in concrete at an estimated cost of \$250,000. The Department of Railways and Canals has represented to his department the advisability of constructing a spur from the western breakwater to the extremity of the Welland Canal, which would cost about \$350,000, and the matter was under discussion. The con-

struction of breakwaters had cost \$905,057.82. And the Minister of Railways and Canals stated that \$1,709,946.73 had been spent by his department on the work at Port Colborne since 1901, and the amount necessary to complete the works contemplated, not including the elevator, was \$104,000. The main improvements made are:—deepening of the harbor and canal entrance to 22 ft., cost \$870,602; building docks and piers, \$816,571; building elevator siding, \$36,707. The cost of the elevator and equipment was \$817,737.94; it had a capacity of 800,000 bush., but it had been constructed in such a way as to provide for an extension to a capacity of 2,000,000 when justified by sufficient business. The elevator was first used Oct. 6, 1908; in that season 365,033 bushels of grain were handled, and in 1909 there were handled 1,747,550 bush. The cost of operating the elevator in 1909 was \$19,310.24, and the revenue was \$9,477.

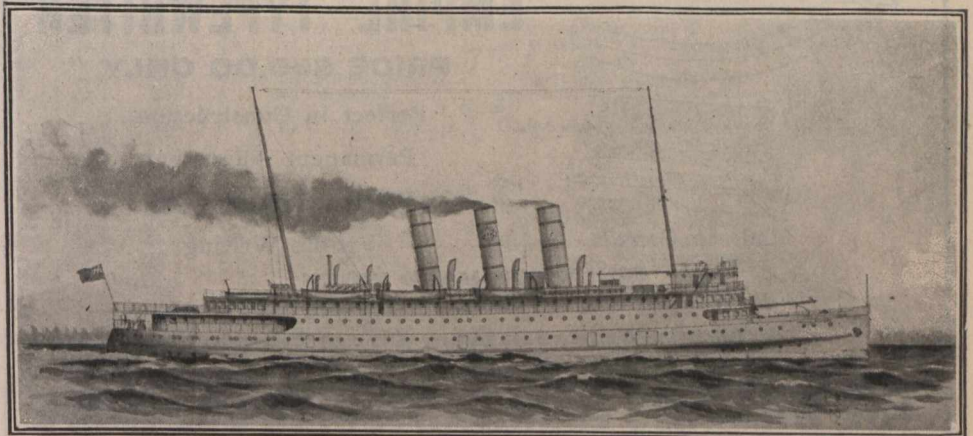
In connection with the Port Colborne improvements and the question of deepening the Welland Canal the Minister of Railways stated Jan. 17, in reply that \$20,000 had been expended upon surveys to ascertain the most desirable route for a possible new canal or enlargement of the old canal. These surveys are not yet completed and it is estimated that \$25,000 will be required to complete them.

The Montreal, Ottawa and Georgian Bay Canal Co. is applying to the Dominion Parliament for an Act repealing sections in its Acts of 1896 and 1898, and adding a new paragraph to sec. 8 of the Act of 1894, defining the route of the proposed canal as follows: From the River St. Lawrence near Montreal, by way of the Ottawa River, Mattawa River, Lake Talon, Turtle Lake, Trout Lake, Lake Nipissing and the French River, or any of the branches or tributaries of these rivers, with such deflections as may be necessary to overcome obstacles to navigation, to the navigable waters of Georgian Bay. Authority is asked to increase the number of directors from 15 to 25, the minimum number to be nine, instead of eight, as heretofore; and it also asks an extension of time within which it may construct the canal. The rights of the Government of Canada secured by sec. 5, Chap. 128, of the statutes of 1906, are not to be affected or impaired by anything in the new Act.

Maritime Provinces and Newfoundland.

The St. John's, Nfld., pilots have chartered Job Bros.' steam tug Tommy for their use until a steam pilot boat can be purchased.

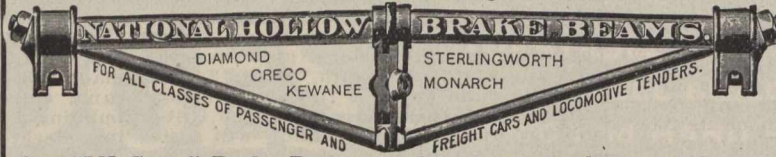
The Newfoundland Government received tenders Jan. 15, for the mail service for the districts of Fogo and Fortune Bay. For the former service the steamer



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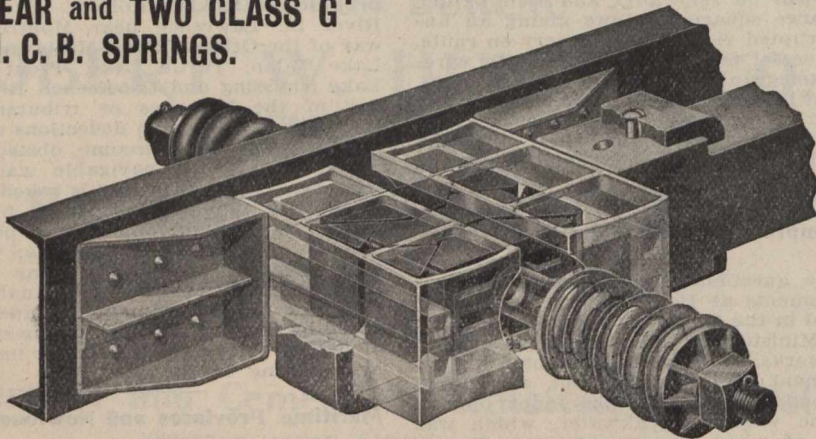
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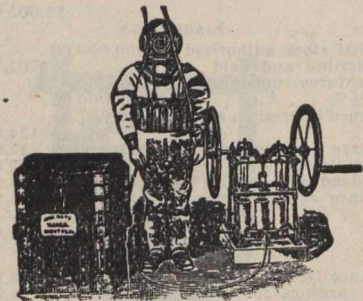
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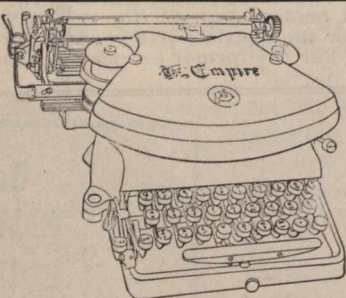


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desired is to be between 120 and 150 tons, and for the latter service, from 80 to 100 tons.

The annual meeting of the St. John, N.B., Pilot Commissioners was held, Jan. 7. During 1909, 336 British and 239 foreign vessels were liable to pilotage dues, from which there was collected \$29,974.61 British and \$8,262.86 foreign, total \$38,237.41. There are 24 pilots on the active roll, two under superannuation, and 11 widows are being provided for out of the funds.

Bruce Stewart and Co. are applying to the P.E.I. Legislature for incorporation, to carry on the business of engineers, ship owners and contractors for the construction of boats, bridges, elevators, railways, wharves, etc., and in connection therewith to own and operate steam and other vessels. The applicants are, B. Stewart, A. McNair, C. L. McKay, F. R. Hertz, Charlottetown and J. McLean, Souris, P.E.I.

The question of the formation of a company to build a vessel for operation between Fredericton and Woodstock, N.B., is being considered. It is proposed to have a vessel about 80 ft. long, with 18 ft. beam, equipped with two gasolene engines of 50 h.p. each, and with an adjustable stern wheel, for about 21 ins. wraught, at an estimated cost of \$7,000. W. E. Vaughan, Fredericton, N.B., is interested in the matter.

In our last issue it was stated that the Dominion Iron and Steel Co., was reported to have ordered two vessels for its ore carrying trade. We are advised

that two vessels are being built in Great Britain, specially adapted for the ore carrying trade, for cargoes of not less than 10,500 tons each on a maximum draught of 25 ft. They will have an average speed of 10 knots an hour, and dimensions, length overall, 452 ft., breadth, 58 ft. They will be operated by the Dominion Iron and Steel Co., under charter for the ore carrying season only, say from May to Nov., inclusive.

Province of Quebec Marine.

The s.s. Turret Bell was libelled, Jan. 11, at the instance of a firm of Levis merchants, who are suing for the supply of necessaries. The Turret Bell was wrecked about three years ago at Prince Edward Island, and was raised last fall, and was berthed at Levis for the winter.

The annual meeting of the Fraserville Navigation Co. was held at Riviere du Loup, Dec. 31, 1909. Following are the officers and directors for the current year:—President, J. Hamel; Vice President, L. Fortin; other directors, Messrs. Lacombe, Charette and Aubin; Manager, G. St. Pierre. G. G. Grundy, General Manager Temiscouata Ry., who was Vice President of the company at its inauguration, resigned last summer, and has not since been connected with it.

