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THE Railway and Marine World

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TORONTO, CANADA, MARCH, 1911.

For Subscription Rates, See page 241.

Lubrication of High Pressure Slide and Piston Valve Locomotives.

By W. O. Taylor.

With the lubricant properly introduced and distributed with the steam, the pressure and temperature of the steam, are factors of but little, if any, importance.

It is within the memory of many who are in active service today, when vegetable and animal oils were the sole lubricants for valves and cylinders. The introduction of a mineral cylinder oil in 1870 met with derision by some, scepticism by many, and it was received in confidence but by a few. Of such superior merit, that long before its general introduction, a railway master mechanic made the statement in convention, that since its adoption as a substitute for tallow, the gain in power permitted the addition of one car to each train, it would have seemed an easy matter to induce the user of tallow to leave it for something better, but the change came about only through the persistent efforts of the manufacturer, and this statement applies to every user of steam, as well as to the railroads. How well has it been verified. "If we begin in certain- we shall end in doubt, but if we begin with doubts, and are patient in them, we shall end in certainty." It has long since been demonstrated that the best of animal oils will rapidly decompose, and their fatty acids corrode metal, and their gummy nature prove a source of danger as well as expense. That a viscous and cohesive mineral oil only, should be used in steam cylinders, and on hot rubbing surfaces, and that the price of an oil is of little importance in comparison with its friction reducing power.

Of the various terms which apply to all lubricating oils, gravity, viscosity, fire test, etc., explanation seems unnecessary; but as "flash-point" has become a byword with many since the use of steam of high temperature, it is pertinent to explain "flashing point" as the degree of temperature at which oils discharge vapor in sufficient quantity to mix with the air above the oil and produce a gas, which if brought in contact with a lighted match, or taper, will ignite and flash, hence "flashing point." The writer has witnessed a 550 degree test oil, passed through a cylinder in steam superheated to 1,000 degrees, and from the water of condensation recovered in its original condition. This test was in the laboratory, but it demonstrated that when protected by the steam the oil stood an excessive temperature, and that phenomenon of flashing does not, and cannot occur while the oil is in the steam. The function of a lubricant is to keep

the rubbing surfaces apart; the determining quality of a lubricant is its ability to satisfactorily perform that function. The essential quality required is that of distribution over the surfaces to be lubricated. The best service from a valve or cylinder oil requires that it enter the steam chest thoroughly atomized, each drop being divided into thousands of minute drops, or atoms, as it reaches the rubbing surfaces. This is accomplished by a combination process of emulsification, vaporization, and atomization, and it follows that a first class cylinder oil must possess the qualities to readily em-

to this type of valve pertains to its use with saturated steam. With piston valves, where a very high initial pressure is used, or where superheated steam is used, which, because of a greater expansive force throughout the stroke, maintains a higher average pressure, even though the initial pressure may not be so high, the design of rings should be such as to avoid an excessive pressure behind them, forcing them against the walls of the valve chamber, which results in a loss of energy, and excessive wear of the rings. It has been found that when using steam at high temperatures the composition of the rings in both valves and cylinders is an important factor. A hard gray iron has given excellent results.

One of the world's great thinkers has said, "Men seek for truth in their own little world, and not in the great world about them." The average mind is prone to follow in the well beaten paths of the pioneers who blazed the trail. Precedent is the most available guide. It is only the restless spirit of the discoverer, or changed conditions that stimulate a new thought. The evolution of the locomotive has carried with it the progress from the earlier method of delivering the lubricant through the medium of a plug cup, located on top of the steam chest, to the more convenient location in the cab. The automatic displacement cup, located on top of the chest, has been superseded by the hydrostatic or mechanically operated lubricators, but it seems that because, in the infancy of the locomotive, from the top of the steam chest was the logical place to admit the lubricant, precedent rules that the old custom shall prevail, and at present, on a large percentage of locomotives in this country, the oil for valve and cylinder lubrication is delivered direct to the steam chest or valve chamber. "An obstinate adherence to custom, is as turbulent a thing as innovation." Is there a good reason for continuance of this practice, other than convenience, custom or precedent?

With the increase in steam pressure came the locomotives of increased valve and cylinder dimensions, a revolution in train service, and runs scheduled at higher speeds for long continued distances without closing of throttle. A new problem was presented. Precedent offered no solution. The revival of an old question, familiar to those who have seen the transition from tallow to mineral oil, the adaptability of the oil for the service, became a subject of discussion, and "flash point" was freely handled by many who have never given it thought before. Some not even knowing its significance. "Those who take in but few considerations easily decide." The lubricator and the oil manufacturers were placed on the defensive. In



W. A. Dube Superintendent District 1, Intercolonial Railway.

ulsify and atomize, with a sufficient degree of vaporization to spread itself over the surfaces with the steam. In other words, to lubricate the steam..

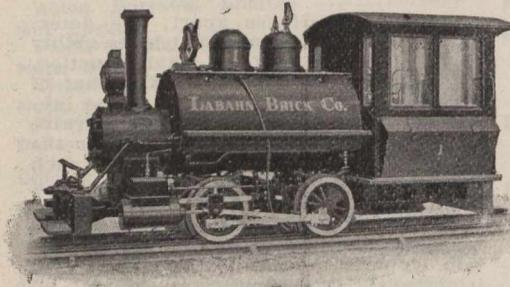
Uniformity of distribution is as important as uniformity and continuity of supply. These are principles that apply to valve and cylinder lubrication, irrespective of type of valve or temperature of steam. The design of valve, the method of introducing the oil, are very important factors. It has been practically demonstrated that a flat or slide valve cannot be successfully used with very high temperature steam because of the heat warping the valve, presenting an uneven surface to the seat. Reference

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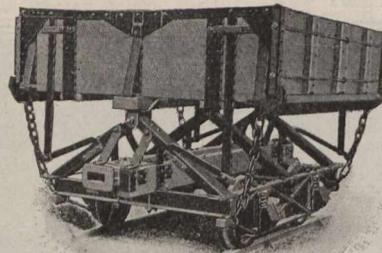
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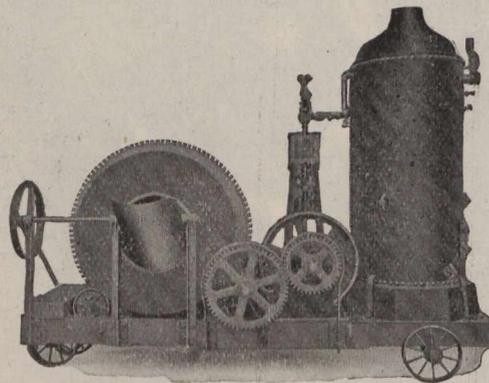
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the minds of many there must be a different device for delivering the oil, and a better oil. The manufacturers of the hydrostatic feed lubricator, without any deviation from the principle upon which that device is operated, promptly met the requirements, by changes in construction, strengthening and increasing areas. In the vernacular of the day, the manufacturers of the oil "stood pat." They had builded upon solid foundation, and for the future. Through all the changes incident to the growth, from the 20 ton locomotives of years ago, to the mammoths of the present, through all the gradations of temperature, as steam pressures have increased from 120 to 230 lbs., and the higher temperatures incident to superheating steam, the oil has stood the test, and without one iota of change in composition or characteristic, the same oil that superseded tallow in 1870, has rendered, is rendering, and will continue to render satisfactory service, when properly delivered and distributed on the surfaces where needed.

It has been stated, that with the lubricant properly introduced and distributed with the steam, the pressure and temperature of the steam are factors worthy of but little consideration. The best authorities are agreed, that the ideal method of lubricating steam surfaces is by having the oil introduced in a highly attenuated form, and thoroughly intermingled with the steam, the steam becoming lubricated. Then why not deliver the oil into the steam, at a point where this process can take place before it reaches the steam chest or valve chamber, and thus secure lubrication at every point where the steam has contact? Those who have had to do with the examination of slide valves, have been impressed with the conditions found. All too frequently the valves and seat cut or excessively worn, and yet the top of the pressure plate always oily, a convincing refutation of the claim sometimes made, that the heat dries the oil, and a proof that while it has been delivered, it has not been satisfactorily distributed. Such conditions have prompted a change in the delivering point from the top of the chest, to the steam way in the saddle casting, and personal observations in several instances, justifies the assertion that better results were obtained than were possible under the old method. The kindness of a friend, who is thoroughly familiar with the subject, has made it possible to submit information pertaining to the device shown in one of the accompanying illustrations which has given excellent results, and is confirmatory of the writer's opinion as to the best place to admit the oil to the steam.

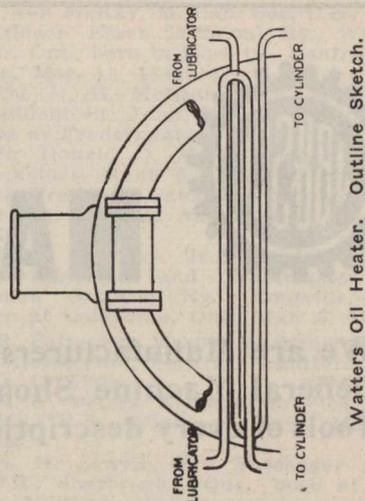
In a letter which accompanied the blue print, my friend wrote: "The drawing is from the original atomizer made, which idea was conceived and put into operation by J. C. Garden, Master Me-

chanic, G.T.R. on some passenger locomotives, cylinder dimensions 20x26, with steam pressure 225 lbs., equipped with Richardson slide valves, which were giving much trouble from valve seats cutting, notwithstanding engineers were receiving all the valve oil they desired. One engine in particular had valve seats faced four times in 2,000 miles made. The oil delivery pipes were then turned into the saddle to steam passages, and the valves examined after the engine had made 30,000 miles, and the seats were perfect. As an experiment, by putting a valve in delivery pipe, close to lubricator, and turning the pipe down a distance of 12 ins, and up again to the original position, and putting in another valve; after filling the bend in pipe with water, and working steam for some time opening the valve next to the steam chest, it was found that the water had been entirely drawn out of the 12 in. pocket. Mercury was also raised 3 in. in it proving that the atomizer is really a syphon to the delivery pipe. I am quite positive in assuring you that the locomotive is better lubricated by the use of this device, than with the ordinary couplings and plugs."

Recently, in reading, I noted a thought which seems applicable here: "Things authorized by custom, if not excellent, are yet comfortable, and sort well together." And again, "With regard to what is common; let men reflect, that they have hitherto been used to do nothing but refer and adapt the causes of things of rare occurrence, to those of things which more frequently happen, without any investigation of the causes of the latter, taking them for granted and admitted." For years, the custom of delivering the oil to the steam chest, "if not excellent" has been "comfortable," convenient.

Twenty years ago, a cut valve was of rare occurrence, and always attributed to neglect. Now the "things which more frequently happen" are attributed to the same cause often without investigation. Not long since I learned of a device originating with J. H. Watters, Assistant Master Mechanic, Georgia Rd., by means of which after the oil leaves the lubricator it is passed through superheating pipes located in the front of the engine, by means of which the oil is raised in temperature to that above the temperature of the steam, and is carried with the steam to the surfaces to be lubricated. I am informed that this device was tried on a passenger engine, with cylinder dimensions, 18x24, wheel diameter, 60 ins., steam pressure 160 lbs., running in local passenger service 192 miles a day. This locomotive made 530 miles to one pint of valve oil, including the lubrication of the air pump. The illustration and information is submitted as a further confirmation of the statement that the efficiency of the oil is not impaired when submitted to high temperatures, and also as another means of obtaining satisfactory lubrication, by introducing the oil into the steam at a temperature above the steam, thus insuring more perfect atomization and distribution. While the locomotive upon which this test was made is not the equal in size or steam pressure, of the modern locomotives, the principle involved is the same, and results should be comparatively as good on the larger locomotives.

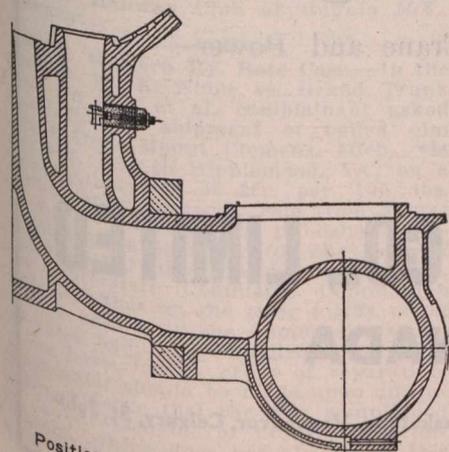
In the earlier experience with superheated steam, it was assumed that a mechanically operated, or force feed lubricator, was necessary. The error of that opinion is shown by the success attained from the hydrostatic feed lubricator, which is the standard in this country for superheated steam, as well as locomotives using saturated steam. It has been demonstrated beyond question, that the cylinder oil in general use, is efficient under all steam pressures and tempera-



tures yet obtained in locomotive operation. It has been further demonstrated, that locomotives using superheated steam, where the maximum temperature does not exceed 500 degrees Fahr., do not require any more oil for valve and cylinder lubrication than the same locomotive using saturated steam. I will go further and say that even less oil is required for the locomotive using superheated steam. Conditions are more favorable for satisfactory and economical lubrication. The absolutely dry condition of superheated steam entirely obviates the flushing of valves and cylinders with the consequent washing away of the lubricant, which is a frequent cause of loss of material, and impaired efficiency of the locomotive, when using saturated steam. The pressure in the steam chest is necessarily lower than the boiler pressure, insuring a more uniform delivery of the oil when fed directly to the valve chamber. The oil is more thoroughly atomized when it comes in contact with the high temperature steam and is consequently better distributed over all parts to be lubricated. When brought in contact with these parts, because of their lower temperature, the oil condenses and remains because of the absence of moisture.

The statement has been made, and reiterated, that the valve oil now in general use is efficient under all pressures and temperatures. Without equivocation that statement is correct. However, the manufacturers, realizing the importance of furnishing their patrons the best that can be produced, are now furnishing an oil specially adapted for service in steam temperatures above 500 degrees, because of its high viscosity, cohesion, and vaporization in such temperatures. In the terms we all understand, under those extreme temperatures this oil adheres more closely to the walls of the cylinders, and to the valve seats, than does the oil we are more familiar with, and consequently it requires a smaller quantity.

A committee upon the lubrication of locomotives using superheated steam, recently reported in part as follows: "From what the committee has been able to learn, the highest temperature of steam obtainable under present conditions, does not exceed 620 degrees Fahr., and of course, this temperature does not prevail in the cylinders, but only in the steam chest; inasmuch as the temperature in the cylinders is governed by the average pressure obtained throughout the stroke of the piston, and not the initial or admission pressure. It is believed by the committee that two locomotives, the same in every respect, except one being equipped with high temperature superheat, the one with superheater will make as many miles per pint with superheat valve oil, as engine with-



Position of atomizer for main valves.

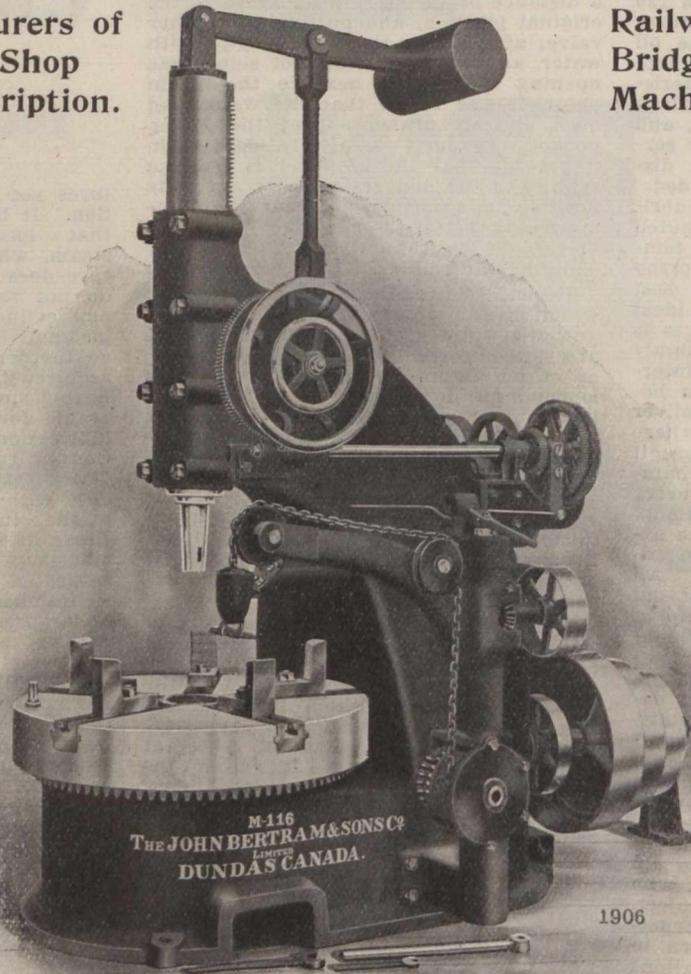


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out superheat, with the oil more commonly used." It was the sense of this committee, that while there is every probability of improvement in the present arrangement of superheating, it would seem improbable that any effort will be made to secure a much higher temperature, not because of the problem of lubrication, but in view of the effect upon the materials comprising the machinery.

That superheating is destined to find a permanent place, if not universal, in modern locomotive design, is the opinion of most competent authorities. With over 600 locomotives on the C.P.R., equipped with superheaters, it is but just to credit H. H. Vaughan with a large measure of the success attained in the new world from this feature of locomotive operation. What is known as the Vaughan-Horsey superheater, is used on the C.P.R. absolutely, and the superheat oil mentioned is used on this type of engine. It has been found that by using this oil, as many miles, or more per pint, can be made, compared with the non-superheated locomotive using the standard valve oil.

"Miles per pint" has been the unit of measurement, when considering the efficiency of a valve oil in railroad service. The C.P.R. freight locomotives average in steam temperature, from 540 to 560 degrees; on passenger engines 520 degrees. Engines equipped with superheaters, cylinder dimensions 21x28, and 22x32, are allowed oil on the basis of 75 miles per pint. Engines having cylinders 24x32, 65 miles to the pint, imperial measure, which is about one-fifth more than wine measure, such as is used in the U. S. Very good results are obtained from this allowance, and it is only on rare occasions that the allowance is exceeded. All engines equipped with superheaters, have piston valves, and carry 200 lbs. pressure, with the exception of about 100 engines, which carry 180 lbs. Diameter of driving wheels, 57 and 63 inches.

Excellent results have been obtained by applying the oil pipes in the steam passage in the saddle casting, and it has been further demonstrated that additional pipes are not necessary. It is found that cylinder packing wears somewhat faster with superheated steam, but this is attributed to the increased pressure behind the rings, or possibly to the deteriorating effect of the heat on the material in the rings, and not due to any deficiency in lubrication. As the locomotive and its equipment change, to the end that efficiency and economy be maintained.

Acknowledgments are due, and gratefully rendered to the gentlemen whose names appear in mention of their de-associates in the Galena-Signal Oil Co. The foregoing was read before the Central Railway Club at Buffalo N.Y., recently.

G. T. Western Ry. Rate Case.—In the case of W. K. Noble vs. Grand Trunk Western Ry. et al. complainant asked reparation on shipment of coiled elm hoops from Mount Clemens, Mich., via Norfolk, Va., to Ripplemead, Va., on a combination rate of 26c. per 100 lbs. Subsequently a specific rate from Mount Clemens to Norfolk was published. Reparation was demanded on the basis of the resulting Ripplemead rate of 21½c. The Interstate Commerce Commission has held that as the later tariffs could not be used until the Commission's tariffs had been complied with, there is no basis for an order of reparation. Such order should be made upon affirmative evidence that the rate complained of is unreasonable or unjustly discriminatory, which does not appear in this

March Birthdays.

Many happy returns of the day to:—

W. G. Annable, General Passenger Agent C.P.R. Atlantic Steamship Lines Montreal, born at Ottawa, Mar. 3, 1875.

P. S. Archibald, M. Can. Soc. C.E., General Manager Elgin and Havelock Ry., Moncton, N.B., born at Truro, N.S., Mar. 21, 1848.

G. J. Bury, General Manager C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 6, 1866.

Allan Cameron, General Traffic Agent, C.P.R., New York, born near Owen Sound, Ont., Mar. 14, 1864.

F. G. J. Comeau, General Freight Agent Dominion Atlantic Ry., Halifax, N.S., born at Meteghan River, N. S., Mar. 10, 1859.

A. E. Cox, Storekeeper Canadian Northern Ry., Winnipeg, born at Huddersfield, Eng., Mar. 12, 1863.

G. R. Fairhead, Commercial Agent Canadian Northern Ry., Hamilton, Ont., born at Toronto, Mar. 6, 1882.

C. Forrester, Trainmaster G.T.R., Stratford, Ont., born at Wanstead, Ont., Mar. 5, 1876.

C. O. Foss, District Engineer National Transcontinental Ry., St. John, N.B., born at Wentworth, N.H., Mar. 20, 1852.

H. M. Gain, Passenger Trainmaster Eastern Division G.T.R., Montreal, born at Lindsay, Ont., Mar. 21, 1879.

R. A. Gamble, Fuel Agent Western Division C.P.R., Calgary, Alta., born at Dublin, Ireland, Mar. 1, 1876.

H. W. Gays, General Manager Ottawa

A General Manager and Chief Engineer's Opinion.

M. H. McLeod, General Manager and Chief Engineer Canadian Northern Railway, Winnipeg, writes:—

"I have been a regular subscriber to the Railway and Marine World for some years, and I think you deserve great credit for the excellent publication. I have discussed this with various engineers and railway people, and they invariably express their appreciation of the magazine."

and New York Ry., Ottawa, Ont., born at Brant, Erie Co., N.Y., Mar. 21, 1848.

J. Halstead, General Freight Agent C.P.R., Calgary, Alta., born at Bracebridge, Ont., Mar. 2, 1877.

R. M. Hannaford, M. Can. Soc. C.E., Engineer Permanent Way, Buildings and Bridges, Montreal Street Ry., Montreal, born there, Mar. 22, 1865.

W. Harty, M.P., President Canadian Locomotive Co., Kingston, Ont., born in Biddulph tp., Middlesex, Ont., Mar. 8, 1847.

C. A. Hayes, General Freight Agent G.T.R., Montreal, born at West Springfield, Mass., Mar. 10, 1865.

Joseph Hobson, M. Can. Soc. C.E., Consulting Engineer G.T.R., Hamilton, Ont., born at Guelph, Ont., Mar., 1834.

N. J. Holden, President The Holden Co., Ltd., Montreal, born at Nobelton, Ont., Mar. 22, 1866.

A. R. Holtby, Master of Bridges and Buildings, Mountain Division G.T.P.R., Prince Rupert, B.C., born at Rawdon, Que., Mar. 23, 1859.

Frank Lee, M. Can. Soc. C.E., Division Engineer C.P.R., Winnipeg, born at Chicago, Ill., Mar. 7, 1873.

R. W. Long, Division Freight Agent G.T.R., Hamilton, Ont., born at Appin, Ont., Mar. 20, 1873.

T. W. Lowe, General Boiler Inspector C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 30, 1858.

J. M. McKay, Trainmaster C.P.R., Winnipeg, born at Tiverton, Ont., Mar. 13, 1868.

Owen McKay, M. Can. Soc. C.E., Chief Engineer Essex Terminal Ry., Walkerville, Ont., born in Ross tp., Renfrew co., Ont., Mar. 13, 1848.

Col. H. H. McLean, K.C., M.P., Vice President St. John Ry., St. John, N.B., born at Fredericton, N.B., Mar. 22, 1855.

Sir Donald D. Mann, Vice President Mackenzie, Mann & Co., Ltd., and First Vice President Canadian Northern Ry., Toronto, born at Acton, Ont., Mar. 23, 1853.

D. J. Murphy, Jr., Assistant Traffic Superintendent and Trainmaster Dominion Atlantic Ry., Kentville, N.S., born at Caledonia, Ont., Mar. 3, 1874.

R. Patterson, Master Mechanic G.T.R., Stratford, Ont., born at Brantford, Ont., Mar. 13, 1860.

F. W. Peters, Assistant to Vice President C.P.R., Winnipeg, born Mar. 25, 1860.

E. H. Sewell, City Passenger Agent C.P.R., Sherbrooke, Que., born at Quebec, Mar. 17, 1875.

C. J. Smith, General Manager Riche-lieu and Ontario Navigation Co., Montreal, born at Hamilton, Ont., Mar. 10, 1862.

G. Sommerville, Agent Merchants Line Steamers, Toronto, born at Kingston, Ont., Mar. 21, 1855.

W. Y. Soper, director Ottawa Electric Ry. Co., Ottawa, Ont., born at Oldtown, Me., Mar. 9, 1854.

W. C. Starke, Travelling Car Service Agent G.T.R., Montreal, born there, Mar. 9, 1867.

W. F. Tye, M. Can. Soc. C.E., ex-Chief Engineer C.P.R., Consulting Engineer, Toronto, born at Haysville, Ont., Mar. 5, 1861.

G. W. Vaux, General Passenger Agent G.T.R., Montreal, born at Montreal, Mar. 21, 1866.

D. O. Wood, General Freight Agent for Ontario, Allan Line Steamships, Toronto, born at Kleinburg, Ont., Mar. 16, 1864.

Can. Soc. C. E., Committee Reports.

Several of the reports of committees of the Canadian Society of Civil Engineers, presented at the annual meeting in Winnipeg recently, which are of importance to railway engineers, are given elsewhere in this issue in full.

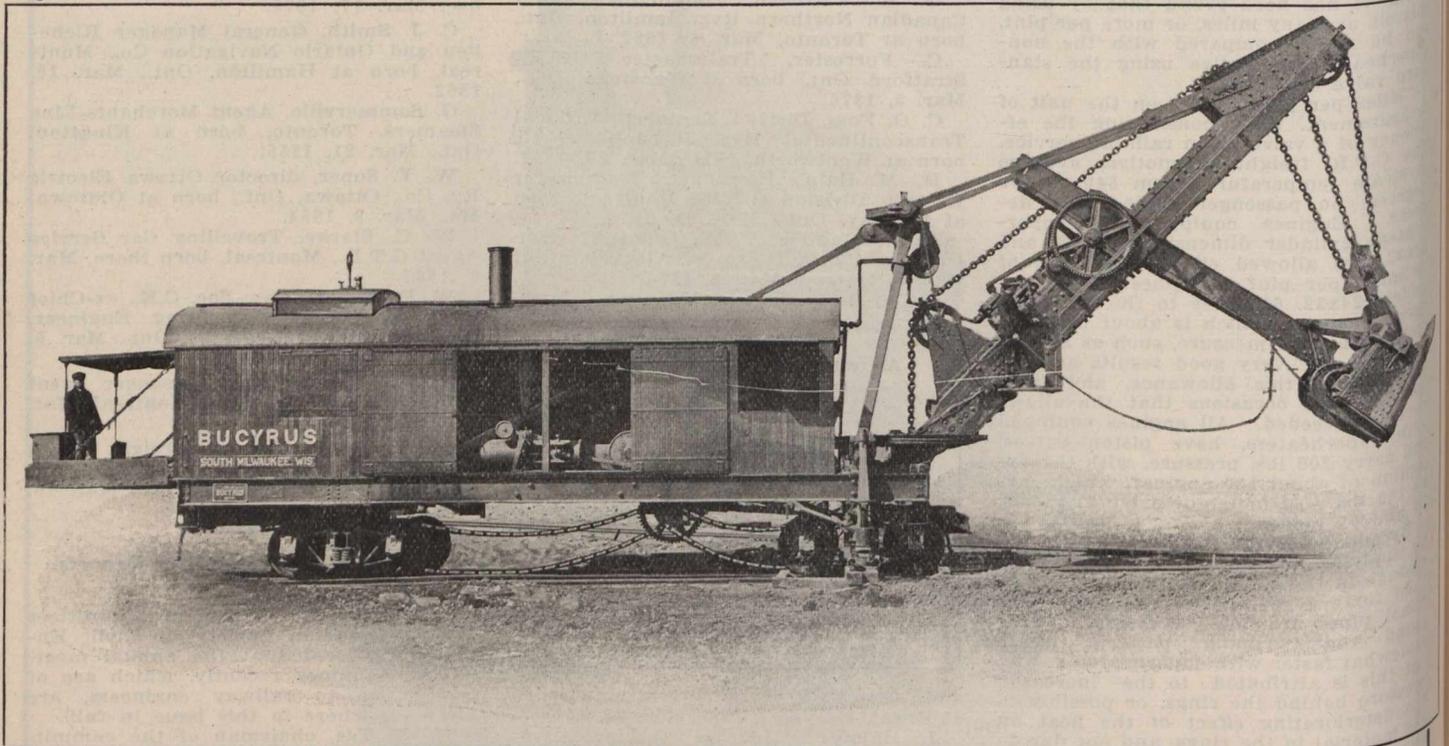
W. F. Tye, chairman of the committee on transportation routes, reported that a preliminary report on the relative cost of construction, maintenance and operation of the Georgian Bay canal, St. Lawrence canals and a lake and rail route was in course of preparation, that a great deal of work had been done on it, but that while it had been discussed and criticised by members of the committee, it had been found impossible to have it ready for presentation at the meeting.

J. G. Sullivan, Assistant Chief Engineer C.P.R. Western Lines, chairman of the committee on roadbed and ballasting, reported that as per instructions to the committee, it was hoped they would be able to agree on modifications and omissions of the specifications on roadways as adopted by the American Railway Engineering and Maintenance of Way Association, so that a standard specification might be recommended to the Society, but after considerable correspondence it was thought best not to recommend a specification this year. Some very good points have been brought out in correspondence, and it is thought better that the committee be given more time to carefully consider this important matter, especially as they hope to be able to get a specification that will meet with the general approval of the majority of the committee.

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Primitive and Wasteful Manner of Laying Out and Constructing Transportation Lines.

Col. H. N. Ruttan, President Canadian Society of Civil Engineers, read the following address at the annual meeting in Winnipeg recently:

Engineering was some 80 years ago defined by Thomas Tredgold as "the art of directing the great sources of power in nature for the use and convenience of man." At the beginning of the twentieth century it has become apparent not only to engineers, but to all those who have the interests of posterity at heart, that the great sources of power in nature should not only be directed, but that they should be economically managed and conserved, so that Tredgold's definition may now properly read, "The art of directing and conserving the great sources of power in nature for the use and convenience of man."

Anything approaching an exhaustive discussion on the subject, one on which volumes might be written, is not now intended. It may be pointed out that among the wastes which have been permitted throughout the past are:

1. The impoverishment of the lands. The gradual conversion of what were productive areas into barren wastes, examples of which may be seen in older parts of Asia and Europe, and, unfortunately, to an appreciable extent, in North America.

2. Following the exhaustion of the soil, and keeping pace with it, has been the destruction of the forests; and

3. The unbalancing and perhaps the lessening, of precipitation, so that rains come when they are not wanted and fall when they are indispensable for successful agriculture.

4. The primitive and wasteful manner in which transportation lines are laid out and constructed.

It is the last paragraph only with which it is proposed to deal in the present address. The requirements of modern civilization demand not only that people be carried at express speed from one quarter of the globe to another, but that every food and fabric grown and produced be distributed broadcast for the use and convenience of man. The rush to meet these requirements has led to the abnormal development of transportation routes, which, though good in themselves and generally advantageous, have often, with a total disregard of economic arrangement, been improperly located or needlessly multiplied in one section to the inconvenience of another. The necessary requirements in the initiation and construction of transportation lines may be stated as follows:

A thorough knowledge of the country to be served, both in its physical features and its capabilities for production. That this knowledge be utilized in the location of lines of transportation, so that the greatest service be provided at a minimum ultimate cost against the traffic using the lines.

Before going further it may be well to consider to what extent these requirements are at present met. A study of the railway systems of any country must lead to the conclusion that no effective system of supervision has been exercised in the locations of the systems to meet the economic requirements above stated. Much comparatively useless road has been constructed for the purpose of enabling one set of capitalists to take tolls on traffic which could have been easily handled by an existing line. Instances appear where productive districts, separated by unproductive or partially unproductive country, are connected by lines running full length through unproductive land, whereas a single line would have served the traffic of several converging railways. All this

largely increases the capital, interest, maintenance, and management charges, which must be borne by the traffic. Some of the causes contributing to the defective economy referred to are:

Want of knowledge of the country in the construction of the first lines.

The desire of capitalists to share in profits being earned by favorably situated lines.

The ease with which charters for so-called competing lines may be obtained.

The relatively slight interest taken by the public in the location of transportation lines, and the mistaken idea that the construction of any line is advantageous.

This deplorable state of affairs may be remedied in a most simple and inexpensive manner. Before any companies are given franchises by Parliament, both the public and Parliament should insist upon having before them sufficient information to enable them to judge of the effect upon both public and private property of the proposed works. This information may be best given by large scale and accurate plans of the proposed works, such as are required by the standing orders of the House of Commons in England, extracts from which are given in an appendix to this address. In this connection attention is called to the fact that in Canada something should at once be done to arrange for surveys of the country and the preparation of plans similar to the ordnance maps of Great Britain.

A further step forward would be the giving of compulsory running rights over existing lines to companies which may properly participate in the traffic of certain districts, and which cannot do so without heavy expenditure in the construction of parallel lines, which would in themselves be unproductive or which would unnecessarily cut into business which can be readily handled by existing lines.

The remarks on granting charters to railway companies and proposed improvements in procedure apply with equal force to canals, river improvements, and hydro-electric plants. Though Canada is noted for its magnificent canal system and for the progressive and patriotic policies of its governments in this respect, the opening up of the country will necessitate in the immediate future a development far beyond any that has yet taken place. It is therefore most necessary that a broad and intelligent view of the whole situation be taken so that duplication of facilities be avoided and expenditure be made in the interest of and ultimate economy in, capital and operation charges.

Numerous instances might be given illustrating great expenditures which have been made in an ill-considered and extravagant manner in the construction of railways, and of applications to Parliament for charters to construct works, which were both physically and economically impossible to carry out. These have often masked the acquisition by private parties of important assets of the public domain. Such instances are well known to most engineers. It is therefore not necessary to refer directly to them.

It is not intended in any way to discourage development work in the country, but to point out the haphazard and expensive manner in which undertakings for the public service are often carried out, and to suggest what is considered a business-like and common-sense means of conserving, in this respect, the interest of the people at large. It must be remembered that eventually the burden falls upon, and must be borne by, the people. If the construction of an unnecessary mile of railway is prevented, or a mile already constructed is made to do the work of two, the country as a whole will be greatly benefitted.

At first it may appear that the suggested changes in initiating and carrying out public works would, if carried into effect, discourage the construction of works needed for the development of the country and its resources. This, however, would not be the case; on the contrary, the care displayed in scrutinizing projects before they were authorized would give confidence to investors by the assurance that, in the opinion of Parliament, the works were such as were reasonable and proper, and would go far, by the confidence inspired, to facilitate the flow of capital into the country. A charter granted by Parliament under the regulations proposed would be in itself a guarantee that the project was sound and practicable. The criticism called for by these regulations should greatly assist in determining the merits of such projects.

It is, of course, apparent that, in addition to the enormous saving which could be made by the economic location and construction of works for the use and convenience of the public, there are other conditions not less important. For example, the power now possessed by companies to increase capital beyond reasonable limits, and the crude management in operation, now being so much discussed in connection with the claim of the American railways, that rates must be increased to enable them to earn revenue to meet their capital and operation expenses.

In the following conditions the last two are not purely engineering, and need not be further considered at the present time: The economic location and construction of lines of transportation; the limiting of capitalization within reasonable bounds, and the scientific and economical operation of all transportation services, will all three have the effect of reducing rates to a minimum. It is in the first of these that engineers are vitally interested, and their advice to clients will go a long way towards conserving immense sums of capital now wasted in crude and uneconomical locations and constructions. The word economy has no reference to detail, and is used in its broader meaning only. As to economy of designs in detail, there is no fault to be found; on the contrary, all are proud of the bridges, tunnels, and other noted structures which are being constantly turned out by the profession.

In carrying out the proposed system no cumbersome legislative machinery would be required—an amendment to the Railway Act giving the Board of Railway Commissioners power to make regulations for the necessary surveys and plans, and finally to deal with the matters in question, is all that would be necessary.

EXTRACTS FROM STANDING ORDERS OF THE BRITISH HOUSE OF COMMONS.

4. Plans, Books of Reference, Sections and Cross-sections.

40. Every plan required to be deposited shall be drawn to a scale of not less than 4 ins. to a mile, and shall describe the lands which may be taken or used compulsorily, or on which an improvement charge may be imposed, or which are rendered liable to the imposition of an improvement charge, and in the case of bills of the second class, shall also describe the line or situation of the whole of the work (no alternative line or work being in any case permitted), and the lands in or through which it is to be made, maintained, varied, extended, or enlarged, or through which any communication to or from the work may be made; and where it is the intention of the promoters to apply for powers to make any lateral deviation from the line of the proposed work, the limits of such deviation shall be defined upon the plan, and all lands included within such limits shall be marked thereon; and unless

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CHARLES MILLER,

PRESIDENT

the whole of such plan shall be upon a scale of not less than $\frac{1}{4}$ in. to every 100 ft., an enlarged plan shall be added of any building, yard, courtyard, or land within the curtilage of any building, or of any ground cultivated as a garden, either in the line of the proposed work, or included within the limits of the said deviation, upon a scale of not less than a quarter of an inch to every one hundred feet.

41. In all cases where it is proposed to make, vary, extend, or enlarge any cut, canals, reservoir aqueduct, or navigation, the plan shall describe the brooks and streams to be directly diverted into such intended cut, canal, reservoir, aqueduct, or navigation, or into any variation, extension, or enlargement thereof respectively, for supplying the same with water.

42. In all cases where it is proposed to make, vary, extend, or enlarge any railway, the plan shall exhibit thereon the distances in miles and furlongs from one of the termini; and a memorandum of the radius of every curve not exceeding one mile in length shall be noted on the plan in furlongs and chains; and where tunnelling as a substitute for open cutting is intended, the same shall be marked by a dotted line on the plan, and no work shall be shown as tunnelling in the making of which it will be necessary to cut through or remove the surface soil.

43. If it be intended to divert, widen, or narrow any public carriage road, navigable river, canal, or railway, the course of such diversion and the extent of such widening or narrowing shall be marked upon the plan, and, if it be intended to divert any public footpath, the course of such diversion shall be marked upon the plan.

44. When a railway is intended to form a junction with an existing or authorized line of railway, the course of such existing or authorized line of railway shall be shown on the deposited plan for a distance of 800 yards on either side of the proposed junction, on the same scale as the scale of the general plan.

48. In cases of bills for improving the navigation of any river, there shall be a section which shall specify the levels of both banks of such river; and where any alteration is intended to be made therein it shall describe the same by feet and inches, or decimal parts of a foot.

49. In every section of a railway the line of the railway marked thereon shall correspond with the upper surface of the rails.

50. Distances on the datum line shall be marked in miles and furlongs, to correspond with those on the plan; a vertical measure from the datum line to the line of the railway shall be marked in feet and inches, or decimal parts of a foot, at the commencement and termination of the railway, and at each change of the gradient or inclination thereof; and the proportion or rate of inclination between every two consecutive vertical measures shall also be marked.

51. Wherever the line of the railway is intended to cross any public carriage road, navigable river, canal, or railway, the height of the railway over or depth under the surface thereof, and the height and span of every arch of all bridges and viaducts by which the railway will be carried over the same, shall be marked in figures at every crossing thereof; and where the railway will be carried across any such public carriage road or railway, on the level thereof, such crossing shall be so described on the section; and it shall also be stated if such level will be unaltered.

52. If any alteration be intended in the water-level of any canal, or in the level or rate of inclination of any pub-

lic carriage road or railway, which will be crossed by the line of railway, then the same shall be stated on the section, and each alteration shall be numbered; and cross-sections, in reference to the numbers on a horizontal scale of not less than 1 in. to every 330 ft., and on a vertical scale of not less than 1 in. to every 40 ft., shall be added, which shall show the present surface of such road, canal, or railway, and the intended surface thereof, when altered; and the greatest of the present and intended rates of inclination of the portion of such road or railway intended to be altered, shall also be marked in figures thereon; and where any public carriage road is crossed on the level, a cross-section of such road shall also be added; and all such cross-sections shall extend for two hundred yards on each side of the centre line of the railway.

55. When a railway is intended to form a junction with an existing or authorized line of railway, the gradient of such existing or authorized line of railway shall be shown on the deposited section, and in connection therewith and on the same scale as the general section, for a distance of 800 yards on either side of the point of junction.

5. Estimates and deposit of money and declarations in certain cases.

56. An estimate of the expense of the undertaking under each bill of the second class shall be made and signed by the person making the same.

Modern Track Tools and How to Use Them.

In writing on this subject I realize how important a matter it is to care for and use tools correctly. I will take the hand car. Its use is to carry men and tools to and fro; also light material. As to the care of hand car I would not overload it at any time nor carry unnecessary tools or material; keep it well oiled and lost motion corrected; would set it off and on track if force is large enough; if not I would turn it off. My way of putting car on track is as follows: One man and foreman constitutes the gang; I use a piece of crossing plank 14 ins. long by 8 by 4; adze it down to $\frac{1}{2}$ in., this will give it a raise of $3\frac{1}{2}$ in. When ready to put car on track pull rear wheels inside of track. Place frog inside of rail; go to front of car, pull around until wheel strikes frog and mounts the rail, then pull the other wheel on track. Two men can put the car on track as easy as four men and just as quick. The old way of pulling car over rails is very hard on the car. Don't place frog parallel with rail. But place one end close to rail, the other 5 inches away so as when wheel mounts the rail it will have full flange bearing and will not crowd over rail while the other wheel is mounting the opposite rail.

The track level is used in leveling track. It should be accurate, no matter how turned or what way you use it. For levelling curves: Know the proper elevation and set level board in accordance. A level board that is not true should not be used; they are very costly if used. Think of a surfacing gang using an untrue board, say $\frac{1}{2}$ in. of level for one season. It would take half of the next season to level what should have been done in the first place. The results are the same on sections, use a poor level two years, then use a true level, note the result. Half the track is $\frac{1}{2}$ in. low. All track levels should be tested before being sent out for use.

The track jack is used principally for raising track. It can be used for lining track, and can also be used around wrecks to good advantage for jacking tars over and clearing track. For rais-

ing track always place jack outside of rail in an upright position, to avoid throwing track out of line, and for safety.

The claw bar is used to pull track spikes. It should be made of good material, claws well hollowed out with high heel to pull spike straight up out of ties. Claw bars with low heel should not be used; they pull the spike over and tear part of the tie with it. I think the heels of claw bars should have sharp raised grooves to hold bar from backing away while spike is being pulled.

The tamping bar is used to pack all kinds of ballast under ties; it should have a well shaped blade of good steel, 4 by $\frac{1}{2}$ in. thick or less; the upper end should have a blade 6 by 1 by $\frac{1}{4}$ in., slightly sharpened to clean surplus ballast from ties to be tamped. The tamping end should be well curved and the handle bent to balance. To get the best results the operator should stand as low as possible, so that tamping blade will drive ballast well under the ties; tamping ties with bar too straight will not drive it under but down, which will do no good to track.

Spike pullers are used to pull spikes where claw bars cannot be used. The ones in use are good, but could be made a little wider at the opening.

Cold chisels are used for cutting small pieces of iron; they are good for marking steel rails that are to be cut with track chisels; should be sharp and carried on car at all times.

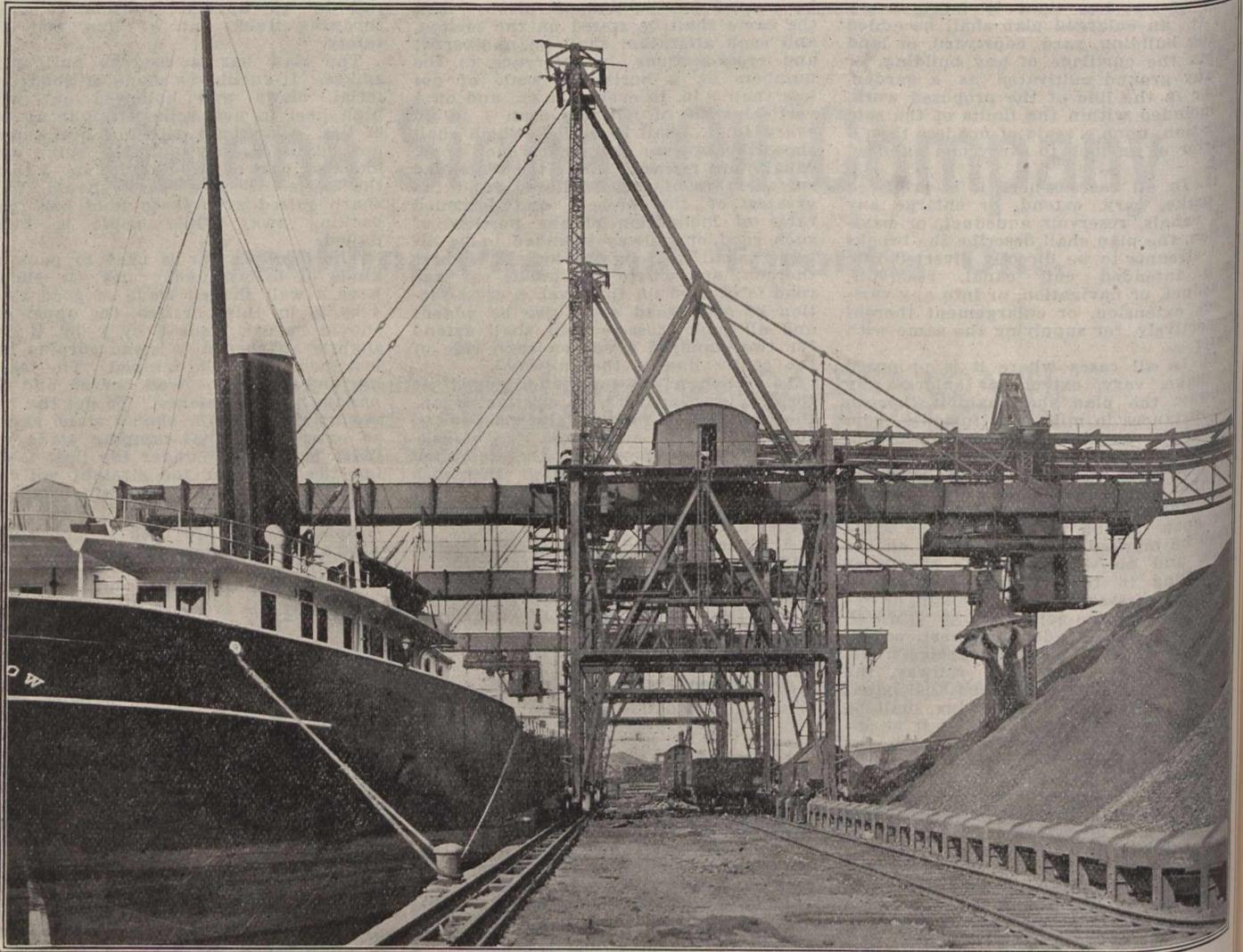
Sledges are used for driving fence posts. Are also good to maul joint ties down to surface, but it is best to cover tie face with a large solid piece of elm or some tough wood to avoid bruising its face.

Track gauge is used for gauging track. Can also be used for leveling straight track; in cases of necessity place gauge on track with a small 10-in. level on top; this will do very well. Can also be used to square ties across track. In spiking new ties, place track gauge on track, gauge centre on tie centre, drive the other end to gauge, centre and tie will be square across track, either on curve or straight track.

The tape line is used for measuring anything you wish, but I would condemn the use of the common cloth tape line; nothing but the steel tape should be used, if accurate measurements are wanted, especially for rail measure.

Track drills, lining bars, pinch bars, in fact all track tools should always be kept in the very best of condition. No two men use the same tools alike. In fact a very small per cent. of laborers know how to use all tools correctly. Railway companies should furnish the best of tools to their employes and they in turn would take better care of them, especially the pick and shovel. To describe how to use them is a hard proposition. Volumes could be written on this subject and very little accomplished. I make a business of keeping all edge tools sharp, and all other tools in good condition. By "Rail Joint," in Roadmaster and Foreman.

Cross-wall Railway Bridge, Quebec.—The railway bridge which the Quebec Harbor Commissioners are about to build, is at the entrance to the wet dock of Princess Louise Embankment and docks. The superstructure will consist of a single leaf, single track bridge of the bascule type, having a clear span of 74 ft. 4 in., and giving 22 ft. headroom. The trusses will be 22 $\frac{1}{2}$ ft. centre to centre. The bridge will give connection between the railway tracks on the two sides of the wet-dock and tidal basin. The contract has been given to the Dominion Bridge Co., Montreal.



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Rails, Fastenings and Tie Plates.

At the annual meeting of the Canadian Society of Civil Engineers in Winnipeg recently, H. G. Kelley, Chief Engineer G.T.R., Chairman of the committee, presented the following report:

At the annual meeting two years ago your committee on rails, fastenings and tie-plates, presented drawings of the various sections of rail used as standard by the railways of Canada and the United States, and also of some sections which had been proposed and were then being placed in service experimentally. At the last annual meeting your committee reported upon a standard drop testing machine, which received the approval of the Society, and which is now in universal use in the mills of both countries. The experiments with the new sections have not progressed sufficiently for your committee to present a statement of the results in this report, but the use of the new testing machine is proving most satisfactory, and is producing a uniformity of results in the physical tests at the different mills, which is of much value in the collation of statistics.

In considering the subjects for this year's report, it has seemed to your committee, that the next logical step is to consider the service to which a rail is subjected, and the physical qualities requisite for such a rail, leaving for future investigations the consideration of how such physical qualities can be obtained.

With the increasing traffic of railways there followed naturally and of necessity an increase in car capacity and of engine weights. From a freight car weighing about 16,000 lbs., with a carrying capacity of 20,000 lbs., there came gradually an increase to cars having a carrying capacity of 40,000 lbs., 60,000 lbs., 80,000 lbs. and finally 100,000 lbs., with an allowable overload of 10%. In this transition of car weight and capacity, it is interesting to note, that where as the cars weighing 16,000 lbs., had a carrying capacity of 125% of their empty weight, that the cars of to-day carrying 100,000 lbs., with a maximum empty capacity of 40,000 lbs., have a carrying capacity of 250% of their empty weight. Freight cars having originally about 36,000 lbs., upon 8 wheels, or 4,500 lbs. a wheel, were superseded gradually by cars having, when overloaded 10%, 150,000 lbs. upon 8 wheels, or 18,667 lbs. a wheel. Engines having 12,000 lbs. per driving axle, or 6,000 lbs. per driving wheel, gave place to engines having 50,000 lbs. per axle, or 25,000 lbs. per driving wheel.

The original weight of rails varied from 35 to 45 lbs. a yard, but with the increasing weight of equipment the change was rapidly made to 56, 60, 65, 72, 80, and finally to as high as 100 lbs. per yard. The effects of these heavy loads upon track having been investigated both theoretically by mathematical analysis and practically by carefully conducted tests upon the rail and track, under actual train movements. Allowing 100% for the impact of rapidly moving trains over the standard track in use in this country, with engine axle loading of 50,000 lbs., we obtain the following, in which the third column would probably be more nearly the correct one due to the effect of the assumed load only.

Weight of rail per yard	Fibre stress per square inch (Tension)	
	Between 3 ties as a continuous girder having stable supports.	Between 3 ties as a continuous girder having an unstable centre support
60 lbs.	24,878 lbs.	28,000 lbs.
80 lbs.	16,668 lbs.	18,750 lbs.
100 lbs.	11,417 lbs.	12,842 lbs.

The stresses shown in column 3 do not reflect accurately the actual condition to which a rail may be subjected, for there is a reversion of stress of tension to compression like the swing of a pendulum under the passage of every wheel. In addition, the rail is subjected to a continual series of shocks, due to imperfect counter-balancing of engines, flat spots on wheels, irregularity of track surface, the oscillation and jar of equipment, the tension due to contraction in a falling temperature, and the effect of the tractive force of the engines.

To determine the actual effect upon rails by passing trains, a series of careful experiments were conducted on the New York Central and Hudson River Rd., with a delicate automatic recording machine, by which the actual deformation of the rail could be measured for each passing wheel of a train, and the actual stresses in the rail determined. These investigations demonstrated that at speeds of 30 to 40 miles per hour, engines having about 20,000 lbs. upon a driving wheel would produce tension stresses in the bottom flange of 80 lb. rails somewhere in excess of that shown in the third column of the preceding table, but well within the safe allowable limits of unit stress for good rail steel.

Experiments upon joints have also shown that a tensile stress of 12,000 lbs. per sq. in. could be produced in the unloaded rail due to its contraction in a falling temperature, before the grip of the angle bars would permit the rail to slip and relieve itself. An accumulation

how to identify positively when such a steel has been produced, is a work, first, for the manufacturers, and second, for the manufacturers and users of rail jointly, and this knowledge must be the basis of a satisfactory specification in the future. That such a result can be reached is earnestly to be hoped, but it will require the co-operation and serious endeavor of both interests to accomplish this most desired and necessary result.

Officers Canadian Society of Civil Engineers.

Following are the officers for the current year, as elected at the annual meeting at Winnipeg recently:—

President—C. H. Rust, City Engineer, Toronto.

Vice Presidents—H. Holgate, Montreal; C. E. W. Dodwell, Resident Engineer Public Works Department, Halifax, N.S.

Councillors—District 1, Professor L. A. Herdt, M.A.E., E. E. McGill University, Montreal; Phelps Johnston, Vice President Dominion Bridge Co., Montreal; H. G. Kelley, Chief Engineer G.T.R., Montreal; J. M. Shanly, Consulting Engineer, Montreal; J. G. Sullivan, Assistant Chief Engineer C.P.R., Winnipeg; H. H. Vaughan, Assistant to Vice President C.P.R., Montreal. District 2, P. S. Archibald, Commissioner New Brunswick Coal and Ry. Co., General Manager Elgin and Havelock Ry., Moncton, N.B.; F. W. W. Doane, City Engineer, Halifax, N.S.; R. McColl, Provincial Engineer, Halifax, N.S. District 3, A. E. Doucet, District Engineer National Transcontinental Ry., Quebec; J. T. Morkell, Engineer Quebec Central Ry., Sherbrooke, Que.; P. E. Parent, District Engineer Marine Department, Quebec. District 4, C. R. Coutlee, District Engineer Georgian Bay Ship Canal, Ottawa; D. MacPherson, Assistant Chief Engineer National Transcontinental Ry., Ottawa; W. J. Stewart, Chief Hydrographer, Marine Department, Ottawa. District 5, Prof. H. E. T. Haultain, C.E., Toronto University, Toronto; A. F. Stewart, Chief Engineer Mackenzie, Mann & Co., Toronto; C. L. Fellowes, Deputy City Engineer, Toronto. District 6, Prof. E. E. Brydone-Jack, B.A., C.E., Manitoba University, Winnipeg; J. A. Hesketh, Assistant Engineer C.P.R., Winnipeg; J. G. Legrand, Bridge Engineer G.T. Pacific Ry., Winnipeg. District 7, F. F. Busted, General Superintendent C.P.R., Vancouver; J. S. Dennis, Manager Irrigation Department Alberta and B.C. Land Departments C.P.R., Calgary, Alta.; J. H. Kennedy, C.E., Chief Engineer Vancouver, Victoria and Eastern Ry., Keremeos, B.C.

St. Leonards-Van Buren Bridge.—In connection with the bridge being erected between these points by a commission representing Canada and the State of Maine, a bill is under consideration by the Maine Legislature providing for the incorporation of a company with the title of the St. John River Toll Bridge Co., with a capital of \$40,000, to build a bridge and to charge tolls. The provisional directors are:—W. H. Cunliffe, F. W. Mallett, A. G. Finlayson, D. C. Burpee, J. R. Burpee, and W. D. Burpee. (Feb., pg. 135.)

The Lethbridge, Alta., Herald, in copying considerable matter from our January issue, said:—"The Railway and Marine World is a mine of information on railway and marine matters."

The Board of Railway Commissioners, which has under consideration the question of transcontinental rates from Winnipeg westbound, as distinguished from those from Vancouver eastward, will not deal with the matter finally until the next sitting in Vancouver, which will probably be held in the spring.

From A Chief Engineer of Surveys, Construction and Maintenance.

R. S. McCormick, Chief Engineer of the Algoma Central & Hudson Bay Railway, the Manitoulin & North Shore Railway, and the International Transit Company, Sault Ste. Marie, Ont., in renewing his subscription for the current year, writes:—

"I cannot do without the Railway and Marine World. It is the best magazine for the money published."

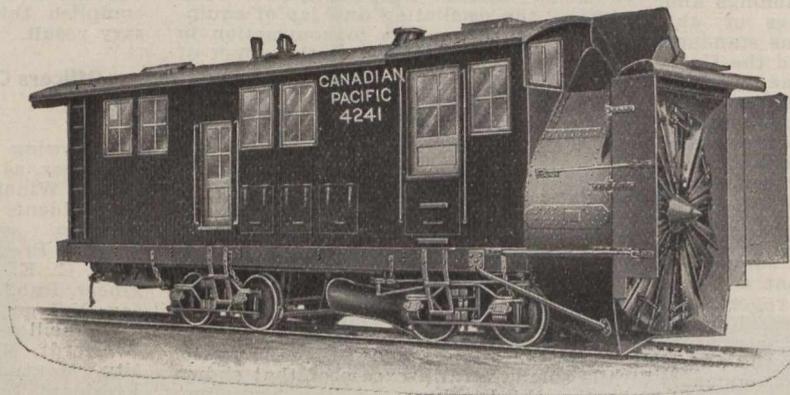
of these varied stresses in the lighter sections of rail, might therefore bring the total stress up close to the "elastic limit" or "yield point" of some of the rail steel.

The question has sometimes been asked, has the weight of the rail section increased as rapidly as the wheel loading? To this may be answered, yes. In the days when a 60 lb. rail section was a common standard, an engine axle loading of 24,000 lbs. was not infrequent; this loading produced a tension in the rail under the conditions of column 3 of the table of 13,440 lbs. per sq. in., as compared with 12,842 lbs. per sq. in. for a 100 lb. rail. under an axle loading of 50,000 lbs.

From a study of the preceding conditions it is evident that certain physical characteristics must be secured, in a steel rail, to meet the requirements of modern transportation necessities; briefly these may be recalled as follows: The steel must be sound and free from physical defects. It must be sufficiently hard to resist abrasion reasonably and also deformation of section. It must be of uniform texture, tough, but not brittle. It must have a high limit of elasticity and ultimate tensile strength.

