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See page 589.

MASTER MECHANICS' ASSOCIATION.

Address of President H. H. Vaughan.

At the annual meeting of the American Railway Master Mechanics' Association, at Atlantic City, N.J., recently, the President, H. H. Vaughan, Assistant to the Vice President C.P.R., read the following address:—

In 1868 six master mechanics attending the Master Car Builders' convention at Dayton, decided to call a general meeting at Cleveland to organize an association of the master mechanics of the U.S. and Canada. At that meeting, which was held later on in the same year, 50 were present, representing many of the most important lines of railways in the country, and a constitution was adopted with the following preamble: "We, the undersigned railway master mechanics, believe that the interests of the companies by whom we are employed may be advanced by the organization of an association which shall enable us to exchange information upon the many important questions connected with our business." These words outlined the object with which the new society began its career, adopting as its purpose the discussion of the best methods of construction and operation of the locomotive at a time when it had just emerged from the experimental stage and was assuming a permanent and fairly uniform design. It has already taken its place in the world as the most powerful and economical engine of transportation, but few even who were connected with it in those days could have foreseen the development it was to undergo, or to the extent to which it would render possible the cheapening and extension of the transportation facilities of the world, the chief factor in the wonderful change that has taken place in the relation of nations, the distribution of food supplies and the growth of manufactures, cities and continents. The association so quietly started was well founded. It had chosen for its aim a work that was needed, and as the railways of the country grew, it grew with them, until now, 41 years later, we have a membership of 961, representing every railway in the U.S. and Canada, and a large number of those in foreign countries. It has been unique in its devotion to the locomotive and its problems alone, but its object has proved worthy of its attention, and we are to-day confronted with problems just as im-

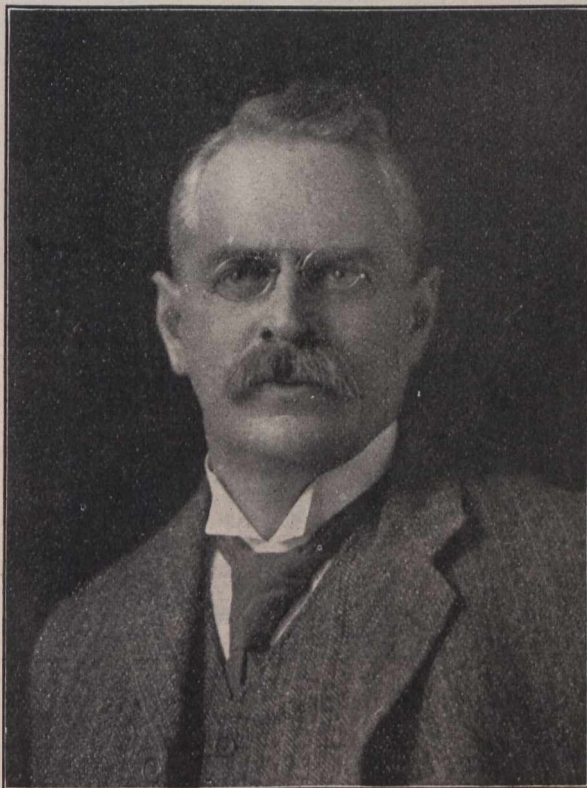
portant as those which our predecessors considered, none the less vital to us because they are broader in scope and because financial considerations are now more closely connected with those which are purely technical.

I have always been deeply interested in the history of this association; I have been a great admirer of the work that it has done, and I am going to take this opportunity to speak to you of the success it has obtained, the methods it has

value, either in whole or in part. While this classification is to a certain extent a matter of opinion, it shows most decidedly the general excellence of the work which this association has done. It has investigated almost every conceivable subject connected with the locomotive, its construction, operation and maintenance, developing, criticising and discussing it as it progressed from the little 16-in. eight-wheeler of the sixties to the magnificent freight and passen-

ger equipment of the present day. To say that the wonderful development that has taken place is entirely owing to the work of our associations would be an exaggeration. Apart, however, from the facts determined in our report, the improvements they have suggested, and the practice they have introduced, our meetings have, year by year, been attended by the men engaged in carrying on and advancing this work. They have presented their own views in our discussions, they have heard the views of others, and, whether speakers or listeners, have returned home from our conventions with their opinions modified, new ideas conceived and their experience broadened. With that renewed energy and interest in their work which invariably results from communication with other workers in the same field, they have put into practice suggestions which have been advanced and by their daily work have together built up that mass of knowledge and experience that has resulted in the production of the American locomotive of to-day. In such ways, as well as by the exchange of information, our association has succeeded in its object in being of benefit to the railways by whom our members are employed.

Our work has not been limited, however, to the exchange of information, but from the very beginning our committees have done far more than obtain and report existing facts or give the opinion they have formed as a result of their inquiries. This has been an important and valuable portion of their work, and our history shows that in the large majority of cases it has been done well. The answers received to the letters of inquiry have frequently indicated a great divergence of opinion or a lack of proper knowledge, while our later experience has justified the committee's decision. Their reports have presented carefully thought out and correct conclusions, which have, through investigation and the standing of the members of the committees, been widely accepted and of valuable assist-



C. E. CARTWRIGHT

Division Engineer C.P.R., Vancouver, B.C.

used, and the opportunities that lie before it for the future. It is impossible to review in detail the work which has been accomplished; the mass of information contained in our proceedings is too great for individual reference. To even touch on the more important subjects would necessarily result in a mere catalogue. Figures are but a poor way of illustrating results, but in the 41 years of our proceedings, 351 reports of committees, 60 individual papers and 115 topical subjects have been presented and discussed. Of these reports and discussions it may be stated that 126 contain information of special interest at the present time, while 283 are of specific



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ance in establishing advanced practice. A development of their work to which I wish to call your attention has not, I believe, been generally awarded the credit it deserved, yet it has been the source of the greatest influence exerted by our association, and of the importance of its service to the railways. I refer to the investigation of the scientific principles underlying the questions assigned to our committees, the tests and experiments they have carried out when necessary to determine additional data, and the correct and practical conclusions they have deduced. As a result their work stands to-day as the basis of most of our scientific knowledge of the locomotive, the engineering principles on which it is designed, and the reasons for the methods by which it is operated. I do not mean that we have to look to our committee for all the knowledge that is available on the theoretical mechanics of the locomotive, or for such researches as those on the properties of steam, the strength of materials, or the chemistry of combustion. That has been the work of the mathematician or physicist, and its value in solving the practical problems of engineering is limited by the vast number of factors which enter into actual working conditions. Our work on the other hand, has been the observation and interpretation of results in a scientific manner, and through being carried on by practical men, who have established the relation between the facts they ascertained, and the theoretical principles underlying them, has been sound in its basis, and rendered general in its application.

Probably the best example is the series of experiments on exhaust nozzles, stacks and steam passages. This began with the road tests which were carefully carried out in 1879, the experiments carried out in 1890, which were independent of road conditions, the first record of that kind in our proceedings, and in 1891 tests of a high degree of scientific excellence which indicated the benefits obtained by lowering the nozzle. It was then intended to continue the experiments at Purdue, but when that laboratory was destroyed by fire a locomotive testing plant was constructed by the chairman of the committee which was, with the exception of that at Purdue, the first in existence. The experiments made upon it were the first careful and thorough investigations of the action of the blast and the result of variations in design of nozzles and stacks that had been carried out on an actual locomotive on a testing plant on which uniform working conditions could be maintained. The results were given in the report of 1894 and the great report of 1896, which will be remembered as the best report up to that time presented to this or any other society on a subject connected with locomotive engineering. Supplemented by the more recent work, this subject stands as one of the most scientifically and carefully investigated details of the locomotive, and its history is one of which our association should be proud.

The test of compound locomotives presented in 1892 marked an important advance through recording the first complete and properly conducted road test, using the dynamometer car, indicators, accurate measurement of coal and feed water, the quality of the steam, and the measurement of various losses. These methods, although previously applied

along similar lines on stationary plants, yet marked a decided advance in locomotive work, and supplemented by the report on the standard method of conducting locomotive tests have assisted materially in defining conditions that should be observed if accurate results are desired.

The subject of locomotive capacity has always been well handled and our recommendations in this respect have exerted a considerable influence and have been widely used. One report is of special interest, that of 1897, in which was presented the first comprehensive study of the characteristics of the locomotive, since made familiar to us by the work at Purdue University and the St. Louis testing plant. Then, however, the subject was broadly new and such a method of treatment almost unknown, but it marked the important discovery of the locomotive as a machine with definable properties, although of wide variations, as opposed to the indefinite views on its capacity and economy which were previously held.

Other notable reports of a general character were those on high steam pressures in 1898, the loss of power from friction in the machinery of a locomotive in 1906, and the results obtained from briquetted coal in 1908. There have been many others of more detailed nature, but which indicate the valuable character of our experimental work. Among the more important are those on driving wheel tire wear, in which the forces acting were carefully analyzed and compared with the wear actually found, showing distinctly the cause of the trouble; the report on engine truck swing hangers in which indicating apparatus was used to determine the action of an engine with different types of suspension; the report on slide valves, in which the dynamometer was used in the valve stem, and the forces shown compared with those determined by elaborate calculations of the various stresses; the reports on counterbalancing which have established the allowable disturbing weight, and the specifications for materials in which laboratory tests have been compared with an enormous number of service results. Add to these reports others, which by their high degree of merit have had a far reaching effect on our railway work, such as those on ton-mile statistics, repair shops, and the education of apprentices, and the whole forms a series of progressive and leading contributions to the science of locomotive design and operation which has produced a permanent effect and has demonstrated correct principles to the entire locomotive world. For years past locomotive practice in America has been based on scientific knowledge, and such questions as the proportions of heating surface and cylinder capacity, and the designs of front ends have been decided by the analyzed experience of the entire country, or carefully conducted experiments. In foreign countries where no such association as ours has existed, these matters have been left to the judgment of the individual or what are practically rule of thumb methods. Few realize what this work has done for the railroads of the country, but the result is seen in the general success of our locomotive practice.

That our association has done its self-assigned work energetically and efficiently, there is no question. Its history is

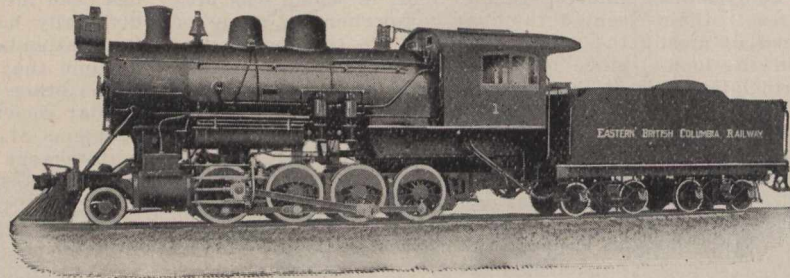
practically that of the modern locomotive in America, and from the years when lengthy discussions on iron versus steel for fire-box plates, the cause of boiler explosions, and the proper thickness for the shell of a boiler were the live issues at our meetings, through the periods of air brakes, injectors, high-pressure boilers, compound locomotives, and testing plants, to our present times with Mallet engines and superheated steam, the association has been untiring in its interest in each new subject that has been introduced and its members individually have shown their interest by their attendance and the large amount of time they have devoted to the work. In no other country has there been any similar society organized to consider the problems of locomotive construction and maintenance exclusively, and we may justly feel that the predominating excellence of American practice is in no small degree due to our efforts. Our work has been well done. We have formed an immense machine for the interchange of information and have added to that our expressed intention, by having also carried out a large amount of experimental investigation.

What further can we do to increase our usefulness and develop into still more important fields of work? I feel that in making suggestions I am recording my own sins of omission, and yet when a man endeavors to seriously consider such a question, ideas occur to him that previously lay dormant or unthought of, and this must be my excuse for recommending now what I have not done. Our opportunities are somewhat different from those of our great sister society, the Master Car Builders' Association. We have no such business relationships to regulate between one road and another as those involved in the interchange of equipment. The possibilities of establishing additional standards that would be extensively used are few, and indeed it is very doubtful whether standards are of much value for the locomotives of an entire country. We must consequently ask ourselves whether we are obtaining all classes of information that are of possible value, and whether our committee reports, individual papers and topical discussions could be advantageously supplemented by any other activities.

We are face to face with several changes in the development of our motive power and the department having charge of it. The steam locomotive, that has been supreme for so many years, is finding its superiority questioned by a new invention, the electric locomotive. The small railway with its individual methods is being absorbed into large systems, and superintending and recording the work under the charge of our members is becoming more difficult. The growth of the large mechanical departments has made it impossible and in fact undesirable for their heads to retain the same touch with minor mechanical and operating details that they formerly had to, and has increased the importance of the financial and business questions they should control as compared to those of a mere technical nature. Unless this association and its members concern themselves seriously with these new and larger problems, there is danger of their work being undertaken by others in place of by ourselves.

The articulated locomotive has in-

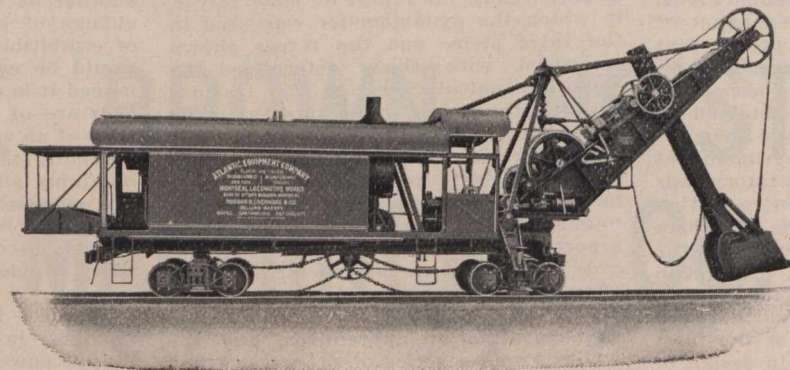
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creased the field of the steam locomotive and enabled it to compete on more favorable terms with its younger and more powerful rival. We should be informed of every development in this line, the results and the experiences that are being obtained and the reduction in the cost of transportation that is being realized. We should also, I feel, know more of electric operation, so that as motive power officers we may be better informed as to its advantages and disadvantages, and may be in position to assist in deciding on the proper system to employ. The advice of men experienced in motive power matters is needed by the railways in making decisions on this question. To be of value it must be based on a thorough understanding of the subject and a familiarity with its difficulties. I would urge your giving earnest attention to this important subject, which thus far has received too little consideration by the men who best understand railway motive power conditions.

Systems of organization are changing with the changes in our railways and new methods are being introduced for watching results. We should compare experience as to the efficiency of various types of organization, obtain more information as to the best forms of records, statements that are actually found useful and successful in practical service; comparisons that can be made on a reasonable basis and are interchangeable. I believe we should endeavor to pay more attention to the commercial side of our work than we have done in the past. Excellent as our work has been, it has with few exceptions investigated the technical rather than the business problems of the locomotive. We certainly do not want to decrease our attention to technical matters, but could we not with advantage to our members and to the railways take more interest in, and exchange information with each other more fully on factors connected with the cost of operation? It is true that some years ago a standard postcard performance sheet was adopted and for a time was extensively exchanged, but it fell into disuse, and yet a properly prepared performance sheet, giving figures useful and possible of comparison, would, I feel sure, be of considerable value and interest to us all. The benefits of a membership in this association would be increased by information as to each other's cost of engine house expenses and supplies, of repairs and fuel consumption, the percentage of power in shops and out of service, and a number of other figures that have to be continually watched. Knowledge of the results obtained by others would assist us all in gauging our own performance, in more easily locating the branches in which we are deficient, and in encouraging all to a higher uniformity of accomplishment. In short, without in any way reducing the interest we have in locomotive engineering, we must take up in a far more business like and serious way the financial problems connected with the operation of the locomotive department, the form of organization that will give the best results, the commercial aspects of the work of a motive power official in conducting his department as though he were manager of a large business enterprise.

Take as an instance of comparing costs the operation of our repair shops.

We manage the largest collection of factories in the world devoted to one substantially uniform product, the repairing of locomotives, and our total expenditure for this item alone amounts to about \$80,000,000 a year. Each and all have the keenest interest in knowing whether our methods are the best and our costs among the lowest. A few years ago comparisons would have elicited little, but some statements of performances which were exceptionally worthy of imitation; to-day, with the progress that has been made in shop engineering, there is no reason why properly trained observers should not record time studies containing the necessary data to prepare intelligent and valuable statements about one operation after another that is performed on substantially the same parts in hundreds of shops from the Atlantic to the Pacific. Such work is possible and it has already been performed in several shops by experienced engineers. If carried on by a properly organized bureau under our auspices, it should be of the greatest value not only to the railways of this country as a whole, but to our members individually. By comparing operation by operation their results with those of other roads, and by analyzing their methods and available machinery, they would be enabled to improve the one or justify their expenditure for additions to the other. This is but one of many questions connected with the operation of our mechanical department which will occur to you, on which some systematic interchange of information would be of material assistance. What I wish most strongly to impress on you is that while still carrying on the technical work that has been so splendidly successful, we should pay more attention to the business problems under our control in which we can be of such mutual service.

Our methods of obtaining information might also, I consider, be supplemented to advantage by effecting closer relations with the various railway clubs. The circular letter has been a practical failure in obtaining general information, and I feel sure that the railway clubs would welcome reference to them of certain subjects for their opinion, especially those on which the experience of the men actually in touch with the work is required. They have a large membership, representing every section of the country and every class of men engaged in locomotive work. On many subjects their views would be of far greater value than those obtained in answer to circular letters, especially on questions similar to those suggested for topical discussion.

A valuable practice which obtained in the past, but which has been discontinued in recent years, was the appointment of a committee to report on the advancement in locomotive practice during the year. There are numerous small improvements devised in railway shops which would be collected by a committee gaining its information from the railway clubs. These improvements, while not of sufficient importance in themselves to justify a report or paper, are of considerable value in our successful operation, and presented by a committee would have sufficient indorsement to insure their being carefully considered. Co-operation with the railway clubs would also relieve the association of the discussion of details of minor importance which have occupied so much time in the

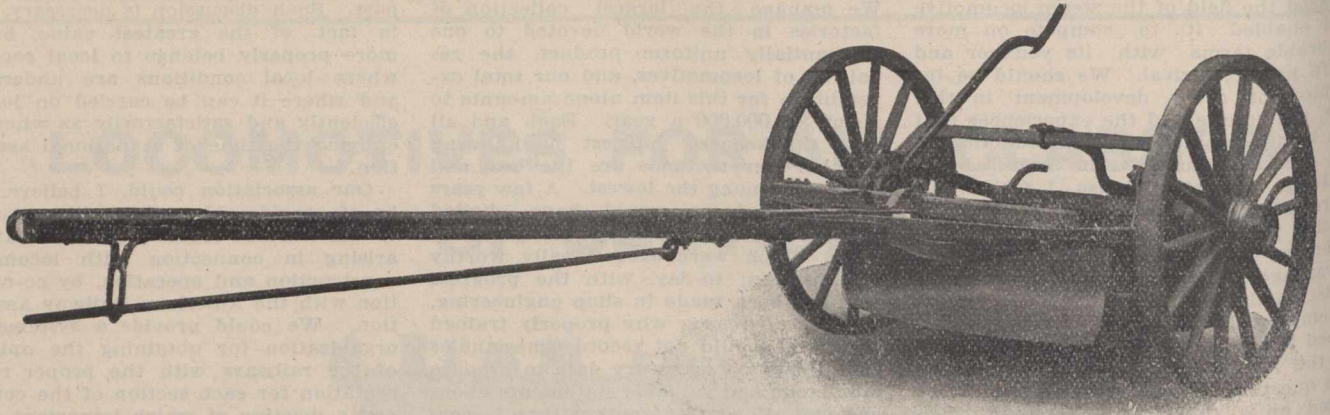
past. Such discussion is necessary, and, in fact, of the greatest value, but it more properly belongs to local societies where local conditions are understood and where it can be carried on just as efficiently and satisfactorily as when occupying the time of a national association.

Our association could, I believe, also be of considerable value with reference to the various legal questions that are arising in connection with locomotive construction and operation, by co-operation with the American Railway Association. We could provide a systematized organization for obtaining the opinions of the railways with the proper representation for each section of the country and a meeting at which important questions could be discussed. Any development in this direction must, however, come at their request, and we can simply indicate our willingness to undertake any work in which we can be of use.

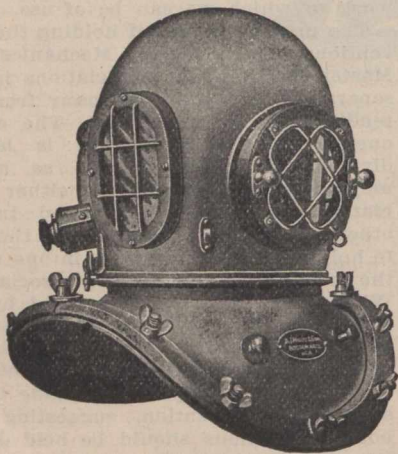
The present system of holding the conventions of the Master Mechanics' and Master Car Builders' associations in two separate weeks prevents many from attending one or the other. The consequence is, the attendance is largely divided, and unfortunately so, as the majority of the members of either association are equally interested in the other. There are two remedies: the first, to hold the two conventions in one week; the second, to unite the two associations. When this was last proposed by Mr. Pulaski Leed in 1898, our executive committee was instructed to confer with that of the Master Car Builders' Association, but, although a report was made to the succeeding convention, suggesting that both conventions should be held during the same week, nothing was done. It is a reflection on the business ability of our mechanical departments to continue an arrangement that necessitates a man being away from his work for practically two weeks at the meetings of important associations, which he should, for his own sake, and that of the railway employing him, attend and take part in. There is to-day no valid reason for maintaining two separate mechanical railway associations. All the officers and members of the executive committee of the Master Car Builders' Association, with the exception of two, 75% of the members of the standing committees, and 70% of the members of the special committees, hold joint department titles.

These figures demonstrate most clearly the amalgamation that has taken place between the car and locomotive departments on our railways. They justify the statement that the time has arrived not for the absorption of one of our associations by the other, but for their uniting into one society, call it, if you please, the American Railway Mechanical Association, which would consider both car and locomotive matters. Such a step is demanded by the spirit of the times, to conserve the forces of our railway officers and economize their time. It is one of the most important questions we have to deal with, and I would impress on you the necessity for action being taken to remedy the present conditions.

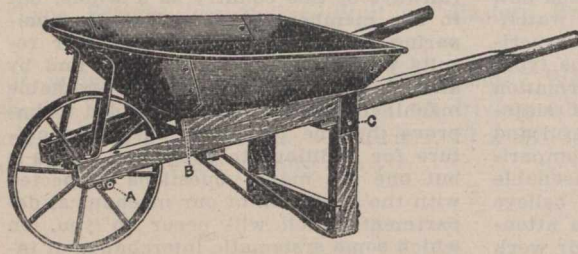
The help of our association has been requested by the National Conservation Commission, and it has been informed that our resources would be at their command either for purposes of investigation or to ascertain the recommendations of our members in any respects in



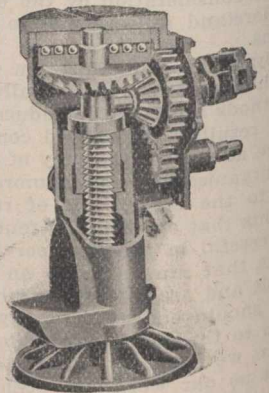
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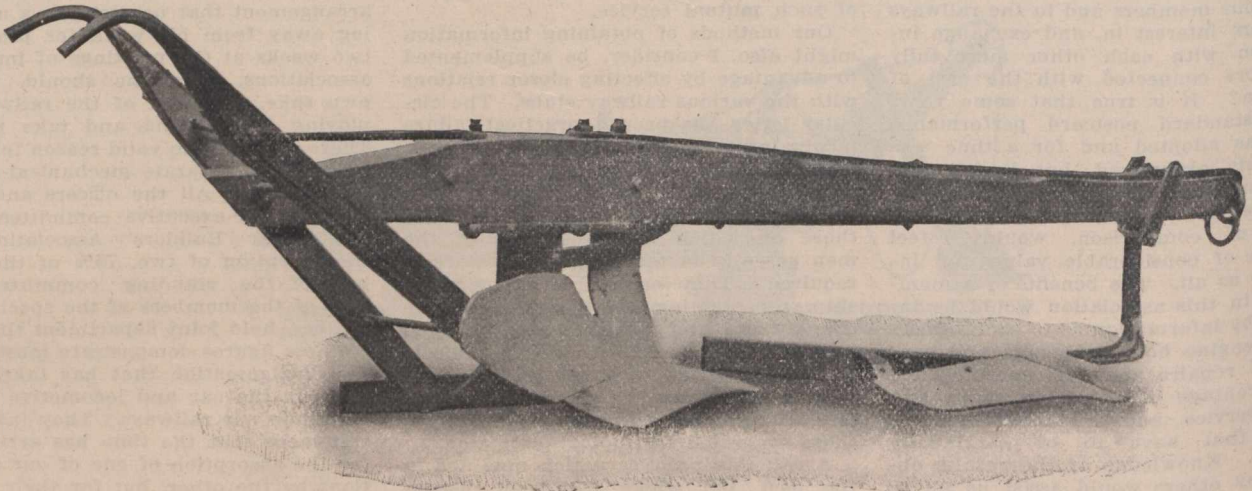
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which we could be of service to them. A committee was also appointed which could co-operate with them if required, or with any of their committees, but so far this has proven unnecessary, and our position has simply been that of exhibiting our willingness to perform any work that might assist this important movement. We have, however, our own share to carry of the duty of the nation to posterity. The railways are one of the largest consumers of coal, and in most cases peculiarly indifferent to the economy with which it is used. About 200,000,000 of tons are annually burned in locomotives alone, and we do not therefore need to ask in what direction we can be of service in assisting this commission. Our work is before us. We should individually, and as an association, use every means in our power to impress on our railways the importance of this expenditure, one of the largest we are responsible for. The reduction in the present rate of consumption that it is our duty to make will not only lead to an immense saving in expense, but will assist materially in the conservation of the natural resources of the country.

At our last convention several of our members were asked by members of the American Railway Association to introduce an alteration in our constitution whereby subjects involving legal, transportation, permanent way or traffic questions or for any other reason requiring such action may be submitted as recommendations to the American Railway Association. In response to this suggestion, a committee was appointed who have recommended the change which they consider advisable, which will be submitted to you at this convention. Your executive committee has carefully considered the amendment and indorse it as a progressive step in the orderly grouping of the important associations which are all working toward the development and advancement of American railway work, associations of which our own is one of the largest and oldest. An innovation, however, this amendment certainly is, and it has led me to speak to you of the work this association has done for the railways, its history, its achievements and its problems.

Canadian Pacific Safety League.

In February last at the solicitation of S. Jackson, some half dozen C.P.R. employes met at West Toronto, and as a result a second meeting was held, at which the Canadian Pacific Safety League was organized for the mutual benefit of employes by lessons gained from daily experience on the road, in the shops, etc., so as to insure strict observance of rules and the exercise of caution in handling trains, etc. The league has held 13 meetings and has 63 members enrolled, while from 200 to 300 employes have attended some of the meetings. Upwards of 30 rules and other practical topics have been discussed, and a number of rules have been obtained from the company's Rules Inspector. The league held a smoking concert recently, which was also attended by the General Superintendent, Superintendents, Assistant Superintendents, Master Mechanic, Superintendent of Shops, District Master Mechanics and other officials, General Superintendent Osborne speaking at some length. A league has also been established at Hav-

Many happy returns of the day to—
W. E. Bishop, Manager Hamilton Steamboat Co., Hamilton, Ont., born at Brantford, Ont., Aug. 10, 1868.

J. F. Chapman, General Freight and Passenger Agent, Bay of Quinte Ry., Thousand Islands Ry., Oshawa Ry., and Deseronto Navigation Co., Deseronto, Ont., born at Frankford, Hastings Co., Ont., Aug. 25, 1863.

F. Barlow Cumberland, Vice-President Niagara Navigation Co., Port Hope, Ont., born at Portsmouth, Eng., Aug. 5, 1846.

G. H. Ham, head office staff C.P.R., Montreal, born at Trenton, Ont., Aug. 23, 1847.

W. P. Hinton, General Passenger Agent, G.T.P.R., Winnipeg, born at Hintonburg, Ont., Aug. 30, 1871.

R. Kerr, Passenger Traffic Manager C.P.R., Montreal, born at Toronto, Aug., 1845.

J. D. McDonald, District Passenger Agent, G.T.R., Toronto, born there Aug. 27, 1855.

T. McHattie, Superintendent of Motive Power and Car Department, Central Vermont Ry., St. Albans, Vt., born at Dufftown, Banffshire, Scotland, Aug. 8, 1854.

C. Montgomery, Assistant Master Mechanic Pere Marquette Rd., St. Thomas, Ont., born near London, Ont., Aug. 29, 1860.

W. E. Mullins, General Manager Costa Rica Rd., and Northern Rd. of Costa Rica, San Jose, born at Stratford, Ont., Aug. 13, 1870.

F. H. Phippen, General Counsel C.N.R., Toronto, born at Belleville, Ont., Aug. 26, 1862.

W. M. Porteous, Freight Agent C.P.R., St. Louis, Mo., born at Edinburgh, Scotland, Aug. 3, 1857.

J. F. Richardson, Superintendent Eastern Division C.P.R. Telegraphs, Montreal, born at Granby, Que., Aug. 23, 1861.

W. LeB. Ross, Local Treasurer G.T. Pacific Ry., Winnipeg, born at Ottawa, Ont., Aug. 9, 1868.

F. C. Salter, European Traffic Manager G.T.R., and Canadian Ex. Co., Liverpool, Eng., born at Sarnia, Ont., Aug. 31, 1863.

C. R. Scoles, General Manager Atlantic and Lake Superior Ry., New Carlisle, Que., born at Grantham, Lincoln, Eng., Aug. 27, 1856.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, Montreal, born in Kircudbrightshire, Scotland, Aug. 3, 1855.

W. F. Taylor, General Storekeeper I.C.R., Moncton, N.B., born at Hillsboro, N.B., Aug. 20, 1855.

W. B. Way, Assistant Superintendent C.P.R., White River, Ont., born at Bowmanville, Ont., Aug. 22, 1867.

Railway Lands Patented.—The following railway lands, situated in Manitoba, Saskatchewan, Alberta and British Columbia, were patented during Apr.:

	Acres.
Canadian Northern Ry.	121,842.20
Canadian Pacific Ry.	329.12
Grand Trunk Pacific Ry.	986.36
	123,157.68

A. Z. Mullins, Commercial Agent, Grand Trunk Ry., in writing from Grand Rapids, Mich., July 7, said: "I have looked over with much pleasure the copy of the Railway & Marine World sent me a few days ago, and as it contains a lot of useful information, I take pleasure in enclosing my first year's subscription to same."

We are indebted to T. Tait, Chairman Victorian Railway Commission, Australia, for the following interesting particulars of the vast suburban traffic handled on the state lines. A tally was taken of the number of people passing through the barriers at the Flinders St. and Prince's Bridge stations, Melbourne, for three days, April 20, 21 and 22, as indicative of the number of passengers arriving and leaving each of these stations. While these stations have different names the platforms and tracks are connected and they are only separated by an overhead bridge, and they may therefore be regarded as practically one station. The tally shows the approximate average number of passengers arriving and leaving this terminal to be 149,548 passengers a day. In this tally, however, account has not been taken of passengers travelling from one train to another at the station nor travelling through the station in the same train, which would no doubt appreciably increase the total number of passengers arriving and leaving the station as ascertained by the barrier tally. However, apart from these passengers who are not, as stated, included in the tally, the average of practically 150,000 passengers a day makes the Flinders St.-Prince's Bridge terminal one of the largest of the kind in the world.

In addition to this terminal the Victorian railways have two other stations which are practically terminal or city stations in Melbourne, viz., Spencer St. and Richmond, at which a very large passenger traffic is conducted. The U.S. fleet arrived in Hobson's Bay on Aug. 29, 1908, and sailed again on Sept. 5, and the number of passengers arriving and departing from the two central terminals, viz., Flinders St.-Prince's Bridge and Spencer St. stations, was as follows:—Aug. 29, 361,145; Aug. 30, 183,958; Aug. 31, 507,870; Sept. 1, 229,164; Sept. 2, 320,902; Sept. 3, 526,283; Sept. 4, 427,812; a total of 2,557,134 for the seven days. This traffic is exclusive of the usually large inter-suburban traffic that is between stations other than to or from the two central stations named, and of a very heavy traffic to and from the stations throughout the State outside the suburban area. There were probably at least 100,000 people who came to Melbourne from outside the suburban area during the visit of the fleet.

McGillivray Creek Coal and Coke Co.

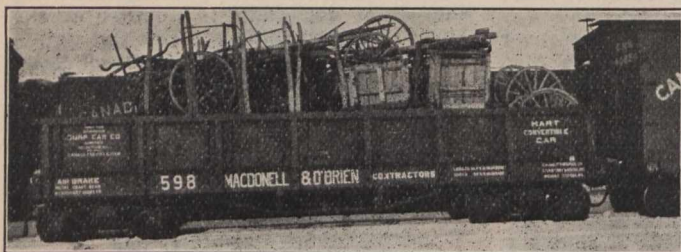
By an act passed at the recent session of the Alberta Legislature this company is given power to construct an aerial wire rope tramway from its property on sec. 17, tp. 8, range 4, west of the 5th meridian, to connect its collieries with the C.P.R. in sec. 7 in the said township and range, the tramway to be used for the carriage of freight only. For the purpose of constructing the tramway the company is given the right to expropriate certain lands, altogether not more than 5.69 acres. (April, pg. 247.)

The Interstate Commerce Commission in the matter of through passenger routes via Portland, Oregon, has ordered the Northern Pacific Ry. Co., the Union Pacific Lines, and the Chicago and Northwestern Ry. to join in the sale of through passenger tickets between Seattle and other points in the northwest and eastern destinations, via Portland, and to accord through facilities, like the checking of baggage, over this route.

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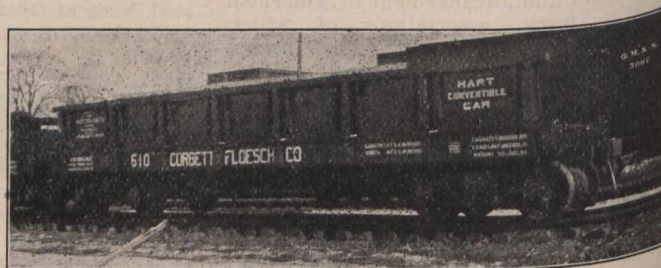
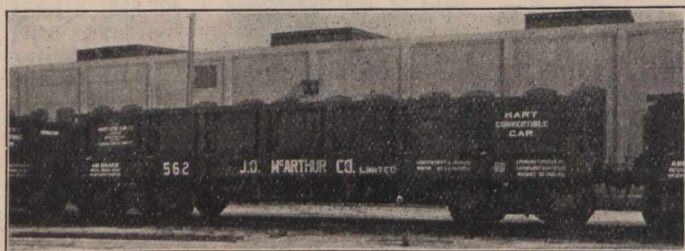
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SUCCESSORS TO
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MONTREAL

C. P. R. Articulated Compound Locomotive.

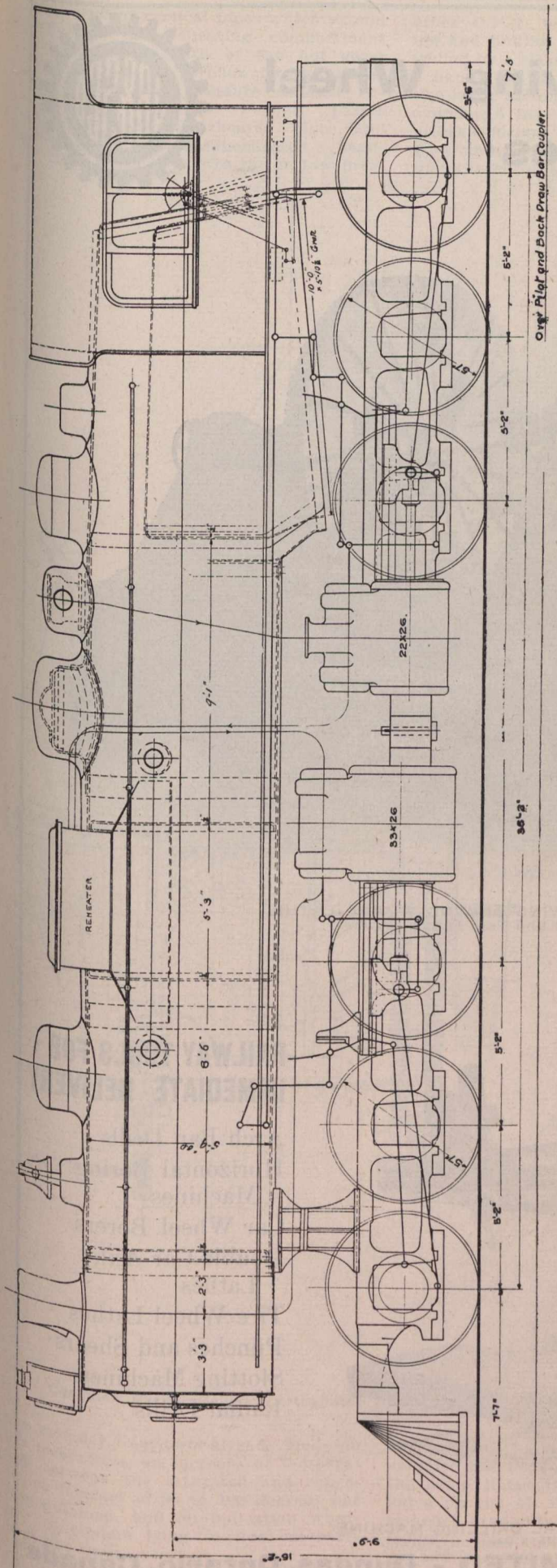
The sample locomotive of the type shown by the outline drawing on this page, and by the cuts on pgs. 559 and 561, has been constructed by the C.P.R. at its Angus shops, Montreal, for service on the Pacific Division on a 2.4% gradient. This locomotive is not quite as heavy as some recently constructed for United States roads, but presents some very interesting features, such as a reheater, to accommodate which the boiler has been cut in two sections, which makes it practically a feed water heater in the front and a steam generator in the rear section. The arrangement of the cylinders is also novel. They are located at the centre of the locomotive, one immediately forward and the other back at the point of articulation. This arrangement of cylinders has a distinct advantage in two ways, first, that it shortens the front end or overhang of the pilot forward of the smokebox, and most important of all, simplifies the receiver or low pressure steam pipe and exhaust pipes to such an extent that but one packed joint is required and the use of expansion sleeves has been dispensed with entirely. The only packed joint on the locomotive is located directly over the pin connecting the front truck or front section of the locomotive with the back, and the only movement on this joint is a swivel one. The extension and contraction have been entirely done away with. The principal details of the locomotive are as follows:

- Working pressure, 200 lbs. per sq. in.
- Cylinders, 22" and 32 1/2" x 26".
- Driving wheels, diameter, 57".
- Firebox, length, 120".
- Firebox, width, 69 7/8".
- Grate area, 58 sq. ft.
- First ring of boiler, inside diameter, 67 1/2".
- Distance between tube sheets, front section, 102".
- Number of tubes, front section, 385 2" O. D.
- Heating surface, front section, 1722.5 sq. ft.
- Distance between tube sheets, back section, 109".
- Number of tubes, back section, 289 2" O. D.
- Firebox heating surface, 180 sq. ft.
- Total heating surface, 3288 sq. ft.
- Heating surface, back section, 1385.5 sq. ft.
- Reheating surface, 420 sq. ft.
- Reheater tubes, outside diameter, 1 1/4".
- Reheater tubes, inside diameter, 15-16".
- Live steam pipes, inside diameter, 5".
- Receiver pipes, inside diameter, 7".
- Exhaust pipe, inside diameter, 9".
- H. P. valve, inside admission, 11" diameter.
- L. P. valve, outside admission, 12" diameter.
- Lap, H. P., 1"; L. P., 1".
- Lead, H. P., 1/4"; L. P., 1/4".
- Exhaust clearance, H. P., 1/8"; L. P., 1/4".
- Light weight of tender, 59,000 lbs.
- Loaded weight of tender, 134,000 lbs.
- Coal capacity, 12 tons.
- Water capacity, 5,000 Imperial gallons.
- Weight of engine, working order, 276,000 lbs.
- Weight of engine and tender, working order, 410,000 lbs.
- Rigid wheel base, 10' 4".
- Total engine wheel base, 35' 2".
- Wheel base, engine and tender, 60' 7".
- Tractive effort, 57,400 lbs.
- Weight on drivers ÷ tractive effort = 4.81.
- Tractive effort × diam. drivers ÷ heating surface = 995.
- Total heating surface ÷ grate area = 56.69.
- Firebox heating surface ÷ total heating surface = 5.48.
- Weight on drivers ÷ total heating surface = 83.94.