The Quebec Harbor Commissioners are taking action against the estate of the late E. Dussault and the President of the Legislative Council of the Province for

the recovery of certain beach lots near the mouth of the St. Charles River. The Commissioners claim to have a title to these lots under the Statutes passed before Confederation, and it is anticipated that an interesting controversy will arise between the Federal and Provincial Governments as to the disposition of beach lots in the Quebec harbor.

La Compagnie de Navigation des Pelerinages has been incorporated with a capital of \$90,000 and office at Montreal, to carry on the business of general carriers of passengers and freight on the rivers and lakes of Canada, and in connection therewith to construct, acquire and operate steam and other vessels. The provisional directors are: J. C. Desautels, E. A. Marchildon, J. Beaulac, O. Brunet and J. A. Parent, Montreal. It is anticipated that the company will acquire or lease either one or more vessels for the operation of a service between Montreal, Cap Magdelen and Ste. Anne de Beaupre during the summer months in connection with pilgrimages from points in Quebec, Ontario and the U.S. to the shrine at Ste. Anne de Beaupre.

Ontario and the Great Lakes.

Capt. A. Muir, a well known lake mariner and shipbuilder of Port Dalhousie, died there Jan. 2, aged 91.

The St. Clair and Erie Ship Canal Co.'s bill was read a second time in the House of Commons, Jan. 18.

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING DEC., 1909.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Alice R.	126,290	The Range, N.B., 1909	Screw 40 n. h. p.	64.7	18.0	6.5	75	51	St. John, N.B.	A. B. and W. S. Ruddock, St. John, N.B.
Amappah	126,639	Montreal, 1909	" 7 "	51.2	10.9	7.6	26	18	Montreal	J. W. Duncan, Montreal.
Atlalautk	126,612	Hartley Bay, B.C., 1909	" 1 "	31.5	8.0	3.3	9	6	Prince Rupert, B.C.	C. A. G. Robinson, Hartley Bay, B.C.
Charles Lemcke	123,058	Lion's Head, Ont., 1909	" 26 "	92.0	17.6	9.1	101	69	Owen Sound, Ont.	Lemcke Tug Co., Lion's Head, Ont.
Chemainus	126,509	Chemainus, B.C., 1909	" 40 "	93.4	22.0	9.8	153	71	Victoria	Victoria Lumbar and Mfg. Co., Victoria, B.C.
Derry	126,036	Canoe Cove, P.E.I., 1909	" 2 "	38.4	9.2	2.9	6	5	Charlottetown, P.E.I.	J. T. Inman, Canoe Cove, P.E.I.
Heathcote	129,040	Sunderland, Eng., 1898	" 210 "	300.0	42.5	20.2	2345	1595	Sydney, N.S.	H. McInnes, Halifax, N.S.
Lutin	126,631	Montreal, 1907	" 1 "	21.6	3.7	1.6	1	1	Montreal	A. Decary, Montreal.
MacKelvie	126,260	Campbellton, N.B., 1909	Paddle 4 "	60.0	15.0	4.6	44	22	Chatham, N.B.	W. H. Miller, Campbellton, N.B.
Minoru	126,602	Baltimore, U.S., 1904	Screw 45 "	95.0	20.6	9.5	141	77	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
Reliable	126,603	Wilmington, U.S., 1901	" 68 "	90.0	23.0	11.0	192	99	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
Somono	126,636	Steveston, B.C., 1909	" 2 "	35.3	7.8	3.9	10	7	Vancouver, B.C.	A. Mearns, Vancouver, B.C.
Stoddart	126,056	Mantowaning, Ont., 1909	" 2 "	45.0	12.0	4.0	11	7	Owen Sound, Ont.	Rixon, Ainslie, Stoddart, Co., Owen Sound, Ont.
Troilene	126,277	New Westminster, B.C., 1909	Screw 14 "	36.9	8.0	1.8	7	5	New Westminster B.C.	J. P. H. Bole, New Westminster, B.C.

*Formerly Leader. †Formerly American.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING DEC., 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
A. M. 7	126,633	Vancouver, B.C., 1900	Scow	72.0	28.0	7.0	135	Vancouver, B.C.	R. Armstrong, Vancouver, B.C.
A. B. Bartheaux	117,169	Canning, N.S., 1909	Schr.	133.0	35.0	12.5	398	Windsor, N.S.	W. H. Baxter, M.O., Canning, N.S.
A. F. Davison	126,017	Annapolis Royal, N.S., 1909	"	171.9	36.0	12.9	53	Annapolis Royal, N.S.	A. D. Richard, M.O., LaHave, N.S.
A. Mielllette	126,688	St. Anne de Sorel, Que., 1909	Sloop	89.3	22.6	6.5	79	Montreal	A. Mielllette, St. Anne de Sorel, Que.
Alice Mattatall	103,808	Tatamagouche, N.S., 1909	Schr.	36.4	12.6	6.1	16	Pictou, N.S.	H. Mattatall et al, Tatamagouche, N.S.
C.P.R. No. 1	126,507	Vancouver, B.C., 1909	Barge	120.0	30.0	8.5	252	Victoria	C. P. R. Co., Montreal.
Chuaran Beag	126,565	Ingonish, N.S., 1909	Schr.	41.0	14.3	6.0	18	Sydney, N.S.	J. E. McLeod, Ingonish, N.S.
Dombrico No. 2	126,692	Lachine, Que., 1909	Scow	87.4	37.8	8.4	323	Montreal	Dominion Barging Co., Lachine, Que.
Dump Scow No. 320	126,696	Coteau, Que., 1897	"	79.3	20.9	6.7	90	"	G. de Serres, Montreal, Que.
Dump Scow No. 322	126,697	"	"	79.1	21.0	7.2	97	"	" " "
Dump Scow No. 323	126,698	"	Barge	54.3	13.9	3.7	15	"	" " "
E. C. No. VIII	126,635	Vancouver, B.C., 1908	Scow	52.2	24.0	6.0	68	Vancouver, B.C.	E. Cook, Vancouver, B.C.
G. D. No. 1	126,695	Grenville, Que., 1903	Barge	75.8	18.1	4.2	45	Montreal	G. Dansereau, Grenville, Que.
Invader	126,604	"	Dred.	75.0	30.0	7.0	17	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
J. B. Young	126,584	Lunenburg, N.S., 1909	Schr.	107.2	26.3	10.2	100	Lunenburg, N.S.	J. B. Young, M.O., Lunenburg, N.S.
Jack Canuck No. 3	126,652	Midland, Ont., 1901	Dred.	63.0	24.2	6.0	113	Midland, Ont.	Russell & Brooks, Toronto.
Joseph Doucet	116,689	Jardineville, N.B., 1909	Schr.	34.6	11.6	"	10	Richibucto, N.B.	A. Doucet, Jardineville, N.B.
L. 7	126,605	Loggieville, N.B., 1909	Barge	74.0	22.6	6.0	142	Chatham, N.B.	R. Loggie, M.O., Loggieville, N.B.
L. 8	126,606	"	"	74.0	22.6	6.0	142	"	" " "
Loze	126,601	Caraquet, N.B., 1909	Schr.	35.0	11.5	5.6	13	"	E. Cormier, Upper Caraquet, N.B.
Shiloh	126,472	Tancook, N.S., 1909	"	46.2	12.6	5.9	23	Halifax, N.S.	M. Harrie, Ferrence Bay, N.S.
W. C. & St. M. No. 2	126,693	Chateaugay, Que., 1909	Scow	28.5	17.5	3.5	43	Montreal	W. Crepin, and O. Ste. Marie Chateaugay, Que.
W. C. & St. M. No. 3	126,694	"	"	32.0	16.5	4.0	24	"	" " "
Wilfrid M.	126,583	Lunenburg, N.S., 1909	Schr.	116.9	30.0	9.8	199	Lunenburg, N.S.	Wilfrid M. Co., Lunenburg, N.S.

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During 1909 2,939 vessels arrived at Toronto, having a total tonnage of 1,480,293, against 3,430 vessels, with a tonnage of 1,521,165 in 1908.

The Fort William City Council is asking the Ontario Legislature, among other things, for power to raise \$525,000 for the construction of a subway and dock.

The Inland Revenue Department is receiving tenders to Feb. 7, for the privilege of ferrying across the Ottawa River from Pembroke, Ont., to Allumette Island, Que., for five years from May 1.

J. MacEdward, purser of the C.P.R. s.s. Assiniboia, was presented with a gold locket, a cane and an arm chair, at Owen Sound, recently, on his retiring on superannuation after 23 years' service.

The Northern Transport Co., Ltd., has been chartered under the Ontario Companies Act, with a capital of \$40,000 and office at Toronto, to carry on the businesses of general carriers and forwarding agents.

The International Waterways Canal and Construction Co. is the title of a company for the incorporation of which the Dominion Parliament is being asked to pass an authorization act. G. A. Graham, Fort William, Ont., is one of the provisional directors.