The question naturally arises, can such a rail steel be produced? The answer is, that it has been produced in the past, that it is produced today, although not uniformly, and therefore, that it should be produced uniformly in the future. How to produce a rail steel uniformly possessing such qualities, and

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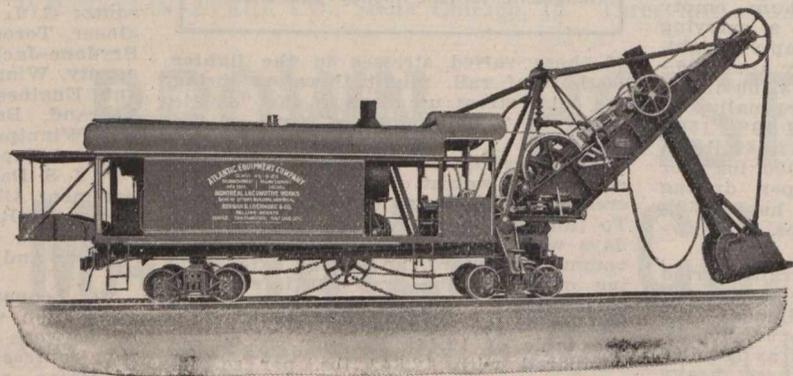
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Alberta and Great Waterways Ry.—The second instalment of interest on the \$7,500,000 bonds of this company has been paid by the province of Alberta under its guarantee. The proceeds of the bond issue are lying in the banks or have been paid into court, pending a legal decision. (Feb., pg. 109.)

Alberta Central Ry.—The Minister of Railways has approved route plans from Rocky Mountain House to the Yellowhead Pass, Alta; and the Board of Railway Commissioners, Feb. 2, approved location plans between mileage 63 and 75 from Red Deer. (Feb., pg. 109.)

Alberta Ry. and Irrigation Co.—In discussing the company's bill in the House of Commons recently for an extension of time and for power to build certain lines, an amendment was proposed to compel the building of one of the proposed lines through Pincher Creek, instead of about three miles to the east. It was stated on behalf of the C.P.R., which acquired control of the A.R. and Co. some time ago, that there were engineering difficulties in the way of building the line as suggested. Several western members contended that there were no difficulties in the way, that the gradient between Cardston and Pincher Creek was less than one per cent, and that another company had completed a survey for a line with that gradient. The matter was, on Feb. 3, adjourned for further consideration. (Nov., 1910, pg. 909.)

Algonia Central and Hudson Bay Ry.—In continuance of the betterments which have been in progress during the past year, the company proposes this year to fill all timber trestles between Sault Ste. Marie, Ont., and mileage 69, to lay out new terminal yards at Sault Ste. Marie, and to build a new station there.

Work is reported to be progressing rapidly on the extensions of the line. The O'Boyle Construction Co. has the general contract, and sub-contractors working on the lines are: Murdock Bros., Gorman & Co., Hick & Furlong, H. Day and T. Trombley. (Feb., pg. 109.)

Brandon Transfer Ry.—According to a letter recently received by the Brandon, Man., city council, H. A. K. Drury, Engineer of Railway Commissioners at Winnipeg, has been instructed to discuss with the Canadian Northern Ry., the C.P.R., and the Great Northern Ry. representatives, the question of a route for this projected railway. (May, 1909, pg. 355.)

British Columbia and Alaska Ry.—We are advised that it has not been decided when construction will be started, but that it is expected that some work will be done this year. (Feb., pg. 109.)

British Columbia and Dawson Ry.—The Dominion Parliament has under consideration an application for the incorporation of a company with this title to build a railway from Lytton to Port George, and from Telegraph Creek, B.C., to Dawson city, Yukon with a branch from Ashcroft to Vancouver. The provisional directors are: J. Walkenstein, A. T. Sullivan, C. G. Young, New York; J. O. Clifford, Chicago, Ill. (Nov., 1910, pg. 909. See also British Columbia and Alaska Ry., Feb., pg. 109.)

British Columbia and White River Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title to build a line of railway from the International boundary at Bear Creek, B.C., to the Chilkat River, and northwesterly to the Alsek

River, and on to White River, then to the International boundary between Yukon and Alaska, between the 62nd and 64th parallels. The provisional directors are: C. M. Marpole, G. Wilson, G. E. MacDonald, Angus McDonnell, Jas. Ironside, Vancouver, B.C.; J. Rosene, Seattle, Wash. (Dec., 1910, pg. 1013.)

Canadian Inter-Mountain Ry.—The provisional directors named in the application to the Dominion Parliament for the incorporation of a company to build the lines mentioned in our Jan. issue are: J. A. Harvey, W. Clayton, W. Warner, E. W. Bigelow, Vancouver, B.C. (Jan., pg. 21.)

Charlton to Elk Lake.—A deputation representing the Gowganda district waited upon the Ontario Government Feb. 15, to urge the granting of a right to a private company to build a line from Charlton or Uno Park, on the Temiskaming and Northern Ontario Ry. A company has been in negotiation for the building of this line since 1909, and the principal concession which the deputation asked was that the Government would not build a branch line in opposition.

Development Co. of Canada.—The Quebec Legislature is being asked to incorporate a company with this title to, among other things, build the following railways: from its mill site at Pagan Falls, Ottawa county, to the C.P.R.; from its mill site at Guigues, in Ottawa county, to the western boundary of the province, or in the alternative, to the C.P.R. Authority is asked to operate the lines by steam, electricity or any other motive power. The provisional directors are: R. H. Welden, C. W. Batho, W. B. Smith, Montreal.

Dominion Atlantic Ry.—A press report states that plans have been completed for the strengthening of a number of bridges, and for the building of a new bridge at Digby, N.S., on the location made by the old Western Counties Ry., and that the work will be put in hand at once. The building of a new bridge, it is stated, will enable the company to abandon a portion of the present route, which includes two bridges, and will give a shorter and better approach to Digby. (June, 1910, pg. 447.)

Great Lakes and Hudson Bay Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title, to build a railway, to be operated by steam or electricity, or both, from near Peninsula Bay, on the coast of Lake Superior, following the Erie River northerly and northwesterly to Martin Falls near the northerly boundary of the province, with connecting lines, northerly or northeasterly to Hudson Bay, by way of the Kenogami River, Albany River, or other more direct course. Fullerton, MacDonald and Lytle, Toronto, are solicitors for applicants.

Ha Ha Bay Ry.—The branch line to Laterriere village, seven miles, starts from the main line at Riviere du Moulin, Que. The contractors, Boulianne and Boulianne, have started work, and expect to have the grading completed by July. (Feb., pg. 111.)

Halifax and South Western Ry.—See Liverpool and Milton Ry.

High River, Saskatchewan, and Hudson Bay Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title to build a railway from some point in tps. 25 to 29, range one, west fourth meridian, Alta., northeasterly through Saskatoon, to the eastern boundary of Saskatchewan, in tps. 52 to 56, thence northeasterly to the Pas, in the Northwest Territories. Ballachy and Black, High River, Alta., are solicitors for applicants.

(See High River and Hudson Bay Ry., Feb., pg. 111.)

Intercolonial Ry.—The Minister of Railways made the following statement in the House of Commons Jan. 30, in reference to dock accommodation at Halifax, N.S.:—"Some few months ago the Government Railways Managing Board visited Halifax and decided that some improvements in the way of additional accommodation should be made there. The department authorized the engagement of John Kennedy, of Montreal, who is an expert in harbor matters, to go to Halifax, make an investigation and report as to what was needed. His report has not come in yet, and it is too late to do anything this season. In the meantime some temporary arrangements were made to handle the traffic as well as possible this year. We hope in a few days to receive Mr. Kennedy's report and to take into consideration the much needed improvements with regard to wharf accommodation at Halifax during the coming year." (Feb., pg. 111.)

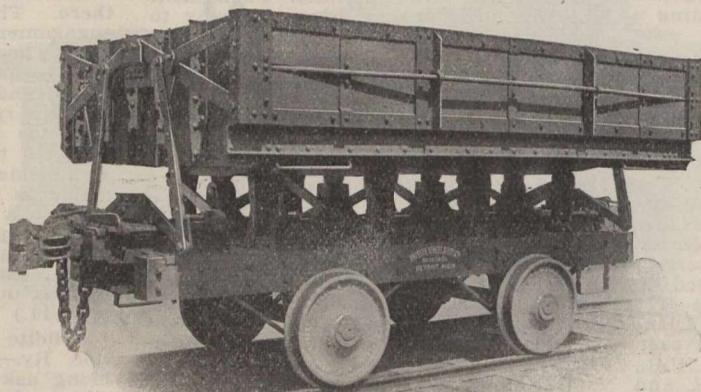
Joliette and Lake Manuan Colonization Ry.—The Dominion Parliament is being asked to extend the time within which the company may build its projected line from Joliette to Lake Manuan, Que., and to authorize the building of a line from Joliette southerly through Montcalm, L'Assomption and Hochelaga counties to Montreal. (Sept., 1910, pg. 727.)

Kettle Valley Lines.—Tracklaying is reported to be progressing between Midway and Rock Creek, 12 miles, and between Merritt and the crossing of the Coldwater River, B.C., on the portions of the extension under contract. About 20 miles of steel was reported to have been laid on the two sections Jan. 31. The Midway-Rock Creek section of 10 miles was reported laid Feb. 8, and according to the present rate of progress the Merritt-Coldwater River section is expected to be completed by Aug. 31. The location surveys for the route between the Coldwater Divide and Aspen Grove are reported to have been completed. N. E. Brooks and W. Gourlay are making surveys in the vicinity of Peniticon and Trout Creek. (Feb., pg. 111.)

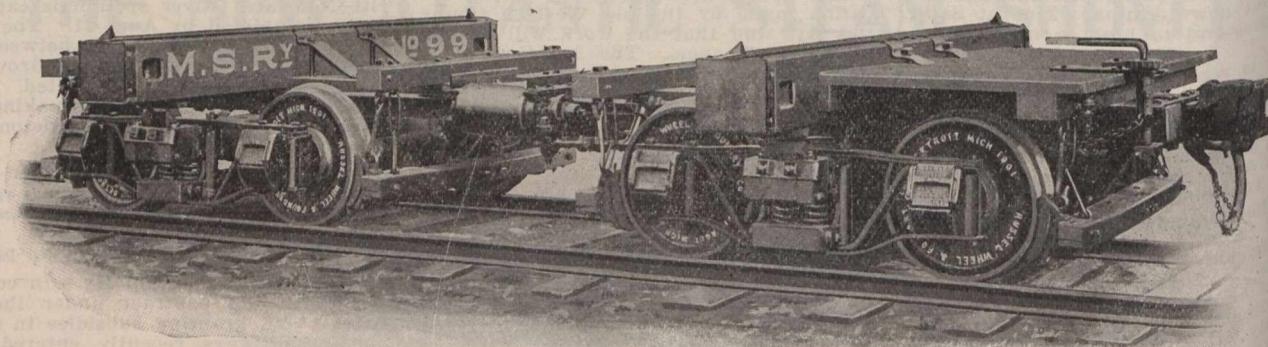
Kootenay and Alberta Ry.—The Board of Railway Commissioners has approved location plans for this projected railway from Pincher to Beaver Creek, Alta., mileage 0 to 13.09. (Jan., pg. 23.)

Liverpool and Milton Ry.—In connection with the contract under the Dominion act, granting subsidies in aid of certain railways, recently entered into, we are advised that the L. and M. Ry. was originally constructed as the L. and M. Tramway, and ran along the main road for most of the distance. This road ran from the pulp mills above Milton to Liverpool. A subsidy was voted some years ago by the Dominion Parliament, and has been revoked at various times since. This tramway, which was always operated by steam, was moved off the street in a number of places, but the gradients were heavy and the curves sharp, the road being of such a class as could not be passed for subsidy purposes. When the Halifax and South Western Ry. was built it was found that a good deal of freight would pass over the L. and M. R., and it became necessary to reduce the gradients and curves to allow an interchange of traffic. The Nova Scotia Government agreed to advance a certain sum to the L. and M.R. on a mortgage to make the necessary improvements to bring it up to the standard, so that it could obtain the subsidy. This work was virtually completed about a year ago, but no subsidy contract was made until recently. The line, which is five miles long, is now completed. Negotiations have been car-

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ried on during the past year with the H. and S.W.R. for the purchase by it of the L. and M.R. The company was given authority by the Nova Scotia Legislature in 1910 to extend its line to Caledonia, about 25 miles. It is not possible to say at present whether any work will be gone on with on this extension in the near future or not. (Feb., pg. 155.)

Manitoulin and North Shore Ry.—Application is being made to the Dominion Parliament to change the name of the company to the Algoma Eastern Ry.

We are officially advised that the shop which has been erected at Clara Belle is not a locomotive repair shop, as press reports stated, but a car repair shop, and that it is a very small one. (Feb., pg. 111.)

Montreal and Great Eastern Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Montreal by way of Joliette and Lake Manuan, or by the most feasible route, to the National Transcontinental Ry. at Weymontachene, Que. In addition to asking power to enter into agreements with the G. T. Pacific Ry., the C.P.R., the Canadian Northern Quebec Ry., or any other railway crossed or to be connected with the projected railway, it is desired to have power to acquire the rights, etc., of the Joliette and Lake Manuan Colonization Ry. J. A. Ritchie, Ottawa, is solicitor for the applicants. (See Joliette and Lake Manuan Colonization Ry.)

Montreal and Northern Colonization Ry.—The provisional directors mentioned in the application to the Quebec Legislature for the incorporation of a company with this title are A. Geoffrion, K.C., V. Cusson, K.C., and L. Dansereau, Montreal. Power is asked to build a railway northerly from Montreal, the northerly terminal to be approved by the Governor General in Council, to build underground railways in Montreal, and for general powers as to the building of railway and general traffic bridges. The Montreal city council has authorized steps to be taken to see that the city's interests are protected when the bill is under consideration in the Legislature. (Feb., pg. 111.)

Montreal Central Terminal Ry.—The Montreal board of control has been informed by J. M. Shanly, President M.C.T.R., that it is intended to secure a location in the heart of the city, on which will be built a terminal station with underground and surface approaches. All trains coming from the north will reach the city by a subway beneath the St. Lawrence, while all incoming lines from other directions will be provided for by means of depressed lines, the existing approaches to the city being utilized therefor, and no appreciable change in the existing grades being affected. There will be no level crossings under the new conditions. Substations will be provided at various points in the city, in order to facilitate the transfer of passengers, baggage and freight. The incoming lines could, if necessary, connect with the existing street railway surface lines, and the latter lines would be used for the collection of freight throughout the city. The subways needed will be constructed, as far as possible, on private property, the city thoroughfares being utilized only when necessary.

Letters have also been received by the board of control from D. McNicoll, Vice President C.P.R., and C. M. Hays, President G.T.R., stating that with the improvements being made and in contemplation at their existing terminals, they see no advantage in the M.C.T.R. Co.'s plans. (Feb., pg. 113.)

Mountain Coal and Colonization Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a line from the G.T. Pacific

Ry. branch now under construction, to the Yellow Head Pass Coal Co.'s lands, to tp. 46, range 23, west 5th meridian, with branches to the various coal mines along its route. Short, Wood, Biggar and Collisson, Edmonton, Alta., are solicitors for applicants.

New Ontario and Quebec Ry.—Application is being made to the Dominion Parliament to incorporate a company to build a railway from mileage 940 on the National Transcontinental Ry. in the province of Quebec, southerly around the east end of Upper Lake Abitibi, about 15 miles, through Matheson tp., Ont., to Tisdale tp., 95 miles, thence southwesterly to a junction with the James Bay Ry. near Congdon Station, or mileage 131, about 50 miles, making a total of about 160 miles; a line from near mileage 1,000, on the N.T. Ry. southerly along the west side of Abitibi Lake to a junction with the first mentioned line, being about 25 miles; a line from Iroquois Falls station, on the Temiskaming and Northern Ontario Ry. northerly and easterly along the Abitibi River, to a junction with the last mentioned line, about 25 miles. H. Fisher, Ottawa, is solicitor for applicants.

New Westminster Bridge.—The financial statement of British Columbia for the year ended Mar. 31, 1910, recently presented to the Legislature shows that the expenditure on the New Westminster Bridge was \$94,108.78, of which \$25,794.26 was on account of new flooring; \$22,942.58 on account of repainting, and \$12,648 for a new interlocking system. The bridge is used by the Great Northern Ry., by the B.C. Electric Ry., and by the general public. The bridge tolls received during the year were \$29,901.35, the largest amount received since the bridge was opened during the financial year 1904-05.

Owen Sound and Meaford Ry.—See Simcoe, Grey and Bruce Ry. (Dec., 1910, pg. 1015.)

Pacific and Peace River Ry.—The provisional directors named in the application to the Dominion Parliament for the incorporation of a company with this title are: L. R. Lemarchand, V. Pujebet, A. Michelet, Edmonton, Alta.; E. Brunet, Havre, France; G. Pujebet, Andrinco, France; P. Bounet, Montbron, France, and A. Clement, Perigueux, France. The proposed railway would run from Bella Coola, B.C., to Fort McLeod, thence through the Pine Pass to Peace River, at Dunvegan, Alta., about 480 miles. (Dec., 1910, pg. 1015.)

Pere Marquette Rd.—Press reports state that the enlargement and improvement of the company's shops at St. Thomas, Ont., is under consideration. (Mar., 1909, pg. 175.)

Prince Edward Island Ry.—A Charlottetown, P.E.I., press report states that the building of what is known as the North Shore branch will be proceeded with at an early date. This line will, it is said, connect Kensington and New London, a distance of about 12 miles. (Feb., pg. 113, and Dec., 1910, pg. 1015.)

Prince Edward Island Tunnel.—In a discussion in the House of Commons with respect to the possibility of building a tunnel between Prince Edward Island and New Brunswick, the Minister of Public Works stated, Jan. 23, that he intended to submit a motion during the present session to have a survey made. (Oct., 1910, pg. 831.)

Railway to Hudson Bay.—It is expected that an announcement will shortly be made by the Dominion Government with respect to the policy to be pursued in regard to the building of the railway to Hudson Bay. The Saskatchewan Legislature has had under consideration a resolution favoring Government ownership and operation of the line. (Feb., pg. 105.)

Reid Newfoundland Ry.—The residents of the Burin district of Newfoundland are petitioning the Government to consider the building of a branch line from Come-by-Chance, or some other point on the main line, through the district to Baine Harbor. The branch would serve a population of about 20,000. (Feb., pg. 155.)

St. John Valley Ry.—We are officially advised that the preliminary surveys, made by engineers under the direction of D. F. Maxwell as Chief Engineer of Survey for the New Brunswick Government, have been completed, and the estimates made. The report has been submitted to the Government, and it is expected it will soon be made public. The surveys cover the following sections of the route:—Fredericton to St. John, 74 miles; Evandale to Westfield, 20 miles; Westfield to Hampstead, 25 miles; Woodstock to River du Chute, via Sackville and Centreville, 44 miles.

The Minister of Railways gave notice in the House of Commons, Feb. 6, that he would bring forward a resolution authorizing the Government to lease the projected line from the New Brunswick Government, on its completion, for 99 years, for 40% of the gross receipts. The line will extend from St. John to Grand Falls, on the National Transcontinental Ry., 220 miles, and is to be built to the N.T.R. standard. The notice of motion provides that the Government may enter into a contract for the operation of the road in sections when completed and equipped, from Fredericton to Woodstock, from Fredericton south, 50 miles, and for each 25 miles thereafter until the line becomes completed and equipped from Grand Falls to St. John. (Feb., pg. 113.)

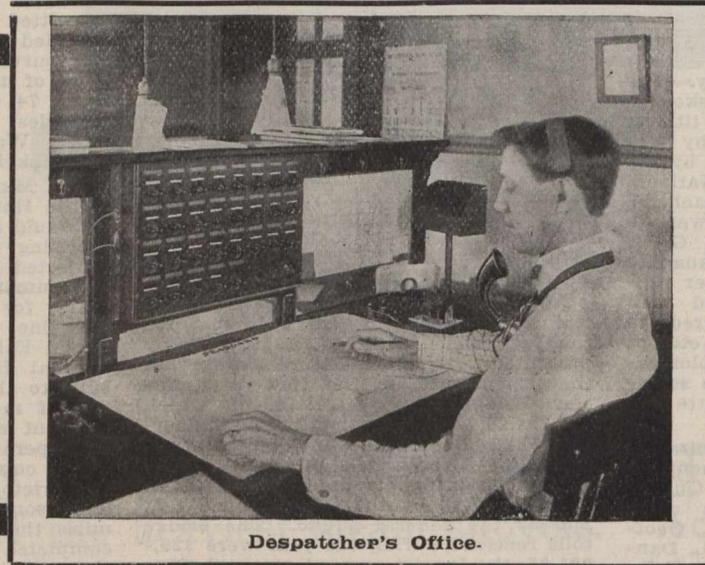
The St. Louis and Richibucto Ry. is an extension of the Kent Northern Ry. from near Richibucto to St. Louis, N.B., about seven miles. About 15 years ago, owing to the collapse of a bridge, the line ceased to be operated, and it has since lain derelict. A petition has been forwarded to the Minister of Railways asking that the line be inspected with a view of its being taken over in connection with other lines by the Intercolonial Ry. The applicants state that the line could be put in order at a small expense, as, with the exception of the fallen bridge, and decayed ties, it is in good condition. (See Kent Northern Ry., Dec., 1907, pg. 889.)

Sarnia, Chatham and Windsor Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Sarnia to Chatham, and thence to Windsor, Ont., with ferry boats across the Detroit and St. Clair rivers. Pringle and Guthrie, Ottawa, are solicitors for applicants.

Saskatoon and Hudson Bay Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Saskatoon northerly to Melfort, Sask., thence to Pas Mission, about 200 miles. The provisional directors are:—F. O. Fowler, Winnipeg; V. T. Bartram, Toronto; C. O. Foss, St. John, N.B.; H. Pardee, Philadelphia, Pa.; J. B. Craven, New York city. (Dec., 1910, pg. 1013.)

Shaw Lumber and Ry. Co.—Application is being made to the Saskatchewan Legislature to incorporate a company with this title to carry on a general lumbering business, and in connection therewith to build railways as follows: from Shaw's Siding southwesterly for 30 miles to timber limit 981, with a branch of 15 miles to the northern part of tp. 43, range 10, west second meridian, and from Shaw's Siding northerly for 30 miles to timber limit 960. The provisional directors are T. Shaw, Jas. Shaw, Dauphin, Man., and J. C. Shaw, Prairie River, Sask. (Feb., pg. 113.)

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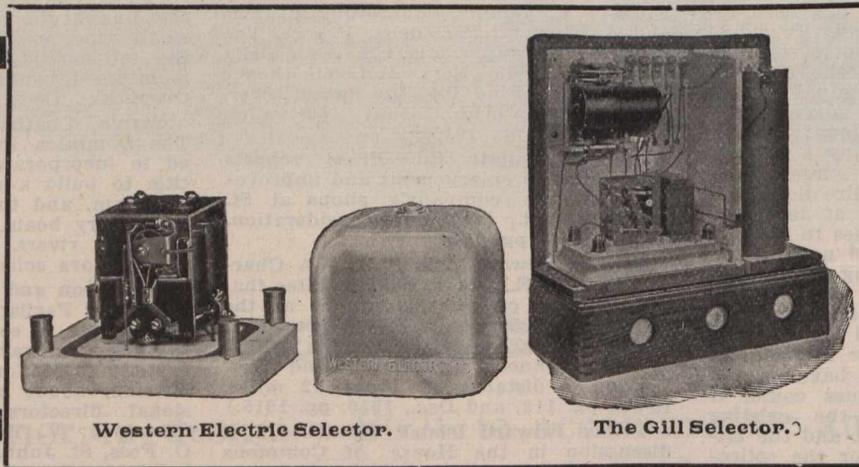
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Simcoe, Grey and Bruce Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Southampton to Orillia, Ont., passing through Owen Sound, Meaford, Thornbury and Collingwood. The provisional directors are:—C. M. Bowman, Southampton; J. B. Tudhope, Orillia; W. T. Toner, Collingwood; H. Pedwell, Thornbury; H. Cleland, Meaford; S. J. Parker, J. McLaughlan, C. Eaton, F. W. Harrison, E. Lemon, R. McDowell, B. Allen, A. G. Mackay, Owen Sound. The bill was opposed in the House of Commons by the Ontario Government on the ground that the proposed company was one which should be under provincial jurisdiction. On the other hand, it was pointed out that the company proposed to carry on a business as steamship owners on the Great Lakes, with vessels running to U.S. ports. The bill was finally passed.

In the course of his inaugural address recently the mayor Owen Sound said the Meaford railway proposition (or better still, a railway from Orillia to Kincardine, via Collingwood, Meaford, Owen Sound, Allenford and Southampton) would be submitted for consideration during the year. A proposal was well advanced to build a railway from Meaford to Owen Sound, and the council would be asked to act in the same very shortly. (See Owen Sound and Meaford Ry., Dec., 1910, pg. 1015.)

Temiskaming and Northern Ontario Ry.—The speech from the throne at the recent opening of the Ontario Legislature stated that during the past year the line had been fully completed to a junction with the National Transcontinental Ry. at Cochrane, Ont., and that the Government was building a branch line into the Porcupine country, which it was expected to have completed by June 30.

On returning from a recent inspection of the line, J. L. Englehart, Chairman of the Commission, said the proposed terminus of the branch would be about a mile west of the southerly end of Porcupine Lake. Construction was being gone on with at a satisfactory rate, and the line would be completed by June 30. The Chief Engineer stated that there were 700 men at work, and it was expected that an additional 500 would be at work by Feb. 28.

The question of the building of a branch to Gowganda is being urged by the people of the district, and a deputation waited on the Government Feb. 15 to advocate it. (Feb., pg. 113.)

The Northern New Brunswick and Seaboard Ry., from Nipisiguit Jct., on the Intercolonial Ry., to the Bathurst iron mines, N.B., 16.9 miles, has been completed. The contractors were A. and A. W. Wheaton. (Oct., 1910, pg. 827.)

The Toronto, Hamilton and Buffalo Ry. is reported to have secured options on a considerable area of property in the northeastern section of Hamilton, Ont., with the object of building a spur line to the Canadian Westinghouse Co.'s works and other industrial establishments. The matter is expected to come before the city council at an early date in the form of an application to build the line across Princess St. (Feb., pg. 115.)

Thunder Bay, Lake Nipigon and St. Joe Ry.—The Port Arthur city council is asking the Ontario Legislature to revise the act incorporating this company, and to authorize the city to acquire the companies' rights and powers, and to proceed with the construction of the railway.

Winnipeg River Ry.—Application is being made for the incorporation of a company with this title to build a railway from Winnipeg to Lac du Bonnet, Man., about 65 miles, with power to build branch lines.

Railway Commissioners' Traffic Orders.

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

FREIGHT RATES TO AND FROM KENORA.

12085. Sept. 23, 1910.—Re application of the Board of Trade of Kenora, Ont., complaining that rates charged by C.P.R. on inward freight traffic to Kenora from Port Arthur and Fort William, and on outward freight traffic from Kenora, are discriminatory in favor of Winnipeg. It is ordered that the company publish and file on or before Feb. 15, 1911, a freight tariff (or tariffs) placing the rates from Port Arthur and Fort William to all stations intermediate to Winnipeg upon the same relative scale, with due regard to mileage, as the rates from Port Arthur and Fort William to Winnipeg, and that on or before the said date the company publish and file a special "town" tariff of rates on general merchandise distributed from the towns of Kenora and Keewatin.

MINING STUDENTS RATES TO BRITISH COLUMBIA.

12829. Jan. 26.—That the C.P.R. be granted leave to carry a party of mining students of McGill University at a special rate of \$40 per capita for the trip from Montreal to Rossland, Phoenix and Greenwood, B.C., and return, or at a rate of \$50 per capita from Montreal to Vancouver, B.C., and return, including side trips to Rossland, Phoenix and Greenwood, B.C. That the company be granted leave to carry such party, if desired, over its lines from Sudbury to Sault Ste. Marie and back at proportionate rate per capita of \$2.75. That any other parties desiring to travel for the same purpose to British Columbia, or any other mining district, be granted equally favorable terms, until otherwise ordered by the Board.

MONTREAL PARK AND ISLAND RY. PASSENGER FARES.

12852. Jan. 25.—Re application of Montreal Park & Island Ry. under sec. 331 of the Railway Act, for approval of a standard passenger tariff applying on its lines a rate of 3c. per mile, with a minimum fare of 5c., subject to such special fares, if any, as may be in force under any agreements made by the company with the municipal authorities of the district. It is ordered that the application be refused, and that the company, not later than Feb. 15, 1911, file for the Board's approval a standard passenger tariff specifying a maximum toll of 2½c. per mile, to be charged on the company's existing lines of railway.

MONTREAL TERMINAL RY. PASSENGER FARES.

12853. Jan. 25.—Re application of Montreal Terminal Ry. under sec. 331 of the Railway Act, for approval of a standard passenger tariff applying on its lines a rate of 3c. per mile, with a minimum fare of 5c., subject to such special fares, if any, as may be in force in any district traversed by the company with the municipal authorities of the district. It is ordered that the application be, and it is hereby refused. And that the company, not later than Feb. 15, 1911, file for the Board's approval a standard passenger tariff specifying a maximum toll of 2½c. per mile, to be charged on the company's existing lines of railway.

COMPLIANCE WITH GENERAL INTERSWITCHING ORDERS.

12901. Feb. 6.—Re order 4988, July 8, 1908, known as the General Interswitching Order, and circular letter 58, Dec. 23, 1910, calling the attention of railway companies to the fact that many of their tariffs are not in accordance with the general interswitching order, and requiring that such variation from the order be removed and new tariffs published and filed without delay. Upon its appearing that the requirements of

the circular letter have not been complied with, it is ordered that the railway companies whose tariffs of interswitching tolls have not been prepared in accordance with the said order, as amplified in the Assistant Chief Commissioner's judgment of Nov. 26, 1910, file new tariffs of interswitching tolls, in accordance with the provisions of the order, not later than March 1, 1911.

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.

A. O. Norton, Coaticook, Que., has brought out an entirely new jack which is of interest to railway mechanical men, it being stated that it is four times as fast as other ball-bearing jacks, and absolutely safe and reliable.

The Safety Car Heating and Lighting Co., in its monthly pamphlet, in addition to a number of interesting items, gives detailed descriptions of its remodelled carburetor lamps, old and new hot water heaters and electric deck lamps.

Burton W. Mudge & Co., railway supplies, Chicago, have elected T. H. Garland, a Vice President. His attention will be directed to the development of car ventilating and refrigerating devices, patented by him while Superintendent of Refrigerator Service of the Burlington System.

The Duquesne Steel Foundry at Kendall station has been using oil fuel in two of its open hearth furnaces with Tate, Jones & Co.'s equipment for several years. It is now abandoning the use of natural gas and using oil exclusively, and has let the contract to Tate, Jones & Co., Pittsburgh, Pa., for the equipment of its last and third furnace with the Kirkwood system.

The Northern Engineering Works, Detroit, Mich., has issued its crane catalogue 30, fully describing and illustrating the various classes of cranes made. The illustrations include among other cranes in operation in railway car shops, and car shop yards, foundry service, electric power plant, power stations, for lifting car bodies, locomotive cranes, coal storage electric transfer cranes, etc.

The Pay As You Enter Car Corporation issue of \$250,000 7% cumulative preferred stock at par, with a bonus of 30% of common stock, is reported to have been fully subscribed. The authorized capital is \$5,000,000, of which is issued, \$1,500,000 cumulative preferred stock at 7% and \$2,500,000 common stock. There is also \$1,000,000 of common treasury stock. The earnings for 1910 were \$365,000, from which \$105,000 preferred interest was paid. It is announced that the Pay Within Car Co., which owns certain patents considered to be advantageous, has been absorbed. Duncan McDonald, General Manager Montreal St. Ry., is President, and W. G. Ross, ex-Managing Director Montreal St. Ry., is a director.

During Dec. 1910, letters patent were issued in respect of Dominion railway lands, to the Grand Trunk Pacific Ry., for 102.01 acres.

The Intercolonial Ry. management, though not under the Board of Railway Commissioners' jurisdiction, has decided to adopt the new sleeping and parlor car tariff as approved for lines under the Board's jurisdiction.

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Report on Ties by Canadian Society of Civil Engineers Committee.

At the annual meeting of the Society in Winnipeg recently, a report was presented by the committee on ties, signed by the Chairman, D. MacPherson, Assistant Chief Engineer National Transcontinental Ry., the names of the following members of the committee being appended: H. D. Lumsden, F. P. Guterius, M. J. Haney, W. McNab, J. G. Sullivan, H. A. Woods, M. H. McLeod, A. F. Stewart, W. A. Bowden and H. G. Kelley. The chairman, in transmitting the report stated that W. B. MacKenzie and T. C. Burpee, of the Intercolonial Ry., dissented from the part of the report about the use of 10 1/2 ft. ties. The chairman added:—"H. Holgate disapproves of the form, the subject matter and the conclusions, but gives no reasons for doing so; presumably, he will give these reasons when the report is under discussion. Under these circumstances, I have not attached the names of these three members of the committee to the report."

Following is the report:—

At the last annual meeting it was resolved—"That the committee on ties be continued, and that it confine its attention more particularly to the artificial preservation of ties, their size, and the timber best suited to the purpose."

Your committee beg leave to report as follows:—In their report, presented to the Society in Jan., 1909, it was pointed out that some 12,000,000 ties were being used annually in Canada, which number was being continuously and largely increased, so that probably within the next 40 years, the consumption will be about 120,000,000, or equal to the present annual consumption in the United States.

Assuming the following data—average cost of untreated ties at point of shipment at 50c.; freight and putting in track, 15c.; total, 65c.; average life, 8 years. Initial cost of treated tie the same as above; cost of treatment, including extra handling, 25c.; total, 90c.; average life, 16 years. Then, if 12,000,000 untreated ties are being used annually, and their average life is 8 years, there must be about 96,000,000 in use, and the capital necessary to place these ties in the track and provide for their renewal every 8 years, on a 4% basis, would be \$2.41 per tie. The capital necessary to place treated ties in the track and provide for renewal every 16 years would be \$1.93 per tie. The total capital necessary:

= 96,000,000 x \$2.41 = \$231,360,000 for untreated ties.
96,000,000 x \$1.93 = \$185,280,000 for treated ties.
Total difference in capital ..\$46,080,000
\$46,000,000 at 4% = \$1,843,200 = eventual annual saving.

As the cost of untreated ties and the numbers used are increasing very rapidly and the cost of treatment is likely to be reduced, surely no more need be said to prove the urgent necessity of at once beginning the introduction of treated ties at all points where their capitalized values will show a fair saving on the investment, even if the question is only viewed from the standpoint of economy for the railways. When the broader view of conserving our supplies, for fear of depletion, is considered, it assumes enormously greater importance.

The preservation by creosoting or otherwise has not hitherto received the attention it deserves in Canada, but it doubtless soon will, as the railway companies are becoming alive to this really important subject. The American Railway Engineering and Maintenance of Way

Association have, however, taken the matter up vigorously, and valuable information can be found in their proceedings, vol. x, part I, for 1909, and subsequent volumes. In co-operation with this Association, Purdue University made a series of tests to determine whether or not treatment of tie timber had any injurious effect on the strength of the material. The conclusions arrived at, from these tests, are briefly summarized as follows:—

No weakness was shown by treated ties, as compared with natural ties, either in rail-bearing or spike-holding strength, except in the case of ties treated with crude oil, and, even with that treatment, the weakening in rail-bearing was of a temporary character.

The average stress under the rail at the elastic limit on the various woods was as follows: red oak, 1,131 lbs. per sq. in.; short leaf pine, 642 lbs.; long leaf pine, 690 lbs.; red gum, 830 lbs.

The extremes of atmospheric temperature have an appreciable effect on the strength of wood, especially when green. The warm timber was from 9% to 17% weaker than the very cold timber.

The direct pulling resistance of common spikes in the various woods was as follows, in their natural state: red oak, 7,639 lbs.; short leaf pine, 4,359; long leaf pine, 3,955; red gum, 3,883.

The lateral resistance of common spikes in the various woods was as follows, loads at elastic limit, in lbs.: red oak, 2,026; red gum, 1,704; long leaf pine, 1,650; short leaf pine, 1,619. The lateral resistance of screw spikes depends on the diameter and length of shank under the head, elastic limit of the metal, and character of the wood.

The screw spike had from 1.7 to 3.8 times the strength of the common spike against direct pull, and from 1.2 to 2.4 times the strength of the common spike against lateral resistance. The smaller screw spikes gave greater lateral and direct resistance per lb. of weight than the larger spike. The strength of the common spike against withdrawal is increased when driven to follow a bored hole. The shape of the point of a common spike, however, leads it to drive out of a bored hole, and the resistance to withdrawal is thereby lowered.

A very interesting paper on the economic comparison of railway ties of different materials, written by N. M. Campbell, was published in Sept., 1910. The results are summed up in a table giving the order of merit of different kinds of wood treated by the three processes, zinc chloride, creosote, and Rueping, as compared with untreated ties, taking into consideration the first cost in the track and the average life. Strange to say, the first in order is untreated catalpa wood, but, as the writer does not give the value of treated ties of the same wood, this does not prove that it might not be still more valuable if treated. The second in order of merit is cypress, also untreated, for which a life of 10 years is claimed, and initial cost in track 54c. The same wood, when treated with creosote, comes 19th in order of merit, having a life of 17.5 years and first cost of 95c. When treated by the Rueping process, the order of merit is 6, life 15 years, and cost in track 81c. Oaks, untreated, come 30th in order of merit, 23rd when treated with zinc chloride, 15th when creosote is used. Pine, when treated with creosote, comes 3rd in merit, 28th when zinc chloride is used, and 29th when untreated. Tamarac, treated by the Rueping process, comes 10th in order of merit, but no mention is made of untreated tamarac or cedar. The table below will illustrate more clearly the comparative values of the woods above mentioned:

Table with 6 columns: Material, Treatment, Average life, years, Cost in track, Capitalization 4%, Annual cost, Order of Merit. Rows include Catalpa, Cypress, Pine, and Tamarac with various treatments like None, Rueping, Creosote, and Zinc chloride.

From the foregoing it appears that, for the best results, different woods require different treatments. The Rueping process is a creosote treatment. It differs from ordinary creosoting in that the timber is first put under air pressure sufficient to fill all the wood cells with air. The creosote fluid is then forced in at higher pressure, and the theory is that, after the greater pressure is released, the expansive force of the air throughout the interior of the timber will expel part of the fluid from the cells, leaving the walls of the cells painted with creosote instead of having the cells filled with it.

The cost of treating ties, of course, will vary largely, and will depend, to a great extent, on the numbers treated, the efficiency of the plant, and the nature of the treatment, but the Atchison, Topeka and Santa Fe Ry, which has used the Rueping creosote treatment pretty extensively, reports that the cost of treating inferior pine ties is 20c.

H. G. Kelley, a member of your committee, reports satisfactory personal experience with the Burnettizing process at a cost of from 15 to 20c.

With regard to size of ties, the 8 ft. length, 6 ins. to 7 ins. thick, with face from 6 to 10 ins., is in most general use, but it is somewhat difficult to find any logical reason, other than initial cheapness, for adopting an 8 ft. tie for standard gauge track. As this length was adopted, and has been in use for such a long period, it is very easy to understand why the railway companies should hesitate to change, for the transition period would be both troublesome and costly. However, as the weights of rolling stock have more than doubled in the past 20 years, and steel rails have been increased in, roughly, the same proportion, it seems about time to make some correspondingly adequate change in tie dimensions. It is true that the spacing of ties has been, of late years, made slightly closer, but, while the loads have been increased from 200 to 300%, the base of the superstructures to carry these loads, or the base area of the ties under a rail length, has been increased less than 50%. As there is a practical limit to close spacing of ties, on account of the difficulty of properly tamping them when spaced closer than 20 in. centres, the only resource left is to lengthen them, if more supporting area is required. The 8 ft. tie, not only does not give sufficient support, but it is impossible to utilize its whole length for fear of breaking it, owing to the distribution of the loads on track of standard gauge.

The distance from the end of an 8 ft. tie to the outer edge of a 5 ft. rail base is about 16 ins., and the best practice is to firmly tamp such ties only 16 ins. from the rails each way. The reason for this is that, if fully tamped to the centre of the track, they would give a firmer support, in proportion to the load, at centre than at both ends, and the ties would break. In other words, you cannot utilize much more than 75% of the bearing capacity of such a length of tie under a standard gauge track, without destroying the tie itself. In order to utilize the full uniform supporting capacity of the tie for its whole length, it should have the same length from the centre of rail

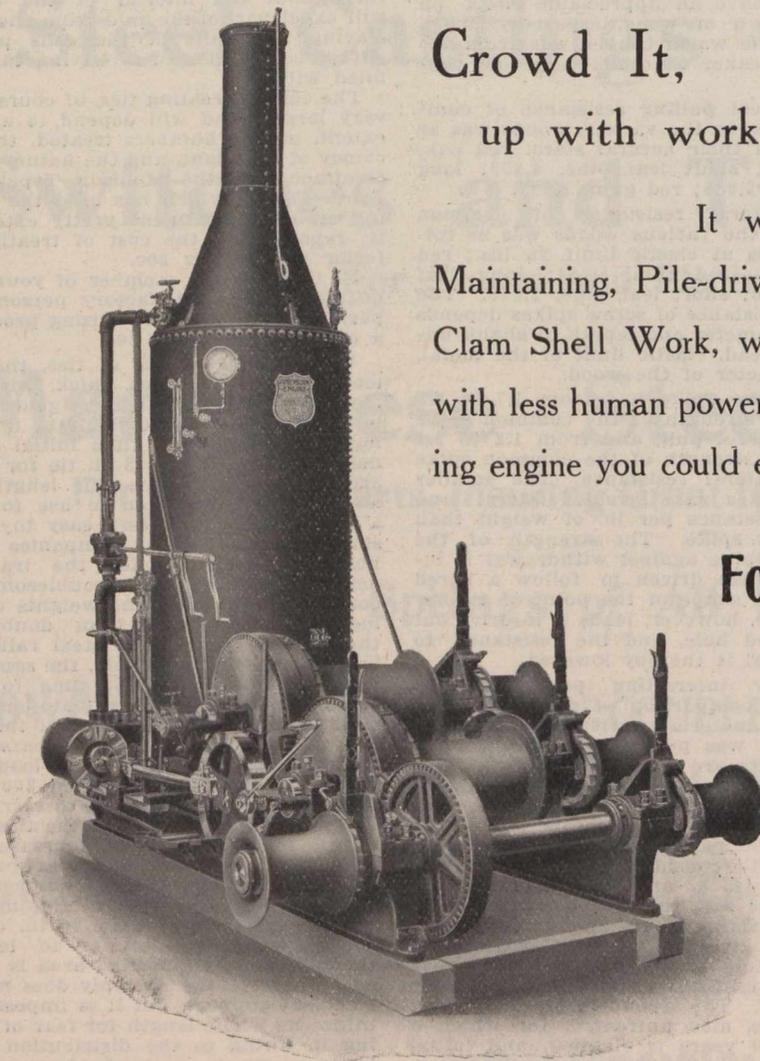
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to end of tie, as from former point to centre of track, which would make it 10 ft. 8 ins.—say 10½ ft. long.

It is certain that even the best roads would hesitate to make such a radical change, and, of course, your committee would not presume to say that they should make such a departure from long-established practice, but the fact remains that strong logical reasons can be given for the use of ties 10½ ft. long, and such reasons cannot be given for the use of 8 ft. ties. Ties 7 ins. thick, 10½ ft. long, with 9 in. face, would give about 70% increased support at an increased cost of only 31%. No increased width of ballast section would be necessary for the longer ties, because no shoulder of ballast would be required at the ends of such ties, so that the actual yardage of ballast required would be slightly decreased by the increased space occupied by the ties. This is fully shown on the accompanying diagram, drawn to scale, illustrating how ties 10½ ft. long may be used in an ordinary ballast section for 8 ft. ties, without requiring any extra ballast.

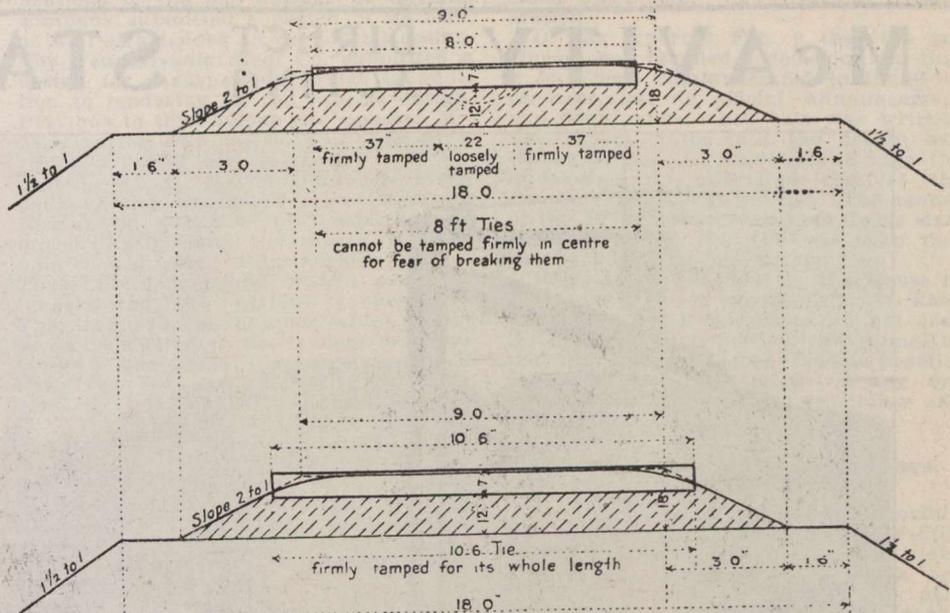
Note.—8 ft. ties tamped firmly for 16 ins. each way from rails only utilize the supporting area of 77% of tie, equal to 74 ins. in length, or 740 sq. ins. for a tie of 10 in. face. 10½ ft. ties could be used in the same ballast section, firmly tamped for the whole length, giving the maximum supporting area of 1,260 square inches, or equal to 170% the efficiency of 8 ft. ties.

At the present average price of 50c. for 8 ft. ties, they cost about 36% of cost of 80 lb. rails and fastenings, which would only be increased to 42% by using the longer ties. The improved condition of track and saving in maintenance of rails and rolling stock would probably soon more than offset the difference in cost of ties.

It has been suggested that longer ties would make drainage more difficult, but, if good ballast is used, there would seem to be no difficulty in that regard, and if the ballast is inferior, the loose tamping under the centre of 8 ft. ties and the shoulder required at the ends of them would form pockets to retard drainage that would be obviated by the use of long ties. Your committee would suggest experimental tests with ties 10½ ft. long.

The best kinds of wood to use for ties depends upon so many conditions of climate, availability, and cost of timber treated and untreated, that it is very difficult to make definite recommendations. For general use in our Canadian climate, however, the following woods, if untreated and used with tie-plates, might be recommended, and they are given approximately in their order of merit, having regard to life and initial cost: Cedar, tamarac, oak, yellow pine, hemlock. For treated ties, used also with tie-plates, the order of merit would be about as follows: Yellow pine, tamarac, hemlock, oak.

T. C. Burpee, Engineer of Maintenance of Way and Works, Intercolonial Ry., who was a member of the committee, dissented from the report in a letter to the chairman, of which he has furnished us a copy as follows:—"I cannot subscribe to a report calling for ties 10½ ft. long. Breakages in ties might be avoided if in a country without frost; but in this country I believe that 75% of 10½ ft. ties would be broken each year. My experience is that our 8 ft. ties, which are being used at the present time, break very much less than the 9 ft. ties which we used on the I.C.R. some years ago, and if 9 ft. ties would break more than 8 ft. ones, of course breakages of 10½ ft. ties would be proportionately greater. I do not think that our track, when we were using 9 ft. ties, was any better than it is at the present time with 8 ft. ties. I am inclined to think it was not as good,



and yet our rolling stock is very much heavier than it was at that time. However, I presume a practical test is the best way to demonstrate which would be preferable."

W. B. Mackenzie, Chief Engineer, I.C.R., also dissented as follows:—"I agree to the report as modified, except the matter of the long ties, and my reasons are as follows:—Very considerably more timber and larger timber would have to be used, thereby increasing the destruction of standing timber. They would cost more. The freight would be increased. The cost of labor for handling, putting in and taking out would be doubled, and the maintenance would be increased. One man can handle an 8 ft. tie, but two men would be required to handle a 10½ ft. tie. It would require much more digging to get them in or take them out, and in cuttings this would be a very serious matter. In yards where there are many leads, retaining walls, etc., the 10½ ft. tie could not be used at all. A short tie comes down to surface in the spring much quicker and more evenly than a longer tie. This is because there is more chance for gravel to work under a long tie than a short one, while the frost is coming out. Some time ago a writer in one of the scientific papers proved by figures that 8½ ft. was the best length for ties; as this length was all that was practically useful in keeping up the track; but I cannot at present give the paper or the date. No doubt heavy long ties are all right over bogs. What I think is that while you might be able to prove your 10½ ft. scientifically correct, the change would be so radical that no notice would be taken of that part of the report by practical men. It would be no harm to say that trials of longer ties should be made."

In the discussion on the report G. A. Mountain asked who recommended the use of long ties and from what experience the information had been derived.

D. MacPherson said the committee had not recommended the immediate adoption of 10½ ft. ties, but rather experimenting with or testing them, with a view to improving the present practice, which has not kept pace with improvements in other parts of the permanent way. It seemed to him that good reasons for this suggestion were given in the report, but the committee invited the fullest discussion, and would be glad to hear all the good reasons that could be urged against the use of such long ties or in favor of the present practice. He had had personal and favor-

able experience with the use of long ties over bogs and places where the track crept badly, and had recently been advised by an engineer, who worked on the London & North Western Ry. in England, that 10½ ft. ties were used as standard on the main lines of that road. As this was one of the best lines in England, and ties were much more expensive there than here, it would appear to be a strong point in favor of 10½ ft. ties. At all events it was not logical that railways should continue using the same dimensions for ties that were used 50 years ago, when the weights of rolling stock had been increased several hundred per cent. He accepted the responsibility of suggesting these long ties to the committee, and some members thereof evinced considerable interest in the matter. It could not be expected that the railways would immediately begin the general use of 10½ ft. ties, but it might be to their interest to try them on new lines, where heavy traffic was expected, and the chances were they would prove eminently satisfactory. The committee suggest the testing of 10½ ft. ties, that is all.

The report was adopted, the President, Col. Ruttan, having stated that the Society should be very careful not to adopt anything definitely that had not been fully tried, but he saw no harm in adopting the report suggesting that tests be made.

In reply to the President's remarks D. MacPherson said the committee merely suggested the testing of 10½ ft. ties.

The Quebec Branch of the Canadian Society of Civil Engineers has elected the following officers for the current year:—Chairman, P. E. Parent; Secretary, Treasurer, S. S. Oliver; Executive Committee, A. R. Decary, W. R. Russell, R. O. Sweesey, E. A. Hoare, L. A. Vallee, A. E. Doucet.

The British Columbia Legislature has under consideration some amendments to the Health Act, by which the Provincial Board of Health may make regulations applicable to railway construction camps, for the purpose of preventing nuisances and the outbreak or spread of disease; for the provision of duly qualified medical practitioners by employers of labor, for the erection of permanent or temporary hospitals for such construction camps, and for providing for the construction arrangements and inspection of houses for the accommodation of men employed on such railway construction.

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— OFFICE AND WORK —

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The Quebec Bridge.

Replying to questions in the House of Commons Jan. 30, the Minister of Railways said the firms tendering for the building of the superstructure of the Quebec Bridge, gave dates for the completion of the work varying from June, 1914, as the earliest, to Dec., 1916, as the latest, all dates being contingent upon the substructure being completed by Nov. next. The cost of clearing away the debris of the collapsed bridge has been, to date, \$31,995 for removal of the old steel, and \$13,644 for the removal of the false work, the contract price being \$45,000 for the first work and \$22,750 in the second. The total cost of the bridge to the country to date has been \$7,154,987.49. The steel remaining the property of the Government is calculated to be 22,640,594 lbs. "It is very difficult," he added, "to determine the value of this material, taking into consideration the expense of handling, loading, transporting and having no knowledge of the use to which it will be put. For the present all that can be figured on is what it would be worth as scrap, which has a value of about \$10 a ton. This would make this material worth about \$113,000. It is difficult to estimate the value of the material in the present piers, in regard to the new structure, but a safe estimate would be \$300,000."

In replying to a request in the House of Commons, Feb. 6, for copy of advertisement for tenders, and the specification and contract or proposed contract for the erection of the Quebec Bridge, the Minister of Railways said:—The situation is this. When the Government took over the work of reconstructing the bridge, we appointed a board composed of three eminent bridge engineers who were to prepare the plans, and be responsible for the construction on those plans. Three eminent engineers were named by order in council: Mr. Vautelet, Montreal; Mr. Fitzmaurice, London, Eng., and Mr. Modjeska, Chicago. In the order in council there was a provision that if these engineers did not agree on any point, two other eminent engineers should be called in to advise with them, and the board, composed of the three original members and the two additional ones, should decide the points of difference. On several occasions differences arose, and two other eminent engineers were appointed to the board for the time being, and the points of difference settled. But when it came to the time for advertising for tenders, two members of the board were not in perfect unison with the chief engineer and chairman as to the design. It might be said that there had been a difference of opinion as between the principle of the intersections, and singling the board who did not agree entirely with the Chairman and Chief Engineer as to the design which had been prepared, agreed that tenders should be called on this condition, and a resolution was passed by the board. The resolution provided that tenders should be called on the official design prepared by the chairman and chief engineer, and that each tenderer would be asked to submit a plan of his own for the erection of a bridge, and if that plan was better than the official design, it should be adopted. On that condition tenders were called for.

Some 35 different propositions were submitted—not 35 plans. These were all submitted by four different tenderers—and by the board. The board's design, called the official design, contains a design with several modifications—nos. 1, 2, 3, 4 and 5, I think, with little variations. From the St. Lawrence Bridge Co. there were five or six modifi-

cations of the one design. A German company submitted a design of its own, as well as a tender on the official design. The Pennsylvania Steel Co. submitted a design for a suspension bridge in addition to tendering on the board's design. Previous to this, during the summer Mr. Fitzmaurice, who had been ill some time, resigned. And his resignation was accepted. C. E. Macdonald, once president of the Engineers' Association of New York, a native of Leeds county, now living in Gananogue again, was appointed in Mr. Fitzmaurice's place. These three met and looked over the tenders and the various propositions. They reduced the number which ought to be considered to the tenders on number 5 of the official design and propositions (a) (b) and (c), if I remember correctly, of the St. Lawrence Bridge Co. That company is composed of two companies, the Canadian Bridge Co. at Walkerville, Ont., and the Dominion Bridge Co., Montreal, and these two formed a third company for the purposes of this work. There then remained tenders to be considered from the British Empire Co. of England, from the German company, from the Pennsylvania Steel Co. and the St. Lawrence Bridge Co. on the official design, and the other propositions, (a), (b) and (c), on their own designs from the St. Lawrence Bridge Co. They tendered on both. No company sent in a tender on its own design without tendering also on the official design. The question to be decided was as between the tenders on the official design, the lowest of which I have no hesitation in saying, was the British Empire Co., and the counter propositions of the St. Lawrence Bridge Co. on its own designs. The board recommended to me that a substantial bridge could be erected on either of these propositions. I replied, asking them to perform their whole duty, and tell me which one was the better, if there were a better. Mr. Macdonald and Mr. Modjeska favored one of the designs of the St. Lawrence Bridge Co., while the chief engineer and chairman, Mr. Vautelet, could not coincide with this, as he thought the official design was fully as good, or better, and was considerably cheaper. After waiting for some time and consulting with the board as then constituted, to see if they would not make me an unanimous recommendation, I came to the conclusion that they would not, and so proceeded to act under the order in council, adding two other eminent engineers to the board for the purpose named in the order in council. The chief engineer and chairman was ill at his home in Montreal, and at his suggestion I sent for Mr. Macdonald and Mr. Modjeska, and they came to Ottawa. H. W. Hodge, of Boller and Hodge, Consulting Engineers, New York, a prominent engineer, and M. J. Butler, my former deputy, were elected as the two additional members. They are now sitting in Montreal, working at the question, and I hope shortly to have a decision on which the Government can act one way or the other in reference to awarding the contract.

Replying to questions on his statement, the Minister of Railways said the bridge was to be 88 ft. wide, and he understood both designs under consideration conformed to that measurement. The question of a tunnel had not been seriously considered, although he had discussed it with some interested persons. The conclusion he had personally formed was that the river banks, being very high, a tunnel would have to be started a very long way back from the river on either side, and that a tunnel was not as practicable as a bridge. The bridge floor was to be 150 ft. above highwater, a height which had been de-

ecided upon after very careful consideration.

It was reported Feb. 9 that the engineers had reached a decision, and that it had been communicated to the Government, but no official announcement had been made when this was written. The report states that the design and tender of the St. Lawrence Bridge Co. is favored, the estimated cost of the structure being \$13,500,000. The tender of the British Empire Bridge Co. is stated to be about \$400,000 less than that of the St. Lawrence Bridge Co.

Replying to questions in the House of Commons Feb. 9, the Minister of Railways said the Department did not consider the construction of the tunnel at the site of the Quebec Bridge practicable. He had not employed any engineer to report upon the feasibility and cost of such a tunnel.

British Columbia's Aid to Railways.

In the balance sheet of the province of British Columbia recently presented to the Legislature for the year ended Mar. 31, 1910, among the assets are included: Victoria and Sidney Ry., paid for interest on company's bonds, \$106,215; Nakusp and Slocan Ry., mortgage account, \$647,072, and paid for interest on bonds, etc., in excess of Dominion subsidy and net earnings, \$160,643.59; Shuswap and Okanagan Ry., paid for interest on bonds, etc., in excess of the Dominion subsidy and net earnings, \$391,938.38, making a total of \$1,305,868.97. The liabilities include \$647,072 of railway guarantee bonds under the Nakusp and Slocan Ry. Aid Act, of 1894.

A return appended shows the sums guaranteed by the province under the various railway acts:—Shuswap Ry. guarantee act of 1890, guarantee of interest of the Shuswap and Okanagan Ry. bonds, 4% on \$1,249,760, amounting to \$49,980.40 a year, the bonds being terminable in 25 years from July 1, 1890. Nakusp and Slocan Ry. Aid Act, 1894, guarantee of principal and interest of \$647,072 of the N. and S. Ry. bonds, principal payable in 1918, interest at 4% equals \$25,882.88. Against the guarantee to these two railways the province receives 40% of the gross earnings under agreement with the C.P.R., which is operating both lines. Victoria and Sidney subsidy act, 1892, guarantee of interest of the V. and S. Ry. bonds at the rate of 2% per annum on \$300,000 for 25 years from Sept. 1, 1892, equal to \$6,000 a year. The total annual liability is therefore \$81,863.28, less the 40% receivable from the C.P.R., which for the year ended Mar. 31, 1910, was \$44,308.48 for the Shuswap and Okanagan Ry., and \$5,191.92 for the Nakusp and Slocan Ry.

T. Howell, General Immigration Agent C.N.R., Toronto, left Canada for England recently to complete the organization of an immigration campaign for the approaching season.

Sir Wm. Mackenzie is at the head of a Canadian syndicate which has obtained a concession for a large dam across the Balsas River, and the installation of a large hydro-electric plant in the State of Guerrero. It is said the dam will be 150 ft. high, will cost about \$2,000,000, and will be located in the river canyon near the end of the Cuernavaca, Mexico and Pacific division of the Mexican National Railway. The power is to be distributed to the capital of the state and to several mining districts. It is said the syndicate is negotiating for railway concessions in the State, and that one of the lines to be built will run from Balsas, where connection will be made with the Mexican National Railways, to the port of Acapulco, on the Pacific coast.