As previously mentioned the boiler consists of a feed water heater, reheater and steam generator, there being four flue sheets, the flues in the rear section being 109 ins. long and 102 ins. in the front section, the reheating compartment being 63 ins. long. The two sections are connected by two equalizing pipes, one of which is below the normal water level, and serves to maintain equal levels in the front and back sections. The other is located above the water line and allows the steam which may form in the feed water heating section to pass to the back section. The injectors discharge into a check valve, which is located underneath the bell stand on the top of the boiler and connects with the front section.

The cylinders are of the crossover compound type, the high pressure being located on the rear engine and the low pressure on the front truck. Live steam is taken from a cast iron throttle secured to the top of the boiler by studs and a ball ring, which makes it perfectly accessible at all times for inspection. This cylinder is of the inside admission type and the steam exhausts from the end of the valve chamber through a steam pipe connected to the saturated header of the reheater. The steam to the low pressure cylinder is supplied by the receiver pipe from the reheater and is admitted to the end of the low pressure steam chest, the low pressure cylinder being, therefore, end admission and central exhaust.

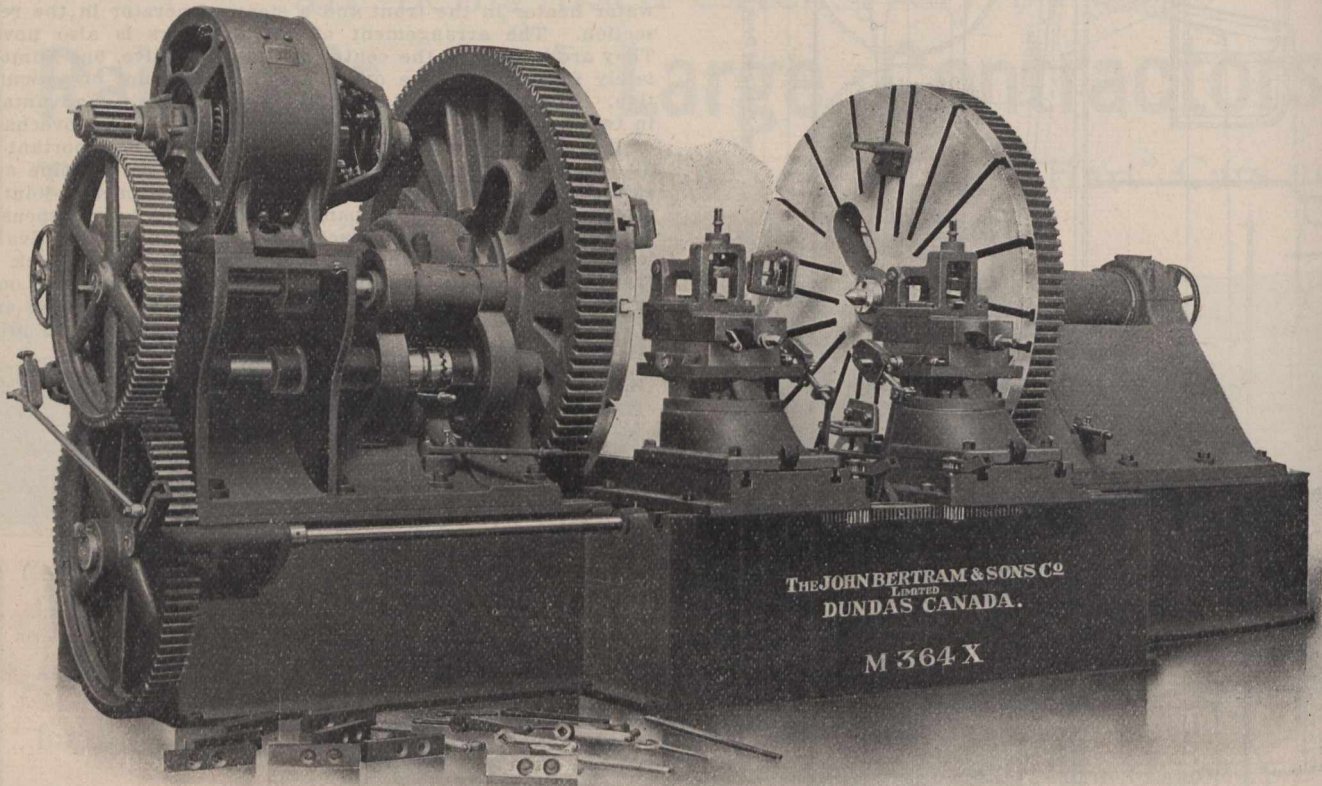
The reheater consists of two cast-iron headers known as saturated and superheated, which are connected together



Canadian Pacific Railway Articulated Compound Locomotive.

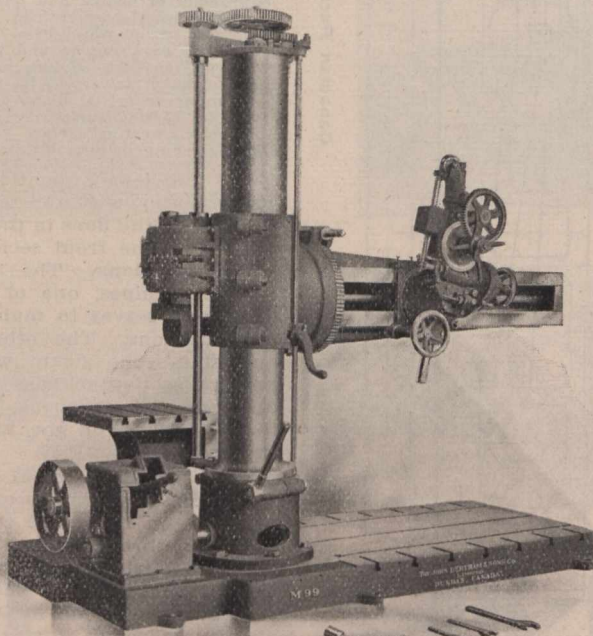


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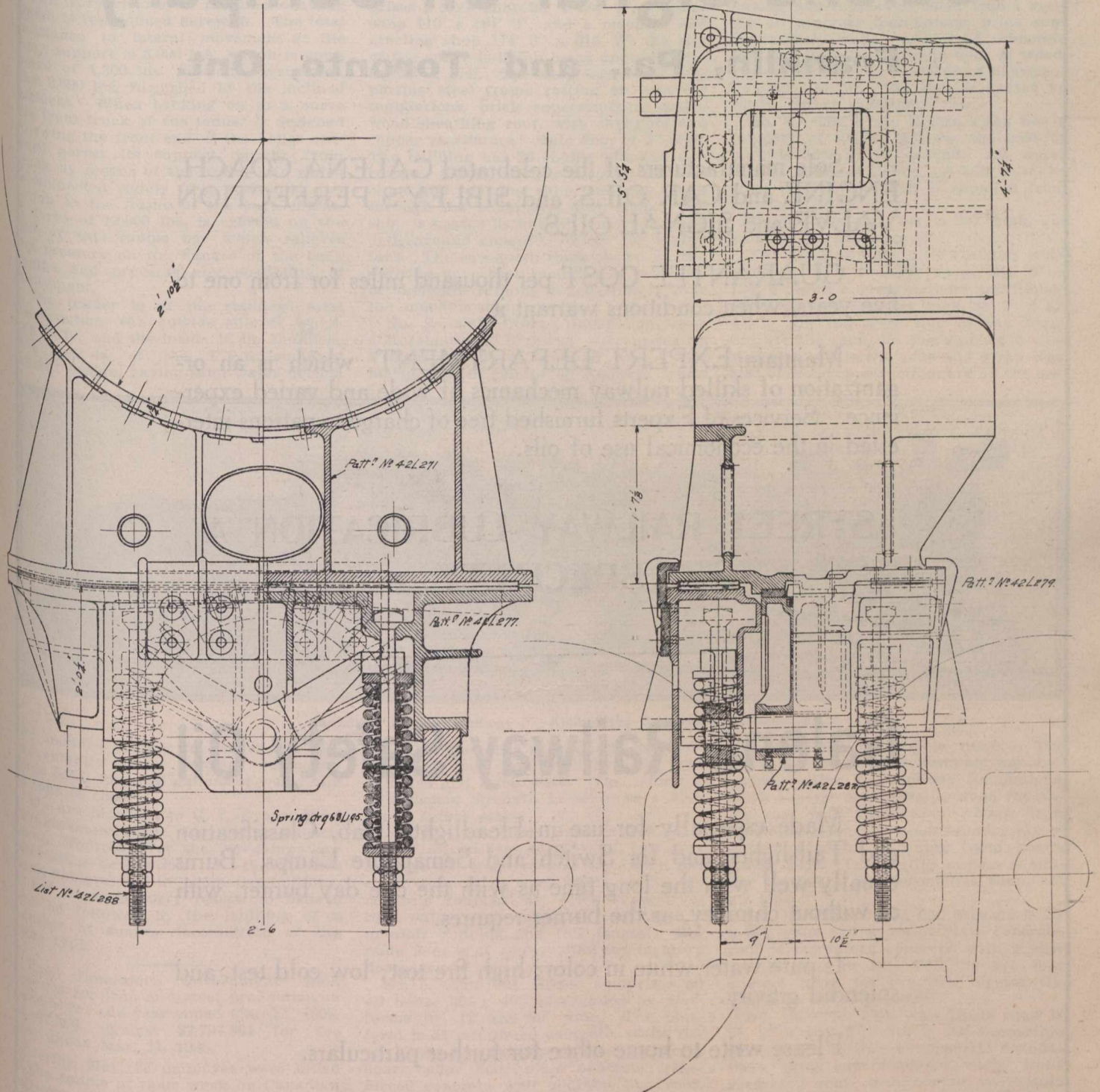
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by a series of vertical pipes which extend down into the reheating compartment directly in the path of the hot gases carried from the firebox by the boiler flues. The high pressure exhaust enters the saturated header, passes through these superheated pipes and returns to the superheated header from which it passes to the low pres-

other C.P.R. locomotives. The reversing and linking up of the motion is controlled by a steam cylinder operated from a handle in the cab. This gear is positive in its action, and consists of a steam cylinder 6 ins. in diameter, which furnishes sufficient power to reverse the engine under all conditions. To insure smoothness of action, an oil cylinder or

position. The operating handle in the cab by which the gear is controlled, has three distinct movements, as follows:— 1, to lift the latch clear; 2, to turn on the steam to the desired end of the operating cylinder; 3, to open the passage in the oil cylinder or dash pot. By this arrangement the latch will first be lifted and the steam cannot be turned on un-



Canadian Pacific Railway Articulated Compound Locomotive, frame details, main boiler bearing arrangement. See page 557.

sure cylinder. On tests already made on this locomotive, an increase of temperature between the saturated and superheated headers of 90 to 100 degrees has been obtained, and no indication whatever of cinders lying in this compartment has been observed.

The valve motion is of the Walschaert type, and is similar to that applied to

dash pot of the same size as the steam cylinder has been set opposite to and in the same line. By the closing of the valve on the oil cylinder the motion is retarded gradually and brings the steam cylinder piston to rest without shock. An additional lock in the form of a latch has been provided which insures of the radius bar being carried in the desired

til it is clear. The oil cylinder in the meantime prevents any movement until it has been opened. To stop the movement of the reverse arm the operation is reversed, that is, the first movement of the handle closes the oil valve, bringing the parts to rest gradually, shuts off the steam and finally closes the latch.

The means by which this locomotive is

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PRESIDENT

made to take the sharp curves over which it will have to operate, is very interesting and novel. The locomotive when running ahead is guided on to the curve by the front engine which itself is a truck and moves sidewise against the resistance of the sliding bearing plates and inclined surfaces of the roller centreing attachment. The arrangement of this is shown very clearly in the line drawing which is reproduced herewith. The total resistance to lateral movement at the front support is 3,990 lbs., which is composed of 1,300 lbs. frictional resistance, and 2,690 lbs. furnished by the inclined surfaces. When backing on to a curve the front truck of the tender is designed to swing the front end of the boiler outward across its support on the front truck by means of the radius bar which is connected rigidly in a horizontal direction to the frame of the rear engine. A force of 12,000 lbs. is exerted on the end of this radius bar which relieves the pressure on the flanges of the back engine and prevents any possibility of derailment.

The tender is of the standard steel construction, the outside sills of which are 10 in. and the inside 13 in. channels. The tank is of the C.P.R. standard freight design, having semi-water bottom

National Transcontinental Ry. Shops.

On page 563 is an isometric view of the N.T.R. shops to be erected near Winnipeg, and for which a contract was let recently. The numbers given below refer to similar numbers on the view.

No. 2.—THE LOCOMOTIVE SHOP comprises a tank shop 95' x 184' 9", a boiler shop 110' x 184' 9", and a machine and erecting shop 174' 9" x 615' 7", the size of the entire building being approximately 823' x 174'. The shop has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with skylights and copper ventilators. Main floor of 3" pine. The building has 26 engine pits and two transfer tracks running through the machine and erecting shop, and one track through the boiler and tank shop. The shop is heated by hot air, forced through underground concrete ducts by engine fans. The saw-tooth roofs shewn on the drawing have been changed to two rows of skylights running longitudinally over the machine shop portion.

No. 3.—THE STORE HOUSE comprises a storehouse 62' 6" x 262', surrounded by a platform 10', 11' and 25' wide. The platform is of reinforced concrete, while

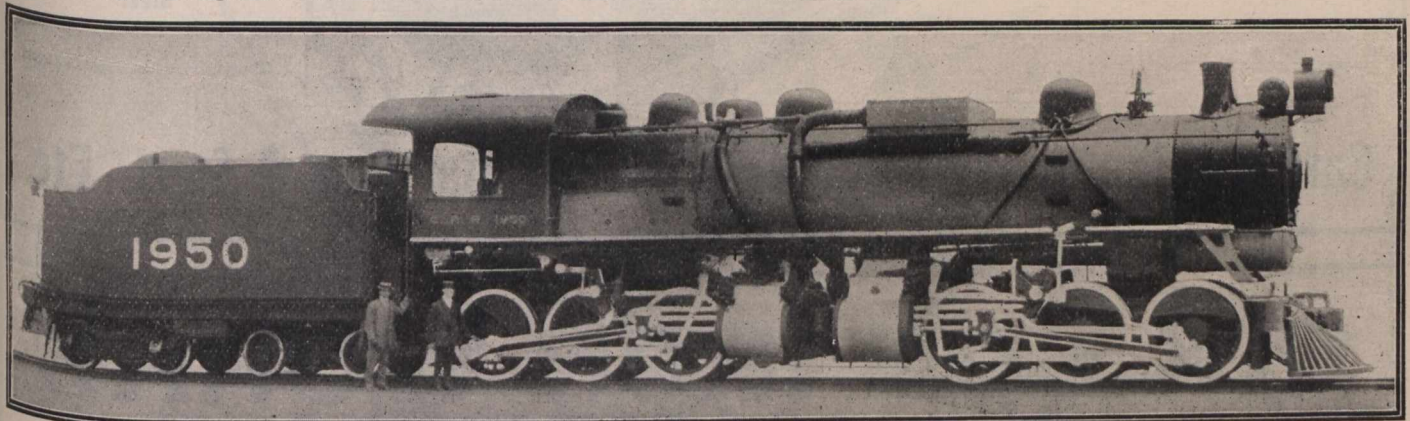
quired in the different shops will be generated in this building, and steam for all the indirect heating apparatus and direct radiating systems will be supplied from the boilers through underground mains.

No. 7.—THE LOCOMOTIVE CARPENTER Shop, Pattern Shop and Pattern Storage is a two-story building 104' 9" x 74' 9", having self-supporting steel frame resting on concrete foundations, brick superstructure walls, reinforced concrete roof and first floor, ground floor of wood. The upper story is of fireproof construction throughout. The shop is heated by steam, direct radiation.

No. 8.—THE STEEL WATER TANK has a capacity of 100,000 gallons, the base of tank is 125' above ground. All water for fire mains and shop use will be taken from this tank, which is supplied from the Red River.

No. 9.—THE CHIMNEY is 200' high, average inside diameter 11'.

No. 10.—THE GREY IRON FOUNDRY comprises a main foundry room 204' 9" x 134' 9", with a brass foundry partitioned off from it, a cleaning room 64' 9" x 82' 4½". On the west side of the foundry are the sand bin sheds of wood construction, while the coke and scrap bins, also of wood construction, are on the east



Canadian Pacific Railway Articulated Compound Locomotive.

and inclined surface to deliver the coal conveniently for the fireman. Its capacity is 5,000 Imperial gallons of water and 12 tons of coal.

We are indebted to G. I. Evans, chief draughtsman C.P.R. locomotive department, Montreal, for the foregoing very interesting description of the C.P.R.'s latest achievement in locomotive building, which there is every reason to believe will be followed by the building of a number of similar locomotives of the same type.

The Dominion Government paid bonuses for iron and steel production in Canada for the year ended Mar. 31, 1909, \$2,467,306, against \$2,797,861 for the year ended Mar. 31, 1908.

During May, 23 employes were killed in the course of their work on Canadian railways, and 19 injured. Of the fatalities, 9 were due to being run over, 5 to explosions of dynamite, 3 each to drowning and to falling material, 2 to falls, and one each to being struck by a passing object and to tools. Of the other accidents, 6 were due to falls, 5 to falling material, 3 to collisions, and one each to being caught between cars, to being struck by a passing object, to derailment, to an explosion of steam, and to machinery.

the storehouse has a reinforced concrete floor and roof, reinforced concrete wall columns and brick walls. The ceiling is of sufficient strength to serve as a floor for a future story.

No. 4.—THE FORGE SHOP is 104' 9" x 264' 9", with a lean-to 22' x 21', two stories high for toilet rooms. The shop has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with a monitor running the full length. The main floor is of cinders, and the lavatory floors are of concrete.

No. 5.—THE OIL HOUSE comprises an oil house 30' x 40', surrounded by platforms 10', 12' and 20' wide. The platform is of reinforced concrete, while the oil house has reinforced concrete main floor, cellar floor plain concrete, reinforced concrete wall columns and roof, with brick walls. In the cellar are storage tanks for lubricating and illuminating oils.

No. 6.—THE POWER HOUSE is 154' 9" x 110', having a brick wall separating the boiler room from the engine room. The steel frame of the building is self-supporting, resting on concrete foundations, brick superstructure walls, wood sheathing roof, skylights and copper ventilators, concrete floor in boiler room, oiled maple floor in engine room. The power re-

side adjoining the cupola room. The main building has a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof with ventilators. Main floor, moulding room and brass foundry are of moulding sand. Cleaning room has a cinder floor. The heating system is similar to that of the locomotive shop, hot air blast.

No. 11.—THE CRUDE OIL STORAGE is 25' x 62', walls and floors of plain concrete, roof of reinforced concrete, with copper ventilators. In this building are four storage tanks for the fuel oil for the forges in the forge shop.

No. 12.—THE FROG AND TRACK SHOP is 64' 9" x 104' 9", with a self-supporting steel frame resting on concrete foundations, brick superstructure walls, wood sheathing roof, with copper ventilators and skylights. Main floor of 3" pine, lavatory floor, concrete. The shop is heated by steam, direct radiation.

No. 13.—THE STORES PLATFORM is 56' x 180', of reinforced concrete construction, with a light steel frame superstructure 58' x 151'. The superstructure is covered with wood sheathing roof, galvanized corrugated iron on ends and sides. The platform is designed to carry a load of 300 lbs. per sq. ft.

No. 14.—THE FORGE STORES AND SCRAP

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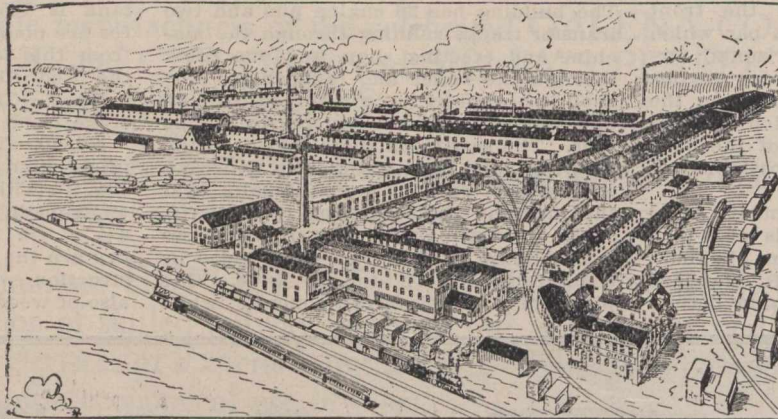
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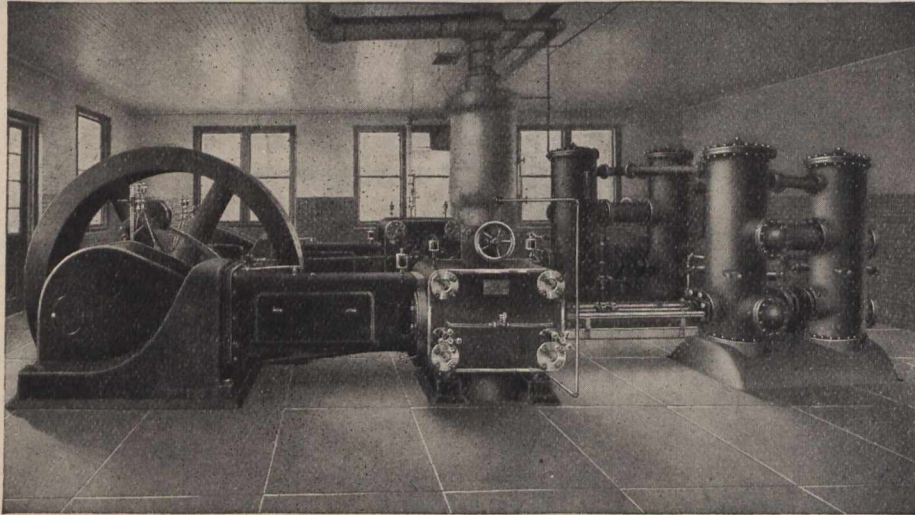
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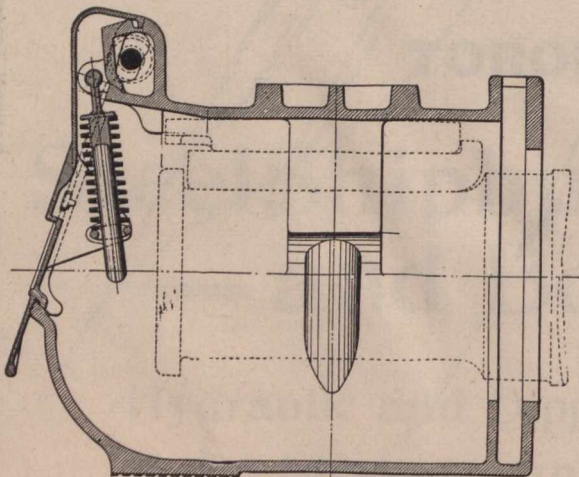
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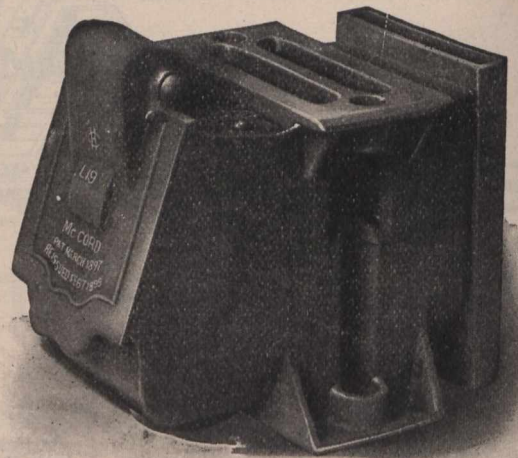
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Orders by the Railway Commissioners.

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

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

7279. June 1.—Authorizing Essex Terminal Ry. Co. to take additional lands for altering line at Windsor Fair Ground and Driving Association, Windsor, Ont.

7280. June 18.—Ordering C.P.R. early each spring, and before water commences to run, to clear away ice and snow underneath bridge over Buffalo Lake, Man.

7281. June 18.—Directing Canada Atlantic Ry. (G.T.R.) to provide crossing where the railway abuts T. Wilson's land in Carleton county, Ont.

7282. June 18.—Approving Salisbury & Harvey Ry. by-law authorizing A. Sherwood, General Manager, for Receiver, to prepare and issue tariffs of traffic tolls.

7283. June 18.—Extending for one year from June 30, 1909, the time for the use of the crossing at rail level, of its railway by the B. C. Electric Ry. at Park Ave., Vancouver.

7284. June 8.—Authorizing C.P.R. to construct spur at Mile End, on Hyde & Webster's premises, St. Louis, Montreal.

7285. June 8.—Dismissing application of J. Ethier, Montreal, to amend order of Jan. 23, 1905, authorizing G.T.R. to take certain lands, then the property of City of Ste. Cunegonde, Que.

7286. June 18.—Approving deviation in C.P.R. main line near Steel siding, Thunder Bay district, Ont.

7287. June 18.—Authorizing Vancouver & Lulu Island Ry. to construct its Westminster & Eburne branch across the Trapp and Byrne roads in Burnaby district, B.C.

7288 to 7290. June 18.—Authorizing Toronto Suburban Ry. to erect electric wires across C.P.R. and G.T.R. in York tsp., Ont.

7291 to 7293. June 9.—Authorizing City of Edmonton, Alta., to cross at level, with its lines, the G.T.P.R. and C.N.R., and to erect power wires across the G.T.P.R. and C.N.R.

7294. June 17.—Reporting to Governor in Council for sanction Bay of Quinte Ry. by-law re spitting in cars or on railway premises.

7295. June 14.—Approving additions and changes in proposed Supplement no. 1 to Canadian Freight Classification 14; with one or two exceptions.

7296. June 19.—Approving proposed station layout of C.N.R. at Saskatoon, Sask.

7297. June 19.—Directing Grand Valley Ry. to fence certain portions of its line within 60 days.

7298. June 19.—Dismissing application of C.P.R. for order directing G.T.R. to receive passenger and baggage cars of C.P.R. and deliver same to C.P.R. at junction of Ottawa Northern and Western Ry. with Can. Atlantic Ry. near Sappers Bridge, Ottawa.

7299. June 16.—Directing Western Counties Electric Co. to erect wires across G.T. railway track and telegraph wires at Elgin St. subway, Brantford, Ont., before July 1, 1909.

7300, 7301. June 17.—Authorizing Bogy Creek Rural Telephone Co. to erect wires across C.N.R. in Saskatchewan.

7302, 7303. June 21.—Authorizing Alberta Government to erect wires across C.P.R. in centre of Bow Island; and just west of Grassy Lake, Alta.

7304. June 19.—Authorizing Bell Telephone Co. to erect wires across P.M. Rd. at St. Thomas, Ont.

7305. June 17.—Authorizing Village of Streetsville, Ont., to erect electric light wires across C.P.R.

A Practical Man's Opinion

W. E. Fowler, who recently resigned his position as Master Car Builder, Canadian Pacific Railway, in order to take a much needed rest, has a continental reputation. The splendid work he has done for the C.P.R. is evidenced by its car equipment, and his commanding position in the Master Car Builders' Association, in which he rose to the Presidency, has made him well known to the entire railway mechanical community. In response to a request for an opinion on our paper, Mr. Fowler wrote our Managing Director recently, as follows:

"The Railway and Marine World has always appealed to me, in the first place as being distinctively Canadian and patriotic, which should be a strong recommendation to every man, whether born in the Dominion or who has cast his lot with this great growing country.

"I would also state positively that there is no railroad journal with which I am acquainted which has such a comprehensive report of everything connected with railway and marine interests as does your paper, and the wealth of detail given every month is such, that for Canadian railway news there is no occasion to go farther, everything being found in your paper.

"A very special feature of your paper is the space which is devoted to personal matters connected with railway and marine men, and I am sure that every subscriber feels as I do, that this is one of the most interesting parts of your paper, touching as it does on the lives and personal affairs of every railway man of importance in the Dominion.

"I have no doubt that a very large part of the success of your paper is due to the great amount of work you put into it yourself, feeling, I suppose, that if a thing is required to be well done, there is nothing like personal execution."

Letters, such as the one above reproduced, are among the pleasant experiences of business life, and are a distinct encouragement to even better work for the future.

7306. June 18.—Authorizing G.T.R. to construct branch line on certain streets in Sarnia, Ont.

7307. June 18.—Authorizing C.P.R. to construct spur line to the Manitoba Government's premises, Gonor, Man.

7308. June 18.—Authorizing Shawinigan Water & Power Co. to erect transmission wires across Q.M. & S.R. near St. Gregoire, Que.

7309. June 19.—Authorizing C.P.R. to construct branch line at Kamloops, B.C.

7310. June 18.—Authorizing C.P.R. to construct bridge over Yamaska River, on its Eastern Division.

7311. June 21.—Approving location of the C.N.O.R. through Hisworth and

Nipissing tps., Parry Sound district, Ont.
7312, 7313. June 21.—Approving location and plans of C.P.R. station at Mofat and Mountain, Ont.

7314. June 21.—Authorizing G.T.R. to connect its track with Owen Sound Portland Cement Co. sidings, Owen Sound, Ont.

7315. June 21.—Approving change in location of E. & N.R. line from mileage 100 to 127, Alberni branch, B.C.

7316. June 21.—Authorizing London Tp. Telephone Co. to erect wires across G.T.R. two miles north of Denfield station, Ont.

7317. June 19.—Rescinding order 6520, of Mar. 15, approving plans of crossing of C.P.R. by London St. Ry. at Richmond St., London, Ont.; and directing C.P.R. to serve forthwith upon London St. Ry. plans of interlocker proposed to be installed.

7318. June 19.—Dismissing application of Village of Coteau Station for order directing G.T.R. to cease wilfully permitting its engines and cars to stand at level crossing for longer than five minutes at one time; and in shunting to obstruct public traffic on highway for longer than five minutes at one time.

7319. June 17.—Directing G.T.R. to install automatic electric bell with cut-out opposite Morrisburg station, Ont.

7320. June 19.—Approving plans of C.N.R. location through Saskatoon, Sask., also proposed subway in that city.

7321. June 21.—Authorizing U. Archambault to erect electric light wires across G.T.R. in Ste. Martine, Que.

7322. June 19.—Directing C.N.R. to install interlocking plant where its line crosses C.P.R. at Gladstone, Man.

7323. June 22.—Approving revised location of portion of C.P.R. New Westminster branch in New Westminster, B.C.

7324. June 22.—Authorizing G.T.R. to reconstruct 14 bridges on its Eastern division.

7325. June 22.—Amending order 3258, of July 6, 1907, by striking out clause "h."

7326. June 19.—Dismissing complaint of G. B. Janes & Co. of Orillia, Ont., that rates charged by railway companies on cheese box veneers are excessive.

7327. June 22.—Approving plan of proposed iron bridge, to replace wooden bridge carrying Avondale Ave., Stratford, Ont., across G.T.R.

7328. June 22.—Directing C.P.R. to install gates at crossing of Columbia Ave. leading to Evans, Coleman & Evans wharf, Vancouver, B.C.

7329. June 23.—Authorizing C.P.R. to open for traffic the portion of its second track, Ignace section, Ont., from mileage 115.0 to 119.8, and from mileage 120.0 to 127.8.

7330. June 23.—Approving Grand Valley Ry. Standard Passenger Tariff, C.R.C. 3.

7331. June 8.—Directing C.P.R. to construct a subway under its tracks at Iberville St., Montreal.

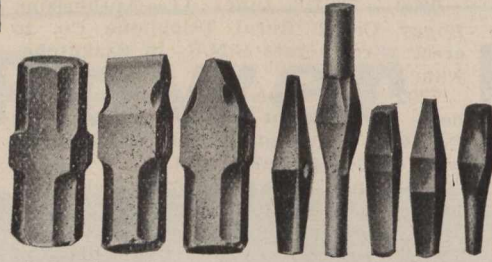
7332. June 22.—Authorizing G.T.R. to construct spur line to the Frost Wire Fence Co.'s premises, Hamilton, Ont.

7333. June 22.—Authorizing C.P.R. to reconstruct bridges 42.55 on its Lake Superior division and 0.3 on its Eastern division.

7334. June 22.—Authorizing Western Counties Electric Co. to erect wires across T.H. & B.R. on Oak St., Brantford, Ont.

7335. June 23.—Authorizing C.P.R. to

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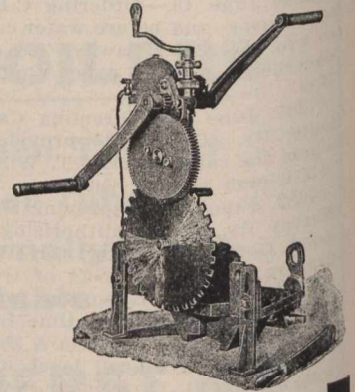
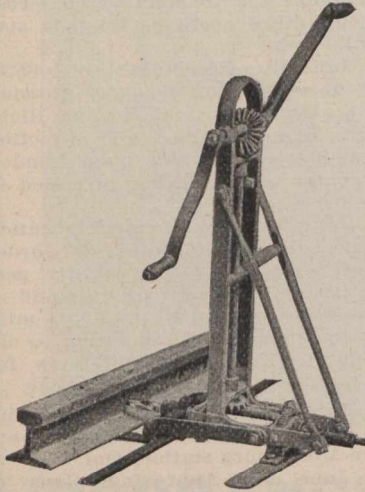


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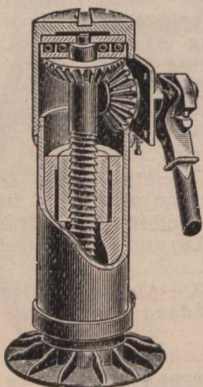
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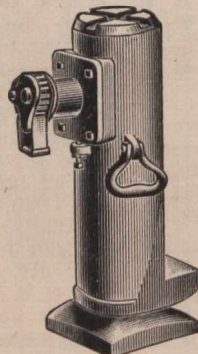
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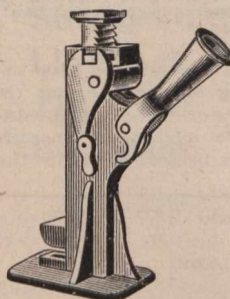
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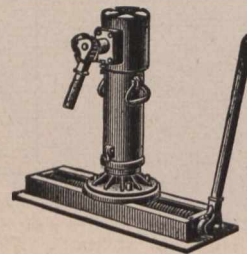
Sectional View



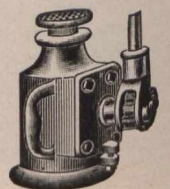
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7336. June 23.—Rescinding order 7299, of June 16, 1909, directing Western Counties Electric Co. to maintain its electric wires across G.T.R. at Elgin St. subway, Brantford, Ont.

7337. June 22.—Amending order 7023, of May 10, 1909, approving supplement 1 to Canadian Classification 14 by striking out clause 2 of order.

7338. June 21.—Dismissing application of C.P.R. for order rescinding or varying order of committee Privy Council, dated May 13, 1898, ordering C.P.R. to leave opening in trestle bridge carrying branch line of its railway to Dixon's Mills, Peterboro, Ont., across the channel of the Otonabee River, by permitting C.P.R. to fill said opening and substitute for the trestle a solid embankment.

7339. May 4.—Ordering G.T.R. and C.P.R. to protect crossing at College St., Lennoxville, Que., by folding gates, to be installed within four months.

7340. June 23.—Authorizing C.P.R. to construct its railway across highways in Medonte tsp., Ont., at mileage 12.96, 0.07 and 0.13, on Y of Georgian Bay & Seaboard Ry.

7341. June 24.—Authorizing C.P.R. to construct additional tracks near Murray station, McKim tsp., Ont.

7342. June 24.—Authorizing C.P.R. to construct additional track across Orr St., Calgary, Alta.

7343. June 23.—Dismissing four complaints of Produce Merchants Ass'n of Montreal, also ordering absorption of wharfage and port warden's fee on cheese subsequently exported from Montreal. This order is given in full on another page.

7344. June 25.—Authorizing C.P.R. to reconstruct bridges, 20.2, Blagdon Brook, Atlantic division, and 3.4, near St. Sabine, Eastern division.

7345.—June 24.—Authorizing Miniota municipality to erect wires across C.P.R. at Arrow River, Man.

7346. June 24.—Authorizing Riverside Telephone Co. to erect wires across C.P.R. in Saskatchewan.

7347. June 23.—Authorizing Warman Village, Sask., to erect wires across C.N.R.

7348. June 24.—Authorizing Bell Telephone Co. to erect wires across M.C.R., near Welland, Ont.

7349. June 25.—Reporting to Governor in council for sanction of C.P.R. by-law 94, re spitting in cars and on railway premises.

7350. June 23.—Amending order 5102, of July 29, 1908, authorizing G.T.R. to install interlocking plant at crossing of C.P.R. east of Weston Rd., West Toronto, by providing that work of installing interlocker be performed by C.P.R.

7351. June 25.—Approving plans of Ottawa and New York Ry. drawbridge over Cornwall Canal.

7352. June 25.—Amending order 7076, of May 26, authorizing G.T.P.R. to construct railway, at grade, across a certain highway in Northern Alberta by striking out the last clause.

7353, 7354. June 25.—Authorizing C.P.R. to construct industrial spurs for Consolidated Mining & Smelting Co., Kootenay district, B.C., and George and Robinson, Macleod, Alta.

7355. June 25.—Authorizing G. Coultis & Son to erect wires across G.T.R. at King St., Thedford, Ont.

7356. June 25.—Authorizing T.H. & B.R.

to construct spur to G. Ritchie's premises, Hamilton, Ont.

7357. June 25.—Authorizing C.P.R. to construct spur in Lethbridge, Alta.

7358. June 25.—Authorizing C.N.O.R. to take, for purpose of avoiding a sink-hole, part of lot 12, con. F, Medora tp., Ont.

7359. June 3.—Approving plan of crossings of Dufferin, Dunn, Jamieson, Dowling, Sunnyside, and Howard Aves. and Indian Rd., Toronto, by G.T.R. and C.P.R., and also several streets in Etobicoke tp., Ont.

7360. June 26.—Extending for 60 days from July 1, time within which work is to be done in connection with Richmond Rd. crossing, Ottawa.

7361. June 3.—Ordering G.T.R. to provide better protection at Sunnyside crossing, Toronto.

7362. June 29.—Recommending to Governor in council for approval, Niagara, St. Catharines & Toronto Ry. rules and regulations.

7363. June 29.—Approving location of C.P.R. Manitou Lake branch from mileage 0 to 51.33.

7364. June 29.—Approving location of C.P.R. Langdon north branch from mileage 45 to 60.

7365. June 29.—Authorizing Georgian Bay & Seaboard Ry. (C.P.R.) to open for traffic the portion of its line between Coldwater Jct. and to Maple Island on Hog Bay, near Victoria Harbor, Ont., 13 miles.

7366. June 29.—Approving location of C.P.R. Langdon branch, from Langdon, Alta., north-easterly from mileage 0 to 45.

7367. June 25.—Dismissing application of Transportation Bureau Montreal Board of Trade, for order directing reduction from second class rate on ingot tin, in Canadian Classification, to third class, as in Official Classification.

7368. June 28.—Amending order 7284, of June 8, authorizing C.P.R. to construct spur at Mile End, St. Louis, Montreal, across Sanguinet St., by adding the word 'indemnified' in the first line of the second clause.