Considerable progress has been made with the preparatory work of construction on the site of the dry dock at Port Arthur. A number of teams are at work, and the crib work and filling has been extended out about 500 ft. Work will be continued throughout the winter.

The Toronto Board of Control has under consideration an application from the Polson Iron Works, Ltd., Toronto, for the purchase of about 50 acres in Ashbridge's Bay for the construction of a dry dock and shipbuilding plant. It is stated that the company is willing to pay \$1,000 an acre.

The Porcupine Transportation and Trading Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$40,000 and office at Cobalt, to acquire and operate steam and other vessels for the carrying of passengers and freight and to carry on a general transportation business.

The International Dredge and Dock Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$50,000 and office at Toronto, to carry on a general dredging, dock and contracting business, and to own and operate steam and other vessels. The provisional directors are: W. A. Lydon, W. Cahill and H. C. Wild, Chicago, Ill.

The Montreal and Lake Erie Steamship Co. has purchased the steamboat Japan in the U.S., which it proposes to transfer to the Canadian register under the name City of Hamilton. She will be operated in conjunction with the company's other vessels, the City of Montreal and the City of Ottawa, under the management of G. E. Jaques and Co., Montreal.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above tidewater, for Dec., 1909, as follows:—Superior, 602.29; Michigan and Huron, 580.08; Erie, 571.41; Ontario, 245.21. Compared with the Dec. average for the previous 10 years, Superior was 0.40 ft. below; Michigan and Huron, 0.21 ft. below; Erie, 0.29 below; and Ontario, 0.07 below.

The International Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$20,000 and office at Toronto, to build, acquire and operate steam and other vessels, wharves, docks, etc., and to cooperate with other companies. The provisional directors are: H. Munderloh, C. Byrd, Montreal; D. A. Gordon, Wallaceburg, Ont.; C. Renfret and R. Bell, Montreal.

Local press reports state that V. P. Baumb is about to submit a proposal to the London city council for the dredging of the River Thames to Springbank, in return for the sand and gravel rights for five years. He intends to build a dredge at a cost of about \$7,000, and is prepared to dredge the river to a reasonable depth, after which, it is stated, it is the intention to operate a passenger boat there.

The Fort William Ice and Fuel Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Fort William, to carry on a general land, building and ice business, and in connection therewith to build, purchase or otherwise acquire and operate steam and other vessels, wharves, docks, warehouses, etc. The provisional directors are: C. W. Jarvis, H. J. and J. E. Swinburne, Fort William.

The Colonial Transportation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$100,000 and office at Toronto, to construct, own and navigate steam and other vessels, to carry on the business of common carrier of passengers and freight, and to enter into agreements with other similar companies. The provisional directors are: A. M. Boyd, M. P. Arnold, M. McPhee, R. B. Henderson and W. W. Sloan, Toronto.

Application is being made to the Dominion Parliament to incorporate the Morrisburg Ferry and Dock Co., with power to construct, acquire and operate a ferry service on the St. Lawrence River, for passengers, cars and freight, between Morrisburg and some point in New York State, and with power to build docks, wharves, slips, and a railway to connect with the G.T.R. or any other railway within the Morrisburg municipality. I. Hilliard, Morrisburg, is solicitor for applicants.

Capt. G. C. Coles on his return to Collingwood from Port Burwell, where he had been investigating the causes of the grounding of the car ferry Ashtabula, is reported to have stated that he will recommend the construction of a breakwater off the piers there, to make the port safe at all times. The cost of such work is estimated at \$20,000, and its construction would render unnecessary the dredging which has to be done every summer to clear the sand from the mouth of the harbor.

The Hamilton Ferry Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$40,000 and office at Hamilton, to build, purchase or otherwise acquire and operate steam and other vessels, and carry on a general transportation and inland navigation business, etc., and to acquire the undertaking of the Hamilton Ferry Co., under agreement of Dec. 6, 1909. The provisional directors are: J. A. and H. W. Woodman, J. Freeborn, O. W. Gibb, J. Chisholm, Hamilton, Ont.

The Algoma Central Steamship Line has sold its steamboat King Edward to A. E. Thomson, Cleveland, O., who is stated to be interested in the steamboat service which press reports state the London and Erie Transportation Co. will operate in connection with the Southwestern Traction Co., recently acquired. The Algoma Central Steamship Line will not have any passenger boats in operation during the forthcoming season, and it is unlikely that it will undertake any passenger business in the future, although the freight service will be continued as heretofore.

The Detroit, Belle Isle and Windsor Ferry Co. has placed an order in Toledo, Ohio, for the construction of an excursion passenger steamer, for delivery in June. Following will be the dimensions:—length over all, 196 ft.; length

between perpendiculars, 181 ft.; breadth of hull molded, 50 ft.; breadth on guards, 62 ft.; depth molded, 17 ft. 6 ins. She will be equipped with triple expansion engines, with cylinders 20½, 32 and 50 ins. diam., by 36 ins. stroke, supplied with steam by two cylindrical boilers, 13 ft. 2 ins. diam., by 12 ft. long, under 180 lbs. pressure, and fitted with forced draught. She will develop 1,800 h.p., and have a speed of 18 miles an hour when loaded. She will be licensed to carry 3,400 excursionists on the Detroit River.

Speaking at a political meeting in Ottawa recently Hon. C. Murphy, Secretary of State, said that a commission of five composed of a ship-owner, a banker, a business man or manufacturer, an engineer, and one other, to report on the commercial feasibility of the Georgian Bay Canal as a preliminary step to its construction by the Government. Sir Wilfrid Laurier also spoke in favor of the construction of the canal, intimating that he would like to have the name of his Government connected with the enterprise. He said that the deepening of the Welland Canal was also a necessary project that must be undertaken in the near future in order to provide an outlet for the rapidly-growing export traffic from the west, which in a few years must include at least six hundred million bushels of wheat for export, and which would be sufficient to tax every possible outlet.

The Richelieu and Ontario Navigation Co. has secured the incorporation of a subsidiary company to be known as the Richelieu and Ontario Navigation Co. of the United States, for the operation of its new vessel the City of Rochester. Next season, this vessel will make three trips a week between Youngstown and Ogdensburg, N.Y., calling at Charlotte, Clayton, Frontenac and Alexandria Bay, N.Y., and Prescott, Ont., connecting at the last named place with the rapid steamboat for Montreal. On the up trip, Prescott will not be called at, the stops between Ogdensburg and Youngstown being Alexandria Bay, Frontenac, Clayton and Charlotte. The press reports that the company would operate between United States ports under the title of the International Inland Navigation Co., to which we called attention in our last issue, are incorrect.

The Richelieu and Ontario Navigation Co., has leased the Geddes wharf, Toronto, which will probably be used also by the Hamilton Steamboat Co.

B.C. and Pacific Coast Marine.

Press reports from Victoria state that the survey ship Egeria will be sold out of the service in 1911.

The British Columbia sealskin catch for the past year was 3,552 skins taken by five vessels, the average per vessel being good, but the total catch, owing to the smallness of the fleet engaged, was the smallest on record.

The Empire Stevedoring Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$100,000, to carry on a general stevedoring business; to acquire any existing business having the same objects; to build, purchase or otherwise acquire, and operate, steam and other vessels, and to carry on a general steamship business.

The Gulf of Georgia Towing Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, to acquire the tug, scow and business of A. R. Best, Vancouver, to own and operate steam and other vessels, to carry passengers and freight, and to carry on a general business as vessel owners, forwarders and warehousemen.

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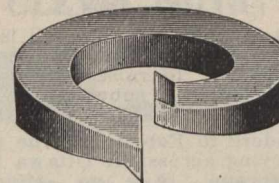
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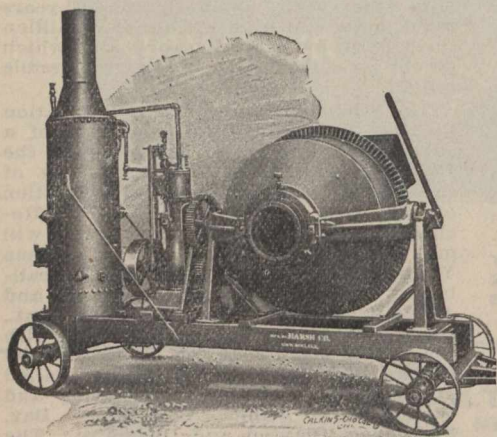
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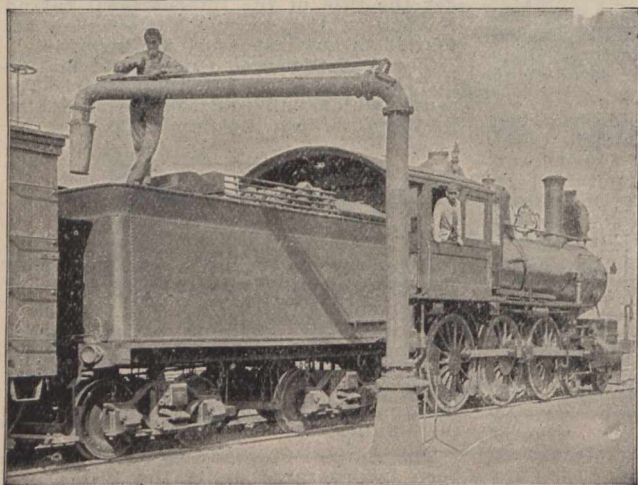
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The steamboat *Strathcona*, which was recently wrecked on the Fraser River, has been abandoned after having been raised, as she is not considered to be worth repairing. She was built in 1898 at Vancouver; her dimensions were: length, 142.4 ft.; breadth, 30.4 ft.; depth, 4 ft.; tonnage, 596 gross, 376 register. She was equipped with engine of 17 n.h.p. driving a paddle.