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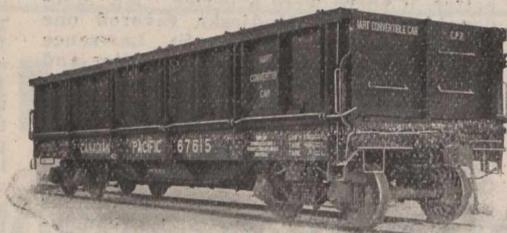
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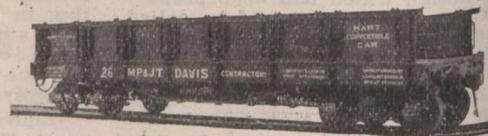
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Central Vermont Ry.—During 1910 the company rebalasted 15.9 miles of its lines in Canada, and laid new 80-lb. steel on 12.4 miles in Vermont.

The application of the New York, New Haven and Connecticut Rd. to the Vermont State Legislature for certain powers at Brattleboro, has been modified considerably, and the C.V.R. will continue to have possession of the terminal facilities there. The Legislature has passed the bill granting incorporation to the Southern Vermont Ry., authorizing the building of a line from Brattleboro to Windsor, and to arrange for the use of the Rutland Rd. terminals at Bellows Falls. The Southern Vermont Ry. will meet with the lines proposed to be built in Massachusetts and Rhode Island by the Southern New England Ry.

Press reports state that the G.T.R., which controls the C.V.R., has given instructions to proceed with the building of the lines above mentioned.

The line to be built in connection with the Southern New England Ry. part of the project will start at Palmer, Mass., and extend to Providence, R.I. The final location on the water front at Providence has not, press reports state, been finally decided on. The reports state that all surveys have been completed, that construction will be started at once, and the line be completed in two years.

Lachine, Jacques Cartier and Maisonneuve Ry.—The House of Commons has authorized the company to connect its Canadian lines with the C.P.R., the them. The Board of Railway Commissioners has refused the company's application for permission to cross the C.P.R. at Jacques Cartier Jct., Que.

Ship Fever Cemetery, Montreal.—The matter of expropriation of the land adjoining the G.T.R. at Point St. Charles, Que., which was set apart or used as a cemetery for victims of the ship fever in 1847, has been before the Board of Railway Commissioners recently, with the result that a 30 ft. strip is to be reserved, east of the monument lot, to commemorate the burial place of the ship fever victims. The company is to be allowed to acquire the rest of the land for yard extension purposes.

Ottawa Improvements.—A Gray, Resident Engineer, G.T.R., Ottawa, in an address to the Ottawa branch, Canadian Society Civil Engineers, Feb. 8, referred to the work being done by the company at Ottawa. He stated that already over \$2,000,000 had been expended on account of the erection of the hotel and station, and the expenses incurred in connection with the enlargement of the yards, etc. The accommodation for passenger trains had been increased 100% by the alterations, and the freight yard had its accommodation been increased 50%. The tracks have been laid in the yards with 100 lbs. broken stone instead of sand or gravel. The tracks are ballasted with in order to avoid dust. The changes in the freight yards alone cost \$45,000. He went into the details about the retaining wall which was constructed along the canal, which cost much more than was first expected, because a boulder and gravel bottom was found for a distance where rock foundation was anticipated and piers had to be sunk. The cost of this retaining wall was \$24,050. The wall is designed to carry 5,000 lbs. to the foot.

He also described the train-shed covering the eight tracks, which is to be 500 by 182 ft. The entire roof will be of glass, though the exact kind is not

yet decided. It will be set in steel with steel supports for the roof. It will extend from the present baggage annex to the retaining wall along the canal. The train shed has an opening in the roof directly over the engine funnel in order to do away with the smoke in the shed as would be the case if the entire place were covered. The platforms will be, of course, of concrete. The work will be started next summer.

It is proposed to instal an interlocking switch system at the company's terminal yard and station, Ottawa, to build a new draw bridge across the Rideau canal at Elgin St., and to build a new roundhouse and repair shop at Ottawa East.

Ottawa to Toronto.—W. Wainwright, Second Vice President, is quoted as having stated that the company is planning to build a direct line from Ottawa to Toronto. Three routes are under consideration, that of the Kingston, Smiths Falls and Ottawa Ry., the Ottawa, Rideau Valley and Brockville Ry., and another interest which is advocating a route by way of Gananoque.

Sunnyside Bridge or Subway, Toronto.—The city council is figuring out the question whether a subway will be put in under the G.T.R. at Sunnyside, or the road carried over the tracks by a bridge. The board of control, Feb. 4, decided in favor of a subway 66 ft. wide at an estimated cost of \$145,000, exclusive of land damages. Under the terms of the order the city will pay one-third of the cost. When the matter came before the council, Feb. 10, the city engineer and the assessment commissioner were directed to report as to the cost of both subway and bridge.

Humber Bridge, Toronto.—In connection with the new bridge which the G.T.R. is erecting over the Humber River, objection has been taken to the size of the pier which it is proposed to build in the middle of the river to carry the bridge. Replying to questions in the House of Commons, Feb. 2, the Minister of Public Works said the G.T.R. had applied for approval of plans for the bridge to his department, as well as to the Board of Railway Commissioners. The application was made to the Department under the Navigable Waters Protection Act. He purposed naming an early date to take up the matter, and due notice would be given to the city of Toronto and property owners along the river to attend.

The question asked the Minister of Public Works set out that the floor of the bridge was only "19 ft. above high-water," that "the abutments encroached upon the river banks," and that there was "at least one pier in the middle of the stream 15 ft. wide by 80 ft. long," which is said "to be more in the nature of a dam than a pier."

Wyevale to Tiffin, Ont.—There is under construction a cut-off from Wyevale, on the Penetanguishene branch, to Tiffin, Ont., on the Midland branch, 8.90 miles. The Midland Railway Construction Co., Midland, has the contract.

Galt and Elmira Branches.—A deputation is being organized at the instance of the Berlin, Ont., board of trade, to ask the G.T.R. to operate the Galt and Elmira branches by electricity.

Erie, London and Tillsonburg Ry.—An Aylmer, Ont., press report states that the G.T.R. has acquired a block of land along the creek north of the bridge at Port Burwell, for yard purposes, and that negotiations are in progress for the taking over of the charter of the E.L. and T. Ry. This company has power to build a line from Port Burwell to London, Ont. The G.T.R. already has a line from Brantford to Port Burwell. (Feb., pg. 117.)

Highways Crossing Bell Signals.

The Board of Railway Commissioners passed order 12915 Feb. 7, providing the following specifications for electric bell signals at highway crossings:—

POST.—The bell must be placed upon a post of some suitable structural material. If the post is made of wood, it must be of sound timber not less than 8 by 8 ins. and 18 ft. long, and shall be firmly set in the ground to a depth of 4 ft. If it is made of iron or steel, it shall be not less than 4 ins. in diameter, shall extend 14 ft. above the ground, and shall be firmly bolted to a concrete or other foundation constructed below the frost line. If other suitable structural material is used it must be of the length mentioned above, and of sufficient strength to carry the weight placed upon it.

BELL.—The bell shall be either of the locomotive type, the gong type, or the twin-gong type, and it must in each case emit a clear, loud volume of sound under all weather conditions. If the locomotive type is used the bell shall be of standard size (about 18 ins. in diameter); if the gong type is used, the gong shall be at least 12 ins. in diameter; and, if the twin-gong type is used, the gongs shall be at least 10 ins. in diameter.

SIGN.—A sign shall be placed upon the same post as the bell, with the word "danger" upon it in letters of not less than 6 ins. in length, to be illuminated either by direct or reflected light, so as to be plainly visible after sunset. There may be added to the post, if so desired, the railway crossing sign provided for by sec. 243 of the Railway Act.

OPERATION.—The bell and the illumination of the sign shall be controlled and operated electrically and automatically by the approach of trains, in such manner that only approaching trains shall operate the signal, and the signal must remain in operation until the rear end of each approaching train has passed the crossing. The bell and lamps used for illumination may be operated from any suitable source of electric current that is continually available, or from batteries. If batteries are used they must be either chemical batteries of the caustic potash type, having a capacity of not less than 300 to 400 ampere hours, or storage batteries of the same capacity.

Telephone Dispatching on the C. P. R.

In addition to the mileage at present being operated by telephone, details of which we have given from time in previous issues, it has been decided 1,528 miles will be equipped for similar operation during the current year, thus making a total of 3,782 miles of telephone train dispatching circuits on the system. These circuits cover the line as follows: From Kamloops to Calgary; Medicine Hat to Winnipeg; Fort William to Ottawa and Brockville; Saulte Ste. Marie, Mich., via Sudbury to Toronto; Windsor, Ont., to Smiths Falls; St. Thomas, Port Burwell and St. Marys branches; Quebec to Montreal; Montreal to Newport, Vt., and St. John, N.B., and the Temiskaming branch. There will also be a new copper wire strung from Toronto to Winnipeg and Toronto to Detroit; and various other wires, making a total of 4,000 miles of wire, in addition to the re-stringing of all lines now showing any evidences of decay.

Jas. Playfair, of Midland, Ont., President of the Inland Lines, Ltd., is one of the directors of the Isle of Pines Plantation Co., which is offering for sale orange and grape fruit land in the Isle of Pines.

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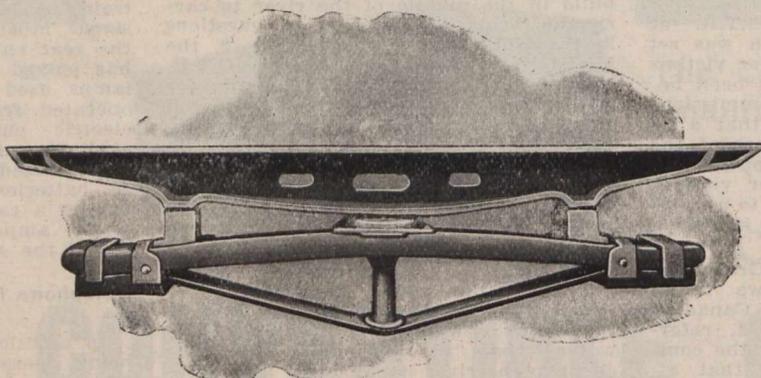
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MONTREAL

Supplying Cars for Routing Over Other Lines.

In the case of the Imperial Steel and Wire Co. vs. the G.T.R. Co., Chief Railway Commissioner MaBee gave the following decision Jan. 10, which was concurred in by Assistant Chief Commissioner Scott and Commissioner McLean:

On March 12, 1910, the applicants complained to the Board that they had been receiving, during the previous two weeks, almost daily, telegraph orders from their Winnipeg agent, for carload lots of wire nails for all-rail shipment to Winnipeg via G.T.R. to North Bay and C.P.R., and via G.T.R. to North Bay, C.P.R. to Port Arthur, and C.N.R. to Winnipeg. It was also alleged that the G.T.R. was the only line in Collingwood, and that, upon application to the agent of the company there, he informed the applicants that he had orders not to place G.T.R. cars for that routing, but that he could place cars immediately if the applicants would route via Chicago; and that, if the routing asked for was insisted upon, the agent would have to order in C.P.R. or C.N.R. cars, as the case might be, notwithstanding the G.T.R. had empty cars standing in their yards. The applicants further alleged that this should not be permitted, as it was discrimination against the manufacturer located on one line of railway.

The G.T.R. on April 14 filed its answer to this complaint, among other things alleging that, at the time of the occurrence in question they were short of cars throughout Ontario, due to the outbound loaded car movement from Ontario being greater than the inbound loaded car movement, and that 60% of G.T.R. box cars were on foreign lines; that in order to protect their Canadian local business and preserve sufficient equipment for that purpose, they were compelled to place orders with the connecting lines for the foreign empties that might be required for loading their lines. It is admitted that the applicants were using the use of G.T.R. cars for loadings to Winnipeg, via the route above mentioned, namely C.P.R. and C.N.R.

It was thought that possibly the car shortage at the particular time in question might be relieved, but the applicants desire a ruling upon the facts, and we presume they are entitled to it.

Under date of April 27, the applicants allege that they are compelled to secure their business in competition with other manufacturers who have G.T.R. C.P.R. and C.N.R. facilities, and seem to be under the impression that they are in some way entitled to have the Board furnish them with just as good transportation facilities as if they were located at points where they had two or three connecting lines of railway. The applicants were advised in April last, that the Board did not regard it as reasonable that a railway company should be required to supply its cars for a haul upon its own line and a long haul on the line of another company.

Let it be assumed that, in April last, the G.T.R. was having a shortage of cars by reason of its own equipment having gone to foreign lines. Now it seems to us that its first duty was to protect the traffic upon its own road. If the applicants were entitled to require the G.T.R. to send its cars off its own lines, every other shipper situated upon the line of the G.T.R. would have the like right, and if the railway company was in no way allowed to control the movement of its own equipment, in a very short time this equipment might practically be entirely beyond its control. This question came up for consideration as early as 1888, in a case of Riddle vs. The Pittsburgh & Lake Erie Rd., reported in Interstate Commerce Reports, pg. 374, from which the following excerpt is taken:—"If

complainants had a right to insist that this company should send its cars at such a time with coal to Buffalo, then every other coal mine on its line had the same right, and this would have stripped this railroad of its equipment, leaving the other business along its line to go to ruin, but none of them had any such right. The company had its legal duty to perform. Its first and most paramount legal duty to the shipping public was to make its entire freight equipment do its utmost in serving the shippers along its own line." Further, "Under such circumstances the legal duty of this railway company was, as the evidence shows it did, to operate its cars so as to keep them as much as possible on its line and confined to the business of its line."

We are not suggesting that the Board has not power to require a railway company to transfer its cars to other lines, but rather simply affirming the principle that, in times of car shortage, it is not only the privilege but the duty of a railway company to retain its equipment so that traffic upon its own lines may be properly taken care of.

In the case of the C.P.R. and the Nelson & Fort Sheppard Ry., as far back as Oct. 13, 1906, the late Chief Commissioner ruled that the N. & F.S.R. need not permit its equipment to leave its own lines, and required suitable accommodation and facilities to be furnished by the N. & F.S.R. for receiving, carrying, and delivering traffic from Salmo and Ymir to the nearest junction point with the C.P.R., and further requiring the latter company to furnish adequate and suitable accommodation and facilities for receiving, carrying and delivering such traffic brought to that point for furtherance to points on the C.P.R., from time to time, as might be required.

We do not think, assuming that the G.T.R. was honestly endeavoring to take care of the traffic upon its own lines, that, at the time in question, the applicants were entitled to have them compelled to furnish their own cars for the movement of this traffic to Winnipeg, along the route they desired.

With reference to the point taken by the railway company that it would furnish cars for this traffic routed via Chicago, the railway company answers that they had foreign cars upon their lines that they could have utilized, instead of moving westward empty. In any event, it is well settled that the initial or originating railway company is entitled to as long a haul upon its own lines as may be reasonable. This is laid down in the English case of the Plymouth, Devonport and South-Western Jet. Ry. vs. Great Western Ry., 10 Railway and Canal Traffic Cases, pg. 68. The following is an extract from the judgment in this case:—"For instance, on the one hand, we have to take into consideration that the G.W.R. ought not, without some due cause in the public interest, to be deprived of the advantage of its long run in respect of traffic which has originated on its own system."

It is not necessary to say anything further upon this point, as the foregoing covers the applicant's complaint.

The Canadian Transfer Co.'s board for the current year is as follows President, C. Cassils; directors, Hugh Paton, G. R. Starke, Sir H. Montagu Allan, H. M. Molson. The General Manager and Secretary is F. M. McRobie.

When the proposed regulations for inspecting, setting and washing locomotive boilers came before the Board of Railway Commissioners Feb. 7, it was ordered that all railway companies file with the Board within 60 days, copies of their regulations for the work referred to.

Great Northern Ry. Lines in Canada.

In connection with the G.N.R. plans for building lines in Canada, a St. Paul, Minn., press dispatch says it has been decided that a number of the branch lines now running towards Canadian territory, will be extended so as to connect with Canadian lines, and that other branch lines will be built to the International boundary line in Manitoba, Saskatchewan and Alberta.

Manitoba Great Northern Ry.—A press report states that it has been decided at G.N.R. headquarters that construction is to be gone on with early in the spring with a line from Winnipeg south to the International boundary and to a connection with one of the company's lines in Northern Dakota; a line from Winnipeg westerly via Brandon and Elkhorn, Man.; a branch from Morden northwest to Rothwell, and on to a junction with the line westerly from Winnipeg. The Winnipeg city council has not been satisfied with the position of affairs regarding the laying out of terminals there, and the board of control directed its secretary, Feb. 3, to write the company's representative in Winnipeg, stating that unless a definite reply was given by a certain date as to when the company would begin work, the petition for approval of the layout would be returned. Early in Feb. it was stated that the G.N.R. had entered into an agreement with the Canadian Northern Ry. for joint use of its Fort Garry station in Winnipeg, but later a press dispatch credited J. J. Hill with stating that he had withdrawn from the agreement, and that the G.N.R. would build a station itself.

Kaslo and Slocan Ry.—The British Columbia Government, on being asked to take such steps as were possible in order to secure the reopening of this line for traffic, discussed the matter in connection with some questions relating to the G.N.R.'s Vancouver plans, with the result that the K. and S. Ry. is to be rebuilt and operated between Kaslo and Sandon.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Attorney General for British Columbia stated, Feb. 5, that an arrangement had been entered into with representatives of the G.N.R., by which the questions arising out of the agreement of the city of Vancouver re False Creek, had been settled. The immediate result of the agreement, the Attorney General said, would be the starting of work by the G.N.R. on the construction of the projected terminals at False Creek. A bill confirming the agreement will be introduced in the Legislature as soon as the agreement is signed. In addition to settling the questions as to False Creek, the agreement deals with the reconstruction of the Kaslo and Slocan Ry. from Kaslo to Sandon, and the adjustment of differences as to the liability of the Government and the city of Victoria with respect to the old Victoria and Sidney Ry., now owned by the C.N.R.

Vancouver press reports Feb. 11 state that two additional tracks are to be laid from False Creek to Burrard Inlet, Vancouver, at once, and that large oil tanks are to be built on the south shore of False Creek, next the coal bunkers. These oil tanks are said to be for the supply of oil as fuel to the locomotives in use at the Vancouver terminals. The locomotives are to be sent in turn to Seattle, Wash., to be equipped for oil fuel.

C. C. Chipman, who has been Commissioner of the Hudson's Bay Co., with office at Winnipeg for some 20 years, will retire from the position during the current year and will, it is said, live in England, the company granting him a retiring pension.

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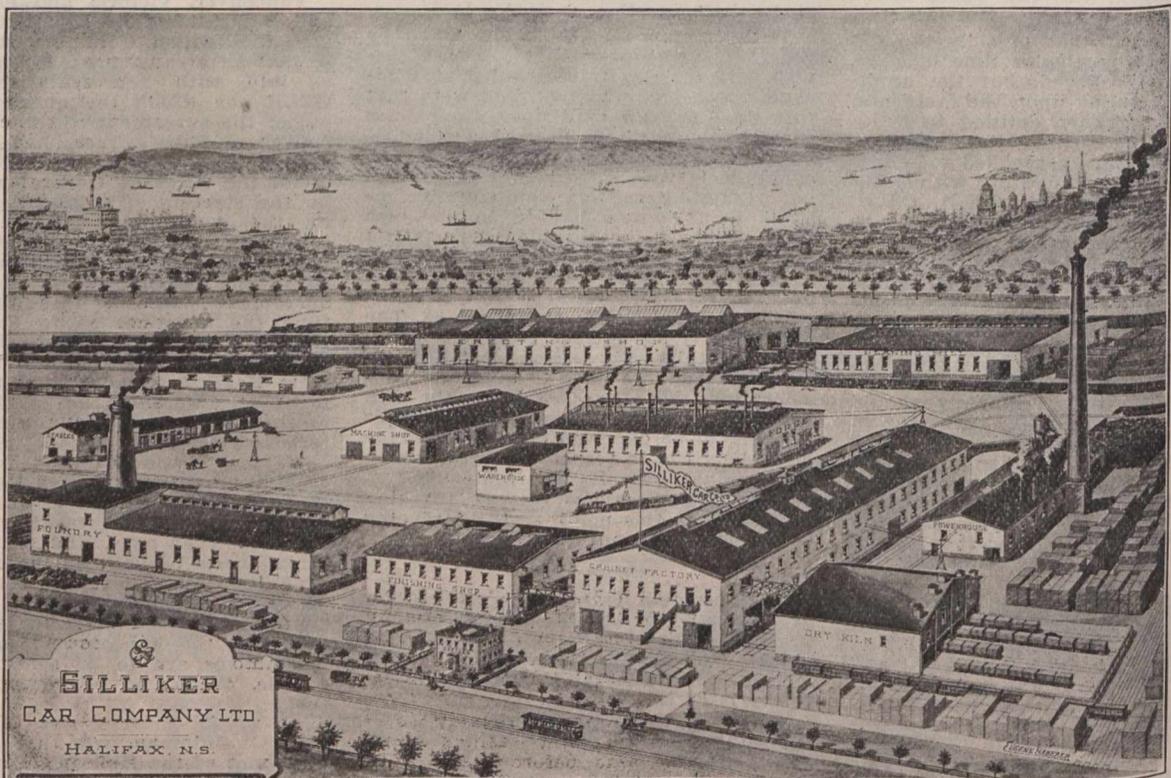
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Should a Railway Have a Trouble Department.

By R. G. Pratt, General Maintenance Foreman and Supervisor of Apprentices
C. P. R. Shops, Winnipeg.

This paper is written and based upon the fact that more can be learned from mistakes than by any other means. Theories are not facts, nor should they be taken as facts until they have been proved by experience. By putting a theory to test, it either proves a mistake or else a fact. Civilization, or the practical results of civilization, has advanced to its present state, principally, to start with, upon theories. Without an actual test, something, or some process, may look good and absolutely practical; it may be put to the test, several tests; it may be tested to the extent of our practical knowledge, and pass every one; it is then accepted as something practicable, and is everywhere adopted as a standard, the best of its kind. At some later date a test, we will say accidental, is put to this article or process, and it fails to stand this test sufficiently to warrant the party interested to discard it, or to put it to one side until he has further investigated. Over the failure of this he may have been put to a great amount of expense, or a number of lives may have been lost, or, by good luck, he may have lost nothing. There may be users of this article or process at some other points outside his province, unknown to him, or not get-at-able, who, if they had had the experience that he has had, or knew of his experience, would instantly make the necessary changes before they were put to any loss.

To get down to the railways with the above in mind, to my way of thinking it would be profitable and very beneficial for a railway to have what we will call an accident department. All accidents, or mistakes, we might call them, to be handled by this department, to have a good head, who would hold a position similar to a magistrate in our civil courts; he would investigate thoroughly and impartially, have sufficient staff to get the necessary details, or power to get any details from any employe in any department direct, without going to the heads of the department. To have power to call on any official of the company for an opinion, or in consultation, or assist in any investigation. After the investigation is concluded put all facts before the management, together with all evidence collected. Also draw up in pamphlet form all facts relating to the accident, the cause, and what could have been done to have prevented it. Then send a copy to all parties having jurisdiction over any such class of work, materials or operation, taking particular care to see that the parties holding the lowest office will get direct to the parties that can prevent a recurrence of the accident either through ignorance or neglect of duty. This will save half the troubles and will tend to bring about better feeling between the different departments. It will possibly save a recurrence of the accident, which accident might have occurred for the following reasons:—

The man doing the work, or responsible for the work may not have had sufficient technical knowledge to see the fault.

He may know of the faults, but not having had the experience of the party that had the failure, in his opinion it may not be serious, or he may classify it with one of those things which his superior officer has at some time or another said, "That's good enough, let it go at that."

He may know of the fault, but be too

negligent to put it right, saying to himself, "that will go another day or so; if anything happens no one will say anything to me."

From the experience of you all, I think you will agree with me that a man will bluff himself out of a corner verbally easier than he will by writing. If he knows that in the event of a certain thing happening he has got to put in a written report, he will go to more trouble to prevent it happening.

Under the existing rules, if a man does anything he should not do, or if an accident happens which someone could have prevented by a little more care, this party expects possibly a blowing up or a few words from his superior the next time he sees him; he more often gets it, but sometimes does not. It may be some days before an opportunity occurs and his boss may think that it is not worth mentioning now. The boss himself may get a kick about it later on, but the newness has worn off, and the possibilities are that he files it, saying to himself that Bill, or whoever he is, is not so bad after all, and he will let it go this time. Bill may do the same thing again with more serious results, but he knows his boss, and possibly takes as much notice of a ragging as he would of shaking hands with him. But if this were changed so that Bill was taken on the carpet, independent of his boss, by an impartial official, he would think more of it, and it would have more terrors for him.

By sending copies of investigation direct to the subforemen you get direct to the men doing the work, as, usually they are more or less intimate with the men working under them, and nine men out of ten would talk the matter over, and hand round the report to the men.

At present any accident or trouble is usually settled entirely by the head officials in the department responsible; if there is any investigation, unless it is of a very serious nature, it usually results in its being filed in his office, being seen only by him and the local official. It may possibly be seen by the party directly concerned when he has to take his medicine. To give a few practical examples:—

A wheel may become loose on an axle and cause an accident, we will say that it was not bored out correctly. You have a record of the date when the wheel was put in, and where, and it is easy to have a system of marks for each man's work. You can get direct to the man; he may be able to put it to machine out of order, or bad tools, but whatever the reason, if he had been expecting that he would be called down in case it was found out, he would have gone to more trouble to turn the work out good.

Again, at some portion of the line there is a derailment on account of expansion of track, or joint being slack, or not properly suspended, or track requires shimming, or it may be through some defect that the average track-walker would pass over saying, "We will do this next time we are out this way." We will say that a certain section foreman had received a report of an accident at some other place, from what, up to that time, he had thought as something not worth noticing. He would at once begin to think of the similar defects upon his own portion of track, and remedy them.

Labor troubles should be handled by this department, both parties submitting evidence.

However, it is a subject that would require a great amount of consideration from all points. The cost of the investigation might prove more than the amount saved, or, again, it might appear to be so, as the amount saved could never be shown in black and white; it would be almost entirely guess work.

The man or men doing the work might spend a lot of time upon details that are not necessary. Their superiors might get lax, thinking that they would not require so much direct supervision.

It might do away with the usual method of railroading "Putting it up to the next man," or it might act just the other way by putting all the responsibility on to the new department.

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

Atlantic Quebec & Western Ry. Finances

A return presented to the House of Commons from the Railway Department shows that the Dominion Government has paid \$396,902 in subsidies to the Atlantic, Quebec & Western Ry., the enterprise in which so much money of the Charing Cross Bank of London, Eng., was sunk. There have been completed 53.75 miles, and there remain to be constructed 48.65 miles. The return states that the total cost of the part constructed has been \$2,451,550, but in his examination in bankruptcy in London on Jan. 26, A. W. Carpenter said that he had expended \$800,000 (nearly \$4,000,000). The department estimates the cost of completion at \$769,568, but Carpenter said it could be completed for £30,000 or £40,000. All the subsidies were paid over to the Bank of Montreal, which held a power of attorney for the company. The company has been asked to furnish a list of its shareholders, directors and officers, as well as a statement of the amounts paid out for directors' fees and for promotion expenses, together with a statement as to whom the amounts were paid.

Railway Rates for Naval Forces.

An order in council has been passed under clause 289 of the Railway Act, prescribing the following fixed scale of rates for the conveyance of officers and men belonging to the Naval Forces of Canada and all naval stores by rail:

For conveyance of officers and men: East of Port Arthur, 2c. a mile for 1st class accommodation, and when 2nd class accommodation is requisitioned, whether the railway provides second class accommodation or not, 1½c. a mile. From Port Arthur westward 3c. a mile for 1st class accommodation and 2c. a mile for 2nd class accommodation.

When special return or cheap rate tickets are in force at less than the above, they shall always be taken.

For the carriage of stores, special rates shall be agreed upon, with the special proviso that the charge in no case shall exceed what would be paid by the public.

Contracts have been let by the C.P.R. for the building of a dam on the Bow River at Bassano, Alto., to be used in connection with the irrigation of an additional 540,000 acres in the eastern section of the company's irrigation block. The contractors are Janse, McDonnell and Co., Vancouver, B.C., for the earth work, and the Walter-Fyshe Co., for the concrete work. The work is to be started at once, and 2,500 men with 800 mules will be employed.

During Dec. 1910, 17 employes were killed, and 29 were injured in the course of their work in connection with Canadian railways. Of the fatalities, five were due to being run over, four to collisions, three to falls, two to being caught between cars, and one each to a derailment, to exposure and to asphyxiation, while of the other accidents, seven were due to being caught between cars, six to being run over, five to collisions, four to derailments, three to falls, and one each to exposure, to falling material and to being struck by an object in passing.

Electric Headlight Saves Train

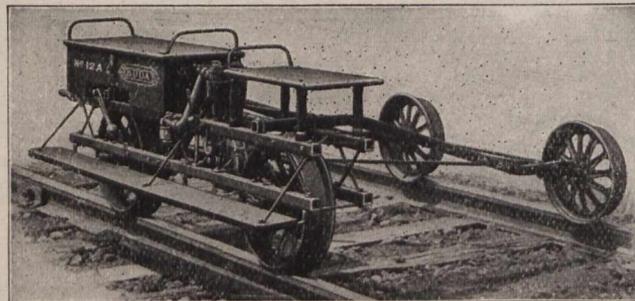
(From Daily Papers)

"Wednesday night B—— forgot to deliver an order to hold Eastbound Passenger Train No. 6, and only the fact that the Electric Headlight of the oncoming Passenger train was seen at a great distance by the Engineer of the Westbound Freight prevented a head end collision in the —— Canyon near ——, The warning light was seen in time to enable the freight to get back on to the siding at ——."

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354 Main St., WINNIPEG, MAN.

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.

12746. Jan. 12.—Ordering G.T.R. to protect crossing at Cannon St., Hamilton, Ont., with two watchmen.

12747. Jan. 12.—Ordering Hamilton St. Ry. and G.T.R. to provide half interlocking plant at crossing of King St., Hamilton, Ont.

12748. Jan. 12.—Ordering that complaint of city of Hamilton, Ont., re engines and trains being allowed to stand across King St., stand for further consideration if arrangement undertaken by G.T.R. be not satisfactory.

12749. Jan. 12.—Authorizing city of Winnipeg to lay sewer under C.P.R. at Nairn Ave.

12750. Jan. 12.—Authorizing G.T.R. and C.P.R. to operate interlocking plant at lot 1, con. 1, Etobicoke tp., Ont., without bringing trains to a full stop.

12751. Dec. 6.—Authorizing C.N.O.R. to connect with Ottawa & New York Ry. in Nepean tp.

12752. Jan. 13.—Approving G.T.R. plans for the construction of swing bridge 42 over Rideau canal, Ottawa, Ont.

12753. Jan. 13.—Authorizing C.P.R. to open for traffic its second track from Islington to Islington Jct., Ont.

12754. Jan. 12.—Authorizing C.N.O.R. to cross with its telegraph wires Lachute Electric Co.'s wires in Chatham tp., Argenteuil county, Que.

12755. Jan. 13.—Amending order 11762 re opening of Sumas St. across C.P.R., Sumas tp., B.C.

12756. Jan. 12.—Extending to June 30 time for completion of C.P.R. spur to Saskatoon Brick & Supply Co., authorized by order 11935.

12757. Jan. 12.—Authorizing Consumers Gas Co. to lay pipe under C.P.R. at St. Clair Ave., Toronto.

12758. Jan. 16.—Authorizing Alberta Government to maintain highway across C.P.R. tp. 27, r. 1, w. 5 m., at Airdrie.

12759. Jan. 14.—Ordering C.P.R. and G.T.R. to build a transfer track before May 15 at St. Marys, Ont.

12760. Mar. 22.—Ordering that Eramosa, Esqueness, Erin and Nassagamaya tps. be made parties with G.T.R. to application re protection of highway crossing 2 1/2 miles west of Acton West station, Ont.

12761, 12762. Jan. 16.—Authorizing Ontario Hydro-Electric Commission to erect wires across Bell Telephone Co.'s wires at lot 4, con. 2, London tp., and at Stone road, Woodstock.

12763. Jan. 16.—Approving revised location of portion of C.P.R. Regina, Saskatoon and North Saskatchewan branch, authorized by order 3428, Aug. 13, 1907, in sec. 23, tp. 20, r. 21, w. 2 m., at mileage 21.9 to sec. 7, tp. 22, r. 23, w. 2 m., at mileage 43.2, from Regina, Sask.

12764. Jan. 16.—Authorizing C.P.R. to build additional main line track (second track) across road allowances from mileage 29.05 to 35.5 on its Brandon subdivision, Man.

12765. Jan. 16.—Authorizing J. Marshall, Barton tp., Ont., to lay pipe under G.T.R. between lots 7 and 8, con. 2, range east, Seneca tp.

12766. Jan. 16.—Authorizing Consumers Gas Co. to lay pipe under C.P.R. at Bathurst St., Toronto.

12767 to 12769. Jan. 1, 16.—Authorizing J. Marshall to lay pipes under G.T.R. between Blanford and Seneca tps., and at two points in Seneca tp., Ont.

12770. Jan. 16.—Authorizing C.P.R. to build spur to Massey-Harris Co.'s premises, Moose Jaw, Sask.

12771 to 12776. Jan. 16.—Temporarily appointing Bell Telephone Co.'s contracts with La Compagnie de Telephone St. Laurent, Brougham de Telephone St. Laurent, Mac, and Gratian, Wright and Ponthorpe, Ahmic Telephone Cos., North Easthope tp., and Schomberg Telephone Co., Ont.

12777. Jan. 17.—Extending to July 1 time for installation of interlocking plant by C.N.O.R. at Cobourg.

12778. Jan. 17.—Approving coldproof fire extinguisher for use on steam railway cars.

12779. Jan. 17.—Approving change in

G.T.R. location, grade and alignment on part 1, Toronto grade separation.

12780. Jan. 18.—Approving location of Kettle River Valley Ry. from mileage 9.79 to 29.0, Merritt to Coldwater summit location.

12781. Jan. 18.—Authorizing Ontario Hydro-Electric Commission to erect wires across C.P.R. wires at Mutual and Carnegie Sts., Ingersoll.

12782. Jan. 19.—Authorizing town of Galt, Ont., to maintain sewer under G.T.R. on George St.

12783. Jan. 18.—Re White Pass and Yukon Ry. rates. This order was given in full in our Feb. issue, pg. 147.

12784. Jan. 19.—Approving location of Calgary and Edmonton Ry. (C.P.R.) from eastern boundary of sec. 26, tp. 36, r. 12, w. 4 m., at mileage 100, Alta., to the C.P.R. Moose Jaw Northwesterly branch, in sec. 23, tp. 34, r. 23, w. 3 m., at mileage 221.9, Sask.

12785. Jan. 18.—Authorizing G.T.P. Branch Lines Co. to cross C.P.R. Arcola branch at Griffin, Sask., interlocking plant to be installed before Aug. 15.

12786. Jan. 18.—Dismissing application for interswitching at Ingersoll, Ont., which was reserved in order 10805, June 6, 1910.

12787 to 12789. Jan. 19.—Authorizing Farmers Telephone Co. to install telephones in C.P.R. stations at Hartland, East Florenceville and Woodstock, N.B.

12790. Jan. 20.—Approving C.P.R. revised location from sec. 12, tp. 32, r. 27, w. 2 m., at mileage 89.8, from Regina, to sec. 29, tp. 33, r. 27, w. 2 m., at mileage 100.1, Sask.

12791. Jan. 20.—Authorizing C.P.R. to build its Regina, Saskatoon and North Saskatchewan branch across G.T.P.R. at mileage 118 from Regina, interlocking plant to be installed by July 31.

12792. Jan. 20.—Approving C.N.O.R. revised location on n.e. 1/4 lot 11, con. 3, Hope tp., mileage 62.67 to 62.82.

12793. Jan. 21.—Authorizing C.P.R. to build spur to Toronto Carpet Co.'s premises, across Liberty St., Toronto.

12794. Jan. 20.—Approving agreement between Bell Telephone Co. and South Bruce Rural Telephone Co. for interchange, tolls, etc.

12795 to 12798. Jan. 20.—Authorizing Ontario Hydro-Electric Commission to maintain wires across Bell Telephone Co.'s wires at Avery Lane, Norwich, lot 15, con. 4, South Norwich tp., and at two points on Edinborough Rd., Guelph tp.

12799. Jan. 20.—Authorizing South River Electric Co. to erect wires across G.T.R. at Main St., South River, Ont.

12800. Jan. 20.—Authorizing C.P.R. to build spur to Doan and Charles' premises, and siding for Toronto Laundry Machine Co., Dundas St. and Sorauren Ave., Toronto.

12801. Jan. 20.—Authorizing city of Regina, Sask., to build subway at Broad St. under C.P.R., the city to close Hamilton St.; \$5,000 to be paid to city from Railway Grade Crossing Fund. (See order 12708, Jan. 9.)

12802. Jan. 23.—Authorizing Ontario Hydro-Electric Commission to erect wires across G.N.W. Telegraph Co.'s wires at lot 6, con. A, London tp.

12803. Jan. 23.—Authorizing Seymour Power and Electric Co. to erect wires across Bell Telephone Co.'s wires at lot 22, con. 2, Rawdon tp., Ont.

12804, 12805. Jan. 23.—Authorizing C.N.O.R. to build bridges over Cravens Creek, and over creek at station 2176-29, Thurlow tp., mileage 131.36, from Ottawa.

12806. Jan. 23.—Authorizing C.P.R. to build siding across Jeffreys St., Chatham, Ont., to American Pad and Textile Co.'s premises.

12807. Jan. 24.—Authorizing G.T.P. Branch Lines Co. to divert road on its Calgary branch in south 1/2 sec. 27, tp. 29, r. 24, w. 4 m., South Alberta District.

12808. Jan. 24.—Authorizing G.T.P. Branch Lines Co. to build across highway on its Yorkton extension, in n.w. 1/4 sec. 13, tp. 26, r. 4, w. 2 m., Yorkton District, Sask.

12809. Jan. 24.—Authorizing G.T.P.R. to divert road in east half sec. 16, tp. 53, r. 17, w. 5 m., North Alberta District.

12810. Jan. 24.—Authorizing Dominion Atlantic Ry. to rebuild bridge across Gasperaux River at Horton Landing, Kings county, N.S.

12811, 12812. Jan. 23.—Relieving T.H. & B. Ry. from further protection of crossings at Ancaster stone road, between lots 54 and 55, con. 1, mileage 41, and at third highway crossing west of Chippewa Bridge between Thorold and Pelham tps., at milepost 2, from Welland, Ont.

12813. Jan. 28.—Approving plans of C.P.R. station at Dorion, Ont.

12814. Nov. 14.—Approving plans of G.T.P.

Branch Lines Co.'s station at Balcarres, Sask.

12815. Jan. 28.—Authorizing T.H. & B. Ry. to build spur in South Grimsby tp., Ont.

12816. Jan. 26.—Authorizing C.P.R. to build spur for Rat Portage Lumber Co., across First and Fir Sts., Vancouver, B.C.

12817. Jan. 24.—Reporting amalgamation agreement between C.N.R. and Edmonton and Slave Lake Ry. to Governor-in-Council for sanction.

12818. Jan. 26.—Authorizing C.N.O.R. to build across and divert public road in lot 3, con. 2, Gloucester tp.

12819. Jan. 23.—Approving agreement between Bell Telephone Co. and Central Ontario Ry. for interchange business.

12820, 12821. Jan. 27.—Authorizing Ontario Hydro-Electric Commission to erect wires across C.P.R. wires at Carnegie and Harris Sts., Ingersoll, and at lot 2, con. 2, Dereham tp.

12822. Jan. 24.—Authorizing C.P.R. to build its Moose Jaw Northwesterly branch across some 108 highways and divert same between mileage 9.59 and 119.6, Sask.

12823. Jan. 21.—Authorizing T.H. & B. Ry. to build spur in South Grimsby tp., Ont.

12824. Jan. 26.—Approving C.N.R. revised location through tp. 28 and ranges 4-6, w. 4 m., mileage 196.64 to 210.21 from junction with Qu'Appelle, Long Lake and Saskatchewan Ry., at Saskatoon, Sask.

12825. Jan. 30.—Authorizing C.N.O.R. to cross Dominion St., Trenton.

12826. Jan. 30.—Ordering C.N.R. before April 30, to rebuild and put in good order crossings between secs. 1 and 2, tp. 11, r. 3, and in centre of sec. 11, St. Francois Xavier municipality, Man., and build suitable culverts and clean out existing ditch, etc.

12827. Jan. 30.—Approving C.N.O.R. revised location in St. Andrews parish, Que.

12828. Jan. 30.—Approving revised location of G.T.P. Branch Lines Co.'s Regina-Boundary branch, mileage 88.32 to 100, and location, mileage 100 to 110.21 from sec. 21, tp. 7, r. 1, w. 2 m., to east line of sec. 28, tp. 5, r. 7, w. 2 m., Assiniboia District, Sask.

12829. Jan. 26.—Re transportation by C.P.R. of McGill University mining students from Montreal to British Columbia. This order is given in full on another page.

12830. Jan. 30.—Authorizing C.P.R. to operate under two structures, being corner of Salt block and overhead conveyor of Western Canada Flour Mills Co., Goderich, Ont.

12831. Jan. 20.—Approving location of G.T.P. Branch Lines Co.'s Young-Prince Albert branch from mileage 110.9 to east boundary of First Avenue East, Prince Albert, Sask. All questions of street protection and closing are reserved for further consideration.

12832. Jan. 30.—Extending to May 1, time for completion of spur to Ingersoll Packing Co., Ingersoll, Ont., by Tillsonburg, Lake Erie and Pacific Ry., as required by order 10805, June 6, 1910.

12833. Jan. 20.—Authorizing Ontario Hydro-Electric Commission to erect wires across Bell Telephone Co.'s wires at Queen St., St. Marys.

12834. Jan. 30.—Relieving Wabash Rd. from further protection of Diltz Road crossing, Halton tp., Ont.

12835. Jan. 30.—Relieving C.P.R. from further protection of highway crossing one mile west of Vankleek Hill, Ont.

12836. Jan. 25.—Dismissing C.N.Q.R. application to extend its yards in Hochelaga, Montreal, to cross Marlborough St., and to take extra lands on Stadacona and Marlborough Sts.

12837. Jan. 25.—Dismissing application of city of Montreal to compel C.N.Q.R. to remove shanty at intersection of Valois Ave. and Ontario St., and to remove fence, etc.

12838. Jan. 31.—Authorizing C.P.R. to build bridge in lieu of subway where it crosses road allowances between secs. 11 and 12, tp. 24, r. 1, w. 5 m., Calgary, Alta., and approving agreement between it and the city.

12839. Jan. 26.—Adding Delaware and Hudson Co. as party to application of W. A. Stewart, Napierville, Que., and village of St. Cyprien, re alleged inadequate train service by Napierville Jct. Ry.

12840. Jan. 25.—Approving C.N.Q.R. extension of yards between Moreau and Marlborough Sts. Montreal, and dismissing application for closing of Robillard St.

12841. Jan. 31.—Ordering C.N.O.R. to carry out provisions of order 12553, Dec. 19, 1910, re farm crossing at Banning, Ont., within 10 days from date, under penalty of \$25 a day.

12842. Jan. 24.—Dismissing C.N.Q.R. application for order fixing terms, conditions and method in which the dam and head-race or other portions of water power of

CROSSEN CAR MFG. COMPANY

OF COBOURG, LIMITED

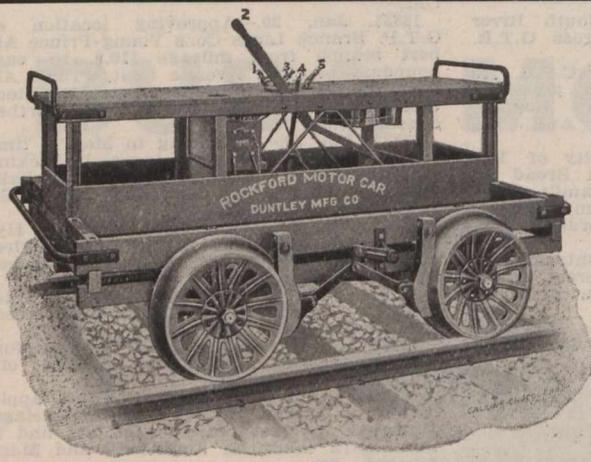
MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway

Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS



SAVE MONEY

WITH

ROCKFORD MOTOR CARS

Workmen are taken to and from work in one third of the time.
All of their energy is saved for track work.

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Simplicity Perfect Speed Control Accessibility of Working Parts Lightness of Weight Durability

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MONTREAL

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VANCOUVER

DUNTLEY MANUFACTURING COMPANY

CHICAGO, ILL., U.S.A.

A. Naud, Deschambault parish, Que., may be maintained, repaired and rebuilt.

12843. Jan. 24.—Authorizing C.N.Q.R. to use tracks on bridge over St. Charles River, near Quebec, including property owned in common by Quebec Ry., Light and Power Co. and Quebec and Lake St. John Ry. for entering city of Quebec, C.N.Q.R. to pay \$1,500 a year rental to Q. Ry., L. and P. Co., and to also pay arrears for use of bridge, and be responsible for its share of maintenance and operation.

12844. Jan. 25.—Refusing application, without prejudice, of Mousseau and Gagne, Montreal, to compel G.T.R. to build highway crossing on proposed road between St. Polycarpe and St. Clet, Que.

12845. Jan. 25.—Dismissing application of town of Notre Dame de Grace, Que., for order to amend order 8208, Sept. 14, 1909, re Montreal Park and Island Ry. location.

12846. Jan. 31.—Authorizing C.P.R. to build spur to Burridge-Cooper Co.'s premises, Regina, Sask.

12847. Jan. 31.—Extending to June 1, time in which G.T.P.R. may erect shelters, as ordered by order 12132, Oct. 27, 1910, at Reford, Sask., under penalty of \$25 a day after that date.

12848. Jan. 31.—Authorizing Vancouver, Victoria and Eastern Ry. to build spur to Vancouver-Prince Rupert Meat Co.'s premises.

12849. Jan. 30.—Authorizing C.P.R. to operate three sidings upon and across Pardee Ave. and Liberty St., Toronto, to connect with G.T.R. siding.

12850. Jan. 31.—Authorizing Ontario Hydro-Electric Commission to erect wires across G.T.R. at Main St., Norwich.

12851. Jan. 30.—Authorizing city of New Westminster, B.C., to lay water main under C.P.R. near Westminster Jct.

12852, 12853. Jan. 25.—Dismissing application of Montreal, Park and Island and standard passenger tariff of 3c. a mile, with a minimum fare of 5c., and specifying a maximum toll of 2½c. a mile on existing lines. This order is given in full on another page.

12854. Feb. 1.—Authorizing suspension of freight rates from Ontario shown in tariff of Joint and Proportional Rates, C.R.C. 188, issued by J. F. Tucker, Chicago, until Sept. 1, and for reinstatement until and including Aug. 31, of joint and proportional rates between same points shown in said Tariff C.R.C. 180, which was superseded by C.R.C. 188 on Nov. 1, 1910.

12855. Feb. 2.—Relieving G.T.R. from further protection of Market St. crossing, Paris Jct., Ont.

12856. Feb. 1.—Extending to March 1, time for crossing, by Essex Terminal Ry. Ry. at Howard Ave., Windsor, Ont., as required by order 12051, Oct. 13, 1910.

12857. Feb. 1.—Extending to April 15, time for connection between C.P.R. and G.T.P.R. at St. Boniface, Man., as required by order 12292, Sept. 22, 1910.

12858. Feb. 1.—Authorizing C.P.R. to build spur to Ogilvie Flour Mills Co.'s premises, and to cross Duncan St., Fort William, Ont.

12859. Feb. 1.—Authorizing G.T.R. to rebuild bridge 70, south of Madoc, Ont.

12860. Feb. 2.—Authorizing C.N.O.R. to build across Ontario St., between lots 18 and 19, con. A. Cobourg, Ont.

12861. Authorizing T.H. & B. Ry. to build spur in Pelham tp., Ont.

12862. Feb. 2.—Authorizing C.N.O.R. to cross Darcy St., between lots 14 and 15, Cobourg.

12863. Feb. 2.—Approving location of Alberta Central Ry., mileage 63 to 75, from Red Deer.

12864. Feb. 1.—Authorizing city of Medicine Hat, Alta., to erect wires across C.P.R. wires at Esplanade St.

12865 to 12881. Feb. 1.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires at 17 points in Ontario.

12882. Jan. 25, 26.—Dismissing application of Halifax, N.S., Board of Trade, re complaint that G.T.R. discriminates against Halifax in favor of other Atlantic ports in its differential rate of 1c. per 100 lbs. on traffic between Halifax and Montreal, and points east of Montreal.

12883. Feb. 2.—Dismissing application of Pappoone tp., that C.N.O.R. maintain suitable highway crossing between lots 3 and 4, con. "B".

12884. Feb. 2.—Approving location G.T.P. Branch Lines Co.'s Regina-Boundary branch from east line of sec. 28, tp. 5, r. 7, w. 2 m., Sask., mileage of sec. 32, tp. 3, r. 4, w. 2 m., 12885. Feb. 3.—Authorizing C.N.O.R. to cross Sinclair ave. in lot 20, con. A. Cobourg, 12886. Dec. 1.—Rescinding order 12443 and providing that plans be filed by Mar. 15 by town of Lachine, Lachine parish, and Mont-

real West with suggestions as to elimination of crossings, etc, or protective appliances to be installed.

12887. Feb. 3.—Authorizing C.P.R. to build spur to Superior Fuel and Coal Co.'s premises, Winnipeg.

12888. Feb. 3.—Authorizing C.P.R. to build spur to A. Eby's premises, Elmira, Ont.

12889. Feb. 3.—Authorizing Hamilton Cataract Power, Light and Traction Co. to erect wires across Bell Telephone Co.'s wires at G.T.R. crossing, 1 mile west of Jordan, Ont.

12890. Feb. 6.—Amending order 12225, Nov. 9, 1910, re protection of railway employees, see Dec. 1910 issue, pg. 1045. This order is given in full on another page.

12891, 12892. Feb. 6.—Authorizing Canadian Light and Power Co. to maintain wires across G.T.R. at Lachine canal, north bank, 2,000 ft. west of Cote St. Paul bridge.

12893. Jan. 3.—Dismissing application of Lachine, Jacques Cartier and Maisonneuve Ry. to cross C.P.R. to Jacques Cartier Jct., Que.

12894 to 12896. Feb. 6.—Authorizing G.T.P. Branch Lines Co. to build its Prince Albert branch across three highways in the East Saskatchewan district.

12897. Feb. 6.—Authorizing G.T.P. Branch Lines Co. to cross highway in Saskatoon District, Sask., in n.w. ¼ sec. 5, tp. 34, r. 27, w. 2 m.

12898. Feb. 6.—Authorizing C.P.R. to build extension of its Langdon branch to Langdon station and across road allowance at s.w. ¼ sec. 24, tp. 23, r. 27, w. 4 m., Alta.

12899. Feb. 6.—Authorizing city of St. Boniface, Man., to build Marion St. across C.N.R.

12900. Jan. 3.—Authorizing C.N.O.R. to cross overhead, C.P.R. near Jacques Cartier Jct., mileage 49.3 south from Hawkesbury.

12901. Feb. 6.—Ordering railway companies subject to the Board's jurisdiction to file tariffs of interswitching tolls, by Mar. 1, in accordance with order 4988, July 8, 1908.

12902. Feb. 6.—Authorizing Niagara, St. Catharines and Toronto Ry. to open for traffic its line from Welland to Port Colborne, Ont.

12903. Feb. 7.—Approving revised location of C.P.R. Weyburn to Lethbridge branch from sec. 17, tp. 8, r. 18, at mileage 26.2 to sec. 22, tp. 7, r. 22, w. 2 m., at mileage 52.2 Sask.

12904. Feb. 7.—Approving location of Kootenay and Alberta Ry. from Pincher to Beaver Creek, Alta., mileage 0.0 to 13.09.

12905. Feb. 6.—Authorizing G.T.R. to operate over Niagara, St. Catharines and Toronto Ry.'s crossing near Welland, Ont., as authorized by order 9552, Feb. 3, 1910.

12906. Feb. 7.—Ordering that Bell Telephone Co. file tariffs of tolls under penalty of \$100 a day, not later than Feb. 20, in accordance with order 12625, Dec. 14 1910.

12907. Feb. 6.—Authorizing G.T.R. to cross Niagara, St. Catharines and Toronto Ry. crossing, near Welland, Ont., authorized by order 9552, Feb. 3, 1910, without being brought to a stop. Speed limited to 15 miles an hour.

12908. Feb. 6.—Authorizing Seymour Power and Electric Co. to erect wires across G.N.W. Telegraph Co.'s wires in lot 3, con. 2, Murray tp., Ont.

12909. Feb. 7.—Authorizing Berlin, Ont., Water Commissioners to lay pipe under G.T.R. at Strange St.

12910. Feb. 7.—Relieving C.P.R. from further protection at crossing at mileage 22.92, lot 4, St. Jerome parish, Que.

12911 to 12913. Feb. 7.—Authorizing C.P.R. to build spurs to Canadian Western Lumber Co.'s premises near New Westminster, B.C.; an extension to spur for James Smart Mfg. Co., Brockville, Ont.; and a spur for city of Winnipeg, in Block B, St. John.

12914. Feb. 7.—Ordering C.N.R. to maintain an agent and place an outside closet at Devlin, Ont., not later than Mar. 7, under penalty of \$25 a day.

12915. Feb. 7.—General order in matter of specifications for installation of electric bell signals at highway crossings. This order is given in full on another page.

12916. Jan. 25.—Ordering that G.T.R. and Boston and Maine Rd. provide connection between their trains 2 and 70 at Sherbrooke, Que., not later than May 15.

12917. Jan. 25.—Ordering that G.T.R. provide waterman at east end of Windsor Mills station, Que., from 7 a.m. to 7 p.m., wages to be borne half by G.T.R., ¼ by town of Windsor Mills, and ¼ each by Canada Paper Co. and Brompton Bridge Co.

12918. Jan. 2.—Ordering that C.N.Q.R. open and maintain a water course across right of way for drainage scheme to drain Lac aux Ours, in discharge of Lac aux Sables, put in head gates, etc., by June 1, on application of mayor of Lac aux Sables.

12919. Feb. 8.—Extending to May 15, time within which C.N.R. may fence its right of way between Maidstone and Paynton, Sask., and install cattle guards as provided by order 12072, Oct. 22, 1910.

12920. Feb. 8.—Approving location of

G.T.P. Branch Lines Co.'s new station on its Calgary branch at Camrose, Alta.

12921 to 12931. Jan. 23, 24.—Approving Standard Tariff of Maximum Sleeping and Parlor Car Tolls, to apply on and after Feb. 15, 1911, on C.N.O.R., C.P.R., G.T.R., T.H. & B. R., Rutland Rd. Wabash Rd., Boston and Maine Rd., Michigan Central Rd., G.T.P.R., C.N.R., and N.Y.C. & H.R.R. In case of C.P.R. and G.T.P.R., approval shall not in any way prejudice the right of parties interested in the Vancouver Board of Trade application charging that railway rates generally in the West are discriminatory against Vancouver, said parties to be at liberty to present any evidence they may desire against the charges hereby approved for sleepers and parlor cars west of Calgary and Macleod.

12932. Feb. 7.—Ordering all railways to file within 60 days, copies of regulations in force for inspecting, testing, and washing of locomotive boilers.

12933. Feb. 8.—Extending to June 1 time within which C.P.R. may complete spur for Standard Lumber Co., near Cranbrook, B.C., as provided by order 11875, Oct. 5, 1910.

12934. Feb. 9.—Authorizing C.P.R. to build bridge over Talbot River, Ont., for Georgian Bay and Seaboard Ry.

12935. Feb. 9.—Authorizing C.P.R. to cross highway with double track at mileage 45.9, Brandon subdivision, Man.

12936. Feb. 7.—Authorizing C.N.O.R. to cross public road between lots 16 and 17, Junction Gore.

12937. Feb. 7.—Recommending to the Governor in Council for sanction agreement between Quebec Ry. Light & Power Co. and Quebec County Ry.

12938. Feb. 7.—Refusing C.N.R. application to cross C.P.R. Didsbury-Kininvie branch with its Vegreville-Calgary branch in n.w. ¼ sec. 21, tp. 25, r. 24, w. 4 m.

12939. Feb. 8.—Authorizing Vancouver, Victoria and Eastern Ry. to build branch from its main line near McLean Drive to Park Lane, Vancouver, B.C.

12940, 12941. Feb. 10.—Authorizing Niagara, St. Catharines and Toronto Ry. to operate over crossings of G.T.R. air line near Welland, and at G.T.R. crossing in Port Colborne, Ont.

12942 to 12948. Feb. 10.—Authorizing C.P.R. to build second track across highways at mileages 43.1, 46.5, 59.95, 48.8, 48.0, 47.7, 8.05, Brandon subdivision, Man.

12949. Feb. 10.—Authorizing N., St. C. & T. Ry., M.C.Rd. and T.H. & B. Ry., pending completion of interlocker ordered by 9552, to operate trains over crossing of Canada Southern Ry., T.H. & B. Ry., authorized by order 10639, March 22, 1910, trains to come to full stop and be flagged by watchman employed by M.C.R. and paid for by N., St. C. & T. Ry.

Quebec Public Utilities Commission.

The parish of Infant Jesus, Que., complained recently to the Commission against the reconstruction of the Quebec Central Ry.'s locomotive house, which was burned last summer, alleging that it caused permanent danger of fire to part of the village, and also asked for the establishment of a public crossing where "Jacob's Route" crosses the tracks, and complained of the location of a water tank at the King's crossing, contending that it rendered the crossing dangerous. The Commission decided:—

That there is no reason to prevent the Q.C.R. from reconstructing its engine house on the same site as it was formerly located, but the walls and roof must be covered in undulated sheet iron or other incombustible material to the Commission's satisfaction. The company is permitted to pave the engine house with earth mixed with ashes or cinders, which must be replaced by a cement or concrete pavement as soon as the ground is sufficiently solid.

There is no reason at present for the company to be directed to open and maintain a public crossing on the "Jacob's Route."

That the Q.C.R. install at its own expense an automatic alarm bell or other means of protection approved by the Commission, to protect the level crossing situated at the side of the reservoir, from the approaching trains from the west or the side from which the bridge is situated over the Chaudiere River, at a distance of 1,000 ft., counting from the said level crossing.

Why the G. P. R. North Toronto Route to Ottawa and Montreal is the Logical One

The train leaves as follows:

Leave North Parkdale	- - -	9.15 p.m.	Arrive Ottawa, 6.50 a.m.
Leave West Toronto	- - -	9.30 p.m.	Arrive Montreal 7.00 a.m.
Arrive North Toronto	- - -	9.40 p.m.	Daily except Sunday.
Leave North Toronto	- - -	10.00 p.m.	Will Stop at Westmount.