7369. June 29.—Authorizing Esquimalt & Nanaimo Ry. to construct railway across highways at mileages 96.9, 91.92 and 95.93 of its Wellington and Alberni branch, B.C.

7370. June 29.—Authorizing C.P.R. to open for traffic portion of second track Kenora section, from mileage 13.8 to 16.0.

7371 to 7373. June 29.—Authorizing Alberta Government to erect wires across C.P.R. at Erskine and near Medicine Hat, Alta.

7374. June 29.—Authorizing Creston Power, Light & Telephone Co. to cross C.P.R. at Creston, B.C.

7375, 7376. June 29.—Authorizing Malahide & Bayham Telephone Association to erect wires across C.P.R. at Griffins and east of Tillsonburg, Ont.

7377 to 7386. June 29.—Authorizing Alberta Government to erect telephone wires across C.P.R. at 10 points.

7387. June 21.—Authorizing Bell Telephone Co. to erect wires across T.H. & B.R., near Cainsville, Ont.

7388. June 30.—Rescinding order 7338, of June 28, dismissing C.P.R. application for order rescinding or varying order of Railway Committee of Privy Council, of May 13, 1898, under which C.P.R. was ordered to leave opening in trestle bridge carrying branch to Dixon's Mills, Peterboro, Ont., as order 7338 dismissing ap-

plication was issued by mistake.

7389. June 29.—Authorizing G.T.P.R. to construct 5 bridges in British Columbia.

7390. June 29.—Authorizing C.P.R. to construct spur for Lethbridge Brewing & Malting Co., Lethbridge, Alta.

7391. June 29.—Authorizing C.P.R. to reconstruct bridges 23.53 on its Atlantic division, and 101.5 on its Pacific division.

7392. June 29.—Authorizing North American Telegraph Co. to erect wires across Brockville, Westport and North-Western Ry. at Soperton, Ont.

7393. June 21.—Dismissing application of Red Mountain Ry. for amendment to order 2115 (making applicable the general interswitching order) prescribing the rates to be charged for interswitching between Red Mountain Ry. and Columbia and Western Ry. at Rossland, B.C., amending previous order of Feb. 14, 1906.

7394. June 28.—Authorizing G.T.R. to expropriate lands additional to those it now occupies between Wyndham St., Market St., and its right of way, at Guelph, Ont.

7395. July 2.—Authorizing Hamilton Grimsby & Beamsville Elec. Ry. to construct spur through lands owned by A. McKay, of Saltfleet tsp., Ont., to connect the H.G. & B.E.R. with the G.T.R.

7396. July 3.—Authorizing M.C.R. to construct interchange track with G.T.R. on Bathurst St., London, Ont.

7397. July 3.—Authorizing G.T.P. Ry. to construct its railway across three highways in Alberta.

7398. July 3.—Authorizing C.P.R. to construct crossing over its main line in Coleridge, Alta.

7399. July 5.—Authorizing C.P.R. to reconstruct bridge 105.6 over Victoria road, Pembroke, Ont.

7400 to 7411, June 30.—Authorizing Alberta Government to erect telephone wires across C.N.R. at 11 points, and over C.P.R. at one point.

7412 to 7423, July 2.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at 5 points in Ontario, and 1 in Quebec; across the G.T.R. at 5 points in Ontario, and across the Pere Marquette Rd. at 1 point in Ontario.

7424. June 30.—Authorizing Alberta Government to erect telephone wires across the C.N.R. about a mile west of Mundare, Alta.

7425. July 5.—Authorizing Caradoc & Ekfrid Telephone Co. to erect wires across G.T.R. on town line between Caradoc and Ekfrid tps., Ont.

7426. July 5.—Authorizing Perth & Christies Lake Telephone Association to erect wires across C.P.R. at third line of Bathurst tsp., Lanark county, Ont.

7427, 7428. July 5.—Authorizing Miniota Municipality, Man., to erect wires across G.T.P. Ry. 3½ miles east and two miles northwest of Quadra.

7429. June 30.—Authorizing J. P. Ernst, New Hamburg, Ont., to erect wires across G.T.R. about 1 mile east of Baden station, Ont.

7430, 7431. July 5.—Authorizing Alberta Government to erect wires across C.P.R. ¼ mile east of Taber, Alta., and at Deveber Ave., Taber.

7432. July 5.—Authorizing Morris & Kemp to erect telephone wires across C.P.R. 1.8 miles north of Chaudiere Jct., Que.

7433. July 3.—Authorizing P. Sylvester, of St. Cuthbert, Que., to lay water main under C.P.R. one mile east of station.

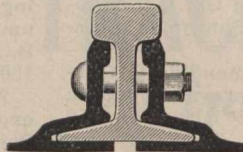
7434. July 5.—Authorizing C.P.R. to

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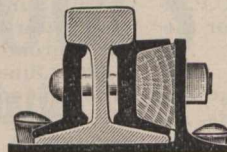
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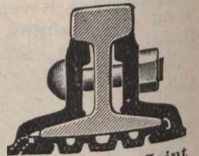
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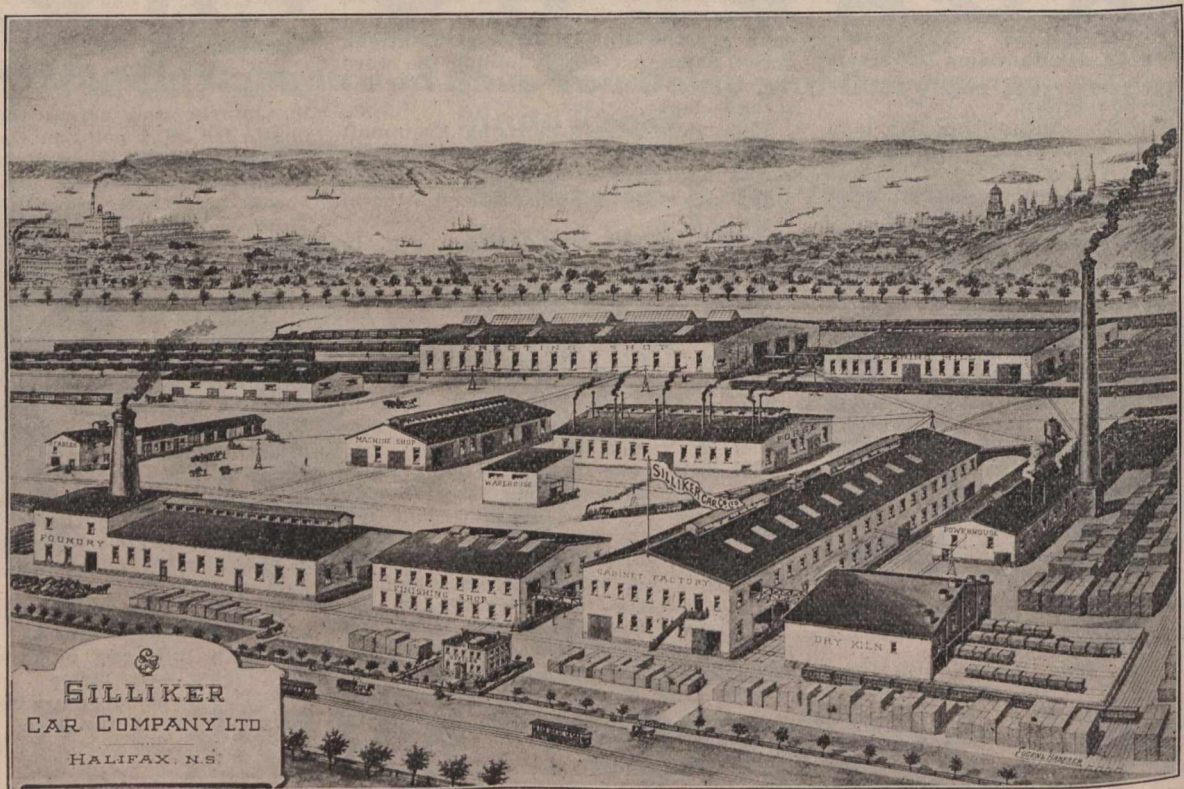
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construct its railway across highway, at mileage 13.52, Glenelg tsp., Ont.

7435. July 5.—Approving proposed deviation Manitoulin & North Shore Ry. between stations 739 and 1140, between Sudbury and Little Current, Ont.

7436. July 5.—Approving location and plans of Central Ontario Ry. station and freight shed at Bloomfield, Ont.

7437. July 6.—Authorizing Alberta Government to erect wires across C.P.R. 2½ miles west of Rosenroll.

7438. July 6.—Authorizing T.H. & B.R. to reconstruct or alter bridge 45.83 in Ancaster tsp., Ont.

7439. July 6.—Authorizing Quebec city to lay water and drainage pipes under C.P.R. in St. Malo ward, Valier, Que.

7440. July 6.—Authorizing G.T.R. and C.P.R. to appeal from order dated June 9, 1909, to the Supreme Court of Canada, upon all questions of law involved, in re application of City of Toronto for order directing G.T.R. and C.P.R. to carry York and certain other streets under said companies' tracks.

7441. June 30.—Reporting to Governor in Council for sanction V.V. & E. Ry. & Nav. Co. by law re spitting in cars and on premises.

7442. July 7.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Duke and Durham Streets, Lindsay, Ont.

7443. July 6.—Authorizing British Columbia Telephone Co. to erect wires across E. & N. R. at east end of railway bridge, at Victoria, B.C.

7444. July 7.—Authorizing J. M. Bergstrom to erect telephone wires across C.P.R. at Wauchope, Sask.

7445 to 7454, July 7.—Authorizing Alberta Government to erect telephone wires across C.P.R. at different points.

7455 to 7458, July 7.—Authorizing city of Saskatoon, Sask., to lay water and drain pipes under C.N.R. and C.P.R. at four points.

7459. July 7.—Authorizing town of Chesley, Ont., to lay water main under G.T.R. at four streets.

7460. July 8.—Approving by-law of Atlantic & Lake Superior Ry. authorizing C. R. Scoles, general manager, to prepare and issue tariffs of traffic tolls.

7461. July 8.—Authorizing Hull Electric Co. to operate its cars over C.P.R. tracks in Hull, Que.

7462. July 7.—Authorizing C.P.R. to construct bridge 15.83 over Bremner River, on its Schreiber sec., Lake Superior division.

7463, 7464, July 6.—Approving plans of G.T.R. combination passenger and freight station at South Indian, and Corinth, Ont.

7465. July 8.—Authorizing city of La Chine, Que., to cross, by a subway, for pedestrians only, the G.T.R. between 15th and 16th Streets.

7465. July 8.—Authorizing C. R. Coutlee, engineer in charge of Georgian Bay Ship Canal, to construct highway crossing over C.P.R. at Temiskaming village, Que.

7467. July 6.—Authorizing Sandwich East municipality, Ont., to construct public crossing across P.M.R. at Edna Street.

7468. July 8.—Authorizing C.P.R. to construct spur line to Waterloo Mfg. Co.'s premises, Portage la Prairie, Man.

7469. July 6.—Authorizing Malahide & Bayham Telephone Co. to erect wires over M.C.R. about a mile east of Tillsonburg station, Ont.

7470. July 7.—Approving location of C.P.R.'s Moose Jaw north-westerly

branch, from mileage 148.76 to 190.63.

7471. July 7.—Reporting to Governor in Council for sanction British Yukon Ry. Co. by-law re spitting in cars and on premises.

7472. July 8.—Directing railway companies to file with the Board returns of all accidents at highway crossings. This order is given in full on another page.

7473. May 4.—Respecting fences, gates for crossings and cattle guards. This order is given in full on another page.

7474. July 6.—Dismissing complaint of residents of Watford, Ont., alleging poor and unsatisfactory train service on G.T.R.

7475. July 6.—Authorizing Ottawa Terminals Ry. Co. to take lands at Ottawa for accommodation of traffic at central passenger station.

7476. July 6.—Authorizing Canada Southern Ry. to construct subway at Tecumseh road, to divert Tecumseh drain and locate water pipe along Wellington Ave. in Sandwich West tsp., Ont.

7477. July 6.—Dismissing application of Brunette Saw Mill Co. for order changing location of V.V. & E. Ry. & Nav. Co.'s railway in New Westminster, B.C.

7478. July 6.—Approving proposed deviation of V.V. & E. Ry. & Nav. Co.'s railway from Sapperton to Fraser River Lumber Co.'s Mills, at New Westminster, B.C.

7479. July 6.—Authorizing G.T.R., C.P.R., and other railway companies concerned, to appeal from order of the Board made re complaint of British Oil Company, Toronto, May 19, to Supreme Court of Canada. This order is given in full on another page.

7480. July 6.—Directing that St. Philippe, St. Ferdinand, and Metcalfe, Sts., St. Henri, Montreal, be protected between 6 a.m. and 7 p.m. by watchmen to be appointed by the G.T.R.

7481. July 6.—Directing C.P.R. to construct highway crossing at Gainsboro Ave., Nepean tsp., Ont.

7482. July 7.—Dismissing complaint of Dominion Millers' Assn., respecting C.P.R. charges for elevating and storage of grain at Fort William, Ont. This order is given in full on another page.

7483. July 6.—Dismissing application of Town of Campbellford, Ont., for order directing G.T.R. to provide better passenger and train service connections between Campbellford and Toronto.

7484, 7485. July 9.—Authorizing C.N.Q.R. to construct its lines and tracks across public roads in St. Stanislas, Parish, Que., mileages 69.77 and 69.30, west of Quebec bridge.

7486. July 6.—Dismissing complaint of J. B. Grenier, of St. Tite, Que., alleging inefficient and unsatisfactory train service of C.N.Q.R., between Quebec and Montreal, and of lack of station accommodation at Heronville, Garneau, and St. Tite, Que.

7487. July 10.—Authorizing C.P.R. to construct bridge at mileage 97.8, Windsor section, Ontario Division, and rescinding order 5796, April 8, in so far as it authorized construction of the said bridge.

7488. July 9.—Directing G.T.R. to provide night watchman at Wellington St. crossing, Hamilton, Ont.

7489. July 9.—Authorizing switching connections between Bay of Quinte Ry. and Kingston & Pembroke Ry., at Harrowsmith, Ont.; Bay of Quinte Ry. to install and maintain semaphores at its own expense on each line of railway.

7490. July 6.—Authorizing C.N.O.R.

Co. to cross and connect with Ottawa & Prescott Ry., at mileage 56.6, west of Hawkesbury, Ont.; interlocking plant to be installed.

7491. July 9.—Approving C.N.O.R. freight tariff, C.R.C. 74, for use on its line east of and including Toronto and Sudbury.

7492. July 6.—Refusing application of Rochester tsp. for order varying order 6981, May 10, authorizing construction by C.P.R. of bridge 92.1, Windsor section, Ontario Division.

7493. July 10.—Authorizing C.N.O.R. to open for traffic its line from South Nation River to Rockland, 12 miles.

7494. July 7.—Disallowing Canadian Ex. Co.'s notice of cancellation of rate of 30c. per 100 lbs. on freight shipments from Queenston, Ont., to Toronto, which was made effective by the company June 14.

7495. June 25.—Directing G.T.R. and Bay of Quinte Ry. to file a joint rate on bituminous coal from Black Rock, New York, and Suspension Bridge, N.Y., to Marlbank, Ont. This order is given in full on another page.

7496. July 6.—Authorizing Town of Prescott, Ont., to lay sewer outlet pipe across C.P.R. tracks.

7497. July 10.—Approving Atlantic, Quebec & Western Ry. Co.'s by-law authorizing A. Lemieux, General Manager, to issue traffic tariffs.

7498. July 6.—Dismissing application of Herbert Bingham, of Chrysler, Ont., and others, for order directing Ottawa & New York Ry., to rebuild its station at Chrysler, Ont., about 1,657 ft. north-westerly from its previous station site.

7499. July 6.—Dismissing application of Montreal Park and Island Ry., for authority to extend its railway along St. Denis St., Montreal.

7500. July 7.—Dismissing application of Manitoba Grain Growers' Assn., for order directing C.P.R., C.N.R., and G.T.R., to reduce charges for elevating and storage of grain at Fort William and Port Arthur, Ont. This order is given in full on another page.

7501. July 13.—Authorizing C.P.R. to construct its railway across highways in Tav tsp., Ont.

7502. July 8.—Approving location of C.P.R. and C.N.R. Union Station at Maryfield, Sask.

7503. July 9.—Authorizing C.N.O.R. to construct steel bridge over Rideau River, near Ottawa, mileage 56.9 west of Hawkesbury, Ont.

7504. July 9.—Authorizing C.P.R. to construct bridge 40.8, near branch of Elk River, Cranbrook section.

7505. July 12.—Authorizing C.P.R. to construct station at mileage 25.7, Ekfrid tsp., Ont.

7506. July 10.—Authorizing V.V. & E. Ry. & Nav. Co. to divert portions of certain streets, and to build its railway on certain streets in Princeton, B.C.

7507. July 9.—Authorizing G.T.R. to construct two additional tracks along and across Geddes St., Clifford, Ont.

7508. July 9.—Authorizing Town of Midland, Ont., to lay drain pipe under G.T.R.

7509. July 9.—Authorizing Bell Telephone Co. to erect wires across T.H. & B.R., 1½ miles west of Fenwick station, Ont.

7510. July 12.—Authorizing J. A. Lake to erect telephone wires across G.T.R. at Jackson's Point, Ont.

7511 to 7513. July 9.—Authorizing Bell

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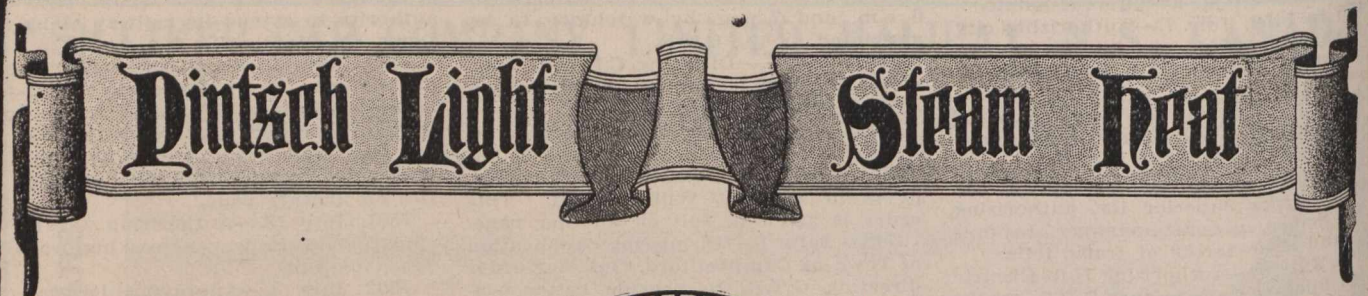
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Telephone Co. to erect wires across Michigan Central Rd. at three points at Leamington, Ont.

7514 to 7517. July 9.—Authorizing Norfolk County Telephone Co. to erect wires across G.T.R. in Woodhouse tsp., Ont.

7518. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R., near Walkerton station, Ont.

7519, 7520. July 9.—Authorizing Manitoba Government Telephones to erect wires across C.P.R., near Emerson, and near Carroll.

7521 to 7524. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R. at Millbrook, Ont.; near Kingscourt, Ontario; near Lynn Valley, Ont., and near Midland, Ont.

7525. July 17.—Recommending to Governor in Council for sanction Ottawa & New York Ry. Co. by-law, prohibiting spitting in cars and premises.

7526. July 12.—Authorizing Bell Telephone Co. to erect wires across G.T.R., 2½ miles north of Newmarket, Ont.

Location of Switch Stands.

A circular published in our July Issue stated that the Board of Railway Commissioners in view of the numerous accidents which had occurred, owing to the location of switch stands being too close to the track, considers it advisable that railway companies be required to remove all switch stands and other obstructions, to a distance 6 ft. clear of the main line, and in cases where high switch stands cannot be removed to this distance, they be replaced by dwarf switches. The Board, therefore, proposed to issue a general order, requiring within a reasonable time, the removal of all such switch stands as above set out, or the replacing, by dwarf switches, as well as the removal of all other obstructions.

The matter was considered at the Board's sittings, July 7, when several railway companies' representatives showed that such an order would be practically impossible to carry out, and the Board concluded not to go any further with the matter.

The Toronto Globe, which ought to know better, in reporting a sitting of the Board of Railway Commissioners held at Fort William recently, spoke of the Assistant Chief Commissioner as "Hon. D'Arcy Scott." The habit of giving unauthorized titles to people in official positions is getting nauseating. There is only one member of the Board of Railway Commissioners who is entitled to the prefix "Hon." and that is the Deputy Chief Commissioner, Hon. M. E. Bernier, who is a member of the Privy Council of Canada.

The Interstate Commerce Commission in the matter of the Kalispell Lumber Company et al versus the Great Northern Ry. Co., et al, has ordered the G.N.R. Co. to establish and maintain rates on lumber and other forest products from certain points on its line in Idaho and Montana to certain points on its line located on the Pembina-Port Arthur line, which are certain differentials under the lumber rates from the Spokane group. It has also ordered the G.N.R. and the Minneapolis, St. Paul & Sault Ste. Marie Ry. to establish and maintain through routes and joint rates on lumber and other forest products between certain points in Idaho and Montana, and certain points in North Dakota.

Canadian Northern Railway Finances.

Lazard Brös. & Co., of London, Eng., recently offered for subscription £600,000 4% first mortgage debenture stock, principal and interest unconditionally guaranteed by the Saskatchewan Government, and the same amount of similar stock guaranteed in the same way by the Alberta Government, the subscription price being £97 10s.%. The stocks are repayable at par in London in 1939, interest payable half yearly. The stock will also be secured in each case by a first mortgage on the railway lines mentioned below. The net proceeds of the issue will be applied by the C.N.R. Co. to the construction and equipment of railways specified in the trust deeds, in respect of which the guarantees have been authorized by the Provincial Legislatures, and for that purpose will, in accordance with the provisions of the trust deeds, be paid to the credit of a special account in the name of the Treasurer of each Province, and by him paid out from time to time against engineer's certificates. These lines are as follows:—In Saskatchewan: from the C.N.R. near Maryfield, south-westerly and westerly, about 135 miles; from the C.N.R. near Dalmeny, northerly and north-easterly, about 40 miles; from the C.N.R. near North Battleford, north-westerly, about 50 miles. In Alberta: from Strathcona to Calgary, about 230 miles; from Edmonton north-westerly towards the Peace River, about 50 miles. The stocks now issued represent a bonded indebtedness at the rate of \$13,000 a mile of lines above referred to, but power is reserved under the trust deeds, subject to special sanction by the Legislatures of the Provinces, to increase the amount up to \$15,000 per mile, all ranking pari passu. The stocks will also rank pari passu with similar stocks or bonds to be issued for the construction of certain other railways specified in the trust deeds, at a rate not exceeding \$15,000 a mile, and with any similar stocks or bonds which may be issued for the construction of any additional railways in Saskatchewan and Alberta, which the C.N.R. Co. may hereafter be authorized to construct, and in respect of which the Governments of the Provinces may be authorized by their Legislatures to give their guarantee.

At about the same time Sperling & Co., London, Eng., offered for subscription £800,000 4% perpetual consolidated debenture stock of the Canadian Northern Ontario Ry. Co., the subscription price being 92%, interest payable half yearly. The stock is perpetual and irredeemable. The net proceeds of the issue will be applied towards the construction of a railway to be constructed from an international bridge on the Niagara River, over which an entry will be secured into Buffalo, through Niagara Falls, Hamilton, Toronto, Oshawa, Port Hope, Cobourg, Trenton, Belleville and Smiths Falls to Ottawa, where it will join the existing line to Montreal and Quebec via Hawkesbury. The prospectus states that:—"No railway could be constructed in any other portion of the Dominion, which, with the same mileage, would traverse a district so densely populated, and it will provide the C.N.R. system with a very advantageous route between five of Canada's greatest cities and the points on the Niagara River, over which passes the greater part of the commerce between Canada and the U.S." The De-

benture Stock will be secured by a first mortgage on the line already constructed from Hawkesbury to Ottawa, and on the new line to be constructed from Ottawa to Buffalo. It will also be secured by a fixed mortgage upon all other C.N.R. lines, present and future, ranking after any mortgages thereon now existing or hereafter to be created for the purpose of securing either bonds or other securities of the company guaranteed by the Dominion or Provincial Governments, and by a floating charge upon the whole of the residue of the company's undertaking and property (other than land and money subsidies). The company reserves the right to issue further stock or bonds ranking pari passu with the stock now offered, provided that the principal amount of all the stock and bonds at any time outstanding shall not exceed an amount equal to \$30,000 a mile of line for the time being constructed or under contract to be constructed after deducting the amount for the time being outstanding of any Government guaranteed securities secured on such line in priority to the stock and bonds, and an amount equal to the amount by which any such Government guaranteed securities exceed \$30,000 per mile of the line on which they are secured as a first charge, and an amount equal to the cost price to the company of all rights-of-way or land purchased or to be purchased by the company for terminals or any other purposes in connection with the construction, operation and maintenance of its railways, and an amount equal to the cost price to the company of any bonds, stocks, shares or securities of other companies deposited hereafter with the trustees as security for the stock.

The above mentioned issues were underwritten in London, W. Mackenzie being over there in connection with the matter and returning to Toronto, July 10. Further particulars of construction work to be undertaken as a result of these flotations, are given under the head of Canadian Northern Ry. construction on another page.

C. A. Westcott, conductor on the C.N.R. Goose Lake branch, was committed for trial at Saskatoon, Sask., July 7, on a charge of misappropriating cash paid to him for transportation.

F. C. Salter, European Traffic Manager, Grand Trunk Ry., London, Eng., writes: "I read the Railway and Marine World religiously, and it certainly keeps me posted with the information I want on railway matters."

The C.P.R. is reported to have deposited with the Royal Trust Co. \$2,500 to be used for the education of the son of the constable who was killed while endeavoring to capture a train robber in British Columbia recently.

The Dominion Government at various times loaned old light weight Intercolonial rails to the Halifax Cotton Co. to the value of \$4,335; to the Canada Steel Co., to the value of \$11,964.66, and to Lowe, Reid & Co., to the value of \$1,056.61, for the construction of sidings, and has ever since been carrying the amounts as assets. A committee of the House of Commons was appointed last session to look into these matters, and as a result it was decided to no longer look upon the amounts as assets, and they will not again appear in the public accounts.

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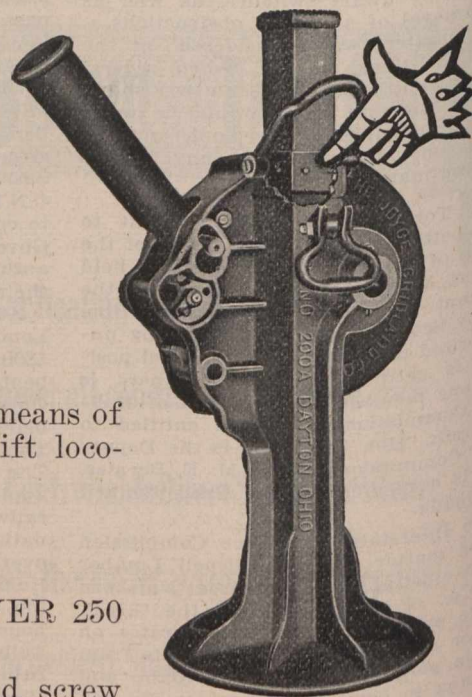
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Alberta and Great Waterways Ry.—

The act incorporating this company, which was passed last session of the Alberta Legislature, authorizes the construction of a railway with branches from Edmonton north-easterly to the west end of Lac la Biche, thence to Fort McMurray, and from the west end of Lac la Biche to the east end. The capital is fixed at \$7,000,000, and bonds to the amount of \$40,000 a mile may be issued. The work of construction is to be commenced within one year, and completed within four years, but the Lieut. Governor in council has power to grant extensions of time if the progress of the work is delayed by causes beyond the control of the company. Upon the completion of each successive 50 miles the company shall provide accommodation for freight and passengers and unless otherwise ordered by order in council the line when put in operation shall as far as practicable be continually operated with a passenger and freight service. The company may construct telegraph and telephone lines, and enter into agreements with other companies. The Government is given power to purchase the entire undertaking of the company at any time for the then fair value, but this option is not to be assigned by the Government. The provisional directors are: W. R. Clarke, B. R. Clarke, of Kansas City, Mo.; W. Bain, Winnipeg, Man.

The Legislature also passed an act authorizing the Government to guarantee the company's bonds to the amount of \$20,000 a mile of its lines of railway (branches and sidings to be computed in making up the mileage, but not the mileage of terminals in Edmonton), and to the additional extent of \$400,000 in respect of the cost of terminals in Edmonton. The total mileage for which bonds are to be guaranteed is not to exceed 350 miles. The company shall not, except with the Government's sanction, amalgamate with any other company, or lease or transfer the railway or its franchises, or adopt any method of placing the railway under the management or control in whole or in part of any other railway or railways in any manner whatsoever. (April, pg. 249.)

Alberta Northwestern Ry.—The Alberta Legislature at its last session granted an extension of time for the commencement and completion of this projected railway. (Oct., 1908, pg. 711.)

Alberta Oil, Coal and Wheat Ry.—See Pincher Creek, Cardston and Montana Ry.

American Midland Ry.—A despatch from Valley City, North Dakota, says this much discussed and widely advertised railway project seems to have gone up in smoke. The company proposed to construct a railway to connect up Winnipeg, Man., with a port in the Gulf of Mexico. The despatch states that the company is not properly incorporated; that it has no equipment or cash adequate to construct the line; and that the courts have decided that it cannot yet acquire land by expropriation for a right-of-way. (Sept., 1907, pg. 663.)

Calgary and Knee Hill Ry.—The Alberta Legislature at its last session granted an extension of time for the construc-

tion of the first 30 miles of this projected railway. (April, pg. 247.)

Canada Western Ry.—An engineering party is working from Fernie, B.C., in connection with this projected line. The proposed route is from Calgary south-westerly. It will probably run from 20 to 30 miles west of the present C.P.R. line to Macleod, and west of the Porcupine Hills, following as closely as possible the valley of the Old Man River to Pincher Creek. It will then follow the easiest route to the International boundary, where it will connect with a line to be constructed to Butte, Montana. The line will pass through the Sheep Creek coal fields, in which P. Burns & Co. are said to be interested, and within easy reach of the Livingstone coal fields. It will open up a large section of agricultural land in South-western Alberta, as well as afford transportation for the timber and coal resources of a large section of the foothills of the eastern slope of the Rocky Mountains. The survey party, which is in charge of — Godard, expects to be in the field for about three months. Press reports state that construction will be started as soon as the surveys are completed. The line is being constructed in the interests of the Chicago, Milwaukee and St. Paul Ry., and its western extension the Chicago, Milwaukee and Puget Sound Ry., with a special view to securing a coal supply for the western portion of its system. (May, pg. 355.)

Fort William Terminal Ry. and Bridge Co.—There has been deposited with the Dominion Department of Public Works and with the Registrar of Deeds at Port Arthur plans and descriptions of the company's proposed bridge across the Kaministikwia River, and also plan and description of its proposed bridge across the McKellar River, at Fort William, Ont. Application is being made for an order in council approving of the plans. (July, pg. 477.)

Graham Island Ry.—The British Columbia Legislature at its last session incorporated a company with this title to construct a railway from near Lena Island, on Skidegate channel, Queen Charlotte Islands, following the valley of the Hanna Island northerly to Camp Robertson, Camp Wilson, and on to Shields Island, Rennel Sound, with a branch to Masset Inlet. The capital is fixed at \$1,000,000, and the company may issue bonds for \$30,000 a mile. It is authorized to make traffic and other agreements with steamship, railway, telephone or telegraph companies, and it may also own and operate steam and other vessels. The provisional directors are: P. D. Hillis, E. W. Tracksell, L. L. Butler, Z. B. Hamilton, Victoria, B.C. (April, pg. 247.)

Halifax and Southwestern Ry.—The construction of a branch line from Nictaux to the Canada Iron Corporation's mines, about 4 miles is projected. The Corporation is making surveys at Port Wade, N.S., in connection with this, for the construction of terminal facilities, and the installation of an extensive ore handling plant, with a capacity of 2,000 to 3,000 tons an hour.

Hardy Bay and Quatsino Sound Ry.—The British Columbia Legislature at its last session incorporated a company with this title to construct a railway from Hardy Bay westerly to Coal Harbour, Quatsino Sound, and branch lines. The capital was fixed at \$250,000, and the com-

pany is authorized to issue bonds for \$25,000 a mile of railway constructed. The company is given the usual powers to construct telephone and telegraph lines, and to enter into traffic and other agreements. The head office is to be at Victoria, and the provisional directors are: Col. H. Appleton, F. Appleton, Victoria, B.C., and F. J. Marshall, London, Eng. (April, pg. 247.)

Hudson Bay.—There are yet two survey parties in the field working out details in connection with the railway to Hudson Bay, projected by the Dominion Government. One of these is at Fort Churchill, and the other at the mouth of the Nelson River. Their work has to do with the harbors and terminals, and it is expected that they will have completed their work by the end of August.

The staff, working at Winnipeg, has practically completed the plans, the estimates and the quantities and grades of material to be excavated. It was expected that its detailed report would be in the hands of the Department of Railways by July 31.

Intercolonial Ry.—Replying to representations made by the Halifax, N.S., Board of Trade, F. P. Brady, member of the Government Railways Management Board, said, July 10, that the question of removing the old round-house and other buildings at Halifax in order to increase the yard room, was under consideration. (July, pg. 447.)

Kootenay and Alberta Ry.—The Alberta Legislature last session incorporated a company with this title to construct a railway from near Cowley, on the C.P.R. Crow's Nest branch, southwest through the Beaver Valley directly or nearly directly west to North Kootenay Pass Rocky Mountains; and from near Cowley, south easterly through Pincher Creek, the Fishburn settlement, Cardston, and thence almost directly to Coutts, or where the Great Northern Ry. reaches the International boundary. The capital is fixed at \$500,000; bonds to the amount of \$20,000 a mile may be issued; agreements may be made with other railway companies, and telegraph and telephone lines may be constructed. The provisional directors are: F. M. Steel, J. E. Woods and C. Kettles, Pincher Creek, Alta. (April, pg. 247.)

Northern New Brunswick and Seaboard Ry.—New Brunswick Docks and Terminal Ry. Co.—Bathurst Iron Mine Line.—These are the various titles under which the Canada Iron Corporation has power to construct a railway from its iron mines on the Nepisquit River, in Gloucester County to Bathurst, N.B., and terminals, docks, etc., at Bathurst. The length of the line is about 17 miles. We are advised that a contract has been let to A. and W. D. Wheaton for the construction of this line. They have moved their headquarters from Amherst, N.S., to Bathurst, N.B., and are to start work at once. (April, pg. 249.)

The new line starts from the Intercolonial Ry. at Black's Cut, about four miles south of Bathurst, and runs up the valley of the Nepisquit River for a distance of about 17 miles to the iron mines. There are no large structures to be erected. There will be a small steel bridge on concrete abutments across the Pabineau River. The line is to be substantially constructed and laid with 85 lb. steel rails. F. C. Parsons, Londonderry, N.S., is Chief Engineer for the

THE ELECTRIC HEADLIGHT

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

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

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Canada Iron Corporation, and J. J. Taylor is Chief Engineer of construction.

Ottawa and New York Ry.—Plans have been approved by the Board of Railway Commissioners for the construction of a new drawbridge over the Cornwall canal.

Pacific Northern and Omineca Ry. (G.T. Pacific Ry.)—The British Columbia Legislature last session granted the company an extension of time to construct the lines previously authorized, and also gave it power to construct an additional branch line from the junction of the Skeena and Copper rivers to the junction of the Bulkley and Telkwa rivers.

Pincher Creek and Southern Ry.—A company with this title was incorporated at the last session of the Alberta Legislature, with power to construct a railway from the International boundary between ranges 22 and 29 west of the 4th principal meridian, northerly and westerly to the Pincher Creek Coal Mining Co.'s collieries in tp. 6, range 30, west 4th meridian, and tp. 6, range 1, west of the 5th meridian, and thence to the C.P.R. Crow's Nest Pass branch at or near Pincher station. The capital is fixed at \$500,000; the company may issue bonds to the extent of \$20,000 a mile; may construct telegraph and telephone lines, and may enter into agreements with other railway companies. The provisional directors are: R. D. Miller, O. G. Laberee, Spokane, Wash.; J. Finlay, A. C. Kemmis, Pincher Creek, Alta. (See South West Alberta Ry., Mar., pg. 175.)

Pincher Creek, Cardston and Montana Ry.—The Alberta Legislature last session changed the name of the Alberta Oil, Coal and Wheat Ry., incorporated by chap. 48 of the statutes of 6th Edward VII., to the above. Sections 5 to 49 and 51 to 54 of the incorporation act are repealed, and new sections passed. These provide that the company may construct a railway to be operated by electric, steam or other power from a point connecting with the C.P.R. in tp. 7, range 30, west of the 4th meridian, to Pincher Creek, thence easterly and south easterly to the Kootenay River in tp. 5, range 28, west 4th meridian, thence to Cardston, and southerly to the International boundary in tp. 1, range 23, west 4th meridian, a distance of 54 miles from Pincher Creek; also an extension or spur from Pincher Creek westerly and northwesterly to the Alberta-B.C. boundary, about 40 miles. The company is authorized to construct telephone and telegraph lines, and to enter into agreements with other companies. The other sections deal with the date of annual meetings, election of directors, and other general matters. (May, pg. 357.)

Portland Canal Short Line Ry.—A company with this title was incorporated by the British Columbia Legislature last session, with power to construct a railway from the head of Portland Canal, along Bear River for about 30 miles, also up American Creek, and branch lines not exceeding 10 miles long. The head office is to be at Victoria; its capital is fixed at \$1,000,000, and it may issue bonds for \$30,000 a mile. The company is given the usual powers as to telegraph and telephone lines, and as to amalgamating or making agreements with other companies. The provisional directors are T. F. Hopkins and M. Stewart, Seattle, Wash.

Prince Edward Island Ry.—Tenders are under consideration for the construc-

tion of a 20-stall brick and concrete engine house, foundation for turntable, foreman's office, and lavatories at Charlottetown, P.E.I. (May, pg. 357.)

Prince Rupert and Port Simpson Ry.—The British Columbia Legislature last session incorporated a company with this title to construct a railway from Prince Rupert northerly to Port Simpson, and branch lines not exceeding 10 miles long. The capital stock is \$1,000,000, and bonds for \$35,000 a mile may be issued. All the other powers incidental to railway companies are also conferred. The head office is to be at Victoria, and the provisional directors are M. King and H. B. Robertson, Victoria. (April, pg. 249.)

Quebec Eastern Ry.—Surveys are being made for a line to extend from the Quebec Bridge, through Lysander Falls, Inverness, and Lime Ridge, to Sherbrooke, Que. It is also proposed to construct a line from Lyster, the point of junction of the Lotbiniere and Megantic Ry. with the G.T.R., to Inverness to connect with the projected Q.E.R. The survey party is at present working between Lime Ridge and Sherbrooke.

The Q.E.R. is being promoted by interests owning the Lotbiniere and Megantic Ry., which line, it is intended, ultimately to amalgamate with the Q.E.R. A press report says that when completed the Q.E.R. will be taken over by the G.T.R. F. N. McCrea, is President of the L. and M. Ry., and also the most active promoter of the Q.E.R. (Feb., pg. 103.)

Quebec, Montreal and Southern Ry.—The Quebec provincial inspecting engineer and director of railways has completed an inspection of the line from St. Lambert to Fortierville, the terminus of the new extension, and reports that the road, stations, bridges, and equipment are in good and satisfactory condition. (July, pg. 481.)

Red Deer Ry.—The Alberta Legislature has extended the time for the construction of this projected railway, and authorized the company to construct additional lines from Red Deer, Alta., northwesterly to Sylvan Lake, and from Red Deer southerly to Pine Lake. (Mar., pg. 175.)

The Red River Valley and Hudson Bay Ry. Co. has been incorporated under Minnesota State laws, with a capital of \$500,000. The incorporators are farmers, and it is desired, as far as possible, to have only farmers as shareholders. The line which the company proposes to construct will extend from Osio, in the southwestern part of Marshall County, on the Minneapolis, St. Paul and Sault Ste. Marie Ry., to St. Vincent, near the Manitoba boundary in the northwestern part of Kittson County, on the Great Northern Ry. This line will run parallel to the Red River, through a rich part of the country. The right-of-way has been secured from the farmers along the route for a considerable distance without cost; and land has been acquired in the towns of St. Vincent, Hill, Red River, Telin, Eagle Point, and Big Wood. The length of the line at present proposed is about 70 miles.