At the annual meeting of the New Westminster Pilot Board, Jan. 3, it was reported that 17 ocean going steamships and three sailing vessels came up the Fraser River during the 10 months ended Dec. 31, 1909. The pilotage fees received were \$1,350, a considerable increase over the previous year. The proposal that the pilots of New Westminster, Vancouver, Nanaimo and Victoria, be placed under the control of a general board with headquarters at Williamshead, near Victoria, was discussed and rejected on the ground that a general pilot station at the point named, where pilots would take vessels in regular turn, would be impracticable, as pilots taking vessels to New Westminster require to have special knowledge of the Fraser River, and keep in touch with its constantly changing sandbars.

Atlantic and Pacific Ocean Marine.

The Canadian-Australian Steamship Co.'s s.s. *Makura* has been equipped with a wireless telegraph installation.

The Donaldson Line is reported to have purchased the s.s. *Raglan Castle*, and to have renamed her *Pythia*, to replace the wrecked s.s. *Hestia*.

Canadian Northern Steamships, Ltd., is reported to have made application to the Mersey Dock and Harbor Board, Liverpool, Eng., for berthing accommodation there.

European press reports state that the Italian Government will subsidize a new steamship line for the maintenance of a fortnightly service between Naples and Montreal.

The s.s. *Germanicus* chartered by the Dominion Iron and Steel Co., sailed from Sydney, N.S., early in Jan., with a further consignment of rails for the G.T.P.R., for Prince Rupert, B.C., by way of Cape Horn.

The C.P.R. s.s. *Empress of Ireland* is scheduled to sail from Liverpool, Eng., Feb. 11 for St. John, N.B., on her first trip after being overhauled in consequence of the accident she had near Matane last fall.

The Donaldson Line s.s. *Saturnia* was launched recently at Glasgow, Scotland, and is scheduled to sail on her maiden trip, from Glasgow, June 11, and will be due at Montreal, June 20. She has been constructed more especially for the third class passenger trade, with accommodation for 1,000.

The contract entered into for the transportation of goods from Canadian Pacific ports to Canadian Atlantic ports, via the Tehuantepec route, to which Elder-Dempster Co. forms a party, prohibits that company under penalty of cancellation and forfeiture of bonds from carrying cargo between Mexican Gulf ports and Europe by way of Canada.

Press reports of Jan. 1, emanating from the U.S., stated that the Dominion Government had purchased the British cruiser *Rainbow*, as the first vessel for the proposed navy. On a subsequent date, the Premier stated that no vessels had been purchased, but negotiations, with that end in view, were proceeding with the British Government.

D. Campbell, local manager Elder-Dempster Co., Montreal, on his return from Ottawa, Jan. 7, stated that the Australia and New Zealand Governments had promised subsidies for the service

proposed to be operated by his company between the St. Lawrence and the Antipodes, by way of South Africa, and the Canadian Government had promised that the matter would have its early attention.

With reference to the remarks made at the recent launching of the s.s. *Prince Rupert* for the G.T.P.R., in England, as to that company's intention in connection with its proposed Atlantic steamship service, we are officially advised that there is no change in the present position of the company in regard thereto, and although it is possible that such a service will eventually be established, no immediate change is contemplated.

Judgment was recently pronounced in Glasgow, Scotland, against the Allan Line for £184 19s 5d, being the amount of loss in respect of damage to a cargo of flour between New York and Glasgow, on the s.s. *Corinthian*, and £17 6s 11d for short weight. It was held that the ocean bill of lading, to which the through export bill of lading is subject, charged the defenders with the receipt of the flour in apparent good order and condition, except in so far as they notified the inland carriers that 110 bags was the contrary. On the arrival of the cargo at Glasgow, the consignees were advised that 4,123 bags were caked, and the defenders had failed to prove that the caking of the 4,022 bags did not arise on board the *Corinthian*, or in their custody.

The Vice President of the International Mercantile Marine Co. has confirmed the statement that a portion of the Canadian service will be discontinued for the forthcoming season, unless arrangements can be made for a Government subsidy. It is stated that the St. Lawrence service is unprofitable, and that the deficit on the year's operations of \$1,729,983 is in part due to that fact. Negotiations are in progress regarding a subsidy, and should these not be successful, it is probable that the *Laurentic* and *Megantic*, the two vessels constructed last year for the Canadian trade in the summer and the New York trade in the winter, and operated under the White Star-Dominion Line, will not again be placed on the St. Lawrence route.

Dry Docks Harbors, Etc.

The total expenditure incurred by the Department of Public Works during the financial year ended March 31 was \$14,784,739.39, divided as follows: Capital, \$1,867,346.01; income, \$12,292,359.15; revenue, \$625,034.23. Of this expenditure works on harbors and rivers absorbed \$3,305,920.32; dredging, \$4,547,773.43; slides and booms, \$137,086.57. The revenue included \$76,455.41 from slides and booms, and \$60,505.16 from graving docks. The sources of revenue from graving docks were: Esquimalt, \$20,583.36; Kingston, \$10,693.84; Levis, \$29,227.96.

The increase in the Canadian lake marine during the past few years has rendered absolutely necessary the construction of more and larger docks. With a view to encouraging private enterprise in this direction, an act was passed in 1903 whereby an annual subsidy of 3% for 20 years on the cost, not to exceed \$1,000,000, might be paid to any company constructing a dry dock in accordance with plans submitted to and approved by the Department. In the session of 1908-09 an amending act was passed making such subsidy payable on a sum not exceeding \$1,500,000. The first company to take advantage of the provisions of this act was the Vancouver Dry Dock and Shipbuilding Co., with which the department entered into an agreement May 31 last for the construction of a floating dock in Vancouver

harbor, to be 486 by 66 ft., with a tonnage of 11,000. The dock will be constructed in England, and shipped in knockdown condition to Vancouver. Two other applications for subsidies are under consideration, one from the Sault Ste. Marie Dry Dock and Shipbuilding Co., and the other from the Thunder Bay Dry Dock and Shipbuilding Co., for the erection of a floating dock at Port Arthur. For some time the shipping interests have felt the need for a dock with thoroughly equipped repair plant on the lower lakes. The Kingston graving dock was constructed at a time when chartered companies would not build a dock. It has served its purpose up to the present, but of late years there has arisen a pressing demand for improved facilities. The United States docks and shipyards have absorbed a good part of the business which would naturally go to Kingston if a satisfactory repair plant were installed. It is felt that the time has come when a private company, if in control of this dock, by establishing a modern repair and shipbuilding plant, would satisfy the demands of the shipping trade on the lakes and canals. A proposition to lease the dock has accordingly been receiving most careful consideration with the result that it has been decided to call for tenders for a 21 years' lease, subject to the requirements of the Dry Dock Act and conditional on the establishment by the lessee of a suitable repair plant capable of taking care of the largest vessels which could be accommodated by the dock.

The expenditures on harbors and rivers during the year was \$7,853,693.75, including dredging. Works of improvement, exclusive of dredging, have been carried on at 759 points, comprising the construction of wharfs, piers, breakwaters, dams, bridges, etc., and their repair and re-construction. At Fort William and Port Arthur, during the season of 1908, a total of 2,883,607 cubic yards of material were removed. A further contract was entered into last spring with the Great Lakes Dredging Co. for the excavation of a basin at the mouth of the Mission River, which will form the G.T. Pacific Ry. lake terminus. Around this basin a quay wall will be constructed, with the necessary slips for the accommodation of vessels receiving and discharging cargoes. Early this season, on representations from the Winnipeg Board of Trade, local boards of trade and business and railway interests, the question of the further deepening of the channel in the Kaministikwia and Mission rivers to 25 ft. was carefully studied, with the result that the work of increasing the depth and width of the channels and basins, beyond what was originally determined upon, has been undertaken, 22 ft. of water not being sufficient to afford the larger vessels now frequenting the ports adequate steerage way. At Victoria Harbor, three dredges have been at work, with an average daily output of 5,000 yards. A slip of 600 ft. wide, 25 ft. deep and practically 5,000 ft. long should be completed, according to the original plan, early next season. At Tiffin, a slip has been dredged sufficient to permit the largest lake vessel in the grain-carrying trade to discharge her cargo at the G.T.R. elevator. Both of these harbors are being developed in accordance with a comprehensive plan and to a corresponding depth, viz., 25 ft., to those at the head of navigation on Lake Superior. Reference was also made to the works being carried on at Montreal, Quebec and St. John. The expenditure of the department under the head of dredging, including new plant, repair and maintenance of existing plant, amounted to \$4,547,773.43, a sum of \$1,203,466.87 in excess of the outlay of the preceding year.