- ☞ The residents of Toronto are adjacent to either North Parkdale, West Toronto or North Toronto stations, same being easily accessible and closer to residential districts.
- ☞ The North Toronto route is over an hour faster and overcomes a long hill climb for the train out of Toronto, obviating any inconvenience and ensuring early arrival at Montreal and Ottawa.
- ☞ The roadbed has been improved till it is unexcelled in Canada.
- ☞ The equipment is "Canadian Pacific Standard," a synonym for the "best" and attentive porters, non-obsequious, ensure efficient service.

SLEEPING CAR SPACE HELD

Toronto City Office, 16 King St. East

North Toronto Station

King Edward Hotel

West Toronto Station

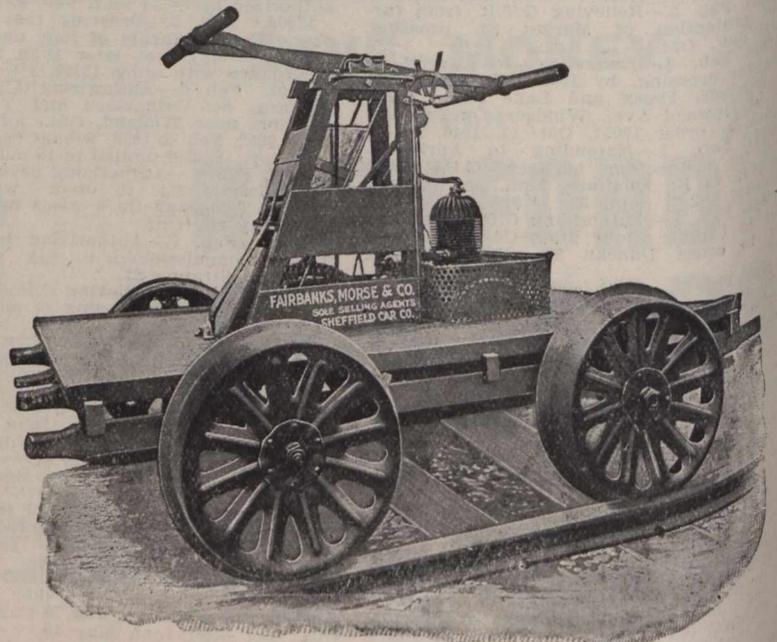
Combination Hand Power and Gasoline Power Section Car

5. H. P. GASOLINE MOTOR

Your men will do more work

BECAUSE

They start to work Fresh and Strong. They work harder and longer, for they can Ride Home Quickly. Sections can be lengthened and forces cut down with increased efficiency.



No. 13 Fairbanks-Morse Air Cooled Motor Car

The car rides easily with scarcely any side motion. The parts are all protected, and rain or moisture will not affect the running. Ten minutes daily will keep it in first-class running order. Speed, 18 miles per hour.

The Canadian Fairbanks Co. Limited

MONTREAL ST. JOHN, N.B. TORONTO WINNIPEG SASKATOON CALGARY VANCOUVER

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

Nova Scotia.—A press report states that among the projects under consideration by the C.P.R. in connection with the development of the Dominion Atlantic Ry., when it is taken over, is the building of a line of about 30 miles to Chester.

St. John, N.B.—Local reports state that it is proposed to expend \$1,000,000 on terminals on the property recently acquired at the head of the harbor.

Windsor St. Improvements, Montreal.—The company has acquired the property of the Calvary congregational church, near its Windsor St. terminals, for \$28,000, and will be given possession June, 1912.

Place Viger Improvements, Montreal.—In connection with the plans for the station building, it is said that for the present the building will be two stories high, with a flat roof. The idea to make it a four story building with gabled and turreted roof, like the hotel, with the two top stories as an annex to the hotel, will probably be carried out later.

A permit was issued at the city hall Feb. 8, for the new freight sheds, which are to extend from Lacroix St. to Montcalm St., and are to cost about \$100,000.

Campbellford, Lake Ontario and Western Ry.—The application of the company for the repeal of sec. 8, chap. 54, of the statutes of 1904, and the substitution of a new subsection, locating the line to be built as from between Smiths Falls and Sharbot Lake southwesterly to Cobourg, and thence westerly to the C.P.R. between Locust Hill and Leaside Jct., met with considerable opposition in the House of Commons. The opposition was settled by the withdrawal of the portion of the bill repealing sec. 8. The effect of this is that the company has power to build from the C.P.R. between Blairton and Ivanhoe, as well as from between Smiths Falls and Sharbot Lake, to between Locust Hill and Leaside Jct.

Press reports, Feb. 16, state that the new line will leave the C.P.R. Toronto-Montreal line at Bathurst, about 10 miles west of Smiths Falls, and proceed southwesterly to Belleville, and thence along the lake to Leaside Jct., paralleling the G.T.R. for the greater part of the way.

Georgian Bay and Seaboard Ry.—The Board of Railway Commissioners has authorized the building of a bridge over the Talbot River.

The contract let to the Toronto Construction Co. for the section of the line from Coldwater easterly, has been extended so as to cover the last 38 miles, ending with a junction with the C.P.R. Toronto-Montreal line at Bethany siding, Ont.

Toronto to Windsor Bridges.—It is reported that all wooden bridges on the line between Toronto and Windsor, Ont., are to be replaced by steel spans on concrete piers and abutments. For the past two or three years the company has been putting in concrete culverts, as well as abutments for bridges along the line, and this report suggests that the work is to be gone on with until all the bridges have been removed, so as to make them in a better condition to carry the heavier traffic.

London, Ont., Improvements.—A London, Ont., press report, Feb. 14, states that work in connection with the building of a new station and roundhouse, and the enlargement of the yards there, at a cost of about \$250,000, is to be started at an early date.

Port Arthur-Fort William second track.—We are advised that it is proposed to start building the second track between Port Arthur and Fort William, Ont., about April 1, and that the work

will be done by the company's own staff.

Brandon to Kemnay.—The Board of Railway Commissioners has authorized the opening for traffic of a short diversion of the line between Brandon and Kemnay, Man.

Brandon to Birtle, Man.—A resolution has been passed by residents of the district between Brandon and Birtle, Man., asking the Dominion Government to grant such an increased subsidy as will ensure the building of a direct line between these two points. The route surveyed shows a very difficult country for construction for seven miles southerly from Birtle, and an extra subsidy of \$12,000 is asked. The total subsidy usually given is estimated at \$106,000, and the amount asked for is \$118,000.

Weyburn-Lethbridge Branch.—The Board of Railway Commissioners has approved the revised location of this branch from sec. 17, tp. 8, range 18, at mileage 26.2 to sec. 22, tp. 7, range 22, at mileage 52.2.

Lethbridge, Alta., people are anxious that work be started from there easterly, and have been in communication with the management on the matter. A telegram has been received by W. A. Buchanan, M.L.A., from W. Whyte, Vice President, to the effect that additional mileage was being built at once westerly, and that later some building would be done from the west end easterly.

Subway at Regina, Sask.—The Board of Railway Commissioners has authorized the city of Regina to build a subway under the C.P.R. tracks at Broad St., and to close Hamilton St. Five thousand dollars will be paid out of the railway grade crossing fund towards the cost.

Relocation West of Regina.—The Board of Railway Commissioners has approved of revised location of locations previously approved, from mileage 89.8 from Regina, Sask., to mileage 100.1.

Moose Jaw Northwesterly.—Castor Southeasterly.—The Board of Railway Commissioners has authorized the company to carry its tracks across some 108 highways, and to divert such highways where necessary, between mileage 9.59 and 119.6 on the line from Moose Jaw northwesterly. It has also approved location plans for the extension of the Calgary and Edmonton Ry. branch now terminating at Castor, Alta., at mileage 100, to the located line of the Moose Jaw northwesterly branch in sec. 23, tp. 34, range 23, west 3rd meridian, at mileage 221.9 in Saskatchewan.

Moose Jaw Second Track.—We are officially advised that the second track work to be done this year easterly from Moose Jaw to Pasqua, Sask., seven miles, will be a diversion in order to reduce the gradient to 0.4%. It is also intended to build a second track westerly from Moose Jaw to Caron, 16 miles.

North Portal Water Supply.—A press report states that a pumping station is to be built on the banks of the Souris River, about eight miles from North Portal, Sask. The work is estimated to cost \$50,000.

Langdon Branch.—The Board of Railway Commissioners has authorized the company to build an extension of the branch to Langdon station, and across certain road allowances.

Wilkie-Tramping Lake Line.—In connection with the building of this line, W. Whyte, Vice President, is quoted as having stated at Winnipeg, that this branch which will be run down both sides of Tramping Lake, and will connect at two points with the Moose Jaw-Castor line. This line is one of those which the Dominion Parliament is being asked for authority to build. The junction of one of the lines will be in tp. 30, r. 16 or 17, west 3rd meridian, and the other is

described in the bill as running from near Kerr Robert, northeasterly and easterly to a junction with the line from Wilkie, in tp. 38 or 39, r. 19 or 20, west 3rd meridian.

Strathcona-Edmonton Line.—Work is being resumed on the substructure for the high level bridge across the Saskatchewan River between Strathcona and Edmonton, Alta. The piers have been completed to about water level, and it is expected that those on the Strathcona side will be ready for the steel workers early in the summer. It is expected that the bridge will be completed this year.

In connection with this work press reports state that Edmonton will be reached from Winnipeg, by way of a line to be built from Sedgewick, mileage 580, on the Kirkella-Wetaskiwin line, running direct to Strathcona, about 90 miles, and that when completed this line will be extended to the Peace River Valley, and if a favorable pass can be secured, on to the Pacific coast.

Hotel in Calgary.—An arrangement has been completed between the company as represented by F. W. Peters, Assistant to the Vice President, and the Calgary city council, by which the hotel to be built in that city will be freed from all taxation, providing the company pays \$4,000 a year and undertakes one-half of the cost of paving Ninth Ave. from First St. west to First St. East, and a quarter of the cost from First St. East to Fifth St. East.

Calgary, Alta.—The Board of Railway Commissioners has authorized the company to build an overhead bridge in lieu of a subway between secs. 11 and 12, tp. 24, r. 1, Calgary, Alta., and has approved an agreement therefor between the company and the city.

Westminster Jct.—Coquitlam.—F. W. Peters, Assistant to Vice President, met the municipal council of Coquitlam, B.C., Feb. 7, and discussed plans for the erection of a roundhouse, car shops and freight sheds in the vicinity of Westminster Jct. It is reported that about 1,100 acres have been acquired at a cost of \$750,000, through the Royal Trust Co., the land purchased extending from Westminster Jct. on the west to Pitt River on the east, and along the west bank of the Pitt River to the confluence of the Pitt and Fraser rivers, giving a water frontage of 1½ miles. As a result of the conference a delegation from the municipal council went to Victoria, Feb. 8, for the purpose of obtaining the necessary authority from the Legislature to enter into an agreement with the company.

Vancouver, B.C.—In a recent interview, W. Whyte, Vice President, said the company's plans for Vancouver were not yet completed, but extensive improvements were under consideration. There would be large extensions of the yards; a jetty wall would be built in order to extend the wharf accommodation, and it was possible that Granville St. would be extended through the station and a bridge built over the tracks to the wharf.

A local report states that among the works contemplated is the erection of a new station, with a headquarter office building at the foot of Seymour St.

Esquimalt and Nanaimo Ry.—The engineers running preliminary lines for a proposed extension of the line from French Creek, north to Campbell River, have returned to Vancouver, and will go out again in the spring.

The grading on the Alberni line is expected to be completed Apr. 1, and the bridge work is well forward. Track laying from Cameron Lake towards Alberni will be started at once, and it is expected to have the extension ready for operation before the fall.

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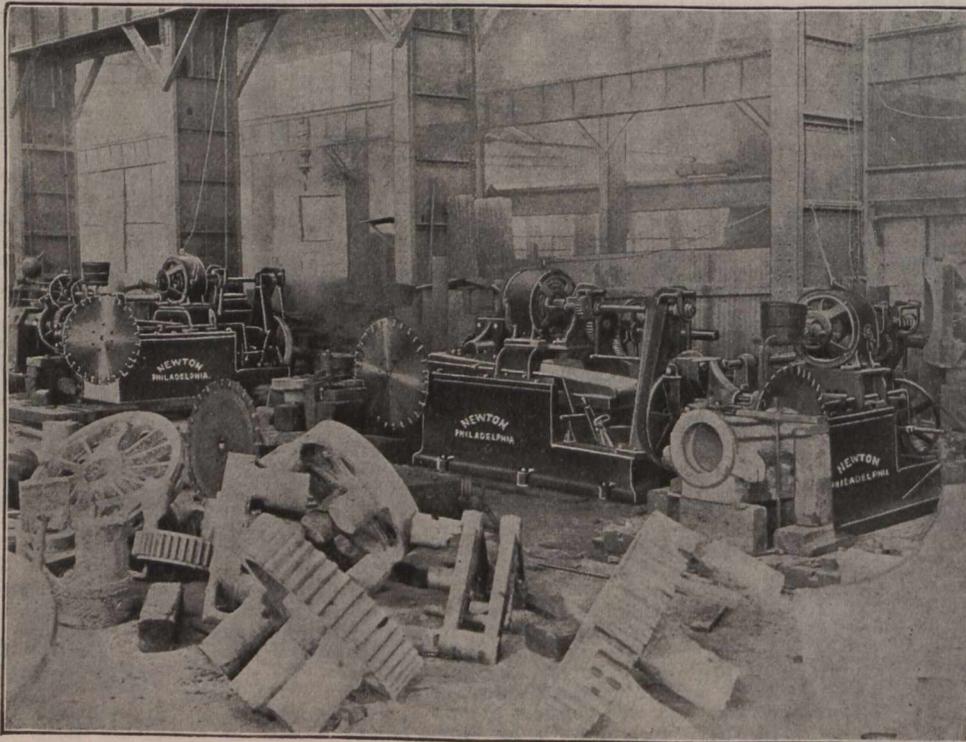


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Minneapolis, St. Paul and Sault Ste. Marie Ry.—Press reports state that the extension proposed from Ambrose, N.D., to Plentywood, Minn., will not be built at present.

Duluth, South Shore and Atlantic Ry.—Second track was laid during 1910 on 3.75 miles of line. 2.48 miles of new sidings were laid, and 2.5 miles of main line easterly from Negaunee, Minn., were reconstructed.

Mineral Range Rd.—During 1910 the company relaid 24 miles of its tracks with new 80 lb. steel rails. (Feb., pg. 137.)

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—At a special general meeting of shareholders an agreement was authorized Feb. 22, in London, Eng., with the C.P.R. for the sale and conveyance, or lease of all the corporate powers, and all, or any portion of the railways, lands, works and undertakings, and all other powers, rights, privileges, franchises and assets, and to approve the conveyance or lease, in return for a guaranteed annuity of 6% on its capital stock.

Approximate net profits from all sources, exclusive of land sales for Dec., 1910, \$40,583, against \$43,820 for Dec., 1909. Cumulative net profits for six months ended Dec. 31, 1910, \$189,270. Railway traffic receipts for Jan., \$15,723, against \$21,442 for Jan., 1910. Cumulative traffic receipts for seven months ended Jan. 31, \$201,887.

Dominion Atlantic Ry.—Gross earnings for Dec. 1910, \$85,700, against \$97,451 for Dec. 1909; aggregate gross earnings for six months ended Dec. 31, 1910, \$773,506, against \$821,295 for same period 1909.

Grand Trunk Ry.—An issue of £750,000 of perpetual consolidated debenture stock was placed on the market recently by Glyn, Mills, Currie and Co., London, Eng. Of the issue price, 5% is due on application, 15% on allotment, and 40% each time on Mar. 1 and Apr. 1. Interest is payable quarterly on Jan., Apr., July and Oct. 14 in each year, a coupon of 5s. per £100 stock being payable on Apr. 1. The stock, proceeds of which will be applied to general purposes, will rank parri passu with the existing 4% perpetual consolidated debenture stock.

Lake Superior Corporation.—A special general meeting of shareholders was called for Mar. 1, at Camden, N.J., to approve a plan for financing the completion of the Sudbury-Little Current section of the Manitoulin and North Shore Ry., and to confirm a resolution of the directors guaranteeing the principal and interest of a proposed issue of first mortgage 5% fifty year gold bonds of the M. & N.S.R. to \$30,000 a mile of the railway, limited in the aggregate to \$3,000,000 par value; to approve the sale of the stocks and bonds of the Sault Ste. Marie Pulp and Paper Co., owned by the Lake Superior Corporation, and for other purposes.

Manitoulin and North Shore Ry.—A special general meeting of shareholders was called Feb. 22, to authorize the issue of 1st mortgage 5% fifty year gold bonds for \$30,000 a mile for the full mileage of the lines authorized under the act of incorporation and amendments thereto, between Sudbury and Little Current, to be secured by a mortgage and deed of trust on and of all the property now owned or hereafter to be acquired; to authorize the increase of the capital stock from \$1,000,000 to \$3,000,000, and to authorize the issue of \$1,000,000 of the \$3,000,000 capital stock of 5% non-cumulative preferred stock, and for other purposes.

New Brunswick and Prince Edward Island Ry.—Press reports state that G. M. Siddall, of Port Elgin, N.B., has secured options on the majority of the stock of this company. The line extends from Sackville, on the Intercolonial Ry., to Cape Tourmentine, N.E., 36 miles.

Quebec and Lake St. John Ry.—Total earnings for Jan., \$40,773.40 against \$37,654.84 for Jan. 1910. Mileage operated, 285.4; earnings per mile, \$142.85, against 280 miles operated and \$134.48 earnings per mile in Jan. 1910

Quebec Central Ry.—A London, Eng., paper, in referring to the reports as to the probable sale of this line, says considerable caution should be observed in regard to them, as "while the line is not up for sale, the directors would not turn away from a promising deal," and that "it appears possible that the assets may change hands before long, and on terms which should prove satisfactory to the existing proprietors."

Quebec Central Ry.—Gross earnings for Dec., 1910, \$74,955.17; expenses, \$60,708.11; net earnings, \$14,247.06, against \$82,589.52 gross earnings; \$62,852.998 expenses; \$19,736.54 net earnings for Dec., 1909. Aggregate gross earnings for six months ended Dec. 31, 1910, \$620,836.66; expenses, \$412,760.80; net earnings, \$208,075.86, against \$580,626.45 aggregate gross earnings; \$388,361.76 expenses; \$192,264.69 net earnings for same period 1909.

Temiskaming and Northern Ontario Ry.—Gross earnings for Jan., \$124,484, against \$131,254 for Jan., 1910.

The Vancouver, Westminster and Yukon Ry. Co. has given notice of a call of 10% on the subscribed stock, other than the shares held under certificate 16, in respect of shares numbered 10221 to Mar. 15, to the Secretary at Vancouver B.C., in accordance with a bylaw passed 35220 inclusive, payable on or before Jan. 3.

Western Coal and Coke Co.—Following are the directors for the current year, elected at the annual meeting Feb. 14:—E. B. Greenshields, Hon. R. Mackay, J. W. McConnell, H. A. Lovett, K.C.; C. Fergie, M. Curry.

Canadian Northern Ry. Earnings, Etc.

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

	Earnings.	Expenses.	Net.	Net
			Earnings	Increase.
July	\$1,225,100	\$876,900	\$348,200	118,600
Aug.	1,093,000	830,000	263,000	58,600
Sept.	1,279,900	898,700	381,200	69,700
Oct.	1,627,800	1,047,300	580,500	99,800
Nov.	1,565,400	1,006,500	558,900	11,500
Dec.	1,255,400	896,200	359,200	24,800
	\$8,046,600	\$5,555,600	\$2,491,000	\$383,000
Inc.	\$1,257,200	\$874,200	\$383,000

Approximate gross earnings for Jan., \$822,600, and for two weeks ended Feb. 14, \$363,000, against \$791,600, and \$358,000, for same periods 1910.

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

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

	Earnings.	Expenses.	Net Profits.	Net Increase
July	\$8,869,214.32	5,384,594.73	3,484,619.50	1,004,748.86+
Aug.	9,255,331.67	5,563,659.34	3,691,672.33	727,614.46+
Sept.	9,315,213.07	5,403,614.03	3,911,599.04	479,710.47+
Oct.	10,229,370.77	5,724,210.25	4,505,160.52	118,863.33+
Nov.	9,413,238.22	5,676,115.96	3,737,122.26	44,784.31+
Dec.	8,705,283.99	5,418,750.10	3,286,533.87	171,110.79-
	\$55,787,652.64	\$33,170,944.41	\$22,616,708.23	\$2,546,832.22+
Inc.	\$5,862,141.22	\$3,315,309.00	\$2,546,832.22

Approximate gross earnings for Jan., \$5,650,000, and for two weeks ended Feb. 14, \$2,749,000 against \$6,007,000 and \$2,888,000, for same period 1910.

operating expenses, \$174,114.75; net revenue, \$75,638.29, against \$236,364 operating revenue; \$164,201.12 operating expenses; \$72,163.83 net revenue for Dec., 1909. Aggregate operating revenue for six months ended Dec. 31, 1910, \$1,734,947.72; operating expenses, \$1,133,196.40; net revenue, \$601,751.32, against \$1,719,742.71 aggregate operating revenue; \$1,149,182.67 operating expenses; \$570,560.04 net revenue for same period 1909. Approximate gross earnings for Jan., \$235,120, and for two weeks ended Feb. 14, \$96,317, against \$219,885, and \$101,464 for same period 1910.

MINERAL RANGE RD.—Operating revenue for Dec., 1910, \$64,934.37; operating expenses, \$58,617.53; net revenue, \$6,316.84, against \$69,790.85 operating revenue; \$58,463.88 operating expenses; \$11,326.97 net revenue for Dec., 1909. Aggregate operating revenue for six months ended Dec. 31, 1910, \$379,875.52; operating expenses, \$376,665.20; net revenue, \$3,210.32, against \$439,286.02 aggregate operating revenue; \$366,652.25 operating expenses; \$72,633.77 net revenue for same period 1909. Approximate gross earnings for Jan., \$65,404, and for two weeks ended Feb. 14, \$29,444, against \$65,600 and \$30,258 for same periods 1910.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE Ry.—Total operating revenue for December, 1910, \$997,712.28; expenses and taxes, \$755,310.48; operating income, \$242,401.80, against \$1,044,495.93 total operating revenue; \$671,407.59 expenses and taxes; \$373,088.34 operating income for Dec., 1909. Aggregate total operating revenue for six months ended Dec. 31, 1910, \$7,159,472.02; expenses and taxes, \$4,566,236.37; operating income, \$2,593,235.65, against \$8,592,203.64 aggregate total operating revenue; \$4,560,913.21 expenses and taxes; \$4,031,290.43 operating income for same period, 1909. Aggregate gross earnings for January, \$1,517,271, and for two weeks ended Feb. 14, \$697,464, against \$1,568,719 and \$748,521 for same periods 1910.

CHICAGO DIVISION.—Total operating revenue for Dec., 1910, \$695,348.69; expenses and taxes, \$607,158.67; operating income, \$88,190.02, against \$573,855.43 total operating revenue; \$503,741.62 expenses and taxes; \$70,113.81 operating income for Dec., 1909. Aggregate total operating revenue for six months ended Dec. 31, 1910, \$4,692,038.38; expenses and taxes, \$3,533,107.44; operating income, \$1,158,930.94, against \$4,277,460.14 aggregate total operating revenue; \$2,994,044.43 expenses and taxes; \$1,283,415.71 operating income for same period 1909.

Grand Trunk Ry. Earnings, Expenses, Etc.

Subject to audit, the accounts for the half year to Dec. 31, 1910, show the following results:—

Gross receipts	£3,699,900
Working expenses	2,790,700
Net receipts	£ 909,200
Income from rentals; outside operations, and car mileage balances	38,400
Total net revenue	£ 947,600
Net revenue charges for the half-year, less credits	525,400
Balance	£ 422,200
Deduct, Canada Atlantic Ry. deficiency for the half-year	£40,100
Less D. G.H. & M. Ry. surplus for the half-year	3,900
	36,200
Surplus	£ 386,000

This surplus of £386,000 added to the balance of £12,500 from June 1910 makes a total of £398,500 available for dividend, which will admit of the payment of dividend for the half-year on the 4% guaranteed stock, and first and second preference stocks, and a dividend of one-half of 1% for the year on the third preference stock, leaving a balance of about £9,000 to be carried forward.

The accounts of the G.T. Western Ry. for the half-year including the balance brought forward, show a surplus of £1,700 which amount is carried forward to the current half-year.

Approximate gross earnings for Jan., \$3,381,239, and for two weeks ended Feb. 14, \$1,489,366, against \$3,152,992 and \$1,449,558 for same periods 1910.

TRAFFIC RECEIPTS OF THE SYSTEM.

	1911.	1910.	Inc.
Aggregate from Jan. 1 to Jan. 31:—			
Grand Trunk Ry.	\$2514,227	\$490,217	\$24,010
Canada Atlantic Ry.	32,599	29,373	3,226
G.T. Western Ry.	113,188	95,664	17,524
D.G.H. & M. Ry.	34,761	32,621	2,140
Totals	\$2694,775	\$647,875	\$246,900

DULUTH, SOUTH SHORE AND ATLANTIC Ry.—Operating revenue for Dec., 1910, \$249,753;

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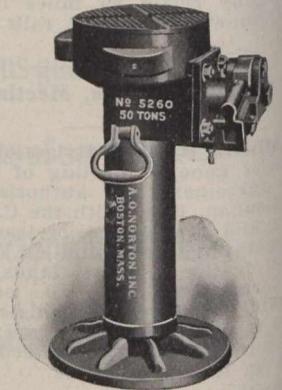


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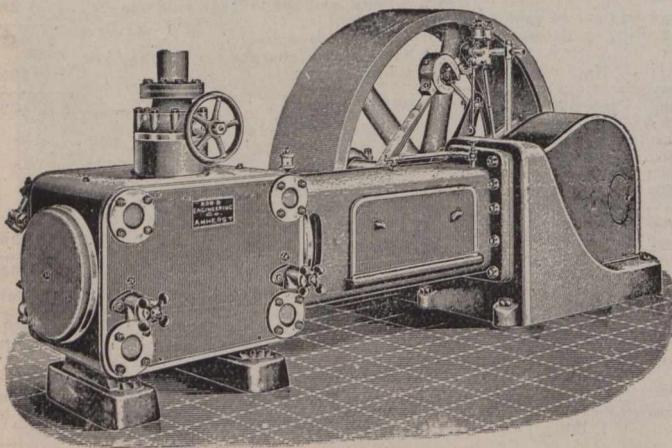
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Union Bank Building, Winnipeg	W. F. Porter, "
Grain Exchange Bldg. Calgary	J. F. Porter "

Canadian Northern Ry. Construction, Etc

Canadian Northern Quebec Ry.—The Board of Railway Commissioners has authorized the company to use tracks on the bridge over the St. Charles river, near Quebec, including property used in common by the Quebec Ry., Light and Power Co., and the Quebec and Lake St. John Ry., for entering Quebec, \$1,500 a year rental to be paid to the former company, and also to pay all arrears for the use of the bridge, and be responsible for its share of its maintenance and operation. The Board has also approved the extension of the yards between Moreau and Marlborough streets, and dismissed the applications for closing Robillard St., the extension of yards in Hochelaga, to cross Marlborough St., and to take certain lands on Stadacona and Marlborough streets.

Canadian Northern Ontario Ry.—The Board of Railway Commissioners has approved a revised location for a section of the line under construction in St. Andrews parish, Que., authorized the company to build an overhead bridge across the C.P.R. near Jacques Cartier Jct., mileage 49.3, south from Hawkesbury, Ont.; to lay tracks across various highways and streets, and to build bridges over creeks, on the line under construction between Toronto and Ottawa.

Plans have been filed showing the route of the proposed entrance into North Toronto for the line to Buffalo. The new line is a prolongation of the Electric Development Co.'s right of way from where it ceases at Davenport Road, north of the C.P.R., to McLennan Ave. Several streets will be closed, and the tracks will be elevated between Avenue Road and Yonge St., at both of which points subways will be built. The route from Toronto will follow the Electric Development Co.'s right of way as far as possible. The entrance into Hamilton is at present undecided, but it is said that a route paralleling the G.T.R. from Burlington to the Valley Inn has been laid out. No plans have been filed with the city authorities, although the mayor was advised Feb. 4 that they were ready, neither has any report been received from the Board of Railway Commissioners' Chief Engineer, to whom the matter was referred some time ago. Various properties have been purchased near the old N. and N.W. Ry. at Ferrie St., Queen and Greig streets, by persons said to represent the company.

The Electric Development Co. has a right of way from Hamilton to Cainsville, and the C.N.O.R. has filed plans for an entrance into Brantford over this route. (See Toronto, Niagara and Western Ry., Jan., pg. 61.)

Surveys are reported completed for a line from Rideau Jct., on the Toronto-Ottawa line, about six miles south-west from Ottawa, to Port Arthur, effecting a junction on the way with the line from Toronto, via Sudbury, now terminating at Gowganda Jct. The route laid out is said to cross the Ottawa River at Fitzroy Harbor, and to re-Portage du Port, entering Pembroke from the rear, and on to Petawawa, skirting the south end of the military reserve, and following the valley of the Algonquin River through a section of the Algonquin Forest reserve to Cedar Lake, then crossing a low divide to the collecting basin of the Amable du Fond. The route is right across country to again reached, where a settled country is main line will pass Callender and Nipissing Jct., to North Bay. On leaving North Bay the line surveyed ascends the Sturgeon and Kapikotwia rivers, crosses

the Wahnapeit river, and on to a junction with the line now in operation to Toronto, near Capreol. From this point the line proceeds westward, getting on the Hudson Bay slope, and crossing various rivers, passing within 30 miles of the great fall of the Pic River, and rounding the head of Long Lake, it heads southwest for Lake Nipigon, and then to Port Arthur.

Replying to questions in the Ontario Legislature, Feb. 8, the Premier said the company had not made application for an extension of time for the building of the line from Sellwood Jct. to Port Arthur, for which the Legislature had voted 4,000 acres of land a mile, and to be completed in 1913. There had been completed 30.65 miles of the line; an additional 15 miles had been graded, and some 300 miles of location surveys had been approved by the Board of Railway Commissioners. These replies apply to the second portion of the route described above.

A deputation from Parry Sound waited on the Ontario Government Feb. 3 and requested that the Legislature be asked to guarantee the C.N.O.R. bonds for a line from Parry Sound to North Bay, about 75 miles. The Premier promised consideration.

The city solicitor of Port Arthur states that he was advised by Sir Donald D. Mann that construction would be started at that city easterly in the spring, and that the line would be completed as far as Nipigon by the end of the year.

Canadian Northern Ry.—A Winnipeg press dispatch, Feb. 11, states that an agreement has been arrived at by which the Great Northern Ry. and the Northern Pacific Ry. will use the Fort Parry station being built in Winnipeg by the C.N.R. for the joint use of the C.N.R. and the G.T. Pacific Ry. A later dispatch says the G.N.R. has withdrawn from the agreement, and that it will build its own terminus in Winnipeg.

The Oak Point branch, heretofore terminating at Oak Point, on Lake Manitoba, was extended during 1910 to Gypsumville, Man., 96.84 miles. A further extension will probably be undertaken during this year.

The Greenway branch, heretofore terminating at Adelpha, Man., was extended during 1910 for 12.90 miles westerly, and it is expected that some additional mileage will be built this year.

The Maryfield branch, which had its terminus at Lampman, Sask., was extended westerly for 88.81 miles during 1910. This line is under construction to Lethbridge, Alta. A branch from this line extends to Bienfait, and it was stated in the Saskatchewan Legislature recently that the fact that the C.N.R. had practically ceased to operate its line from Maryfield to Bienfait, Sask., since Jan. 1, had been brought to the attention of the Government, and that steps had been taken to induce the company to resume operations.

The Rossburn section branches off the main line at Neepawa Jct., and was in operation to Stornoway, Sask., 199 miles, early in 1910. During 1910 track was laid for 16.46 miles westerly. It is intended to extend the line westerly to a junction with the main line to Edmonton near Tiny or Buchanan.

The Hallboro branch starts at Hallboro, on the Rossburn Section, and has been completed to Beulah, Man., 6.15 miles.

The Oakland branch has its present terminus at Totogan, 27 miles from Arizona Jct., Man., where it leaves the main line. It is proposed to extend this line along the western shores of Lake Manitoba, for some miles, and then to swing westerly, effecting a junction with the main line near Makinate.

The Thunder Hill branch starts from near Swan River, and is in operation to

Pelly, Sask. The line is projected westerly to a junction with a proposed line east of the Saskatchewan River, from Humboldt on the Edmonton line, to Melfort, on the Prince Albert line. It is expected that some construction will be done on this line this year.

A line is under construction from Prince Albert to Battleford, Sask., and track was laid during 1910 on it for 16.13 miles, from Prince Albert to Shellbrook. It is expected that this line will be completed during the current year. Starting at Shellbrook, a branch is under construction to the Crooked Lake district, on which track was laid during 1910, to Big River, 56.95 miles. A further extension will probably be put in hand this year.

A branch line is under construction from North Battleford to Jackfish Lake, Sask., and on this line track was laid during 1910, between North Battleford and Meats, 22.59 miles.

A branch line is projected from Regina westerly to Moose Jaw, and it is expected that progress will be made with construction on it this year.

The Goose Lake branch was in operation during 1910 from Saskatoon to Kindersley, Sask., 126 miles. Track was laid during 1910 for 49.90 miles westerly. This line, it is proposed, shall be extended into Calgary. The Board of Railway Commissioners has approved of revised location through tp. 28, ranges 4, 5 and 6, west 4th meridian, mileage 196.64 to 210.21, from a junction with the Qu'Appelle, Long Lake and Saskatchewan Ry. A line to be known as the Delisle branch is under construction from Delisle, on the Goose Lake line, southerly, and it is expected that an additional mileage will be graded this year.

The Vegreville-Calgary branch line, on which track was laid in 1909 to Ryley, Alta., was extended during 1910 to Red Deer River, 155.23 miles. This line is to be extended this year into Calgary. A branch line is being built from Stettler westerly into the Brazeau River coalfields, and further construction will be gone on with during this year.

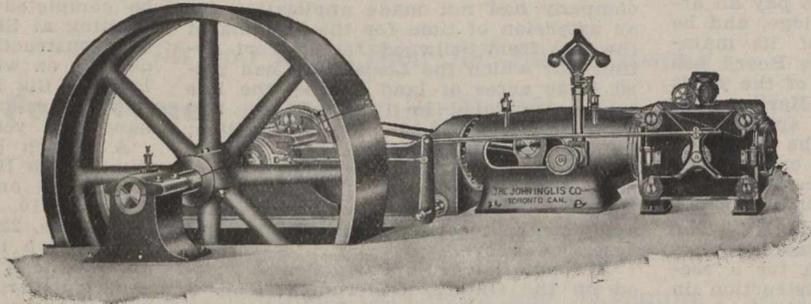
It is also proposed to continue the grading for the main line west of St. Albert, Alta.

The contractors engaged on these different lines are: Cowan Construction Co., McMillan Bros. and Kenny, Ltd., Northern Construction Co., Janse and Macdonald, and M. McCrimmon.

Press reports state that it is expected that all the line from Pembina River to the Yellowhead Pass will be placed under contract in the spring. A survey party left Edmonton, Jan. 29, to revise the location west of the Pembina River ready for the contractors. It is expected that this contract will go to the Union Construction Co., which is the new name of the Cowan Construction Co., the Manitoba Legislature having been asked to give the necessary authority. A Winnipeg dispatch states that C. J. Merry, President of the construction company, and F. Owens, the Superintendent, left Winnipeg Feb. 9 to open up work on the section of the line to the Rocky Mountains, a contract for a 200 mile stretch having been arranged. The contractors for the line to Pembina River, McMillan Bros., are reported to be making satisfactory progress. Preparations are being made for the letting of contracts for the substructure and steel work of the bridge across the Pembina River.

Canadian Northern Branch Lines Co.—The Dominion Parliament is being asked to incorporate a company with this title with power to build branch lines from 18 different points in Manitoba, Saskatchewan and Alberta, the starting and terminal points of which were given in our Dec., 1910, issue, page 1031. The provisional directors are: F.

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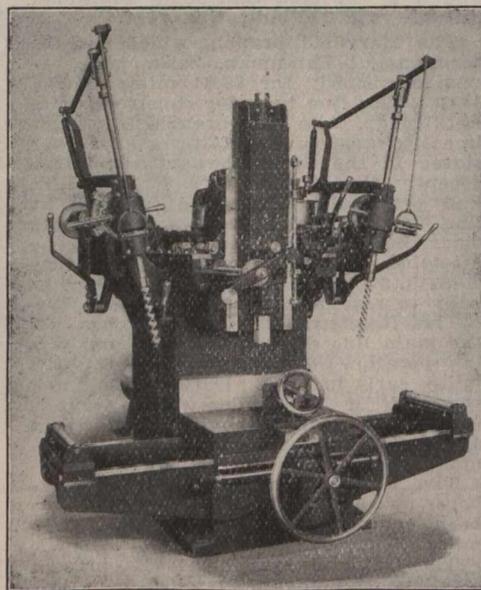
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Edmonton and Slave Lake Ry.—The Board of Railway Commissioners has recommended the sanctioning by the Governor-in-Council of the amalgamation of the E. and S.L.R. with the C.N.R.

Canadian Northern Pacific Ry.—In connection with the route of the line from Chilliwack to Hope, B.C., we understand that there are some matters about which negotiations are being carried on with the Vancouver, Victoria and Eastern Ry., and that an early adjustment is expected. Good progress is being made with the grading between Port Kells and Popkum, and it is expected that tracklaying will be started at Port Kells by April 1. Press reports state that preparations are being made for letting another contract at an early date for the section extending from Hope to Boston Bar, 42 miles.

The surveys for the terminal site at Port Mann were reported completed Jan. 28, the site covering 4,000 acres, with a waterfront of 2½ miles. There is said to be a depth of 40 ft. of water along the front. There has been deposited with the Minister of Public Works at Ottawa, copies of the plan and description of the site and elevation of the railway wharf proposed to be built. The contractors for clearing the site are reported to have over 500 men at work. It is expected that work will be started at an early date on the area selected for terminal purposes, and that the lots will be put on the market June 1.

Vancouver Island Ry.—We are advised that the contract for the first 40 miles of the section of the C.N. Pacific Ry., which is being built on Vancouver Island, has been let to Grant, Smith and Co. Press reports state that the firm consists of M. Carlin and Grant Smith, and that the contract was signed by them and by T. G. Holt, attorney at Vancouver for Mackenzie, Mann & Co., Jan. 21. The contract covers the building of about 40 miles of line, from 4.7 miles from Victoria to the vicinity of Shawinigan Lake, the work to be finished within a year. Work was started at Peddar Bay, Feb. 6, by a gang of 60 men, under sub-contractor Macdonald. Other subcontracts are being let.

The route surveyed swings slightly east from Sooke Lake, to which point location has been completed, reaching Shawinigan Lake at its extreme south-east corner, skirting its western shore, and then following the northwest arm, from the lake, then swinging to the north-west to the Cowichan River, about nine miles west of Duncan, and follows that river to the lake near the mouth of Mud Creek. Cowichan Lake is followed for its entire length on the north side, and at the western end the route swings abruptly northerly to the Nitinat River, which is followed to within five miles of Nitinat Lake, then curves northerly to the head of Coleman Creek, and along the valley of that creek to its outlet in Barkley Sound, whence it follows the deviations of the Alberni canal to Alberni.

Duluth, Winnipeg and Pacific Ry.—Tracklaying is expected to be started on this line May 1, by which time the grading and bridge work is expected to be completed. The approaches to the tunnel at Shoreline Park, Duluth, Minn., have been cut, and preparations are being made for driving the tunnel through the 500 ft. of granite which lies between the two approaches. (Feb., pg. 141.)

The Dominion Wire Rope Co., Ltd., Montreal, has increased its capital stock from \$200,000 to \$500,000.

National Transcontinental Railway.

Replying to a question in the House of Commons Feb. 6, the Minister of Railways said the cost of the N.T.R. from Moncton to Winnipeg, to the end of 1910, was \$9,553,740, and on the following day stated that while that was the actual amount paid out to Dec. 31, the work done to that date which was being paid for brought up the total cost to \$93,920,956.16. On another occasion he stated that the section of the line between Moncton and the St. Lawrence, was expected to be opened by Sept. 1912. The state of completion on the several contracts on the section at Dec. 31, 1910, was as follows:

Contract	Contractors.	Percentage of work done	Percentage of work remaining to be done.
1	Grand Trunk Pacific Ry. Co.....	29.5	0.5
2	Ino. W McManus & Co.	98.09	1.91
3	Grand Trunk Pacific Ry. Co.....	98.64	1.36
4	Grand Trunk Pacific Ry. Co.....	99.22	0.78
5	Willard Kitchen Co.....	89.48	10.52
6	Lyons & White.....	88.70	11.30
7	M. P. & J. T. Davis.....	62.80	37.20
8	M. P. & J. T. Davis.....	75.70	24.30

There were then 1,450 men employed on the several contracts.

A contract has been let to J. A. Latouche, for the clearing away of the old buildings on the Champlain Market site, Quebec, in preparation for the erection of a terminal station thereon.

Replying to questions in the House of Commons, Jan. 26, the Minister of Railways said neither the Government nor the National Transcontinental Railway Commission had entered into any agreement or working arrangement of any kind with the Province of Ontario or the Commission operating the Temiskaming and Northern Ontario Ry. regarding the securing of running powers over that line from Cochrane to North Bay, Ont., or to any other point; nor was it intended to discontinue the construction of the N.T.R., in whole or in part, permanently or temporarily, east of Cochrane.

The report of the arbitrators on the over-break, etc., on certain contracts has been handed to the Government and will be laid before Parliament. Press reports state that the finding of the arbitrators does not say in so many dollars how much is to be deducted, but it takes each particular part of the work complained of and lays down a ruling as to what the measurements and allowances should have been. This will be compared with what was allowed and if the latter is in excess of the arbitrators' findings, deductions will have to be made accordingly. About \$500,000 will, it is estimated, be taken off contractors and sub-contractors. It will come out of the drawbacks held by the Government. If dissatisfied with the award those who are affected will have the right to appeal to the Exchequer Court.

GRAND TRUNK PACIFIC RAILWAY.

There have been persistent rumors in Brandon, Man., to the effect that the G.T.P.R. was negotiating for the purchase or lease, or for running powers over the Brandon, Saskatchewan and Hudson Bay Ry., a line owned by the Great Northern Ry., U.S., and that the line would be at once extended to the G.T. Pacific Ry. Several conferences have taken place between G.T. Pacific Ry. officers and the city council, at which the mayor asked the company to give Brandon a branch line.

Press reports state that a G.T.P.R. engineering party is at work in the vicinity of Frobisher, Sask., making a survey for a line towards the International boundary.

The Board of Railway Commissioners

has approved plans for the station at Balcarres, Sask., on the line from Melville to Regina; of the revised location plans for the branch from Regina to the International boundary from mileage 88.32 to 100, and location surveys from mileage 100 to 130.92.

A deputation representing the Saskatoon, Sask., city council, waited on Vice President Chamberlain, at Winnipeg, recently, with a view of discussing the entrance of one of the company's projected branch lines into the city. Four propositions have been submitted to the city council.

The Board of Railway Commissioners has authorized the company to lay tracks for its Young-Prince Albert branch across certain highways in East Saskatchewan district, and has approved of location plans for the same line from mileage 110.9 to the east boundary of First Ave., east, Prince Albert, Sask.

Calgary press reports state that that city is to be made an important centre by the G.T.P. Ry. It will be the meeting point for the line from Tofield, now under construction; another from Moose Jaw, Sask.; and other lines preceding to Lethbridge, and other southerly and westerly points, while other lines will connect up with these branches from different points. The line from Tofield is expected to be completed by Sept. A conference between officers of the company and the city council representatives was held Feb. 4, with a view of completing arrangements for the entrance into Calgary.

Press reports state that the main line to Tete Jaune Cache, 47 miles west of the Rocky Mountains, will be completed by the end of the season. The contractors have been doing a good deal of rock work west of the Athabasca River during the winter, and preparations are being made for starting up other work.

Surveys for the proposed branch line from Fort George to Vancouver are being gone on with, and two lines are being run by way of the Pemberton Valley.

At Prince Rupert, B.C., a great deal of work has been done in the way of laying track in the yards, laying tracks on the wharves, and providing additional wharf accommodation. (Feb., pg. 117.)

Protection of Railway Employees.

Upon the recommendation of the Chief Operating Officer and the Board of Railway Commissioners order 12890 was passed, Feb. 6, amending order 12225, Nov. 9, 1910, respecting the protection of railway employees, which was given in full in our Dec. 1910 issue, making sub-clause c. of clause 8, read as follows:

(c) No structure except mail cranes, which shall be erected and maintained as directed in order 5647, Nov 20, 1908, over 4 ft. high shall hereafter be placed within 6 ft. from the gauge side of the nearest rail without first obtaining the approval of the Board.

The city of St. Thomas is asking power from the Ontario Legislature to fix the amount to be paid yearly by the Canada Southern Ry. or Michigan Central Rd., in payment or commutation of its taxes, rates and assessment on right-of-way, yards, buildings and structures, lying north of Wellington St., St. Thomas, notwithstanding any provision in any act to the contrary.

The Saskatchewan Legislature has passed a resolution expressing the opinion that "action should be taken to compel the railway companies to pay compensation for right of way for new lines, within reasonable time after taking possession of farmers' land for this purpose, and that if for any cause railway companies are unable by reason of any provision of law to promptly pay such compensation, such law should be amended so as to enable them to do so."

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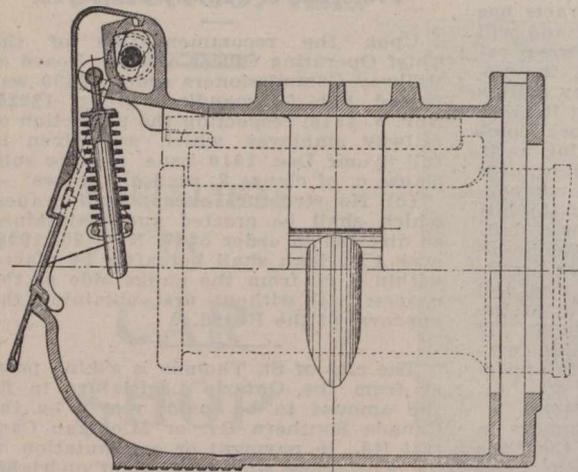
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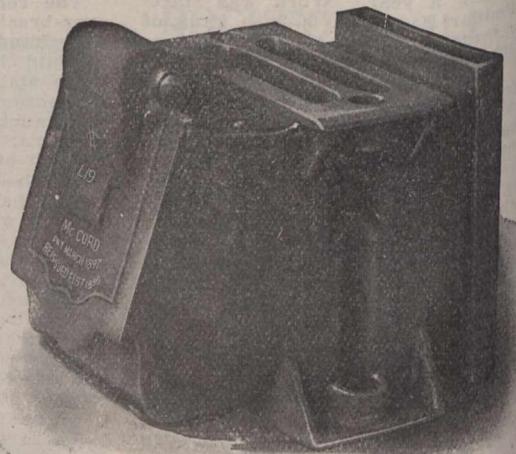
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Coal Rates Duluth to Winnipeg.

Chief Railway Commissioner Mabee gave the following judgment Feb. 6 in the case of the Great Northern Ry. Co. (U.S.A.) vs. the Canadian Northern Ry. Co., the same being concurred in by Assistant Chief Commissioner Scott and Commissioner McLean:—

In Sept., 1907, the Great Northern Ry. filed with the Board an application asking for an order that the Canadian Northern Ry. should "agree and concur in a joint tariff of \$2.50 a ton on coal from Duluth to Winnipeg," alleging, among other things, that the rate on coal from Port Arthur and Fort William to Winnipeg, over the Canadian Northern lines, was \$2.50 a ton; that the joint tariff between the applicant and respondent from Duluth to Winnipeg was \$3 a ton, of which the respondent received 75c. a ton, that the applicant desired to reduce its rate to \$2.50 a ton, and was willing to allow the respondent 75c. a ton out of this reduced rate; that the Great Northern mileage was 365 from Duluth to Emerson, and the Canadian Northern 66 miles from that point to Winnipeg; that the people of the latter city had called upon the applicant for assistance in their coal supply, and that this could only be done by putting the Duluth-Winnipeg rate upon the same basis as the Fort William and Port Arthur-Winnipeg rate.

To this application the Canadian Northern made lengthy answer, and took objection to the Board's jurisdiction, which question was argued and determined adversely to the respondent's contention. Later on, evidence was given at Port William and Winnipeg at length, and the case was again argued in all its phases in the last week of Jan., 1908, and judgment was reserved. The death of the late Chief Commissioner took place within six weeks of the close of the case, and the matter has never since been finally disposed of.

Sec. 336 provides that as respects all traffic carried from any point in the U.S. into Canada by any continuous route operated by more than one company, a joint tariff for such route shall be filed with the Board. This section applied to the movement of coal from Duluth to Winnipeg by the applicant and respondent, and in compliance therewith the applicant duly filed C.R.C. 142, effective Dec. 31, 1902, superseded by C.R.C. 612, effective Aug. 6, 1909, and 1909, all naming the Canadian Northern Ry. as a participating carrier, and the rate from Duluth to Winnipeg as \$3. C.R.C. 631 has since remained and is still in effect.

Sec. 338 provides that where these joint tariffs are filed, the company or companies shall "until such tariff is superseded, or disallowed by the Board, charge the toll or tolls specified therein."

In the case of the Grand Trunk Ry. vs. the British American Oil Company, 43 S.C.R. 311, the Supreme Court held, affirming this Board, that under sec. 336 rates for rates on through traffic originating in foreign territory, to be carried by continuous routes owned or operated by two or more companies from foreign points to destinations in Canada, are effective and binding upon all Canadian companies participating in the transportation, although not expressly assented to by the latter, and may be enforced by the Board against such Canadian companies.

Under this decision there is and has been nothing to prevent the Great Northern Ry. if it so desired, from filing a tariff giving a rate of \$2.50 upon coal from Duluth to Winnipeg, naming the Canadian Northern Ry. as the participating carrier, and this tariff would

"supersede" the old \$3 one, and the Canadian Northern would be bound to accept and carry traffic under it, unless it was "disallowed by the Board." No order granting leave to file any such tariff or requiring the Canadian Northern Ry. to agree to or concur therein, was or is necessary, and this application was entirely unnecessary.

The Canadian Northern has had on file, during all this time, a general concurrence with all tariffs that might be filed by the Great Northern, and in that respect its position would have been much weaker than that of the Grand Trunk in the oil case, as there it has endeavored to protect itself by filing an exception to the oil rate of the Indianapolis Southern.

In view, however, of the amount of evidence given, and the time and labor spent upon argument, to say nothing of the importance with which the respondent, as well as the Canadian Pacific Ry., regarded the application, it does not seem proper to leave the case in the above position, as, doubtless, if the applicants filed such a tariff, the respondents would at once move for its disallowance, and as all the possible material is now before the Board, it would seem reasonable to now determine whether, if a \$2.50 rate were put in by the applicants between Duluth and Winnipeg, over the route of the applicant and respondents lines, it would be disallowed by the Board.

The Canadian Northern Ry. has a line from Port Arthur to Winnipeg, the C.P.R. has a double track road between Fort William and Winnipeg, and the evidence showed that large sums had been expended at Port Arthur by the respondents for the establishment of a plant for handling coal. Large sums in wages are paid at both these points to workmen engaged in this work, and it was clearly demonstrated that if this trade was taken away from these cities it would seriously injure them. The facts, so far as they affected these two cities, were presented by counsel for the cities, they being allowed to intervene, and may or may not have any bearing upon the case.

Let us deal for a moment with the case as it affects the Canadian Northern only. Now it enjoys the revenue derived from this coal traffic at the rate of \$2.50 a ton, hauling it from Port Arthur to Winnipeg, about the same distance as from Duluth to Winnipeg, and the Great Northern desires to get this traffic away from it, putting seven-tenths of the revenue earned from it into its own treasury, cutting down the earnings of the Canadian Northern from \$2.50 to 75c. a ton, and compelling it to return its empty grain cars to Winnipeg minus this coal traffic. In whose interests would all this be? What reason exists for the transfer of this traffic and the revenue derived therefrom from one company to another? How would the Winnipeg coal consumer be benefited? Would he be getting coal by a shorter route or at a lower freight rate? This case is not to be considered as if the application came from the people of Winnipeg, supported by satisfactory evidence that the railways were defaulting in furnishing a sufficient coal supply via Fort William and Port Arthur. There was something said about a shortage at some time, but it was not suggested at the hearing that the Fort William and Port Arthur route was not a satisfactory and reasonable one, nor was it suggested that the railways operating from those points could not supply Winnipeg and adjacent points with all the coal necessary, and at the minimum of cost for its transportation.

The application then is a plain and selfish attempt by the applicants to use the Board to divert traffic from the respondent lines to its own lines, not to

furnish any better or cheaper route for the carrying of coal to Winnipeg, nor to furnish any more prompt or steady service, but solely that the applicants might obtain the revenues earned by the respondent from this coal traffic. This Board has steadily refused to permit the Railway Act to be put to any such abuse.

An attempt of a somewhat similar nature was made in the Muskoka rates case, Canadian Northern Ry. vs. the Grand Trunk Ry. and Canadian Pacific Ry., 7 Canadian Railway Cases, 289. There the Board said: "Is it fair that the applicant should be permitted to make use of the Act to divert from the G.T.R. and C.P.R. lines at Toronto the tourist traffic that the last mentioned railways have spent years in developing? That this would be to the advantage of the applicant is clear, but it has not been shown that the public is to any appreciable extent interested?"

The same principle was involved in the case of the Elder Dempster S.S. Co. vs. the G.T.R. and C.P.R., 10 Canadian Railway Cases, 334. There the Board refused the application, and the following extract from the judgment is sufficient to show why it failed: "Upon the fact of the matter then, it is a struggle to obtain from the railways part of their westbound traffic, and it is by no means clear that the shippers would obtain any material benefit if the application succeeded."

In England, in the case of the Didcot, Newbury, and the Southampton Ry. vs. the London and South-Western Ry., 10 Railway & Canal Traffic Cases, 9, Sir Frederick Peel said:—"It seems to me, upon the evidence, that the means provided for that purpose by the South-western Co., by their route, leave no cause of complaint, and that no real advantage would accrue to the public through having the different route proposed by the applicants." These words are particularly applicable to the case in hand, as there was no evidence, nor did counsel argue, that the route proposed by the Great Northern would produce any advantage to the public.

In the U.S. the administration of the Act Respecting Commerce has been entirely upon the lines above indicated. In re Through Passenger Routes, 16 Interstate Commerce Reports, pg. 310, the then Chairman said:—"The statute provided that before the Commission may establish through routes and joint rates, but does not require it to do so. It follows then, that the Commission can lawfully exercise its discretion in this respect, it must find that no reasonable or satisfactory through route exists, and when its jurisdiction is thus established, its discretion must be exercised upon sound consideration of justice to the public and to the carriers."

In Baer Brothers vs. the Missouri Pacific, 17 I.C.R., at pg. 225, the present Chairman said:—"As we understand the law, it does not require us in all cases where no through route and joint rate exists to establish a route and fix a rate applicable thereto, but only empowers, for the purpose of giving effect to the Act."

In Spring Hill Coal Co. vs. Erie Rd., 18 I.C.R., 508, it was held that the Interstate Commerce Commission had no jurisdiction to establish a through route and joint rate where a reasonable through route already existed.

Now, applying these cases to the one under consideration, the Board finds as a fact that there is already a reasonable route and rate—not a joint rate with the water carriers of this coal, because the Board has no control over them—but a reasonable route to destination; so if this case were before the Interstate Commerce Commission, the applicants upon that state of facts, would be told that there was no jurisdiction to establish another route. It may be that the

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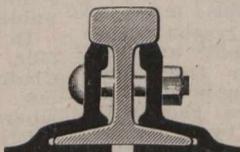
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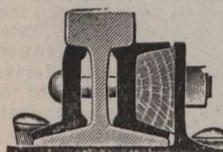
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Railway Act gives wider authority to this Board, and that we have jurisdiction to establish more than one route and joint rate between any two given points; but any such action could only be justified if it being clearly established that the interests of the public plainly called for such intervention.

The law requires the carriers to establish reasonable through routes and rates applicable thereto, and when this has been done they have discharged their duty in that regard. The Canadian Northern says it has established a reasonable route for coal to Winnipeg; it has established that fact by evidence, and it is not bound to submit to another route established by the Great Northern Ry., this latter proposition being made solely for the pecuniary benefit of the Great Northern to the loss of revenue of the Canadian Northern, and no apparent corresponding benefit to the public. If such a tariff were filed by the applicants, it would, upon the existing state of facts, be disallowed by the Board.

Steam Railway Track Laid in 1910.

In our last issue we gave a preliminary statement of steam railway track laid in Canada in 1910. Since then some related returns have been received, including a more detailed statement from the Grand Trunk Pacific Ry., and the table is repeated below revised up to date. The returns show that 1870.44 miles of track were laid against 1588.47 in 1909 and 1505.95 in 1908. The figures as finally corrected do not differ materially from the figures given in our last issue, although some of the figures given are now given in more detail, and the Detroit River tunnel, the length of which in Canada is estimated at 1,20 miles, is added.