Royal Collieries Ry.—The Alberta Legislature at its last session incorporated a company with this title to construct a steam or electric railway from the C.P.R. Crow's Nest branch at or near Lethbridge to sec. 32, tp. 9, range 21, west of the 4th meridian. The capital is fixed

at \$50,000; it may issue bonds for \$15,000 a mile; may construct telegraph or telephone lines along its route, and may enter into agreements with other companies. The provisional directors are: H. N. Galer, Spokane, Wash.; G. L. Fraser, J. B. Wilkie, Lethbridge, Alta. (Feb., pg. 105.)

Southern Alberta Ry.—The Alberta Legislature last session incorporated a company with this title to construct a railway from the C.P.R. at Medicine Hat northwesterly to the C.P.R. at Suffield, thence southwesterly to the Bow River in tp. 11, range 13, west of the 4th meridian, thence westerly to the Calgary and Edmonton Ry.; and from the above line in tp. 24, range 1, west of the 5th meridian, northwesterly to tp. 24, range 1, west of the 5th meridian. The capital is fixed at \$2,500,000; bonds may be issued for \$15,000 a mile; agreements may be made with other companies, and telegraph and telephone lines may be constructed. The provisional directors are: J. A. McGregor, A. M. Grace, L. Welford, Medicine Hat, Alta.

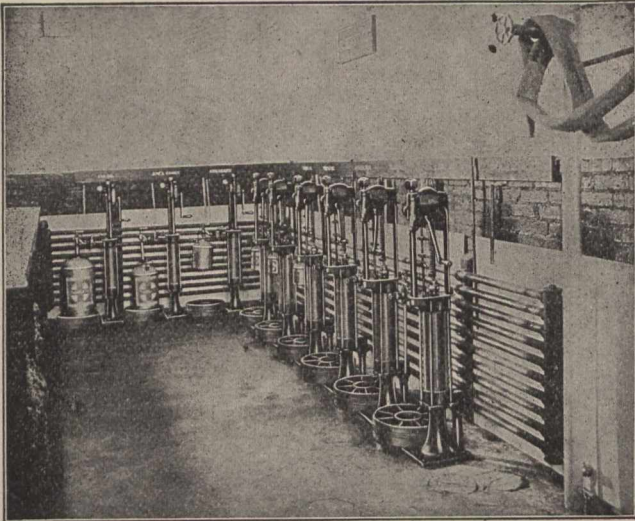
Strathcona Central Ry.—The Alberta Legislature last session incorporated a company to construct a railway from near Ellerslie on the C.P.R., westerly through ranges 24 and 25, tp. 51, west of the 4th meridian, to the North Saskatchewan River, thence northeasterly to Strathcona. The capital is fixed at \$100,000; bonds may be issued for \$10,000 a mile; agreements may be made with other railway companies, and telegraph and telephone lines may be constructed. The provisional directors are: R. Crockett, A. Lloyd, R. T. Purvis, Strathcona, Alta.

Temiskaming and Northern Ontario Ry.—The Commissioners have approved of the construction of a siding from Charlton, for 0.75 mile, to some mills, but as this point is on the line of the surveyed route of the suggested line to Elk Lake and Gowganda, it is locally regarded as a start upon the construction of such a line. It has been decided to construct temporary freight sheds at Charlton, pending the development of traffic. (July, pg. 481.)

Plans have been prepared for the erection of a freight station at Cobalt, and the Chairman of the Commission stated, that in the near future an improved passenger station would be erected at the same place.

The T. and N.O.R. is erecting a large and commodious station building, 151 ft. 4 ins. by 35 ft., at Cochrane, for joint use with the National Transcontinental Ry. The new building is to be of red pressed brick, with covered platforms on the north and south sides. The waiting-room, common to both lines, will be in the centre, the ticket and other offices for each company being at the sides, with ladies' waiting-room, dining-room, kitchen and baggage-room on the ground floor, while upstairs will be offices for the divisional officials, sleeping quarters for employes, and a special suite of rooms for the T. and N.O. Ry. Commissioners.

The foundations and footings are of concrete construction, the ground floor being of reinforced concrete carried by steel beams, and the exterior platforms are of concrete with granolithic surface. The walls are of deep red hard burned pressed brick with grey stone trimmings. The roof covers are green slate, and the building is surrounded by a hood. The



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interior finish of the ground floor is plastered with white cement dadoses and hardwood trim, while the upper floor apartments are plastered with painted pine trim.

Tramping Lake, Sask.—At a meeting of settlers in this vicinity, June 25, a resolution was passed asking the Provincial Government to arrange for the construction of a railway through the district. The settlement is at present 40 miles from a railway.

United Gold Fields of British Columbia.—The Board of Railway Commissioners has approved the amended location plans for the railway which this company is authorized to construct from Frank to Grassy Mountain. The United Gold Fields of B.C. is a joint stock company incorporated in London, Eng., which obtained registration in Canada. In 1902 it obtained power from the Dominion Parliament to construct a railway from Frank, on the C.P.R. Crow's Nest Branch, northerly to Grassy Mountain, about seven miles, and branches not to exceed eight miles in any one case. The line from Frank to Grassy Mountain was constructed and was operated for some time as the F. and G.M.R., carrying the output of some collieries at Grassy Mountain. The landslide at Turtle Mountain on April 29, 1903, practically wiped out Grassy Mountain village and carried away or covered up about 1.50 miles of the F. and G.M.R. There were subsequently some difficulties with the contractors, and nothing has been done since in the way of restoring the line. In 1904, the company secured power from the Dominion Parliament to amalgamate with the West Canadian Collieries Co., a joint stock company also incorporated in London, Eng., originally for the purpose of developing coal mining properties in Yukon and elsewhere, and it obtained an act from the Dominion Parliament to take over the powers of the U.G.F. of B.C., and to amalgamate with or take over the Cardiff Ry. The amended plans approved of by the Railway Commission would, therefore, appear to be for the reconstruction of the F. and G.M.R., and especially for that portion carried away or buried by the landslide of 1903. (Sept., 1904, pg. 317.)

Vancouver and Northern Ry.—The British Columbia Legislature last session incorporated a company with this title to construct a railway from Vancouver following the valley of the Seymour Creek to the watershed north of Loch Lomond, thence via the valley of the easterly branch of Seymour Creek and along the valley of the Indian River to the north arm of Burrard Inlet, and a branch via the valley of Furry Creek to Howe Sound, with power to extend northerly from the main line to the Howe Sound, Pemberton Valley and Northern Ry. between the mouth of Squamish River and the junction of the Cheakamus and Chee Kee rivers; and other branch lines not to exceed 10 miles long, none of such branches, however, to be in the valleys of the Squamish, Cheakamus or Chee Kee rivers. The capital is fixed at \$1,500,000, and it may issue bonds for \$30,000 a mile. The company is given all the usual powers; its head offices are to be at Victoria, and the provisional directors are: C. T. Dunbar, F. C. Wade, E. J. McFeely, H. M. Burwell, C.E. (Feb., pg. 105.)

Victoria and Barclay Sound Ry.—Press reports from Victoria, B.C., state that

surveys have been commenced on this projected railway. The object of the present survey is said to be to secure a line from deep water at Esquimalt Harbor, to the west coast of Vancouver Island. (April, pg. 251.)

Western Coal and Coke Co.—The Alberta Legislature last session changed the name of the Western Oil and Coal Consolidated Co. to the above.

Great Northern Ry. Lines in Canada.

Land is being purchased in the vicinity of Winnipeg for right of way, one report stating that it is for the Northern Pacific Ry. As this company is in alliance with the G.N.R., the work being done will probably have some bearing on the construction of the latter company's projected line from Emerson to Winnipeg. The N.P.R. as well as the G.N.R. owns charters enabling it to construct a considerable network of lines throughout Manitoba.

A copy of a resolution passed by G.N.R. directors was filed July 7 at Helena, Mont., announcing the company's intention to construct a line northerly from Poplar, Valley county, Mont., to the International Boundary. Poplar is a station on the G.N.R., in the Fort Peck Indian reservation, and the proposed line will follow the Poplar River valley to the boundary line between Montana and Saskatchewan. It is reported that work is to be started this season, and that on reaching the boundary line, construction will be continued to Regina, Sask., under a Canadian charter.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Tracklaying is being proceeded with rapidly upon the extension of this line westerly into Penticton, B.C. It was expected that track would be laid to the second crossing of the Similkameen River by July 31, and it is hoped to reach Twenty-mile creek by Aug. 15, to complete the bridge across that creek by the end of the month, and to get into the yards at Hedley by Sept. 1. Past Hedley, it is expected to be over the third crossing of the Similkameen River by Sept. 15, and to have the track laid into Penticton by Oct. 15. The ballasting gang is following up the tracklaying work, and it is expected to have the ballasting completed so that trains can be run into Penticton by Dec. 1. Beyond Penticton, the located line is being opened up so as to be ready for the grading gangs as they come off the section into Penticton. (July, pg. 503.)

The C.P.R. is surveying a line on the east side of the Fraser River in British Columbia, in which district C.N.R. and G.T.P.R. survey parties are also at work.

The differences between the Commissioners of the Temiskaming and Northern Ontario Ry. and McRae, Chandler and McNeill, Ltd., over the contract for the construction of the line north of Matheson, Ont., are to be fought out in court. The contractors desire to recover \$200,000, which they allege to be due on account of work done up to the time the Commissioners took over the contract. The Attorney General has promised the necessary fiat, on condition that the contracting firm makes an arrangement with certain firms which advanced money to carry out the contract, with a view of obviating the necessity of more than one action.

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.

H. G. Nicholls, who was for several years Assistant General Manager of the Canadian General Electric Co. and the Canada Foundry Co., has resigned that position and gone into business for himself. He has organized a company, Factory Products, Limited, with offices in the Confederation Life Building, Toronto, for the purpose of acting as Canadian selling agent for representative manufacturers.

The firm of Burnham, Williams & Co., proprietors of the Baldwin Locomotive Works, Philadelphia, Pa., was dissolved July 1 by mutual consent, and its entire property and interests in the locomotive business were sold to the Baldwin Locomotive Works, a corporation organized under Pennsylvania laws. The officers of the Baldwin Locomotive Works are: J. H. Converte, President; W. L. Austin, Vice President and Engineer; A. B. Johnson, Vice President and Treasurer; S. M. Vauclain, General Superintendent; W. De Krafft, Secretary and Assistant Treasurer. All officers except Mr. De Krafft were partners in the Burnham, Williams & Co. firm.

The Falls Hollow Staybolt Co. advises us as follows:—It has received an order from the Great Southern of Spain Ry. Co., Ltd., for a carload of hollow staybolt iron bars, making the second carload order received from that company within the year. The Great Northern Ry. specified recently Falls hollow staybolt iron in five locomotives, the American Rd. of Porto Rico in three locomotives being built by the Baldwin Locomotive Works. The Ann Arbor Rd. in four locomotives, and the Detroit, Toledo & Ironton Ry. in eight locomotives ordered recently from the American Locomotive Co. During the past six months The Falls Hollow Staybolt Co. has secured some 50 new railway customers for its product in the U. S., Canada and Mexico, and has also received new business from railways in several foreign countries.

The Annual Financial Review, for 1909, which has been issued by Houston's Standard Publications, Toronto, contains reports as to the operation of Canadian financial institutions, railways and industrial concerns as well as of concerns in the United States and other countries in which Canadian capital is largely invested. In addition to the latest annual reports, the Review gives information showing the extent to which the securities of the companies are traded in on the different stock exchanges, together with the range of prices. The book gives evidence of careful compilation, and is well arranged. As giving a comprehensive survey of the joint stock corporations in which Canadians are interested it is a valuable book of reference to investors as well as to officials of companies. This is the ninth year of issue, and the present volume is the largest of the series.

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Railway Commissioners Traffic Orders.

Summaries of other traffic orders passed are given on another page under the heading of Orders by Railway Commissioners.

7337. June 22.—Re order 7023, May 10, 1909, approving supplement 1 to Canadian Classification 14, with certain exceptions named in the order, amongst the exceptions being the temporary approval of the classification of silos pending a hearing by the Board. Upon hearing representatives on behalf of the Montreal Board of Trade and the Canadian Freight Association, and upon the report and recommendation of the Chief Traffic Officer of the Board, it is ordered that order 7023 be amended by striking out clause 2.

MONTREAL CHEESE RATES.

7343. June 23.—Re application of Montreal Produce Merchants' Association, for order directing that the exporter of cheese in Montreal be placed on as favorable a basis with regard to rates on export traffic as his competitor west of Montreal; that freight rates on cheese be placed on a parity with those on bacon; and complaining of alleged advance in freight rates on cheese in the past two or three years. Upon hearing the application in Montreal Dec. 22, 1908, members of the Montreal Produce Merchants' Association and counsel for and representatives of the C.P.R. and G.T.R. appearing at the hearing, the evidence adduced, and what was alleged; and upon the report of the Chief Traffic Officer of the Board; it is ordered that the application for absorption of the inward cartage charge at Montreal be refused. That, on cheese shipped from points west of Montreal to Montreal on separate rail bills of lading, the railway companies absorb the wharfage and port warden's fees when such cheese is subsequently exported from the port of Montreal; the said absorption to continue so long as it is applied in the case of cheese shipped on joint rail and ocean bills of lading to Europe; the tariffs of the railway companies to provide for such absorption to be filed and published and to become effective within 30 days from date of this order. That the application for refunds covering the seasons 1907 and 1908 be refused. That the application that the rail rates on cheese be placed on a parity with those on bacon be dismissed. That the complaint dealing with the alleged advance in rail rates on cheese to Montreal which has taken place in the last two or three years be dismissed.

CLASSIFICATION OF INGOT TIN.

7367. June 25.—Re application of Montreal Board of Trade Transportation Bureau for order directing reduction from second class rate on ingot tin, in Canadian Classification, to third class, as in the Official Classification; upon hearing the application at Ottawa, May 19, applicants being represented, and in the presence of counsel for and representatives of C.P.R. and G.T.R., and what was alleged, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the application be dismissed.

INTERSWITCHING AT ROSSLAND, B.C.

7393. June 21.—Re order 2115, Nov. 16, 1906, prescribing rates to be charged for interswitching between the Red Mountain Ry. and the Columbia Western

Ry. at Rossland, B.C., amending previous order dated Feb. 14, 1906; and re application of Red Mountain Ry. for amendment to said order 2115, making applicable the general interswitching order; upon hearing the application at Nelson, B.C., Mar. 5, 1909, counsel appearing for the Red Mountain and the Columbia Western Ry. Cos., the evidence adduced, and what was alleged, it is ordered that the application be dismissed.

OIL RATE, STOY, ILL., TO TORONTO

7479. July 6.—Re complaint of British American Oil Co. of Toronto, complaining that the G.T.R. unjustly discriminated against crude oil shipments from Stoy, Ill., to Toronto, by refusing to carry it at the published and filed joint tariff fifth-class rate, in accordance with the Official Classification and at the same rate as animal and vegetable oils, in carloads, and that the G.T.R. refused to deliver to complainants at Toronto cars containing crude oil from Stoy, Ill., except upon payment of 12½c. per 100 lbs., which additional rate has been paid under protest and which the G.T.R. refused to refund. Upon the application of counsel for the railway companies in the presence of counsel for complainant company, it is ordered that the railway companies have leave to appeal from the Board's order of May 19, to the Supreme Court of Canada upon all questions of law involved in the making of the order, as provided by the Railway Act, subsec. 3 of sec. 56, and that such appeal be set down for the next ensuing sittings of the Supreme Court. And it is further ordered that the railway companies do, on or before Aug. 1, furnish the solicitor for the complainant company a memorandum setting forth the questions of law proposed to be raised in the appeal to enable the solicitor to prepare his factum.

ELEVATOR CHARGES AT FORT WILLIAM.

7482. July 7.—Re complaint of the Dominion Millers' Association, under provisions of Railway Act, alleging that C.P.R. charges for elevating and storage of grain at Fort William, Ont., are excessive, and applying for an order directing the company to reduce the charges; upon hearing application in presence of counsel for applicants and the C.P.R. and C.N.R. Companies, it is ordered that the same be dismissed.

7500. July 7.—Re application of Manitoba Grain Growers' Association for order directing C.P.R. to reduce charges for elevating and storage of grain in terminal elevators at Fort William, Ont., to same charges the Company makes for similar services in elevators at Owen Sound, Ont., and for order directing that such reduction of storage tariff as may be decided upon be made to apply to C.N.R. terminal elevators at Port Arthur and terminal elevators in course of construction by G.T.P. Ry. at Fort William upon hearing application in presence of counsel for applicants and the railway companies interested, and what was alleged, it is ordered that the same be dismissed.

COAL RATE TO MARLBANK, ONT.

7435. June 25.—Re application of Canadian Portland Cement Co. under secs. 315 and 334 of Railway Act, for order directing the G.T.R. and the Bay of Quinte Ry. to establish and maintain through joint rate on bituminous coal to Marlbank, Ont., properly related to the rates in effect to points contiguous there-

to; upon hearing the application on May 19, and what was alleged by counsel for applicant and the G.T.R. and the representatives of the railway companies interested, it is ordered that the said railway companies publish and file with the Board a tariff of a joint rate on bituminous coal from Black Rock, N.Y., and Suspension Bridge, N.Y., to Marlbank, Ont., of \$1.43 a ton of 2,000 lbs. on a minimum weight of 15 net tons per carload, except that in the case of cars having a less marked capacity than 15 net tons, the said marked capacity, but not less than 12 net tons, shall be the minimum carload weight, the rate to become effective not later than August 23.

Accidents at Railway Crossings.

The Board of Railway Commissioners passed the following order, 7472, July 8: All railway companies subject to the jurisdiction of the Parliament of Canada shall, on or before Sept. 1, 1909, furnish to and file with the Board:—

1. A return of all highway crossings upon its railway at which an accident has happened, subsequent to Jan. 1, 1900, by a moving train causing bodily injury or death to a person using such crossing.
2. In the event of more than one accident of the character aforesaid having happened at any such crossing, such return shall so indicate.
3. That such return shall cover all accidents of the character aforesaid up to the date thereof.
4. That after the filing of the said returns with the Board, each of the companies aforesaid shall, immediately upon the happening of an accident or accidents of the character aforesaid, furnish to and file with the Board a return of all such accidents happening upon its lines subsequent to the date of the return required by par. 1 hereof.
5. The said returns shall be certified to by an officer or official of the railway company, who shall have the necessary knowledge, obtained by enquiry or otherwise, to justify such certification.
6. The said returns shall be in the form appearing as Schedule A hereto.
7. The information set forth in the said returns shall be full and explicit.

Galt Hospital, Lethbridge, Alta.—The Alberta Legislature last session passed an act revising the old charter of incorporation of this institution—granted by the old North West Territorial Legislature in 1894. The incorporators are E. T. Galt, W. M. Ramsay, Montreal; J. Galt, Winnipeg; and C. A. Magrath, Lethbridge, Alta. These with four others to be appointed annually—two by the Lethbridge Council, and two by the Alberta Ry. and Irrigation Co., or if the latter ceases to exist, by the original incorporators. The original incorporators hold office for life and vacancies are to be filled by those remaining. The object of the incorporation of the hospital is to administer as trustees the bequest made to it by the late Sir A. T. Galt, together with such other gifts and bequests as may from time to time be made to it.

The C.P.R. put in operation, July 4, a Sunday service to and from St. John, N.B., in addition to the regular week-day service. The Lord's Day Alliance has protested against the new service, but has decided not to take any steps to endeavor to have the trains discontinued.

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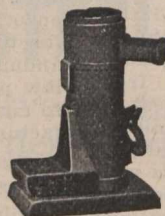
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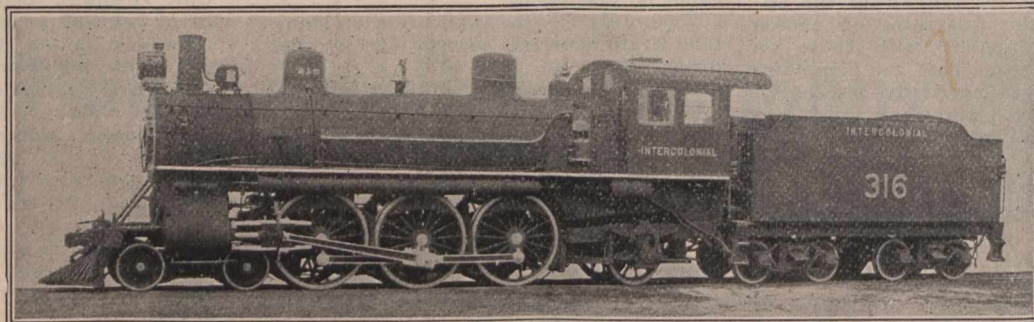
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An Order in Council has been passed appointing H. Holgate, Montreal, and A. Noble, Chief Engineer of the Pennsylvania Ry. tunnel, as special engineers to decide upon certain problems in connection with the reconstruction of the bridge across the St. Lawrence River at Quebec, upon the working out of which the board of three engineers cannot agree. It is said that the principal question about which there is a difference of opinion has to do with the foundation piers. The piers, which were erected by the old bridge company, were built for a span of 1,800 ft. centre to centre, and the board of engineers are not at one as to whether these piers are sufficiently strong to carry the added stresses which the increased weight of the new bridge will bring into play; or if it will be necessary to construct two additional piers, thereby reducing the central span to one of 1,600 ft.

The question of the material of which the superstructure will be constructed, has been given full consideration, and H. E. Vautelet, Montreal, is quoted as saying that he and his colleagues had united in favor of recommending the use of nickel in place of carbon steel. Nickel

by H. D. Lumsden, who recently resigned his position as Chief Engineer for the Canadian Government; B. B. Kelliher, Chief Engineer G.T. Pacific Ry.; and C. Schreiber, Consulting Engineer for the Department of Railways, as arbitrator.

The construction of the line from St. Boniface into Winnipeg is being gone on with, but there are two questions in process of settlement which may delay work somewhat. They are the question of a bridge in which the Commissioners and the St. Boniface Council are involved, and the question of the crossing of the C.P.R. and C.N.R. at St. Boniface. In regard to the first it was arranged that the St. Boniface Council should provide \$110,000 to have the bridge so constructed that it would be available for general, as well as for railway traffic. It is now proposed that the contribution be reduced to \$75,000, and that half of the cost of maintenance be assumed. The question of the crossing of the C.P.R. and the C.N.R. came before the Board of Railway Commissioners at Ottawa, July 7, when the Commissioners gave the parties until July 26 to come to an agreement. The Commissioners sat at Winnipeg July 26, when the application of the N.T.R. was to have been reheard if the parties had not reached an understanding.

ported to be well up behind the track layers. The line has a total length of 794 miles from Winnipeg to Edmonton, and it is expected to have it fully completed to haul out this season's crop, as soon as the grain is ready to be moved. For the accommodation of Edmonton traffic, "a tentative agreement," said D. D. Mann, Vice President Canadian Northern Ry., "has been entered into between E. J. Chamberlin (General Manager G.T. Pacific Ry.) and myself, by which the new road will have the use of our terminals there for passenger and local freight business."

The track laying gang, which has completed its work on the line into Edmonton, has been started on the line westerly from that city. Grading has been practically completed to Wolf Creek, at the McLeod River, and it is hoped to get the track laid to that point this season. Bridges are under construction on this section at the crossing of the Pembina River, and also at Wolf Creek.

Foley, Welch and Stewart have been awarded a contract for building 70 miles west of Wolf Creek. Tenders have been invited for the building of 135 miles east from Copper River to Aldermere, and they will be opened Aug. 9.

Construction is going on at the Prince Rupert end of the line at a satisfactory



Grand Trunk Pacific Ry. Bridge, South Saskatchewan River.

GRAND TRUNK PACIFIC RAILWAY.

The South Saskatchewan River bridge, which is illustrated on this page, spans the South Saskatchewan River on the G.T.P. Ry. main line near Saskatoon, 468.5 miles west of Winnipeg. The foundations were made in the ordinary way by means of open coffer dams and concrete forms, and the noses of the river piers were provided with steel protectors. Sixty piles were used only in the foundation of the west abutment. The total amount of concrete used in the foundations, which consist of two abutments and seven river piers, was 7,600 cu. yds. The superstructure is composed of one 175 ft. through truss span, five 225 ft. and one 125 ft. deck truss spans, and one 50 ft. deck girder span. The amount of steel in the superstructure is about 2,240 tons. The total length of the bridge between parapets is 1,501 ft., and the distance from base of rail to low water 71 ft. Work was commenced on the substructure in Jan., 1907, and the entire structure completed in May, 1908.

A press despatch from Edmonton, Alta., July 16, stated that the track laying gang working from the east, connected that morning with the line laid from Edmonton to Cloverdale bridge, thus completing the G.T.P. tracks into Edmonton. Ballasting trains were re-

rate. A contract is reported let to the Canadian Bridge Co., Walkerville, Ont., for the superstructures for six steel bridges on the first 100 miles easterly from Prince Rupert. The contract for the concrete substructures has been let to — Ferguson. It is expected that track laying will be commenced at Prince Rupert in Sept.

C. Schreiber, C.M.G., is making a complete inspection of the line from Winnipeg to Prince Rupert, and expects to return to Ottawa by the end of Aug.

Grand Trunk Pacific Branch Lines.—The Ontario Railway and Municipal Board has approved of the payment of the Provincial subsidy at the rate of \$2,000 cash and 3,375 acres of land a mile for the final 66.16 miles of the line from Fort William to Lake Superior Jct.

An effort is being made in Brandon, Man., to secure the construction of a G.T.P.R. branch into that city.

Surveys are being made for a line from Regina, through Estevan to Portal, Sask., on the International boundary.

The Alberta Legislature last session authorized the Government to guarantee the bonds of the company to an amount not exceeding \$13,000 a mile in respect of the construction of the following lines: from the western division of the G.T.P.R. between the 111th and 113th degrees of

steel is harder but lighter than carbon steel, and is more expensive on account of the greater cost of working it.

Interest in construction work on the N.T.R. at present is primarily centred upon the completion of the section between Winnipeg and Lake Superior Jct., the point of connection with the G.T. Pacific Ry. branch to Fort William, Ont. The latest reports are to the effect that from St. Boniface, Man., there has been laid about 150 miles of track easterly, and from Lake Superior Jct. westerly, about 30 miles. On July 1 there had been laid 140 miles from St. Boniface end and 20 miles from the Lake Superior Jct. end, and it was expected to complete the intervening 89 miles by about the middle of August. The construction of this section of the line has been particularly heavy. With the exception of a few miles of prairie work near Winnipeg, almost the entire distance here had to be cut through solid rock. In all something like 6,000,000 cubic feet of rock has been removed, of which about 4,000,000 cubic feet came from four tunnels. The deepest rock cut was one of 84 ft. north of Wabigoon. It is upon this section of line that the differences as to classification have been most acute. For the settlement of these differences an inspection of the line has been made

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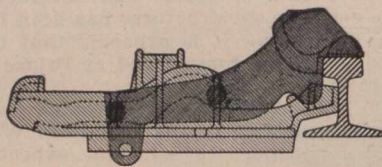
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longitude to Calgary and thence to the Southern boundary of the province; and from the G.T.P. branch line between Calgary and Lethbridge, north-easterly from Macleod, a distance not exceeding 40 miles. Not less than 50 miles of the lines are to be constructed by Dec. 30, and the remainder by Dec. 30, 1911.

Railway Finance, Meetings, Etc.

Albert Ry.—The books of the Dominion Finance Department show that the Albert Ry. Co. has been for years indebted to the Government for \$14,725.56 on loan account, and \$14,665.45 value rails loaned for construction. The line has not been operated for several years. Last session the House of Commons appointed a committee to examine into this and other similar amounts, with the result that it was decided to eliminate them from the Dominion's assets.

Atlantic and Lake Superior Ry.—See Quebec Oriental Ry.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales for May, \$5,491, against \$25,196 for May, 1908. Cumulative net profits for 11 months ended May 31, \$348,132. Approximate railway receipts for June, \$22,284, against \$13,416 for June, 1908. Cumulative railway receipts for 12 months ended June 30, \$310,226.

Atlantic and Lake Superior Ry.—The London, Eng., Chancery Court has appointed the Royal Trust Co., Montreal, as receiver for a quarter of the whole preference stock, with liberty to apply it generally. The order was made on a motion in the action of Derenzy against Galindez Brothers.

There has been litigation going on in connection with this railway almost continually since its incorporation, but it was thought that all differences had been settled by the arrangements entered into in 1907. It would appear, from the present action, however, that the end is not yet.

Canadian Pacific Ry.—Application is being made by the St. Mary's and Western Ontario Ry. Co. to the Board of Railway Commissioners for the approval of a lease of its railway to the C.P.R.

Canadian Northern Quebec Ry.—At the annual meeting of this company, held in July, the following directors were elected for the current year: D. B. Hanna, Z. A. Lash, H. H. Melville, F. Nicholls, R. M. Horne-Payne, W. H. Moore, A. J. Mitchell, F. C. Annesley, Hon. J. Tessier, V. Chateaufort, T. McDougal and the Mayor of Quebec. Up to July 25, the meeting of directors for the election of officers had not been held, but it is understood that D. B. Hanna will be re-elected President for the current year.

Canadian Pacific Ry.—A press report says that the C.P.R. sold a block of about \$5,000,000 of its 4% preferred stock in the London, Eng., market recently; that no offering of securities was made by the company, but, on the other hand, a bid, which is said to have been 102, was accepted.

Dominion Atlantic Ry.—Gross earnings for May, \$87,450, against \$86,436 for May, 1908. Aggregate gross earnings for 5 months ended May 31, \$373,650, against \$364,473 for same period 1908.

Great Northern Ry.—Notice is given that the second mortgage bonds of the St. Paul, Minneapolis and Manitoba Ry.,

maturing Oct. 1, will be redeemed at par with accrued interest, or may be exchanged dollar for dollar, with adjustment of interest for 4% bonds of the company.

Intercolonial Ry.—The public accounts show open accounts to the amount of \$155,757.51, which have been unchanged for some years, but which, nevertheless, have been carried forward from year to year as Dominion assets. The Parliamentary committee appointed, last session, to overhaul these and similar assets, directed them to be no longer counted, and the House of Commons assented.

Kent Northern Ry.—Among the Dominion assets carried forward from year to year on the public accounts, is \$58,334.27 as being due from the K.N. Ry., on rails loan account, representing the value of old Intercolonial Ry. rails loaned at the time of construction of the K.N.R. The House of Commons has as the result of an investigation by a special committee, last session, directed that this shall no longer be counted as an asset.

Lake Superior Corporation.—The head offices of the Lake Superior Corporation, owning the Algoma Central and Hudson Bay Ry., Manitoulin and North Shore Ry., Algoma Central Line steamships, and the electric railways in Sault Ste. Marie, Ont. and Michigan, as well as steel mills, etc., are being removed from Philadelphia, Pa., to Toronto.

Prince Edward Island Ry.—A number of open accounts, amounting altogether to \$5,552.34, have been carried in the public accounts as Dominion assets for a number of years without change. As a result of an investigation, the House of Commons has directed that they be removed from the assets, and the accounts closed.

Quebec Oriental Ry.—A meeting of the shareholders was held in London, Eng., July 22, for the purpose of passing resolutions approving an agreement for the purchase of the railways from Matapeia to Caplin, and Caplin to Paspébiac, Que., known as the Baie des Chaleurs section of the Atlantic and Lake Superior Ry., to change the location of the head office from Montreal to London, Eng., to fix the remuneration of directors; to appoint an auditor; and to authorize the directors to issue bonds or other securities to the extent of \$45,000 a mile, and to execute the necessary security for such bond issue.

Quebec and Lake St. John Ry.—Gross earnings for June, \$51,991.14, against \$57,072.36 for June, 1908. Aggregate gross earnings for 6 months ended June 30, \$278,021.56, against \$257,939.62 for same period 1908.

Quebec Central Ry.—Gross earnings for May, \$83,989.05; expenses, \$58,335.10; net earnings, \$25,653.95; against \$91,487.51 gross earnings; \$63,364.92 expenses; \$28,122.59 net earnings for May, 1908. Aggregate gross earnings for 11 months ended May 31, \$927,384.65; expenses, \$658,636.09; net earnings, \$268,748.56; against \$999,607.38 gross earnings; \$698,500.36 expenses; \$301,107.02 net earnings for same period 1907-08.

Temiscouata Ry.—Total earnings for Apr., \$19,048.60; for May, \$17,090.91.

Temiskaming and Northern Ontario Ry.—Gross earnings for May, \$130,536.47; expenses, \$60,321.24; net earnings, \$70,215.23; ore royalties, \$2,705.25. Ap-

proximate gross earnings for June, \$125,000; net earnings, \$60,000.

Victoria and Sidney Ry.—A call of \$15 a share payable at the company's office, Victoria, B.C., July 19 was recently made on all shareholders, excepting those holding certificates numbers 80, 88, 92, and 97.

White Pass and Yukon Ry.—Aggregate gross earnings for 11 months ended May 31, \$1,070,635.

Wisconsin Central Ry.—An issue of \$2,500,000 new 50-year first and refunding bonds has been authorized, for the purpose of providing funds for the construction of terminals in Duluth, Minn.

Canadian Freight Association.

The Association held its quarterly meeting at Halifax, N.S., July 14 and 15. A party of about 120, including members of the Association and their wives, left Montreal July 12 at 6.45 p.m. on a special I.C.R. train and reached Halifax July 13 about 8 p.m. after a charming trip, during which the scenery of the Metapedia and Wentworth valleys especially was greatly enjoyed. At Moncton E. Tiffin, member Government Railways Managing Board and General Traffic Manager I.C.R. and P.E.I.R., joined the party, and that evening they were his guests at dinner on the dining cars. The business meetings were held at Halifax July 14; in the afternoon the ladies were given an automobile ride to the beach, and in the evening there was a band concert in the public gardens. On July 15 the party were the guests of the City Council and Board of Trade in the morning on a carriage drive through Point Pleasant Park, the citadel and the suburbs and inspected the railway terminals; in the afternoon on an excursion on the harbor, and in the evening at a garden party and dance at the Walgwoitic. Halifax was left July 16, about half the party returning by Dominion Atlantic Ry. to Digby, thence by the s.s. Prince Rupert to St. John and on by the C.P.R., the others going to Yarmouth, and thence by boat to Boston. The whole trip was greatly enjoyed and was undoubtedly one of the best trips, if not the very best, in the Association's history.

Central Station, Ottawa.—The question of the amounts which the C.P.R. has to pay for the use of the tracks and station facilities at Ottawa central station has been for some years unsettled. The C.P.R. and the Canada Atlantic Ry. never arrived at an understanding, and the matter has been under consideration since the G.T.R. took over the C.A.R. The Board of Railway Commissioners made an order July 7 directing the C.P.R. to pay the G.T.R. interest since 1898 on a capitalization of \$250,000, in addition to a wheelage basis on its local trains between Ottawa and Montreal and \$500 a month for through trains. A press report says that the order does not specify the rate of interest to be paid and that the companies disagree as to whether the rate should be 2½% or 5%.

The Superintendent of the Algonquin provincial park has reported to the Ontario Government that beavers are building dams in the culverts of the Canada Atlantic Ry. (G.T.R.), which runs through the park, and that the roadmaster is having lanterns placed in the culverts at night to keep the beavers away.

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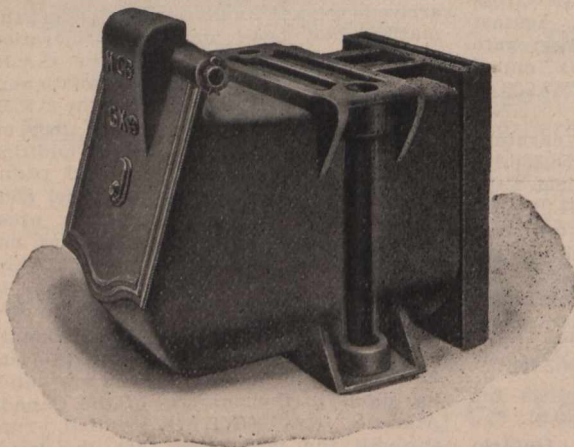
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Atlantic Division Bridge Work.—The Board of Railway Commissioners has approved the plans for the reconstruction of bridge 23.51, Atlantic Division.

Windsor St. Station, Montreal.—Considerable progress has been made in the clearing away of the buildings on the land acquired for the enlargement of this station. All the buildings on Windsor St. from the present station premises to St. Antoine St. have been cleared away, and work is now in progress as far west as Mountain St. It is stated that, beyond clearing the site, nothing will be done this year.

Place Viger Improvements, Montreal.

—The C.P.R. is reported to have purchased for \$250,000 the Montreal Brewing Co.'s property adjoining Dalhousie Square yards, Montreal. The differences between the railway and the brewery company about the property have been the subject of many discussions, and have held up for about seven years the extension and rearrangement of the Place Viger yards. The sale of the property was made possible by the amalgamation of all the breweries in Montreal, and the centralizing of the business. As a result of the sale the legal actions which had been entered to prevent the closing up of certain streets, and the consequent isolation of the brewery premises, will be dropped, each party paying its own costs. The property is to be transferred April 1, 1910.

Plans for improvements in the station and hotel and for the laying out of the yards are under consideration.

The Noming to Rapide de L'Orignal

Extension, which runs from Noming to Rapide de L'Orignal, Que., a distance of nearly 36 miles, is rapidly nearing completion. The grading is being done by the Toronto Construction Co., and it was expected to have the line completed ready to turn over to the company, July 31. The station at mile 17, near the village of Chemin Gouin, is completed, as also the single and double section houses; work is being rushed on the 40,000 gal. tank at mile 19, and at the station at mile 26, near the village of Val Banette. The station, tank, 2-stall engine house and coal platform at Rapide de L'Orignal are expected to be completed by Aug. 30. C. E. Deakin, Montreal, has the contract for these buildings.

Wellington St. Viaduct, Ottawa.—Considerable progress has been made by the company upon the construction of the viaduct at Wellington St., Ottawa. The work should have been completed by July 1, but as, from unavoidable causes, the company could not start work as early as was expected, the Board of Railway Commissioners granted an extension of time for its completion to Sept. 1.

Georgian Bay and Seaboard Ry.—The Board of Railway Commissioners has passed an order authorizing the opening of the portion of the line completed between Coldwater Junction and Maple Island, on Hog Bay, near Victoria Harbour, Ont., a distance of 13 miles.

Tillsonburg, Lake Erie and Pacific Ry., St. Marys and Western Ontario Ry.—It is reported that work will shortly be started at Code's Junction on an extension of the line into Ingersoll, Ont. The T.L.E. and P.R. extends from Port Burwell to Ingersoll, and in 1908, under

its charter, there was constructed a line from Code's Junction into Embro village, connecting with the St. M. and W.O. Ry., from St. Mary's to Embro. The construction of this proposed piece of line would enable trains to be run through from Port Burwell to St. Marys.

In connection with the projected extension of the St. M. and W. O. Ry., from St. Marys westerly to Sarnia, Ont., it is stated that arrangements are being completed for the submission, during the winter, to the taxpayers of various municipalities of by-laws granting aid for construction.

We are advised that the extension from Code Junction to Ingersoll, when it is constructed, will be undertaken by the T. L. E. and P. Ry. Up to July 23, we have been informed, no work on the extension had been done, neither had tenders been asked for.

Victoria Harbor, Ont.—In connection with the construction of the Georgian Bay and Seaboard Ry., which is in operation for construction purposes between Coldwater Jct., on the Toronto-Sudbury Line, and Victoria Harbour, the C.P.R. is carrying on extensive construction work on the terminals close to Victoria Harbor. Docks are being constructed, yards are being laid out, and the preliminary work for the erection of a large elevator is in progress. It is said that the plans for the elevator provide that it shall have, when fully completed, a capacity of 12,000,000 bush. The Dominion Government is carrying on some extensive dredging operations so as to make the depth of water at the docks and in the approaches thereto sufficient for the largest vessels navigating the Upper Lakes.