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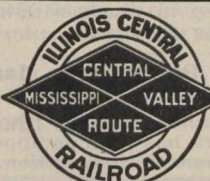
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Following are extracts from the report presented at the annual meeting, Jan. 5: "The season of 1909 was on the whole a fairly satisfactory one, although not as good as expected at the close, owing to excessive competition among Canadian vessels. Two of the company's steamers were injured by grounding in harbors where there was supposed to be 4 ft. more water than steamers were drawing, caused by careles dredging. The directors have decided to lengthen the steamer G. R. Crowe, with a view to increasing her earning power, and contract for same has been given, the steamer to be ready on the opening of navigation, 1910. The directors from the earnings of the season have paid a dividend of 8%, and have carried forward \$30,623.73 to the credit of profit and loss, leaving a balance at the credit of that account of \$133,007.28."

ASSETS.	
Five steamers, Algonquin, Iroquois, W. D. Matthews, G. R. Crowe, E. B. Osler	\$950,000 00
Insurance unexpired	4,000 00
Accounts receivable	9,416 02
Dominion Bank	29,683 26
	\$993,099 28
LIABILITIES.	
Capital	\$860,000 00
Accounts payable	92 00
Balance of profit carried forward..	133,007 28
	\$993,099 28
PROFIT AND LOSS ACCOUNT.	
Balance forward, Jan. 2, 1909	\$102,383 55
Steamships' earnings.....	\$112,062 44
Interest	868 36
	112,930 80
	\$215,314 35
Salaries, taxes, office rent, directors' and auditors' fees, etc.	\$13,507 07
Dividend 8%, payable Jan. 3, 1910..	68,800 00
Balance carried forward	133,007 28
	\$215,314 35

The President, W. D. Matthews, stated at the meeting that J. H. G. Hagarty wished to be relieved of the duties of Managing Director, which position he filled as well as that of Secretary Treasurer. The Board had elected the Superintendent, A. A. Wright, as a director in place of the late G. Hagarty and proposed to appoint him Managing Director, J. H. G. Hagarty to continue as Secretary Treasurer. He also stated that the

steamship G. R. Crowe would be lengthened 72 ft., increasing her capacity from 3,500 to 5,000 tons, at a cost of about \$50,000.

The following are the directors for the current year:—President, W. D. Matthews; Vice President and Sec. Treas., J. H. G. Hagarty; Managing Director, A. A. Wright; other directors, Jas. Carruthers, S. Crangle, G. R. Crowe, C. S. Gzowski, E. B. Osler.

Welland and Georgian Bay Canals.

The question of the deepening of the Welland Canal and the construction of the Georgian Bay Canal were referred to by Sir Wilfrid Laurier in a speech at Toronto Jan. 5. He said:—"The deepening of the Welland Canal is of paramount necessity. We must have continuous lake transportation from Port Arthur, Fort William, and Duluth to Montreal. At present vessels of 10,000 tons and over unload their grain at the mouth of the Welland Canal. When the canal is deepened they will carry their grain to Prescott to tranship it for Montreal. This is one problem, and then there is the other, the Georgian Bay Canal. It also is a matter of necessity. You will find vessels leaving Fort William for Montreal and going almost in a straight line, whereas if they were going by the St. Lawrence route they must sail about a right angle. It is a saving of one-third of the distance; it is the route which was followed in the old days of the Hudson Bay trade. You will ask me which of those two routes I favor? I favor both. When are the works to be undertaken? The Government has not said, but if I have a voice in the Government they will be undertaken just as soon as this country is able to undertake them. The Transcontinental is a heavy burden to be discharged, and we must husband our resources. We must be prudent and bold, economical and generous. Just as soon as the Minister of Finance gives me assurance that the work can be done the work will go on. I shall not live to see the completion of this work, but so long as I am able I shall do my work. Should I leave this work undone it remains in the hands of those who will prosecute it to the extent of their last resources. But in the order of things

it cannot be very long before we take up these duties, and the sooner they are taken up the better pleased I will be and you will be."

Vessels Removed from the Register.

The following vessels were removed from the register in Dec., 1909, for the reasons assigned:—Steam: Adele, Sydney, N.S., 23 tons, sold to foreigners; Admiral, Port Stanley, Ont., 8 tons, out of existence; Augusta, St. Catharines, Ont., 31 tons, burned; Bertha L. Cockell, Port Stanley, Ont., 16 tons, broken up; Burt, Vancouver, B.C., 34 tons, broken up; Caledonia, Vancouver, B.C., 359 tons, wrecked; Canada, Toronto, 209 tons, dismantled; Eleanor, Toronto, 57 tons, lost; Frank N. McCrea, Kingston, Ont., 10 tons, sold to U.S.; Gilphie, Ottawa, 18 tons, burned; Lady Eileen, Gaspe, Que., 526 tons, stranded; Margherita, Toronto, 15 tons, wrecked; May Bird, Toronto, 32 tons, broken up; Ottawa, Ottawa, 1,344 tons, foundered; Shamrock, Toronto, 101 tons, out of existence; Snow Storm, Port Stanley, Ont., 10 tons, broken up; Star, Port Burwell, Ont., 9 tons, sold to U.S.; Stranger, Port Hope, Ont., 17 tons, burned; Tender, Toronto, 21 tons, burned; Union, Ottawa, 66 tons, dismantled; Welshman, Ottawa, 99 tons, burned; Mantinea, St. John, N.B., 1,737 tons, sold to foreigners; Rome, Port Arthur, Ont., 1,164 tons, burned; Sailing: Alexandra, Weymouth, N.S., 178 tons, stranded; Belle of the Bay, Sydney, N.S., 11 tons, broken up; Belmont, Lunenburg, N.S., 98 tons, stranded; Ben Bolt, Yarmouth, N.S., 91 tons, transferred to West Indies; Bob o'Link, Toronto, 15 tons, out of existence; British Eagle, Yarmouth, N.S., 64 tons, lost; Canadienne, Halifax, N.S., 53 tons, wrecked; Dart Halifax, N.S., 10 tons, broken up; Echo, Toronto, 50 tons, out of existence; Ella Claripa Eddy, Ottawa, 141 tons, broken up; Emma Burke, Sydney, N.S., 12 tons, transferred to Newfoundland; Hillside, Yarmouth, N.S., 439 tons, sold to foreigners; Jessie L. Smith, Lunenburg, N.S., 100 tons, abandoned at sea; Lena A., Port Medway, N.S., 11 tons, broken up; Lulu, New Westminster, B.C., 16 tons, burned; Marion F., Chatham, N.B., 24 tons, broken up; May, Ottawa, 165 tons, broken up; Mizpah, Lunenburg, N.S., 100

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 - Jas. W. Pyke & Co.....Montreal.
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- Beacons
 - International Marine Signal Co....Ottawa.
- Bearings, Slide
 - Chicago Railway Equipment Co...Chicago.
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 - Union Draft Gear Co.Chicago, Ill.

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 - Robb Engineering Co., Ltd..Amherst, N.S.
- Bollers, Portable
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 - Polson Iron Works, Ltd.....Toronto.
 - Robb Engineering Co., Ltd..Amherst, N.S.
- Bollers, Stationary and Marine
 - Babcock & Wilcox, Ltd.....Montreal.
 - I. Matheson & Co.New Glasgow, N.S.
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 - Falls Hollow Staybolt Co..Cuyahoga Falls.
- Bollers, Steam
 - Babcock & Wilcox, Ltd.....Montreal.
 - Polson Iron Works, Ltd.....Toronto.
 - Robb Engineering Co., Ltd..Amherst, N.S.
- Bollers, Water Tube
 - Babcock & Wilcox, Ltd.....Montreal.
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 - Robb Engineering Co., Ltd..Amherst, N.S.
- Bolsters
 - Dominion Car and Foundry Co..Montreal.
- Bolts, Bridge
 - Montreal Rolling Mills Co.....Montreal.
 - Toronto Bolt and Forging Co.....Toronto.