ALGOMA CENTRAL AND HUDSON BAY RY.		
Main line, mileage 69 to 81.6	Miles.	12.6
Main line, mileage 170. to 151.5	Miles.	19.0
Maggie Branch, Michipicoten Division		5.4
ATLANTIC, QUEBEC AND WESTERN RY.		
Grand River to Ainsie a Beaufls		14.5
near Ainsie a Beaufls to Barachois		8.5
CANADA AND GULF TERMINAL RY.		
St. Flavie to Matane, Que.		36.00
CANADIAN PACIFIC RY.		
Que. to International		3.60
More		5.20
Wilmington, Ont., to Micico		2.64
Victoria Harbor, Ont., terminal		4.68
Winnipeg, Man., extension		1.46
Winnipeg, Sask., northerly		25.60
Winnipeg, Sask., south		20.60
Winnipeg, Sask., westerly		12.40
Winnipeg, Sask., south		21.80
Winnipeg, Sask., southeast		50.00
Winnipeg, Alta., northerly		86.20
Winnipeg, Alta., easterly		34.10
		18.30
CANADIAN NORTHERN ONTARIO RY.		
Toronto-Ottawa Line—		286.58
Mileage 0 to 44.6		44.60
Mileage 69.4 to 71.7		2.30
Mileage 71.8 to 96.6		24.80
CANADIAN NORTHERN RY.		
Winnipeg branch, Man.		96.84
Winnipeg branch, Man.		12.90
Winnipeg branch, Man.		6.15
Winnipeg branch, Sask.		16.46
Winnipeg branch, Sask.		88.81
Winnipeg branch, Sask.		49.90
Winnipeg branch, Sask.		16.13
Winnipeg branch, Sask.		22.59
Winnipeg branch, Sask.		56.95
Winnipeg branch, Sask.		155.23
CENTRAL ONTARIO RY.		
1355 to 1620		521.96
DETROIT RIVER TUNNEL.		
Total length in Canada and U.S., 2.42 miles, of which there is in Canada (estimated)		1.20
ESQUIMALT AND NANAIMO RY.		
Esquimalt to Cameron Lake, B.C.		12.00
ESSEX TERMINAL RY.		
Windsor to Windsor, Ont.		1.00

GRAND TRUNK PACIFIC RY.		
SASKATCHEWAN—		
Mileage 17 to Canora		36.00
Young to mileage 25		25.00
Balcarres to mileage 48		14.00
ALBERTA—		
Camrose to Red Deer River		123.00
Mileage 879 to Prairie Creek		35.00
BRITISH COLUMBIA—		
Prince Rupert to Copper River		100.00
		335.00
HA HA BAY RY.		
Chicoutimi to Bagotville, Que.		20.00
Chicoutimi Jct. to Mathias, Que.		5.00
		25.00
HALIFAX AND SOUTH WESTERN RY.		
Middleton Jct. to Nictaux, N.S.		4.00
INTERNATIONAL RY. OF N.B.		
Mileage 80 to St. Leonards, N.B.		33.50
IRONDALE, BANCROFT AND OTTAWA RY.		
Mud Creek to York River Jct., Ont.		3.00
MANITOULIN AND NORTH SHORE RY.		
Gertrude to Crean Hill, Ont.		10.00
NATIONAL TRANSCONTINENTAL RY.		
Between Moncton, N.B., and N.B. boundary		130.00
Between Quebec boundary and five miles west of Weymontachene, Que.		135.00
East and west of Cochrane, Ont., and east of Graham, Ont.		172.00
		437.00
NORTHERN NEW BRUNSWICK AND SEABOARD RY.		
Nepisquit Jct. to Bathurst Iron Mines		16.90
PACIFIC COAST COAL MINES.		
Fiddicks, B.C., to Coal mines		1.80
PORTLAND CANAL SHORT LINE.		
Stewart to Bear River		4.00
QUEBEC CENTRAL RY.		
St. Justine to St. Sabine, Que.		4.30
TEMISKAMING AND NORTHERN ONTARIO RY.		
Mileage post 60 to 60.5		0.50
Of this mileage, 1,651.34 miles were laid in connection with three systems, as follows, the second column showing the mileage laid by the same lines in 1909:—		

National Transcontinental Ry.	1910.	1909.
G.T. Pacific Ry.	437.00	312.00
	335.00	309.00
Canadian Northern Ontario Ry.	772.00	621.00
Canadian Northern Quebec Ry.	71.70	90.49
Canadian Northern Ry.	521.96	28.10
	593.66	421.64
Canadian Pacific Ry.	286.58	323.84
Total of the three systems	1,651.24	1,876.48
Divided by provinces, the track laid during the year compares with that laid in 1909 as follows:—		
	1910.	1909.
Saskatchewan	518.84	487.80
Alberta	365.63	373.17
Ontario	308.98	288.63
Quebec	232.10	171.24
New Brunswick	180.40	87.00
Manitoba	141.49	136.23
British Columbia	117.80	74.40
Nova Scotia	4.00
	1,869.24	1,588.47

Particulars of revision of location and second track laid, were given in our last issue.

International Traffic Regulations.

The Minister of Railways stated in the House of Commons Feb. 6 that the question of the control of rates on lines running from Canada into the United States, and from the United States into Canada, had been under consideration for more than a year. The settlement of the question by the appointment of an international tribunal was first brought to his attention by the Chief Railway Commissioner. The difficulties experienced by shippers on traffic between the two countries were, at times, quite apparent. For instance, the rate from New York to Toronto was a point. He presumed it was possible to get a through rate by the boards acting independently, but what often results was this, the railway companies on each side charged a local tariff, particularly if there was no competition, and as a result the purchaser of the goods in Toronto was obliged to pay two local rates

instead of one through freight. The object of the agreement, if one could be arrived at, was to form some tribunal that could quickly make a through rate from any point in Canada to any point in the United States, or vice versa, so that as far as the control of the rates was concerned there would be a tribunal that would as completely control the traffic originating in either country and going to the other, as if the traffic were all in one country. Chief Commissioner Mabee and Chairman Knapp, of the Interstate Commerce Commission, have had several conferences, and they arrived at a basis which to them seemed satisfactory for the solution of the difficulty, and in a manner to protect both shippers and producers on either side of the line having business on the other. The report of each of these gentlemen was in the hands of their respective governments. If approved, a treaty would be made on the lines suggested in the report. The details of the report had not been given to the public, but an article in a U.S. publication contained an approximately correct statement of the report.

This suggests the appointment of a body of four, the Chief Commissioner and a member of the Board of Railway Commissioners for Canada, and the Chairman and a member of the Interstate Commerce Commission for the U.S., with powers corresponding to those dealing with interstate traffic in the U.S.

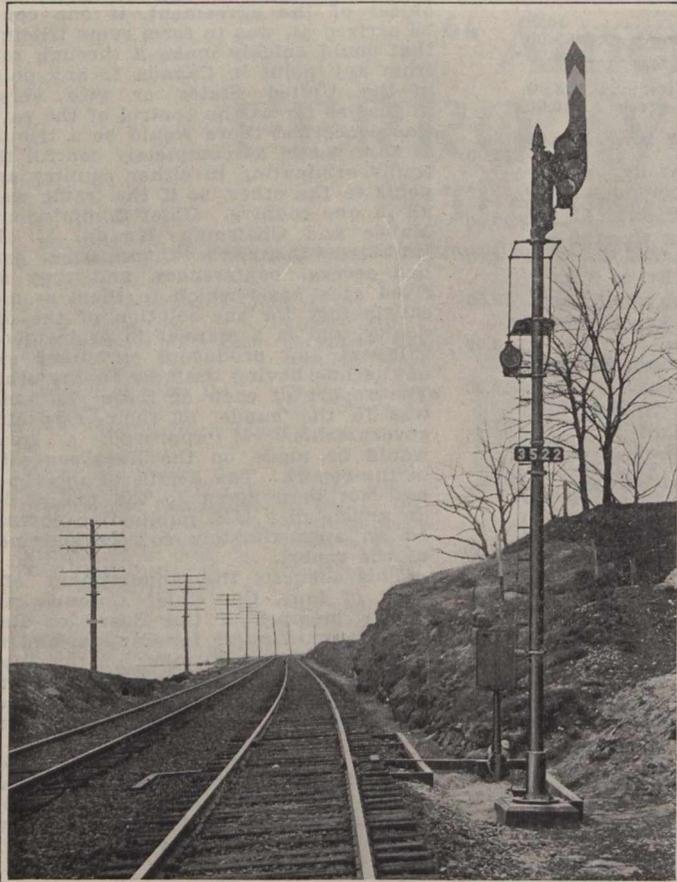
The matter was still under the consideration of the Canadian Government. As it would be dealt with in the form of a treaty, the usual custom and practice as to treaties would be followed in both countries.

Transportation Conventions, etc. in 1911.

- Mar. 14-15.—International Association of Ticket Agents, Norfolk, Va. Side trip to Havana, Cuba.
- Mar. 21, 22, 23.—American Railway Engineering and Maintenance of Way Association, Chicago, Ill.
- Mar. 30.—Eastern Association of Car Service Officers, Washington, D.C.
- April 26.—Association of American Railway Accounting Officers, New Orleans, La.
- May 15-18.—International Railway Fuel Association, Chattanooga, Tenn.
- May 19.—American Railway Association, at New York City.
- June 14-16.—American Railway Master Mechanics Association, Atlantic City, N.J.
- June 19.—Association of Railway Telegraph Superintendents, Boston, Mass.
- June 19-21.—Master Car Builders Association, Atlantic City, N.J.
- June 20.—American Association of Freight Agents, Kansas City, Mo.
- June 20.—Train Dispatchers Association of America, Baltimore, Md.
- June 20-21.—Association of Transportation and Car Accounting Officers, Cape May, N.J.
- June 21.—Freight Claims Association, St. Paul, Minn.
- June 22.—American Association of Demurrage Officers, Niagara Falls, N.Y.

Dominion Railway Subsidy Agreements—An agreement, under the Dominion act relating to granting aid to certain railways, was entered into Jan. 27 with the Kettle Valley Ry. in respect of the building of a line from Midway to a junction near Merritt, B.C., with the Nicola, Kamloops and Similkameen Ry., a distance not exceeding 250 miles.

Major H. Swinford, General Agent Northern Pacific Ry., Vancouver, B.C., and formerly acting in a similar capacity at Winnipeg, has been elected a Fellow of the Royal Geographical Society.



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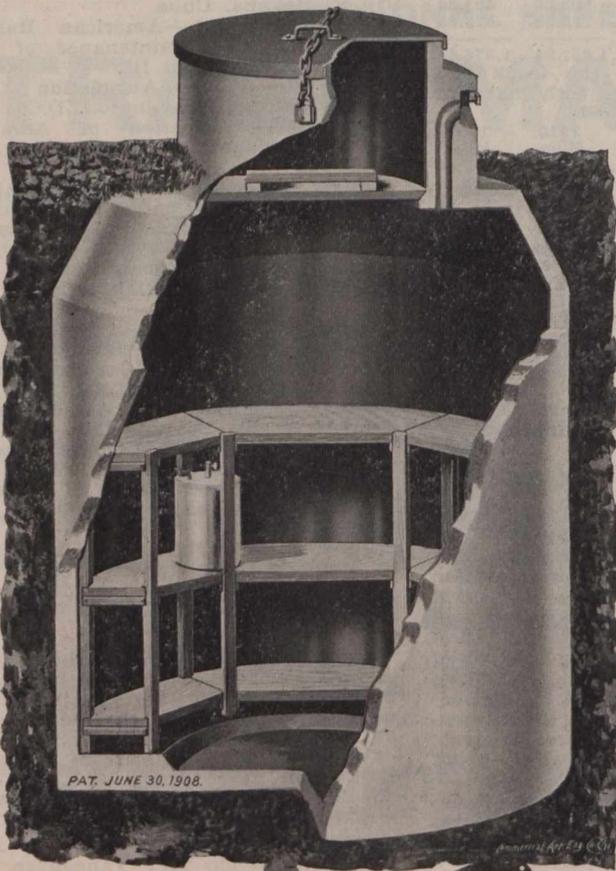
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Railway Rolling Stock Notes.

The Powell River Paper Co. has received one Columbia locomotive from the Montreal Locomotive Works.

McDonnell and O'Brien, railway contractors, Harvey Jct., Que., have ordered two mogul locomotives, with cylinders 19 by 26 ins.; driving wheels 50 ins. diam. and with total weight of 130,000 lbs., from the Montreal Locomotive Works.

The Intercolonial Ry., has ordered nine vans to be built at its Moncton shops, and has received six vans and one Kintsch gas car from its shops, and four first class passenger cars from the Preston Car and Coach Co., Preston, Ont.

The Intercolonial Ry. rolling stock, according to a statement made by the Minister of Railways, in the House of Commons, Feb. 16, consists of 397 locomotives, 454 passenger cars, and 12,491 freight cars, the first cost of which was \$19,049,837.93.

The C.P.R., from Jan. 1 to Feb. 13, received the following additions to rolling stock: four first class cars from its Angus shops, Montreal; one automobile car from the Canadian Car and Foundry Co., Montreal, and five G.2 and one G.1 locomotives from the Montreal Locomotive Works.

The Canadian Northern Ry., between Dec. 15 and Feb. 15, received the following additions to rolling stock: four snow plows, 125 box cars, from the Canadian Car and Foundry Co., Montreal; 150 box cars from the Crossen Car Manufacturing Co., Cobourg, Ont.; and three baggage and mail cars from the Preston Car and Coach Co., Preston, Ont.

The G.T.R., between Oct. 1 and Dec. 31, 1910, received the following additions to rolling stock: 398 steel under-frame box cars from the Canadian Car and Foundry Co., Montreal; three parlor-buffet cars from its Montreal shops; one snow plow from its London, Ont., shops, and 1,000 box cars and 500 automobile cars, built in the U.S., for the G.T. Western Ry. and affiliated lines.

The C.P.R., from Jan. 1 to Feb. 13, ordered the following rolling stock: 170 box cars, 10 flat cars, 12 stock cars, four freight refrigerator cars, eight vans, three second class cars, three flangers, one fruit and express car, one baggage and smoking coach, one snow plow and 11 D.10 locomotives from its Angus shops, Montreal, and four Hart ballast cars and two coal cars from the Canadian Car and Foundry Co., Montreal.

The Canadian Northern Ry., between Dec. 15 and Feb. 15, ordered the following rolling stock: 10 switching locomotives from the Canadian Locomotive Co., Kingston, Ont.; 250 steel under-frame flat cars, from the Canadian Car and Foundry Co., Montreal; five second class and baggage cars from the Preston Car and Coach Co., Preston, Ont.; 200 Hart convertible cars from the Hart-Otis Car Co., Montreal; 100 refrigerator cars, 200 stock cars; 15 cabooses from the Crossen Car Manufacturing Co., Cobourg, Ont., and 15 cabooses in the U.S., for the Duluth, Rainy River and Winnipeg Ry.

Triple-expansion locomotives and condensing locomotives have been suggested at various times, and have obtained public notice recently. The condensing locomotive came to light in the daily press in a reporter's account of a train being stopped near Chicago by the engine drawing up fish from a track tank. It was stated that on removing "the piston of the condenser" the latter was found to be packed with fish. Of more serious interest is the triple-expansion locomotive, which has recently been patented by S. M. Vauclain, of the Baldwin Locomotive Works. His design provided for an elongated locomotive of the Mallet type, having three (instead of

two) groups of drivers. These groups are driven by cylinders using high-pressure, intermediate and low-pressure steam, respectively.

Caviechi and Pegano, railway contractors, have ordered one 10-wheeled locomotive from the Montreal Locomotive Works. Following are the chief details:

Table with 2 columns: Item, Value. Includes: Weight in working order 109,000 lbs., weight on drivers 83,000 lbs., weight on engine truck 26,000 lbs., wheel base, driving 10 ft. 6 in., wheel base, engine 20 ft. 8 in., driving wheels, diam. 50 in., cylinders 18 in. by 24 in., boiler type Extended wagon top, boiler pressure 160 lbs., tubes, no. and diam. 198 2 in., tubes, length 12 ft. 3 in., brake Westinghouse American, capacity, water 5,000 U.S. gals.

E. F. and G. Fauquier, railway contractors, Ottawa, have ordered two 10-wheeled locomotives from the Montreal Locomotive Works. Following are the chief details:—

Table with 2 columns: Item, Value. Includes: Weight in working order 109,000 lbs., weight on drivers 83,000 lbs., weight on engine truck 26,000 lbs., wheel base, driving 10 ft. 6 in., wheel base, engine 20 ft. 8 in., driving wheels, diam. 50 in., cylinders 18 in. by 24 in., boiler type Extended wagon top, boiler pressure 160 lbs., tubes, no. and diam. 198 2 in., tubes, length 12 ft. 3 in., brake Westinghouse American, capacity, water 5,000 U.S. gals.

O'Brien, Fowler and O'Gorman, railway contractors, Ottawa, have ordered two mogul locomotives from the Montreal Locomotive Works. Following are the chief details:—

Table with 2 columns: Item, Value. Includes: Weight in working order 130,000 lbs., weight on drivers 113,000 lbs., weight on engine truck 17,000 lbs., wheel base, driving 12 ft. 6 in., wheel base, engine 20 ft. 6 1/2 in., driving wheels, diam. 50 in., cylinders 19 in. by 26 in., boiler type Extended wagon top, boiler pressure 180 lbs., tubes, no. and diam. 275 2 in., tubes, length 10 ft. 5 1/2 in., brake Westinghouse American, capacity, water 5,000 imp. gals.

O'Brien, Fowler and McDougall Bros., railway contractors, Ottawa, have ordered seven mogul locomotives from the Montreal Locomotive Works. Following are the chief details:—

Table with 2 columns: Item, Value. Includes: Weight in working order 130,000 lbs., weight on drivers 113,000 lbs., weight on engine truck 17,000 lbs., wheel base, driving 12 ft. 6 in., wheel base, engine 20 ft. 6 1/2 in., driving wheels, diam. 50 in., cylinders 19 by 26 in., boiler type Extended wagon top, boiler pressure 180 lbs., tubes, no. and diam. 275 2 in., tubes, length 10 ft. 5 1/2 in., brake Westinghouse American, capacity, water 5,000 imp. gals.

The Brompton Paper and Pulp Co. has ordered one Columbia type locomotive (2-4-2), of which the following are the chief details, from the Montreal Locomotive Works:—

Table with 2 columns: Item, Value. Includes: Weight in working order 79,000 lbs., weight on trailers 12,000 lbs., weight on drivers 59,000 lbs., weight on engine truck 8,000 lbs., weight of tender 79,000 lbs., wheel base, driving 7 ft. 0 in., wheel base, engine 22 ft. 6 in., driving wheels, diam. 44 in., cylinders 14 by 22 in., boiler type Straight top, boiler pressure 165 lbs., tubes, no. and diam. 106 2 in., tubes, length 11 ft. 8 in., capacity, water 1,200 U.S. gals.

Following are the chief details of the 10 ten-wheeled locomotives which the Algoma Central and Hudson Bay Ry. recently ordered from the Montreal Locomotive Works, as mentioned in our last issue:—

Table with 2 columns: Item, Value. Includes: Weight in working order 194,000 lbs., weight on drivers 168,000 lbs., weight on engine truck 26,000 lbs., weight of tender 130,000 lbs., wheel base, driving 15 ft. 10 in., wheel base, engine 24 ft. 4 1/2 in.

Table with 2 columns: Item, Value. Includes: Wheel base, engine and tender 56 ft. 6 in., driving wheels, diam. 56 in., valve gear Walschaert, Superheater Vaughan-Hersey, cylinders 22 1/2 by 28 in./Boiler, type Extended wagon top, boiler pressure 180 lbs., tubes, no. and diam. 240 2 in., 24 5 in., tubes, length 14 ft. 2 1/2 in., capacity, water 5,000 imp. gals.

Following are the chief details of the 12 compound consolidation locomotives which the G.T.R. is having built by the American Locomotive Co. at Dunkirk, N.Y., for use on its U.S. lines:—

Table with 2 columns: Item, Value. Includes: Cylinders 22 1/2 in. and 35 in. by 32 in., driving wheels .63 in., boiler pressure 210 lbs., tubes, no. and diam. 353 2 in., tubes, length 15 ft. 0 in., heating surface, tubes 2,757.1 sq. ft., heating surface, firebox 168.2 sq. ft., heating surface, total 2,925.3 sq. ft., grate area 50.62 sq. ft., boiler diam., front end .67 in., weight in working condition on truck 26,400 lbs., weight on first pair of drivers 48,350 lbs., weight on second pair of drivers 44,430 lbs., weight on third pair of drivers 48,720 lbs., weight on fourth pair of drivers 43,300 lbs., weight of engine total 211,200 lbs., weight on drivers, total 184,800 lbs., weight on front truck of tender 65,600 lbs., weight on back truck of tender 77,700 lbs., total weight of tender loaded 143,300 lbs., total weight of locomotive 354,500 lbs., wheel base, driving 17 ft. 0 in., wheel base, engine, total 25 ft. 9 in., wheel base, engine and tender 57 ft. 3 1/2 in., total length over all 67 ft. 6 1/2 in.

Following are the chief details of the six Pacific type locomotives which the G.T.R. is building at its Montreal shops, an illustration of which, with description, was given in our Oct., 1910, issue:—

Table with 2 columns: Item, Value. Includes: Weight on driving wheels 131,050 lbs., weight on truck, front 37,100 lbs., weight on truck, back 38,500 lbs., weight, total, engine 206,650 lbs., weight, total, engine and tender 345,000 lbs., wheel base, driving 13 ft. 4 in., wheel base, total, engine 33 ft. 2 in., wheel base, total, engine and tender 62 ft. 3 1/2 in., boiler, type Wagon top, boiler, diam. .66 in., boiler pressure 200 lbs., boiler, staying Radial, cylinders, diam. and stroke 22 in. by 28 in., valve Balanced slide, firebox 96 1/2 in. by 7 1/2 in., tubes, no. and diam. 305 2 in., tubes, length 20 ft. 7 in., heating surface, firebox 170 sq. ft., heating surface, tubes 3,274 sq. ft., heating surface, firebrick tubes 28 sq. ft., heating surface, total 3,472 sq. ft., grate area 50.62 sq. ft., driving wheels, diam. .73 in., journals 9 1/2 in. by 12 in., truck wheels, diam., front 31 in., journals 6 1/2 by 10 1/2, truck wheels, diam., back 49 in., journals 8 in. by 14 in., tender wheels, diam. 34 in., journals 5 1/2 in. by 10 in., capacity, water 7,000 gals., capacity, coal 10 tons.

Following are chief dimensions, etc., of the rolling stock, which the Intercolonial Ry. is building at its Moncton, N.B., shops, as mentioned in our last issue:—

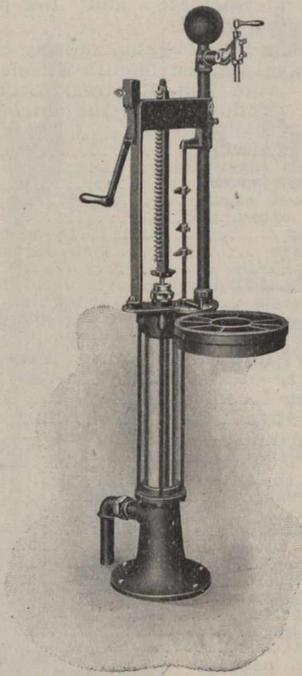
Table with 2 columns: Item, Value. Includes: Steel Frame Box Cars (50). Length over buffer blocks 38 ft. 1 1/2 in., width over all 9 ft. 3 1/2 in., length, inside 36 ft. 0 in., width inside 8 ft. 6 1/2 in., steel under frame Canadian Car & Foundry Co., capacity 60,000 lbs.

Table with 2 columns: Item, Value. Includes: Wood Box Cars (50). Length over end sills 36 ft. 9 5/8 in., width over side sills 9 ft. 0 5/8 in., length inside 36 ft. 0 in., width inside 8 ft. 6 in., height inside, floor to carline 8 ft. 0 in., door opening 6 ft. 0 in., truck centres 26 ft. 9 5/8 in., springs M.C.B. type G, journal boxes McCord, bolsters and brake beams Simplex, air brakes Westinghouse, capacity 60,000 lbs.

Table with 2 columns: Item, Value. Includes: Colonist Cars (3). Seating capacity 72, length over buffers 71 ft. 7 1/2 in., length over end sills 63 ft. 7 in., width over side sills 9 ft. 10 in., height top of sill to under side of plate 6 ft. 7 1/2 in., length inside sheathing at floor line 62 ft. 8 1/2 in.

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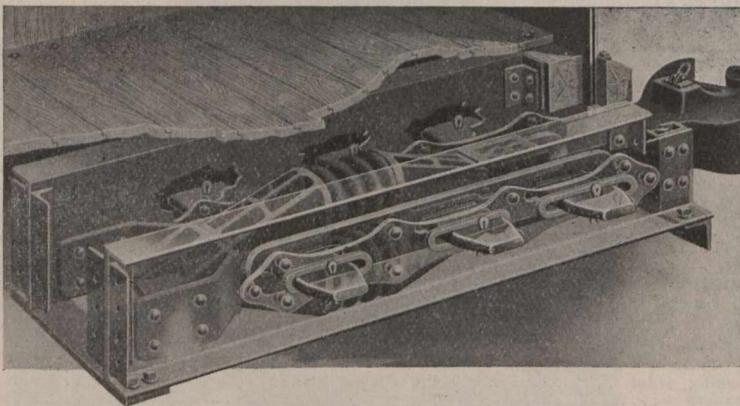
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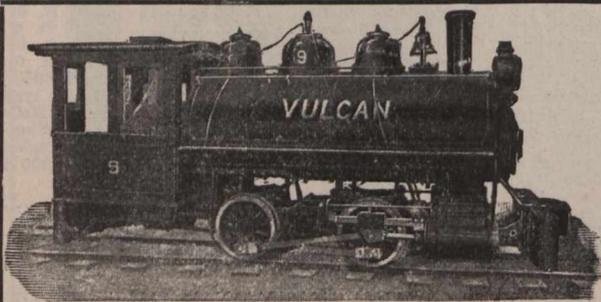
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TORONTO, CANADA, MARCH, 1911.

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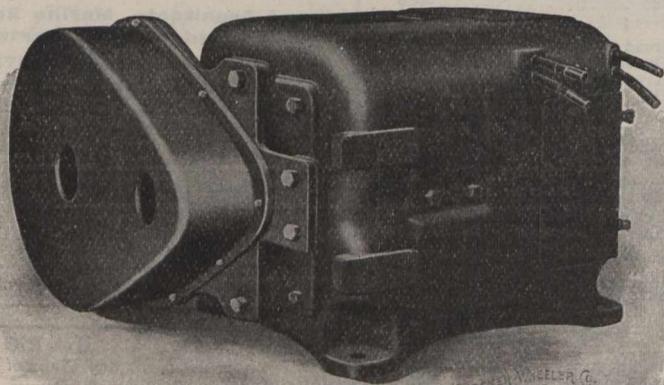
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Canadian Steel Foundries Limited.

The Canadian Steel Foundries, Ltd., which was recently incorporated under the Dominion Companies Act, has been formed to acquire the Montreal Steel Works, Ltd., at Montreal, and the Ontario Iron and Steel Co., Ltd., at Welland, Ont. It will have a capitalization of \$10,000,000, as follows: Bonds authorized, \$5,000,000, of which \$3,650,000 will be issued at present; preferred stock, \$2,000,000, of which \$1,400,000 will be issued at present, and common stock \$3,000,000, all of which will be issued. The Canadian Car and Foundry Co. will guarantee the Canadian Steel Foundries bonds, and will hold control of the latter's stock.

The Canadian Steel Foundries board has been elected as follows:—President, N. Curry; Vice President, W. W. Butler; Vice President and Managing Director, W. F. Angus; Vice President, K. W. Blackwell; Assistant Secretary-Treasurer, F. A. Skelton; other directors, A. H. Chave, W. W. Near and J. R. Wilson, Secretary and Treasurer, C. H. Godfrey. Messrs. Curry, Butler, Skelton and Chave especially represent the Canadian Car and Foundry Co.'s interests on the board. Messrs. Blackwell, Angus and Godfrey were President, Vice President and Managing Director and Vice President and Treasurer respectively of the Montreal Steel Works, of which J. R. Wilson was also a director. W. W. Near was President and Managing Director of the Ontario Iron and Steel Co.

It is expected that the Montreal Steel Works and the Ontario Iron and Steel properties will be taken over before the end of March. The building of the large steel plant at Longue Point, near Montreal, at a cost of about \$1,000,000 and with a capacity of 20,000 tons a year, for which a bond issue was made by the Montreal Steel Works in July, 1910, will be gone on with, and it is probable that some additions will be made to the Welland plant to improve it and increase its capacity. The changes and additions to the cast steel plants, when completed, will give an annual capacity of 42,000 tons steel castings, 35,000 tons rolling mill products, and 4,000 tons of railway springs and other specialties which the new company will manufacture.

The close alliance between the Canadian Car and Foundry Co. and the Canadian Steel Foundries will undoubtedly be of great advantage to both companies.

The Dominion Government has paid in cash subsidies to railways since Confederation, \$607,776,853.50.

The board of conciliation, consisting of Judge McGibbon, Brampton, Ont., representing the company, and T. J. W. Lee, Toronto, on behalf of the men, appointed to enquire into the differences between the C.P.R. and its employes in the west, has completed its investigation, and it is reported that decision, acceptable to both parties, has been reached.

C.P.R. Toronto Improvements.

The C.P.R. is engaged in working out an extensive plan of betterments and additions to its lines and yards in Toronto and vicinity, which will result in providing for the rapidly increasing business being done in that city. In the first place, it is said that an appropriation has been made for making a start this year on the building of a line from Bathurst, near Smiths Falls, to near Leaside Jct., and for a second track from that point into Toronto. This would give the company a double track line between Toronto and Montreal, except for the mileage between Leaside Jct. and Bathurst, between which points there would be two single track lines—the existing one via Peterboro, and the new one, which would take in Lake Shore points to Belleville, and then go north to Bathurst. On the west of the city a second track has been completed just beyond Islington, and a spur line has been completed from there to Mimico, over which traffic is taken direct into the West Toronto yards, instead of being carried around Parkdale, as formerly.

With regard to the work in Toronto, D. McNicoll, Vice President, was there Feb. 15 for the purpose of considering the various matters with the Mayor and the city council, and conferring with the board of trade. The works in contemplation in the different localities in the city are as follows:—

The construction of local freight yard and freight shed facilities in the neighborhood of Cherry St., near which the Canadian Northern Ry. is also going to lay out freight yards. In connection with this work the company is desirous of having authority from the city to close up certain streets and to lay tracks upon other streets. At North Toronto, where a new freight shed has already been built, it is proposed to build a new passenger station and to very materially increase the local freight facilities. A project for the separation of grades at Yonge St. and Avenue Road is to be carried out, the actual work on which is being held temporarily in abeyance at the request of the Board of Railway Commissioners.

A 15 or 16 story office building is to be erected at the corner of King and Yonge St., on the site of the present ticket office and two adjoining buildings on King St.

The proposal to lay out the Simcoe Street yard is the most extensive of these proposals, as it involves the construction of nine tracks across John St., and one track from Front St. and Spadina Ave., across a corner of Clarence Square, and the intersection of Peter and Wellington Streets, and the erection of a large warehouse fronting on King St., for freight and express purposes. The plans for yard extension have not been finally completed, but the general intention is to almost double the capacity of the present yard by extending it to Lambton. In connection with this extension it will be necessary to build the following subways: Runnymede Road (formerly Elizabeth St.), 56 ft. wide; Jane St., 32 ft. wide, and Scarlett Road, 30 ft. wide.

It is proposed in the spring to open up a local freight delivery yard at Bloor St., near its junction with Dundas St. On the water front in Toronto city proper it is proposed to build a freight storage building on the Hamilton wharf at the foot of George St., and it is hoped to make an arrangement with the city, and to obtain authority from the Board of Railway Commissioners to utilize the balance of certain properties between John, Lake, York streets, and the new Windmill Lane, for yard extension, which it is proposed to name the Simcoe St. yard.

The amount to be spent in buildings, extensions, improvements, etc., in Toronto by the company is estimated at \$6,000,000.

In explaining the company's plans to the Toronto Board of Trade, Mr. McNicoll exhibited a plan on which the various improvements were indicated. The central feature of the plan was a new Union Station. This work, with which the G.T.R. was associated, and the new yards on the site of the Government House, of which possession would not be obtained until 1912, could not be carried out immediately, but all the others could be completed in about a year. The plans for the union station, had been approved by the C.P.R. in 1907. Nothing had been done in the way of building that station. He was not saying why, but it was a fact that to the best of his belief there would not be a difference of 2 ft. in the levels whether a viaduct be built or not. The C.P.R. did not want a viaduct, because they believed that bridges would serve the needs equally as well, but if the Privy Council ordered the viaduct, the company would join in building it. It had been said that the bulk of the traffic from Toronto would be handled at the north end of the city, but he considered that the big travel would always go from the union station. The north end station would be convenient for those who live in the residential district lying north of College St. When the union station plans were originally prepared the cost of construction was estimated at \$2,125,000, but it would probably be \$3,000,000. Mr. McNicoll then went on to deal with the different works proposed to be done in the other parts of the city, referred to above.

We are advised that the freight car repair shop proposed to be erected at West Toronto will have a frontage on Keele St. of 105 ft., with a depth of 133 ft. The building will be of steel and brick, and is estimated to cost \$20,000. The old trestle bridge carrying the Weston Road over the tracks has been partially removed, and a good deal of building work is being gone on with in the cleared area.

Manitoulin and North Shore Ry. Contract.

The contract for the construction of the section from Crean Hill to Whitefish, about 46 miles, including the loop, tenders for which were recently invited through the Railway and Marine World's advertising columns, has been awarded to the Superior Construction Co., of which T. J. Kennedy, heretofore General Superintendent of the Algoma Central and Hudson Bay Railway is President, and J. D. McArthur, Winnipeg, Vice President. Considerable progress has been made in the preliminary work necessary for the organization under the contract and to get outfits on the ground, and the work will be pushed through as rapidly as possible. The Superior Construction Company has its head office at Sault Ste. Marie, Ont., but the operating head office, at which Mr. Kennedy is located, is at Espanola, Ont., where the M. & N.S.R. connects with the C.P.R.

The Minneapolis, St. Paul and Sault Ste. Marie Ry. is reported to have ordered 35 cabooses, and to be in the market for additional passenger equipment.

The Canadian Northern Ry. hotel at Port Arthur, Ont., which is to be known as the Prince Arthur Hotel will, it is announced, be opened early in March.

The powers given to the Quebec Public Utilities Commission, are to be extended, to include, among others, power to issue orders to ensure safety to the public as regards equipment and other appliances which may be in use, to include the use of fenders on street cars, brakes and other similar appliances.

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MAINLY ABOUT PEOPLE.

Sir Wm. Mackenzie sailed from Bristol on the s.s. Royal George on Feb. 22, for Halifax, N.S.

J. Conmee, M.P., railway contractor, Port Arthur, Ont., is suffering from typhoid fever at Ottawa.

Sir Felix Schuster, a prominent British banker, has been elected a director of the Grand Trunk Ry.

Col. the Hon. J. S. Hendrie has been elected Chairman of the Railway Committee of the Ontario Legislature.

Lord and Lady Mount Stephen were the guests of the King and Queen, for a week end, at Windsor Castle, recently.

Mrs. Thos. Ahearn, wife of the President of the Ottawa Electric Ry., left Ottawa early in February for a visit to California.

Jas. McNab, who died at Westmount, Que., recently, was a brother of W. McNab, Principal Assistant Engineer G.T.R., Montreal.

F. H. Phippen, General Counsel Canadian Northern Railway, has been elected a director of the Kaministikwia Power Co., Ltd.

Hugh A. Allan, of the Allan Line, who is now living in England, has sold his house and property at Pointe Claire, Montreal, for, it is said, \$90,000.

The marriage of Miss Louise Hays, daughter of C. M. Hays, President G.T.R. and G.T.P.R., to H. Grier, is announced to take place, Mar. 4.

J. S. Dennis, Manager Irrigation Department, Alberta and British Columbia Land Departments C.P.R., returned to Canada, Feb. 7, from Great Britain.

Earl Carpenter, who died at Chamboard Jet, Que., recently, was a brother of M. Carpenter, Roadmaster Quebec and Lake St. John Ry., Roberval, Que.

J. A. Randall, who is spoken of in press reports as promoter of the Sandwich, Windsor and Amherstburg Ry., died at Detroit, Mich., recently.

W. J. Johnston, who has been in the company's service for three or four years, has been appointed Superintendent Canadian Car and Foundry Co.'s Turcot plant, succeeding S. King, retired.

The engagement is announced of Miss Edna Phippen, daughter of F. H. Phippen, General Counsel Canadian Northern Ry., Toronto, to Dr. Clifford Gilmour, of Winnipeg.

Miss A. S. Leitch, second daughter of J. Leitch, K.C., chairman of the Ontario Railway and Municipal Board, is to be married in April to Dr. A. R. Tilly, of Ottawa.

A. R. Creelman, K.C., General Counsel and director C.P.R., Montreal, has announced the engagement of his daughter, Miss Isobel Creelman, to H. S. Ambrose.

N. Curry, President Canadian Car & Foundry Co., and Mrs. Curry sailed from New York Feb. 22, on the s.s. Cedric, for the Mediterranean, intending to be away about three months.

R. McEwen, General Baggage Agent Richelleu and Ontario Navigation Co., Montreal, died there, Feb. 6, from heart failure, aged 69. He had been in the company's service for 50 years.

The engagement is announced of Miss Alice Shaughnessy, eldest daughter of Sir Thos. G. Shaughnessy, to W. H. Beaucher, Manager Montreal and St. Lambert Development Co., Montreal.

Hon. G. P. Graham, Minister of Railways and Canals, has been re-elected President of the Travellers' Life Insurance Co., of Canada, with J. W. Pyke, of Montreal as Vice President.

Mrs. A. C. Price, eldest daughter of the late Wm. O'Brien, at one time in

G.T.R. service, and widow of the late W. E. Price, of the G.T.R. Audit Department, Montreal, died at Brooklyn, N.Y., Feb. 3.

Hon. J. Wood, President New Brunswick and Prince Edward Island Ry., Sackville, N.B., was stricken with paralysis at Ottawa, Feb. 15. At the time of writing his condition was considered to be serious.

C. Norman Ham, of the C.P.R. Freight Department, Montreal, son of G. H. Ham, of the C.P.R. headquarters staff, Montreal, was married at St. Thomas, Ont., Feb. 8, to Miss E. B. Benson.

A. J. McGee, Secretary Temiskaming and Northern Ontario Ry. Commission, returned to his duties Feb. 20, after an absence of a few days, owing to a sprained shoulder sustained by a fall on the slippery pavement.

James Kerr, M.D., who died at his country home at Warrenton, Va., Feb. 2, aged 62, practiced for a number of years in Winnipeg in the eighties, and was chief surgeon for the C.P.R. lines with headquarters there.

G. R. Fairhead, Commercial Agent C.N.R., Hamilton, Ont., who was married early in Feb. to Miss E. E. Jackson, was presented with a suite of dining room furniture, by a number of transportation officials at Toronto.

Sir William C. VanHorne is defendant in an action brought by the Attorney General to secure cancellation of a patent issued in 1899, in respect of 14 acres of land near East Selkirk, Man., on the ground that it was issued in error.

C. F. Rydberg, formerly General Foreman C.P.R. Angus shops, Montreal, and latterly with the Standard Car Works, Hammond, Ind., has been appointed Mechanical Superintendent of the Nova Scotia Car Works, Ltd., Halifax, successors to the Silliker Car Co.

W. Phillips, General Eastern Agent Canadian Northern Ry., and General Freight and Passenger Agent C.N.O.R., with Mrs. Phillips, left Toronto, Feb. 6, via New York, for a sea voyage to New Orleans, expecting to return early in March.

Sir William Mackenzie, was a guest of T. P. O'Connor, M.P., at the House of Commons, London, Eng., Feb. 9, when he was referred to as "an authentic specimen of the founders of a great new country, who knew no fear nor discouragement."

Miss Mabel Hay, daughter of the late Thos. Hay, C.P.R. Claims Agent, North Bay, Ont., who died as a result of the Spanish River accident, was married in Toronto, Feb. 18, to J. Kearns, Manager Bank of Commerce, College St. branch, Toronto.

F. P. Gutelius was recently entertained to dinner at North Bay, Ont., by the local officers of the C.P.R., and was presented with a silver service, a gold headed cane, a cheque, and an address, on his leaving North Bay for Montreal, where he has been appointed General Superintendent Eastern division C.P.R.

R. S. Richardson, formerly Assistant Superintendent Canadian Northern Ry., at Jollette, Que., has been appointed by McDonald & O'Brien as Superintendent of operation of the portion of the National Transcontinental Ry., of which they are contractors. His headquarters are at La Tuque, Que.

Benjamin Rogers, Vice President Charlottetown Steam Navigation Co., Charlottetown, P.E.I., died there, recently, aged 67. He was a native of Wales, but lived in Prince Edward Island since early boyhood, and was an outstanding figure in the public life of the Province for many years. He represented Charlottetown in the Legislature for two terms.

T. S. Bell, who died in Hamilton, Ont., Feb. 2, made surveys for the old Great Western Ry., and was assistant engineer of construction. He located the route of the Wellington, Grey and Bruce Ry. to Southampton, Ont., and was engaged in survey and construction work on other Ontario lines which now form part of the G.T.R. system.

J. L. Englehart, Chairman Temiskaming and Northern Ontario Ry. Commission, visited Petrolea, Ont., recently, to make the formal presentation to the town, of his former residence, which has been re-modelled and fitted as the Charlotte Eleanor Englehart Memorial Hospital, in memory of his late wife. The grounds occupy about 30 acres, and the building is valued at \$50,000.

Mrs. G. R. Joughins, wife of G. R. Joughins, Superintendent of Motive Power Intercolonial Ry., Moncton, N.B., died Jan. 26 at Dansville, N.Y., where she had been at a sanitarium for about a year, undergoing treatment. She leaves a son, who is taking a post graduate medical course in Paris, and one daughter, who is at home.

J. R. Gilhula, whose resignation of the position of Trainmaster Canadian Division Pere Marquette Rd., St. Thomas, Ont., was announced in our last issue, was entertained to dinner there recently by the local Knights of Pythias, and was presented with a cut glass punch bowl by a number of the local railway officials and employes, on his leaving to take up his new position as Superintendent Illinois Traction Co.

F. A. Nancekivell, who has been appointed General Agent Minneapolis, St. Paul and Sault Ste. Marie Ry., Toronto, was born at Woodstock, Ont., Mar. 1882, and entered railway service in 1902, in the G.T.R. Freight Department, Woodstock, Ont., and remained there until his appointment as Travelling Agent Great Northern Ry., Toronto, which position he held to the date of his present appointment.

Samuel King, who retired from the superintendency of the Canadian Car and Foundry Co.'s Turcot plant recently, was presented by the men with a handsome diamond ring, Mrs. King being given a solid oak and plate glass china cabinet. Mr. King has decided to take a year's holiday, after 35 years constant work, and will leave Montreal early in May with Mrs. King, to visit relatives and friends in England.

G. Cobb, whose appointment as Chief Dispatcher Reid Newfoundland Co., St. John's, Nfld., was announced in our last issue, was born at Coupar Angus, Scotland, Apr. 21, 1885, and entered Reid Newfoundland Co.'s service Nov. 14, 1901, since when he has been to Sept. 27, 1903, telegraph operator; Sept. 27, 1903 to May 31, 1905, agent at Gumbo; May 31, 1905 to May 20, 1908, night dispatcher at St. John's; May 20, 1908, to Nov. 11, 1910, emergency dispatcher and agent at Bishops Falls.

C. L. Williams, whose appointment as General Agent Passenger Department C.P.R., Pittsburgh, Pa., was announced in our last issue, was born in Suffolk, Eng., and came to Canada in 1881, returned to England in 1884, and again came to Canada in 1886, when he was appointed City Passenger Agent C.P.R., Chicago, Ill., which position he held to the date of his present appointment. Before leaving Chicago he was presented with a fitted travelling bag, by a number of local railway officials.

E. A. Evans, M. Can. Soc. C.E., who resigned his position as Chief Engineer, Quebec Railway, Light, Heat & Power Co. recently, has opened an office at 92 St. Peter St., Quebec, as a consulting engineer, taking in with him as an associate, S. S. Oliver, A.M. Can. Soc. C.E. and P.L.S., who was for many years in

A HISTORY OF THE PAY-AS-YOU-ENTER CAR AND ITS LESSON

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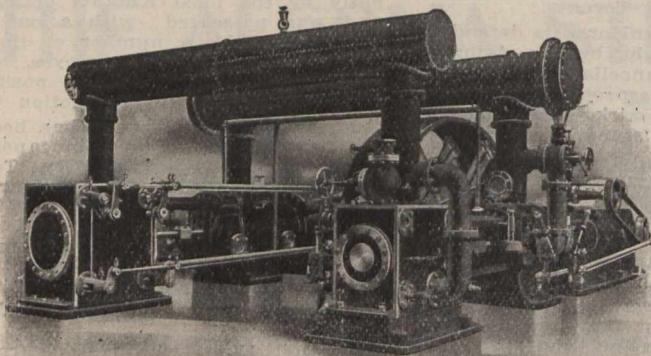
THE LESSON

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the Quebec and Lake St. John Ry. service. Mr. Evans has been retained as consulting engineer for the Quebec and Saguenay Ry., tenders for the construction of which have been invited.

G. H. Shaw, whose appointment as General Traffic Manager Canadian Northern Ry., Toronto, was announced in our last issue, was born at Smiths Falls, Ont., Nov. 25, 1859, and entered C.P.R. service, Aug. 1882. From Nov. 1885 to July, 1886, he was chief freight clerk Western and Pacific Divisions C.P.R., Winnipeg; July 1886 to 1898, chief freight and passenger clerk same divisions; 1898 to June, 1901, Assistant General Freight Agent Western Division C.P.R. Port Arthur to Canmore and Fernie, B.C.; June 1901 to Jan. 16, 1911, Traffic Manager Canadian Northern Ry., Winnipeg.

M. K. McQuarrie, whose appointment as Resident Engineer District 1 British Columbia Division C.P.R., Revelstoke, was announced in our last issue, was born at Sault Ste. Marie, Ont., Aug. 17, 1884, and entered C.P.R. service in 1905 as transitman in the Resident Engineer's office, Vancouver, B.C. He graduated from the School of Practical Science, Toronto University, in 1907, since when he has been, to 1909, transitman on Nicola-Penticton survey and in charge of revised location of portion of Nanaimo to Alberni extension, Esquimalt and Nanaimo Ry., and 1909 to the end of 1910, assistant engineer in Division Engineer's office, Vancouver, B.C.

W. A. Dube, Superintendent District 1, Intercolonial Ry., Levis, Que., whose portrait appears on the first page of this issue, was born at St. John's, Que., Apr. 21, 1864, and entered railway service in 1880, since when he has been, to 1884, in various minor positions in G.T.R. service; 1884 to 1887, dispatcher G.T.R., Montreal; 1887 to May 1, 1899, Chief Dispatcher G.T.R., Montreal; on May 1, 1899, he was appointed Superintendent Intercolonial Ry., which position he still holds. He is also a member of the Canadian Government Railways Provident Fund, having been appointed by the Minister of Railways, on the inauguration of the fund in Apr., 1907.

I. McMichael, Vice President and General Manager Great North Western Telegraph Co., died at Baltimore Md., Feb. 22, following an operation, early in the month. He was born at Brantford, Ont., in Jan. 1840, and entered Buffalo and Lake Huron Telegraph Co.'s service in 1856. In 1860, he entered the U.S. Military Telegraph Service, and served in Central Missouri, St. Louis, Little Rock and Fort Smith. From 1865 to 1903, he was with the Western Union Telegraph Co., and was Superintendent of the eighth central district, when he was appointed General Manager G.N.W. Telegraph Co., Toronto, of which company he was also appointed Vice President in 1904. His son, S. B. McMichael, is Assistant General Manager G.N.W. Telegraph Co., Toronto.

R. Creelman, who has been appointed General Passenger Agent Canadian Northern Ry., Winnipeg, entered railway service Sept., 1891, since when he has been to 1893, messenger City Freight Agent's office, G.T.R., Toronto; 1893 to 1897, ticket clerk G.T.R. city office, Toronto; 1897 to 1900, chief clerk District Passenger Agent's office, G.T.R., Toronto; Jan. 1, 1900, to Aug., 1901, in General Passenger Agent's office, C.P.R., Winnipeg; Aug., 1901, to Sept. 1, 1903, in Passenger Traffic Department, C.N.R., Winnipeg; Sept. 1, 1903, to July 1, 1906, City Ticket Agent, Northern Pacific Ry., Winnipeg; July 1, 1906, to July 1, 1909, Travelling Passenger Agent C.N.R., St. Paul, Minn.; July 1, to Oct., 1909, Commercial Agent, C.N.R., St. Paul, Minn.; Oct., 1909, to Mar. 1, 1911, Assistant

General Passenger Agent, C.N.R., Winnipeg.

R. McLennan, who died in Toronto Feb. 2, aged 88, was one of the oldest and best known railway construction engineers in Canada and the Southern States. His U.S. experience ended in 1864, and on his return to Canada he was engaged on lines now forming part of the Intercolonial Ry., and subsequently on survey work in British Columbia. In 1872 he was appointed engineer of Government railways between Port Arthur and Winnipeg, and afterwards was engineer of construction on the C.P.R. for the Lake Superior Division. He was later engaged in general consulting work, and retired from active work in 1886. His five sons, four of whom are now living, all followed the engineering profession.

H. M. Gain, whose appointment as Passenger Trainmaster Eastern Division G.T.R., Montreal, was announced in our last issue, was born at Lindsay, Ont., Mar. 21, 1879. He entered Canadian Express Co.'s service, Apr. 13, 1894, and was, to Oct. 1898, relieving agent, and messenger, Port Harvey to Portland, Me.; Oct. 1898 to Apr. 1899, in general and executive offices same company, Montreal; Apr., 1899, to June, 1904, messenger, Portland, Me., to Richmond, Que., same company; June to July, 1904, acting route agent same company, Montreal; July to Sept. 1904, assistant route agent, Quebec; Sept., 1904, to Feb., 1905, route agent same company, Montreal; Mar. 1905 to Mar. 1910, route agent same company, Richmond, Que.; Apr. to July 30, 1910, route agent same company, Montreal; July 31 1910, to Jan. 23, 1911, in G.T.R. passenger train service at Montreal.

S. A. Simpson, whose appointment as Superintendent Sleeping, Dining and Parlor Cars and News Service, Saskatchewan Division, C.P.R., at Moose Jaw, was announced in our last issue, was born at Toronto, Aug. 22, 1880. He entered railway service Oct. 24, 1898, since when he has been, to Sept. 26, 1901, in Motive Power and Traffic Departments G. T. R., Montreal; Sept. 26 to Dec. 1901, secretary to Second Vice President and General Manager, G.T.R., Montreal; Dec., 1901, to Dec. 1, 1904, secretary to Third Vice President G.T.R., Montreal; Dec. 1, 1904 to June 1, 1905, secretary to President Canada Car Co., Montreal; June 1, 1905, to Mar. 31, 1908, storekeeper Canada Car Co., Montreal; July 15, 1908 to May 1, 1909, in office of General Superintendent Sleeping, Dining and Parlor Cars and News Service, C.P.R., Montreal; May 1, to Sept. 1, 1909, chief clerk same department, at Winnipeg; Sept. 1, 1909 to Jan. 1, 1911, Assistant Superintendent same department, Winnipeg.

J. A. Clarke, Relieving Purchasing Agent C.P.R., Montreal, died Feb. 5 from paralysis, due to hemorrhage of the brain, caused by a fall on a slippery pavement at Ottawa, while attending the funeral of the late J. E. Schwitzer, Jan. 27. Though the result was anticipated, a strong desire was expressed that he be brought to Montreal, and D. McNicoll, Vice President C.P.R., sent his private car to Ottawa for the purpose, but on the arrival at Montreal it was found inadvisable to remove him from the car, and he died there soon after. He was born in New York State in 1848. He entered the C.P.R. Purchasing Department as an accountant, and was promoted from the position of Chief Accountant about two years ago, to that of Relieving Purchasing Agent. The first part of the funeral service was held at Montreal, Feb. 7, when the various C.P.R. departments were represented. E. N. Bender, General Purchasing Agent, issuing orders that the department's offices at Montreal, Winnipeg

and Vancouver be closed as a mark of respect. The interment took place at Peekskill, N.Y., when A. S. Maynard, Chief Commissary Agent C.P.R., Montreal, represented the Purchasing Department.

T. J. Kennedy has resigned the position of General Superintendent Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont., to become President of the Superior Construction Co., Sault Ste. Marie, Ont., which has been awarded the contract for the construction of a section of the Manitoulin and North Shore Ry. The operating head office of the company where he is located, is at Espanola, Ont. He entered railway service at chairman of the first survey for the C.P.R. east of Winnipeg in 1874, since when he has been consecutively June, 1877, assistant engineer contract 15, C.P.R.; May, 1880, engineer for Manning, Macdonald & Co., contractors section B, C.P.R., at Rat Portage; Oct., 1882, to spring of 1885, superintendent of construction for Manning, Macdonald & Co., on section B; June, 1885, roadmaster C.P.R. White River section; Aug., 1892, Superintendent Chappleau district C.P.R.; Sept., 1899, Superintendent North Bay district, C.P.R.; June, 1900, to date, General Superintendent Algoma Central and Hudson Bay Ry., and Manitoulin and North Shore Ry. From 1904, to Sept., 1910, he was also Manager International Transit Co., Trans-St. Mary's Traction Co., and the ferry line at Sault Ste. Marie Ont., and Mich.

Robert Kerr, who recently retired from the position of Passenger Traffic Manager C.P.R., was presented, at Montreal, Feb. 21, by Sir Thos. G. Shaughnessy, President, on behalf of the company's officials with a heavy silver tea and coffee service and tray, accompanied by a framed illuminated parchment, bearing the names of the chief officials of the company. In making the presentation, Sir Thomas said: "On behalf of your brother officials and mine, and as a sign of their esteem and the executive's keen appreciation of your services, it gives me much pleasure to present to you this token of our regard, you having been with the Canadian Pacific from its beginning—indeed, your railway connection in Canada somewhat antedates this company. You have seen the facilities of this company grow from twenty-five passenger cars to over seventeen hundred and your work has done much to fill these cars. You have seen our earnings grow from practically nothing to over \$100,000,000, the placing of our ships on both oceans, the growth of our lake and river service, and also our British Columbian coast service. You have assisted in, as it were, the creation of an empire, I doubt if any man ever retired from this service so universally esteemed by all his colleagues, and we wish you, in your retirement, that peace and happiness which we hope may be yours to long enjoy."

J. S. Dennis, Manager Irrigation Department, Alberta and British Columbia Land Departments C.P.R., Calgary, Alta., whose appointment was announced in our last issue, has been intimately connected with land development in the west since the age of 16, when he was engaged in Government survey work in Manitoba. In 1878 he took charge of a special survey party in the province, and a year later entered the Hudson's Bay Co.'s service when its land department was organized by the late C. J. Brydges. In 1885, during the Riel rebellion, he formed an intelligence corps of surveyors and pioneers, and at the end of the rebellion he retired with the rank of Major of the Canadian Militia. Resuming his connection with Government surveys, he was, in 1887, appointed Chief Inspector of Surveys, and in 1894 was commissioned to visit the

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U.S. irrigated districts to secure information for use in Canada. In 1897 he was appointed Deputy Commissioner of Public Works for the North West Territories. In addition to supervising the Government irrigation development in the west, and on the transfer of that work to the Public Works Department, he took entire charge of the western irrigation surveys. On the inclusion of a large portion of these Government lands in the land grants to the C.P.R., in 1903, he became Superintendent of Irrigation and Land Commissioner for British Columbia for that company, and subsequently also Assistant to the Secretary and Vice President, and later Assistant to Vice President Whyte, and in addition, had charge, for some time, of the company's water supply for locomotives west of Winnipeg. He was appointed to his present position Dec. 1, 1910. He is also President Canadian Pacific Irrigation Colonization Co., and has been a member of the Canadian Society of Civil Engineers since 1901.

Railway Development.

The following matter was too late to be included with the other matter under this heading on pages 205 to 209.

Alberta Ry and Irrigation Co.—Further reference to this legislation will be found under the head of Railway Development, on another page. The House of Commons, Feb. 10, amended sub-sec. 3 of sec. 1, to which objection had been taken, by substituting Cardston for Spring Coulee, and by adding the words "at or near Pincher Creek," so that the section as amended now reads: "From a point between Cardston and Mountain View, westerly at in or near the town of Pincher Creek to a point on the line of the C.P.R."

British Columbia and Alaska Ry.—L. M. Rice, is quoted as having stated in Vancouver, Feb. 9, that survey parties will be put in the field at an early date to complete the surveys started last summer from Lytton to the Alaskan border. No instructions had been given for making surveys for the projected line from Lytton to Vancouver. (Feb. pg. 109.) Further reference to this project is made under the head of Railway Development on another page.

The Burrard Inlet Tunnel and Bridge Co.'s projected railway will connect up the north arm of the Fraser river with Burrard Inlet, crossing the inlet at the second Narrows by a bridge, thence east-erly along the shore line to Deep Cove, and westerly along the shore line to Horse Shoe Bay, with a tunnel under the first narrows which will give connection for the west end to the north shore. The line will be owned and controlled by the municipalities adjoining Burrard Inlet. The bridge proposed is a single deck one, 55 ft. above high water mark, high enough not to impede ordinary navigation, with a bascule opening large enough to enable the biggest vessels to pass in safety. The bridge will be of sufficient width to accommodate a single railway track, a double tramway track, two wagon roadways and sidewalks for pedestrians. The estimated cost of the bridge is \$1,250,000. Test holes for the foundation of the bridge piers are now being sunk, and as soon as the engineers are in a position to advise the directors, tenders will be called for the erection of the substructure. (Feb., pg. 109.)

Canada and Gulf Terminal Ry.—The surveys which have been in progress during the winter between Matane and Gaspé Basin, Que., are reported to have been very successful, a route having been gone over, which will assure a maximum gradient of 0.6%. L. E. Rowley, who has been acting chief engineer has been in charge of the work and is

reported to have been appointed Chief Engineer. (Feb., pg. 109.)

Canadian North Eastern Ry.—The British Columbia Legislature is being asked to change the name of the Portland Canal Short Line Ry. to that of the Canadian North Eastern Ry., and authorize it to extend its line along Bear River easterly to the eastern boundary of the province at the Peace River on the Pine River pass, with a branch down the Naas River valley to the Pacific coast; and following additional lines: From near Stewart Lake to a junction with the G. T. Pacific Ry., and from some convenient point to the northern boundary of the province. (See Portland Canal Short Line Ry., Feb., pg. 155.)

Charlton to Elk Lake.—Referring to the matter under this subhead in the Railway Development department on another page. The Ontario Minister of Public Works replying to the delegation said the proposition was a straight mining one and not for colonization purposes. If figures could be provided showing that there would be enough ore shipped over the line to make it pay, the Government would consider the proposition and if it was decided not to build the branch would agree not to parallel any private line built to serve the territory.

Crows Nest and Northern Ry.—The British Columbia Legislature is being asked to extend the time for construction for a further three years. (April, 1909, pg. 247, and Jan., 1909, pg. 17.)

Dominion Development Ry.—The provisional directors named in the bill now before Parliament for the incorporation of a company with this title are: O. O. Howard, New York; J. G. Kent, W. D. Balfour, R. R. Hart, Toronto; T. A. Burgess, Ottawa. See also under Railway Development on another page.

Kamouraska and L'Islet Ry.—The following are the provisional directors of the company with this title, for the incorporation of which the Quebec Legislature is being asked: G. Michaud, J. A. Loney, C. Kidd, G. Hudon, Ste Anne de la Pocataire, Que.; F. Belanger, St. Damase, Que.; F. Soucy, St. Antonin, Que.; A. Stein, Fraserville, Que. (Feb., pg. 111.)

Kettle Valley Lines.—A site of over 50 acres is reported to have been purchased at Penticton, B.C., or divisional yards, and station. A spur line of about a mile is to be built from the yards to the lake, where a wharf will be erected. See also under Railway Development on another page. (Feb., pg. 111.)

A contract has been entered into between the Kettle Valley Ry. and the Dominion Government, under the act granting aid to certain railways, under which the company will build about 250 miles from Midway, to a junction with the Nicola, Kamloops and Similkameen Ry., near Merritt, B.C.