Hawk Lake Trestle.—The trestle bridge across the end of Hawk Lake, about 25 miles east of Kenora, Ont., is in process of being filled up. Recently the filling in the centre slid away, carrying a portion of the trestle with it, causing the structure to drop from 20 to 30 ft. While the bridge was being repaired, through traffic was carried on between Winnipeg and Fort William over the Canadian Northern Ry.

Fort William Union Station.—Ground was reported to have been broken, July 13, at Fort William, Ont., for a union station building, to be used by the C.P.R. and the G.T. Pacific Ry.

Fort William-Winnipeg Second Track.—The Board of Railway Commissioners has authorized the use for traffic of the second track between mileage 13.8 and 16.0 on the Kenora section.

Winnipeg.—The new agreement between the company and the city of Winnipeg is ready for signature. Under it the company grants to the city about 1.25 acres of land in Elmwood, at the end of Louise bridge, formerly used as a right of way, to be used for street widening, etc.; it is agreed that a subway shall be constructed at McPhillips St., at a cost of \$120,000, the city paying one-third of the cost; the company agrees to maintain Haymarket Square as a park, after the city fences it and lays it out; provision is made for the repair and reconstruction by the city, when necessary, of the overhead bridge at Salter St. The city agrees to close up and convey to the company the portions of Ellen and Fountain streets, on which the company's freight sheds stand.

Branch Line Plans Passed.—The Board of Railway Commissioners has ap-

proved plans for the construction of the following branch lines:—Manitou Lake branch, mileage 0 to 51.33; Langdon branch, from Langdon, mileage 0 to 45, and from Langdon northerly, mileage 45 to 60.

Lethbridge-Macleod Cut-off.—The last spans of the big bridge across the Belly River, on the Lethbridge-Macleod cut-off, were got into position June 23, and a track was laid across it. The work of rivetting up the spans and generally completing the work was expected to be completed July 15. The bridge is entirely of steel, 5,327 ft. in length, and the rail bed is 312 ft. above the water at the highest point. The spans are carried on 67 steel piers, erected on a natural rock foundation. The completion of this work will enable the company to push forward the completion of the cut-off.

Strathcona-Edmonton Bridge.—A number of the C.P.R. engineering staff have been in Edmonton, Alta., recently, in connection with the project for the construction of the projected high level bridge across the Saskatchewan River. The C.P.R. line at present terminates at Strathcona, and surveys have been made for an extension into Edmonton. This work includes the construction of a high level bridge, and the visit of the engineers was to consult with the mayor of the city and some members of the Provincial Government, in connection with the proposal, to provide for the construction of a bridge capable of carrying general as well as railway traffic.

Nelson, B.C.—An agreement has been reached by which the company will take over the Nelson city dock from the municipality.

Kootenay Central Ry.—We were advised July 10 that no definite decision had then been reached in regard to the construction of the southern end of this projected railway.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The last rails of the extension from Brooton to Duluth, Minn., were reported to have been laid July 15, and it is expected that the extension will be opened for freight traffic, Aug. 15, and for passenger traffic, Sept. 1. (July, pg. 493.)

Dominion Railway Subsidies.

The Dominion Government has entered into contracts under the act granting aid to certain railways for the construction of the following lines:—

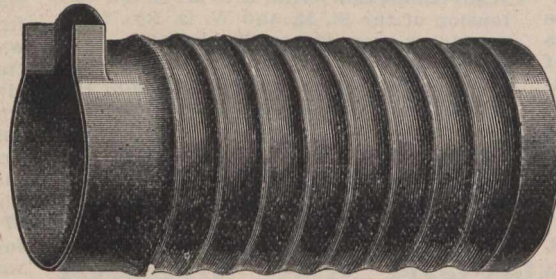
CANADIAN NORTHERN QUEBEC RY.—From Hawkesbury to Ottawa, Ont., about 60 miles. The construction of this line is practically completed.

CAPE BRETON RY.—From Port Hawkesbury or Point Tupper, on the Strait of Canso, to St. Peters, N.S., 31 miles. This railway was constructed in 1902-03, and has been in operation since 1904. The line was constructed under a Nova Scotia charter. A Dominion subsidy was voted in 1899 for a line of 30 miles, and in 1908 the subsidy was revoked and made specially available for the C.P.R.

The International Railway Fuel Association's first annual convention was held in Chicago recently, the officers elected for the current year being: President, E. McAuliffe, Chicago, Ill.; Vice Presidents, W. C. Hayes, New York; J. H. Hibben, Parsons, Ka.; Secretary, D. B. Sebastian, Chicago, Ill.; Treasurer, J. McManamy, Grand Rapids, Mich.

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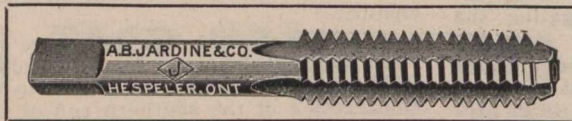
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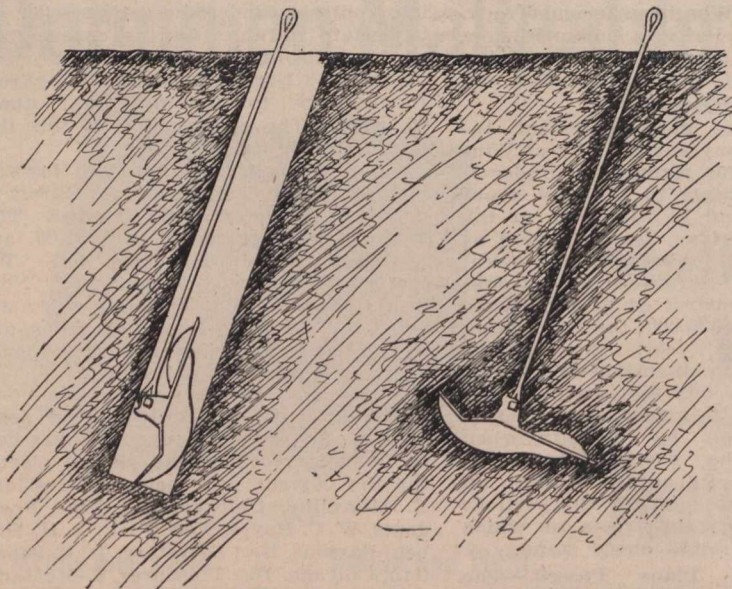


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MAINLY ABOUT PEOPLE

Rear-Admiral Kingsmill has been appointed Honorary Aide-de-Camp to the Governor General of Canada.

H. Calderwood, marine architect, and Mrs. Calderwood, left Toronto early in July for a trip to the Atlantic coast.

W. B. Lanigan, Assistant Freight Traffic Manager, C.P.R. Western Lines, Winnipeg, was in Montreal early in July.

H. A., and A. A. Allan, of the Allan Steamship Line, sailed from Montreal for England, July 16, on the s.s. Tunisian.

G. T. Bell, Assistant Passenger Traffic Manager G.T.R. and G.T.P.R., returned to Montreal early in July from a trip to Winnipeg.

W. R. MacInnes, Freight Traffic Manager C.P.R., Montreal, returned there recently from a short holiday in the Metapedia Valley.

Mrs. D. B. Hanna and her two daughters will leave Toronto early in August to spend some weeks at Portage La Prairie, Man.

The Misses Margaret and Edith Shaughnessy returned to Canada from England, by the C.P.R. s.s. Empress of Britain, July 9.

D. McNicoll, Vice President, and I. G. Ogden, Third Vice President, C.P.R., left Montreal, July 9, for a short fishing trip on the Rideau Lakes.

Lord Strathcona has given \$500,000 to McGill University, the greater part of which is to be utilized for the reconstruction of the medical building.

J. Belliveau, of the I.C.R. mechanical office, Moncton, N.B., was presented with an oak arm chair recently by the staff on his retirement on a pension.

J. H. Sorley, City Freight Agent C.P.R., Ottawa, who recently underwent an operation at the General Hospital, Montreal, is reported to be recovering rapidly.

W. B. Bulling, Assistant Freight Traffic Manager, C.P.R. Eastern Lines, Montreal, sailed for England, June 26, on the C.P.R. s.s. Lake Manitoba, for a six weeks holiday.

H. R. Charlton, General Advertising Agent, G.T.R., and G.T.P.R., returned to Montreal, July 9, from a trip over the G.T.P.R., between Winnipeg and Superior Jct.

J. Bruce Ismay, President International Mercantile Marine Co., was a passenger on the White Star-Dominion Line s.s. Megantic, which sailed from Montreal July 3.

The Chamberlin cup, which was won by J. Devlin, July 7, in the annual match play of the Ottawa Golf Club, is donated by E. J. Chamberlin, Vice President and General Manager, G.T.P.R.

Sir Percy Girouard, heretofore Governor and Commander in Chief of Northern Nigeria, West Africa, has been appointed Governor and Commander in Chief of the East Africa Protectorate.

W. D. Reid, President Reid Newfoundland Co., and Mrs. Reid arrived in Montreal at the end of June, from St. John's, Nfld., and sailed July 2 on the s.s. Empress of Ireland for Great Britain.

The residence of the late H. C. Hammond, President of the Northern Navigation Co., 60 Grosvenor St., Toronto, has been sold to The Ewart Mission and Deaconesses Training Home. Mrs. Hammond is building another house on St. George St.

A. B. Stickney, President Chicago Great Western Ry., who was the first General Superintendent of the C.P.R. at Winnipeg in 1881 until W. C. Van Horne became General Manager, was in Winnipeg recently, having travelled over the C.P.R. from Vancouver.

Hon. L. P. Brodeur, Minister of Marine; Hon. G. P. Graham, Minister of Railways and Canals, and C. C. Ballantyne, of the Montreal Harbor Commission, were passengers on the C.P.R. s.s. Empress of Ireland, which sailed from Quebec, for England, July 2.

W. Aird was presented with a leather steamer trunk, a club bag and a steamer rug recently, on retiring from the position of inspector of locomotive building at the Canadian Locomotive Works, Kingston, Ont. He subsequently left Kingston for a trip to Scotland.

W. C. McIntyre, whose death took place as the result of an automobile accident at Montreal, June 29, held the following positions, among others: President Canadian Transfer Co., Vice President Dominion Bridge Co., Director Structural Steel Co., and President Windsor Hotel Co.

The list of honorary patrons of the proposed "Back to Montreal" celebrations, Sept. 13 to 20, includes Sir Thos. G. Shaughnessy, President C.P.R.; C. M. Hays, Second Vice President and General Manager G.T.R.; Sir H. Montagu Allan, and G. W. Stephens, Chairman Montreal Harbor Commission.

M. M. Campbell, C.E., formerly of the National Transcontinental Ry. Commission's field staff, and who had considerable experience in building inspection while located in the State of Washington, has been appointed a building inspector on the C.P.R., with headquarters at Chemin Gouin, Que.

London, Eng., papers announced recently that Harold A. and Mrs. Richardson had attended Court at Buckingham Palace, Mrs. Richardson being presented by Lady Crewe. H. A. Richardson was, at one time, a resident of Montreal and was interested in the promotion of the Montreal and Southern Counties Ry.

W. Bryce, who was recently appointed locomotive foreman, C.P.R., at Ignace, Ont., was born at Glasgow, Scotland, Aug. 22, 1872, and entered C.P.R. service Mar. 8, 1904, since when he has been to Feb., 1906, machinist; Feb., 1906, to Mar., 1908, steam shovel inspector; Mar., 1908, to Apr. 30, 1909, locomotive foreman.

E. S. Piper, President of the N. L. Piper Railway Supply Co., Ltd., who died in Toronto in March, left an estate of \$43,940, of which \$29,800 was stock in the company, he having held 298 shares out of 400, the rest being owned by members of his family. The whole estate was left to the widow, daughter and four sons.

Jas. Mills, member of the Board of Railway Commissioners, who underwent a serious operation in Toronto April 7, and who since his partial convalescence in a private hospital in Toronto, has been in Guelph General Hospital, left Guelph July 23, with his family to spend the summer at Forest Nook, Magnetawan River, Ont.

A. H. Baird, C.P.R. ticket agent, Paris, Ont., who died there July 17, aged 75, was born at Montreal, and moved to Paris in 1847, where he resided ever since. Among the many offices held by him dur-

ing his residence there, are, Mayor, Reeve, Warden of Brant County, Chairman of Board of Education, and Chairman of the Public Library Board. He was a member of the Canadian Ticket Agents' Association, and attended most of the Association's annual trips for many years past.

Thomas King, who has been appointed Travelling Passenger Agent, G.T.R., Montreal, was born at Dunbarton, Ont., July 18, 1869, and entered G.T.R. service in the Transportation Department, Mar. 28, 1885 as telegraph operator, and filled various positions until June, 1889, since when he has been to Aug. 11, 1892, agent, Whitby Jct., Ont.; Aug. 11, 1892, to May 23, 1895, agent, Brockville, Ont.; May 23, 1895, to Nov. 4, 1897, agent, Sherbrooke, Que.; Nov. 4, 1897, to May 10, 1909, agent, Lewiston, Me.

F. W. Morse, ex-Vice President and General Manager G.T. Pacific Ry., arrived in Montreal July 2 on his return from Europe. C. M. Hays, President G.T.P.R. and Second Vice President and General Manager G.T.R., sailed from New York June 29 for England, and his car Canada being in New York, Mr. Morse travelled back in it to Montreal. This fact was magnified by a section of the daily press into a special sending of the Canada to New York to meet Mr. Morse, and the fairy story writers followed this up by an announcement that Mr. Hays would resign and be succeeded by Mr. Morse and other equally likely prophecies.

A. Z. Mullins, who has been appointed Commercial Agent G.T.R., Grand Rapids, Mich., was born at Appin, Ont., Feb. 14, 1862, and entered G.T.R. service Feb. 10, 1884, since when he has been, to May 1, 1887, telegraph operator, Komoka, Ont.; May 1, 1887 to 1888, clerk and operator, Buffalo, N.Y.; 1888 to 1889, rate clerk to Assistant General Freight Agent Through Traffic, Buffalo, N.Y.; 1889 to 1892, chief clerk to Commercial Agent, Buffalo, N.Y.; 1892 to Oct., 1896, Contracting Agent, Buffalo, N.Y.; Oct., 1896, to Apr. 1902, Agent National Despatch-Great Eastern Line, Grand Rapids, Mich.; Apr. 1902, to July 1, 1909, Agent Lackawanna-Grand Trunk Line, Detroit, Mich.

C. W. VanBuren, who has been appointed Master Car Builder, C.P.R. Eastern Lines, Montreal, entered railway service Mar., 1889, since when he has been, to Nov. 1891, carpenter, New York Central shops, West Albany, N.Y.; Nov., 1891, to Sept. 1, 1893, assistant foreman; Sept. 1, 1893, to Sept. 1, 1896, in charge of car department work, Adirondack Division, same road, Herkimer, N.Y.; Sept. 1, 1896, to July 16, 1905, car foreman on Adirondack Division and Mohawk Division, New York Central and West Shore Rds.; July 16, 1905, to July 1, 1906, General Car Inspector, C.P.R. Eastern Lines, Montreal; July 1, 1906, to July 1, 1909, Divisional Car Foreman, C.P.R., Eastern Division, Montreal.

W. C. Bowles, whose appointment as General Freight Agent, C.P.R. Pacific Division, Vancouver, was announced in our last issue, was born at Montreal, June 3, 1875, and entered railway service in 1891, since when, to 1897, he held various positions in the District Freight Agent's office, Montreal, and General Agent's office, Chicago, Ill.; Sept. 1, 1897, to Apr. 1, 1903, rate clerk Traffic Manager's office, Winnipeg; Apr. 1, 1903, to

(Continued on page 591.)



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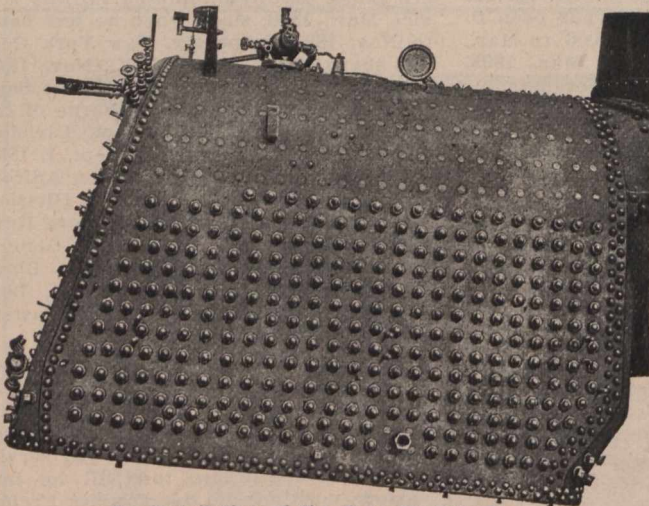
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TORONTO, CANADA, AUGUST, 1909.

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The C.P.R. has installed an airbrake testing apparatus at Toronto for the purpose of testing the brakes on each car before it is sent out of the passenger car yard to be made up into a train.

In connection with the proposal to construct a joint stockyard at St. Boniface, Man., by the railway companies entering the city, it has been discovered that the C.P.R., by an agreement made in 1881, is under bonds of \$200,000 and loss of exemption from taxation on terminal properties to maintain its shops and stockyards in perpetuity in Winnipeg. It is stated that the proposed union stockyard cannot be operated successfully unless by the co-operation of the C.P.R., and that unless some readjustment is made the C.P.R. will have to withdraw from the temporary agreement.

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Mar., 1905, Assistant General Freight Agent, Calgary, Alta.; Mar., 1905, to Oct., 1907, Assistant General Freight Agent, Vancouver, B.C.; Oct., 1907, to Mar., 1908, General Freight Agent, Nelson, B.C.; Mar., 1908, to June 5, 1909, General Freight Agent, Winnipeg; entire service with the C.P.R.

F. T. Anderson, Car Service Agent, C.P.R. Western Division, Calgary, Alta., whose appointment was announced in our July issue, was born at Lambeth, Ont., Apr. 1, 1878, and entered C.P.R. service Nov., 1895, since when he has been, to 1901, successively, clerk at Broadview, Sask., assistant agent and operator at various points in the Central Division west of Winnipeg; during a part of 1901 he was agent, Balgonie, Sask.; 1901 to 1904, agent, Alexander, Man.; 1904, agent, Sintaluta; 1904 to 1905, agent, Indian Head, Sask.; during the grain rush of 1905 appointed Travelling Grain Agent, district 4, Central Division; Feb. 1, 1906, to Feb. 1, 1907, Inspector of Agencies, Western Lines; Feb. 1, 1907, to May, 1909, Car Distributor, Central Division, Winnipeg.

R. Preston, whose appointment as Master Mechanic C.P.R. Central Division, Winnipeg, was announced in our last issue, was born at Toronto, July 28, 1863, and entered G.T.R. service there, as machinists' apprentice, and finished his apprenticeship with the Toronto, Grey and Bruce Ry., subsequently absorbed by the C.P.R.; from May, 1887, to May, 1890, locomotive foreman C.P.R., Havelock, Ont.; May, 1890, to Aug., 1894, locomotive foreman, C.P.R., London, Ont.; Aug., 1894, to Oct., 1897, locomotive foreman, C.P.R., Smiths Falls, Ont.; Oct., 1897, to Aug., 1898, locomotive foreman, C.P.R., Montreal; Aug., 1898, to May, 1901, locomotive foreman, C.P.R., Toronto; May, 1901, to Oct., 1903, Master Mechanic, C.P.R. Lake Superior Division, North Bay, Ont.; Oct., 1903, to Feb., 1908, Master Mechanic, Ontario Division, Toronto; Feb., 1908, to June 21, 1909, Shop Superintendent, Toronto.

W. E. Fowler, who has resigned the position of Master Car Builder, C.P.R., on account of ill health, was born at Weymouth, Eng., Apr. 27, 1856, and has been engaged in railway car construction since 1880. His record is as follows:—Mar., 1880, to Sept., 1882, car builder in shops of St. Louis, Iron Mountain and Southern Rd., Baring Cross, Ark.; Oct., 1882, to Nov., 1883, car builder in shops of Union Pacific Rd., Denver, Col.; Nov., 1883, to end of 1889, car foreman, same company at Denver; 1890 to 1891, general car foreman, Denver, Texas and Fort Worth Rd., Denver, Col.; 1891 to 1893, car foreman, Union Pacific Rd., Denver, Col.; 1894 to 1900, Master Car Builder, Union Pacific, D. G. and Colorado Southern Rd.; 1900 to Apr., 1902, General Car Inspector and Master Car Repairer, Southern Pacific Rd., Sacramento, Cal.; 1902 to June 30, 1909, Master Car Builder, C.P.R. He was Second Vice President of the Master Car Builders' Association, 1904-05; First Vice President, 1905-06, and President, 1906-07.

G. W. Robb, whose appointment as Master Mechanic G.T.P.R., Rivers, Man., was announced in our last issue, entered G.T.R. service in 1880, since when he has been, to 1881, car repairer and clerk, Chaudiere Jct., Que.; 1881 to 1882, apprentice, erecting shops, Montreal; 1882 to 1884, apprentice at Brockville round-

house, Ont.; 1884 to 1885, machinists' improver, Northern and Northwestern Ry. repair shop and roundhouse, Toronto; 1885 to 1887, machinist, C.P.R. shops, Winnipeg, and charge hand at Broadview, Man.; 1887 to 1889, foreman of roundhouse at Brackenridge and Wilmar, Minn., locomotive foreman on construction, and at Fort Budford and Glasgow, Mont., during the construction of the G.N.R. between Minot, N.D., and Great Falls, Mont.; 1889 to 1890, locomotive foreman, Chicago and Great Western Ry., Des Moines, Ia.; 1890 to 1905, general foreman, Canada Atlantic Ry. erecting shops, Ottawa; 1905 to Mar., 1909, general foreman, G.T.R. shops, and roundhouse, Ottawa (taken over from the Canada Atlantic Ry.); Mar. to June, 1909, Assistant Master Mechanic, G.T.P.R., Rivers, Man.

Gordon Grant, who has been appointed Chief Engineer National Transcontinental Ry. Commission, in succession to H. D. Lumsden, resigned, was born at Dufftown, Banffshire, Scotland, Jan. 2, 1865, and is a son of the late Peter Grant, a member of Sir Sandford Fleming's staff on the I.C.R. and the C.P.R. He was educated at Ottawa, and went to the Argentine Republic in 1881 with his uncle, W. B. Grant, Chief Engineer Buenos Ayres Southern Ry., remaining there for six years. Returning to Canada in 1887 he was engaged until 1890 upon the I.C.R. construction in Cape Breton; from 1890 to 1893 he was engaged on C.P.R. survey work east of Montreal; from 1893 to 1897 he was on construction work on the Flagler roads in the U.S., since when his record has been: 1897 to 1900, on construction Crow's Nest Pass Line, and Kootenay and Arrowhead Ry., for C.P.R.; 1900 to 1903, chief draughtsman construction department C.P.R., Montreal; May, 1904, to Feb., 1905, on C.P.R. location work in British Columbia; Feb., 1905, to Sept., 1906, on National Transcontinental location work northwest of Quebec; Sept., 1906, to May, 1907, assistant District Engineer National Transcontinental Ry., Quebec; May, 1907, to Aug., 1909, inspecting engineer, N.T.R. Commission.

C. E. Cartwright, Division Engineer C.P.R. Pacific Division, Vancouver, B.C., whose portrait appears on the first page of this issue, was born at Toronto, Oct. 14, 1864, but spent his early years at Kingston, Ont., and graduated at the Royal Military College there, June, 1884. He entered railway service in 1883, his subsequent record being:—1883, chain man on location, Great American and European Short Line, Nova Scotia; Oct., 1885, to July, 1888, location and construction, Pontiac and Pacific Jct. Ry., and Gatineau Valley Ry.; July, 1888, to Mar., 1890, draughtsman, Norfolk and Carolina Ry., and in charge of survey for Belt Line Ry., Norfolk, Va.; Mar., 1890, to Nov., 1892, in private practice; Nov., 1892, to July, 1896, in charge of preparation of right of way maps and changes of grade and alignment for Division Engineer, Peoria Division, Terre Haute and Indianapolis Rd.; Oct., 1896, to Apr., 1897, topographer and draughtsman through Adirondacks for New York and Ottawa Ry.; Apr., 1897, to Jan., 1899, Assistant Chief Engineer, Ottawa and New York Ry., Cornwall, Ont.; Apr. to Sept., 1899, Resident Engineer C.P.R. Kamloops and Laggan branches; Oct., 1899, to Apr., 1902, engineer of construction Vancouver and Lulu Island Ry.;

Apr., 1902, to Jan., 1905, assistant to Division Engineer C.P.R., Vancouver, B.C.; Jan., 1905, to date, Division Engineer C.P.R., Vancouver, B.C.

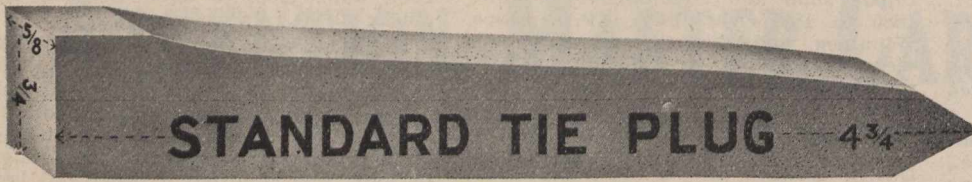
H. D. Lumsden, who has resigned the position of Chief Engineer National Transcontinental Ry., was born at Belhelvie Lodge, Aberdeenshire, Scotland, Sept. 7, 1844. He was educated in Scotland and England, and came to Canada in 1861; was admitted a provincial land surveyor for Ontario in Jan., 1866, and remained in private practice as such up to 1870. He was elected Reeve of Eldon tp. and President Eldon Agricultural Society in 1870. In 1867 he obtained a Military School certificate and was gazetted a lieutenant in the 34th Batt.; was elected a member of the Institute of Civil Engineers, Eng., in 1885, a member of the Canadian Society of Civil Engineers in 1887, and for several years was a member of the council of the latter body and was also President. He has had a long and varied experience as an engineer commencing in Oct., 1870, when he was in charge of the location of the northerly portion of the Toronto and Nipissing Ry., under E. Wragge, C.E., since when he has been almost constantly employed in the location or construction of railways, amongst others the location of portions of the Credit Valley Ry., Toronto, Grey and Bruce Ry., Northern Ry., Georgian Bay branch C.P.R., etc., the location and construction of the Ontario and Quebec Ry., Toronto to Perth; the C.P.R., Smith's Falls, Ont., to Vaudreuil, Que.; St. John's to Lennoxville, Que.; and Holeb to Mattawamkeag, Me.; Supervising Engineer of the location and construction of the Qu'Appelle, Long Lake and Saskatchewan Ry., and Calgary and Edmonton Ry., in the Northwest Territories; the C.P.R. from Rigaud to Ottawa; the Crow's Nest Pass Ry., Lethbridge to Kootenay Landing, and numerous branches of the C.P.R. in other portions of the Dominion. In Aug., 1904, he was appointed Chief Engineer of the National Transcontinental Ry. He was married in Oct., 1885, to Mary Frederica, only daughter of J. W. G. Whitney, of Toronto. Shortly after his appointment as Chief Engineer of the N.T.R. he removed from Toronto, where he had lived for several years previously, to Ottawa. His summer home is Buchrome, Orillia, where Mrs. Lumsden and their two sons are now staying.

F. W. Dudley, Eastern Passenger Agent, Canadian Pacific Ry., New York City, writes:—"Your publication, The Railway & Marine World, is a most interesting one."

The hearing of the C.P.R. and G.T.R. appeals against the Board of Railway Commissioners' order to erect a viaduct along the Toronto waterfront has been set down for argument at the October sittings of the Supreme Court at Ottawa.

G. S. Potts, a Winnipeg barrister, has filed a claim in the Court of the King's Bench against the C.P.R. for \$350 disbursements and \$20,000 for labor and services performed. It is set forth in the statement of claim that he was actively and exclusively engaged by the company from Aug. 6 to Oct. 26, 1908, in conducting negotiations between the company and its employees, and that he succeeded in effecting a settlement and adjusting the differences which caused the strike of the C.P.R. mechanical employees.

"Note the Size and Shape"

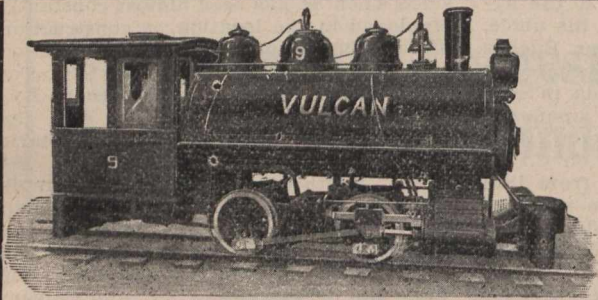


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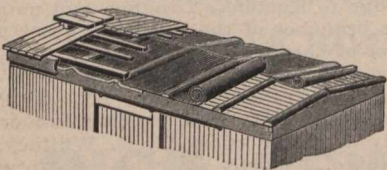
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TRANSPORTATION APPOINTMENTS.

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

Canadian Government Railways Managing Board.—D. Pottinger, in addition to his duties as a member of the Board, is specially charged with the work of the office, such as approving and signing all vouchers on behalf of the Board, the preparation of returns for Parliament, the checking of pay rolls and vouchers, and the exercising of a general supervision over the Accounting Department. He acts for the Board as Chairman of the Provident Fund Board, and of the Insurance Association.

E. Tiffin, in addition to his duties as a member of the Board, exercises the power and authority of General Traffic Manager. All questions affecting traffic are dealt with by him.

F. P. Brady, in addition to his duties as a member of the Board, acts as General Superintendent. All matters affecting transportation are dealt with by him.

Canadian Northern Ry.—H. Williams has been appointed locomotive foreman, Kipling, Sask., vice A. W. McKenzie transferred.

A. W. McKenzie, heretofore locomotive foreman at Kipling, Sask., has been appointed locomotive foreman, Prince Albert, Sask.

Canadian Pacific Ry.—A. L. Smith, heretofore Superintendent District 2, Lake Superior Division, White River, Ont., has been appointed Superintendent District 1, Eastern Division, vice W. B. Cronk transferred. Office, Farnham, Que.

R. W. Burnett, heretofore Assistant Master Car Builder, has been appointed acting General Master Car Builder, W. E. Fowler, Master Car Builder, having resigned on account of ill health. Office, Montreal. The position of Assistant Master Car Builder has been abolished.

C. W. VanBuren, heretofore Divisional Car Foreman, Eastern Division, has been appointed Master Car Builder, Eastern Lines. Office, Montreal.

C. Kyle, heretofore Supervisor of Engines and Trains, has been appointed General Master Mechanic, Eastern Lines. Office, Montreal.

G. E. Smart, heretofore General Car Inspector, Eastern Lines, has been appointed Divisional Car Foreman, Eastern Division, vice C. W. VanBuren promoted. Office, Glen Yard, Montreal.

P. A. Chrysler, heretofore Car Foreman, Place Viger, Montreal, has been appointed General Car Inspector, Eastern Lines, vice G. E. Smart promoted. Office, Montreal.

W. B. Cronk, Superintendent District 1, Eastern Division, Farnham, Que., is reported to have been appointed Superintendent District 2, Lake Superior Division, White River, Ont., vice A. L. Smith, transferred.

G. Gilbert, heretofore train dispatcher, Kenora, Ont., has been appointed Chief Train Dispatcher, District 1, Central Division, vice A. H. Mansfield transferred. Office, Kenora, Ont.

T. M. Fraser, heretofore Roadmaster, Minnedosa, Man., has been appointed temporarily Roadmaster, Souris section, during the absence of P. E. Barry. Office, Winnipeg.

R. J. Hood, heretofore Roadmaster,

Brandon, Man., has been appointed Roadmaster, Minnedosa, Man., vice T. M. Fraser transferred.

J. M. Mack, heretofore locomotive fitter at Brandon, Man., has been appointed acting locomotive foreman at Minnedosa, Man., vice W. F. Lowe on leave of absence.

Drs. J. S. Matheson, J. I. Lynch and C. T. Templeton, have been appointed company's surgeons at Brandon, Man.

A. McDonald has been appointed Roadmaster, Rapid City section, Miniota and Lenore branches and Brandon yard, Brandon, Man., vice R. J. Hood transferred.

L. E. W. Bailey has been appointed District Master Mechanic, at Moose Jaw, Sask., vice F. W. Sadlier transferred.

W. H. Gordon, Travelling Freight Agent, Winnipeg, has been appointed acting District and Travelling Freight Agent, Saskatoon, Sask., during the absence of R. W. Drew as acting General Freight Agent at Nelson, B.C.

L. A. Warner, heretofore conductor, has been appointed Assistant Trainmaster, District 1, Pacific Division, with territory from Laggan to Field. Office, Field, B.C.

V. Anderson, Roadmaster, Revelstoke, B.C., has had his jurisdiction extended from Beavermouth to Laggan.

Jno. Anderson has been appointed Roadmaster, Shuswap section, including Shuswap and Okanagan branch, Pacific Division, vice W. Stormont resigned. Office, Revelstoke, B.C.

F. Olson has been appointed assistant Roadmaster, Field, B.C.

W. G. Cooper has been appointed Agent of Immigration and Atlantic Steamships, vice C. McLaughlin, who has been granted leave of absence on account of illness. Office, 1 Broadway, New York City.

W. B. Slattery, heretofore City Freight Agent, New York, has been appointed Travelling Freight Agent, with territory covering Eastern New York, Eastern Pennsylvania and the State of New Jersey.

C. R. Bishop has been appointed City Freight Agent, New York City, vice W. B. Slattery transferred.

Central Vermont Ry.—The jurisdiction of W. E. Costello, Superintendent, has been extended to include the Central Vermont Transportation Co.'s steamships New York and New London. Office, St. Albans, Vt.

Delaware and Hudson Co.—J. G. Eisele, General Coal Sales Agent, having resigned, the position has been abolished.

Chicago and North Western Ry.—F. H. Terry, heretofore Soliciting Freight Agent, G.T.R., Toronto, has been appointed Travelling Agent, C. & N.W.R., Toronto.

Intercolonial Ry.—W. Davidson has been appointed roundhouse foreman at Halifax, N.S.

National Transcontinental Ry. Commission.—Gordon Grant, heretofore Inspecting Engineer, has been appointed Chief Engineer, vice H. D. Lumsden resigned.

Niagara, St. Catharines and Toronto Navigation Co.—H. G. Wiltze, heretofore dispatcher N. St. C. and T. Ry., at St. Catharines, Ont., has been appointed General Agent at Toronto, vice E. H. Pepper, who has been transferred to the Canadian Northern Ry.'s service in the north-west, in the hope that he may regain his health in that climate.

Grand Trunk Pacific Ry.—J. G. Swallow has been appointed Local Auditor in charge of Traffic Receipts. Office, Winnipeg. All reports and correspondence relating to business subsequent to July 1, previously sent by other companies and G.T.P.R. agents to Auditor of Freight Accounts and Auditor of Passenger Accounts, Montreal, and conductors' and train agents' reports and ticket collections sent to District Passenger Agent Duff, Winnipeg, are to be sent to Local Auditor, Winnipeg. Drafts on foreign roads for freight and passenger balances are drawn by Local Auditor. Agents' drafts in settlement of interchange freight balances are drawn on, and all remittances by foreign companies for freight and passenger balances are made to W. LeB. Ross, Local Treasurer, Winnipeg. No change will be made in the present method of handling car mileage accounts and settlement of same.

Grand Trunk Ry.—T. King, heretofore Agent at Lewiston, Me., has been appointed Travelling Passenger Agent, Montreal, vice C. W. Johnston, appointed chief clerk G.T.P.R. General Passenger Agent's office, Winnipeg.

E. R. Thorpe, heretofore Soliciting Freight Agent, Hamilton, Ont., has been appointed Soliciting Freight Agent, Toronto, vice F. H. Terry, who has resigned to take service with another company.

W. E. Kleinsteiber, heretofore rate clerk, Freight Traffic Office, Toronto, has been appointed Soliciting Freight Agent, Hamilton, Ont., vice E. R. Thorpe, transferred.

Consequent on the G.T.R. having assumed the supervision of the solicitation, in the west, of the Fast Freight Lines, as mentioned in our last issue, its agencies for the solicitation of freight traffic have been reorganized, as follows:—Chicago, Ill., H. E. Graves, Commercial Agent, formerly General Western Agent National Despatch-Great Eastern Line; T. A. Chappell, Assistant Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line; Milwaukee, Wis., H. W. Ploss, Commercial Agent, formerly Contracting Freight Agent Reading Despatch; Minneapolis, Minn., T. C. Burgess, Commercial Agent; Omaha, Neb., A. Wallace, Commercial Agent, formerly Agent National Despatch-Great Eastern Line; Kansas City, Mo., H. Seeley, Commercial Agent; St. Louis, Mo., C. A. Gormally, Commercial Agent; Los Angeles, Cal., W. H. Bullen, Pacific Coast Agent; San Francisco, Cal., F. H. Lord, Agent; Seattle, Wash., L. V. Druce, Commercial Agent, all reporting to R. L. Burnap, Assistant General Freight Agent, Chicago, Ill.; Detroit, Mich., W. H. Spicer, Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line, Milwaukee, Wis.; Grand Rapids, Mich., A. Z. Mullins, Commercial Agent, formerly Agent Lackawanna-Grand Trunk Line, Detroit, Mich.; Saginaw, Mich., C. E. Wagner, Commercial Agent, formerly Agent National Despatch-Great Eastern Line, Detroit, Mich.; all reporting to C. Clarke, Division Freight Agent, Detroit, Mich.; Buffalo, N.Y., E. J. Hilliard, Commercial Agent; Toledo, Ohio, S. G. Wagstaff, Commercial Agent; Cincinnati, Ohio, W. K. Evans, Commercial Agent; Pittsburgh, Pa., E. F. Flinn, Commercial Agent, formerly Manager Reading Despatch, Buffalo, N.Y., all reporting to I. W. Gantt, Assistant General Freight Agent, Buffalo, N.Y.

The following agents have been appointed:—Lyn, Ont., E. N. Granger;

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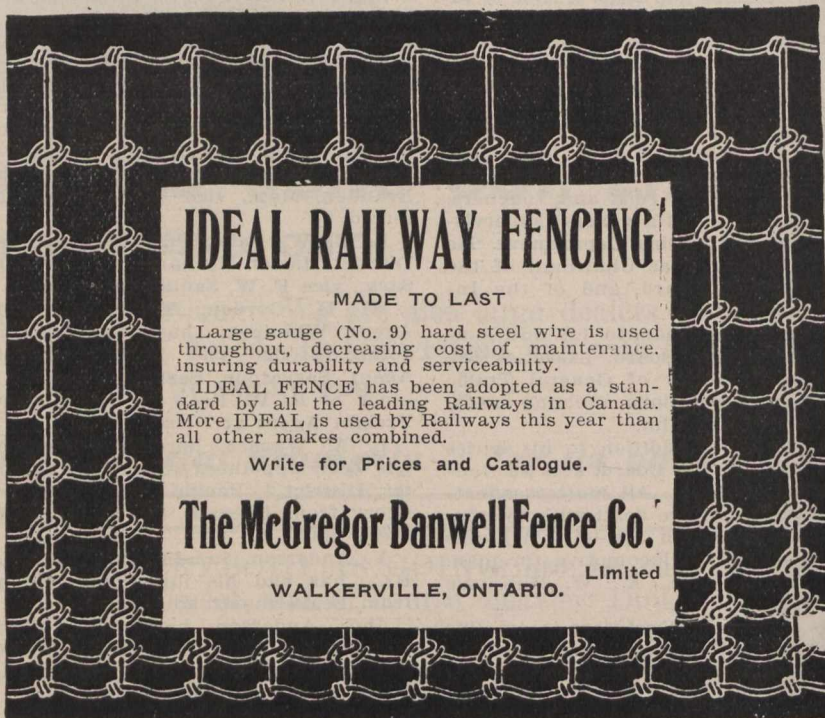
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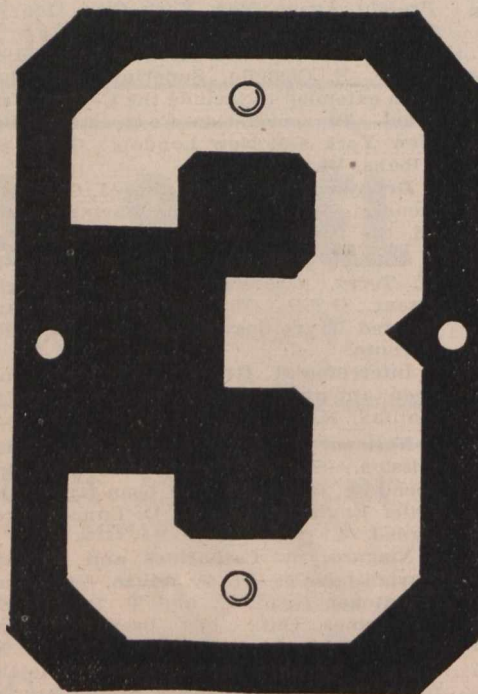
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Kingston, Ont., S. C. Wright; Whitby, Ont., S. McPhaden; Mariposa, Ont., J. S. Francis; La Salette, Ont., G. P. Robbins; Carlsbad Springs, Ont., J. M. Joynt; Rockland, Ont., G. W. Beriault (Acting); Rock Lake, Ont., J. E. Marchand (Acting); Algonquin Park, Ont., J. Armstrong; Kearney, Ont., H. G. Younkie.