- Bolts, Carriage and Machine
 - Toronto Bolt and Forging Co.....Toronto.
- Bolts, Track
 - Montreal Rolling Mills Co.....Montreal.
 - Nova Scotia S. & C. Co., New Glasgow, N.S.
 - Toronto Bolt and Forging Co.....Toronto.
- Books
 - Renouf Publishing Co.....Montreal.
- Borers, Car Wheel
 - John Bertram & Sons Co.....Dundas, Ont.
- Braces, Cross Arm
 - Montreal Rolling Mills Co.....Montreal.
 - Toronto Bolt and Forging Co.....Toronto.
- Brake Beams
 - Chicago Railway Equipment Co...Chicago.
 - Dominion Car and Foundry Co...Montreal.
- Brake Shoes
 - Am. Brake Shoe & F'dry Co..Mahwah, N.J.
 - Canada Iron Corporation, Ltd....Montreal.
 - The Holden Co., Ltd.....Montreal.
- Brake Shoes, Locomotive Driver
 - Am. Brake Shoe & F'dry Co..Mahwah, N.J.
 - Canada Iron Corporation, Ltd....Montreal.
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 - The B. Greening Wire Co..Hamilton, Ont.
- Brasses, Car
 - T. McAvity & SonsSt. John, N.B.
- Bridge Numbers
 - Acton Burrows, LimitedToronto.

tons, stranded; Myrtle V. Hopkins, Liverpool, N.S., 158 tons, lost; Nellie Morrow, Gaspé, Que., 88 tons, stranded; Nita, Port Hawkesbury, N.S., 22 tons, transferred to Newfoundland; Rover, Toronto, 20 tons, out of existence; Twilight, St. John, N.B., 30 tons, broken up; Valetta, St. John, N.B., 99 tons, wrecked; Wilfrid M., Lunenburg, N.S., 199 tons, transferred to Barbadoes; Wanderer, Toronto, 110 tons, out of existence; Willetta, Halifax, N.S., 12 tons, broken up; Wm. McGillivrey, Ottawa, 157 tons, broken up; J. Levesque, Quebec, Que., 62 tons, wrecked; Sirocco, St. John, N.B., 298 tons, broken up.

Passenger—"What makes this boat pitch so?" Sailor—"That's a nautical secret, ma'am, that we don't like to give away, but seein' it's you, I don't mind tellin' you that it's the waves."

Canadian Coasting Privileges

The following order in council has been passed amending the order in council of Dec. 17, 1908, published in our Jan., 1909, issue:—"Whereas applications have been made to allow the ships and vessels of certain foreign countries to participate in the ocean trade between Atlantic and Pacific ports of Canada to a limited extent for a temporary period—it is hereby ordered that notwithstanding anything in the order in council of Dec. 17, 1908, respecting vessels participating in the coasting trade of Canada, steamships of the following countries, namely, Italy, Germany, The Netherlands, Sweden, Norway, Austria-Hungary, Denmark, Belgium, the Argentine Republic and Japan shall be admitted to the coasting trade of Canada, in the carrying of goods and passengers

between any port in the Atlantic provinces of Canada and any port on the Pacific coast of Canada (via South America), and vice versa, on the same terms and conditions as are applicable to Canadian vessels, until Dec. 31, 1911."

During Nov., 1909, 13 employes were killed in the course of their employment in Canadian navigation. Of this number, eight deaths were due to drowning, four to falls, and one to falling material.

Application is being made to the Dominion Parliament to incorporate the Canadian Shipping and Drydock Co., with power to construct, acquire and navigate steam and other vessels, and to construct and acquire wharves, docks, elevators, warehouses, etc., in connection therewith. J. A. Ritchie, Ottawa, is solicitor for applicants.