Mid-Provincial and Nechaco Ry.—Application is being made to the British Columbia Legislature to incorporate a company with this title to build a railway, to be operated by steam, electricity, or other power, from the mouth of the Salmon River on Dean Channel, or Bella Coola, or some intermediate point, on the western boundary line of B. C. to Sigutta Lake, on to Kwalcho Lake, Entiac Lake, Natalkuz Lake and Fraser Lake, thence easterly through Pine Pass to the eastern boundary of the province at Peace River. The provisional directors are: A. C. Forsberg-Hamilton, Vancouver; C. H. Lugin, H. M. Leonard, E. B. Shaw, F. E. Reid, Victoria. (See Salmon River to Peace River, Jan., pg. 23.)

Naas and Peace River Ry.—The provisional directors named in the bill now under consideration by the British Columbia Legislature for the incorporation of a company with this title, having

power to build the lines already mentioned are J. D. Hunter, W. E. Olliver, C. E. Thomas, Victoria, B.C. (Feb., pg. 113.)

Naas and Skeena Rivers Ry.—The British Columbia Legislature is being asked to incorporate a company with this title to build a railway from Portland Inlet to the headwaters of the Skeena River, with extension lines from Nasoga Gulf or Naas Bay on Portland Inlet, to Ayance; from Ayance along the Naas and the Blackwater rivers to the outlet of Blackwater Lake; from the outlet of Blackwater Lake to the west fork of the Skeena River, and another line thence along the west fork of the Skeena River to the headwaters of the same river. The provisional directors are: G. H. Barnard, H. B. Robertson, Victoria; R. C. Johnson, Vancouver, B.C.; L. Benoit, Winnipeg, Man.; J. G. Scott, J. T. Ross, L. P. Pelletier, K.C.; J. A. Choquette, G. Le Moine, Hon. N. Garneau, A. E. Doucet, A. Gauvreau, O. E. Gauvreau, A. Hardy, J. E. Dube, C. E. Taschereau, H. Doheny, G. Proteau, Quebec; B. Newgrass, London, Eng. (Feb., pg. 115.)

New York Central and Hudson River Rd.—In order to construct a second track between Niagara Falls and Rochester, N.Y., the company has acquired the necessary extra width for its right of way.

Northern Vancouver Island Ry.—Application is being made to the British Columbia Legislature to incorporate a company with this title, to build a railway from Hardy Bay or Port McNeill, on the east coast of Vancouver Island to Cool Harbor, on the west arm of Quatsino Sound, or to Rupert Arm on Quatsino Sound. The provisional directors are: J. H. McGregor, W. B. Garrard and H. B. Robertson, Victoria, B.C. (See Hardy Bay to Quatsino Sound, (Dec., 1910, pg. 1013.)

Ontario Railways Co.—Application is being made to the Dominion Parliament to incorporate a company with this title to build a railway from Sarnia via Chatham, to Windsor, Ont. with a branch line to Brigiden, Ont. Authority is also being asked to operate car ferries across the Detroit and St. Clair rivers. Pringle and Guthrie, Ottawa, are solicitors for applicants.

Quebec Eastern Ry.—The Quebec Legislature is being asked to extend the time for the construction of the projected line to 1918, and to authorize an increase of the capital stock from \$1,000,000 to \$5,000,000. (Oct., 1909, pg. 745.)

Richmond, Magog and Stanstead Ry.—The provisional directors named in the bill before the Quebec Legislature for the incorporation of a company with this title are: A. H. Eastis, Boston, Mass.; A. C. Bissell, R. H. Fletcher, H. B. Fletcher, Sherbrooke, Que.; M. G. Crombie, Melbourne, Que.; C. B. Hibbert, Iberville, Que.; G. W. Cook, Montreal. (Feb., pg. 113.)

Vancouver North to Grouse Mountain.—Two bills are under consideration by the British Columbia Legislature asking for the incorporation of companies to build a railway to Grouse Mountain. One is by the Grouse Mountain Scenic Ry., of which the provisional directors are C. S. Gzowski, C. H. Allen, G. M. Gibb, W. E. Graveley, J. A. Macdonald, Vancouver. This company desires power to build a railway to be operated by steam, electricity, or other motive power from North Vancouver, to the summit of Grouse Mountain. The other company is the Grouse Mountain Scenic Incline Ry., the provisional directors of which are W. J. McGuigan, L. C. Miles, Vancouver. This company is asking for power to build a railway of standard or any gauge from lot 589, group 1, to lot 1526 group 1, New Westminster district. (Dec., 1910, pg. 1017.)

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Intercolonial Railway of Canada

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INTERCOLONIAL

TRANSPORTATION APPOINTMENTS.

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

Algoma Central and Hudson Bay Ry.—Consequent on the resignation of T. J. Kennedy, General Superintendent, G. A. Montgomery, Superintendent Michipicoten Division, has been moved from Michipicoten Harbor, to Sault Ste. Marie, Ont. to take up the duties of the A.C. & H.B.R. and other work.

Canadian Northern Ry.—R. Creelman, heretofore Assistant General Passenger Agent, has been appointed General Passenger Agent, Office, Winnipeg.

Osborne Scott, heretofore chief rate clerk Passenger Department, Winnipeg, has been appointed Assistant General Passenger Agent, vice R. Creelman, promoted. Office, Winnipeg.

W. Pratt has been appointed Superintendent of Sleeping and Dining Cars and Hotels. Office, Winnipeg. This is an extension of his previous duties, to include the hotels.

Canadian Northern Steamships, Ltd.—Wm. Phillips, heretofore Acting Traffic Manager, has been appointed General Freight and Passenger Agent. He also continues as General Eastern Agent C.N.R., and General Freight and Passenger Agent C.N.O.R. Office, Toronto.

Canadian Pacific Ry.—Pending an appointment in consequence of the death of J. E. Schwitzer, Chief Engineer, and the appointment of J. G. Sullivan, heretofore Assistant Chief Engineer Eastern Lines, as Assistant Chief Engineer Western Lines, at Winnipeg, J.M.R. Fairbairn Engineer Maintenance of Way Eastern Lines is acting as Assistant Chief Engineer Eastern Lines. Office, Montreal.

T. A. Martin, heretofore in charge of C.P.R. Montreal wharf, has been appointed agent at Place Viger station, Montreal, vice W. P. Martin, transferred to Vancouver.

R. W. McCormick, heretofore Assistant Superintendent District 4, Eastern Division, Ottawa, Ont., has been appointed Assistant Superintendent District 1, Eastern Division, vice J. H. Sheldon, transferred. Office, Farnham, Que.

T. Collins, Assistant Superintendent District 2, Eastern Division, has also been appointed Assistant Superintendent District 4, Eastern Division, as reported in our last issue. Office, Smiths Falls, Ont.

Jno Burns, heretofore District Master Mechanic District 1, Lake Superior Division, North Bay, Ont., has been appointed District Master Mechanic District 2, Ontario Division, London, Ont., vice L. G. Roblin, transferred.

L. G. Roblin, heretofore District Master Mechanic District 2, Ontario Division, London, Ont., has been appointed District Master Mechanic District 1 Lake Superior Division, North Bay, Ont., vice Jno. Burns, transferred.

W. R. Dunsmore, heretofore conductor, has been appointed acting Trainmaster District 1, Manitoba Division, Kenora, Ont., vice H. J. Coffin, appointed acting Superintendent at Saskatoon, Sask., during the absence on leave of E. L. Chudleigh.

J. G. Sullivan, heretofore Assistant Chief Engineer Eastern Lines, Montreal, has been appointed Assistant Chief Engineer Western Lines. Office, Winnipeg.

J. Manson has been appointed Assistant to the Vice President. Office, Winnipeg.

H. J. Pickersgill, heretofore Paymaster at Winnipeg, has been appointed Assistant Local Treasurer there, vice J. H. Carter, transferred to Calgary, Alta.

J. Kennedy, heretofore Trainmaster at Cranbrook, B.C., has been appointed Paymaster at Winnipeg, vice H. J. Pickersgill, promoted.

P. J. Cullin, heretofore chief clerk in City Ticket Office, Montreal, has been appointed Travelling Passenger Agent, Brandon, Man., vice A. L. Powell, promoted.

J. H. Carter, heretofore Assistant Local Treasurer, Winnipeg, has been appointed Paymaster at Calgary, Alta., vice T. Fawcett, appointed General Fuel Agent, Western Lines.

W. B. Steeves, heretofore Locomotive Foreman at Rogers Pass, B.C., has been appointed Locomotive Foreman at Field, B.C., vice H. A. Keswick, transferred.

T. Cassidy has been appointed Locomotive Foreman at Rogers Pass, B.C., vice W. B. Steeves, transferred.

H. A. Keswick, heretofore Locomotive Foreman at Field, B.C., has been appointed Shop Foreman at Kamloops, B.C., vice J. C. Reed, resigned.

N. P. Smith has been appointed Assistant Engineer in charge of Vancouver Terminals.

W. P. Martin, heretofore agent at Place Viger station, Montreal, has been appointed wharf agent at Vancouver, B.C., vice J. McCreery, transferred.

A. L. Powell, heretofore Travelling Passenger Agent, Brandon, Man., has been appointed city Freight and Passenger Agent, Washington, D.C., vice E. P. Allen, superannuated.

O. M. Duckett, heretofore in the office of the Holland American Line, Paris, France, is reported to have been appointed Passenger Agent, C.P.R. there.

Central Vermont Ry.—In consequence of the continued illness of C. F. Soule, Superintendent, St. Albans, Vt., the following appointments are reported: J. Keefe, Trainmaster Northern Division, St. Albans, to be acting Superintendent; S. E. McKenney, Terminal Trainmaster, St. Albans, to be acting Trainmaster Northern Division, and G. Prentice to be acting Terminal Trainmaster at St. Albans.

Grand Trunk Pacific Ry.—H. Saunders, car foreman, has been transferred from Edmonton to Wainwright, Alta.

W. Silverwood, car foreman, has been transferred from Wainwright to Edmonton, Alta.

Grand Trunk Ry.—J. H. Guess, has been appointed Assistant General Purchasing Agent, Office, Montreal.

H. G. Elliott, heretofore First Assistant General Passenger Agent at Chicago, Ill., has been appointed General Passenger Agent, vice G. W. Vaux, resigned on account of ill health. Office, Montreal.

B. A. Rose, heretofore clerk in the City Passenger and Ticket Agent's office, Peterboro, Ont., has been appointed City Passenger and Ticket Agent there, vice W. Bunton, deceased.

A. E. Duff, heretofore District Passenger Agent G.T. Pacific Ry., Winnipeg, has been appointed District Passenger Agent G.T.R., Toronto, vice J. D. McDonald, promoted.

J. R. Leckie, heretofore Locomotive Foreman, Palmerston, Ont., has been appointed Locomotive Foreman, London, Ont., vice J. Hay, transferred.

J. A. Walton, heretofore leading hand at Lindsay, Ont., has been appointed Locomotive Foreman Palmerston, Ont., vice J. R. Leckie, transferred.

J. Hay, heretofore Locomotive Foreman, London, Ont., has been appointed Locomotive Foreman at Sarnia Tunnel, vice W. H. Towner, resigned.

J. D. McDonald, heretofore District Passenger Agent, Toronto, has been appointed Assistant General Passenger Agent at Chicago, Ill., succeeding H. G. Elliott, promoted.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—F. A. Nancekivell, heretofore Travelling Agent Great Northern Ry., Toronto, has been appointed General Agent M., St. P & S. S. M. R., Toronto.

R. G. McCraw, heretofore travelling

from the Detroit office, has been transferred to Toronto.

New York Central and Hudson River Rd.—W. P. Carroll has been appointed Master Mechanic Rochester Division, vice F. M. Steele, resigned. Office, Rochester, N.Y.

Northern Pacific Rd.—W. E. Belcher, heretofore Travelling Freight Agent with headquarters at Detroit, Mich., has retired from the company's service.

Pere Marquette Rd.—T. Ensel, heretofore Superintendent Grand Rapids District, has been appointed Superintendent Telegraphs, vice W. K. Tasker. Office, Detroit, Mich.

F. P. Little has been appointed Chief Train Dispatcher Grand Rapids Division, Detroit, Mich., vice R. S. Black, appointed Trainmaster Buffalo Division, St. Thomas Ont., as reported in our last issue.

Connections between Dominion and Ontario Railways.

The following bill has been introduced in the Ontario Legislature by Col. the Hon. J. S. Hendrie:—

1. Sec. 98 of the Ontario Railway Act, 1906, is amended by adding thereto the following subsections:

(8) Where the lines or tracks of any railway, the construction or operation of which is authorized by the Legislature of the province of Ontario, are intersected by those of a railway, the construction or operation of which is authorized by the Parliament of Canada, or in any case in which the tracks or lines of any two such railways run through or into the same city, town or village, and it is desired by one of such companies or by any municipal corporation or other public body, or any person or persons interested, that the lines or tracks of such railways should be connected, so as to admit of the safe and convenient transfer of engines and trains from the tracks or lines of one railway to those of another, and for the reasonable receiving, forwarding, delivery, and interswitching of traffic between the said railways, the following proceedings may be had and taken:—

(a) Either of such companies, or any municipal corporation or other public body, or any person or persons interested, may file with the Secretary of the Board, or with the Secretary of the Board of Railway Commissioners for Canada, an application for an order that such connection should be required to be made, together with evidence of service of such application upon the railway company, or companies, interested or affected, and where the application is not made by the municipality upon the head of the municipal corporation within which the proposed connection is situated.

(b) After the receipt of the said application, the Board, and the Board of Railway Commissioners for Canada, may, by joint session or conference, in conformity with the practice to be established by them, hear and determine the said application, and may order that the lines and tracks of such railways shall be so connected at or near the point of intersection, or at or near such city, town or village, upon such terms and conditions and subject to such plans as they may deem proper.

(c) The Chairman of the Board, and the Chairman of the Board of Railway Commissioners for Canada, may make rules of procedure and practice covering the making of such applications and the hearing and disposition thereof, and may vary, alter or rescind the same from time to time.

(d) The Chairman of the Board, and the Chairman of the Board of Railway Commissioners for Canada, may from

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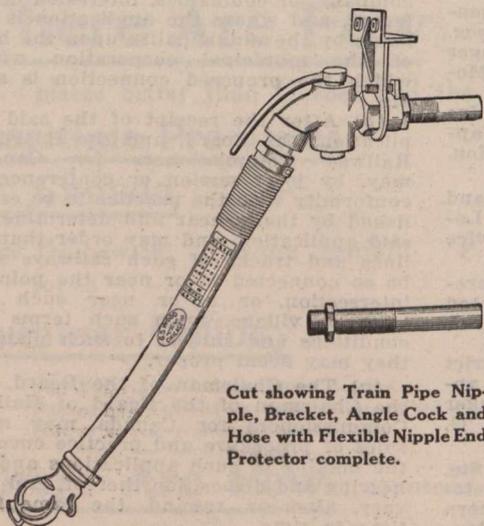
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time to time assign or appoint from each Board the members comprising the joint Board that may be required to sit for the hearing and determining of such applications, as they arise

(e) Any order aforesaid may be made a rule of the Exchequer Court of Canada, and shall be enforced in like manner as any rule, order, or decree of such court.

9. The word "railway" shall in the next preceding subsection include any steam or electric street railway or tramway.

Telegraph and Cable Matters.

The British Postmaster General recently stated in London, Eng., that he would give early attention to the question of reduced press cable rates.

J. Townsley, who recently retired from the position of Superintendent of Construction Eastern Lines C.P.R. Telegraphs, Montreal, has been presented with a fur lined coat by the linemen of the division, and a gold headed ebony cane by the officers of the system.

The Ontario Court of Appeal, Feb. 14, quashed the recent conviction by a Toronto magistrate of G. Hogarth, Local Manager G.N.W. Telegraph Co., Toronto, for transmitting racing information, and in doing so stated that the evidence was entirely insufficient to prove the case.

The board of conciliation, consisting of Judge Barron, Stratford, Ont., chairman; J. Gilmour, Brockville, Ont., on behalf of the Government Railways Managing Board, and J. G. O' Donoghue, representing the operators appointed some time ago, to enquire into the complaints of the Intercolonial Ry. telegraphers, concluded the enquiry Feb. 16. It is stated that the finding was unanimous, and that a small increase has been recommended in the report which has been forwarded to Ottawa.

At the annual meeting of the Anglo-American Telegraph Co., in London, Eng., Feb. 3, F. A. Bevan, who presided, is reported to have said that there were difficulties in the way of concluding a provisional agreement with the Western Union Telegraph Co., but that the directors hoped soon to surmount them. He was not sure that the company would remain a distinct one, but he gave assurance that no agreement would be carried out without the consent of the shareholders.

Press reports from Winnipeg state that B. S. Jenkins, General Superintendent C.P.R. Telegraphs, has announced that during the current year, an alternative telegraph line will be erected, between the West and Toronto, via Minneapolis, Sault Ste. Marie, and also via Sudbury, entirely independent, and controlled by the C.P.R. alone, that a direct wire between Vancouver and Chicago, and Winnipeg, will also be undertaken, and that additional wires will be provided east to Fort William and Port Arthur, west to Regina, and locally throughout the various provinces.

H. E. Vantelet, Chairman and Chief Engineer of the Commission of Enquiry appointed for the reconstruction of the Quebec Bridge, has resigned. His health is alleged to be the cause.

P. J. Cullin, who has been appointed Travelling Passenger Agent C.P.R., Brandon, Man., was born in Montreal, Mar. 18, 1873, and entered C.P.R. service July 16, 1889, since when he has been, to 1891, in Car Accountant's office, Montreal; 1891 to 1893, in District Passenger Agent's office, Montreal; 1893 to 1895, in City Ticket Office, Montreal, where he remained to the date of his present appointment.

Grain Elevator Notes.

The Goose Lake Grain Co. and the Goose Lake Milling Co. intend to build an elevator each at Brock, Sask.

The damage caused by the recent fire in the Maple Leaf Milling Co.'s elevator at Brandon, Man., is stated as \$25,000.

The Pincher Creek Mill and Elevator Co., Ltd., Alta., has increased its capital stock from \$35,000 to \$100,000, by the issue of 650 shares of \$100 each.

It is reported that an elevator will be erected on the Temiskaming and Northern Ontario Ry. at New Liskeard, Ont., in connection with Salmon's grist mill.

The town of Battleford has been authorized by the Saskatchewan Legislature to borrow \$40,000 for the purpose of operating the flour mill or mills, and elevator or elevators now or at any time hereafter owned by it.

The Ogdensburg Terminal Co., Ogdensburg, N.Y., has given a contract for the construction of a 500,000 bushel reinforced concrete grain elevator at Ogdensburg, N.Y., to John S. Metcalf Co., Chicago and Montreal, who have prepared the drawings and specifications therefor. It will have a receiving capacity from boats of 18,000 bush. an hour maximum, a shipping capacity of 60 cars in 10 hours, and the approximate cost will be \$200,000.

Following on the report of the Saskatchewan Elevator Commission, details of which we gave in our Dec., 1910, issue, the Saskatchewan Premier introduced a bill into the Legislature, Feb. 2, to incorporate the Grain Growers Elevator Co. of Saskatchewan, designed to give effect to the Commission's recommendations, and to provide a solution for the international elevator problem in the province. Under the provisions of the bill the Government is authorized to advance to the company loans not to exceed 85% of the cost of each elevator purchased or built by the company, and to make a cash grant to cover the expense of the company's organization, and also to local bodies of shareholders who support an elevator at any point in the province.

The recent case of the Barnett and McQueen Co. against the Canadian Stewart Co. for infringement of patents for a plurality of cylindrical grain bins, forming a monolithic structure, and having their adjacent peripheral portions rigidly connected, and forming supplemental storage bins in the intervening space, vertical webs extending through adjacent supplemental bins to form leg passages in combination with bifurcated elevator legs, extending from below said bins to adjacent leg passages, and for an accounting of elevator contracts recently completed at Fort William, Ont., for the G.T.P. Elevator Co., and the Consolidated Elevator Co., was dismissed in the Exchequer Court, the judge holding that in the case under consideration there was not sufficient invention to validate a patent, and even if the patent were valid, that the defendants' construction did not constitute an infringement.

The Dominion Government's Grain Commission Bill was read a first time in the Senate, Feb. 7. It provides for the appointment of an independent commission of three members, appointed for 10 years, with somewhat similar jurisdiction over the inspection, transportation and storage of grain, as the Board of Railway Commissioners has over the railways. It will have power to investigate and control all questions, and authority to weigh and examine grain as desired; to declare which are terminal elevators, and with the Government's consent and on appropriation

being made for the purpose by Parliament, to acquire by lease, purchase or expropriation, any terminal elevators, or to build new elevators. It is also provided that the board may employ experts and the necessary staff to create and arrange inspection divisions and to make rules and regulations respecting grain. Transportation companies are required to carry commissioners and their staffs free over their respective lines. The bill also provides that for mixing and similar offences, fines up to \$20,000 may be imposed, with or without imprisonment.

Among the Express Companies.

The Canadian Northern Ex. Co. has closed its office at Bresaylor, Sask.

The Dominion Ex. Co. has issued a circular to its agents, respecting the regulations governing the transportation and inspection of meat.

The Dominion Ex. Co. has entered an appeal on the question of taxation by the Regina city council, Sask. The judgment recently given was to the effect that the company was not exempt from local taxation, and a similar judgment has been given against the company in favor of the city of Brandon, Man.

J. V. Dini pleaded guilty at Montreal, Feb. 3, to a charge of converting \$4,000 belonging to the Dominion Ex. Co. to his own use. The money was obtained in connection with the company's money order department. As the prisoner's returns were not arriving regularly at the head office, an inspector was sent to examine his books, and it was discovered that he had not accounted for the sum named, for which he had issued orders.

The bill to compel express companies to make returns of all unclaimed monies has been under consideration by a sub-committee of the House of Commons railway committee, which heard representatives of the various companies, and arrived at an agreement on all points, except the period within which the return for each year should be made. As the bill stands, at present, the return must be made within 20 days of the expiration of the calendar year, which is claimed to be too short.

The C.P.R. and Chesapeake and Ohio Rd.—We are officially advised that there is no truth in the reports that the C.P.R. has made a traffic agreement with the Chesapeake and Ohio Rd., to take effect May 1, by which the Minneapolis, St. Paul and Sault Ste. Marie Ry., would be provided with an outlet on the Atlantic, at Newport, Va.

The G.T.P.R. has received 53 box cars nos. 312456 to 312508, from the Canadian Car and Foundry Co., Montreal.

The Grand Trunk Railway has bought 37,500 tons of 100 lbs. steel rails, the order being divided between the Dominion Iron & Steel Co. and the Lake Superior Corporation.

The Montreal Park and Island Ry., and the Montreal Terminal Ry., subsidiaries of the Montreal Street Ry., applied recently to the Board of Railway Commissioners for approval of standard passenger tariffs of 3c. a mile, with a minimum of 5c., subject to any special fares in force under agreements with municipalities. The M. P. & I. Ry. application was opposed by the city of Montreal and the town of Lachine, and the M. T. R. application was opposed by the cities of Montreal and Montreal East, and by the town of Pointe aux Trembles. The Board refused the applications and ordered both companies to file by Feb 15, for the Board's approval standard passenger tariffs specifying a minimum fare of 2½c. a mile.

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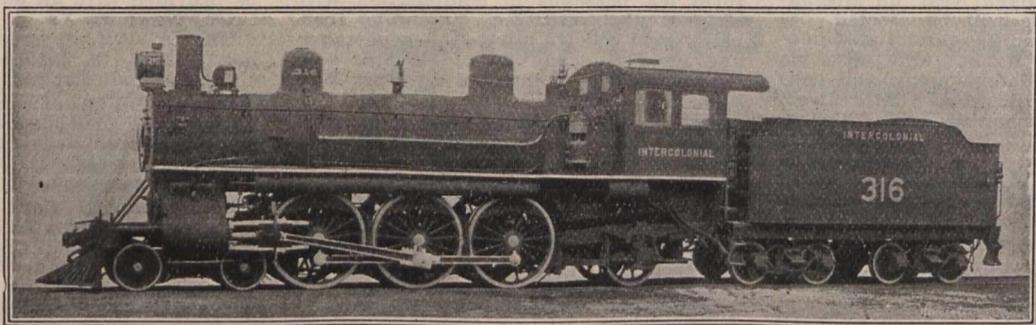
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ELECTRIC RAILWAYS

Canadian Street Railway Association.

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ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager Railway and Marine World. OFFICIAL ORGAN, THE RAILWAY AND MARINE WORLD.

Toronto Railway Co's Report.

Following are extracts from the report for 1910, presented at the annual meeting, Feb. 1:—

A summary of operations, shows the following results:

Gross earnings	\$4,377,116.19
Operating and maintenance, etc.	2,237,187.75
Net earnings	\$2,139,928.44
Other deductions:	
Dividends	\$560,000.00
Bond interest, etc.	201,288.19
	\$761,288.19
Payments to city:	
Percentage on earnings	\$596,297.35
aving charges	83,040.58
General taxes	48,142.37
	\$727,480.30

The passenger earnings show an increase of \$458,223.23 over the previous year, being \$4,336,369.05, compared with \$2,878,145.82. The charges against passenger earnings for operation, maintenance, etc., were \$2,237,187.75, or 51.6% of earnings. The payments made to the city were \$727,480.30, an increase of \$87,198.85, or 13.6%. Notwithstanding heavy charges throughout the year, in operations have resulted so satisfactorily that your directors were enabled to transfer \$651,159.95 to the credit of profit and loss account. Large expenditures were made during the year upon capital account, the amount being \$633,736.49. The new car house on Lansdowne Ave. will be completed in a few months. Early in the year it was decided to build 100 more double truck cars, upon the construction of which very large expenditures have been made in addition to providing the electrical equipment for same. Of these cars 30 have been completed and placed in commission, and work upon the balance is being rushed as rapidly as possible. The laying of new tracks upon the following streets was proceeded with: Harbord St. from Ossington Ave. to Bathurst St.; Wilton Ave. from Sherbourne to Sumach St.; and Adelaide St. from Bathurst St. to Spadina Ave. Additional electrical sub-station has been installed at no. 3 Dufferin Sts., and an air compressor plant was placed at the Lansdowne Ave. car house. In addition to the money expended on capital account, a large amount has been expended on the maintenance of the property, and the board feels satisfied that the physical condition of the property has been greatly improved. The Toronto and York Radial Ry. reports that earnings continue to show very satisfactory increases—the gross income amounting to \$399,615.69, compared with \$351,460.42 for the previous year, an increase of 13.7%; while the

net earnings, after providing for all operation and maintenance charges, bond and loan interest, etc., show a surplus of \$55,998.03, an increase of \$13,864.73.

ASSETS.	
Real estate and buildings, including pavements, etc.	\$14,674,057.11
Advances to subsidiary companies	1,590,457.15
Stores in hand	\$212,962.90
Accounts receivable	313,746.22
Cash in bank	526,709.12
	304,072.90
	\$17,095,296.28
LIABILITIES.	
Capital stock	\$8,000,000.00
Bonds—	
4½% sterling	\$2,415,326.66
4½% currency	983,000.00
6% debenture	600,000.00
	3,998,326.66
Mortgages	70,000.00
Accounts and wages payable	254,525.68
Accrued interest on bonds	69,743.02
Dividend payable Jan. 3	140,000.00
Toronto Power Co. sinking fund guarantee	121,666.66
Unredeemed tickets	98,994.22
Provision for renewals and depreciation	1,302,006.49
Less charges to date	664,127.15
Insurance fund for injuries and damages	84,500.05
Profit and loss at Dec. 31	2,968,500.70
Balance surplus	651,159.95
	\$17,095,296.28

INCOME ACCOUNT.	
Gross earnings	\$4,377,116.19
Operating, maintenance, etc.	\$2,237,187.75
Interest on bonds, etc.	201,288.19
Percentage on earnings	596,297.35
Pavements, taxes	131,182.95
	3,165,956.24
Surplus earnings	\$1,211,159.95
PROFIT AND LOSS ACCOUNT.	
Balance from 1909	\$2,968,500.70
Surplus earnings for 1910	1,211,159.95
	\$4,179,660.65
Dividends, four of 1¼% each	560,000.00
	\$3,619,660.65

TORONTO AND YORK RADIAL RY.	
Gross income—	
Passenger	\$332,156.69
Freight	56,055.72
Sundry	11,403.28
Total income	\$399,615.69
Maintenance and operating expenses	230,521.58
Surplus	\$169,094.11
Interest on bonds and loans	113,096.08
Net surplus	\$55,998.03

THE TORONTO POWER CO., LTD.	
Gross revenue from leased properties	\$662,956.88
Income from investments, etc.	124,162.10
Total	\$787,118.98
Less charges—	
Rentals, paid and accrued	\$500,133.84
Maintenance, operation, etc.	*215,477.47
Interest on debenture stock, loans, etc.	133,200.04
	848,811.35
Net deficit	\$61,692.37

*Included in this amount is \$56,483.59 expended in replacement of turbine runners.

Following is the board for the current year: President, Sir Wm. Mackenzie; Vice President, F. Nicholls; other directors, Hon. G. A. Cox, W. D. Matthews, Sir Henry M. Pellatt, Jas. Gunn.

Electric Railway Notes.

The British Columbia Electric Ry. has received one heavy double broom electric snow sweeper from the Ottawa Car Co., Ottawa.

Application is being made to the London, Ont., city council to permit the

street railway to operate freight cars on its lines during the night.

The Ottawa Electric Ry. has received six pay-as-you-enter car bodies, 33½ ft. long, 45 ft. overall, mounted on 27-FE-1 trucks, from the Ottawa Car Co., Ottawa.

The Regina, Sask., city council has ordered in England our single-truck cars and two double-truck cars, of the p.a.y.e. type, for June delivery.

The British Columbia Electric Ry. has received two, the last of ten ordered last fall, double truck city cars, from the Preston Car and Coach Co., Preston, Ont.

The Guelph Radial Ry. is reported to have ordered two pay-as-you-enter cars, of the most approved type, with 7 ft. vestibules and centre aisles, at a cost of about \$7,400 each.

The Guelph Radial Ry. Co. has ordered a 27-ton steel freight locomotive, and two 4 motor car equipments from the Canadian Westinghouse Co. It is also about to order two p.a.y.e. cars.

The Port Arthur and Fort William Electric Ry. has received two double truck city cars, for the city of Fort William, Ont., from the Preston Car and Coach Co., Preston, Ont.

The Ottawa Electric Ry is proceeding with the equipment of the double truck pay-as-you-enter cars, which it intends to put in operation in May, as recently announced by J. E. Hutcheson, Superintendent and Purchasing Agent.

The Montreal board of control is considering the question of enlarging the Wellington and Ontario street subways, to allow of the new type large cars of the Montreal St. Ry. to be operated there.

The Winnipeg city council has been granted leave to appeal direct to the Imperial Privy Council, instead of going to the Supreme Court of Canada, against the decision of the Manitoba courts in its action against the Winnipeg Electric Ry.

A majority of the Edmonton St. Ry. Commissioners are reported to have decided in favor of the dismissal of Superintendent Biswanger, and P. McNaughton, Superintendent of the Power House. To carry the vote into effect action by the city council is necessary.

G. R. G. Conway, M. Inst. C.E., M. Can. Soc. C.E., recently Chief Engineer Monterey Ry., Light and Power Co., and Monterey Waterworks and Sewer Co., Mexico, has been appointed Chief Engineer British Columbia Electric Ry. and its subsidiary companies, with office at Vancouver, B.C.

The Winnipeg Electric Ry. is applying to the Manitoba Legislature for an act ratifying the amalgamation between the Winnipeg Power Co., and the Winnipeg Electric St. Ry. Co., and between the latter company and the Manitoba Electric and Gas Co., the Northwest Electric Co., and other companies, and confirming the transfer of the assets, rights, powers and franchises of these companies to the Winnipeg Electric Ry.

The British Columbia Legislature has under consideration a measure declaring that the rules governing the operation of interurban electric tramways, and prescribing the equipment and appliances for locomotives, motors and cars used in the operation of tramways and street railways, approved Nov. 29, 1910, and Jan. 10, 1911, are valid, and made under the authority of the Tramway Inspection Act of 1910. These rules may at any time be amended, altered or annulled.

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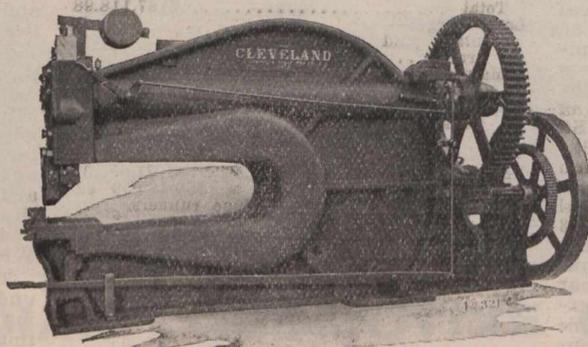
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Alberta Electric Ry.—The provisional directors named in the application to the Dominion Parliament for the incorporating of a company with this title are:—R. R. Jamieson, G. E. Wood, D. Stuart, W. T. D. Lathwell, R. S. Barbour, Calgary, Alta. Power is asked to enable the company to operate its lines by electricity, gas, gasoline, steam or other motive power. (Jan., pg. 71.)

Aroostook Valley Electric Ry.—A bill was introduced into the Maine Legislature Jan. 26, authorizing the A.V.E.R. to acquire the C.P.R. branch line running from Aroostook Jct. to Presque Isle and to extend the line from Washburn, the present terminus to the Canadian boundary. Press reports stated that the A.V.E.R. is controlled by the C.P.R., and that the intention is to provide by the building of the line in Maine, and connecting it with the C.P.R. by a line to be built in Canada, N.B., to Quebec, about 100 miles shorter than its present one. The point at which it is proposed to reach the Quebec boundary is in L'Islet county, about 70 miles directly east from Quebec.

A. R. Gould, President, A.V.E.R., stated in an interview that the C.P.R. has nothing to do with the project, which is being financed by New York interests for the development of Aroostook county in the interests of the people of Maine. "The road we plan to build," he added, "begins at Washburn, strikes northerly and westerly, striking Canada in Casgraine parish, Que. This is a distance of 82 miles. The system will measure 130 miles from Aroostook Junction to the point in Araco parish, Que., where this road will eventually meet the National Transcontinental Ry. It will be the longest electrically operated line in New England."

Belleville Radial Ry.—Application is being made to the Ontario Legislature to extend the time for the lines authorized to be built. Clute, Morden and Shorey, Belleville, Ont., are the solicitors.

Brandon Electric Ry.—Application is being made for a franchise for the building of an electric railway in Brandon, Man. H. P. Blackwood, Winnipeg, is solicitor for applicants. (Dec., 1910, pg. 1065.)

Brantford St. Ry.—A bylaw was passed by the Brantford, Ont., city council constituting the B.S.R., which is one of the constituent companies of the Grand Valley Ry., an extension of time to Apr. 1 to build the line to Holmedale. If default is made in the building of the line the company's charter will be forfeited. The agreement further provides that in the event of default the city will build the line and obtain legislative authority to operate it. (See Grand Valley Ry., Dec., 1910, pg. 1067.)

British Columbia Electric Ry.—The current programme laid out for the construction of 23 miles of interurban lines, and the laying of about 15 miles of new lines in Vancouver and suburbs. The new interurban lines include the Vancouver, Fraser Valley and Southern Ry., and construction through Hastings and Burnaby into New Westminster, and an additional line to Eburne. In Vancouver it is proposed to build a large terminal station on False Creek, where the V.F.V. and S. Ry. starts. In New Westminster it is proposed to relocate some of the lines, and to build a second track on others. In connection with the wharf, which is being built at New Westminster, an area of 35 acres of low lying land is being reclaimed for use as yards, etc.

The city of Vancouver has under consideration the enlargement of the city boundaries, and in connection therewith is taking up the question of the various franchises of the B.C.E.R. within the area proposed to be taken in, with a view of unifying them, and having one contract governing the whole area. The franchise in Vancouver expires in 1919, that in Hastings and D.L. 301 has 20 years to run, and those recently granted in South Vancouver and Point Grey have 40 years to run. The company desires a franchise for 23 years, and while this has not been absolutely agreed to, the terms under discussion are based upon it. The question of the Point Grey franchise has been before the courts, and judgment has been reserved in the action brought to invalidate the bylaw granting it.

In an interview at Vancouver, Feb. 8, Assistant General Manager Glover stated that one of the conditions of the agreement between the company and the C.P.R. with respect to the Vancouver and Lulu Island Ry., was that the B.C.E.R. should take over the operation of the line connecting New Westminster and Westminster Jct., as soon as the management made the request. Local reports state that the request is likely to be made at an early date.

A. T. Goward, local manager in Victoria, is quoted as having stated Feb. 9, that power from the Jordan River plant would be available April 1. (Feb., pg. 167.)

Buffalo, Lockport and Rochester Ry.—In connection with this elevated railway in which Toronto people are interested, creditors were asked to send in particulars of their claims to the receivers by Feb. 20. The receivers were appointed on the petition of the National Bond and Share Co.

Buffalo, Niagara and Toronto Ry.—Application is being made to the Dominion Parliament to revive and confirm the powers conferred on the company by its act of incorporation, chap. 67 of the statutes of 1906, to extend the time for its construction; substitute the words "between the town of Niagara-on-the-Lake and" for "at or near," in par. 6, subsec. 1, sec. 8, and to state that any motive power except steam may be used. (Dec., 1910, pg. 1065.)

Calgary Municipal St. Ry.—In order to provide for projected extensions of the street railway the city council of Calgary, Alta., has approved plans for the erection of steel bridges across the Elbow at Twelfth Ave. east, and at Second St. The bridges will be 30 ft. wide, providing room for a single track to be laid, that at Twelfth Ave. will consist of two spans of 100 ft. each, and that at Second St. of two spans of 150 ft. each. The cost of the two bridges is put at \$55,000. (Feb., pg. 167.)

Chatham, Wallaceburg and Lake Erie Ry.—No new work was undertaken during 1910, and the company does not propose to do more than add to its siding accommodation during this year. (Nov., 1910, pg. 963.)

Edmonton Radial Ry.—During 1910 track was laid on two additional lines, a distance of 3.5 miles, as follows:—from Syndicate Ave. to City Park, 2.5 miles, and from Twenty-first St. to Twenty-fourth St., 1.0 mile. The work was done by the city staff by day work. (Dec., 1910, pg. 1065.)

Guelph Radial Ry.—Application is being made to the Ontario Legislature to extend the time for the building of the branch lines authorized, and to ratify an agreement dated Aug. 15, 1910, with the People's Ry. respecting the building of that company's lines in the city of Guelph, Ont.

We were advised Feb. 10 that the extension proposed to be built in St.

Patrick's ward will be one mile, and that a single track only will be laid. Tenders have not been asked for the work, it not having been decided how it will be done. (Feb., pg. 162.)

Greenwood-Phoenix Tramway Co.—Application is being made to the British Columbia Legislature to incorporate a company with this title, having power to construct a tunnel under the mountain lying east of Greenwood, from the Nelson mineral claim to the Victoria mineral claim, under the city of Phoenix, with branch tunnels, and in connection with the same to build railways to be operated by electricity or otherwise. It is desired to have power to take over the Phoenix Tramway Co., which was incorporated under the Provincial Tramway Company Incorporation Act. I. H. Hallett, Greenwood, B.C., is solicitor for applicants.

Halifax Electric Tramway.—The city council had under consideration, Feb. 14, a letter from W. J. DeBlois, secretary, stating that the company was prepared, if given the proper authority from the council, to proceed with the work to complete the proposed second track on the loop line during the summer. The matter was referred to the Public Works Committee for consideration. Nov., 1910, pg. 963.)

Hamilton Street Ry.—The Hamilton city council has appointed a special committee to receive and consider suggestions for new lines in the city. The suggestions received Feb. 10 include an extension to be built along Ferrie St. through the manufacturing district to Birch Ave., and continued from the corner of Sherman Ave. and Main St. to Ottawa St., to Barton St. and another extension to be built along Herkimer St. to McDonald Ave., to Aberdeen Ave. and to Queen St., Hamilton. (Dec., 1910, pg. 1069.)

Imperial Traction Co.—The provisional directors named in the application to the Dominion Parliament for an act incorporating a company with this title are:—L. B. Howland, Toronto; R. Miller, Ingersoll, Ont.; G. M. Reid, London, Ont.; F. W. Hay, Listowel, Ont.; J. M. Taylor, Guelph, Ont. (Feb., pg. 167.)

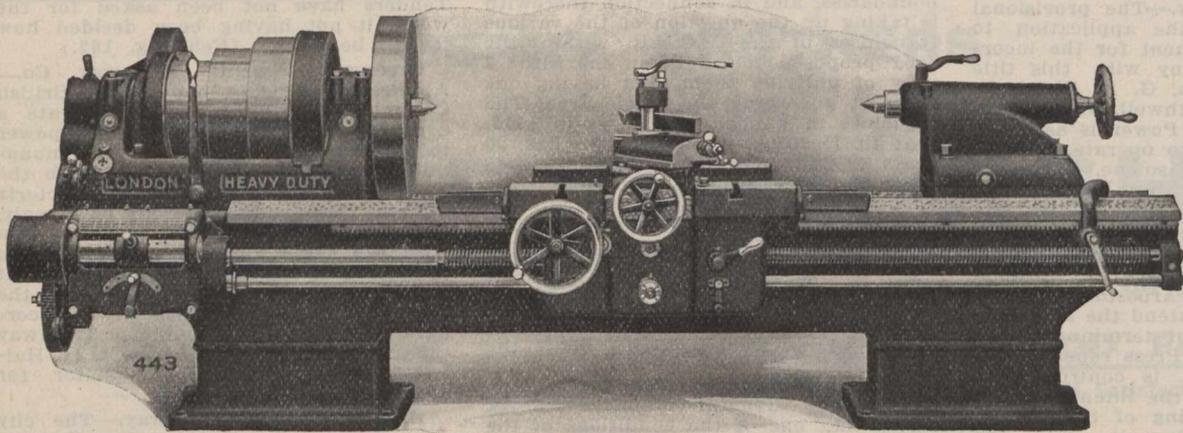
International Traction Railways.—The Ontario Legislature is being asked to enable the I.T.R. to acquire the name, rights, franchises, etc., of the International Ry. in the province. A. M. Grier, Niagara Falls, Ont., is solicitor for applicant. (Jan., pg. 71.)

Lake Erie and Northern Ry.—The bill under consideration by the Dominion Parliament for the incorporation of a company with this title gives power to build a railway from Port Dover, passing through Simcoe, Waterford, Brantford and Paris to Galt, with a branch from Paris or Glenmorris to Ayr, Ont. The company is also applying for power to operate steam and other vessels on Lake Erie. The provisional directors are:—J. Muir, R. Ryerson, W. S. Brewster, W. P. Kellett, W. D. Schultz, J. S. Sanders, Brantford. (Feb., pg. 167.)

Lethbridge, Alta.—A resolution has been passed by the Lethbridge, Alta., municipal council directing the city engineer to report as to various works which would be necessary in preparation for the building of a street railway system. (July, 1910, pg. 584.)

London St. Ry.—At the annual meeting held Feb. 1, it was decided to proceed with the work of building a plant to be operated by steam, for the development of electricity to operate the cars. (Dec., 1910, pg. 1069.)

The Montreal and Southern Counties Ry. has under construction an extension of a mile from St. Lambert to the Country Club of Montreal, and a 12 mile extension to Chambly, Que. It has also



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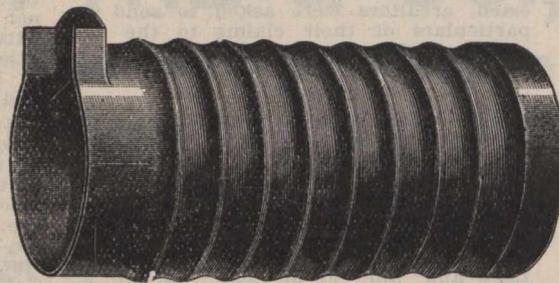
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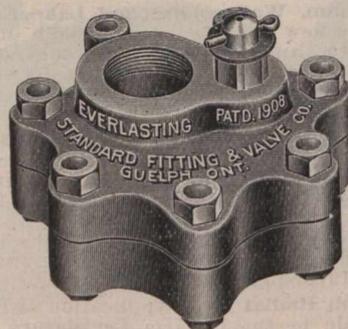
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under survey a line from Longueuil to Vercheres, 21 miles, and a line from St. Lambert to the Chateauguay and Huntingdon districts, 50 miles. The extension to the Country Club is expected to be in operation by June 1. and the line to Chambly by August. Construction of the lines to Vercheres and to the Chateauguay and Huntingdon districts will not be started before next year. (Feb., pg. 168.)

The Montreal Park and Island Ry. is applying to the Dominion Parliament to extend the time for the construction of the lines authorized to be built. A clause provides that the company shall not construct any railway in Mount Royal Park. (Dec., 1910, pg. 1069.)

Montreal Terminal Ry.—An extension of 1.02 miles from Pie IX. St. along Earnest St. to the terminus was completed during 1910. (Feb., pg. 167.)

Montreal Underground and Elevated Ry.—A letter has been received by the board of control of the city of Montreal on behalf of this company, stating that it was prepared to submit a proposal which it had under consideration for the promotion of rapid transit in the city. (April, 1910, pg. 311.)

Moose Jaw Electric Ry.—The Saskatchewan Legislature has under consideration a bill for the incorporation of a company under this title with authority to build or acquire lines to be operated by steam or electricity, or partly by steam and partly by electricity, as follows:—A single or double track railway on any of the Moose Jaw streets, subject to the approval of the city council, and suburban lines radiating from Moose Jaw to a distance of not more than 10 miles therefrom, the location and plans to be approved by the Provincial Government. The franchise granted Mar. 26, 1910, to J. B. McRae, assigned to the Moose Jaw Electric Ry., is declared to be an exclusive franchise, granting the exclusive right to operate a street railway in Moose Jaw during the term of its continuance. The provincial directors are A. A. Dion, N. J. Ker, D. R. Street, A. H. Dion, Ottawa; E. M. Saunders, Moose Jaw. The provincial directors are all officers and directors of the Moose Jaw Electric Ry. Co. (Limited), a company formed under the British Columbia Companies Act; and J. B. McRae, to whom the charter in Moose Jaw was originally granted by the city council, is Chief Engineer of the company. (Feb., pg. 167.)

Morrisburg and Ottawa Electric Ry.—The Ottawa city council is being asked to grant the company a franchise for a line along Main St., in order to connect its line from Morrisburg with the lines of the Ottawa Electric Ry. Also for permission to lay tracks on Main St. and Hawthorne Ave., Ottawa East, at the junction of which it is proposed to erect a passenger terminal station. C. M. Willard, Morewood, Ont., is President. (Dec., 1910, pg. 1067.)

Mount McKay and Kakabeka Falls Ry.—The municipal council of Paiponge is applying to the Ontario Legislature to confirm bylaws exempting from taxation the company's railway in the municipality; to permit it to carry its lines along any highway, and to raise \$4,000 by debentures to aid in building a bridge across the Kaministikwia River, to be used by the railway. (Sept., 1910, pg. 781.)

Niagara Frontier Electric Ry.—The Ontario Legislature is being asked to incorporate a company with this title to build an electric railway from Niagara-on-the-Lake, to Fort Erie, to acquire other electric railway lines, to make traffic arrangements with electric railways, ferries or steamboats, and to acquire running rights over any other electric railway. G. H. Pettit, Welland, Ont., is solicitor for applicants.

Niagara, St. Catharines and Toronto Ry.—The Board of Railway Commissioners Feb. 6 authorized the opening for traffic of the line from Welland to Port Colborne, Ont. (Feb., pg. 169.)

Niagara, Welland and Lake Erie Ry.—Application is being made to the Dominion Parliament to incorporate a company with this title to build a railway from Niagara Falls, Ont., westerly through Welland and Port Colborne, with branches from Port Colborne westerly to Port Dover, and easterly to Fort Erie. The line is declared to be a work for the general advantage of Canada, and while it is not so stated, it is evidently intended that it shall be operated by electricity, as power is asked to develop and dispose of electricity. The provisional directors are:—A. P. Laughlin, Welland, Ont.; F. W. Griffiths, Niagara Falls, Ont.; D. L. Stafford, Dunkirk, N.Y.; F. C. Carlesen, Los Angeles, Cal. ((Nov., 1910, pg. 965, and Oct., 1910, pg. 877.)

North Midland Ry.—Application is being made to the Ontario Legislature to authorize the city of London to enter into an agreement with the company, providing for the guarantee by the city of the principal and interest of the company's debentures to the amount of \$200,000, as provided by the bylaw approved by the ratepayers, Jan. 2. (Feb., pg. 169.)

A. N. Warfield, formerly with the Peoples Ry., and now engaged as Chief Engineer of the N.M.R., has been in Stratford, endeavoring to obtain a guarantee of bonds for that line.

Ontario West Shore Ry.—The proposed bylaw granting the company a franchise in Goderich, Ont., is being reconsidered by the town council. The bylaw was prepared a year ago, but it was not pressed to a vote, as it was not satisfactory. The company desires to carry freight, and the council is opposed to this, so far as the main streets are concerned. (Nov., 1910, pg. 965.)

Oshawa Ry.—Application is being made to the Ontario Legislature to authorize the town council to enter into an arrangement with the company with regard to the paving of King and Simcoe Sts.

Ottawa and St. Lawrence Electric Ry.—The Ontario Legislature is being asked to extend the time for the building of the lines authorized by its act of incorporation. (Feb., pg. 169.)

Ottawa Electric Ry.—We are officially informed that no additional mileage of track was laid during 1910, the only new track laid being a mile of double track on portions of two streets where there had been previously only a single track.

The G.T.R., having arranged to give a 15 ft. strip to widen Mosgrove St. between Rideau and Besserer Sts., the city council, Feb. 15, decided to ask the O.E.R. to move its tracks for mail cars from Little Sussex St. to Mosgrove and Besserer Sts.

Ottawa, Smiths Falls and Kingston Electric Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title having power to build a railway to be operated by electricity or other motive power from Ottawa via Smiths Falls to the boundary of Leeds and Frontenac counties, and thence either through Pittsburg township or Storrington and Kingston townships to Kingston, with a branch from Smiths Falls to Perth and Lanark. The provisional directors are:—R. H. McElroy, Carp, Ont.; T. A. Kidd, Burritt's Rapids, Ont.; F. A. Heney, Nepean tp.; J. C. Graham, North Gower tp.; A. E. Baker, Merrickville, Ont.; J. S. R. McCann, Kingston, Ont.; J. E. Caldwell, Nepean, tp.; Rev. D. A. T. Clayton, North Gower tp.; E. P. McGrath, Ottawa; G.

L. Dickenson, D. Clarke, Manotick, Ont.; W. J. Scott, Lanark. (See Ottawa and Kingston Electric Ry., Feb., pg. 169.)

Peoples Ry.—It is reported that up to Dec. 31, 1910, there had been 7.5 miles of grading completed between Bloomington and New Germany, Ont., and that there had been built three piers and one abutment for the bridge over the Grand River.

The Guelph Radial Ry. is asking the Ontario Legislature to pass an act ratifying an agreement made Aug. 15, 1910, with the P.R. Co. respecting the construction of certain lines in the city.

In a recent interview, W. A. Bugg stated that an excellent route had been found for a line into Collingwood, and that the people there were in favor of subscribing \$50,000 toward building it, if a bylaw was submitted. The line would reach Collingwood from Guelph, by way of Arthur and Flesherton. Referring to the operation of the line, Mr. Bugg stated that negotiations were in progress with a strong syndicate for the operation of the whole of the lines proposed to be built.

It was stated at a recent meeting of the Berlin, Ont., board of trade, that it was expected an announcement would shortly be made that interests allied with the Canadian Northern Ry. had entered into an agreement for taking over the rights and franchises of the P.R. Co., and would complete the construction of the lines. (Feb., pg. 169.)

Port Arthur and Fort William Electric Ry.—The Ontario Legislature is being asked by the city council of Port Arthur to authorize, among other things, the appointment of three salaried public service commissioners, who shall have the control and management of all the corporation's public utilities, and who shall possess the powers conferred on a board of control by sec. 677 of the Municipal Act, the raising of \$15,000 by debentures for the building of a second street railway track on Arthur St., the raising of \$75,000 by debentures for the purpose of laying 80 lb. steel rails on Cumberland St., and for other street improvement purposes; to raise \$6,500 by debentures for the purpose of purchasing an electric motor, etc., at the power house; and to raise \$10,000 by debentures to purchase a motor generator at the hydro-electric station. (Feb., pg. 169.)

Quebec and Saguenay Ry.—Tenders will be received to Mar. 10 by J. F. Guay, Chief Engineer, Quebec, for the building of 56 miles of line from Cap Tourmente to Murray Bay wharf, in sections of 10 miles. The line will start from the present terminus of the Quebec Ry., Light and Power Co.'s line, formerly known as the Quebec, Montmorency and Charlevoix Ry., and will be built along the shore of the St. Lawrence River. It is said that the whole project has been financed in England and France. R. Forget, M.P., the President, has been negotiating with the Dominion and the Provincial Governments with a view to obtaining subsidies in aid of the line. A subsidy for a line covering a portion of this route has already been voted by the Dominion Parliament, and is available for the Q. and S.R. A contract has been let to the Bishop Construction Co., Montreal, for the building of a large pulp mill at Murray Bay, with a siding for the same. This siding will eventually be connected with the Q. and S.R. E. A. Evans, formerly General Manager and Chief Engineer of the Quebec R., Light and Power Co. is consulting engineer for the Q. and S. Ry.

The Q. and S.R. has power to build a line from Cap Tourmente via Murray Bay, to Tadousac, at the mouth of the Saguenay River. The construction will be a difficult piece of work, there being a great deal of rock work necessary in

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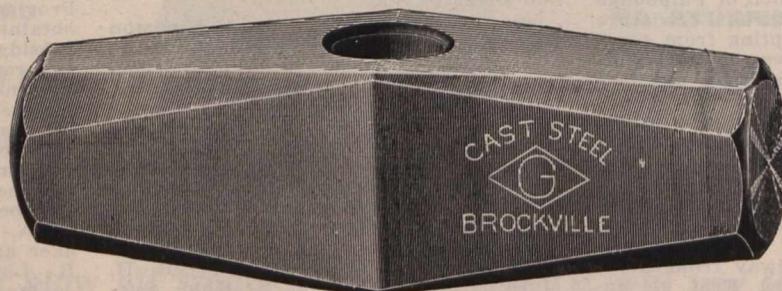
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order to provide a route along the cliffs which form the northern bank of the St. Lawrence River. (Feb., pg. 169.)

Quebec County Ry.—The Board of Railway Commissioners has recommended the Governor-in-Council to sanction an agreement between the company and the Quebec Ry., Light and Power Co. (Feb., pg. 169.)

Regina Electric Ry.—We have been advised that contracts have not been let for the building of any electric railway lines in Regina, Sask. It is expected, however, that work will be started in a month or two. L. A. Thornton, city engineer, has charge of the project. We were further advised Feb. 11 that the city had placed orders for the steel rails, overhead work, street intersection work, and the necessary power plant, and that it is the intention to begin the construction of the street railway as soon as possible, so as to have it opened for traffic in July.

The Saskatchewan Legislature has under consideration a measure authorizing the city council to build and operate as a municipal public work a railway to be operated by electricity, and granting all the necessary powers, in order that the project may be carried out. The measure confirms all that the city has already done in connection with the matter, including the passing of a by-law providing for the raising of \$100,000 by debentures towards the building of the line. For the purpose of raising further funds the city may sell its lands, or raise money by mortgaging the lines to be built, and the revenues accruing from their operation, without the submission of any further bylaws to the burgesses for their assent. (Nov., 1910, pg. 965.)

St. John, N.B., Ry.—The city council, Feb. 12, passed a resolution making a charge of \$100 a month for maintenance of roadway and snow cleaning for the proposed extensions out the Loch Lomond Road. (Feb., pg. 169.)

St. Thomas Street Ry.—In his annual report on the condition of the line, Supt. Gillett informed the city council of St. Thomas, Ont., that the overhead construction was very bad, and must be renewed for public safety; that the track on Talbot St. was too light for the heavy traffic, and that while the line as a whole was in fair condition, it was time it was entirely rebuilt. Some changes in the routes were necessary and new cars should be provided. The line was being run as cheaply and as efficiently as circumstances would permit, and there was no reason to be ashamed of the financial results, considering the conditions. (June, 1910, pg. 497.)

Sackville, N.B.—A short piece of line, which was laid out as a spur to the New Brunswick and Prince Edward Island Ry., on the Pickard-Fawcett properties in Sackville, N.B., is to be operated by electricity, the necessary power being obtained from the local electric light station. Construction is being proceeded with and tracklaying is reported to be in progress. (See New Brunswick Ry., Jan., pg. 23.)

Sandwich, Windsor and Amherstburg Ry.—The Ontario Legislature is being asked to pass an act declaring that sec. 11 of chap. 97 of the statutes of 1893, shall not be intended to, and did not affect the rights and interests of the municipality; to strike out the first four lines of the section and by adding words to have the effect that nothing in the act should have the effect of continuing the franchise of the company beyond Dec. 15, 1912, or beyond such time as under sec. 202, of the Ontario Railway Act, 1906, the company would be entitled to exercise its rights or franchise. (Nov., 1909, pg. 841.)

Sarnia Street Ry.—Press reports state that an arrangement is being made between the company and the Board of Trade, for the building of an extension of a mile along the shore of Lake Huron from the present terminus in connection with the projected extension of the summer resort there. The company is willing to build the line, provided the Board of Trade secures the right of way from the property owners along the route. (Jan., 1910, pg. 59.)

Sherbrooke St. Ry.—In addition to having laid some additional mileage, the company, since it took possession of the lines in Aug. 1910, has completed the reconstruction of about one-half of the seven miles of line operated by the old company. New ties have been put in; new 70 lb. steel rails laid, with new bonds, etc. The remaining mileage of the old lines will be reconstructed during this year.

Two of the three units of the new power plant on the Magog River have been completed, and the company has available for general distribution considerable power, over and above what is required for the operation of its lines.

We were advised Feb. 10, that the company on taking over the property from the former proprietors, arranged to reconstruct the lines then in existence, and to build extensions so as to increase the mileage to 13 miles. About five miles of line have been reconstructed, 60 ft., 7 in. girder rails, 70 lbs to the yard being used, laid on new ties, held by tie rods and rail braces being used, the rails being bonded with wire pressed bands, and all switches, frogs and cross-overs having manganese steel centres. Preparations have been made to push forward the reconstruction of the remaining mileage in the spring. After the present lay-out has been rebuilt, the projected extensions in the city will be built. It is expected that this work will be completed by July 1. On this being done attention will be given to the building of interurban lines. It is proposed to make large extensions to the company's car barns, and to remodel the shops and stores. The new 4,000 h.p. hydro-electric plant on the Magog River was expected to be placed in operation Feb. 15. (Nov., 1910, pg. 965.)

Stratford Ry.—Application is being made to the Ontario Legislature to incorporate a company with this title to take over the franchise granted by by-law 1739 of the city of Stratford to T. O. Robson, H. L. Rice, D. Bouris, and A. Baird, for the building of an electric railway in the city, and to authorize the company to build, in connection with the city lines a system of interurban lines with branches therefrom, westerly to Lake Huron, westerly and northerly to Mitchell and Moncton; northerly to Milverton and Listowel and easterly to Tavistock. Makins and Gregory, Stratford, are solicitors to the applicants.