Intercolonial Ry.—W. H. Estano, who has been acting Traffic Auditor since the retirement of J. R. Bruce, Dec., 1908, has been appointed Traffic Auditor. Office, Moncton, N.B.

See also Canadian Government Railways Managing Board.

Michigan Central Rd.—In our last issue it was stated that A. A. Ingram had been appointed Solicitor at St. Thomas vice W. B. Kingsmill, resigned. This was not quite correct. The M.C.R. solicitors in Canada are Kingsmill, Saunders, Torrance & Kingsmill, whose head office is in Toronto and who have a branch office at St. Thomas. They have sent A. A. Ingram from their Toronto office, where he has been for the past three years, to take charge of the St. Thomas office under W. B. Kingsmill, who will in future divide his time between the Toronto and St. Thomas offices.

Prince Edward Island Ry.—See Canadian Government Railways Managing Board.

Ottawa and New York Ry.—F. J. Balch, heretofore Assistant General Freight Agent, has been appointed General Freight Agent, vice G. H. Phillips, who was Superintendent and General Freight Agent and will in future discharge the duties of Superintendent only. Office, Ottawa. The position of Assistant General Freight Agent has been abolished.

Esquimalt & Nanaimo Ry.—Following is the official organization revised to date:—W. Whyte, Second Vice President, C.P.R., Winnipeg, President; R. Marpole, General Executive Assistant, C.P.R., Vancouver, B.C., Vice President; H. E. Beasley, Superintendent, Victoria, with full charge of operation of line, and representing the Vice President in connection with construction of new lines and land clearing operations; J. Goodfellow, Assistant Superintendent, Victoria; H. J. Cambie, Chief Engineer, Vancouver; R. A. Bainbridge, Division Engineer, Victoria, reporting to H. E. Beasley, Superintendent and to H. J. Cambie, Chief Engineer; A. R. Wilby, Resident Engineer, Victoria; M. S. Wheatley, Mechanical Foreman in charge of mechanical affairs, with office at Wellington, B.C., reporting to Superintendent; W. Newman, Roadmaster and Bridge and Building Master, Victoria; L. H. Armstrong, Dispatcher, Victoria; F. H. Clendinning, District Freight Agent, Victoria; L. D. Chetham, District Passenger Agent, Victoria.

The Toronto City Council in voting, July 16, for the sale of 23 acres of land and water lots, at Ashbridge's Bay, to an iron manufacturing company in process of organization, decided to retain a right of way through the land for a double track railway. The city is to provide a 14 ft. channel to the site, the company doing the piling and filling in of the water lots, in addition to paying \$35,000 for the acreage, and expending \$100,000 on buildings. The Polson Iron Works Co. is negotiating for a site in the same vicinity.

Canadian Northern Ry. Construction.

Canadian Northern Quebec Ry.—Two bridges on the line in the vicinity of Grand Mere were burned July 8, the fires, it is believed, being incendiary. The first fire destroyed one span of the bridge at Burrill Siding, and the second destroyed the bridge between Charett's Mills and St. Poulin. This bridge, of which 11 spans were destroyed is 150 feet high. Temporary repairs have been made, and traffic has been resumed.

Canadian Northern Ontario Ry.—The Board of Railway Commissioners, July 6, approved of the location plans for the extension into Ottawa of the company's line from Hawkesbury. The plan shows a line well to the south of the Rideau River, gradually curving around to a junction near Hardman's Bridge. It was decided that a separate order must be applied for to authorize connection with the C.P.R. and the Ottawa and New York Ry. The construction of this short piece of line into Ottawa will be carried out by Mackenzie, Mann & Co.'s own staff.

In connection with the development of the Ashbridge Bay district, Toronto, the mayor suggests that the council open negotiations with the C.N.O.R. so as to secure the location of the company's shops.

With further reference to the construction of the short section of line at Parry Sound, Ont., to connect up the C.N.R. and the C.P.R. with the water front, which was dealt with in our last issue, we are advised that the line has a total length of about two miles. Of this, the C.P.R. has under construction about three-quarters of a mile; of the remaining portion, the C.N.R. is constructing about three-quarters of a mile on its own account, and the balance on joint account. There is a good bit of rock work on the C.N.R. and the joint section. The work on the C.N.R. section includes the construction of a bridge across the river, which will consist of three spans, 85, 50 and 75 ft. respectively, on concrete piers and abutments. The contractor for the C.N.R. and the joint section is J. A. Johnston, Parry Sound.

Angus Sinclair, C.E., is the contractor for the extension of the C.N.O.R. from Selwood Junction northerly and westerly for 32 miles. Grading has been so far completed that it is expected track-laying may be commenced at any time. This 32 miles of track will be all that will be done this season, but it will make a considerable reduction in the number of miles to be travelled by trail and stage into the Gowganda country.

On returning to Toronto, July 10, from England, where he secured the underwriting of £800,000 4% C.N.O.R. perpetual consolidated stock, W. Mackenzie, President, announced that work would be started in the near future on a line between Ottawa and Niagara Falls, via Toronto. The C.N.Q.R. has about completed the Quebec-Garneau cut-off, the line from Garneau to Hawkesbury, Ont., has been in operation for some time, and the C.N.O.R. between Hawkesbury and Ottawa is nearly completed. In a very short time through trains will be running between Quebec and Ottawa, also between Montreal and Ottawa, via Joliette. A short line between Hawkesbury and Montreal has been surveyed, so as to avoid going round by Joliette.

From Toronto east the route plan has

been approved by the Minister of Railways as far as Verona, Frontenac county, 153 miles, and the question of the route from Verona to Ottawa is under the minister's consideration. The line as located leaves the C.N.O.R. Toronto-Sudbury line about five miles north-east of Toronto, near the Todmorden road crossing, runs up the Don east valley and crosses under the G.T.R. near Scarborough Jct. Thence it proceeds north-easterly, keeping north of the G.T.R., and passing through Cherrywood, Kinsale and Orono to Port Hope, thence via Colborne to Cobourg, crossing the G.T.R. at Brighton, and passing through Trenton to Belleville, thence via Shannonville and up the Salmon River to Verona. From Verona to Ottawa, two routes are under the minister's consideration, one via Portland and South Falls, south of Rideau Lakes, the other crossing the Rideau Lakes near Newboro', thence via Perth and Carleton Place. The Board of Railway Commissioners has approved of the location plans of practically the whole distance between Toronto and Verona, except through Trenton and Belleville, where the company's engineers are endeavoring to improve the location. There is also likely to be a change of location at the Toronto end, where the location shows two crossings of the G.T.R. which will probably be reduced to one as above indicated.

From Toronto to Niagara Falls the railway will be built as much as possible on the right-of-way of the Electrical Development Co. of Ontario, in which W. Mackenzie has a controlling interest. That right-of-way may have to be deviated from at some points, particularly at the escarpment near Hamilton. It was expected that an electric railway would be built along the power route, but Mr. Mackenzie states that the railway will be a steam one, though it may be electrified later. It is suggested that an electric railway may be built alongside the steam one on the same right-of-way. A bridge will be built at or near Niagara Falls to connect with U.S. lines.

It is expected that final surveys both east and west from Toronto will be gone on with at once, and some grading may be done this year.

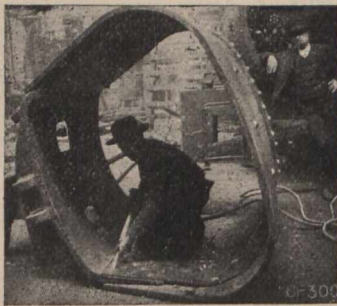
Canadian Northern Ry.—D. D. Mann, Vice President, had an interview with the Mayor and Corporation of Regina, Sask., July 6. He is reported to have told the council that the position of Regina was such that it had been decided to make it the chief divisional point on the C.N.R. system between Winnipeg and Calgary, and that it was proposed to develop a new line into Edmonton, using the present line from Winnipeg, via Brandon into Regina, as the first section; then using the Regina-Prince Albert line as far as Craik, and from there a new line would be constructed crossing the Saskatchewan at the elbow, and then running north-westerly into Edmonton. In connection with the developments in Regina, Mr. Mann asked for a site for a passenger station in the centre of the city. The council are favorable to granting this site, on condition that a union station be erected, but if the C.P.R. declines to join in the project, the council desire that the station be open to any other lines that might enter the city.

In Manitoba the company has under construction 70 miles of line, starting from Halboro, westerly through the centre of the province.

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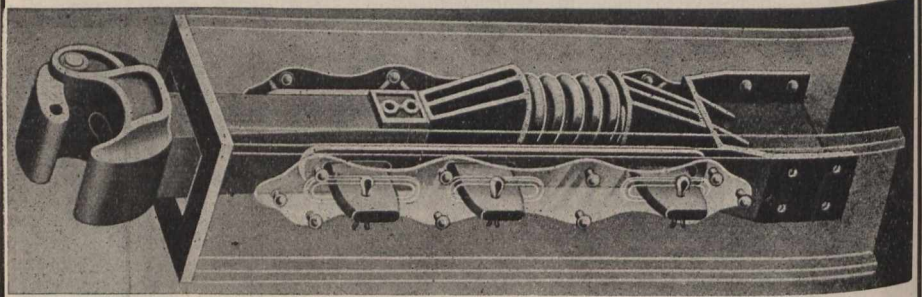
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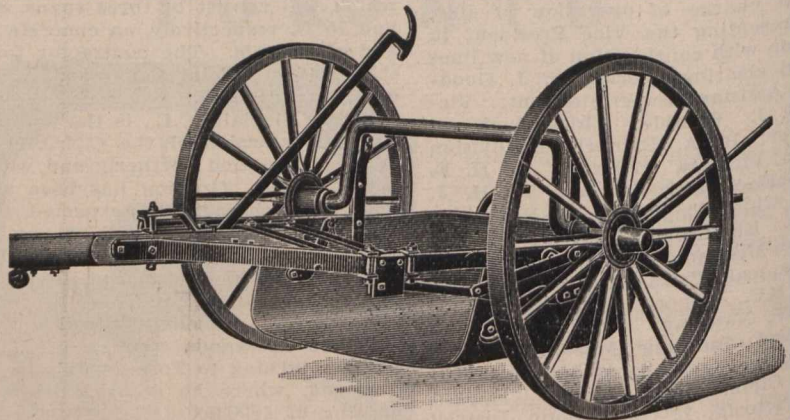
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Track is laid on the Goose Lake extension to sec. 27, tp. 29, range 16, west of the third meridian, and grading is being pushed rapidly beyond that point.

Construction has been started on the branch from Maryfield, southwesterly, for which the Cowan Construction Co. have the contract.

Considerable progress has been made on the grading on the branch from Vegreville to Camrose, Sask. It is expected that tracklaying will be started at Vegreville early in Aug.

Alberta Midland Ry.—A company with this title was incorporated last session of the Alberta Legislature, the provisional directors being: W. Mackenzie, D. D. Mann, Z. A. Lash, D. B. Hanna and G. G. Ruel, Toronto. The company was given power to construct the following lines:—(1) From near Vermillion on the C.N.R., north-westerly to Whitford Lake, thence westerly to a junction with the C.N.R. main line near Bruderheim.

(2) From between Morinville and the northern boundary of tp. 61, on the Edmonton and Slave Lake Ry., easterly keeping north of the North Saskatchewan River to the eastern boundary of the province. (3) From near Edmonton north-westerly to or near Slave Lake, thence to the Peace River. (4) From near Strathcona southerly, via Calgary, to the confluence of the Little Bow and Belly rivers, thence south-westerly to Lethbridge, with a branch line from near Bittern Lake north-easterly to Vegreville, and the following other branch lines: from the crossing of the Little Bow River via Macleod to the southern boundary of the province; from between Macleod and the crossing of the Belly River on the last mentioned line westerly to the western boundary of the province; from between Cardston and the southern boundary of the province westerly to the western boundary of the province; from Calgary westerly to Cochrane, Exshaw and Banff, and from Cochrane north to intersect the company's line near Pigeon Lake, and from Cochrane southerly to Nanton; from near Little Beaver Lake northwesterly to Wetaskiwin, thence north-westerly to connect with any proposed railway to be operated by the C.N.R. (5) From near Content on the last mentioned line westerly via Red Deer to tp. 39, range 7, west of the 5th meridian, at or near Rocky Mountain House. The capital stock is fixed at \$5,000,000; bonds may be issued up to \$25,000 a mile, and agreements may be made with the Canadian Northern Ry., the Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co., and the Saskatchewan Northwestern Ry. Company.

The Legislature also passed an act confirming an agreement between the C.N.R. Co. and the Government, by which the Province guaranteed the company's bonds to not exceeding \$13,000 a mile for the following lines which the A. M. Ry. is authorized to construct:—

From Vermillion to Whitford Lake, 40 miles; from Morinville easterly to 40 miles; from Strathcona to Lethbridge, 35 miles; from Bittern Lake to Vegreville, 50 miles; from Little Bow River to the International boundary, 110 miles; from near Macleod to the Alberta-B.C. boundary, 65 miles; from Cardston to the Alberta-B.C. boundary, 35 miles; from Calgary to the eastern boundary of the Banff National Park, 50 miles; from Content westerly, 60 miles. The act also authorized a similar guarantee of bonds

of the following lines which the C.N.R. has power to construct:—From near Edmonton towards Peace River for 50 miles; from Morinville northerly for about 65 miles to Athabasca Landing. Under a section of this act the C.N.R. has taken over the A. M. Ry. Co. and its powers are now merged with the C.N.R. Co. (July, pg. 501.)

Railway Rolling Stock Notes.

The I.C.R., between June 15 and July 20, received 3 baggage cars from the Crossen Car Mfg. Co., Cobourg, Ont.

The G.T.P.R., between June 14 and July 14, received 5 mogul locomotives from the Canadian Locomotive Co., Kingston, Ont.

At the Board of Railway Commissioners' sittings at Ottawa on Sept. 7 all railway companies subject to the Board's jurisdiction will be asked to show cause why a general order should not issue requiring all snowplows to be equipped with automatic couplers.

The C.N.R. between June 15 and July 15 placed orders for the following rolling stock: 100 steel underframe flat cars with the Dominion Car and Foundry Co., Montreal; 15 cabooses with the Crossen Car Mfg. Co., Cobourg, Ont., and 3 sleeping cars in the U.S.

The Montreal Locomotive Works has made the following deliveries, recently: 11 Pacific type locomotives to the C.P.R., one 4-wheel to M. P. & J. T. Davis, 6 consolidation locomotives to the C.N.R., 2 mogul locomotives to the J.D. McArthur Co., and one 4-wheel locomotive to the Robertson Asbestos Co.

The C.N.R., between June 15 and July 15, received the following additions to rolling stock: 188 box cars from Rhodes, Curry & Co., Amherst, N.S.; 129 box cars from the Canada Car Co., Montreal; 4 box cars from the Crossen Car Mfg. Co., Cobourg, Ont.; and 8 consolidation locomotives from the Montreal Locomotive Works.

The Secretary of the Board of Railway Commissioners has given notice that railway companies subject to the Board's jurisdiction will be required, at the sittings to be held in Ottawa on Sept. 7, to show cause why all freight vans should not be equipped with coupler operating levers and with air gauge and air controlling valves to be located in the cupolas of the cabooses.

The C.P.R., between June 12 and July 14, placed orders for rolling stock, as follows: 2 tank locomotives, 1 Pacific locomotive, 5 freight locomotives, 10 box cars, 1 box baggage car, 5 freight refrigerator cars, 1 stock car and 15 flat cars at its Angus shops, Montreal; 1 van at its Farnham shops, Que.; and 125 steel flat cars and 3 steel coal cars at the Dominion Car and Foundry Co., Montreal.

Following are general dimensions of the 15 cabooses being built for the C.N.R. by the Crossen Car Mfg. Co., Cobourg, Ont. :—

Length over body end sills.....30' 0"
 " platform end sills.....35' 1 1/2"
 Width over side sills.....9' 1 1/2"
 Height from top of sill to bottom of plate.....6' 6"
 Outside of end sill to centre of bolster.....4' 10"
 Centre to centre of cross ties.....5' 4"
 Height, top of rail to centre of drawbar, 2' 10 1/2"
 Wheel base of truck.....5' 0"
 Couplers.....Janney, all steel

The Canada Car Co., Montreal, has recently received orders for rolling

stock as follows: 200 stock cars, 300 flat cars, 700 box cars and 200 refrigerator cars from the G.T.P.R.; 3 plow distributing cars, 125 Hart convertible cars and 10 Otis dump cars from the Hart-Otis Car Co., Montreal; 3 Lidgerwood unloaders from F. H. Hopkins and Co., Montreal; one 39-ton box car from the Hamilton Bridge Works Co., Hamilton, Ont., and 1 Lidgerwood unloader from the Allis-Chalmers Bullock Co., Montreal.

The C.P.R., between June 12 and July 14, received the following additions to rolling stock: 1 Mallet articulated compound locomotive, 7 observation cars, 6 mail and express cars, 4 second class cars, 16 box cars, 2 stock cars, 16 ballast cars, 6 freight refrigerator cars, 1 clearance car, from its Angus shops, Montreal; 8 vans from its Farnham shops, Que.; 324 steel coal cars from the Dominion Car and Foundry Co., Montreal; 4 locomotives from the Montreal Locomotive Works, and 2 locomotives from the American Locomotive Co.

The Montreal Locomotive Works has received an order from the Pacific Coast Coal Mines, Ltd., for one Columbia type locomotive, of which the following are the chief details:

Weight in working order.....79,000 lbs.
 Weight on drivers.....58,000 lbs.
 Weight on engine truck.....9,000 lbs.
 Weight on trailing truck.....12,000 lbs.
 Wheel base, driving.....7' 0"
 Wheel base, engine.....21' 6"
 Cylinders.....14" by 22"
 Driving wheels, diar.....44"
 Boiler, type.....straight top
 Boiler, diar.....42 3/4"
 Boiler, pressure.....160 lbs.
 Firebox.....42" by 35"
 Tubes, no. and diar.....92—2"
 Tubes, length.....10' 6"
 Brakes.....Westinghouse-American
 Capacity, water.....1,075 gals.
 Capacity, coal.....1/2 ton

Following are the chief details of the hump switching locomotive which the C.P.R. is building at its Angus shops, Montreal, as mentioned in our July issue:—

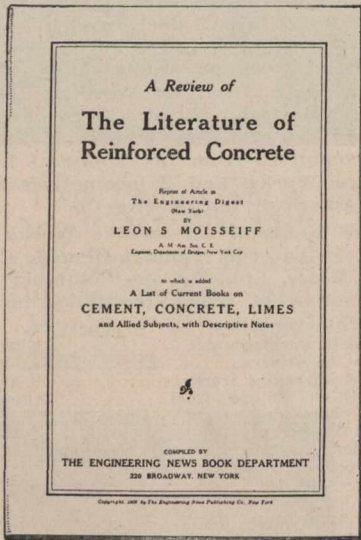
Weight.....185,000 lbs.
 Cylinders.....22 1/2" by 28"
 Drivers, diar.....52"
 Working pressure.....180 lbs.
 Heating surface, tubes.....2,305 sq. ft.
 " firebox.....182 sq. ft.
 Tubes, no. and diar.....349—2"
 " length.....12 ft. 7 3/8"
 Firebox.....8' 9 1/2" by 5' 9 1/4"
 Grate area.....49.7 sq. ft.
 Capacity, water.....5,000 imp. gals.
 " coal.....10 tons
 Air brakes.....Westinghouse ET 6
 Axles.....Open hearth steel
 Brake beams.....Simplex, trussed for tender
 Brake shoes.....C.P.R. standard
 Couplers.....Tower
 Journal bearings.....C.P.R. standard
 Springs.....C.P.R. crucible steel
 Tires.....Krupp crucible steel
 Driving wheel centres.....Cast steel
 Other " ".....Cast iron

Following are additional particulars to those we gave in our July issue of the 22 observation cars which the C.P.R. has recently put into service on its western lines, and which were built at its Angus shops, Montreal:—

Body and underframe.....Wood
 Axles.....5" by 9" M.C.B.
 Bolsters.....Double
 Brake beams, Simplex, high speed with adj. head
 Brake shoes.....Unflanged steel back diamond S.
 Brakes.....Westinghouse air high speed
 Couplers.....Tower passenger
 Heating system.....Gold with Frumveller heater
 Journal boxes.....McCord with steel inserts
 Platforms.....Standard Coupler Co.'s steel
 Roofs.....Standard passenger covered with canvas
 Seats.....Movable arm chairs of 3 types
 Springs.....38" duplex elliptic
 Trucks.....6-wheel with 5" by 9" journals
 Vestibules.....Pullman, wide
 Wheels.....36 1/4" steel tired
 Lighting.....Pintsch gas

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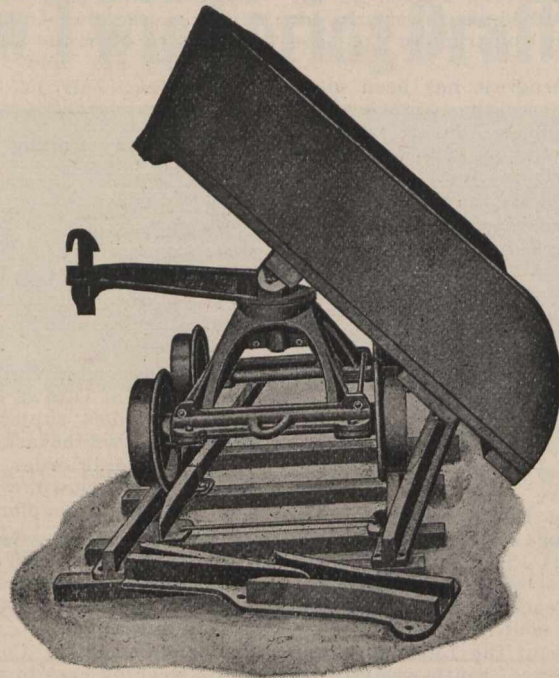
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IN CAPE BRETON, sixty miles of the Gulf of St. Lawrence shore is skirted by the Inverness Railway, which gives easy access to the Margaree valley—far-famed for its salmon fishing.

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

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

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

For literature and general or special information inquire of the information Bureau, Canadian Northern Railway System, Toronto.

Of the 22 cars, 11 have been built with 3 staterooms and drawing room, while the remainder have a smoking room, one state room and one drawing room. The cars are 72' 8" long, over end sills; 9' 10 1/2" wide, over frame. The observation platform, 6' 6" long, at the rear end, is enclosed by a massive brass rail and gate, and has chair accommodation for 15 passengers. The observation room is 25' 2" long, provided with 18 chairs of three different designs in padouk, upholstered in morocco leather. The walls are also finished in padouk, a wood similar to Spanish mahogany, but of a deeper red. The writing room, situated between the observation room and the buffet, is provided with a writing desk and chair, and occupies a space 4' 3". The staterooms are each provided with toilets, and are each 6' 4", as is also the drawing room, which has an annex of 4'. The smoking room, which takes the place of two staterooms in 11 of the cars, is 12' 8" long, with 8 movable chairs and 2 movable tables. A special point is made of the windows in the rear of the observation room, which are arranged to reach to within 12" of the floor, so that passengers may have an unbroken view of the scenery.

Following are general dimensions and chief particulars of the Pacific type simple superheater locomotive which the C.P.R. is building at its Angus shops, Montreal, for delivery in Nov.:-

Weight on drivers.....	136,000 lbs.
" total.....	215,000 lbs.
Cylinders.....	21" by 28"
Drivers, diar.....	69"
Boiler, type.....	Wagon top, radial stayed
pressure.....	200 lbs.
Heating surface, total.....	2,952 sq. ft.
Tubes, no. and diar.....	193-2 1/4" and 22-5"
length.....	19' 6"
Firebox.....	94 1/4" by 70"
Grate area.....	45.6 sq. ft.
Capacity, water.....	5,000 imp. gals.
coal.....	10 tons
Air brakes.....	Westinghouse ET 6
Axles.....	Krupp steel
Brake beams.....	Simplex trussed
Brake shoes.....	C.P.R. standard
Couplers.....	Toyer
Headlight.....	Pyle National Electric
Journal bearings.....	Canadian Bronze Co.
Sight feed lubricators.....	Detroit 5-feed
Steam heat equipment.....	Gold system
Tires.....	Krupp crucible steel
Wheel centres.....	Cast steel
Superheater.....	Vaughan and Horsley

Following are the general dimensions and chief particulars of the 5 consolidation locomotives which the C.P.R. is building at its Angus shops, Montreal, for delivery in Oct. and Nov.:-

Weight on drivers.....	168,150 lbs.
" total.....	198,350 lbs.
Cylinders.....	22 1/2" by 28"
Drivers, diar.....	56"
Boiler, type.....	Wagon top
pressure.....	180 lbs.
Heating surface, total.....	2,797 sq. ft.
Tubes, no. and diar.....	240-2" and 24-5"
length.....	14' 1 3/8"
Firebox.....	8' 0 5/8" by 5' 5 1/4"
Grate area.....	43 sq. ft.
Capacity, water.....	5,000 imp. gals.
coal.....	10 tons
Air brakes.....	Westinghouse ET 6
Axles.....	Mild steel
Brake beams.....	Simplex truss
Brake shoes.....	C.P.R. standard
Couplers.....	Toyer
Headlight.....	Pyle National Electric
Journal bearings.....	Canadian Bronze Co.
Sight feed lubricators.....	Detroit 5-feed
Springs.....	C.P.R. crucible steel
Steam heat equipment.....	Gold system
Tires, driving and truck wheels.....	Krupp crucible
Tires, tender wheels.....	Cast iron
Wheel centres.....	Cast steel
Superheater.....	C.P.R.

The Canadian Locomotive Co., Kingston, Ont., has received an order for one mogul locomotive from O'Brien, Fowler and McDougall Bros., contractors, Otta-

wa, of which the following are the chief particulars:-

Weight on drivers.....	102,000 lbs.
" total.....	117,000 lbs.
Wheel base of engine, rigid.....	14' 6"
" " total.....	22' 0"
" " and tender.....	47' 7"
Length over all, engine and tender.....	57' 0"
Width.....	10' 0"
Height.....	13' 9"
Heating surface, firebox.....	11.9 sq. ft.
" tubes.....	1,235 sq. ft.
" total.....	1,354 sq. ft.
Driving wheels, diar.....	50"
Driving wheel centres.....	Cast iron
Driving journals.....	9 1/2" by 10"
Cylinders.....	18" by 24"
Boiler type.....	Extended wagon top, radial stayed
pressure.....	180 lbs.
Tubes, no. and diar.....	200-2"
length.....	11' 10"
Brakes.....	Westinghouse automatic
Weight of tender loaded.....	92,000 lbs.
Capacity, water.....	3,800 imp. gals.
coal.....	8 tons
Truck, Type.....	4-wheel steel bolster
Truck wheels, diar.....	33"
" material.....	Chilled cast iron
Journal.....	5" by 9"
Brake beams.....	Steel

G. T. R. Betterments, Construction Etc.

Montreal Track Elevation.—The question of the elevation of the G.T.R. tracks in the city was further discussed by the Montreal City Council, July 6. A resolution was passed referring the subject again to the civic level crossings committee with instructions to request the G.T.R. to submit without delay plans, specifications and estimates to be prepared in conjunction with the city engineer.

Ottawa Terminal Station and Hotel.—The contract for the new joint terminal station has been let to P. Lyall & Sons, Montreal. A member of the firm was in Ottawa on that day and stated that work would be started at once. It is stated that the operations must necessarily be on a small scale at first until the staff in the present building can be moved into the baggage annex, which is to be used as a station until the new building is completed. This annex is in course of erection, the shed framework is partly erected and the bricklaying has been commenced. It was expected that work would have been so far completed by Aug. 1, that a beginning could be made in moving the staff from the present station. The old station building is to be torn down, and the new building will cover the old site and some adjacent land. The new station will be 140 ft. wide and 228 ft. deep. It will be four storeys high, and will be connected with the proposed new hotel on Major's Hill Park by a subway. The proposed buildings were fully described and illustrated in our July, 1908, issue.

The contract for the hotel to be called Chateau Laurier, is reported let to G. A. Fuller & Co., New York. The contract price has not been announced, but it may be mentioned that the building will cost about \$1,500,000.

Toronto Yards.—The Superintendent of Terminals at Toronto made an inspection of the yards in the vicinity of the Don River, July 16. On account of the straightening out of the Don River south of Queen St., by the City Council, the lay-out of the yards there will have to be changed somewhat, and it is desired, in connection with this work, to secure lands for an enlargement.

Toronto Belt Line.—Rumor is once more crediting the G.T.R. with having decided to reconstruct the old belt line round Toronto. The story now being

circulated is that the reconstruction is to be undertaken so that it can be utilized for freight trains running between Mimico yards on the west, and York yards on the east.

London Improvements.—The Mayor of London, Ont., met a number of G.T.R. officials at Toronto, July 10, and discussed the question of track elevation, etc., with them. He says he is confident that the company and the city representatives will get together very shortly, and that some arrangement as to what is to be done will be arrived at.

Canada-United States Tunnels.—The G.T.R. has a single track tunnel connecting Sarnia, Ont., with Port Huron, Mich., the trains being hauled through it by electric locomotives; and the Michigan Central Rd. is constructing a double tube tunnel, to connect Windsor, Ont., with Detroit, Mich. Trains will also be hauled through this tunnel by electric locomotives. Press reports recently credited the G.T.R. with having surveys made for the construction of a second tunnel between Sarnia and Port Huron, and for the construction of a tunnel between Windsor and Detroit. We were officially advised, July 16, that the management is not aware of any such project, and that the company's St. Clair tunnel, between Sarnia, Ont., and Port Huron, Mich., meets all its present requirements.

Pipes in Rail Ingots.

E. C. Washburn writes from Minneapolis, Minn.:—"While Manager of the Washburn Steel Castings and Coupler Co., I had several difficult casting propositions; to wit, to secure sound castings without blow holes. One of the usual ways to overcome this difficulty is to use a larger riser, or head; and to secure enough molten metal from these heads to take care of the contraction in the cooling casting, is the question to be solved. It is customary to reduce the end or neck of the riser, where it meets the mold, so as to avoid heavy sawing in removing the feeder from the casting. But when this neck is reduced enough to make its removal practical, it is of such a small size that the sand will freeze or cool it and so cut off the necessary supply of molten metal in the riser or feeder. To overcome this difficulty, I designed a clay pot, patterned exactly on the order of a flower pot, but having a hole of sufficient diameter in the bottom for the hot metal to feed through. This pot was set directly on the pattern, and rammed up with the mold with the usual pouring gate. The result was that the hot metal, after filling the mold, passed up through the bottom of the pot until it was filled. In doing this it heated the clay of the bottom of the pot to practically the temperature of the steel. Then, as the casting cooled, the molten metal fed into the casting through this hole, at times drawing almost the entire inside from the riser, and giving an absolutely sound casting, connected to the riser by the neck, which being only two inches in diameter, was readily broken with a heavy sledge. This type of riser can be easily applied to rail-ingot molds by setting on the mold a metal casing, carrying a heavy fire-clay pot inside, which not only retains the heat in the head and gives a sound ingot its entire length, but does it in a very cheap and practical way.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1907-08, from July 1, 1908:

	Earnings.	Expenses.	Net Earnings.	Net Increase or Decrease.
July	\$ 728,500	\$525,600	\$202,900	\$159,000-
Aug.	747,400	561,300	186,100	30,400-
Sept.	901,700	650,600	251,100	42,000+
Oct.	1,172,700	752,600	420,100	110,200+
Nov.	1,156,900	744,300	412,600	144,300+
Dec.	927,900	642,800	285,100	42,400+
Jan.	526,200	425,900	100,300	15,400-
Feb.	502,000	409,200	93,400	9,700+
Mar.	738,700	534,200	204,500	32,600+
Apr.	741,200	517,300	223,900	63,200+
May	720,100	537,200	182,900	51,100+
June	805,000	572,500	232,500	20,700+
	\$9,668,900	\$3,873,500	\$2,795,400	\$311,400+
Inc.	\$ 656,500	\$ 345,100	\$ 311,400	.....
or				
Dec.				

Approximate earnings for 3 weeks ended July 21, \$582,300 against \$500,700 for same period 1908.

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

Gross earnings, working expenses, net profits, increases or decreases over 1907-8, from July 1, 1908:

	Earnings.	Expenses.	Net Profits.	Net Increase or Decrease.
July	\$6,292,889.82	\$4,018,207.57	\$2,274,682.25	\$232,279.41-
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,044.71	2,114,627.77	36,745.58-
Oct.	7,381,970.41	4,726,703.70	2,655,266.71	25,050.93-
Nov.	7,303,303.20	5,082,223.85	2,221,079.35	223,954.86-
Dec.	6,955,874.11	4,759,122.54	2,196,751.57	119,561.99+
Jan.	4,761,859.93	4,372,110.10	389,749.83	234,241.95-
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
Mar.	6,513,763.14	4,715,055.01	1,803,708.13	502,678.64+
Apr.	6,384,033.32	4,240,530.80	2,143,502.52	421,273.08+
May	6,420,640.04	4,493,779.55	1,926,860.49	245,365.25+
	\$69,763,167.28848	\$43,693,019.17	\$26,070,148.11	\$950,277.96+
Inc.	\$3,934,828.60	\$2,984,550.64	\$950,277.96	.....
or				
Dec.				

Approximate earnings for June, \$6,354,000, and for 2 weeks ended July 14, \$3,232,000; against \$5,458,000 and \$2,806,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for May, \$255,042.79; net revenue, \$77,975.89, against \$195,134.53 gross revenue and \$37,503.91 net revenue for May, 1908. Aggregate gross revenue for 11 months ended May 31, \$2,555,031.47; net revenue, \$780,381.81, against \$2,805,610.07 aggregate gross revenue and \$763,301.75 net revenue for same period 1907-08. Approximate gross earnings for June, \$280,151, against \$206,763 for same period 1908.

MINERAL RANGE RD.—Gross revenue for May, \$67,540.33; net revenue, \$6,075.62, against \$65,786.44 gross revenue and \$6,106.33 net revenue for May, 1908. Aggregate gross revenue for 11 months ended May 31, \$758,839.89; net revenue, \$122,930.68, against \$740,258.31 gross revenue and \$110,977.17 net revenue for same period 1907-08. Approximate gross earnings for June, \$66,026 against \$68,786 for same period 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for May, \$987,963.73; net earnings, \$353,923.35; against \$736,755.97 gross earnings; \$88,927.38 net earnings for May, 1908. Aggregate gross earnings for 11 months ended May 31, \$11,536,672.70; net earnings, \$5,033,571.79; against \$10,589,104.49 gross earnings, and \$4,016,829.93 net earnings for same period 1907-08. Approximate gross earnings for June, \$987,836, against \$829,224 for same period 1908.

Grand Trunk Ry. Earnings, Expenses, Etc.

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

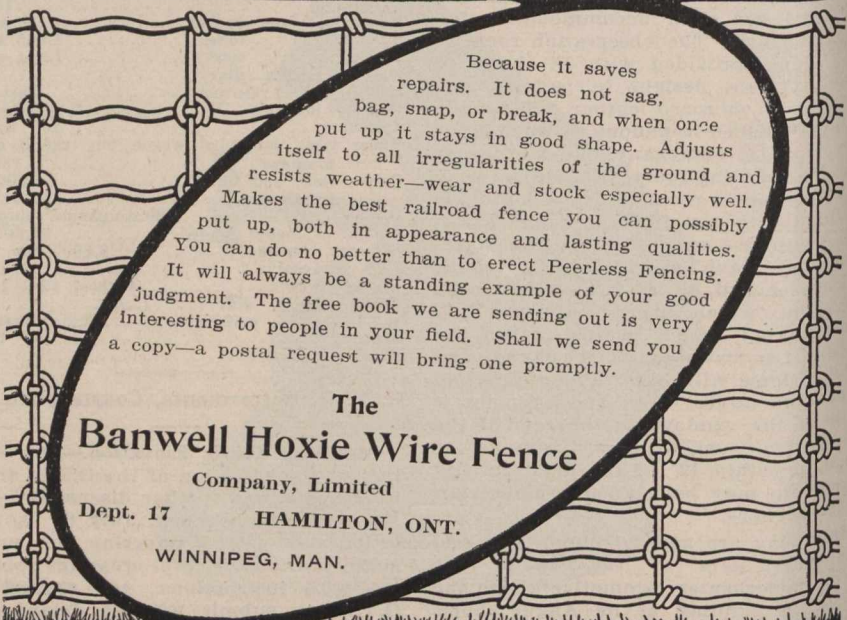
	1909.	1908.
Earnings	\$2,481,600	\$2,472,986
Expenses	1,554,700	1,570,088
Net earnings	\$926,900	\$902,898
CANADA ATLANTIC RAILWAY.		
Earnings	\$154,600	\$149,509
Expenses	135,900	159,249
Net earnings	\$18,700	*\$9,740
GRAND TRUNK WESTERN RY.		
Earnings	\$461,300	\$364,763
Expenses	331,100	339,926
Net earnings	\$130,200	\$24,837
DETROIT, GRAND HAVEN & MILWAUKEE RY.		
Earnings	\$142,200	\$111,523
Expenses	114,300	117,367
Net earnings	\$27,900	*\$5,844

*Deficit.

Approximate earnings for June, \$3,506,056, and for 2 weeks ended July 14, \$1,558,155, against \$3,420,857, and \$1,477,846 for same periods 1908.

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Aggregate from Jan. 1 to June 30.

	1909	1908	Inc.	Decr.
Grand Trunk....	\$2,864,776	\$2,805,092	\$59,684
Canada Atlantic...	166,093	155,087	11,006	.....
G. T. Western....	553,860	514,678	39,182	.....
D. G. H. & M....	160,325	140,458	19,867	.....
Total.....	\$3,745,054	\$3,615,315	\$129,739	.....

A. W. Barber, Superintendent C.P.R. Telegraphs, Toronto, died there, July 29, of diabetes.

Icebreaking Steamship Earl Grey.

The success of the ice-breaking and surveying steamship Lady Grey, built for the Dominion Government some three years ago, has encouraged further development in the same direction. This earlier vessel, Lady Grey, has done efficient work in breaking up the ice in the St. Lawrence River, and when not thus engaged has performed various duties for the Marine and Fisheries Department Board. The Government, therefore, decided to order another and larger vessel, and this one, which was launched by Vickers, Son and Maxim, Ltd., at Barrow-in-Furness, Eng., June 18, marks developments, especially in size and speed. The Marine Department officials decided, in the interests of economy, carefully to consider the uses to which such a vessel could be put when there was no ice. The problem was a difficult one, as the great strength necessary for ice-breaking involved a special form of hull, but the builders' experience enabled them to guarantee 17 knots, while forfeiting nothing of the essential qualities required for maintaining a free passage through ice. With the promise of this high speed, it was decided to fit the new vessel for passenger service, and she also has special quarters, so that she may be used as a yacht by the Governor-General, and is therefore appropriately named Earl Grey. In view of this, the designers have achieved very satisfactory success, so far as the appearance of the vessel is concerned. While the strength of the hull is obvious at a glance, grace has been lent to the appearance not only by fine shear, but by the adoption of a cut-water stem and a short bowsprit, an elliptical stern, and two steel pole-masts, which have a considerable rake and are schooner-rigged.