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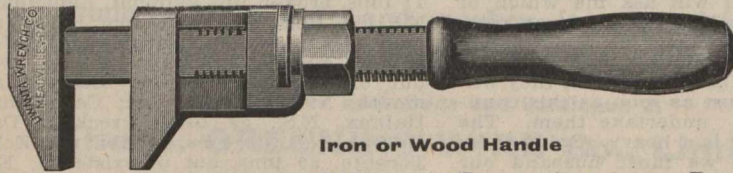
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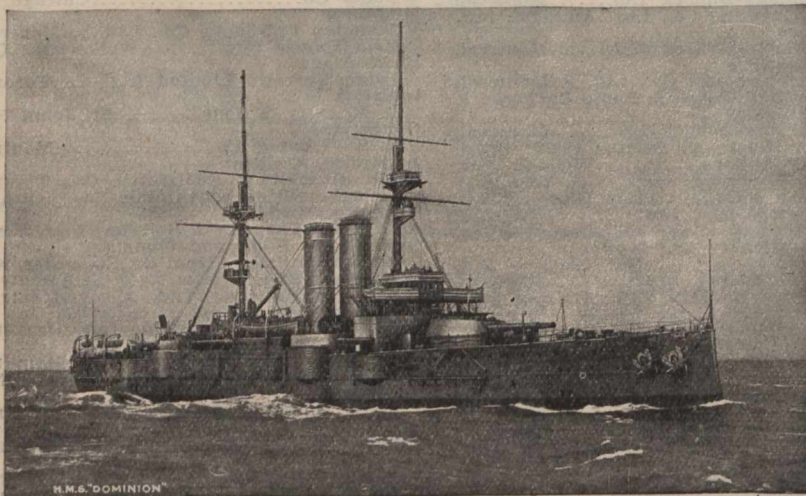
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 Canadian Bronze Co.....Montreal.
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 Tallman Brass & Metal Co., Ltd.Hamilton.
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 American Brake Shoe & Fdry Co.Mahwah.
 Canada Iron Corporation, Ltd....Montreal.
 Russel Wheel & Fdry. Co....Detroit, Mich.
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 Allis-Chalmers-Bullock Ltd.....Montreal.
 Canada Car Co., Ltd.....Montreal.
 Canada Iron Corporation, Ltd....Montreal.
 Kerr Engine Co.....Walkerville, Ont.
 Russel Wheel & Fdry. Co....Detroit, Mich.
- Castings, Iron and Steel**
 American Brake Shoe & Fdry Co.Mahwah.
- Castings, Malleable**
 Galt Malleable Iron Co.....Galt, Ont.
 Taylor & Arnold.....Montreal.
- Castings, Manganese Steel**
 Montreal Steel Works, Ltd.....Montreal.
- Castings, Steel**
 American Vanadium Co....Pittsburg, Pa.
 Canada Iron Corporation, Ltd....Montreal.
 Montreal Steel Works.....Montreal.
 Rhodes, Curry Co., Ltd.....Amherst, N.S.
- Chains**
 B. J. Coghlin & Co.....Montreal.
- Closets, Car**
 Duner Co.....Chicago, Ill.
- Coal**
 Nova Scotia S. & C. Co., New Glasgow, N.S.
- Compressors, Air**
 Allis-Chalmers-Bullock Ltd.....Montreal.
 Canadian Rand Co.....Montreal.
- Concrete Mixers and Rock Crushers**
 F. H. Hopkins & Co.Montreal.
 Mussels Limited.....Montreal.
 Toronto Pressed Steel Co.Toronto.
- Contractors' Supplies**
 F. H. Hopkins & Co.....Montreal.
 Rice Lewis & Son.....Toronto.
 Russel Wheel & Fdry. Co....Detroit, Mich.
 Toronto Pressed Steel Co.....Toronto.
- Conveyors, Coal and Ash**
 Babcock & Wilcox, Ltd.....Montreal.
- Copying Presses**
 James Smart Mfg. Co.....Brockville, Ont.
- Couplers, Car and Locomotive**
 Dominion Car and Foundry Co..Montreal.
 McC Conway & Torley Co....Pittsburgh, Pa.
 Montreal Steel Works, Limited..Montreal.
 Taylor & Arnold.....Montreal.
- Cranes**
 Brown Hoisting Machinery Co..Cleveland.
 Northern Engineering Works, Detroit, Mich.
- Cranes, Electric**
 Babcock & Wilcox.....Montreal.
 Dominion Bridge Co.....Montreal.
 Mussels Limited.....Montreal.
- Cranes, Locomotive**
 American Hoist and Derrick Co..St. Paul.
- Cranes, Wrecking**
 Mussels Limited.....Montreal.
- Crowbars**
 B. J. Coghlin & Co.....Montreal.
 Toronto Bolt and Forging Co.....Toronto.
- Curtains and Fixtures, Car**
 The Holden Co., Ltd.....Montreal.
 Preston Car & Coach Co..Preston, Ont.
- Cuts**
 Acton Burrows, Limited.....Toronto.
- Cylinders**
 American Vanadium Co....Pittsburg, Pa.
- Derailing Devices**
 General Railway Signal Co., Rochester, N.Y.
- Derricks**
 American Hoist and Derrick Co..St. Paul.
 M. Beatty & Sons.....Welland, Ont.
 Mussels Limited.....Montreal.
- Dies**
 Butterfield & Co.....Rock Island, Que.
 A. B. Jardine & Co.....Hespeler, Ont.
- Ditchers**
 M. Beatty & Sons.....Welland, Ont.
- Diving Outfits**
 John Date.....Montreal.
 Mussels Limited.....Montreal.
- Doors, Steel Rolling**
 Mussels Limited.....Montreal.
- Door Signs**
 Acton Burrows Limited.....Toronto.
- Draft Gear**
 The Holden Co., Ltd.....Montreal.
 McCord & Co.....Chicago, Ill.
 Standard Coupler Co.....New York City.
 Union Draft Gear Co.....Chicago, Ill.
 Waugh Draft Gear Co.....Chicago, Ill.
- Draughtsmen's Supplies**
 John A. Hart & Co.....Winnipeg.
- Dredges**
 M. Beatty & Sons.....Welland, Ont.
 Polson Iron Works, Ltd.Toronto.
- Drills, Air**
 Canadian Rand Co.....Montreal.
- Dry Goods**
 The Hudson's Bay Co.....Montreal.
- Dump Cars (Contractors')**
 Dominion Equip't & Supply Co., Winnipeg.
 F. H. Hopkins & Co.....Montreal.
- Dump Cars, Hand**
 Meaford Wheelbarrow Co., Ltd..Meaford.
- Dynamos**
 Northern Electric & Mfg. Co., Ltd.Montreal.
- Dynamo and Electric Castings**
 American Brake Shoe & Fdry Co.Mahwah.
- Economizers**
 Babcock & Wilcox (Ltd.).....Montreal.
- Electric Apparatus**
 Allis-Chalmers-Bullock Ltd.....Montreal.
 Chapman & Walker, Ltd.....Toronto.
 Northern Electric & Mfg. Co., Ltd.Montreal.
- Electric Car Route Signs**
 Acton Burrows Limited.....Toronto.
 Preston Car & Coach Co..Preston, Ont.
- Electric Light Plant**
 Allis-Chalmers-Bullock Ltd.....Montreal.
- Elevators, Grain**
 John S. Metcalf Co.....Chicago, Ill.
- Enameled Iron Signs**
 Acton Burrows Limited.....Toronto.
- Engines, Automatic**
 Robb Engineering Co., Ltd..Amherst, N.S.
 Polson Iron Works, Ltd.Toronto.
 Russel Wheel & Fdry. Co....Detroit, Mich.
- Engines, Corliss**
 Allis-Chalmers-Bullock Ltd.....Montreal.
 Robb Engineering Co., Ltd..Amherst, N.S.
- Engines, Gas**
 Allis-Chalmers-Bullock Ltd.....Montreal.
- Engines, Gasolene**
 Canadian Fairbanks Co., Ltd....Montreal.
 Ontario Wind Engine & Pump Co.Toronto.
- Engines, Hoisting**
 Allis-Chalmers-Bullock Ltd.....Montreal.
 American Hoist and Derrick Co..St. Paul.
 M. Beatty & Sons.....Welland, Ont.
 Dominion Equip't & Supply Co., Winnipeg.
 I. Matheson & Co.New Glasgow, N.S.
 Polson Iron Works, Ltd.Toronto.
 Russel Wheel & Fdry. Co....Detroit, Mich.
- Engines, Stationary and Marine**
 I. Matheson & Co.New Glasgow, N.S.
 Polson Iron Works, Ltd.Toronto.
 Robb Engineering Co., Ltd..Amherst, N.S.
- Engines, Steam**
 Allis-Chalmers-Bullock Ltd.Montreal.
- Explosives**
 Standard Explosives Limited ...Montreal.
- Express Office Signs**
 Acton Burrows Limited.....Toronto.
- Fencing**
 New Brunswick Wire Fence Co., Moncton.
 Owen Sound Wire Fence Co., Owen Sound.
- Ferro-vanadium**
 American Vanadium Co....Pittsburg, Pa.
- Fire Appliances**
 Miller Chemical Engine Co., Chicago, Ill.
- Fire Brick**
 Mussels LimitedMontreal.
- Flags**
 The Hudson's Bay Co.Montreal.
- Flour**
 The Hudson's Bay Co.Montreal.
- Forgings**
 American Vanadium Co....Pittsburg, Pa.
 Canada Car Co., LimitedMontreal.
 Cleveland City Forge & Iron Co., Cleveland.
 Crossen Car Mfg. Co.Cobourg, Ont.
 Hamilton Steel & Iron Co., Ltd., Hamilton.
 Nova Scotia S. & C. Co., New Glasgow, N.S.
 Standard Steel Works Co., Philadelphia, Pa.
- Foundry Appliances**
 Goldschmidt Thermit Co.Toronto.
 Ont. Wind Eng. & Pump Co., Ltd., Toronto.
- Frogs**
 Canadian Ramapo Iron Wks., Niagara Falls.
- Furnaces, Corrugated**
 Continental Iron Works....Brooklyn, N.Y.
- Fuse Batteries**
 Standard Explosives Limited...Montreal.
- Fuse Detonators**
 Standard Explosives Limited...Montreal.
- Fuses, Electric**
 Standard Explosives Limited...Montreal.
- Gaskets**
 The Holden Co., Ltd.....Montreal.
 McCord & Co.....Chicago, Ill.
- Gates**
 New Brunswick Wire Fence Co., Moncton.
 Owen Sound Wire Fence Co., Owen Sound.
- Gates, Crossing**
 General Railway Signal Co. Rochester, N.Y.
 The N. L. Piper Ry. Supply Co..Toronto.
- Gauges, Locomotive**
 Taylor & Arnold.....Montreal.
- Gears**
 American Vanadium Co....Pittsburg, Pa.
- Generators, Electric**
 Northern Electric & Mfg. Co., Ltd.Montreal.
- Grates, Shaking**
 Babcock & Wilcox, Ltd.....Montreal.
 Polson Iron Works, Ltd.Toronto.
- Groceries**
 The Hudson's Bay Company.....Montreal.
- Guides and Outfitters**
 Otto Bros.Field, B.C.
- Hammers, Cast Steel**
 American Brake Shoe & Fdry Co.Mahwah.
 James Smart Mfg. Co....Brockville, Ont.
- Handcars**
 Canadian Fairbanks Co., Ltd....Montreal.
 Crossen Car Mfg. Co.....Cobourg, Ont.
 Dominion Equip't & Supply Co., Winnipeg.
 F. H. Hopkins & Co.....Montreal.
 Mussels Limited.....Montreal.
 Rice Lewis & Son.....Toronto.
- Hardware**
 The Hudson's Bay Co.....Montreal.
 Rice Lewis & Son.....Toronto.
- Hats**
 W. H. CoddingtonHamilton, Ont.
- Headlights**
 Commercial Acetylene Co.Toronto.
 The N. L. Piper Ry. Supply Co..Toronto.
 Pyle National Elec. Headlight Co..Chicago.
- Headlinings**
 Crossen Car Mfg. Co.....Cobourg, Ont.
- Heaters, Feedwater**
 Robb Engineering Co., Ltd..Amherst, N.S.
- Heating, Car**
 Canadian Gold Car H'g & L'g Co.Montreal.
 Safety Car Heating & L'ting Co.New York.
- Hoists, Electric**
 American Hoist & Derrick Co....St. Paul.
 Northern Engineering Works, Detroit, Mich.
- Hoists (Pneumatic)**
 Taylor & Arnold.....Montreal.
- Hollow Staybolt Iron and Steel Bars**
 Falls Hollow Staybolt Co.Cuyahoga Falls.
- Hoppers, Car (Wet or Dry)**
 Duner Co.....Chicago, Ill.
- Hydrants**
 Canadian Fairbanks Co., Ltd....Montreal.
 Kerr Engine Co.....Walkerville, Ont.
- Illustrations**
 Acton Burrows Limited.....Toronto.
- Injectors**
 T. McAvity & SonsSt. John, N.B.
- Inspections**
 R. W. Hunt & Co.Montreal.
- Insurance, Accident**
 Can. Casualty & Boiler Ins. Co., Toronto.
 Canadian Ry. Accident Ins. Co....Ottawa.
- Insurance, Boiler**
 Canadian Casualty & Boil. Ins. Co.Toronto.
- Interlocking Plant and Signals**
 General Railway Signal Co. Rochester, N.Y.
 Montreal Steel Works.....Montreal.
 Saxby and Farmer, Ltd.....Montreal.
- Iron and Steel Bars**
 Hamilton Steel & Iron Co., Ltd..Hamilton.
- Iron, Pig**
 Hamilton Steel & Iron Co., Ltd..Hamilton.
 Nova Scotia S. & C. Co., New Glasgow, N.S.
- Iron Signs**
 Acton Burrows Limited.....Toronto.
- Iron Staybolt Bars**
 Falls Hollow Staybolt Co..Cuyahoga Falls.
- Jacks**
 Canadian Fairbanks Co., Ltd....Montreal.
 Dominion Equip't & Supply Co., Winnipeg.
 H and E Lifting Jack Co..Waterville, Que.
 F. H. Hopkins & Co., Ltd.....Montreal.
 Montreal Steel Works, Ltd.....Montreal.
 Mussels Limited.....Montreal.
 A. O. Norton.....Coaticook, Que.
 James Smart Mfg. Co....Brockville, Ont.
 A. R. Williams Mch'y. Co., Ltd....Toronto.