A conference between representatives of the company and the Stratford city council finance committee was held Jan. 31, when certain matters relating to the building of the line were informally discussed. The members of the committee state that satisfactory progress is being made by the company so far as its organization is concerned.

The company has had some car loads of material delivered in Stratford, Ont., and is said to be preparing to let contracts for concrete work. A contract with the St. Marys and Western Ontario Ry. for the building of a line from Stratford to Lake Huron, has been deposited with the city clerk.

Toronto and York Radial Ry.—The Ontario Railway and Municipal Board, Feb. 16, took up the consideration of the application of ratepayers of North Toronto, for a more efficient service, etc. on the Metropolitan Division. The com-

pany proposes laying a second track, but the town council opposes it. Decision was reserved. (Feb., pg. 169.)

Toronto Interurban Ry.—The Ontario Legislature is being asked to incorporate a company with this title to build a line to be operated by steam or electricity, or both, from the northerly limits of Toronto to Newmarket, Ont. The provisional directors are C. C. Cummings, F. D. Mackay, M. H. Ludwig, K.C., A. W. Ballantyne, C. F. Ritchie, Toronto. (Feb., pg. 169.)

Toronto Suburban Ry.—The notice of application to the Ontario Legislature to authorize the extension of lines, has been amended. The extensions now proposed are, from the present authorized Guelph or Hamilton line, near Cooksville to Milton, thence northerly to Acton, and to extend the Guelph line to Berlin, Preston, Hespeler, Galt and Hamilton; to increase the capital stock, to issue bonds for terminals, and to extend the time for the construction of the previously authorized lines.

We are advised that the company has under survey an extension of its line, now terminating at Lambton, Ont., to Brampton, 14 miles; and an extension of its line, now terminating at Weston, to Woodbridge, seven miles. (Feb., pg. 169.)

Western Central Ry.—The application to the Dominion Parliament for a Dominion charter for this company was talked out in the House of Commons Railway Committee Feb. 16. The company was originally incorporated by the Ontario Legislature, and has been granted several extensions of time, but no construction has been done. (Jan., pg. 73.)

Windsor and Tecumseh Electric Ry.—The Ontario Legislature is being asked to extend the time for the building of the already authorized line from Tecumseh to Chatham, Ont., and to authorize the building of a branch from its existing line in Sandwich East, easterly to Belle River, Ont. (Dec. 1907, pg. 929. See also Sandwich, Windsor and Amherstburg Ry.)

Winnipeg Electric Ry.—The Winnipeg board of control has under consideration proposals for the extension of the electric lines in the city. The last meeting was held Feb. 10, but the members of the committee refused to give any information as to the plans which had been considered.

A contract is reported to have been let for the building of a new power station. The plant is calculated to have a minimum capacity of 12,000 h.p. and a maximum capacity of 17,000 h.p. (Feb., pg. 169.)

London Street Railway Report.

Following is a summary of the report for 1910, presented at the annual meeting Feb. 1:—

	EARNINGS.	
	1910.	1909.
Passengers	\$250,897.34	\$238,267.23
Miscellaneous	5,381.14	5,092.16
Gross earnings	\$256,278.48	\$243,359.39
EXPENSES.		
Maintenance:		
Way and structures	\$1,736.67	\$ 21,735.66
Equipment	25,102.23	24,743.43
Transportation:		
Power plant	31,609.98	27,796.46
Car service	73,851.44	67,866.35
General	29,891.36	27,688.54
Total operating expense	\$182,191.68	\$169,830.44
Net earnings	\$ 74,086.80	\$ 73,528.95
DEDUCTIONS.		
Interest on bonds	\$ 28,750.00	\$ 28,345.86
Interest on overdraft		541.70
Total deductions	\$ 28,750.00	\$ 28,887.56
Net income	\$ 45,336.80	\$ 44,641.39
During the year \$7,307.40 was expend-		

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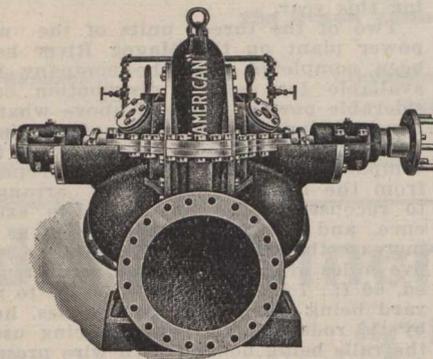
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or The Information Bureau,
Canadian Northern Railway,
Toronto, Ont.

ed on improvements, additions, etc. The expenditure for track purposes continues to increase, owing to the general reconstruction necessary throughout the system. In following the city's instructions to repave track allowance on Dundas St. from Wellington to Ridout, and Richmond St. from Fullarton to the G.T.R., it was found advisable to completely rebuild this track. An 80 lb. T rail in 60 ft. lengths was adopted, and laid on creosoted blocks thoroughly imbedded in a concrete foundation. Only part of this work has been completed, and will be charged to operation.

We have considered several propositions submitted by the Hydro-Electric Commission, relative to Niagara power, which we find are not attractive in comparison with modern steam generation. However, there is still a possibility that some arrangement can be made to our mutual satisfaction.

The wages of motormen and conductors were voluntarily increased on April 1, the new scale for regular men being 18c. an hour for the first and second years, 19c. an hour for the third year, and 20c. an hour for the fourth year. Other wages have also been increased as conditions required.

As we have had sufficient money for our requirements, the directors have not yet considered it necessary to dispose of the \$25,000 bonds recently authorized. The gross earnings and surplus for the year have shown a substantial increase, and we believe the coming year will be quite as satisfactory. The directors are pleased to state that the relations with the public are very gratifying, and that no litigation of any kind appears against the company.

ASSETS.	
Road and equipment, real estate, buildings and plant.	\$1,140,223.41
Improvements, additions, etc.	
Total	7,307.49
\$1,147,530.90	
CURRENT ASSETS.	
Cash in hand	\$ 2,313.04
Cash in bank	15,834.89
Accounts receivable	1,570.52
Stores	29,801.35
Coal stock	4,698.39
Expense	6,425.63
Uniforms	386.32
Sundries	
Unexpired insurance	1,469.25
Injuries and damages	\$ 3,394.71
Reconstruction	3,969.87
	7,364.58
	\$1,217,394.87
LIABILITIES.	
1910.	
Capital stock	\$ 552,000.00
Bonds (due Mar. 8, 1925)	575,000.00
	\$1,127,000.00
ACCRUED LIABILITIES.	
Bond interest	\$ 8,986.75
	8,986.75
CURRENT LIABILITIES.	
Accounts and wages payable	\$ 16,429.08
Dividend payable Jan. 3.	16,560.00
	32,989.08
RESERVES.	
Ticket float — (unredeemed tickets)	\$ 10,882.98
Profit and loss	37,536.06
	48,419.04
	\$1,217,394.87
PROFIT AND LOSS ACCOUNT.	
Surplus Jan. 1, 1910	\$26,757.48
Unclaimed wages, 1909	11.78
Net income for 1910	46,336.80
	\$72,106.06
Dividends 6%	\$18,560.00
Directors' and auditors' fees	1,450.00
Surplus	37,536.06
	\$72,106.06
STATISTICAL STATEMENT.	
1910.	
Gross earnings	\$ 256,278.48
Operating expenses	\$ 243,359.39
Net earnings	182,191.68
Net earnings per cent. of capital	71.0
Net earnings per cent. of passenger	74,086.80
Net earnings per cent. of passenger	8.21
Car earnings per revenue passenger	6.930,602
	3.67c.

Transfers	1,063,531	1,015,564
Total passengers	7,994,133	7,688,873
Car earnings per passenger	3.13c.	3.09c.
Car mileage	1,418,030	1,422,223
Gross earnings per car mile	18.07c.	17.11c.
Operating expenses per car mile	12.84c.	11.94c.
Net earnings per car mile	5.23c.	5.17c.
Miles of track	33.25	33.25
Gross earnings per mile of track	\$ 7,707.60	\$ 7,319.07

Following is the board for the current year: President, H. A. Everett, Cleveland, O.; Vice President, T. H. Smallman, London, Ont.; other directors, P. W. D. Broderick, W. M. Spencer, London, Ont.; H. S. Holt, Montreal; E. W. Moore and C. W. Wason, Cleveland, O.

The Street Car Situation in Toronto.

The Ontario Railway and Municipal Board on Feb. 6, on the application of the city reversed its approval of the pay-as-you-enter system on the company's cars, the order stating that on the report of J. F. H. Wyse, consulting engineer, and D. M. Campbell, manager Preston Car & Coach Co., the sanction of the company's bylaw 36 respecting closed motor and trailer cars was rescinded. The city's application for an order that the company discontinue the use of trailer cars and build the motor cars with compartments for smokers, was dismissed.

In the case of the city against the Toronto Ry. Co., charging the latter with maintaining a common nuisance, which was fully explained in our last issue, the jury did not agree and on Feb. 14, Mr. Justice Riddell gave the following judgment: The defendants raised several objections: (1) That the court has no jurisdiction. This whole objection is unsound in essence. The Provincial Legislature has not formed a new court for the trial of nuisances. The Ontario Railway and Municipal Board is not a criminal court. Not only may but must these cases be tried according to the provisions of the code and the Board has neither jurisdiction in nor machinery for such trial. (2) As to the demurrer. The demurrer could not be allowed, but it remained open for the defendants under the plea of not guilty to contend that no duty such as contended for had been made out upon the law by the evidence adduced. (3) As to overcrowding, each member of the public is entitled to enjoy to the full, each of the rights of the public, and without legislative enactment you can no more interfere with one right and justify by alleging a benefit to another in the case of rights vested in the public than in the case of rights vested in private individuals. Count 6 as objected to was properly triable in this court. As to the legal duty of defendants not to endanger human life and the argument that sec. 247 of the code does not apply. This is not a duty imposed by the code, but any legal duty, however imposed—by the common law, statute, or perhaps contract. As to the fenders approved by the Board: No provision was made for trailers, and these have no safety device. The jurisdiction of the Board does not extend to trailers. I think it was open to the jury to find that the defendants in not applying any safety device to their trailers were guilty of an omission to take reasonable care and precautions, etc. I shall reserve a case for the Court of Appeal upon the many matters I have discussed, and if there be any matters I have not reserved I may be spoken to again.

W. K. McNaught, M.P.P. for North Toronto, has introduced a bill in the Ontario Legislature to amend the Ontario Railway Act, by adding the following, as sec. 214a:

What is known as the pay as you enter system of collecting fares shall not be operated on any street railway car unless

such car complies with the following requirements:

It must have a rear platform at least 72 ins. deep with a folding step not less than 54 ins. long.

The rear platform must be enclosed and properly heated, and provided with a door or doors having an aggregate width of at least 54 ins., so arranged as to permit of the entrance and exit of passengers at one and the same time.

If there is a partition between the rear platform and the body of the car such partition must have doors or openings so arranged as to permit of the entrance and exit of passengers at one and the same time.

The front platform must be enclosed and properly heated. It shall be provided with an exit door at least 30 ins. wide and a folding step of the same width. If there is a partition between this platform and the body of the car, it must be provided with an exit door or opening not less than 30 ins. wide.

This section shall apply to cities only having a population of 100,000 or over.

Every person who violates the provisions of this section shall, on summary conviction therefor, incur a penalty of \$100 per day for each car operated contrary to the provisions of this section.

Ottawa Electric Railway Co.'s Report.

Following are extracts from the report for 1910, presented at the annual meeting, Feb. 6:—

The gross earnings were \$748,708.75, compared with \$677,357.11 in 1909, an increase of \$71,351.64; 16,967,334 passengers were carried, compared with 14,983,799, and with 1,520,405 in the first year of the company's operations. The net earnings were \$277,229.11, and dividends amounting to 12% were paid. The net earnings were disposed of as follows:—Interest paid on bond and loans, \$34,288.79; four quarterly dividends of 2½% and a bonus of 2%, \$149,724; mileage payments, \$13,583.39; taxes, \$8,673.74; placed to credit of contingent account to be applied to reduction of track renewal, car equipment, and other accounts, \$41,000; transferred to credit of profit and loss account, \$29,959.19.

Work on the new power house was commenced last fall. Waterwheels and a 2,000 h.p. generator are being installed, which will be completed early next summer. This will give double the present power capacity. We have also under order 18 double truck p.a.y.e. cars,



City of Toronto Civic Car Lines.

TENDERS FOR RAILS AND TIES.

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, Canada, up to noon on Tuesday, April 4th, 1911, for delivery of Thirteen hundred and forty (1,340) tons of open hearth steel rail, No. 80 section, also thirty thousand (30,000) untreated wood ties, white cedar preferred, although other woods will be considered.

Envelopes containing tender must be plainly marked on the outside as to contents.

Specifications and forms of tender may be obtained upon application to the office of the City Engineer, Toronto.

The lowest or any tender not necessarily accepted.

G. R. GEARY, Mayor,
Chairman Board of Control.
City Hall, Toronto, February 23, 1911.

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It has 1800 B.T.U. and by this enormous heating power can do things which no other gas can. Blaugas is used, not only for house lighting, cooking, and water-heating, but for lighting of railway cars, buoys, railway stations, lighthouses. It is extensively used for all industrial purposes, as

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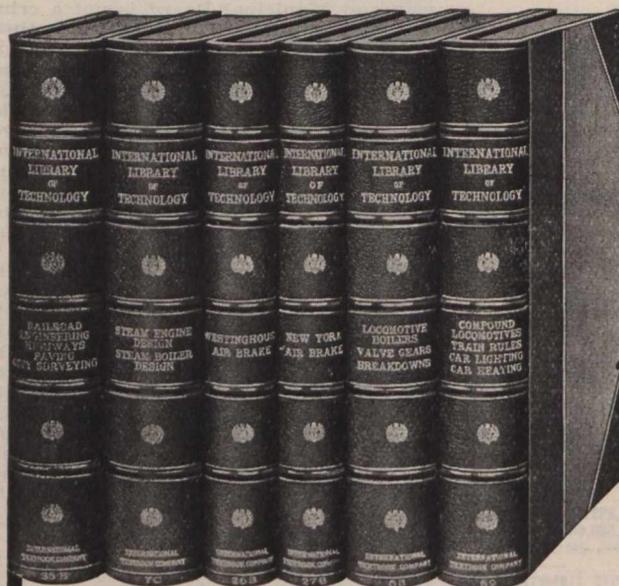
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nine of which will be delivered next month. With these improvements and additions the company will be in a position to handle the rapidly increasing business, which has almost doubled in the past six years. The rolling stock and other properties have been efficiently maintained, and altogether the position and prospects of the company are better than ever.

ASSETS.	
Roadbed and equipment, water power property and plant, real estate and buildings	\$2,393,591.19
Cash	10,437.14
Accounts receivable	5,993.51
Stores	6,528.02
Insurance paid in advance	5,200.00
	\$2,421,749.86

LIABILITIES.	
Capital stock	\$1,247,700.00
First mortgage, 4% bonds	500,000.00
Dividend payable Jan. 2, 1911	56,146.50
Interest on bonds, payable Jan. 5, 1911	10,000.00
Unpaid dividends	390.67
Pay list to Dec. 31, 1910	12,303.56
Bills payable	250,000.00
Accounts payable	27,250.00
Contingent account	41,000.00
Rest account	200,000.00
Profit and loss account	76,959.19
	\$2,421,749.86

PROFIT AND LOSS ACCOUNT.	
Balance at credit of Profit and loss, Dec. 31, 1909	\$47,000.00
Net earnings, 1910	277,229.11
	\$324,229.11
Dividends and bonus	\$149,724.00
Taxes	8,673.74
Mileage payments	13,583.39
Interest on bonds and loans	34,288.79
Contingent account	41,000.00
Balance at credit, Dec. 31, 1910	76,959.19
	\$324,229.11

Following is the board for the current year: President, T. Ahearn; Vice President, W. Y. Soper; other directors, P. Whelen, G. P. Brophy, Hon. G. A. Cox, T. Workman.

Nelson Street Railway Co's Report.

The annual meeting was held at Nelson, B.C., Feb. 6. The report showed that the operating expenses during the 23 days during which the cars were running, were \$1,000.13, and the receipts \$662.50. The President, J. E. Taylor, said that the extension had cost \$21,191, against an estimate of \$16,000; repairs to the old track had cost over \$3,000, as compared with an estimate of \$1,000; the rolling stock had cost \$14,250, against an estimate of \$11,500, and the car barns and machine shop \$28,000, against an estimate of \$25,000. The substation and generator, the cost of which had been estimated at \$11,000, had, however, only cost \$8,898. The estimated receipts from the two cars operated were \$50, with the addition of \$2 for advertising each day, giving a total of \$1,560 a month, and the operating expenses were estimated at \$1,412.67 a month, leaving an estimated surplus each month of \$247.33, and allowing 5% dividend on the stock already issued and the further amount necessary to thoroughly equip the system, there would be a balance of \$1,117.96 to be placed to the sinking fund each year. The following were elected directors for the current year:—G. W. McBride, W. R. McLean, J. E. Taylor, R. A. Brown, A. Carrie, A. Jeffs, M. R. McQuarrie, W. H. Douche, A. S. Horswill, and S. M. Brydges.

The Sherbrooke St. Ry. has received two 18 1/2 ft. car bodies, 30 ft. long over all, mounted on 27-E trucks equipped with Westinghouse 101-B-2 motors, from the Ottawa Car Co., Ottawa.

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Dec. 1910, \$389,234; working expenses \$224,549; net operating earnings \$164,685; renewal funds \$25,417; net earnings \$139,268; approximate income from investments \$20,000; net income \$159,268, against \$269,179 gross earnings; \$151,522 working expenses; \$117,657 net operating earnings; \$17,833 renewal funds; \$99,824 net earnings; \$16,500 approximate income from investments; \$116,324 net income for Dec. 1909. Aggregate gross earnings for six months ended Dec. 31, 1910, \$1,991,648; net earnings \$829,896, against \$1,480,871 gross and \$657,366 net for same period 1909.

Calgary Municipal St. Ry.—Passenger earnings for Jan. \$19,524.16; miscellaneous earnings \$354.66; total earnings \$19,878.82; operating expenses \$13,409.86; net operating revenue \$6,468.96; contingent account \$993.94; interest and sinking fund \$2,715.88; net profits \$2,759.14, against \$11,375.60 passenger earnings; \$189 miscellaneous earnings; \$11,564.60 total earnings; \$8,762.02 operating expenses; \$2,802.58 net operating revenue; \$578.23 contingent account; \$2,715.88 interest and sinking fund; \$491.53 deficit for Jan. 1910.

Dominion Power and Transmission Co.—Recent press reports stated that a British syndicate was in negotiation with certain interests for the purpose of securing the control of the company, but it was said that nothing was known officially about the matter.

Halifax Electric Tramway.—Railway traffic receipts for Jan., \$16,380.69 and for two weeks ended Feb. 14, \$7,478.23, against \$15,510.09 and \$6,913.26 for same periods 1910.

The directors decided Feb. 14, to increase the dividend from 7 to 8%, to commence with the current year.

London St. Ry.—Gross earnings for Jan., \$20,596.43; expenses \$15,182.50; net earnings \$5,413.93; deductions \$2,441.75; net income \$2,972.18, against \$18,368.71 gross earnings; \$13,578.22 expenses; \$4,785.40 net earnings; \$2,441.75 deductions; \$2,343.74 net income for Jan. 1910.

Montreal Street Ry.—Press reports state that the Toronto General Trusts Corporation recently asked shareholders to give it a 60-day option on their stock at 235, on behalf of a client who wanted to acquire a large number.

Application is being made to the Quebec Legislature for authority to increase the number of directors to 15 if deemed advisable.

Port Arthur and Fort William Electric Ry.—Gross earnings for year ended Dec. 31, 1910, are reported to have been \$141,580.37 and operating expenses \$83,430.38, leaving \$58,150.19 as net earnings.

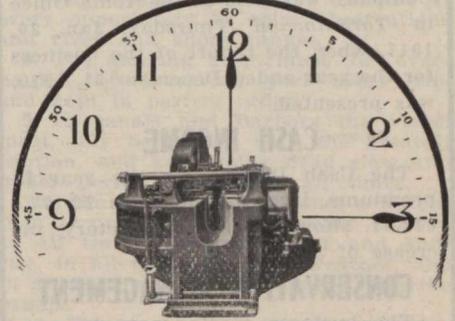
St. Thomas St. Ry.—The report for the year 1910, presented to the city council recently, showed that the number of passengers carried, decreased by 86,865, as compared with the previous year, while the deficit for the years operations was \$12,944.44 which was \$3,721.84 greater than for 1909.

Toronto Ry.—The percentage paid to the city for Jan., was \$43,485.65, on gross receipts of \$362,380.40, against \$37,704.10 percentage on earnings or \$331,346.65 for Jan., 1910.

Winnipeg Electric Ry.—Gross earnings for Dec. 1910, \$340,281; expenses \$177,754; net earnings, \$162,527, against \$283,528 gross earnings; \$151,908 expenses; \$131,620 net earnings for Dec., 1909. Aggregate gross earnings for 12 months ended Dec. 31, 1910, \$6,284,341; net earnings, \$1,629,508, against \$2,623,731 gross and \$1,303,066 net for same period 1909.

The company is applying to the Manitoba Legislature for the ratification of the amalgamation agreement between it and the Winnipeg Power Co., the Manitoba Electric and Gas Light Co., and the North West Electric Co., and other companies, and confirming the transfer of assets, etc.

The Time Has Now Come



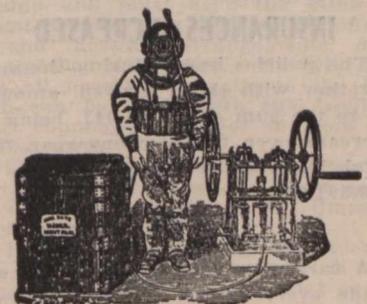
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NORTH AMERICAN LIFE

FINE RECORD FOR 1910

The Thirtieth Annual Meeting of the North American Life Assurance Company was held at its Home Office in Toronto, on Thursday, Jan. 26, 1911, when the report of the business for the year ended December 31, 1910, was presented.

CASH INCOME

The Cash Income for the year in premiums, interest, etc., was \$2,177,012.61, showing the satisfactory increase of \$147,134.91.

CONSERVATIVE MANAGEMENT

The business continues to be conducted on a conservative and economical basis, the North American Life being among the foremost in this regard.

PAYMENTS TO POLICYHOLDERS

The amount paid on Policyholders' Account was \$877,792.31, of which sum \$142,764.06 was for surplus or dividends. Considering that the sum of \$6,000 only was paid to Guarantors, the preponderance of the Policyholders' interest is apparent.

The large amount of \$480,707.85, including surplus and guaranteed reserve, was paid to holders of Deferred Dividend policies.

ASSETS

The assets increased by \$898,308.42, and now amount to \$11,388,773.32.

They continue to be, as heretofore, invested in the best class of securities available, principally in Mortgage Loans and Bonds.

SURPLUS

After making ample provision for all liabilities and further strengthening the reserves, the net surplus on policyholders' account was increased to \$1,174,768.68.

INSURANCES INCREASED

The policies issued during the year, together with those revived, amounted to the sum of \$5,106,047, being an increase over the previous year. The total business in force amounts to \$43,391,236.

AUDIT

A careful and systematic audit was made every month by the Auditors, who also made a thorough scrutiny of all the securities of the Company. In addition a Committee consisting of two Directors, made an independent audit of the securities each quarter.

L. GOLDMAN, Managing Director. **J. L. BLAIKIE,** President.

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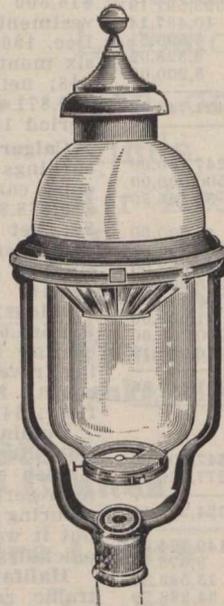
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MARINE DEPARTMENT

Dominion Marine Association.

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

Great Lakes and St. Lawrence River Rate Committee.

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

International Water Lines Passenger Association.

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

The Shipping Federation of Canada.

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

Ship Masters' Association of Canada.

GRAND MASTER, Capt. J. H. McMaugh, Toronto, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Canadian Lake Protective Association.

As announced in the Dominion Marine Association's annual report (Railway and Marine World, Feb., pg. 181), the vessel owners comprising that Association, decided to withdraw from the Great Lakes Protective Association, and have formed the Canadian Lake Protective Association, of which the following companies have already become members:—St. Lawrence & Chicago Steam Navigation Co., Canadian Lake Transportation Co., Montreal Transportation Co., Mutual Steamship Co., Merchants Mutual Line, Canadian Lake & Ocean Nav. Co., Keystone Transportation Co., Farrar Transportation Co., International S.S. Co., Interlake Transit, Ltd.; Point Anne Quarries, Ltd., Inland Lines, Ltd., Northern Nav. Co., Mathews S.S. Co., Canadian Northwest S.S. Co., Western S.S. Co. Several other companies have signified their intention of joining, and others again have the matter under consideration.

The agreement among the vessel owners provides that the chief purposes of the Association shall be to formulate rules designed to render careful navigation absolutely obligatory on the part of the master of every vessel owned or managed in the Association, which rules shall be effective upon their adoption, or amendment and adoption, at a general meeting of the subscribers. To enforce the rules, and to take such measures as may be possible to render the master's license the certain penalty for any proved breach of the same, or for any other flagrant act improperly imperiling the safety of his vessel. To examine into all marine disasters affecting vessels owned or managed in the Association, and to see that penalties are imposed in all proper cases. To aid in every possible way in a movement to decrease the risks of navigation, by disseminating information, by obtaining where necessary additional aids to navigation and improvements in ship channels; and generally to take measures to lessen the chance of disasters on the waters named and thus to render the vessels owned or managed in the Association a better and more desirable class of underwriting risks. To take any other steps possible to decrease the cost of insurance upon vessels.

A committee of five shall be appointed for the purpose of investigating dis-

asters, framing and enforcing the rules and imposing penalties whenever proper, and for the purpose generally of taking action from time to time in all matters within the Association's scope. The members of the committee shall hold office until their successors are appointed, and the first committee shall consist of the President of the Dominion Marine Association, and J. W. Norcross, W. H. Featherstonhaugh, S. Crangle, and R. Fraser. A new committee shall be appointed at each annual general meeting and the retiring members shall be eligible for re-election. No member of the committee shall act on any investigation relating to a vessel in which he is in any way interested, and in any such case the committee may appoint a substitute to act in place of such member. Each member of the committee shall receive his actual expenses incurred in attending meetings of the committee, and also a per diem allowance of \$5 for each day the committee is in session.

No member shall be entitled to vote at any meetings unless he has complied with all the rulings of the executive committee and all the terms of the agreement, including the provisions respecting the payment of dues. The subscribers shall pay into the treasury a sum equivalent to 2½c. for each ton of net registered tonnage of vessel property, owned or managed by him, which payment shall cover the assessment of such member for the year ending Dec. 31, 1911, unless at the next annual general meeting it be found necessary and be decided to levy a further assessment in respect of this first period; and the rate per ton of the said assessment for each following year shall be fixed at each annual general meeting on the recommendation of the said committee.

Each owner or manager shall, in making contracts with his masters, incorporate any navigating rules adopted by the Association, and have the master sign the rules and agree to abide by them.

RULES FOR MASTERS OF VESSELS.

1. All signals prescribed in the "Rules of the Road" must be given without fail, and these Rules, as well as those governing the Dominion canals, must be at all times strictly observed.

2. It is imperative, however, that when it appears that the master of the other vessel is ignoring a rule, and that your adherence to the special rule applicable would lead to an accident, you must take such steps as will avoid an accident, and promptly report the action of the offending master to the chairman of the committee of the Association, who will deal with the case.

3. In fog, smoke or falling snow, it is absolutely forbidden to run the rivers or enter narrow waters at night, or to run in narrow waters in daylight when you cannot see far enough ahead to be able with certainty to keep your steamer in safe water.

4. You must not attempt to pass a steamer ahead in narrow waters without asking and receiving permission, and then only when you can pass in perfect safety.

5. Do not consent to another steamer passing you in the same direction until you are satisfied this can be done safely, and until this can be done safely blow a danger signal, and repeat it if the other vessel persists in coming on, and do all you can to avoid collision. After permission is given, check your steamer until the other is past and clear.

6. In all narrow waters, and in fog, smoke or falling snow, and under all difficult circumstances, the master must be on the bridge when the steamer is under way.

7. The compasses must be checked at every opportunity by solar observations and river and shore ranges.

8. The steering gear must be overhauled before leaving port every trip, and kept in perfect order.

9. In canals and harbors the vessel must only be moved with the greatest caution, and kept going dead slow and under perfect control at all times.

10. The master shall see that a watchman is on duty, in the proper station, at all times between sunset and sunrise, in all thick or foggy weather, and in all narrow waters, excepting only the canals.

11. The master must see that all shifting boards are in place when carrying grain, and that hatch covers and tarpaulins are properly secured after loading. Where vessels have no shifting boards, owners are to fit them whenever necessary.

12. The use of intoxicating liquors on board steamer is absolutely forbidden, and any officer violating this rule must be discharged by the master on first offence.

13. Every master must keep himself advised of the changes of depths of water in harbors and the shallow portions of the rivers, and avoid loading beyond safe draught.

14. Every master shall report every accident which affects his steamer to the chairman of the said committee, on blanks to be furnished.

15. Any violation of the foregoing rules or of amendments thereof, if established to the satisfaction of the committee, or any accident to the steamers in the Association, which, in the judgment of the committee could have been avoided by the exercise of reasonable care, caution or good seamanship, will be followed by dismissal of the master by the owner, provided that upon any investigation by the committee the master shall have full opportunity to defend himself.

RULES FOR ENGINEERS OF VESSELS.

1. The chief engineer will be engaged by the manager, but must engage a competent staff, for whom he will be responsible.

2. He will have supervision over all the machinery, boilers and piping on the ship and must keep the same in efficient order. This includes all pumping and heating arrangements, deck and steering machinery. He will also make all necessary repairs to the hull which can be made with the facilities at his command in order to keep the ship seaworthy.

3. He must particularly look after the telegraph and whistles and their pulls, and see that they are at all times in perfect order.

4. He must also examine the steering gear daily, and particularly each trip before leaving port, and see that everything is in perfect order, as the safety of the ship depends on this often more than on the main engines. The chains, cables, etc., must be carefully examined, and when links show appreciable wear new chains must be put on and the worn section removed and replaced by new. When perfect links break or fracture, the chain must be discarded.

5. He must not leave the handling of engines, in canals or ports, or in making docks, to oilers or firemen; and either chief or second engineer, which-



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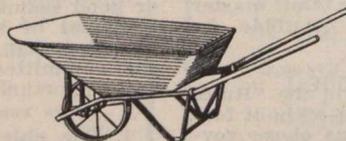
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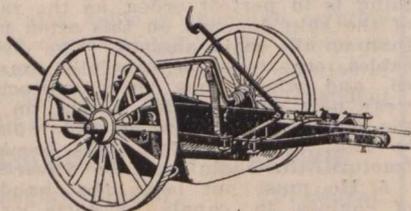
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ever is on watch, must always be by the handling levers when the ship is manœuvring.

6. He must see that all orders given by the master for handling of the machinery are promptly and efficiently obeyed, and in case of any accident to any of the machinery, which may delay or endanger the safety of the ship, he will immediately notify the master and co-operate in the necessary steps taken to guard the safety of the vessel.

7. When it is necessary to make any repairs which necessitate stopping the ship, he will consult with the master before doing so and arrange for the necessary time with the least possible delay or danger to the ship.

8. In case the master overlooks advising him, he will inquire of the master as to the likely time of sailing, and be ready in ample time; and the master will ring the "Stand by" on the telegraph a sufficiently long time before lines will be thrown off to give the engineer a chance to have everything ready to sail.

9. No dispute of the master's orders will be allowed. If he considers the master is giving unreasonable orders, he will report this promptly to the manager, who will deal with it. But, as the safety of the ship may be in danger, every order of the master must be obeyed at once when given.

10. He shall arrange with the master some signal which can be instantly transmitted to the bridge by telegraph in case of accident to the machinery, whether it is to steering gear or propelling power so that the master can immediately take steps to protect the ship.

11. The use of intoxicating liquors on board ship is strictly forbidden, and the chief engineer will co-operate with the master in enforcing this rule, and any man breaking this rule must be discharged. He will also enforce discipline with his staff and endeavor to have them show courtesy at all times to every one with whom they may come in contact.

12. Any violation of the foregoing rules, or of amendments thereof, by a chief engineer, if established to the satisfaction of the committee of the Association, will be followed by dismissal of the engineer, and his conduct will be reported to the chairman of the Board of Steamboat Inspection, provided that upon any investigation by the committee the engineer shall have full opportunity to defend himself.

A Government bill is under consideration in the Dominion Parliament to amend the Telegraphs Act by providing that all vessels carrying more than 50 passengers except those plying between ports not more than 200 miles distant from each other, must be equipped with wireless telegraph apparatus.

During Dec. 1910, 26 employes were killed and three injured in the course of their work in connection with the navigation of Canadian waters. Of the fatalities, 21 occurred in connection with the foundering of the s.s. St. Denis off the coast of Vancouver Island, two were due to drowning, and one each to machinery, to being run over, and to a fall, while of the other accidents, two were due to falls, and one to an explosion.

The Canadian Waterways Improvement Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$50,000, and office at Port Burwell, to carry on a dredging and construction business, for the erection of piers, breakwaters, railways, bridges, buildings, machinery, masonry and other structures. The provisional directors are F. W. Fay, L. Lewis, G. A. Van Order, D. F. Williams and F. W. Young, Port Burwell.

Aids to Navigation on the St. Lawrence and the Great Lakes.

Following is the report of the committee on aids to navigation presented at the Dominion Marine Association's annual meeting recently:—

The committee held two meetings in 1910, but its work has been supplemented by the proceedings of the executive and of the grain section of the Association, both of which committees have in many cases undertaken to deal with matters requiring attention from time to time rather than refer them to the committee having jurisdiction. Doubtless this has been wise in some cases for delay has thus been prevented. The usual list of recommendations for the Light House Board was considered and prepared at the committee's first meeting, and correspondence and interviews regarding its items and regarding the later recommendations of the committee have been carried on throughout the year by the officers. The general list of recommendations prepared by selection and revision in April last may be summarized as follows:—

The early erection of the Michipicoten light.

The retention of the Myles buoy (red) light in Kingston harbor.

The retention of the gas buoy near Lachine Wharf which the Board proposed to remove.

The early erection of the promised ranges marking the entrance to the outer harbor at Kingston.

The lighting of the Murray canal.

The improvement of Brighton entrance inside of Salt Point.

The placing of a gas buoy at the turn from the range line to the line of the canal in Brighton bay.

The placing of a gas buoy to mark the end of the shoal east of Indian Island near Trenton; or the removal of the gas buoy marking the entrance to Trenton so as to make it serve the double purpose.

The early completion of the work on Telegraph channel, in the Bay of Quinte.

Lights between Smiths Falls and Merrickville on the Rideau canal, and in Mud Lake near Newboro, according to plans of the Superintendent Engineer of the canal.

A range on Centre Island bank; north shore of Lake Huron.

A lighted whistling gas buoy, instead of whistling buoy only, on Bad Neighbor shoal.

Alteration of the lights at the eastern entrance of Toronto harbor, to make them effective as ranges.

Distinguishing tops on all port and starboard buoys.

Of these recommendations many will require the continued attention of the committee, and it is recommended that the list be kept in view in framing a petition to the Light House Board in 1911.

At the meeting of the committee in November last special consideration was given to the question of the preservation and improvement of the Rideau canal, with special regard to its utility in the transportation of freight and passengers from Lake Ontario and its ports, to the Ottawa River and Montreal. The committee appointed delegates to join a deputation to the Minister, and is pleased to report the success of that deputation.

The developing trade in the Bay of Quinte was also the subject of special discussion, and the recommendations already made for additional lights and dredging, and for the early completion of works already undertaken in these waters, were strongly endorsed, and

correspondence has been had with the proper authorities to give effect to these resolutions.

At its first meeting the committee had refused to endorse a petition from the Lake Ontario Coal Carriers' Association for a light on the Main Duck in Lake Ontario, but in November, on the suggestion of the Light House Board that it might be advisable to move the light from the False Duck to the Main Island, the committee protested against such action, and without urging the erection of the light on the Main island, asked that if a light is placed there it should be placed in such a location as to serve the traffic up and down the lake as well as the parties asking for its erection. The Board points out that on account of recent soundings and discovery of more shoal water between the islands than was indicated on the charts, vessels of deep draft which will come down Lake Ontario through a new Welland Canal will require to keep over well towards the Main Duck.

The committee particularly urged the provision of men at the canal entrances on the St. Lawrence to take lines from approaching vessels. The matter is referred to in the executive committee's report, and the failure of the Department to carry out the recommendations of the late Chief Engineer, to say nothing of the additional recommendations of the Association, is there noted. The next committee on aids to navigation should devote special attention to an effort to procure this very necessary assistance.

The committee also protested against the development of power in the St. Lawrence River to the prejudice of navigation interests and endorsed the proceedings taken against the application of the Canadian Light & Power Co.

The improvement of various canal entrances and the strengthening of the banks of the Soulanges canal by concrete walls in certain locations, as well as other minor improvements in the system, were also considered by the committee, and some of the recommendations in the report of the executive committee are identical with those of this committee.

The committee asked that the gas and bell buoy lost from Niagara shoal should be replaced at the opening of navigation in 1911, and is pleased to be able to report that this will be done.

Mention may be made of the fact that your counsel has been nominated as the Association's representative on the Light House Board of Canada, and it may be hoped that when the appointment is made the consideration of the prayers of this Association in the light of the information which prompted them will be at least facilitated.

Farrar Transportation Company.

The report for the year 1910 presented at the annual meeting at Collingwood, Ont., Jan. 31, showed that the gross earnings of the two steamers were \$104,140.52, and operating expenses, \$68,517, leaving a net balance of \$35,622.98. The assets are placed at \$438,444.30, the steamers valued at \$404,495, being the chief item. The liabilities, besides the capital stock, are \$121,175, leaving net balance of assets over liabilities of \$67,368.

Following are the directors for the current year:—President, T. I. Thompson, Owen Sound; Vice President, E. M. Wayland, Fort William; Secretary-Treasurer and Managing Director, G. E. Fair, Collingwood; other directors, D. D. Lewis, W. E. Allen, E. Stubbs, G. P. Pearsall, M. Snetsinger, Dr. Shultis, W. T. Toner.

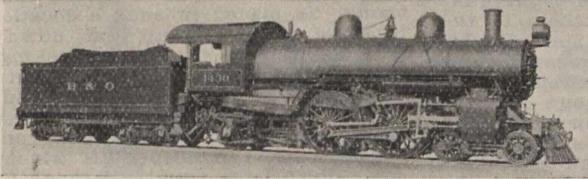
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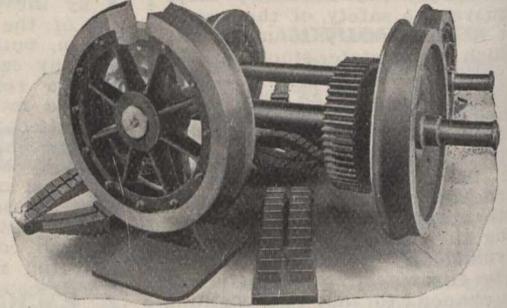
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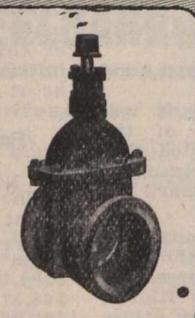
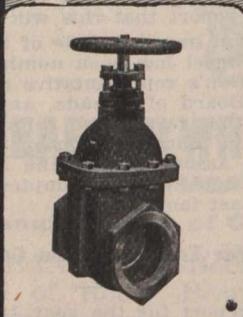
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LAKE GRAIN SHIPMENTS, 1910 CROP.

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the grain carried by individual vessels, Canadian and foreign, from Fort William and Port Arthur, during the season of navigation, April 13 to December 6, 1910, and total shipments for the seasons 1910 and 1909. The last two figures in each column represent pounds.

Table with columns: VESSELS, WHEAT, OATS, BARLEY, FLAX, SCREENINGS. Rows include Canadian vessels (Athabasca, Alberta, Assiniboia, etc.) and Foreign vessels (Armour, P. D., Admiral, etc.).

(Continued on bag 27.)

The Lighthouse Board of Canada.

In accordance with the report of the Lighthouse Board of Canada, appointed by order in council, Feb. 26, 1904, to enquire and report to the Minister of Marine upon all matters assigned to him under sec. 833 of the Canada Shipping Act, an order in council has been passed with a view to increasing the efficiency of the Board, that it be reorganized as follows:

That in order to facilitate the consideration of matters submitted to the Board the undermentioned divisions be established:

Atlantic Division, comprising all the waters of Canada on the Atlantic coast, including Hudson Bay and as far inland as the head of ocean navigation;

Eastern Inland Division, comprising all the waters of Canada between Montreal and Port Arthur;

Pacific Division, comprising all the waters of Canada west of Port Arthur to the Pacific Coast.

That the following officers be appointed to the Board:

The Deputy Minister of Marine and Fisheries, Chairman;

The Chief Engineer of the Department of Marine and Fisheries;

The Wreck Commissioner and Officer-in-charge of Pilotage;

The Commissioner of Lights;

The President of the Shipping Federation of Canada as representative of the shipping interests in the Atlantic Division, the President of the Dominion Marine Association as representative of the shipping interests in the Inland Division.

Capt. J. W. Troup as representative of the shipping interests in the Pacific Division.

That in the absence of the Chief Engineer of the Department of Marine, the Assistant Chief Engineer be authorized to attend the meetings of the Board, and act as a member thereof; and that in the absence of the Commissioner of Lights the Assistant Commissioner of Lights be similarly authorized to attend and act.

That F. H. Houde, clerk in the Department of Marine be appointed Secretary of the Board.

That the members of the Board, other than officials of the Department of Marine, for whom provision in regard to travelling expenses already exists, be allowed their travelling expenses for attending meetings of the Board; and that in addition thereto such members be paid an honorarium of \$5 a day each while attending the meetings, the day of departure from their homes and the day of departure from the place at which the Board holds the meetings to be considered as days in attendance for the payment of such honorarium.

That the following rules for the guidance of the Board be adopted:

A member of the Board representing the shipping interests of a division shall be entitled to vote only on matters affecting such division;

The Chairman shall vote as an ordinary member and also have a casting vote in case of a tie;

Three members of the Board, provided two of them are officers of the Department of Marine, shall form a quorum.

That the order in council of Feb. 26, 1904, constituting the Lighthouse Board originally, and all subsequent orders in council relating thereto to date, be cancelled.

A bill respecting the pollution of navigable waters was read a second time in the Senate, Feb. 2. Provision is made for a penalty of \$500 in the case of a corporation offending, with an addition of \$50 for each day on which the offence is continued, and \$50 with an addition of \$10 a day in the case of individuals.

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Lake Grain Shipments, 1910 Crop—(Continued from page 271.)

VESSELS.	WHEAT.	OATS.	BARLEY.	FLAX.	SCREENINGS.
Hawgood, H. B.	235,000				
Holmes, E. F.				239,258.12	
Ireland, R. L.				241,282.38	
Jenks, J. M.	450,000				
Jupiter	130,923.20			57,100.10	
Jenkins, C. C.	306,161.10				
Kopp, J. T.	208,444.50	145,000.00			
Kerr, D. G.	267,975.50				
Lugon	182,982.10				
Mack, W. H.	385,086.50				
Miller, P. P.	191,000				
Mitchell, Jno.	220,000				
McKinney, Price	505,885				
Nye, Harold B.	431,039.50				
Oliver, H. W.	248,474				
Peavey, G. W.					157,646.40
Peavey, F. H.	209,901		39,999.44		
Rees, W. D.	415,788.50				
Russell, G. L.	268,103.50				
Steel King	432,999				
Sills, H. S.	419,655.20			302,192.03	
Sinaloa	722,233.50				
Smith, H. W.	237,633.40				
Smith, M. C.	229,074.20				
Smith, H. B.	338,000				
Smith, L. C.	573,090				
Sierra	183,101.50			60,000	
Senator	208,000				
Sahara	286,000				
Saunders, E. N.	109,252		63,478.26	43,667.09	
Sultana	179,109			60,000	
Sonoma	176,000			79,951.11	
Stadacoona	207,506.20	81,270.07	60,977.34		
Squires, F. B.	404,296.50			53,384.55	
Truesdale, W. H.	65,000		214,214.06		
Uganda	107,000				
Wisconsin	247,032.20				
Woodruff, L.	185,679.40			55,644.21	
Western Star	478,076.20				
Wells, F. B.	403,734.40	154,124.24		6,662.48	144,944.50
Weeks, J. L.				239,315.47	
Walker, P. G.	238,957.20				
Walsh, G. P.	422,000	99,235.14			
Yates, Harry	340,000				
Zimmerman, E.	303,440.40				
Totals Foreign (to foreign ports)	16,640,800.00	479,630.11	495,667.43	2,138,193.34	302,591.30
Canadian	40,115,640.40	15,864,771.14	1,104,664.03	952,524.26	284,967.40
Total, 1910	56,756,440.40	16,344,401.25	1,600,331.46	3,090,718.04	587,559.10
CANADIAN VESSELS—					
Canadian ports	38,343,487.30	15,481,822.24	1,041,698.41	471,564.10	
Foreign ports	1,772,153.10	382,948.24	62,965.10	480,960.16	284,967.40
1909.					
Canadian	40,115,640.40	15,864,771.14	1,104,664.03	952,524.26	284,967.40
Foreign (to foreign ports)	40,610,244.30	15,022,801.24	1,903,516.09	1,625,565.45	
Total, 1909	15,972,859.50	818,709.10	451,185.04	1,468,061.45	
CANADIAN VESSELS—					
Canadian ports	56,583,104.20	15,841,511	2,354,701.13	3,093,627.34	
Foreign ports	37,282,003.20	14,694,653.26	1,629,273.43	1,085,115.47	
Foreign ports	3,328,241.10	328,147.32	274,242.14	540,449.54	
Total	40,610,244.30	15,022,801.24	1,903,516.09	1,625,565.45	

A New Type of Lake Freighter.

A freight steamship, The Toiler, is now being built in England for the Canadian canal and lake trade, which is a decided innovation. It is simply a hull, without any top hamper, masts, or even funnels, as it will be operated by internal combustion oil engines, the same as automobiles. It will be the first boat of this kind to be operated on the Great Lakes for commercial purposes, and will also be the first vessel in the canal carrying trade to use double propellers, which, it is claimed, will prove of great advantage in manœuvering.

The adoption of this type of boat is in line with the natural evolution of the canal freighter. With the short season and high wages paid, shippers have been using all their ingenuity to get as much out of a given size of vessel as is possible. The lake tonnage is divided into two classes, the big upper freighter and the canal boat, while the latter is divided into two types, the package freighter and the bulk carrier. The great increase in the bulk shipments of coal from Lakes Erie and Ontario points to Montreal, the building of the Port Colborne elevator and the elevators in Montreal, together with the pulpwood trade, have of late tended to make the bulk freighter a most important type. The continual struggle has been to get the greatest possible deadweight on the limited draft. But with the limitations of the canals and locks, it is impossible to increase the dimensions of ships, so that any increase in deadweight must be taken out of the material and equipment. The limit in reduction of weight of material used in construction has long been reached, so that the only method of increasing carrying capacity was by reducing the weight of the propelling machinery.

With this idea in view internal combustion oil engines have been adopted for the new boat, which was designed by John Reid & Co., Board of Trade Building, Montreal. The introduction of this type of engine has effected such a saving of space and deadweight that The Toiler will carry nearly 3,000 tons, or about 97,000 bush. of grain through the canals, an increase of about 15,000 bush. over the largest canal carriers fitted with steam engines.

To get such a carrying capacity boilers had to be dispensed with altogether. The boat's propelling machinery consists of two sets of oil engines driving twin screws. The latter feature is a revolution in itself, as it will be the first canal boat so equipped. The advantage claimed is that the vessel will be under better control while manœuvering in narrow waters and in lining up previous to entering a lock. The engines are directly connected, without clutches, to the propeller shafts, and are a modification of the Diesel engine. There is no injection system of any kind, therefore, no delicate joints or connections to get broken or loose, which might stop the engines at a critical moment. The starting and reversing gear is simple, and said to be more certain than with the steam engine, and is done by means of compressed air, the same power being also used to drive the steering engine and other auxiliaries. The fuel to be used is crude petroleum, which is injected into the cylinder without being vaporized, where it is ignited and burned in a charge of hot air. This air when the oil is injected is at a dull red heat, generated under very high compression.

The Toiler will arrive at Montreal and go into service early in the coming navigation season, and will be the first gas or oil propelled vessel to cross the Atlantic. It is regarded by ship engineers as a big step in the solution of the canal navigation problems, and the prediction

Richelieu and Ontario Navigation Co.

Following are extracts from the report for the year 1910, presented at the shareholders' annual meeting in Montreal, Feb. 13.—

	1910.	1909.
Gross receipts	\$1,437,931.42	\$1,238,044.31
Operating expenses	1,016,233.23	932,918.47
Fixed charges, interest, etc.	58,582.50	47,563.55
Net profit	\$363,115.69	\$257,562.29
Increase	\$105,553.40	

Four quarterly dividends of 1 1/4% were paid, aggregating \$164,430.

The new steamboat, Rapids Prince, for the rapids division, was completed and delivered in Sept. The new steamer, O.N. Co. of the United States (which company you control) had a successful position in the Lake Ontario and Thousand Island trade. Continuing the company's policy of expansion, your directors have ordered a large modern twin-screw passenger and freight steamer for the Saguenay division. This vessel is now being built on the Clyde, to be delivered at Sorel, Que., for the tourist season of 1911.

The insurance fund has been credited with \$61,000.00 out of the year's earnings and \$229,140.95 now stands to the credit of this account. This reserve fund is in addition to the insurance carried with insurance companies on shore prop-

erties, steamers, etc. During the year \$22,873.33 of the outstanding debentures were redeemed and cancelled in accordance with the deed of trust.

Including the one building the company has 21 boats, with 36,713 tons aggregate tonnage.

ASSETS.	
Steamers, real estate and buildings, docks, wharves, etc.	\$4,774,019.48
Accounts receivable	99,883.92
Coal stores, provisions, etc.	79,402.90
Insurance fund investment	179,286.82
	155,280.91
	\$5,108,587.21

LIABILITIES.	
Capital stock	\$3,132,000.00
Bonds 5% sterling	\$1,216,686.66
Less cancelled	55,966.66
	1,160,700.00
	\$4,292,700.00

Accounts payable	\$103,758.84
Bank loans	72,018.73
Unclaimed dividends	159.00
Accrued fixed charges	19,345.00
	195,281.57
Insurance fund	229,140.95
Surplus	391,464.69
	\$5,108,587.21

INCOME ACCOUNT.	
Surplus Dec. 31, 1909	\$378,700.86
Net profit, year 1910	363,115.69
	\$741,816.55

Dividends	\$164,430.00
Carried to insurance fund	61,000.00
Written off steamers, depreciation, etc.	124,921.86
Net surplus	391,464.69
	\$741,816.55

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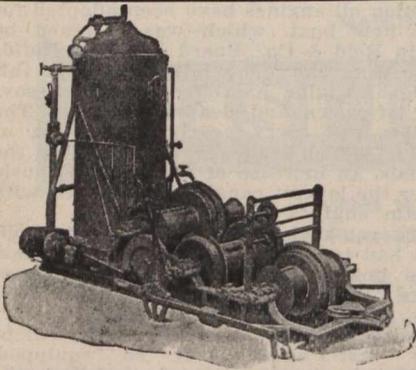
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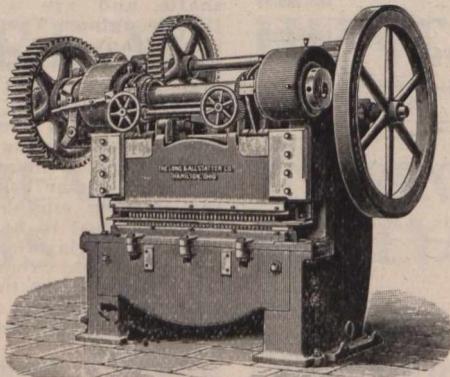
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is made that within a decade or two steam will be out of date on canal and lake boats.

In connection with the construction of The Toiler, experiments are being carried on with high speed oil engines in combination with electric transmission, which it is expected will mark a further advance in economy and efficiency in Canadian canal transportation. An interesting feature will be that through suitable electric switches and connections the control of the propellers will be placed in the hands of the navigating officer right in the bow of the ship. This will be a very great advantage in handling a vessel through the narrow canal channels and locks.

Notices to Mariners.

The Department of Marine has issued the following:

10. Jan. 25. 22. New Brunswick, Chaleur Bay, Restigouche river, Dalhousie harbor, lighthouse on Government wharf increased in height. 23. Quebec, Gulf of St. Lawrence, Anticosti Island, Bagot bluff, change in fog alarm.

11. Jan. 28. 24. British Columbia, Vancouver island, southeast coast, Victoria harbor, rock off shoal point, buoy placed. 25. British Columbia Strait of Georgia, Active pass, Mayne island, Georgina point, change in character of light.

12. Feb. 7. 25. Ontario, western end of Lake Erie and lower end of Detroit river, list of buoys to be maintained by Canadian Government.

13. Feb. 8. 26. Nova Scotia, west coast, Port Maitland, dates when light will be exhibited. 27. Nova Scotia, Cape Breton island, east coast, Sydney harbor, west arm, intended change in character of front range light. 28. Prince Edward Island, south coast Hillsborough Bay, St. Peters Island, light station, explosive for signal. 29. Ireland, south coast, Waterford harbor, Hook point light, alteration in character. 30. England, west coast, Bristol channel, Hartland point lighthouse, alteration in fog signal.

14. Feb. 9. 31. Ontario, Georgian Bay, south side, Collingwood harbor, obstructions in dredged channel removed. 32. Ontario, Georgian bay, entrance to Key harbor, depth on Alwin rock. 33. Ontario, Lake Superior, Thunder Bay, off Mutton island, wreck removed.

15. Feb. 15. 34. British Columbia, Burrard inlet, First narrows, Prospect point, change in sounding of fog bell. 35. British Columbia, Burrard inlet, Vancouver harbor, Brockton point, change in sounding of fog bell. 36. British Columbia, Arthur passage, Herbert reef, beacon erected.

16. Feb. 17. 37. New Brunswick, Bay of Fundy, south of Grand Manan Island, Little Wood island, life saving station established. 38. New Brunswick, Bay of Fundy, south of Grand Manan island, telephone connections between Gannet rock lighthouse, Little Wood island life saving station, Big Wood island and Seal Cove.

17. Feb. 21. 29. New Brunswick, Chaleur Bay, Restigouche river, Dalhousie Government wharf. 40. Quebec, Chaleur bay, Garde point, lightboat withdrawn, change in position of gas buoy. 41. Quebec, Chaleur bay, Restigouche river entrance, Maguacha spit, gas buoy established. 42. Quebec, River St. Lawrence below Quebec, St. Roch des Aulnaies, marine signal station discontinued.

18. Feb. 22. 43. Ontario, Lake Erie, Port Stanley breakwater, change in character of light. 44. Ontario, Lake Superior, Thunder Bay, Port Arthur light station, fog bell established.

19. Feb. 22. 45. New Brunswick, south coast, Bay of Fundy, Chignecto channel, Grindstone island lighthouse,

lighthouse destroyed by fire, temporary light. 46. Nova Scotia, south coast, Cross island light station, change in fog alarm.

Northern Navigation Co. Ltd,

The report for 1910, as published in our Feb. issue, was adopted at the annual meeting in Toronto Jan. 31. In moving the adoption, the President, W. J. Sheppard, referred to the agreement with the G.T.R., under which the company could be required to build another vessel of the Hamonic type, and intimated that this would probably become necessary in the near future. The first agreement between the N.N. Co. and the G.T.R. was made for 10 years, with the understanding that if the business required it, the G.T.R. would call on the N.N. Co. to build another vessel by giving 18 months notice, and on the new vessel being completed, the agreement between the companies was to be automatically extended for 10 years from the expiring date of the first agreement.

The directors were unanimously re-elected. The board for the current year is as follows:—President, W. J. Sheppard; Vice President, H. Y. Telfer; Secretary-Treasurer, C. E. Stephens; other directors, H. B. Smith, F. A. Lett, C. D. Warren, Hon. J. S. Hendrie, W. D. Matthews, W. E. Davis. The executive committee is composed of the President, Vice President, Secretary-Treasurer, F. A. Lett and H. B. Smith.

In reply to a shareholder the President said that Jas. Playfair, of Midland, and President of the Inland Lines, Ltd., had made an offer to the directors to purchase the company's stock at 125, or \$1,250,000 for the \$1,000,000 issued. A preliminary agreement between Mr. Playfair and the directors had been signed by six of the directors, viz., himself, H. Y. Telfer, H. B. Smith, C. E. Stephens, F. A. Lett, and C. D. Warren, under which Mr. Playfair agreed to buy at \$125 a share and interest from Jan. 31, 1911, at 6%, all shares belonging to the shareholders who before Mar. 12 accepted the offer by depositing certificates in the Traders Bank, Toronto, provided that shareholders owning at least 51% of the entire stock accept the same and subject to the sale being approved by C. M. Hays, President G.T.R. In the case of any shareholder, under any disability as regards sale of stock or residing outside of Ontario or Quebec, a further 30 days to be allowed for deposit of certificate. Payment for the stock to be made in cash on or before March 20. Mr. Playfair to deposit \$50,000 on or before Feb. 15 to the joint credit of himself and the President and Treasurer of the N.N. Co., the same to be available on and after March 20 to the purchaser for payment for shares of which certificates might be deposited, provided that at least 51% of the shareholders should have accepted the offer, and that the purchaser should, on or before March 20, be able and willing to carry out the agreement and to purchase all shares of shareholders who may before March 20 accept the offer, otherwise the \$50,000 should be forfeited and paid to the shareholders accepting the offer as liquidated damages for breach of the agreement. The six directors signing the agreement accepted the offer for their shares and agreed to recommend its acceptance by the other shareholders. If certificates for 51% of the stock were not deposited by March 12 the agreement was to be void and the \$50,000 returned to Mr. Playfair. The directors signing the agreement undertook, on the stock deposited being paid for as provided, to resign from the board and to elect there-to such persons as the purchaser might nominate. It was further provided that the agreement should only be binding when the deposit of \$50,000 had been

made, as called for, and C. M. Hays had given his written approval.

President Sheppard added that he had communicated the offer to Mr. Hays on Jan. 17, the latter replying as follows:—"I have been consulting with the officers of our freight and passenger departments, and upon receiving their views as to what is proposed, have arrived at the conclusion that it is not at present in our interests that there should be any change in the existing state of affairs. I have asked Mr. Davis to state the matter at the meeting tomorrow. I would also ask you to consider whether or not the business outlook will warrant you in placing an order for another steamship of equal capacity and general style to the Hamonic, to run in the line with that vessel." Mr. Sheppard said that as Mr. Hays did not approve of the proposed transfer of ownership, the arrangement with Mr. Playfair fell through automatically.