A closer examination shows that a consideration of strength has dominated the design of the hull, in order that effective work may be done amongst the heavy ice-fields of the Northumberland Straits and the Gulf of St. Lawrence. The frames are very closely spaced, in order to take up the thrust of the pack-ice, which will, at times, be piled around the vessel. The shell-plating is thicker than usual, and the outer skin is doubled along the water-line right fore and aft and to the bottom of the keel in the forebody, where the friction of the ice tends, in the case of ice-breaking steamers, to wear away the material faster than in ordinary marine practice. The procedure is to drive the ship forward until the fore body glides on to the floe to crush the ice. In order that the weight may be increased at will large tanks are built into the structure, and the pumps for filling and emptying these tanks deal with 250 tons of water an hour. The vessel is also equipped for breaking ice when going astern, and the counter has been suitably strengthened

to resist shocks. The rudder takes the form of the vessel, so that the movements of the ship are not in any way impeded by the ice floes.

The dimensions of the vessel and those of the earlier one, the Lady Grey, are as follows:—

	Lady Grey.	Earl Grey.
Length between perpendiculars	172 ft.	250 ft.
Breadth, moulded	32 ft.	47 ft. 6 in.
Depth, moulded	18 ft.	26 ft. 6 in.
Draught, normal	12 ft.	17 ft. 7 in.
Displacement	1,055 tons.	3,400 tons.
Speed	14 knots.	17 knots.

The arrangement for the accommodation of passengers is on the promenade, upper, and main decks, while above this is the bridge-deck, which contains quarters for the captain and navigating officers in the deck-house, the roof of which serves also for the navigating bridge. The apartments for the Governor-General, together with the smoking-room, are placed in the deck-house on the promenade deck, in which also there is arranged the entrance-hall and lounge for first-class passengers. A broad companionway leads down to the upper deck, where there are arranged state rooms for 50 first-class passengers, as well as the first-class dining-saloon, pantry, galley, etc. The chief engineer has his quarters close to the engine-room, and the petty officers of the ship are also accommodated on this deck. The mail-rooms are aft on this deck, and the seamen are accommodated forward. The second-class accommodation, which affords room for 20 passengers, is on the main deck, where also the remainder of the engineers and others of the crew of the ship have their accommodation. On this level, too, there is a hold for light cargo.

The vessel is sub-divided into numerous water-tight compartments, and the doors of the principal compartments are so constructed that they can be closed simultaneously from the navigating bridge. A water-tight bunker-bulkhead extends on each side of the vessel throughout the length of the boiler-rooms, and a double bottom is fitted for almost the entire length of the vessel. The vessel is lighted throughout with a complete system of electric light, and is heated by steam. Arrangements are provided for rapidly handling the cargo and for coaling expeditiously.

The machinery is of the triple-expansion three-crank type, and in the design the heavy stresses to which the vessel will be subjected in ice-breaking have had special consideration. Consequently, the shafting and the working parts are of considerably greater strength than usual. This also applies to the propellers, which are of the four-bladed built-up type. The blades, which, like the bosses, are of cast steel, are of exceptional strength for working through ice. The engine cylinders are 27 1/2 in., 43 in., and 70 in. in diameter respectively, with a stroke of 39 in. Steam is supplied at a working pressure of 180 lbs. from four boilers of the cylindrical type, 15 ft. in diameter. Two of these are double-ended, being 21 ft. long, and two single-ended, 11 ft. long. The boilers are fitted with furnaces of the Morison suspension type, and work with a system of forced draught, the air being supplied by three fans driven by enclosed forced lubrication engines. The main condensers are cylindrical in form, and independent twin air-pumps are provided. There is also an auxiliary condenser capable of dealing with the whole of the steam from the

auxiliary engines, and having separate air-pumps.

Special arrangements have been made in connection with the pumping plant, owing to the special duty of the ship in the ice-floes. In the event of the ordinary suction or discharge valves being choked with ice, the circulating water may be drawn from or discharged into a part of the double bottom, two frame-spaces being specially divided off for this purpose. In the way of these the outer skin of the ship is perforated in such a manner as to give a large area for the passage of the circulating water. Steam-jets are arranged on the branches of all sea inlet valves, to enable them to be cleared of ice as occasion arises. A ballast-pump of the centrifugal type, capable, as already stated, of dealing with 250 tons of water an hour, is fitted in the engine-room, with connections for transferring water between the forward and aft tanks when trimming the vessel for making its way through the ice. In addition to the usual feed, bilge, and sanitary pumps, the machinery department is fitted with evaporating plant, grease-extractor, feed-heater, and ash-expellers, the equipment generally embodying the latest up-to-date practice for this class of vessel. A workshop for repairing purposes is installed on the vessel, the lathes and other machines being driven by electric motor. The machinery, like the ship, has been built to the requirements of the Board of Trade, Lloyd's Registry of Shipping, and the Canadian Steamboat Inspection Act.

Preliminary descriptions of this vessel were published in our issues of April, 1908, and April, 1909, and an illustration of the profile in our issue of May, 1908.

Wythe—"I don't know what to do with my boy. He seems to know nothing. Cannot remember a thing, and is irritable and cross."

Smythe—"Why don't you get him in the bureau of information at some railway station?"

An order in council has been passed, rescinding article 9 of the regulations for the prevention of collisions at sea, and as to signals of distress, and substituting a new article applicable to all navigable waters within Canada, or within Dominion jurisdiction, excepting Lakes Superior and Huron, Georgian Bay, Lakes Erie and Ontario, their connecting and tributary waters, and the St. Lawrence River as far east as the lower exit of the Lachine canal and the Victoria Bridge, Montreal.

Protection or Elimination of Grade Crossings.

The Board of Railway Commissioners' Secretar, has issued the following circular:—"It is apparent from the legislation of last session, the discussion of Parliament, and the general expression of public opinion, that the Board is expected to initiate a definite movement towards the elimination of grade crossings and the protection of others that may be regarded as dangerous. It is the desire of the Board to deal with this important matter in a way that will not be unreasonably onerous upon the railway companies, but at the same time it fully appreciates the fact that little can be accomplished without large expenditure, and, therefore, it is particularly anxious that no mistakes shall be made,

and that no expense shall be incurred that is not fully warranted. The Board has for some time been collecting information and particulars regarding crossings that require protection, but before acting in the matter thought the proper course to pursue would be to ask the railway companies themselves to furnish a list of crossings upon their lines that in their opinion should be the ones to make a start at, as it would seem that those upon whom the responsibilities of railway operation rest should be the best informed as to the crossings upon their various lines that are the most dangerous. If this course is followed, it is felt that it will materially assist in directing expenditures at points where the greatest benefit to all concerned will ensue, but upon the other hand if the companies, or any of them, have objections to this suggestion, the Board trusts they will feel at perfect liberty to disregard it. If it is thought desirable to co-operate with the Board, the information given should cover crossings upon the whole system of each company and should not be confined to any one province or locality. Subject to hearing the views of the companies, it is the present intention of the Board to select a certain number of crossings each year, call all persons, corporations and companies that it may be thought should contribute, before the Board and after hearing all concerned, direct the character of the protection and apportion the cost. The Board will be glad to have suggestions from the companies upon this matter submitted in writing by, say, Oct. 1."

On July 23 the Board made its order under last session's legislation above referred to, in connection with which Parliament voted \$200,000 for the current year, with the understanding that a similar sum will be voted for each of the succeeding four years. The crossing dealt with is at Raglan St., Renfrew, Ont. The Board has ordered its protection by gates, 20% of their cost be paid out of the Parliamentary vote, the balance by the C.P.R. The watchman's wages are to be paid equally by the C.P.R. and the town.

Fences, Gates and Cattle Guards.

The Board of Railway Commissioners of Canada has passed order 7473, dating it back to May 4:—Re complaints against railway companies for non-compliance with provisions of statute regarding fences and cattle guards and public highway crossings: Upon hearing complaints from many individuals, public bodies, and municipalities, that railway companies are not complying with the provisions of sec. 254 of the Railway Act, and that much hardship is caused by the exemption provided for in sub-sec. 4 of the said section; and upon request being made that the Board intervene as provided for by the said sub-section; and upon hearing what was said on behalf of the railway companies —It is ordered that all railway companies subject to the Board's jurisdiction, shall, as to all railway lines completed, owned, or operated by them, where the lands on either side of the railway are not enclosed, settled, or improved:

On or before Jan. 1, 1911, erect and maintain, on each side of the right of way, fences of a minimum height of 4½ ft., with swing gates, at farm crossings, with minimum height aforesaid, with

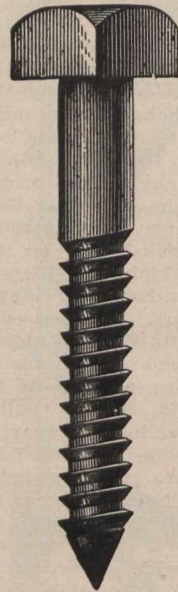
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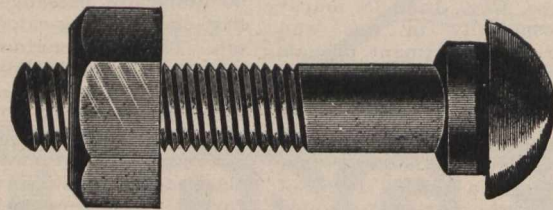
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RAILWAY FREIGHT STATISTICS.

The following table shows the total tonnage of freight carried by Canadian railways during the year ended June 30, 1908, together with the tonnage originating on the several roads, and the tonnage received from connecting roads and other carriers.

Name of Railway.	Tonnage originating on road.	Tonnage received from connecting roads and other carriers.	Total Freight Tonnage.
Alberta Ry. and Irrigation Co.....	77,697	18,486	96,183
Algoma Central and Hudson Bay	366,810	259	367,069
Atlantic and Lake Superior	32,241	.....	32,241
Bay of Quinte.....	268,549	.....	268,549
Bedlington and Nelson.....	1,251	804	2,055
Beersville Coal and Ry. Co.....	11,082	.....	11,082
Bessemer and Barry's Bay.....	.....	.....	.....
Brandon, Sask. and Hudson Bay	29,160	12,283	41,393
British Yukon	3,178	28,974	32,152
Brockville, Westport and Northwestern.....	11,086	13,309	24,395
Buctouche and Moncton.....	.....	26,621	26,621
Canada Coals and Ry. Co.....	83,698	3,055	86,753
Canada Southern	534,638	5,397,709	5,932,347
Canadian Government Railways—			
Intercolonial	3,629,682	378,859	4,008,541
Prince Edward Island	90,599	7,991	98,590
Canadian Northern	2,615,580	.....	2,615,580
Canadian Northern Ontario	92,098	.....	92,098
Canadian Northern Quebec	229,063	228,047	457,110
Canadian Pacific	10,736,619	3,495,687	14,232,306
Cape Breton	1,695	1,230	2,925
Caraquet	6,102	7,276	13,378
Carillon and Grenville	78	.....	78
Central Ontario	153,866	80,225	234,091
Crow's Nest Southern	177,321	51,205	228,526
Cumberland Ry. and Coal Co.....	314,954	19,455	334,409
Dominion Atlantic	292,998	62,972	355,970
Elgin and Havelock	12,600	3,305	15,905
Grand Trunk	7,857,014	4,616,209	12,473,223
Grand Trunk (Canada Atlantic)	664,844	1,413,891	2,078,735
Halifax and Southwestern	149,849	32,212	182,061
Hampton and St. Martins	10,158	1,269	11,427
Hereford	180,563	6,130	186,693
Inverness Ry. and Coal Co.....	313,904	8,571	322,475
Irondale, Bancroft and Ottawa	21,803	3,865	25,668
Kaslo and Slocan	8,444	839	9,283
Kent Northern .....	.....	.....	.....
Kettle River Valley	27,411	139	27,550
Kingston and Pembroke	90,284	31,882	122,166
Klondyke Mines	6,502	.....	6,502
Liverpool and Milton .....	.....	.....	.....
Lotbiniere and Megantic	48,953	1,963	50,916
London and Port Stanley	85,419	379,997	465,416
Manitoulin and North Shore	249,963	578	250,541
Massawippi Valley	81,200	432,998	514,198
Midland Ry. of Manitoba	18,461	31,709	50,170
Montreal and Atlantic	133,352	789,542	922,894
Montreal and Province Line	14,823	63,845	78,668
Montreal and Vermont Junction	6,532	740,586	747,118
Morrissey, Fernie and Michel	560,225	28,228	588,453
Maganetawan River .....	.....	12,429	12,429
Napierville Jct. Ry.....	2,255	53,774	56,029
Nelson and Fort Sheppard	30,678	7,846	38,524
New Brunswick Coal and Ry. Co.....	52,419	2,441	54,860
New Brunswick and P. E. Island	32,206	7,656	39,862
New Brunswick Southern	26,944	445	27,389
New Westminster Southern	25,615	61,058	86,673
Nosbonsing and Nipissing .....	.....	.....	.....
Nova Scotia Steel and Coal Co.....	4,990	1,218	6,208
Orford Mountain	21,281	6,089	27,370
Ottawa and New York	24,007	71,407	95,414
Pere Marquette Rd.....	3,604	2,240	5,844
Phillipsburg Ry. and Quarry Co.....	.....	135,925	135,925
Princeton Branch, Washington Co. Ry.....	289,585	1,579,691	1,849,276
Quebec Central	749,675	.....	749,675
Quebec and Lake St. John	260,862	84,596	345,458
Quebec Ry. Light and Power Co.....	104,678	6,210	110,888
Quebec, Montreal and Southern	35,440	438,701	474,141
Red Mountain	86,605	28,776	115,381
Rutland and Noyan .....	.....	336,180	336,180
Salisbury and Harvey	34,797	4,453	39,250

proper hinges or fastenings; and cattle guards on each side of the highway at every highway crossing, at rail level; provided that sliding or hurdle gates, constructed before Feb. 1, 1904, may be maintained.

The railway fences at every highway crossing shall be turned into the respective cattle guards on each side of the highway.

All fences, gates, and cattle guards shall be suitable and sufficient to prevent cattle and other animals from getting on the railway.

As to lines not yet completed or opened for traffic, or in course of construction, all such companies shall erect fences, gates, and cattle guards as aforesaid as the rails are laid. If not yet opened for traffic, then such fences, gates and cattle guards as aforesaid shall be erected and maintained before such railway shall be opened for traffic. Where the railway is being constructed through enclosed lands, it shall be the duty of the railway company to at once construct such fences or take such other steps that will prevent cattle and other animals escaping from such enclosed lands.

As to all railway lines completed, owned, or operated, where the lands on either side of the railway are enclosed, settled or improved, such company shall erect and maintain such fences, gates and cattle guards, and in all respects comply with sec. 254 of the Railway Act, on or before Oct. 15, 1909.

Where it shall be made to appear to the Board that no necessity exists for the fencing or other works hereinbefore directed, the company or companies may apply to the Board for exemption from fencing, and other works, and such exemptions may be made as the Board deems proper.

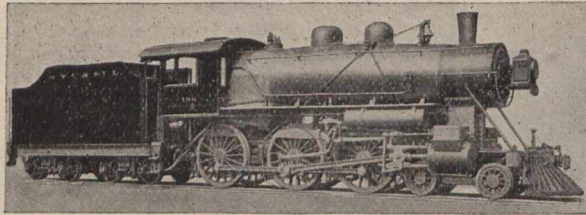
All railways now in operation shall, within the time aforesaid, construct and maintain suitable and proper highway crossings, except such as may have already been covered by previous orders apportioning cost of providing for liability for maintenance, at all such as are being used for travel, and additional ones at once upon such highways being from time to time opened and used for travel.

All railways not yet opened for traffic, or hereafter constructed, shall, before the same are opened for traffic, construct and maintain suitable and proper highway crossings at all such as are being used for travel, and additional ones at once upon such highways being from time to time opened and used for travel.

All such crossings shall comply with the standard conditions of the Board, in so far as the same may be applicable, which are as follows:—That unless otherwise ordered by the Board, the width of approaches to rural railway crossings over highways be 20 ft. road surface on concession and main roads and sixteen feet on side and bush roads. That a strong substantial fence or railing, 4½ ft., with a good post-cap, 4 x 4 ins, a middle piece of timber, 1½ x 6 ins., and a 10-in. board firmly nailed to the bottom of the posts to prevent snow from blowing off the elevated roadway, to be constructed on each side of every approach to a rural railway crossing where the height is six feet or more above the level of the adjacent ground, leaving always a clear road-surface 20 ft. wide. That the width of approaches to rural railway crossings made in cuttings be not

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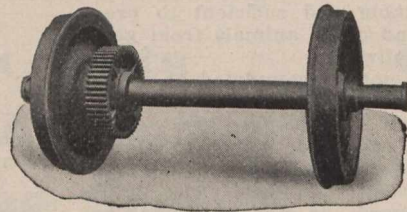
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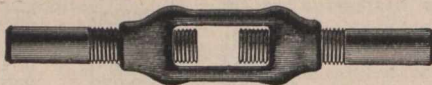


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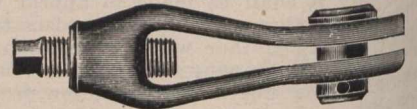
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THOS. C. IRVING,
 Gen. Man. Western Canada, Toronto.

Name of Railway.	Tonnage originating on road.	Tonnage received from connecting roads and other carriers.	Total Freight Tonnage.
Schomberg and Aurora	3,120	.....	3,120
Stanstead, Shefford and Chambly	12,721	751,803	764,524
St. Clair Tunnel .....	.....	.....	.....
St. Lawrence and Adirondack	7,838	653,410	661,248
Sydney and Louisburg	3,447,413	111,979	3,559,392
Temiscouata	132,584	15,885	148,469
Temiskaming and Northern Ontario	273,796	161,134	434,930
Thousand Islands	30,171	.....	30,171
Toronto, Hamilton and Buffalo	126,023	1,055,700	1,181,723
Vancouver, Victoria and Eastern	720,200	151,922	872,122
Vancouver, Westminster and Yukon .....	.....	.....	.....
Victoria and Sidney, B.C. ....	.....	29,724	29,724
Victoria Terminal Ry. and Ferry Co.	29,724	.....	29,724
Wabash Rd. (in Canada)	1,200,915	.....	1,200,915
Wellington Colliery Co.	277,350	3,160	280,510
Wellington Colliery Co. (Ladysmith Extension) ..	483,347	.....	483,347
York and Carleton	8,149	2,179	10,328
Total	38,821,418	24,198,482	63,019,900

to move to extend the time for compliance therewith.

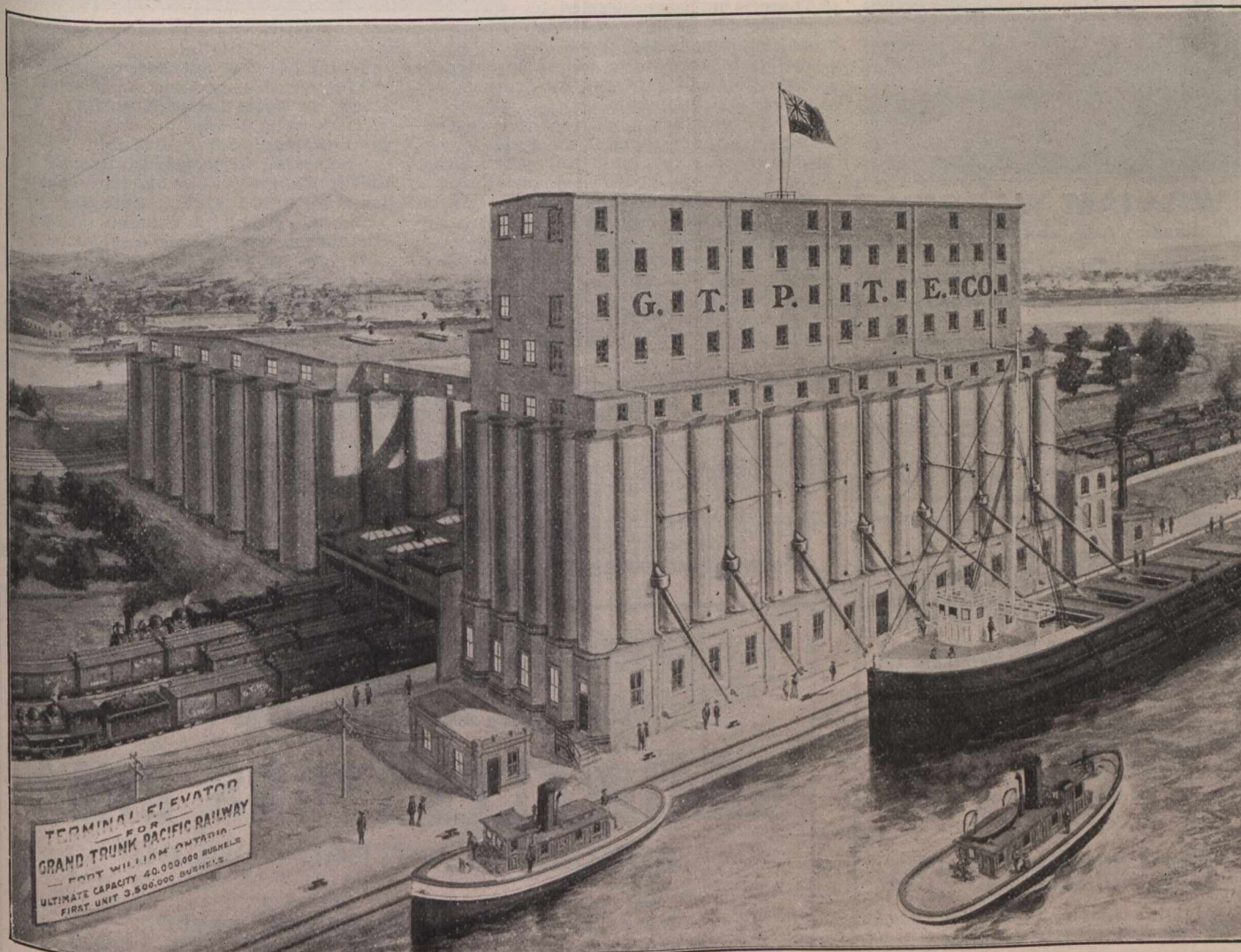
Rhodes, Curry & Co., Limited, car builders, etc., Amherst, N.S., is being re-organized and additional capital introduced. Up to July 26 particulars had not been made public, but it is said that the stock will be offered to the public by C. Meredith & Co., Ltd., and the Royal Securities Co., of Montreal, and that W. B. Tennant and J. M. Robinson & Son, of St. John, N.B., are also interested. Press reports say that \$1,850,000 of preferred stock and \$1,000,000 of common stock will be issued, and that the preferred will be offered at 92½ with a bonus of 20% of common. While the introduction of additional capital will provide for the further extension of Rhodes, Curry & Co.'s already very extensive business, we have reason to believe that there will be no change in the management of the company or in its officers.

Notice is given that Rhodes Curry Company, Limited, has been incorporated under the Dominion Companies Act, with a capital stock of \$3,000,000, divided into 30,000 shares of \$100, and with head office at Amherst. The provisional directors named are E. F. Surveyer, K.C., G. V. Cousens, Manager, and F. C. Clarke, S. B. Hammond and H. G. Boyle, accountants, Montreal.

less than 20 ft. clear from bank to bank. That, unless otherwise ordered by the Board, the planking or paving blocks, or broken stone topped with crushed rock screenings, on rural railway crossings over highways (between the rails and for

a width of at least 8 ins. on the outer sides thereof) be 20 ft. long on concession and main roads, and 16 ft. on side and bush roads.

Leave may be reserved to each of the railway companies affected by this order

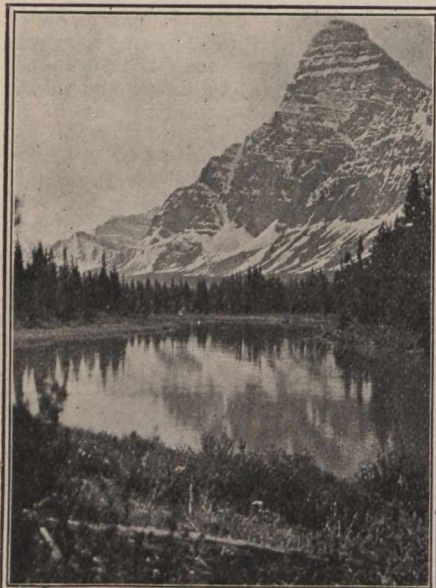


GRAND TRUNK PACIFIC TERMINAL ELEVATOR CO.'S ELEVATOR AT FORT WILLIAM, ONT.
The above is an illustration of the G.T.P.T.E. Co.'s grain elevator to be erected at Fort William, Ont., a full description of which appeared in our Jan. issue.

Railway Telegraph Superintendents' Association.

At the recent convention at Detroit, Mich., the retiring President, W. J. Camp, Superintendent C.P.R. Telegraphs, Montreal, referred to the death of four members of the Association which had occurred during his year of office, among them being those of P. W. Snider, Superintendent C.P.R. Telegraphs, St. John, N.B., and E. H. Millington, Superintendent M.C.R. Telegraphs, Detroit, Mich., which latter occurred at St. Thomas, Ont.

A number of changes were made in the constitution, among them being that regular meetings of the eastern division are to be held in Nov. and Mar., and of



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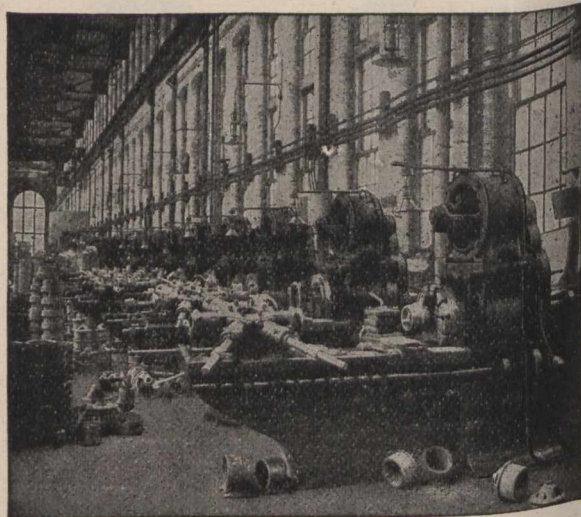
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Then you will be interested in the Western Electric Individual Motor Drive for the Railroad Shop.

Let us give you some facts—

First, with Western Electric Individual Motor Drive you pay only for the power used in actual production. There is no power wasted in turning idle pulleys, shafting, and slipping belts. From actual tests, this waste power amounts to from 25 to 50% of the total power delivered by the engine.

You know how important it is to perform every operation at the greatest possible speed. Now, on a belt driven lathe, the cone steps give speed variations of about 50% each. If the first speed is too high for the operation, the next choice of speed is 50% lower than necessary. With the Western Electric variable speed motor any desired speed can be maintained without inconvenience to the operator. Consequently the speed of the operation is greatly increased and the



machine becomes much more productive. The portable machine, an absolute necessity in operation on very large work, is made reliable and practical by means of the electric motor drive.

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the western division in Sept. and Jan. each year; the addition of a second vice president, and the raising of the annual dues. The reports of the various committees and some papers were read and discussed as follows:—High Tension Wire Crossings; Efficiency of Office Organization; Preservation of Poles; Wire Testing and Care of Wires; Difference Between the Trouble Shooter and the Division Lineman; Telephone Construction; and Dry Batteries.

Among the new members elected were: J. McMillan, Superintendent C.P.R. Telegraphs, Calgary, Alta.; and J. Tait, Superintendent C.P.R. Telegraphs, Winnipeg. The Canadian visitors present included W. J. and Mrs. Camp, W. W. and Mrs. Ashald, A. B. Smith, G. T. Rooke, T. and Mrs. Rodger, H. D. Crouch, Montreal; I. McMichael, W. Marshall, W. J. Duckworth, A. W. and Mrs. Stanley, Toronto; J. and Mrs. McMillan, Calgary, Alta.; F. T. Jennings, North Bay, Ont.; C. E. Davies, Ottawa; E. Pope, Quebec.

The officers for the current year are:—President, J. L. Davis, Superintendent Chicago and Eastern Illinois Rd. Telegraphs, Chicago, Ill.; First Vice President, I. T. Dyer, Superintendent San Pedro, Los Angeles and Salt Lake Rd. Telegraphs, Los Angeles, Cal.; Second Vice President, G. A. Cellar, Superintendent Pennsylvania Rd. Telegraphs west of Pittsburg, Pittsburg, Pa.; Secretary and Treasurer, P. W. Drew, Superintendent Chicago Division Minneapolis, St. Paul and Sault Ste. Marie Ry. Telegraphs, Chicago, Ill.

Grain Elevator Note s.

The John Campbell Milling Co.'s elevator at Port Stanley, Ont., took fire July 1 and did damage to the extent of \$500.

The Alameda Farmers' Elevator and Trading Co., Ltd., Alameda, Sask., has increased its capital from \$20,000 to \$80,000.

The West Coast Grain Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Calgary, Alta.

The Melfort Farmers' Elevator Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Melfort, Sask.

The Kinistino Milling and Elevator Co., Ltd., has been incorporated under the North West Territories Companies Ordinance, with office at Kinistino, Sask.

The Western Terminal Elevator Co., Ltd., incorporated under the Dominion Companies Act, has been licensed to carry on business in Ontario, with J. I. Irwin, Fort William, as its attorney.

The Northern Elevator Co.'s elevator at Arcola, Sask., caught fire recently. The damage to the structure was comparatively small, but the contents, about 5,000 bush. of wheat, were destroyed by water.

At a meeting of directors of the Montreal Grain Elevating Co., July 3, a resolution was adopted recording the sense of the loss the company had sustained through the death of A. T. Paterson, who was President for 8 years, and a director for 45 years.

It is reported that 56 elevators have already been erected in Saskatchewan this season, and it is said that before the end of the season 200 will have been erected with a capacity of 6,000,000 bush., increasing the total elevator capacity of the province to 24,139,500 bush.

The Carlyle Farmers' Elevator Co. at

its recent annual meeting resolved to build an elevator of 25,000 bush. capacity, at a cost of about \$6,000, to replace the one destroyed last winter by fire. It has not yet been decided whether it is to be built on the C.P.R. or the C.N.R.

The Cummings Grain Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$150,000 and office at Calgary, Alta., to construct, acquire and operate country and terminal elevators. The provisional directors are: W. K. Chandler, E. Lockington, H. Phillips, R. J. McClelland, E. A. Fletcher, Winnipeg.

The elevator which the Ogilvie Milling Co. is about to erect at Fort William, Ont., will consist of 16 concrete tanks, each 21 ft. diam., by 104 ft. high. It will be erected east of the company's present elevator and work house, and will give an additional 1,250,000 bush. capacity. The work, it is anticipated, will be completed by Nov. 15.

The British Empire Grain Co., Ltd., has been incorporated with a capital of \$500,000 and office at Winnipeg, to own, operate and carry on a grain, milling, elevator and warehouse business, and to construct, own and operate all or any conveyances necessary for transportation of products by land and water. The provisional directors are: A. P. Stuart, E. S. Jaques, G. R. Crowe, P. J. Montague, W. S. Boyd, Winnipeg.

The Export Grain Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$200,000 and office at Brandon, Man., to carry on a general grain and flour manufacturing business, and in connection therewith to build and operate grain elevators, warehouses, etc. The provisional directors are: J. H. R. Gillespie, C. H. Lamontagne, C. E. McKay, W. Peacock, J. R. Brodie, Brandon, Man.

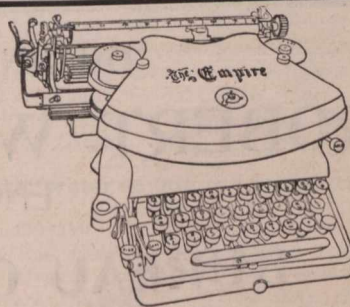
The Manitoba Grain Growers Association had another interview recently with the Manitoba Premier on the subject of the Government control of elevators. The association is circulating forms of petition respecting the Provincial ownership of interior and the Dominion ownership of terminal elevators throughout the province, with the view of having them presented to the Governments in December. The inter-provincial council has decided to engage counsel to appear before the Board of Railway Commissioners in support of the claim for a reduction

of the storage charges at terminal elevators.

Black and Muirhead, Ltd., has been incorporated under the Ontario Companies' Act, with a capital of \$100,000 and office at Fort William, to deal in cereals and cereal products, and in connection therewith to construct, purchase or otherwise acquire and operate elevators, machinery, appliances, warehouses, wharves, docks, etc., and to carry on the business of navigation for the purposes of the company, for which it may own and operate steam and other vessels, etc. The provisional directors are: D. W., E. C. and J. L. Black, W. D., and L. Muirhead, Fort William, Ont. A contract has been let to Barnett and McQueen Co., Fort William, for the erection of an elevator there, which will be accessible by three railways.

The question of handling grain at Vancouver was dealt with by the Board of Trade, at a meeting held there July 13.

The Board of Railway Commissioners heard the application of the Dominion Millers' Association, July 7, asking that the elevator rates charged by the C.P.R. at Fort William and Port Arthur, Ont., be reduced to the same scale as those charged at Owen Sound and other lake points. Some time ago the C.P.R. imposed $\frac{1}{4}$ c. a bushel as an extra charge to cover the cost of insurance, but it was alleged that the company by that extra charge more than covered the cost of insurance. The company, however, showed that taking into account its capital investment of \$2,500,000 and the cost of operation, no money was being made, if a reasonable amount was written off for depreciation of plant. It was claimed that the C.N.R. was clearing 8% on its elevator operation expenses, which were 33 1-3% of the gross receipts, whereas the C.P.R. expenses were 60% of the gross receipts. The C.P.R. accounted for this by saying that while it was operating five small elevators, the C.N.R. was running one large elevator. Chief Commissioner Mabee, in dismissing the application and holding the present rates as reasonable, said that it made no difference how badly the C.P.R. managed its business so long as the loss fell on the stockholders and not on the public, and so long as the charges were reasonable, it did not matter to the public if the C.N.R. was making money and the C.P.R. losing it, on the same basis.



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ASSOCIATION'S OFFICE, 157 Bay St., Toronto.

EXECUTIVE COMMITTEE:—P. Dube, Secretary, Montreal St. Ry.; E. A. Evans, General Manager, Quebec Ry. Light and Power Co.; R. J. Fleming, General Manager, Toronto Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutcheson, Superintendent and Purchasing Agent, Ottawa Electric Ry.; C. B. King, Manager, London St. Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager, Railway and Marine World.

Projects, Construction, Betterments, Etc.

Aroostook Valley Rd.—A Boston, Mass., despatch says:—The Aroostook Valley Rd. has been organized and is planning to build a first unit of track between Presque Isle and Washburn, Me., 12 miles, with an ultimate extension of 110 miles more, north to the St. John River. On the south the new road will connect with the C.P.R.. Its route will lie through the heart of the Bangor and Aroostook territory. The C.P.R. has agreed to guarantee interest for 20 years at 4½% on A.V.R. bonds up to \$25,000 a mile. By virtue of a law conferring monopoly within its territory, the Bangor & Aroostook Rd. is protected from the invasion of steam railways, and the new road is therefore to be an electric one for both passengers and freight.

British Columbia Electric Ry.—The contract for the Fourth Avenue west extension of the Vancouver lines, from Granville St. to the west city limits, has been let to T. R. Nickson & Co. Plans have been approved by the Vancouver city council for several extensions of lines in the city.

A power house is in course of erection in Victoria. The contractors are Malcolm & Disdale. (July, pg. 521.)

Calgary, Alta.—The street railway constructed by the city council in Calgary was opened for traffic July 5. The section opened extends from First Street to the Fair grounds, and, as it was Fair time, a five-minute service was operated by two cars. The fares taken on the first day amounted to over \$450, representing over 9,000 fares. (July, pg. 522.)

Dunnville, Wellandport and Beamsville Electric Ry.—Work was temporarily suspended July 10 on this projected railway between Dunnville and Beamsville, Ont. Five miles of the grading is reported to have been completed. H. Lloyd has been in charge of the work.

The townships of Gainsboro and Maulton refused to pass by-laws last year giving bonuses to the company, but after further negotiations it was decided to re-submit the by-laws. The voting took place July 26. (June, pg. 447.)

Fort William, Ont.—The question of the crossing of the C.P.R. and the C.N.R. by the Mission extension of the street railway in Fort William, Ont., is under consideration by the Board of Railway Commissioners. The necessary material has been purchased, and the Mayor says that all that is required to allow of the starting of construction is the signing by the General Manager of the G.T. Pacific Ry. of the agreement for the right of way through the company's

C.P.R. LANDS

The Canadian Pacific Railway Company have 9,000,000 acres of selected lands for sale in Manitoba, Saskatchewan and Alberta.

Maps, as enumerated below, showing these lands in detail, will be sent free on application.
 Map No. 1—Winnipeg to Second Meridian. \$ 8.00 to \$15.00 per acre.
 Map No. 2—South-Eastern Saskatchewan, 2nd to 3rd Meridians. 10.00 to 25.00 per acre.
 Map No. 3—Main Line, 3rd Meridian to Range 10, W. 4th Meridian (generally). 8.00 to 15.00 per acre.
 Map No. 5—South-Western Alberta. 8.00 to 15.00 per acre.
 Map No. 6—Part of Alberta, Edmonton, Battle and Saskatchewan Rivers Districts—4th Meridian to Range 7, West 5th Meridian. 10.00 to 25.00 per acre.
 Map No. 7—Part of Western Saskatchewan, 3rd to 4th Meridians. 10.00 to 25.00 per acre.

TERMS OF PAYMENT

An actual settler may purchase not more than 640 acres on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal, with interest, in nine equal instalments annually thereafter, as shown in the following table:

160 Acres at \$ 8.00 per acre, cash payment \$191.70	first year's interest \$ 65.28	and nine instalments of \$160.00
" " " 9.00 " " " 213.70	" " " 73.46	" " " 180.00
" " " 10.00 " " " 239.70	" " " 81.62	" " " 200.00
" " " 11.00 " " " 263.60	" " " 89.78	" " " 220.00
" " " 12.00 " " " 287.60	" " " 97.96	" " " 240.00
" " " 13.00 " " " 311.55	" " " 106.10	" " " 260.00
" " " 14.00 " " " 335.60	" " " 114.32	" " " 280.00
" " " 15.00 " " " 359.50	" " " 122.44	" " " 300.00

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

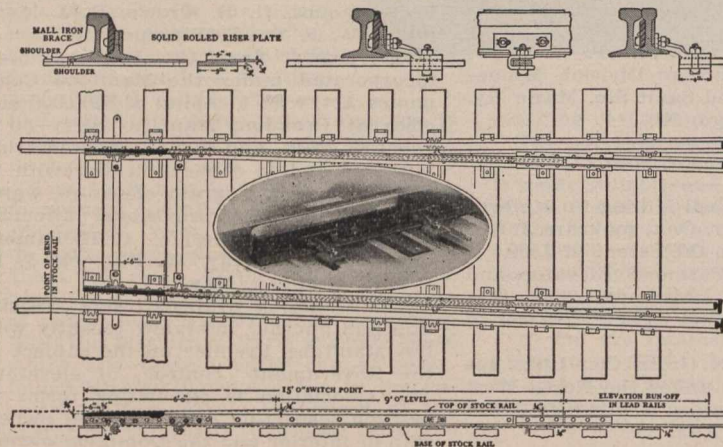
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Mission property. The route of the extension will be along the river, and it is hoped in time to carry it to the islands and back to the city over a bridge which is to be constructed at some future time by the C.P.R. (Jan., pg. 53.)