- Japans**
The Dougal Varnish Co. Ltd. Montreal.
- Journal Bearings**
Canadian Bronze Co. Montreal.
Crossen Car Mfg. Co. Cobourg, Ont.
Kerr Engine Co. Walkerville, Ont.
Jas. W. Pyke & Co. Montreal.
- Journal Boxes**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Journal Jacks**
A. E. Williams Mch'y. Co., Ltd. Toronto.
- Lager Beer, &c.**
E. L. Drewry. Winnipeg.
- Lagging and Covering, Locomotive**
Taylor & Arnold. Montreal.
- Lamps, Arc**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Lamps, Incandescent**
Canadian Westinghouse Co. Hamilton, Ont.
- Lamps and Lanterns**
The Hudson's Bay Company.
The Hiram L. Piper Co. Montreal.
The N. L. Piper Ry. Supply Co. Toronto.
- Lamps, Switch**
The N. L. Piper Ry. Supply Co. Toronto.
- Lathes**
John Bertram & Sons Co. Dundas, Ont.
- Laths**
J. Harrison & Sons Co. Owen Sound, Ont.
- Lighting, Car**
Canadian Gold Car H'g & L'g Co. Montreal.
Safety Car H'g & L'g Co. New York.
- Lights, Contractors' and Wrecking**
F. H. Hopkins & Co. Montreal.
International Marine Signal Co. Ottawa.
Mussens Limited. Montreal.
- Locomotives (Compressed Air)**
Baldwin Locomotive Works. Philadelphia.
Canadian Locomotive Co. Kingston, Ont.
Montreal Locomotive W'ks (Ltd.). Montreal.
- Locomotives (Electric)**
Baldwin Locomotive Works. Philadelphia.
Montreal Locomotive W'ks (Ltd.). Montreal.
- Locomotives (Logging)**
Baldwin Locomotive Works. Philadelphia.
Canadian Locomotive Co. Kingston, Ont.
- Locomotives (Rack)**
Baldwin Locomotive Works. Philadelphia.
Canadian Locomotive Co. Kingston, Ont.
Montreal Locomotive Works. Montreal.
- Locomotives (Steam)**
American Car & Equip. Co. Chicago, Ill.
Baldwin Locomotive Works. Philadelphia.
R. M. Burns & Co. Chicago, Ill.
Canadian Fairbanks Co., Ltd. Montreal.
Canadian Locomotive Co. Kingston, Ont.
Dominion Equip't & Supply Co., Winnipeg.
J. T. Gardner. Chicago, Ill.
Hicks Locomotive & Car Works. Chicago.
Montreal Locomotive W'ks. Montreal.
Vulcan Iron Works. Wilkesbarre, Pa.
- Lorries, Tracklaying**
Crossen Car Mfg. Co. Cobourg, Ont.
F. H. Hopkins & Co. Montreal.
- Lubricators**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
Taylor & Arnold. Montreal.
- Lumber**
Parry Sound Lumber Co. Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.
- Machinery, Cement**
Jas. W. Pyke & Co. Montreal.
- Machinery and Plant, Contractors'**
American Hoist & Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
R. M. Burns & Co. Chicago, Ill.
Canadian Fairbanks Co., Ltd. Montreal.
J. T. Gardner. Chicago, Ill.
General Railway Signal Co., Rochester, N.Y.
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
Toronto Pressed Steel Co. Toronto.
- Machinery, Hoisting**
American Hoist & Derrick Co. St. Paul.
Brown Hoisting Machinery Co. Cleveland.
- Machinery, Tracklaying**
F. H. Hopkins & Co. Montreal.
- Machinery, Logging**
Russel Wheel & Fdry. Co. Detroit, Mich.
- Machinery, Wood and Iron Working**
Canadian Fairbanks Co., Ltd. Montreal.
- Machines, Boring and Turning**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Drilling**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Milling**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Planing and Shaping**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Radial Drilling**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Shaping**
John Bertram & Sons Co. Dundas, Ont.
- Machines, Slotting**
John Bertram & Sons Co. Dundas, Ont.
- Machine Tools**
John Bertram & Sons Co. Dundas, Ont.
Pratt & Whitney Co. Dundas, Ont.
- Manhole Frames and Covers**
American Brake Shoe & Fdry Co. Mahwah.
Canada Iron Corporation, Ltd. Montreal.
- Marine Repairs**
Goldschmidt Thermit Co. Toronto.
- Marine Supplies**
Rice Lewis & Son. Toronto.
- Metal, Anti-friction**
W. Abbott. Montreal.
- Metal, Babbit**
Tallman Brass & Metal Mfg. Co. Hamilton.
- Metals**
Goldschmidt Thermit Co. Toronto.
- Metal Work, Structural**
Canadian Bridge Co. Walkerville, Ont.
Dominion Bridge Co. Montreal.
Montreal Locomotive W'ks (Ltd.). Montreal.
Jas. W. Pyke & Co. Montreal.
- Milepost Numbers**
Acton Burrows Limited. Toronto.
- Motors**
Canadian Fairbanks Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Motors, Electric**
Allis-Chalmers-Bullock Ltd. Montreal.
Canadian Crocker Wheeler Co. Montreal.
Chapman & Walker, Ltd. Toronto.
Northern Electric & Mfg. Co. Montreal.
- Motor Generator Sets**
Allis-Chalmers-Bullock Ltd. Montreal.
Chapman & Walker, Ltd. Toronto.
- Motors, Turntable**
Taylor & Arnold. Montreal.
- Nickel**
The Orford Copper Co. New York.
- Nickel for Nickel Steel**
The Orford Copper Co. New York.
- Numbers**
Acton Burrows Limited. Toronto.
- Nut Locks**
Positive Lock Washer Co. Newark, N.J.
- Nuts, Clevis**
Cleveland City Forge & Iron Co., Cleveland.
Nuts, Square and Hexagon
Montreal Rolling Mills Co. Montreal.
Toronto Bolt and Forging Co. Toronto
- Oakum**
The Hudson's Bay Company.
- Office Fittings**
Can. Office & Sch'l Furniture Co. Preston.
- Office Signs**
Acton Burrows Limited. Toronto.
- Oils**
Galena Signal Oil Co. Franklin & Toronto.
- Packing**
The N. L. Piper Ry. Supply Co. Toronto.
- Paints**
Standard Paint & Var. Co., Windsor, Ont.
- Patterns**
Hamilton Pattern Works. Hamilton, Ont.
- Pile Drivers, Railway**
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
- Pinch Bars**
The N. L. Piper Ry. Supply Co. Toronto.
- Pipe, Culvert (Cast Iron)**
Gartshore-Thompson Pipe Co. Hamilton.
- Pipe, Gas (Cast Iron)**
Gartshore-Thompson Pipe Co. Hamilton.
- Pipe, Sewer (Cast Iron)**
Gartshore-Thompson Pipe Co. Hamilton.
- Pipe Stocks**
Butterfield & Co. Rock Island, Que.
A. B. Jardine & Co. Hespeler, Ont.
- Pipe, Water (Cast Iron)**
Gartshore-Thompson Pipe Co. Hamilton.
- Planers**
John Bertram & Sons Co. Dundas, Ont.
- Platforms, Steel**
Standard Coupler Co. New York City.
- Ploughs, Contractors'**
Mussens Limited. Montreal.
- Ploughs, Grading**
Meaford Wheelbarrow Co., Ltd. Meaford.
- Poles**
J. Harrison & Sons Co., Owen Sound, Ont.
- Porter**
E. L. Drewry. Winnipeg.
- Posts**
J. Harrison & Sons Co., Owen Sound, Ont.
- Powder, Blasting**
Standard Explosives Limited. Montreal.
- Printing**
Southam Press. Toronto.
- Pumps**
Canadian Fairbanks Co., Ltd. Montreal.
S. F. Bowser & Co., Limited. Toronto.
Ontario Wind Engine & Pump Co. Toronto.
James Smart Mfg. Co. Brockville, Ont.
- Pumps (Centrifugal)**
M. Beatty & Sons. Welland, Ont.
- Rail Benders, Roller**
Dominion Equip't & Supply Co., Winnipeg.
F. H. Hopkins & Co. Montreal.
Montreal Steel Works. Montreal.
- Rail Drilling Machines**
A. B. Jardine & Co. Hespeler, Ont.
- Rails (new)**
Dominion Iron & Steel Co. Sydney, N.S.
Drummond, McCall & Co. Montreal.
J. T. Gardner. Chicago, Ill.
J. J. Gartshore. Toronto.
F. H. Hopkins & Co. Montreal.



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