Mr. Playfair then went to work to change Mr. Hays' views, and secure the G.T.R.'s approval, and on Feb. 6 President Hays wrote President Sheppard as follows:—"Referring again to the matter of the acquisition by Jas. Playfair and associates, of the Northern Navigation Co., J. W. Loud, W. E. Davis, and myself have today had a conference with Mr. Playfair on this subject, and after discussing the situation fully, and the terms of the existing agreement between our companies, with the understanding arrived at on our part with Mr. Playfair that he agrees with us as to the desirability of a new steamer under the terms of the agreement, and having advised us as to his intentions as to the matter of directors and management, which he agrees shall be of a character which shall be satisfactory to us, and in which he has no present intention of making any changes, nor has he any desire to do so without conference and agreement on our part, it seems to me the conference has had the effect of eliminating any objections we might offer to what is proposed, and I am therefore advising you accordingly."

Following this, Mr. Playfair, on Feb. 15, deposited the \$50,000 as provided in the agreement, and under that date the N.N. Co.'s directors issued a circular to shareholders, advising them of the offer and recommending its acceptance, the circular being signed by all the directors except W. D. Matthews. C. E. Stephens signed except as to 10 shares out of his holding of 40 shares.

It is said that British as well as Canadian capital is behind Mr. Playfair in this transaction, and that Lord Furness, ship owner and ship engine builder, and head of Furness, Withy & Co., and the Furness Line, is interested.

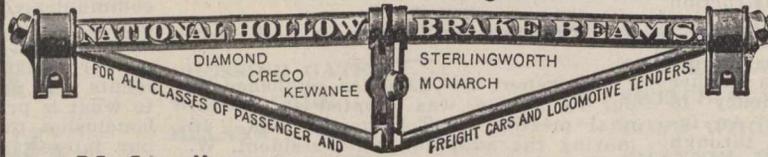
On Feb. 6 President Hays notified President Sheppard, under the agreement between the two companies, that the N.N. Co. provide an additional steamship within 18 months, the plans to be approved by the G.T.R. Mr. Sheppard replied on Feb. 10 that the company would do so, the new vessel to be ready not later than the opening of navigation in 1913, and that she would probably be 400 ft. long. The Hamonic is 365 ft.

The Minister of Public Works promised consideration to a deputation from Meaford and the vicinity, Feb. 1, in response to their request for an appropriation for the improvement of Meaford harbor.

The Department of Public Works has directed the preparing of plans for the construction of an outer breakwater at Port Stanley. It is to be 1,200 ft. long, which will give the harbor an opening of 350 ft., and it will be built to the east of the present harbor entrance. It is stated that the east pier will subsequently be destroyed.



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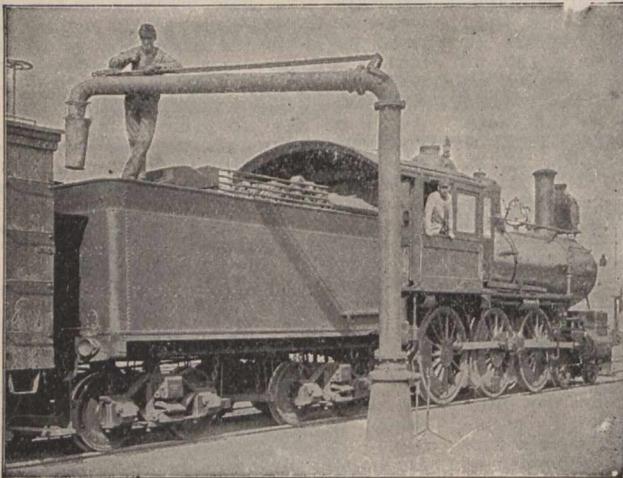
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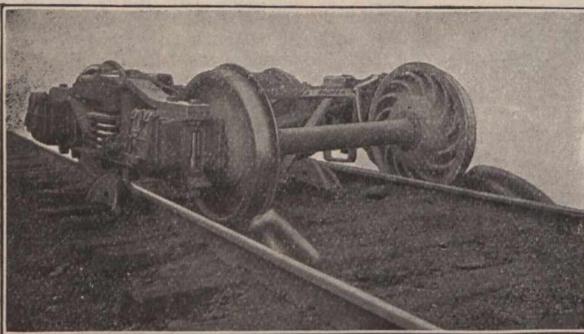
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St. Lawrence River Steamboat Co. and Thousand Islands Steamboat Co.

The property of these two companies has been acquired by a syndicate headed by E. B. Osler, President Niagara Navigation, and W. D. Matthews, President St. Lawrence and Chicago Steam Navigation Co., and including also B. W. Folger, General Manager Niagara Navigation Co. The companies were formerly controlled by Folger Bros., Kingston, Ont., the firm consisting of the late Henry Folger and B. W. Folger, Sr. A few years ago the properties were transferred to Howard S. Folger and B. W. Folger, General Manager of the Niagara Navigation Co., both sons of the late Henry Folger. The syndicate has bought Howard S. Folger's interest, and B. W. Folger, of the N.N. Co., has put his interest in.

Both lines operate in connection with the New York Central and H.C. Rd. The St. Lawrence River Steamboat Co. has three boats, America, Pierpont, and Jessie Bain, which run between Kingston, Ont., and Cape Vincent, N.Y., an important ferry service of some 20 miles, serving territory east and west of Kingston, and, on the U.S. side, Watertown, Syracuse, Utica, Rome and other important points. The Thousand Islands Steamboat Co. has three boats, St. Lawrence, Ramona and New Island Wanderer. A fourth boat, the Ottawa, which was burned, is to be replaced. These boats run between Clayton and Alexandria Bay, N.Y., with eight stops between, and also carry local excursions among the Thousand Islands, calling occasionally at Kingston and Gananoque, Ont.

Some changes have been made in the boards of both companies, so as to place the new ownership in control and further changes will probably be made at the annual meetings in June. Robt. Crawford, coal merchant, Kingston, is President of both companies.

Howard S. Folger has retired from the management, and has been succeeded as Manager by W. J. Douglass, who was born at Troy, N.Y., June 15, 1875, and who has been employed by the New York Central Rd. since he was 20 years old, with the exception of two years spent in Cleveland in the vessel brokerage business. From 1901 to 1903 he was agent Western Transit Co.; 1903 to 1905, Superintendent Mutual Transit Co.; 1905 to 1907, General Superintendent Rutland Transit Co.; 1907 to 1909, Assistant Manager Rutland Transit Co.

The All Red Steamship Co.

The Dominion Parliament is being asked to incorporate the All Red Steamship Co., the bill having been read a first time, Feb. 1. The incorporators named are: Chaplin, Milne, Grenfell and Co., Vickers Son and Maxim, Ltd.; Perry and Co., Sir Thos. Tancred, Linton Clarke and Co., Sir Thos. Troubridge, F. J. Burt, Capt. C. E. S. Clitherow, London, Eng.; W. Beardmore and Co., Ltd., Glasgow, Scotland; R. Stephenson and Co., Hepburn-on-Tyne, Eng.; Swan, Hunter and Wigham Richardson, Ltd.; E. L. Bentley, Newcastle-on-Tyne, Eng.; W. H. Leslie, Price Forbes and Co., Major R. Cobbold, W. Harris, D. H. Allen, London, Eng.; W. Fitzgerald, Dublin, Ireland; the Gloucester Wagon Co., Ltd., Gloucester, Eng.; North British Locomotive Co., Ltd., Glasgow, Scotland; J. Fraser, Port Glasgow, Scotland; S. G. Hoar, J. Kennedy, H. McCornodale, Co., H. Haulder, Andrew Weir and Capt. J. A. Morrison, Partners, Ltd.; and Co. London, Eng.; Gellatly, Hankey and Co., London, Eng.; Pickford and T. MacIntreith, and J. A. Chisholm, Halifax, N.S. The provisional directors are: Sir Thos. Troubridge, N. H. Skipnith,

Andrew Weir, H. Haulder, H. G. Bauld, W. A. Black and John Kennedy, with power to add to their number. The capital stock is fixed at \$1,000,000 in shares of \$100 each. The head office is to be in Montreal, and the first annual meeting of shareholders is to be held on the first Wednesday in Sept. Power is asked to own and operate steam and other vessels between Canadian ports and all ports of the British Empire and foreign countries; to build and own docks, piers, wharves, warehouse, elevators, hotels and other buildings and works, and to build branch lines of railway on its properties, provided that they do not exceed six miles in each case, and to connect them with other lines, with power to expropriate property for such work; to issue debenture stock, bonds and other securities and mortgage its property, provided that the total amount of the securities does not exceed the cost of the properties mortgaged; grant liens on subsidies, grants, etc.; to enter Ballina and Belmullet Ry. and Piers Co., into agreements with the the Collooney, in Ireland, or to acquire its property, rights and franchises, and to enter into agreements with the British, Canadian, Australian and New Zealand Governments, or with the Governments of any British colony, for the carriage of mails and for other services.

The promoters of the bill which is now before the House of Commons, have been engaged on the project for some years, and the matter has received considerable attention from the various Governments above. The original proposal provided for a quick service between a Newfoundland or Canadian port and Blacksod Bay, Ireland, with suitable rail service across Ireland, and steamboat transfer across the Irish Channel to England. The question of transfer over the Irish Channel was left open, as if a car ferry service was operated, it would necessitate the reconstruction of the Irish railways, owing to a difference in a gauge. It is anticipated that the question of Governmental aid for this project will come up for discussion at the Imperial Conference, which is to take place in London, Eng., after the coronation.

The All Red Line Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$100,000, and office at Ottawa, to build, purchase or otherwise acquire and operate steam and other vessels, harbors, wharves, docks, piers, dry docks, warehouses and other buildings, railway and steamboat terminals, etc., and to carry on the general business of carriers of passengers and freight; to amalgamate with any person or company engaged in the transportation of passengers and

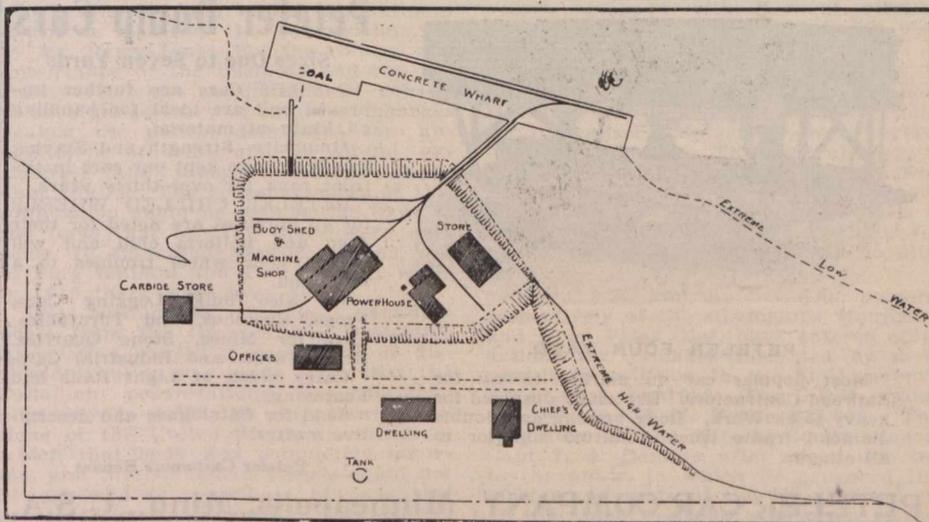
freight by land or water, and to acquire interest in any similar companies. The provisional directors are J. A. and O. Ritchie, J. N. Rattey, W. J. Grace, and R. M. Bobier, Ottawa.

The All Red Line, Ltd., has been incorporated under the British Columbia Companies Act. Whether there is any connection between the companies incorporated by Dominion and British Columbia letters patent and the one which is seeking incorporation by the Dominion Parliament, has not transpired.

Buoy Depot at Prince Rupert B.C.

The Marine Department has let a contract to the Pacific Coast Construction Co. for the building of a buoy depot at Prince Rupert, B.C., for \$159,445. The site consists of about five acres on the southern shore of Casey Cove, on the western side of Prince Rupert harbor, about 2 1/2 miles from the existing wharves in the centre of the city. When completed the establishment will consist of a reinforced concrete pile wharf, a yard on the same level as the wharf, and the necessary offices, dwellings, workshops, etc., with the usual plant for handling and repairing buoys, lanterns, and other aids to navigation. The accompanying plan shows the disposition of the wharf and various buildings with relation to the site. The wharf will consist of reinforced concrete piles with reinforced concrete braces. The deck beams and decking will be of wood. The buildings will all be of wood, with the exception of the buoy shed, which will be of steel frame construction. A system of yard tracking will be supplied, and it is intended to use a locomotive crane in connection with this track for handling materials. It is intended to keep on hand a supply of coal, and a portion of the wharf has been widened for storage purposes. An overhead crane will be established in the buoy shed for handling heavy buoys. A system of water supply, fire protection and drainage, suitable for the requirements of the station, has been provided for and is included in the contract price. It is expected that this depot will meet all the requirements rendered necessary by the increase in aids to navigation in the northern waters of British Columbia, and the difficulty of handling these at such a distance from departmental headquarters. The plans and specifications were prepared by the Department's Chief Engineer, Col. W. P. Anderson, M. Can. Soc. C.E.

The North Vancouver ferry receipts for Jan. were \$6,570.65, against \$3,426 for Jan., 1910.



Buoy Depot, Prince Rupert, B.C.

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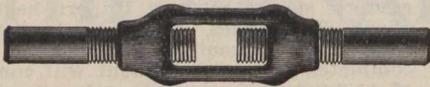
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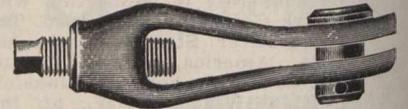
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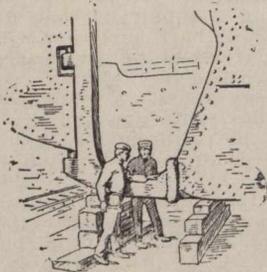
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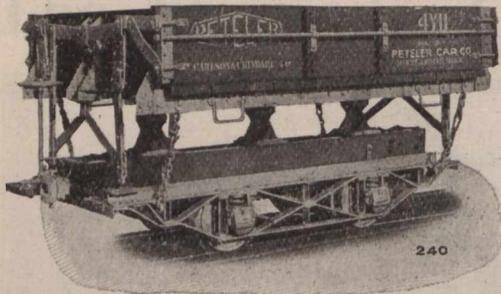
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R. and O. N. Co's Saguenay Steamboat.

The Richelieu and Ontario Navigation Co.'s steamship, which is under construction at Glasgow, Scotland, will be ready for service by June, and will cross the Atlantic under her own steam, when she will be placed on the Saguenay route. Her dimensions are length 285 ft., breadth over all, 58 ft., with a draught of 12 ft., and she will be propelled by twin screws, driven by engines of the four cylinder triple expansion type, capable of developing 19 miles an hour. All her equipment will be of the most modern type, and she will be fitted with a telephone system between the pilot house, captain's and engineer's rooms and the steward's department. Her main deck forward will be open for the carriage of freight, and aft of this will be the second class quarters, while further aft will be the main entrance hall, in which will be located the baggage check room, purser's office, etc. In the centre of the entrance aft will be the entrance to the dining room which will extend to the stern of the vessel. Both the dining room and entrance hall will be panelled in mahogany, and the entire decorations will be of the most modern type. The main staircase will lead from the entrance hall to the main saloon, which will have staterooms on both sides, all of the outside type 12 being parlor rooms with baths connecting, and all being provided with running water and open plumbing. At the forward and after ends of the main saloon will be large circular observation rooms, entirely surrounded by glass. The upper stateroom deck will be arranged in the same way, and above this will be an observation cabin. The entire vessel will be steam heated and lighted by electricity, and the life saving and fire apparatus will be of the most approved type.

Lloyd's Register of Shipping.

An important change in the constitution of the governing body of this society has been decided upon, namely, to give direct representation to shipbuilders and Engineers. The society, which was established on its present basis in 1834, has up to the present been under the control of a committee composed of shipowners, underwriters, and merchants, elected by public bodies in London and the other great shipping ports of the United Kingdom. In the earliest days of the survey and classification of shipping, it was thought that a committee so composed was fully representative of all the interests concerned. The rapid growth of great shipbuilding yards and engineering works, forming as they have done what are practically universities of naval architecture and marine engineering, introduced, however, a new factor in the shipping world and the committee felt that the usefulness of the society would be greatly enhanced if the scientific knowledge and practical experience which had contributed so largely to the building up of these enterprises could be enlisted in its service. Accordingly, in 1890, a consultative committee was formed, elected by the principal British technical institutions, of men whose ability and attainments entitle them to be ranked among the foremost authorities on everything pertaining to the technical side of the society's work.

Press reports state that the C.P.R. will establish a steamship line between the Maritime Provinces and the West Indies, with hotels at St. John, N.B., Yarmouth, N.S., Jamaica and Bermuda. For this service, it is stated, the steamships Empress of India and Empress of China, at present operating on the Pacific, will be transferred to the Atlantic.

Inland Marine Insurance.

A conference with underwriters took place in New York Feb. 3 at the offices of Clubb and Sons, underwriters, at which the Canadian Lake Protective Association was represented by Frank Plummer, President; A. A. Wright, Toronto, and F. S. Wiley, Port Arthur. L. Henderson, Montreal Transportation Co., and F. King, Counsel, were snowbound and unable to reach New York in time. Representatives of Johnson and Higgins, insurance brokers, and of F. Hermann, underwriter, were present. The Canadian Lake Protective Association's case was well presented and favorably received.

The failure of the Great Lakes Protective Association to take any measures to exercise control over the navigation of its members' boats was commented on as one of the main reasons for the formation of the Canadian Association, which latter organization aims to make the master's certificate a pledge of reasonable safety for the ship. The agreement constituting the association and the rules for masters and engineers, which include written consent to the penalty of dismissal, were explained, and it was shown that any negligence on the part of these officers would be dealt with by a committee interested in enforcing the regulations and free to act independently of the embarrassing claims of the employe upon the sympathy of his employer. It was explained that through this committee a formal investigation by the Dominion Wreck Commissioner could always be secured, and that in one way or the other the necessary penalties could be imposed. The important argument advanced, however, was that the mere existence of the organization and its regulations, with the machinery for penalizing faults, would have a distinctly beneficial result, as experience had shown that where masters were given positive instructions with severe penalties attached, avoidable accidents do not occur.

The representatives of the Canadian Association asked that separate records be kept of the premiums and losses on vessels enrolled in that association, and that insurance rates be fixed for its members accordingly, without regard to any other rates given on the lakes. In this connection a further request was made that losses on vessels sailing under extended insurance should be dealt with separately, and not considered in the regular season's rates.

A request was also made for the appointment of a separate representation to look after Canadian business, so as to relieve R. Parry-Jones, the Salvage Association of London's representative at Cleveland, Ohio. The appointment might be made by the underwriters, or by Mr. Parry-Jones, but the volume and importance of the business and the necessity for close supervision of repairs to save unnecessary or improper charges against the policy, demanded the appointment of some one to attend exclusively and independently to Canadian affairs. The reasonableness of this proposition could be seen in the light of the facts that in 1899 there were only some 10 Canadian vessels trading out of Fort William and Port Arthur, while in 1910 there were over 80.

The withdrawal of the Canadian boats from the Great Lakes Protective Association caused a good deal of discussion, but it was made clear that the Canadian organization was designed primarily to fulfil the important functions of the United States organization, which that body was completely ignoring, and that Canadian vessels could not be expected to contribute towards unnecessary work. Regarding the expense of taking and advertising drafts of wa-

ter, etc., the Canadian organization would be quite willing, however, to pay its pro rata share, either by contribution or by employment of additional service.

It may be that the assumption, by the owner, of some small part of the insurable risk on Canadian hulls, will be required by the underwriters, but doubtless this will not be considered at all a serious difficulty.

The whole question is now in the hands of underwriters, and Mr. Chubb is taking it up with the underwriters in London, Eng., as well. On the whole the members of the Canadian deputation have every reason to believe that their mission will prove successful, and that the Canadian Lake Protective Association will receive due recognition, and in due course begin to reap the benefits it expects.

Sault Canals Traffic in 1910.

An analysis of the report of the Superintendent of the canals at Sault Ste Marie is quite interesting. While 12,927 vessels used the U.S. canals as against 7,972 using the Canadian canal, the Canadian canal nevertheless bore the greater part of both vessel tonnage and freight tonnage. The 7,972 vessels which used the Canadian canal had a net registered tonnage of 23,349,137 tons, while the 12,927 vessels which used the U.S. canals had a combined net registered tonnage of 26,506,986, showing that the large ships sought the Canadian waterway. The freight carried through the Canadian canal was 36,435,557 tons as against 25,927,661 tons carried through the U.S. canal. The total of 62,363,218 tons is the largest in lake history, the nearest being that of 1907, when 58,217,214 tons were carried.—Marine Review.

Atlantic and Pacific Ocean Marine.

The s.s. Ottawa, of the White Star-Dominion line, formerly the Germanic, of the White Star line, is reported to have been sold to the Turkish Government for £21,000 to be used as a transport. She ran between Montreal and Liverpool in 1909, but has not been in service since.

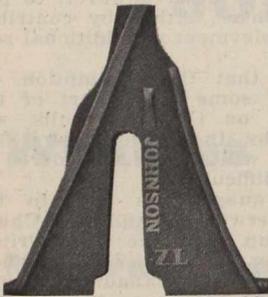
The contract made with the Union Steamship Co., of New Zealand, for the carriage of mails between Canada and New Zealand, is for five years, monthly sailings being guaranteed. Canada contributes £37,000 and New Zealand £22,000 as subsidy.

The Thomson Line s.s. Gerona, which is approaching completion, is scheduled to leave Southampton, Eng., about May 30, on her maiden voyage, arriving at Montreal June 17. She is a twin screw vessel, equipped with Marconi wireless telegraph apparatus and fitted for passenger and freight business.

A Montreal press dispatch of Feb. 7, stated that amended plans for the new vessels which the C.P.R. will have built for its trans-Pacific service, were received there recently. The general plan, it is stated, as previously approved, was confirmed, and only a few minor changes were made. The speed of the vessels is given as 23 knots an hour, and it is reported that turbine engines will be utilized.

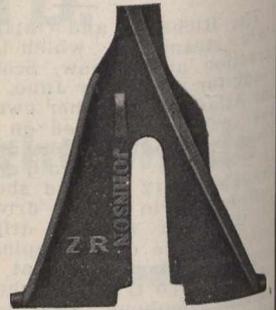
The C.P.R. and J. N. Boyde, owners, respectively of the steamships Montcalm and Kron Prinz Olaf, have entered cross actions for damages sustained by their vessels in collision in the St Lawrence River, Sept. 24, 1910. The C.P.R. claims \$25,000, and J. N. Boyde \$15,000. The judgment of the Wreck Commissioner, Capt. L. A. Demers, after an enquiry into the affair, in which he censured the master and mate of the Kron Prinz Olaf, and fined the pilot, was given in full in our last issue.

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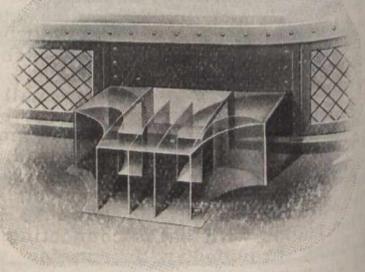
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Canadian Pacific Railway Company. Dividend Notice.

At a Meeting of the Board of Directors held this day the following dividends were declared:—

On the Preference Stock two per cent. for the half year ended 31st December last.

On the Common Stock two and one-half per cent. for the quarter ended 31st December last, being at the rate of seven per cent. per annum from revenue, and three per cent. per annum from interest on proceeds of land sales and other extraneous assets.

Both dividends are payable 1st April next to shareholders of record at 3.00 p.m. on 1st March next.

Warrants will be mailed on 31st March next.

By order of the Board.
 W. R. BAKER,
 Secretary.

Montreal, Feb. 13, 1911.

A bill was read a first time in the House of Commons recently, providing for the payment of a subsidy not exceeding £25,000 a year for a steamship service between the Pacific coast of Canada and China and Japan, the contract to run for 10 years from April 7. The Premier explained that the subsidy was first granted about 20 years ago, when the C.P.R. entered into a contract to provide the service, with the steamers Empress of India, Empress of China and Empress of Japan. The Imperial Government joined in the subsidy, and the two governments were now in communication as to the terms of its renewal. The C.P.R. had in contemplation the placing of newer and faster steamers on the service, and it was expected that some information as to when such steamers would be available, would be given the Government before the bill was finally passed.

Maritime Provinces and Newfoundland.

The Reid Newfoundland Co.'s s.s. Home struck a rock, while entering Port aux Basques, Feb. 3. The damage was not great, and during repairs, she will be relieved by the s.s. Ethie.

The Government s.s. Montcalm, which left Quebec Feb. 5, for the usual winter trip to North Shore points and Anticosti, returned Feb. 12. Considerable difficulty was experienced on the upward trip, with floating ice.

The Government wharf at Trepassey, Nfld., has been completed, and the s.s. Portia, landed goods there, Feb. 3, for the first time. This wharf has been in an incomplete condition for several years.

The reports of traffic at Halifax, N.S., for Jan., state that there has been about three times more cargo landed, than in Jan. 1910, and appearances indicate that the increase will be maintained throughout the remainder of the winter.

Montreal press reports recently stated that the C.P.R. intended increasing its facilities at St. John, N.B., and to spend about \$1,000,000 on the building of terminal property on land purchased there. The improvements mentioned included the operation of a double daily service between St. John and Digby, N.S. W. Downie, General Superintendent Atlantic Division, stated that he had no information to the effect stated.

Tenders were received Feb. 15, by the curator of the Star Line Steamship Co., Ltd., in liquidation for the purchase of all or any part of its property consisting of the s.s. Majestic, built at Toronto, in 1899, equipped with engine of 33 n.h.p. driving a screw, with dimensions, length 110 ft.; breadth 21.9 ft.; depth 5.2 ft.; tonnage, 275 gross, 156 net. The s.s. Victoria, built at St. John, N.B., in 1897, equipped with engine of 53 n.h.p. driving paddle wheels, and with dimensions, length 191.2 ft., breadth 30 ft.; depth 7.9 ft.; tonnage, 1,002 gross, 631 register, with all tackle, wharf, warehouse and buildings at Fredericton, N.B.

Province of Quebec Marine.

Ad. Tanguay has been appointed Manager Levis Ferry, Ltd., in place of the late J. F. Demers.

The plant of F. Gilbert, dredging contractor, insolvent, Montreal, consisting of the steam tug Beaver, the dredge and sundry items, has been sold by the curator.

The Kaine and Bird Transportation Co., Quebec has elected the following officers and directors for the current year: President and Managing Director,

Hon. J. C. Kaine; Secretary-Treasurer, M. P. Connolly; other directors, J. Bird, C. E. Taschereau and D. C. T. Atkinson.

The Quebec Harbor Commissioners have issued plans of their proposed improvements to Louise dock, etc., including three piers to the north of the Louise dock, creating four basins for the use of vessels. The plans were prepared by St. G. Boswell, the Commission's Chief Engineer.

The Montreal Harbor Commission has purchased about 76,000 sq. ft. of land fronting to the south on the river, and to the north on Notre Dame St., for a harbor yard, repair shops and or storing supplies. Possession will be secured by May, when the work of preparation will be commenced.

The Lachine Canal traffic for 1910, was 3,178,311 tons against 2,790,056 for 1909. There was a decrease in the number of U.S. vessels using the canal, but Canadian vessels increased by about 800. The chief increases were in grain, while there were decreases in flax and flour.

The finance committee of the Quebec city council announced, Feb. 9, in connection with an enquiry by H. Russell, that exemption from taxes for 20 years, in addition to a liberal bonus, would be granted, should the company, with which he is connected, decide to build a shipbuilding plant in the port of Quebec.

The Marine Department, on the re-opening of navigation will establish a gas buoy to mark the position of the dismantled and submerged pier at no. 3 curve in Lake St. Peter. The buoy will be of steel painted red, numbered 221, and will be moored in 32 ft of water. The light exhibited will be of white, automatically occulted at short intervals.

The Development Co. of Canada is applying to the Quebec Legislature for incorporation, to carry on a general merchants' business, and in connection therewith to build, purchase or otherwise acquire and operate steam and other vessels, and to carry on the business of carriers by land and water. R. H. Welden, C. W. Batho and W. B. Smith, Montreal, are the incorporators.

The Louiseville Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000 and office at Montreal, to carry on the business of transportation of goods and passengers by land and water; to carry on a towing, wrecking and salvage business; to own, operate and maintain steamship lines and other lines of marine transportation; to build, own and operate steam and other vessels, and to acquire from I. Yergeau, the steamboats Le Louiseville and L'Allege, by payment in fully paid up shares of the company. The provisional directors are: V. Plamondon, O. Lapierre, O. Marchand, Montreal; I. Yergeau, Pierreville, Que.; and H.L. O'Donoghue, Hudson, Que.

The amendments to the Quebec city charter which came before the Legislature, Feb. 9, among other things, provides that should the contract for the operation of the ferry between Quebec and Levis, come to an end in any way, before the date of its expiry, the city may by resolution order the calling of tenders for the sale of the exclusive privilege, or order the sale of such privilege by auction, after giving notice as required by law, and with the consent of the parties the bylaw and contract now in force respecting the ferry service, may be amended, or the parties may put an end to them, and that in future the ferry committee shall consist of eight, instead of six members, five of whom shall be appointed by Quebec and three by Levis.

The Levis Ferry Co.'s boats were described in our last issue, illustrations of one winter boat and one summer boat being given. For the two winter boats, Plessis and Colomb, the nominal horse

power of the engines of each was given as 128, which was according to the registration certificate. The attention of the Quebec city council ferry committee has been called to this, and it has been pointed out that the n.h.p. has been incorrectly stated in the registration. A. Johnston, chairman of the Steamboat Inspection, has communicated with the city council, to the effect that in the returns forwarded by the local inspector, the diameters of the cylinders on each vessel are 15 1/4, 25 1/2 and 42 1/2 ins. diam., which under the rules, gives the nominal horse power as 87.81 and he has been instructed to withdraw the incorrect certificates and issue new ones, giving the n.h.p. as 87.81.

Ontario and the Great Lakes.

The Fort William Coal Dock Co., Ltd., has increased its capital stock from \$50,000 to \$200,000.

Capt. Jas. Collier, a shipbuilder and mariner on Lake Ontario for over 50 years, died at Picton, Feb. 10, aged 74.

It is reported that the Northern Navigation Co., and C.P.R. vessels operating on the Great Lakes, are to be equipped with wireless telegraph apparatus for the approaching season.

An order in council has been passed making regulations for the governance of the ferry across the Ottawa River between Pembroke, Ont., and Allumette Island, Que.

The Niagara Navigation Co., invited tenders recently for building a passenger and freight shed 300 by 45 ft. on its east dock pier 22, Toronto, to replace the one burned last year.

The application of the Kingston city council to exempt the Kingston dry dock from payment of school taxes, has been refused by the Private Bills Committee of the House of Commons.

Montgomery and Fisher, owners of the tug Saucy Jim, which was burned last fall, have ordered a new one to replace her. The vessel, which will be built in Collingwood, will be 90ft. long.

The Ontario Public Works Department is rebuilding the lock on the Magnetawan River at Magnetawan, and it is anticipated that it will be completed in time for the re-opening of navigation. The lock is 120 ft. long by 28 ft. wide, and about 12 ft. high.

Press reports from Collingwood state that arrangements are being made for the transfer of the C.P.R. vessels from Owen Sound to Victoria Harbor, during the coming season. It is stated two of the vessels will be transferred on May 1, and the others during the season.

Capt. W. O. Parkinson, well known on the Great Lakes for many years, and at one time connected with the old ferry company at Toronto, died there, Feb. 3, aged 57. He retired from active service several years ago, since when he has been in indifferent health.

Following is the board of the Mutual Steamship Co., for the current year: President, D. McGillivray, Port Colborne; Vice President, W. M. German, Welland; Managing Director, J. W. Norcross, Toronto; other directors, R. M. Wolvin, Winnipeg; W. E. Phin, Welland.

The C.P.R., which has been suffering considerable losses through the thefts from cars in transit on its car ferries across the Detroit river, recently caused the arrest of a number of the crews concerned, seven of whom were sentenced to periods of imprisonment ranging from 12 to three months, Feb. 21.

The Dominion Parliament has extended the time within which the Lake Champlain and St. Lawrence Ship Canal Co., may construct the canal authorized by chap. 107 of the Statutes of 1898, to five years from Feb. 7, and limiting to

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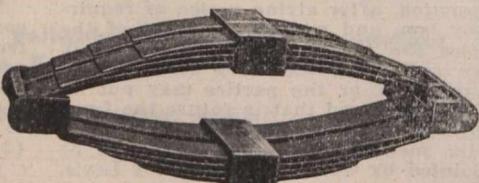
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TENDERS WANTED.

The Quebec and Saguenay Railway.

Tenders will be received up to March 10th, 1911, at noon, by the undersigned, for the construction of about 10 miles of the above railway, from Cap Tourmente to Murray Bay Wharf, divided up into sections of ten miles.

A certified check amounting to \$10,000 for each ten mile section tendered for must accompany each tender.

Forms of tender may be obtained and specifications and plans examined at the office of J. F. Guay, Civil Engineer, Morin Building, Quebec; also at office of The Railway and Marine World, 10 Bond Street, Toronto.

The right is reserved by the company to reject any or all tenders.

(Sgd.) J. F. GUAY.

NOTICE is hereby given that the Annual Meeting of the Shareholders of the Victoria Rolling Stock and Railway Company of Ontario, Limited, will be held at the offices of Messrs. Osler & Hammond, 21 Jordan Street, Toronto, on Wednesday, March 1, 1911, at twelve o'clock noon, for the reception of the Annual Report and election of directors for the ensuing year.

By order,
G. T. CHISHOLM,
Secretary.

Toronto, February 11, 1911

two years from the same date, the time within which \$50,000 must be spent on the work.

A deputation representing the Kingston city council and the Board of Trade, waited on the Minister of Public Works, Feb. 2, to urge the dredging of the lower harbor and the erection of a new bridge to replace the old Cataract structure, in order to make Kingston harbor more suitable for deep draught vessels.

The Department of Public Works has awarded the contract for the construction of a breakwater at Port Burwell, to M. Hogan, Westmount, Que., his tender being \$234,000. He built the Port Colborne breakwater. The Port Burwell breakwater will be built to the west of the pier, and the contract calls for the work to be completed in 18 months from Jan. 30 last.

The Grimsby Beach and South Shore Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$50,000, and office at Toronto, to build, acquire and operate steam and other vessels, and carry on a general ship owning and transportation business. The provisional directors are W. H. Irving, H. H. Davis and N. Boynes, Toronto.

Polson Iron Works, Ltd., has notified the Toronto board of control that it desires to purchase the old city yard on the west side of Frederic St., to the south of the Esplanade, to enable it to construct a floating dry dock, capable of holding the largest type of vessels sailing on Lake Ontario. The company's plans for the dry dock have been approved by the Government engineers, but nothing can be done until a site has been obtained.

After enquiry into the collision, last fall, between the U.S. tug General and the C.P.R. s.s. Athabasca, in the St. Marys River, the U.S. marine inspectors have suspended the license of the tug captain for six months, and have suggested to the Canadian authorities to investigate the conduct of the Athabasca at the time. We are officially advised that a formal investigation will be held in this matter, some time in March.

The Victoria Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000, and office at Ottawa, to own and operate steam and other vessels; to conduct salvage operations, own wharves, docks, piers, warehouses, etc., and to carry on a general navigation business. The provisional directors are, E. A. Hall, Com. J. Galbraith, Ottawa, Ont., and P. Elliott, Thurso, Que.

A proposal is under consideration for the construction of a dry dock and shipbuilding plant at Amherstburg, where it is stated enough shore front property has been secured and negotiations are proceeding for acquiring the necessary land. It is also stated that subscriptions have been received to the extent of \$250,000. It is proposed to build at 600 ft. dry dock, with the necessary machine repair shops, etc. Among those mentioned as being interested in the proposition are A. H. Clarke, D. H. Lerry and A. Woods.

The annual meeting of Inland Lines, Ltd., was held at Hamilton, Feb. 9, when the directors' report for the past year was adopted. Following is the board for the current year: President, Playfair, Midland, Ont.; Vice President, J. P. Steedman, Hamilton, Ont.; Secretary, F. A. Magee, Hamilton, Ont.; other directors, W. J. Southam, W. G. Walton, F. H. Whitton, Hamilton; C. W. Band, Toronto; D. L. White, Jr., Midland; H. W. Richardson, Kingston; Treasurer, J. I. Hobson, Hamilton, Ont.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above tide-water for Jan., as follows:—Superior,

601.07; Michigan and Huron 579.31; Erie 570.92; Ontario 244.78. As compared with the average January levels for the past 10 years, Superior was 1.23 ft. below; Michigan and Huron 0.85 ft. below; Erie 0.78 ft. below, and Ontario 0.60 ft. below. It was anticipated that during Feb. Superior would fall 0.2 ft.; Michigan and Huron would remain stationary; Erie would fall 0.2 ft., and Ontario would rise 0.1 ft.

The Huntsville, Lake of Bays and Lake Simcoe Navigation Co.'s annual meeting was held at Huntsville, Feb. 4, when the report for 1910 was submitted and adopted. The balance remaining in hand after the season's operations was carried to profit and loss, no dividend being declared. The officers and directors were re-elected for the current year, as follows: President, C. O. Shaw, Huntsville; Vice President, H. Foster Chaffee, Toronto; General Manager, S. H. Jacobs, Secretary and Assistant General Manager, W. J. Moore; Treasurer, J. W. McKee.

In connection with the construction of the Livingstone channel by the U.S. Government, which includes the extension of the dam in the Detroit River to the head of Bois Blanc island, in Canadian waters, a notification has been served on the U. S. Government, by the contractors, that unless an order is issued instructing them to proceed with the work, they will withdraw their men and plant. The order to cease operations, which was given last fall, was the outcome of objections raised by Amherstburg, to the extension of the proposed dam.

The Ontario and Quebec Navigation Co.'s steel passenger and freight steamboat, which is under construction, is expected to be ready for service by June 1, when she will be placed on the run from Toronto to Quebec and return, making the round trip each week, passing through the Bay of Quinte, by Thousand Islands, and running the rapids without transferring passengers. The s.s. Alexandria will continue on the route between Rochester, N.Y., and Montreal and Quebec, and the steamers Brockville, Alethea, Varuna, Where Now and Madge will operate on the Bay of Quinte, as before.

The captains and chief engineers of the Inland Lines vessels, for the forthcoming season, have been appointed:

	Captain	Engineer
Donnacona	C. E. Alexander	J. Dee
Dundee	J. Woolner	E. Shaw
Dundurn	R. Cooney	J. Morris
Emperor	G. W. Pearson	G. Smith
Empress of Fort William	C. R. Albinson	J. Murphy
Empress of Midland	J. W. Mawdesley	A. Abbey
Glenellah	G. Mackey	A. E. D. Mackay
Midland King	W. Cunningham	J. McGregor
Midland Prince	J. Tindall	J. Pickard
Midland Queen	W. Lavigne	G. E. Wilson
Neepawah	W. W. Allan	C. Carr
Rosedale	G. Motley	F. Goodwin
Stadacona	J. Cannally	C. H. Menmuir
Strathcona	H. C. Mawdesley	A. J. Fisher
Wahcondah	W. E. Linton	W. McWilliams
Winona	B. Garvie	J. A. McLaughlin

Capt. W. H. Featherstonehaugh has been appointed Marine Superintendent, and E. Abbey, Superintending Engineer.

A steamboat is being built at Kingston for Capt. A. Foster, mayor of Smiths Falls, for operation between Smiths Falls and Kingston. It will make three trips a week, and is expected to be in operation by May 1. The dimensions are, length 96 ft. long overall; 18 ft. beam; 6 1/2 ft. deep. It is of the composite type throughout, with steel frame and steel shear strake. The machinery will consist of Fitzgibbon boiler with fore and aft vertical compound engine, with cylinders 9 and 18 ins. diam., by 14 ins. stroke, supplied with steam at a working pressure of 150 pounds. The condenser will be of the independent type, jet condenser and pump combined and the boiler

is to be fed by the regular duplex pump. Hand fire and test pumps are included in the outfit. The cost of the boat is about \$12,000. The Davis Dry Dock Co. has the contract.

Manitoba, Saskatchewan and Alberta.

Col. W. P. Anderson, Chief Engineer Marine Department, was in Selkirk, Man., recently conferring with local officials regarding proposed improvements and aids to navigation on Lake Winnipeg.

The development of navigation in Western Canada, proceeds apace. A pupil in an eastern school, in an examination, states: "Many vessels have been wrecked and sunk, in attempting to force a passage through the Rockies."

The Lake Winnipeg Shipping and Supply Co. has deposited with the Minister of Public Works, at Ottawa, plans, etc., for the construction of a dock on the bank of the Red River to extend along the water front from Water St. to Broadway Bridge, Winnipeg.

Capt. C. D. A. Barber, Manager Northern Transportation Co., Athabasca Landing, Alta., who was in Edmonton recently, is reported to have stated that the company was building a fourth vessel for its fleet, which would be ready for operation by the spring. The vessel, which would be a stern wheeler would be operated between Athabasca Landing and the Grand Rapids for passenger traffic, the Northern Light, which was used on that service last season, would be devoted entirely to the freight traffic. The new vessel, which will be named Northland Call, is being equipped with the most modern improvements.

B.C. and Pacific Coast Marine.

The Canadian Fishing Co.'s s.s. Celestial Empire, which is being generally overhauled at Esquimalt, is also having a new boiler installed, which has been brought from Great Britain.

C. H. Nicholson, Manager G.T.P. Steamship Co., was in Winnipeg and Montreal during February, consulting with the general management regarding the proposed works in Vancouver and at other points along the coast.

An order in council has been passed confirming bylaws passed by the Pilotage Commissioners for the district of Victoria and Esquimalt, respecting licenses, certificates, maintenance of boats, ports in the district and dues.

The All Red Line, Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$150,000, to build, purchase or otherwise acquire and operate steamships, etc., and to build graving docks, floating docks, etc., and carry on a general ship owning and shipping business.

The Lincoln Steamship Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$150,000, to carry on the general business of ship owners, merchants, carriers by land and water, etc., and in connection therewith to own and operate steam and other vessels of every description.

The Selkirk Steamship Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$5,000, to acquire and operate the s.s. Selkirk, and also to own and operate steam and other vessels of all kinds, and to carry on the general business of ship owners and shippers.

A Victoria, B.C., dispatch says it has been officially announced that the B.C. Marine Ry. Co. will build a dry dock at Lang's Cove, Esquimalt, 900 by 100 ft., at a cost of \$3,000,000, and that it will establish a shipyard capable of con-

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The city of Vancouver is applying, under the Navigable Waters Protection Act, for approval of the plan showing the site, mode of construction and description of its proposed wharf on the foreshore of Burrard Inlet, at the mouth of Seymour Creek and the Second Narrows, in connection with the Seymour Creek water works system.

The keel of the Dominion Government's steam tug, contract for which was recently awarded to McDougall and Jenkins, has been laid at North Vancouver, and it is expected that she will be in operation by July. She will be 91 1/2 ft. long, beam 20 ft., depth 12 3/4 ft.

The harbor engineer has submitted plans to the New Westminster city council for general improvements in the harbor. They cover the extension of the present wharves farther into the river, and the building of additional piers where desirable. Eventually it is hoped

to have a port, including the area from the lower end of Annacis island to the Pitt River.

The s.s. Staffa, one of the first vessels operated by Mackenzie Bros., but recently being operated in freight business on the Fraser River, has been condemned. She was built in 1893 at Vancouver, her dimensions being: length, 81.5; breadth, 15.3 ft.; depth, 6 ft.; tonnage, 51 gross, 35 register, and she is equipped with engine of 6 n.h.p., driving a screw.

The steam tug, contract for which was placed by the Dominion Government, in North Vancouver, recently, will cost about \$45,000. She is intended for use in Victoria harbor, and it is anticipated that she will be ready for operation by July, when she will act as a tender for the new dredge, now on the way from Great Britain. The tug will be of steel throughout, except the pilot house, and will be classed 100 A1 at Lloyds. Her dimensions will be: length,

91 1/2 ft. overall, 78 1/2 ft. between perpendiculars; breadth, 20 1/2 ft.; depth, molded 12 3/4 ft. She will be equipped with five water tight bulkheads, extending from the floor plates to the deck. The machinery will consist of an inverted fore and aft compound surface condensing engine, with a high pressure cylinder of 15 ins. diar., and a low pressure cylinder of 34 ins. diar. by 24 ins. stroke, developing about 500 h.p. Steam will be supplied by a Scotch marine single ended boiler, 12 ft. diar., at a pressure of 150 lbs. The air pumps, 12 ins. by 12 ins. stroke, of the latest design, will be driven from the low pressure cross head. The circulating pump will be independent, direct connected and steam driven, the main feed pump direct acting, and the engine feed pump, driven by the air pump cross head, as also will be the engine bilge pump. Steam steering gear is being installed, with steam winches, and complete electric lighting equipment.

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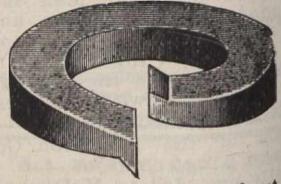
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Gauge Cocks
 Nathan Manufacturing Co.....New York.

Gauges, Locomotive
 Taylor & ArnoldMontreal.
 Utica Steam Gauge Co.....New York.

Gauges, Water
 Nathan Manufacturing Co.....New York.

Gears
 American Vanadium Co. ..Pittsburg, Pa.

Generators, Electric
 Northern Electric & Mfg. Co....Montreal.

Grates, Shaking
 Babcock & Wilcox, Ltd.....Montreal.
 Polson Iron Works, Ltd.....Toronto.

Groceries
 The Hudson's Bay Co.....Toronto.

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. & Supply Co., Winnipeg.
 F. H. Hopkins & Co.....Montreal.
 Mussels, LimitedMontreal.
 Rice Lewis & Son.....Toronto.
 Whyte Railway Signal Co.Toronto

Hardware
 The Hudson's Bay Co.....Toronto.
 Rice Lewis & Son.....Toronto.

Hats
 W. H. Coddington.....Hamilton, 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.

Heaters, Oil-burning
 Tate, Jones & Co. Inc. Pittsburg, Pa.

Heating, Car
 Canadian Gold Car H'g & L'g Co..Montreal.
 Consolidated Car Heating Co., Albany, N.Y.
 Safety Car Heating & L'ting Co.New York.
 United States Light & Heat. Co.New York

Hoists, Electric
 American Hoist & Derrick Co., St. Paul, M.

Hoists, Pneumatic
 Taylor & ArnoldMontreal.

Hoppers, Car, Wet or Dry
 Duner Co.Chicago, Ill.

Hose, Air Brake and Steam
 Guilford S. Wood.....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.
 Nathan Manufacturing Co.....New York.

Inspections
 R. W. Hunt & Co.....Montreal.

Insurance, Accident
 Can. Casualty & Boiler Ins. Co...Toronto.
 Canadian Ry. Accident Ins. Co...Ottawa.
 Imp. Guarantee & Acc. Ins. Co..Toronto.
 London Guar. & Accident Co., Ltd.Toronto.

Insurance, Boiler
 Can. Casualty & Boiler Ins. Co...Toronto.

Interlocking Plant and Signals
 Montreal Steel Works, Ltd.....Montreal.
 Railway Signal Co. of Canada.....Montreal.
 Saxby & Farmer, Ltd.....Montreal.

Iron, Pig
 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. & Supply Co., Winnipeg.
 H. & E. Lifting Jack Co..Waterville, Que.
 F. H. Hopkins & Co., Ltd.....Montreal.
 Montreal Steel Works, Ltd.....Montreal.
 Mussels, LimitedMontreal.
 A. O. NortonCoaticook, Que.
 James Smart Mfg. Co...Brockville, Ont.
 Whyte Railway Signal Co.Toronto
 Williams & Wilson, LtdMontreal.

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.

Lager Beer, &c.
 E. L. DrewryWinnipeg.

Lagging and Covering, Locomotive
 Taylor & ArnoldMontreal.

Lamps, Arc
 Northern Electric & Mfg. Co....Montreal.

Lamps, Gas
 Commercial Acetylene Co.....Toronto.

Lamps, Incandescent
 Canadian Westinghouse Co..Hamilton, Ont.

Lamps and Lanterns
 The Hudson's Bay Co.....Toronto.
 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.
 Williams & Wilson, LtdMontreal.

Lighting, Buoy
 Blaugas Co. of Canada, Ltd....Montreal
 International Marine Signal Co. .. Ottawa.
 Safety Car Htg. & Ltg. Co.....New York

Lighting, Car
 Blaugas Co. of Canada, Ltd....Montreal
 Canadian Gold Car H'g & L'g Co.Montreal.
 Commercial Acetylene Co.....Toronto.
 Safety Car Heating & L'ting Co.New York.
 United States Light & Heat. Co.New York

Lighting, Signal
 Commercial Acetylene Co.....Toronto.

Lights, Contractors' and Wrecking
 F. H. Hopkins & Co., Ltd.....Montreal.
 Mussels, LimitedMontreal.

Locomotives, Compressed Air
 Baldwin Locomotive Works..Philadelphia.
 Canadian Locomotive Co..Kingston, Ont.
 International Marine Signal Co..Ottawa.
 Montreal Locomotive W'ks (Ltd.)Montreal.

Locomotives, Contractors'
 Dominion Equip. & Supply Co., Winnipeg.

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
 Baldwin Locomotive Works..Philadelphia.
 Canadian Fairbanks Co., Ltd...Montreal.
 Canadian Locomotive Co..Kingston, Ont.
 J. T. GardnerChicago, Ill.
 The Males Co.,Cincinnati, O.
 Montreal Locomotive Works.....Montreal.
 Vulcan Iron WorksWilkesbarre, Pa.

Lorries, Tracklaying
 Crossen Car Mfg. Co.....Cobourg, Ont.
 F. H. Hopkins & Co.....Montreal.

Lubricators
 McCord & Co.Chicago, Ill.
 Nathan Manufacturing Co.....New York
 Taylor & ArnoldMontreal.

Lumber

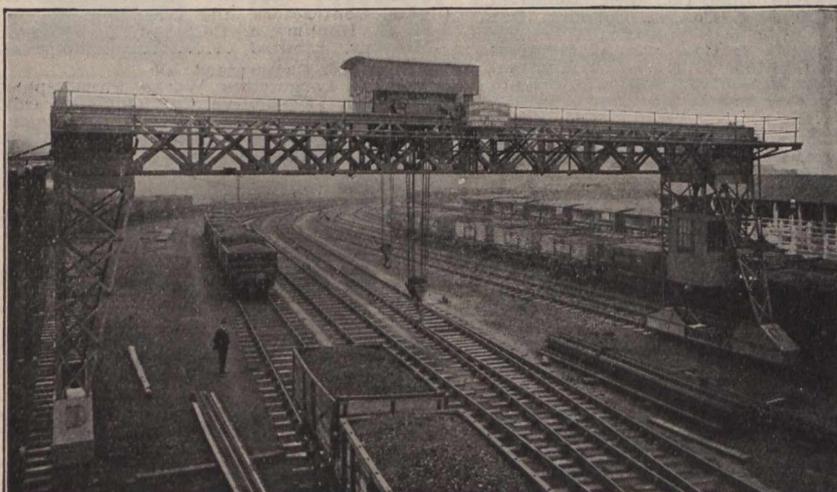
Imperial Timber & Trading Co., Vancouver.
 Parry Sound Lumber Co.Toronto.
Machines and Plant, Contractors'
 American Hoist & Derrick Co., St. Paul, M.
 M. Beatty & SonsWelland, Ont.
 Canadian Fairbanks Co., Ltd...Montreal.
 J. T. GardnerChicago, Ill.
 F. H. Hopkins & Co.Montreal.
 Mussens, LimitedMontreal.
Machines and Tools, Prospecting
 The American Well Works...Aurora, Ill.
Machines and Tools, Well Drilling
 The American Well Works...Aurora, Ill.
Machines, Boring and Turning
 John Bertram & Sons Co....Dundas, Ont.
Machines, Car Shop
 John Bertram & Sons Co., Ltd.Dundas, Ont.
 Greenlee Bros. & Co.Chicago, Ill.
Machines, Cement
 James W. Pyke & Co.Montreal.
Machines, Drilling
 John Bertram & Sons Co. .Dundas, Ont.
Machines, Earth and Stone Handling
 Western Wheeled Scraper Co..Aurora, Ill.
Machines, Hoisting
 American Hoist & Derrick Co. St. Paul, M.
 Brown Hoisting Machinery Co..Cleveland.
Machines, Logging
 Russel Wheel & Fdry. Co..Detroit, Mich.
Machines, Milling
 John Bertram & Sons Co. .Dundas, Ont.
Machines, Planing and Shaping
 John Bertram & Sons Co. .Dundas, Ont.
 Cleveland Punch & Shear Wks., Cleveland.
Machines, Radial Drilling
 John Bertram & Sons Co. .Dundas, Ont.
Machines, Rivetting
 Long & Allstatter Co. Hamilton, Ohio.
Machines, Slotting
 John Bertram & Sons Co. .Dundas, Ont.
Machines, Straightening
 Cleveland Punch & Shear Wks.Cleveland.
Machines, Tire Welding
 Long & Allstatter Co. Hamilton, Ohio.
Machines, Track
 Greenlee Bros. & Co.Chicago, Ill.
Machines, Tracklaying
 F. H. Hopkins & Co.Montreal.
Machines, Wood and Iron Working
 Canadian Fairbanks Co., Ltd...Montreal.
 Williams & Wilson, LtdMontreal.
Machine Tools
 John Bertram & Sons Co. .Dundas, Ont.
 Pratt & Whitney Co.Dundas, Ont.
Manhole Frames and Covers
 American Brake Shoe & F'dry Co.Mahwah.
 Canada Iron Corporation, Ltd...Montreal.
Marine Repairs
 Goldschmidt Thermit Co.Toronto.
Marine Supplies
 Rice Lewis & Son.....Toronto.
Metal, Babbit
 Tallman Brass & Metal Co., Hamilton. Ont.
Metals
 Goldschmidt Thermit Co.Toronto.
Metal Work, Structural
 Canadian Bridge Co....Walkerville, Ont.
 Dominion Bridge Co.....Montreal.
 Montreal Locomotive Works.....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 & ArnoldMontreal.
Nickel
 The Orford Copper Co.New York.
Nickel for Nickel Steel
 The Orford Copper Co.New York.
Numbers
 Acton Burrows, LimitedToronto.
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.
Oakum
 The Hudson's Bay Co.....
Office Fittings
 Can. Office & Sch'l Furn. Co...Preston.
Office Signs
 Acton Burrows, LimitedToronto.
Oil Cups
 Nathan Manufacturing Co....New York.
Oils
 Galena Signal Oil Co..Franklin & Toronto.
Packing
 Anchor Packing Co. of Can., Ltd.,Montreal
 Greene, Tweed & Co.New York.
 The N. L. Piper Ry. Supply Co..Toronto.
Paints
 R. F. Johnston Paint Co, Cincinnati, Ohio.
Pile Drivers, Railway
 F. H. Hopkins & Co.Montreal.
 Mussens, LimitedMontreal.
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'
 Meaford Wheelbarrow Co., Ltd., Meaf'd, Ont.
 Mussens, LimitedMontreal.
Porter
 E. L. DrewryWinnipeg.
Preservative for Hose
 Guilford S. Wood.....Chicago, Ill.
Printing
 Southam PressToronto.
Propeller Wheels
 W. Kennedy & Sons, Ltd., Owen So'd, Ont.

Pumps

Canadian Fairbanks Co., Ltd...Montreal
 S. F. Bowser & Co., Ltd.....Toronto
 Ontario Wind Engine & Pump Co. Toronto
 James Smart Mfg. Co....Brockville, Ont.
Pumps, Centrifugal
 The American Well Works. Aurora, Ill.
 M. Beatty & SonsWelland, Ont.
 John Inglis Co., Ltd.Toronto.
Pumps, Deep Well, Steam and Power
 The American Well Works...Aurora, Ill.
Pumps, Fire Pressure
 The American Well Works...Aurora, Ill.
Pumps, Irrigating
 The American Well Works...Aurora, Ill.
Pumps, Reclamation
 The American Well Works...Aurora, Ill.
Pumps, Sprinkler Systems
 The American Well Works...Aurora, Ill.
Pumps, Underwriters' Fire
 The American Well Works...Aurora, Ill.
Punches and Shears
 Cleveland Punch & Shear Wks., Cleveland, Ohio.
 Long & Allstatter Co. Hamilton, Ohio.
 Williams & Wilson, LtdMontreal.
Rail Benders, Roller
 Dominion Equip. & Supply Co., Winnipeg.
 F. H. Hopkins & Co.Montreal.
 Montreal Steel WorksToronto.
 Whyte Railway Signal Co.Toronto.
Rail Drilling Machines
 A. B. Jardine & Co.Hespeler, Ont.
 Whyte Railway Signal Co.Toronto.
Rails, new
 Dominion Iron & Steel Co...Sydney, N.S.
 Drummond, McCall & Co.....Montreal.
 J. T. GardnerChicago, Ill.
 J. J. GartshoreToronto.
 F. H. Hopkins & Co.Montreal.
 Peteler Car Co.Minneapolis, Minn.
Rails, for relaying
 F. H. Hopkins & Co.Montreal.
 J. J. GartshoreToronto.
 Mussens, LimitedMontreal.
 Provincial Steel Co., Ltd. . Cobourg, Ont.
 Jas. W. Pyke & Co.Montreal.
Rail Joints
 Goldschmidt Thermit Co.Toronto.
 The Rail Joint Co. of Canada...Montreal.
 Whyte Railway Signal Co.Toronto.
Rails, Re-rolled
 Provincial Steel Co., Ltd. . Cobourg, Ont.
Railway Supplies
 Canadian Fairbanks Co., Ltd. Montreal.
 T. McAvity & SonsSt. John, N.B.
 Burton W. Mudge & Co.....Chicago, Ill.
 The Hiram L. Piper Co.....Toronto.
 The N. L. Piper Ry. Supply Co..Toronto.
 Rice Lewis & Son.....Toronto.
 Russel Wheel & Fdry. Co..Detroit, Mich.
 Whyte Railway Signal Co.Montreal.
 Williams & Wilson, LtdMontreal.
Reamers
 Butterfield & Co.....Rock Island, Que.
 Cleveland Punch & Shear Wks.Cleveland, Ohio.
 A. B. Jardine & Co.Hespeler, Ont.
Replacers, Car and Locomotive
 Alexander Car Replacer Mfg. Co.Scoramion, Ont.
 Dominion Equip. & Supply Co., Winnipeg.
 The Holden Co., Ltd.....Montreal.
 F. H. Hopkins & Co.Montreal.
 Johnson, Wrecking Frog Co..Cleveland, Ohio.
 Whyte Railway Signal Co.Toronto.
Rivets, Boiler, Bridge and Structural
 Montreal Rolling Mills Co.....Montreal.



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