Goat River Water Power and Light Co.—The British Columbia Legislature last session passed an act incorporating a company with this title, with power among other things to construct a railway, to be operated by steam or electricity, and to carry passengers and freight, within a radius of 10 miles of Goat River Canyon, and to connect with the C.P.R. line from Creston to Kootenay Landing. The capital stock is to be \$1,000,000, with power to increase as the shareholders may deem necessary. The head office of the company is to be at Creston, B.C., and the provisional directors are E. V. Bodwell, J. H. Lawson, Jr., H. G. Lawson, Victoria, B. C. (April, pg. 247.)

Hamilton, Waterloo and Guelph Ry.—The Board of Railway Commissioners, July 6, approved of the location plans of this projected railway from Sheffield to Galt, Ont. (Nov., 1908, pg. 817.)

Lacombe and Blindman Valley Electric Ry.—The Alberta Legislature last session incorporated a company with this title with power to construct a railway, "to be propelled by electricity or by any other motive or mechanical power approved of by the Minister of Public Works," from Lacombe westerly to Bentley, thence northwesterly to Rimbey. The company is authorized to carry passengers and freight, to establish works for the supply of electricity as motive power, and to sell the surplus power to the public; to maintain poles, etc., on highways and streets, subject to the consent of the municipal councils interested; to acquire townsites, and to acquire and hold real estate for development. The capital is fixed at \$500,000; it may issue bonds for \$14,000 a mile, and may construct telephone and telegraph lines as may be necessary; make agreements with other companies; and may issue paid-up shares in respect of the purchase of right of way, plant or materials, and also for the service of engineers, etc. The provisional directors are: W. B. McPherson, C. A. Putland, C. H. Whitworth, J. H. Morrison, L. E. Cole, J. H. Damron, J. Bentley, Alta.; H. Thorp, T. A. Idings, F. Symonds, R. B. Hilborn, S. D. Reed, F. Lee, of Rimbey, Alta.; F. Vickerson, G. H. Hubton, J. I. Poole, A. M. Campbell, R. J. Scott, W. Wiese, of Lacombe, Alta.

Lacombe, Bullockville and Alix Electric Ry.—A company with this title was incorporated at the Alberta Legislature's last session for the purpose of constructing a railway to be operated by electricity or any other motive or mechanical power from Lacombe south-easterly to Red Deer River in tp. 38, range 23, west of the 4th meridian, thence north-easterly to Alix. The various sections of the act give it similar powers, with the like provisions, to the Lacombe and Blindman Valley Electric Ry. The provisional directors are: Hon. P. Talbot, H. M. Trimble, W. R. Wilson.

Nipissing Central Ry.—A contract has been let to the Lindsay Construction Co., Sydney, N.S., for the construction of a line of five miles from Cobalt to Haileybury, Ont. The line will run from the square at Cobalt, past the athletic field, along the Argentite road, crossing the

Temiskaming and Northern Ontario Ry. by an overhead bridge midway between the two terminal points; through the centre of North Cobalt, along Lakeview and thence to Haileybury. The contract calls for the completion of the line ready for operation by Nov. 1. We were advised July 13 that nearly half of the grading had been completed, ready for the ties. C. G. Henry is the company's engineer in charge of construction. (July, pg. 523.)

Ottawa Electric Ry.—An inspection of the route of the proposed extension to the cemeteries, through Clarkston, was made June 30 by the members of the Eastwood Village council, and a special committee of the Ottawa city council. It is expected that the route will be approved at an early date. (July, pg. 523.)

People's Ry.—The taxpayers of Wellesley tp., Perth county, Ont., gave a majority, July 14, in favor of a by-law to take \$15,000 of stock in this company. Engineers are making a survey of a route for the section of this projected line between New Hamburg and Stratford. (June, pg. 449.)

Quebec Ry. Light and Power Co.—The new directors of the company made an inspection of the lines and plant July 9 and 10. W. G. Ross, Montreal, the new President, said it was too early to give any definite idea as to the contemplated improvements to the entire system. However, these would be of a sufficiently progressive character to make the company's line an up-to-date one. R. Forget, who was the principal financial mover in bringing about the change of control, said a large sum of money would be spent in putting the whole system in perfect condition an in enlarging its present facilities. J. K. Greenshields stated that the whole system would be greatly improved; there would be an extension of lines and additional second tracking, and larger cars would be provided; that it is also intended to double the elevator capacity at Montmorency Falls to the Kent House. (April, pg. 283.)

The Toronto Suburban Ry. has completed considerable repairs to its tracks between West Toronto and Lambton, Ont. The roadbed has been improved, the tracks raised, and additional ballast put in. (June, pg. 450.)

Windsor, Essex and Lake Shore Rapid Ry.—An inspection of the company's line was made by representatives of British capitalists, July 8. It is possible that the inspection may result in the introduction of additional capital so as to enable the company to undertake the construction of an extension to Chatham, Ont. The line, it is hoped, will ultimately be extended to London, Ont. (Feb., pg. 137.)

Drinking Water on Interurban Railways.

The Ontario Railway and Municipal Board has passed the following regulation:—Every electric railway company in Ontario, subject to the Board's jurisdiction, shall provide in each passenger car which runs 20 miles or more, a suitable receptacle for water with a cup or drinking utensil attached upon or near such receptacle, and shall keep such receptacle, while the car is in use, constantly supplied with cool drinking water for the use of passengers and the conductor and motorman in charge of such car. This regulation shall not apply to street railways in towns or cities.

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for May, \$197,802; operating expenses, \$116,000; net operating earnings, \$81,802; renewal funds, \$13,958; net earnings, \$67,844; approximate income from investments, \$13,550; net income, \$81,394; against \$161,212 gross earnings; \$95,643 operating expenses; \$65,569 net operating earnings; \$10,750 renewal funds; \$54,819 net earnings; \$11,036 approximate income from investments, \$65,855 net income for May, 1908. Aggregate gross earnings for 11 months ended May 31, \$2,098,154; net earnings, \$942,925; against \$1,805,197 gross and \$851,644 net for same period 1907-08.

Cape Breton Electric Co.—Gross earnings for 4 months ended Apr. 30, \$67,196.77; expenses, \$46,001.48; net earnings, \$21,195.29; against \$74,394.82 gross earnings; \$6,743.41 expenses; \$27,651.41 net earnings for same period 1908. This company owns a half share of the Sydney and Glace Bay Ry., half of the earnings of which are included in the figures quoted.

Edmonton Radial Ry.—The Alberta Legislature passed an act at its last session amending the charter of the city of Edmonton in various details. To Schedule A of the ordinance of 1900 two sections are added. The first provides that "works constructed or maintained under this ordinance" shall be construed to mean all municipal revenue earning works, within and without the city, including those acquired or constructed under the Strathcona Radial Tramway Ordinance of 1894, or the Edmonton Radial Tramway Act; and the second declares that sections 30 to 56 extends the borrowing powers so as to include the raising of money for street railway purposes. The sections of the Edmonton Radial Tramway Act of 1908 relating to borrowing are amended. The corporation may issue bonds to the extent of \$10,000 a mile of railway, in denominations of not less than \$100, bearing interest at not more than 6%. The other sections refer to the form of bond, mortgage, registration, etc. The borrowing powers under these sections are by sec. 17 "not to interfere with the general borrowing powers of the city."

Halifax Electric Tramway Co.—Gross earnings for June, \$17,300.48, and for 2 weeks ended July 14, \$8,648.09, against \$16,215.65 and \$8,995.10 for same periods 1908.

Kingston, Portsmouth and Cataraqui Electric Ry.—A letter was received by the Kingston City Council, July 8, stating that if no readjustment of the present condition of affairs can be made the company will discontinue giving a service. The company will not take a bonus to operate the line, but is prepared to sell at a price. If nothing can be arranged the service will be given up, and the company will take its loss to date.

London St. Ry.—Gross earnings for June, \$21,366.69; operating expenses, \$14,162.72; net earnings, \$7,203.97; against \$20,634.52 gross earnings; \$14,131.43 operating expenses; \$6,503.09 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, \$111,175.94; operating expenses, \$81,408.86; net earnings, \$29,767.06; against \$106,991.42 gross earnings; \$81,060.02 operating expenses; \$25,931.40 net earnings for same period 1908.

Montreal Central Terminal Co.—A meeting of shareholders has been called to be held Aug. 9, to authorize the issue of first mortgage bonds and to authorize agreements with other companies.

Montreal St. Ry.—Gross earnings for June, \$354,917.59; expenses, \$190,320.38; net earnings, \$164,597.21; city percentage on earnings, \$33,120.71; interest on bonds and loans, \$14,514.96; rent leased lines, \$498.67; surplus, \$116,462.87; against \$331,211.91 gross earnings; 166,083.56 expenses; \$165,128.35 net earnings; \$28,895 city percentage on earnings; \$19,652.21 interest on bonds and loans; \$443.43 rent leased lines; \$116,135.83 surplus for June, 1908. Aggregate gross earnings for 9 months ended June 30, \$2,791,973.27; expenses, \$1,714,403.30; net earnings \$1,977,569.97; total charges, \$309,891.20; surplus, \$767,678.77; against \$2,672,763.53 gross earnings; \$1,651,707.09 expenses; \$1,021,056.44 net earnings; \$319,563.57 total charges; \$701,492.87 surplus for same period 1907-08.

St. John, N.B., Ry.—The question of the assessment of the company's lines was under consideration by the city council July 5, and was referred to the general committee, with power to engage expert assistance.

Southwestern Traction Co.—D. B. Hanna, Third Vice President Canadian Northern Ry., went over this line recently, which gave rise to a report that it was likely to be acquired in Mackenzie, Mann & Co.'s interests. The bonds are held in England, and it is altogether likely that they will change hands in the near future, in which case the company would probably be reorganized.

Toronto Ry.—The city council is claiming \$1,320.30 from the company for arrears of mileage on account of 4,281 ft. of double track on Roncesvalles Ave. The company contends that this is merely a stub track and not part of the general system, and therefore exempt.

Gross earnings for May, \$323,723; expenses, \$149,565; net earnings, \$174,158; against \$296,209 gross earnings; \$152,835 expenses; \$143,374 net earnings for May, 1908. Aggregate gross earnings for 5 months ended May 31, \$1,483,749; net earnings, \$715,760; against \$1,373,306 gross earnings, and \$584,445 net earnings

for same period 1908. Approximate gross earnings for June, \$330,207.72, against \$301,842.19 for June, 1908.

Winnipeg Electric Ry.—Gross earnings for May, \$189,500; expenses, \$96,000; net earnings, \$93,000; against \$167,300 gross earnings, \$89,700 expenses, \$77,600 net earnings for May, 1908. Aggregate gross earnings for 5 months ended May 31, \$1,017,000; net earnings, \$503,500; against \$848,000 gross earnings, and \$425,200 net earnings for same period 1908.

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Height of Electric Car Steps.

The Ontario Railway and Municipal Board's decision on Dr. Helen MacMurchy's application respecting the height of car steps was published in full in our last issue. The Board has passed the following regulations to give effect to the judgment:—

"The steps on all cars hereafter constructed and used by the Toronto Ry. Co. and all other street and electric railways under this Board's jurisdiction shall have steps conforming to the following regulations:

"On closed single truck cars the height of the first step above the ground shall be not less than 12 nor more than 15 in.

"On closed double truck cars the height of the first step above the ground shall be not less than 14 nor more than 16 in.

"On open single truck cars the height of the first step above the ground shall be not less than 12 nor more than 15 ins., and the distance between the first and second steps and the second step and the floor of the car shall measure 12 and 9 in. respectively.

"On open double truck cars the height of the first step above the ground shall be not less than 14 nor more than 16 ins., and the distance between the first and second steps and the second step and the floor of the car shall measure 12 ins. and 14 ins. respectively."

Ontario Electric Railway Merger.

There are good reasons for believing that negotiations have been going on for some time with a view of creating a merger of electric railway interests in a large portion of Ontario. It would appear that if the scheme contemplated can be carried to a successful issue the Toronto Railway will be the pivotal system, including the Toronto & York Radial Ry., which it also owns, and the Toronto Suburban Ry., which is believed to be owned by Mackenzie, Mann & Co.'s interests. The Niagara, St. Catharines & Toronto Ry. passed under the control of these interests some time ago. The proposed merger would probably embrace the following lines, or as many of them as can be secured:—Hamilton Radial Ry., Hamilton St. Ry., Hamilton & Dundas Ry., Hamilton and Brantford Ry., and Hamilton, Grimsby & Beamsville Ry., all of which are now controlled by the Dominion Power & Transmission Co.; the Grand Valley Ry., the London St. Ry., Southwestern Traction Co., Chatham, Wallaceburg and Lake Erie Ry., Windsor, Essex and Lake Shore Rapid Ry., and Sarnia St. Ry. and the Berlin and Bridgeport Electric St. Ry. This includes all the electric railways in Western Ontario except the Guelph Radial Ry. and the Berlin and Waterloo St. Ry., which are municipally owned; the Galt, Preston and Hespeler Ry., which is owned by the C.P.R., and the Sandwich, Windsor and Amherstburg Ry., which is part of the Detroit United System. East of Toronto, the Oshawa Ry., the Peterborough Radial Ry. and the Kingston, Portsmouth and Cataraqui Electric Ry. would also probably be secured.

The merger may not be accomplished, but that work has been going on for some time for the purpose of carrying it out we do not doubt. Its accomplishment would mean a valuable addition to

the power users of the Electrical Development Co. of Ontario, which passed under Mr. Mackenzie's control recently, a more economical management, especially of the smaller companies, by bringing them under one general management and by standardizing rolling stock, etc., and in the end a public benefit by increased efficiency of service and a vigorous policy of betterment and extension.

Sandwich, Windsor and Amherstburg Ry.

The Ontario Railway and Municipal Board recently heard the case of the Town of Sandwich against the Sandwich, Windsor and Amherstburg Ry. Co. The town alleged that a proper service had not been furnished by the railway company, and asked that an agreement between the town and the company be construed. As the case developed it became apparent to the Board that the crucial question to be determined was the duration of the franchise, or the right of the company to operate its railway on the streets of Sandwich. The town alleged that the company's rights depend upon an agreement, dated May 27, 1891, between the town and the company, and that under it the company has merely a yearly license to occupy the streets, or in the alternative, that the franchise is controlled by the provisions of the Street Railway Act in force at that time, and extends only 20 or 25 years from the date of the agreement. The company alleged that there was an agreement anterior to May 27, 1891, which gave it a perpetual right to operate its railway on the town streets, and that it was not limited in its right to occupy the streets to 20 or 25 years.

The Board in its judgment held that the town did not grant the company a perpetual franchise; that the evidence, such as it was, was the other way; that the town had no power to grant a perpetual franchise, and that the company's right to use and occupy the streets of Sandwich with its railway and poles and wires will expire on Dec. 15, 1912. In order to give the company an opportunity to test this opinion in the Court of Appeal, the Board adjourned, sine die, the trial of the alleged breaches of the agreement to a date to be fixed, on the application of either party, on ten days notice to the other.

The Ontario Railway and Municipal Board will not sit again until Sept. 2. The Chairman, J. Leitch, K.C., has left Toronto for a rest. During the vacation one of the other members of the Board, A. B. Ingram or H. N. Kittson, will be available to attend to urgent applications.

Electric Railway Notes.

The Edmonton Radial Ry.'s double truck pay-as-you-enter cars were described in our Feb. issue. An illustration of one of the four built at Preston, Ont., is given on this page.

The Toronto city police force is now responsible for the direction of street car traffic at intersections, under a city by-law, which came in force July 1. The Toronto Ry., as a result, has withdrawn its roadmasters from these points.

The question of the payment for uniforms, which has been agitating the minds of Toronto Ry. employes for some time, has been settled. A conference was held July 15, when it was decided that the money paid by the men be refunded.

The Toronto Ry.'s officials, including roadmasters, inspectors, etc., were given an outing by the company, July 15. They visited the power plants at Niagara Falls, and went on to Buffalo, N.Y., where they had a special trip over the city electric lines.

A Vancouver, B.C., jury has awarded a painter, who was permanently injured in a collision on the B.C. Electric Ry. in September, 1908, \$11,500 damages. He had previously earned \$24 a week, and is now not able to do any manual work, by reason of his injuries, and his lack of education prevents him taking a clerical position.

The Niagara Falls Park & River Ry. has appealed to the Ontario Court of Appeal against the Ontario Railway and Municipal Board's judgment published in our June issue, which ordered the company to reduce its fares from 10c. to 5c. when the distance travelled did not exceed three miles. The appeal will probably be heard in September.

With respect to the offer of a London, Eng., firm to construct a system of underground tube railways in Toronto, the City Council, June 29, appointed a special committee to look into the question. The committee decided to obtain an engineer's report on the matter, and the Council, July 15, voted \$500 for the preparation of a report, and decided to employ J. W. Moyes to prepare it.

The City of Hamilton applied to the Ontario Railway and Municipal Board recently to enable it to recover from the Hamilton St. Ry. Co. \$2,418.45 for repairs to asphalt pavement on certain streets for 2 ft. outside the company's rails. The Board, in its judgment, holds that it has not the power to award damages and leaves the question of its jurisdiction to be settled by the Court of Appeal.



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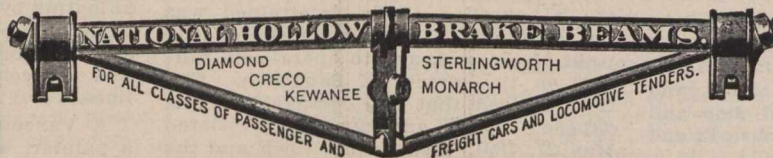
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PASSENGER AGENT FOR ONTARIO
41 KING ST. EAST, TORONTO.

Care of Interurban Electric Railway Tracks.

By G. C. Royce, Manager Toronto Suburban Railway Company.

The maintenance of the earlier and more cheaply built tracks has demonstrated the fact, that it is economy to have tracks built with the best material, to have them well ballasted, ties and rails put in perfect condition of surface and alignment, and to preserve them in such condition. A poorly laid track poorly maintained, will be a source of menace to public safety, keep the claims agent busy and destroy rolling stock. An attractive right-of-way is an inducement to traffic, a rough slovenly track causes public comment and impairs traffic. The keeping of the track in perfect condition includes drainage, care of switches, bridges, culverts and crossings, the clearing of weeds in summer, snow and ice in winter, and track greasing.

An interurban track should be patrolled daily by a skilled trackman, whose duty it should be to see that bolts and spiking are in adjustment, switches and rails in order, drainage open, and, in fact, be a general inspector. Small defects can be easily remedied in this way, and accidents due to roadbed defects eliminated, and in a measure the safety of passengers and cars assured. The track foreman should be skilled in track work, and the handling of men, and should employ the best help obtainable for the work. Poor track help means a loss to the company employing it. Where the length of track warrants it, it should be divided into sections, and competition between the efficiency of sections should be encouraged.

Only first-class material should be purchased for track maintenance. Ties should be up to the standard, bolts the proper size and length. Much time can be wasted by placing unnecessarily large ties and bolts with too much thread. Up-to-date tools in good order should be used and the track foreman made responsible for them. A properly constructed tool box in which they can be locked away when not in use is a convenience in this respect. An up-to-date hand-car provides a quick way of getting both men and tools to the work, and of carrying light material.

It is hardly necessary for me to state that the proper bonding of a track is of vital importance and should be well looked after. On the smaller roads this work should be thoroughly understood by the track foreman, while on larger roads this can be included in the overhead line department. Periodical tests should be made. Tracks laid on a public highway suffer from defective bonding much more in the winter than in the summer, owing, both to the contraction of the rails and frozen condition of the ground. These defects show up especially during the heavy snow clearing operation, and frequently cause loss of time and interruptions to traffic during this process.

Track clearing includes the removing of snow, ice, mud and water, each more or less according to conditions. The modern practice for snow clearing in moderate storms is by the aid of scrapers attached to the cars, which if intelligently used are very effective. For heavy storms, a sweeper with proper flanging appliances is necessary. But it appears the only effective means of keeping a track open under the more

severe conditions is by the use of a rotary plough, which properly equipped, will clear a very heavy fall of snow and break through heavy drifting. They are expensive and require a heavy supply of power for operation. A small road unable to afford such an expensive equipment, should have an up-to-date snow plough, and where express and freight business is handled, adjustable nose ploughs can be attached to the express cars whereby some very good results have been obtained. However, a great deal of snow fighting difficulties can be avoided by properly placed snow fences, and where it is possible they should be made permanent. Snow should not be allowed to pile close to the right-of-way, but should be well flanged back, and if this is well looked after, little trouble should be experienced in keeping the track open. Cuttings should be cleared out after each storm.

Under certain conditions, weeds on the track are a nuisance, and expensive to destroy, they cause skidding of the wheels and catch drifting snow. Weeds can be destroyed in different ways; by manual labor, with grub, hoe and shovel, patent weed destroyers, by dragging long chains after a car, and where conditions warrant, by a weed burning car. Where roads are fortunate enough to be associated with gas companies, a cheap weed destroyer is obtained by using a by-product, namely: the light tar that is collected from the scrubbers and drips. This liquid can be applied with a common watering can, and also makes an excellent dust layer. Another good weed preventer is a liberal supply of soft coal ashes to be used as ballast. This also makes first-class ballast and is not affected by the frost, as the water sinks away from it very fast, this also makes a good filling for low spots in the track.

The removal of ice and frozen mud effects only such track as is laid on the travelled portion of an unpaved street or roadway. Many appliances have been tried, but I fail to find any to replace the pick.

All curved switches and points require greasing, and the general opinion appears to be that it pays to do this work. Personally speaking, I am satisfied it pays by the reduction of wear on the track and wheels, and saving in power.

Daily reports accurately kept are of value not only as to cost of work and material used, but for reference. Whenever necessary, these reports may be sub-divided into different parts, such as work on ties, steel, ballast, ditching, crossings, etc.

International Ry. and Development Co.

—A company with this title has been incorporated under the B.C. Companies Act with a capital of \$1,000,000 to construct and operate single or double track aerial or other tramways, with the necessary side tracks and turnouts for the passage of cars and other vehicles capable of being used on tramways, etc., to utilize any motive power now used or that may be discovered, for the operation of such tramways, to build, purchase, or otherwise acquire and operate steam and other vessels for the general transportation of passengers, etc.

The ratepayers of the townships of Moulton and Gainsboro, Ont., have passed by-laws granting a bonus of \$5,000 in each case, to the Dunnville, Wellandport and Beamsville Electric Ry.

MARINE DEPARTMENT.

The Shipping Federation of Canada.

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

Dominion Marine Association.

PRESIDENT, C. J. Smith, Montreal; COUNSEL, F. King, Kingston, Ont.

Canadian Association of Masters and Mates.

GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

The St. Lawrence Route Upheld.

Capt. Alex. McDougall, of Duluth, Minn., wrote one of the members of the Shipping Federation of Canada recently as follows:—

"I have just arrived home from a trip to Liverpool, and then a trip up the Great Lakes and their connecting rivers, and I made a careful study of the trip to Montreal, and a comparative examination of the route through to Duluth, for the latter part of which I have a pilot's license. I had often read and heard of the St. Lawrence route being so dangerous or difficult to navigate as compared to the route from New York, which to some extent is so, for the New York route is exceptionally favorable the year round. In the navigation of the Gulf for its season, I could not see the reasons for so much dread of it, much of which I think will disappear as the shipping increases and the aids to navigation improve, and more men get better acquainted with the objectionable features in its navigation. I had been on the lower St. Lawrence before, and with some experience in dispatching ships in and out of the Gulf, so while on the s.s. Megantic on her first voyage as passenger to Montreal, I heard her officers say that she was the largest ship (565 ft.) that could navigate the St. Lawrence, and that a 600 footer would be too long for the narrow, crooked channels to Montreal. I asked the Captain to grant me the privilege to investigate the charts, and to allow me in a prominent place in the ship to best see the channel. I looked into the matter very carefully, and when I got to Montreal I was of the opinion that there was a channel that a ship 1,000 ft. long could navigate much better than our numerous 600-footers of the upper lakes can navigate the Detroit and St. Mary's Rivers, which in their whole length require about 1,200 buoys, beacons and aids to navigation, to show or tell how to enter and pass the intricate channels and bends of the route. From Buffalo to Duluth, 1,000 miles, where steamships of more than 600 ft. are more numerous than are the different kinds of craft on the St. Lawrence, they run and pass each other night and day in the present channels of our rivers and bays, sometimes drawing 19 or 20 ft., and only two or three inches to spare over the rocky bottom of the channel. Many of those 600-footers make from 20 to 25 round trips from May 1 to Dec. 10, and the captains and mates are the only pilots and also attend to all the other duties belonging to the ships' officers, and I think they could navigate ships 1,000 ft. long in our channels of the rivers that connect our lakes and bays, and which are not nearly so good as the channel

THE CANADIAN BRIDGE CO., LIMITED

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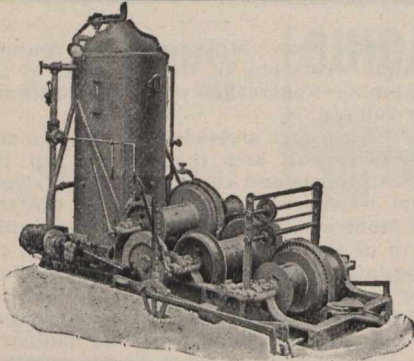
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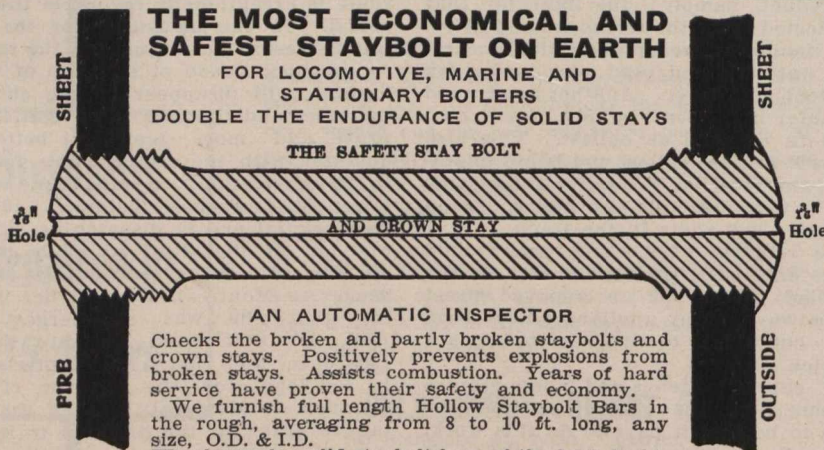
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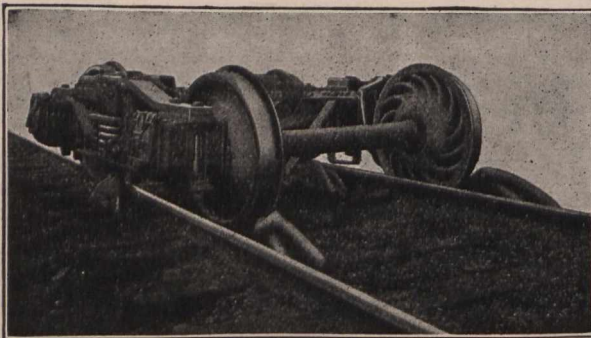
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from Montreal to the sea, and our fog, snow and thick weather is as bad or worse than on the St. Lawrence outlet. I think that if a committee of your Harbor Commission and pilots would make a trip of investigation and look over the route from Buffalo to Port Arthur or to Duluth, and see our channels night and day in the latter part of the season, when the traffic is greatest, and nights the longest and darkest, they would learn some points of interest to themselves, and of great value to Montreal. I think the Canadian Government has been doing splendid work improving the lower St. Lawrence, which work will be moderately permanent, for the St. Lawrence has but little or no sediment. If I were a citizen of Montreal I would endeavor to stop the general shipping gossip that the channel is not good enough for larger ships, and I would urge the Government to still improve the good work it had been doing. About a month ago I was on the bridge with the pilot going up and down the River Scheldt to Antwerp, where not long ago a great deal of talk in shipping circles against that channel was hurtful to the port. But of late, I am told, as they improve the channel the shipping is increasing, and there is a much better sentiment for the port, as I hope you will soon have for Montreal, for I think you will be the outlet for an enormous tonnage in the future."

The Pellat-Hanlan Collision.

L. A. Demers, Acting Dominion Wreck Commissioner, has given the following judgment re the collision between the s.s. H. M. Pellat and the steamboat John Hanlan at Toronto, June 30. "By the evidence adduced, it is found that the second engineer being on duty, under the impression that the captain, who was then on deck in charge of the ship, had finished with the engine-room, he left the oiler, Joncas, in charge of the engine, while he personally attended to the closing of the exhaust valve, claiming that his attention was necessarily required to it at the time. All the witnesses agree that the second engineer is a capable man and thoroughly sober, and has always performed his duties satisfactorily in the past. Although every testimonial was given in his favor, the court cannot condone his action in leaving the engine-room or his post under the impression that his duties were probably no longer required at the throttle valve. If proper steps had been taken to educate the assistant, the oiler, to attend to the closing of this exhaust valve, which appears to be a necessity every time the vessel comes into harbor, and the winches are working, the engineer would have been found at his post, and the mistake, which was absolutely that of the oiler to put the lever ahead instead of astern, according to the signals, would probably not have occurred. In view of the fact that the engineer left his post when he should have been attending to the working of the engines, the court holds him guilty of culpable error of judgment, and therefore, suspends his certificate for three months, from July 17 to Oct. 17, 1909. No fault is found with the captain, who seems to have acted in seamanlike fashion, taking every means and measures to prevent a casualty."

The second engineer who has been suspended is O. Lamoureux.

Northern Navigation Co.'s s. s. Hamonic.

The Northern Navigation Co. of Ontario has issued a booklet illustrating the various steps in the construction of the Hamonic, from the assembling of the materials and the laying of the keel, to the actual placing of the vessel in service. In addition to the various illustrations, which include several showing the elaborately fitted interior, a number of interesting facts relative to the actual construction of the vessel are given. The keel was laid May 26, 1908, and the hull was launched Nov. 26, in the same year; the first trial trip took place May 12, 1909; speed and endurance trials, May 24; owner's official trial trip, June 12, and the first regular trip, June 23. The steel used in building weighed 2,000 tons; the weight of the vessel when launched was 3,000 tons, and when completed, 4,000 tons. The boiler plate is 1 3/4 ins. thick, and the total steel used in the boilers is 320 tons. The engines are 37 ft. long, 25 ft. high, and weigh 220 tons. The propeller wheel is 16 1/2 ft. diam., and weighs 12 tons. The dimensions of the vessel are: length, 365 ft.; beam, 50 ft.; depth, molded, 27 ft.; tonnage, 5,240 gross; horsepower, 7,000.

Stranding of the s. s. Campana.

An investigation was held at Quebec June 26 and July 2 and 3 before Capt. L. A. Demers, F.R.A.S., Chief Examiner of Masters and Mates, assisted by R. Baquet, President Quebec Corporation of Pilots, and Capt. Bain, into the circumstances attending the grounding and eventual abandonment and total loss of the s.s. Campana near Pointe St. Michel, St. Lawrence River. The court found that Capt. L. Lachance was guilty of a culpable error in judgment and therefore adjudged that his certificate be suspended for 9 months from July 3, 1909, to April 3, 1910.

The Department of Marine has issued lists of the lights and fog signals on the inland waters of the Dominion and on the Pacific coast, corrected to Apr. 1.

Notices to Mariners

The Department of Marine has issued the following:—

No. 52. June 22. 133.—Ontario, Canadian list of lights and fog signals, new edition. 134.—Ontario, Lake Erie, Port Stanley, gas beacon established on breakwater.

No. 53. June 23. 135.—British Columbia, Canadian list of lights and fog signals, new edition. 136.—British Columbia, Strait of Georgia, Gabriola reefs, non-existence of rock north-east of. 137.—British Columbia, Vancouver Island, east coast, Baynes Sound, Grassy Point, beacon replaced by buoy. 138.—British Columbia, Chatham Sound, Prince Rupert harbor approach, Ellinor rock, change in character of buoy.

No. 54. June 30. 139.—General, Canadian list of lights and fog signals, new edition. 140.—Nova Scotia, south coast, Madame Island, Petit de Grat inlet, bell buoy replaced by gas and bell buoy. 141.—Newfoundland, west coast, Cow Head, lighthouse established.

No. 55. July 6. 142.—Ontario, Lake Ontario, Point Peter, change in fog alarm. 143.—Ontario, Lake Erie, Port Burwell, bell on platform buoy. 144.—Ontario, River St. Clair, east of St. Clair middle ground, position of gas buoy. 145.—Ontario, Georgian Bay, east side, Kennedy bank, gas buoy established.

No. 56. July 7. 146.—Ontario, Lake Huron, Goderich, gas beacon established on outer breakwater.

No. 57. July 12. 147.—Quebec, River St. Lawrence below Quebec, lettering on Red Islet lightship. 148.—Quebec, River St. Lawrence, Saguenay River entrance, Lark Islet, light discontinued. 149.—Quebec, River St. Lawrence below Quebec, Traverse off St. Roche, lower end, gas buoy placed near site of lower traverse pier.

No. 58. July 12. 150.—British Columbia, Chatham Sound, Prince Rupert harbor, Kitson bank, buoys established. 151.—British Columbia, Chatham Sound, off Porpoise harbor, buoys established.

No. 59. July 13. 152.—Quebec, River St. Lawrence, Cape Dogs, lighthouse established.

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals in June :

ARTICLES.	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper..... Eastbound..... Net tons	175	12,943	13,118
Grain..... "..... Bushels	1,063,031	1,154,487	2,217,518
Building stone..... "..... Net tons	430	430	860
Flour..... "..... Barrels	219,942	553,253	773,195
Iron ore..... "..... Net tons	1,415,477	3,629,396	5,044,873
Pig iron..... "..... ".....	3,482	3,482	6,964
Lumber..... "..... M. ft. B.M.	586	83,095	83,681
Wheat..... "..... Bushels	2,101,938	2,713,949	4,815,887
General merchandise..... "..... Net tons	5,076	13,937	19,013
Passengers..... "..... Number	1,925	2,013	3,938
Coal, hard..... Westbound..... Net tons	30,900	157,437	188,337
Coal, soft..... "..... ".....	145,169	911,166	1,056,335
Flour..... "..... Barrels	10	250	260
Grain..... "..... Bushels	500	500	1,000
Manufactured iron..... "..... Net tons	5,265	54,378	59,643
Iron ore..... "..... ".....	3,474	3,474	6,948
Iron ore..... "..... Barrels	2,758	76,281	79,039
Salt..... "..... Net tons	28,147	95,242	123,389
General merchandise..... "..... Net tons	1,859	1,999	3,858
Passengers..... "..... Number	455	1,895	2,350
Vessel passages..... "..... Net	1,171,610	4,426,566	5,598,176
Registered tonnage..... "..... Net tons	1,528,667	3,960,689	5,489,356
Freight—Eastbound..... "..... Net tons	213,348	1,229,701	1,443,049
Freight—Westbound..... "..... Net tons	1,742,015	5,190,390	6,932,405
Total Freight..... "..... Net tons			

No. 60. July 14. 153.—New Brunswick, east coast, Northumberland Strait. Kouchibouguac bay, Black Lands gully, range lights discontinued. 154.—New Brunswick, east coast, Northumberland Strait, Kouchibouguac bay, Kouchibouguacsis River, range lights established.

No. 61. July 15. 155.—Nova Scotia, north coast, Northumberland Strait, Pugwash harbor, range lights established.

No. 62. July 19. 156.—New Brunswick, Northumberland Strait, Tormentine reefs, bell buoy replaced by can buoy. 157. Prince Edward Island, south coast, Northumberland strait, Tryon shoal, whistling buoy, replaced by conical buoy. 158. Prince Edward Island, Northumberland Strait, gas and whistling buoy established in mid straits between Tryon shoal and Tormentine reefs.

No. 63. July 20. 159.—Nova Scotia, Cape Breton Island, south coast, L'Ardoise, range lights established.

No. 64. July 21. 160.—New Brunswick, east coast, Northumberland Strait, Richibucto harbor entrance, change in the positions of the bar range lights. 161. New Brunswick, east coast, Kouchibouguac bay, Kouchibouguac River, change in the positions of the bar range lights. 162. Prince Edward Island, south coast, Bedeque bay, Miscouche shoal, change in position of gas buoy.

Can Ship at Once

Bucyrus 70 ton Steam Shovel, modern (2) @	\$7,000
Bucyrus 65 ton Steam Shovel, No. 503	5,900
Marion 70 ton Steam Shovel, Model 60; modern	6,500
Marion 90 ton Steam Shovel, 3½ yard; modern	8,500
Thew No. 1 Full Circle Shovel, 1 yard (Traction)	3,650
Traction Shovel "Little Giant," 1 yard	2,500
Austin "New Era" Grader; new belt; fine	650
50 tons 20 lb. Steel Rail and splices (per ton)	23

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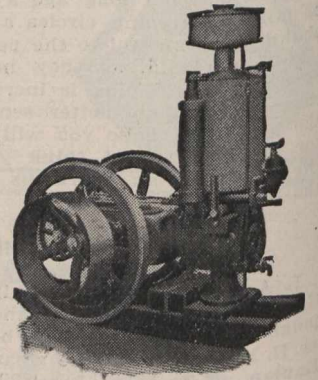
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Both Made by
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2 RECTOR STREET NEW YORK

STANDARD STEEL PLATFORMS

Used by all Canadian Railways

Atlantic and Pacific Ocean Marine.

The Reford Line's s.s. Spheroid, which recently grounded between Montreal and Three Rivers, was released without damage.

The barkentines Rachel Emery and Allan Wyld, which arrived at Montreal, July 4, from Porto Rico, are the first

ocean-going sailing vessels to enter the port of Montreal for some years.

R. M. Coulter, Deputy Postmaster General for Canada, who went to Australia and New Zealand, on behalf of the Government in connection with the proposals for the establishment of the "all red route," has returned to Canada.

The Donaldson Line s.s. Cassandra,

which arrived at Montreal July 13, was the first passenger boat to pass the Straits of Belle Isle this season. Several freight vessels had already taken this route, inward, but the Cassandra was the first passenger vessel to arrive by the northern route.

The White Star-Dominion Line s.s. Megantic, which arrived at Montreal re-

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

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Anthemis	126,487	Magog, Que., 1909	Screw 16 n. h. p.	86.5	17.8	6.7	95	50	Montreal	E. G. Penny, Montreal.
Bartlett	124,268	Grangemouth, Scotland, '08	" 98 "	124.9	25.1	13.3	328	41	"	Montreal Transportation Co., Ltd., Montreal.
Biegel	126,435	Vancouver, B. C., 1907	" 1 "	26.0	7.5	3.6	7	5	Vancouver, B. C.	Mrs. C. Duffy, Eburne, B. C.
Blanche B.	126,438	Steveston, B. C., 1909	" 2 "	31.8	9.5	4.0	18	12	"	C. Thomson, Vancouver, B. C.
Bunting	126,015	Annapolis Royal, N. S., 1909	" 3 "	32.2	8.6	3.1	10	7	Annapolis Royal, N. S.	C. W. Mills, Annapolis Royal, N. S.
Chickadee	126,491	Tretraville, Que., 1909	" 4 "	35.5	9.1	6.5	9	6	Montreal	C. G. Coristine, Montreal.
Cluaran	126,486	Gananoque, Ont., 1905	" 2 "	34.0	7.9	6.3	8	6	"	J. T. McMillan, Montreal.
Embee	126,433	Port Hawkesbury, N. S., 1909	" 3 "	31.5	10.0	4.4	9	6	Vancouver, B. C.	McNair Fraser Lumber Co., Ltd., Vancouver, B. C.
Enilada	126,432	Vancouver, B. C., 1909	" 6 "	64.0	16.0	7.8	57	39	"	J. Hendry, Vancouver, B. C.
Fast	126,451	Sorel, Que., 1909	" 23 "	81.5	11.0	4.8	58	40	Sorel, Que.	W. Paul, Sorel, Que.
Getan	126,489	Grenville, Que., 1909	" 2 "	35.0	9.0	4.8	15	9	Montreal	G. Dansereau, Grenville, Que.
Gretna	126,431	Vancouver, B. C., 1909	" 3 "	36.9	7.5	3.4	9	6	Vancouver, B. C.	E. G. Johnson, Vancouver, B. C.
Gwilym	126,430	"	" 6 "	32.7	9.8	5.0	14	10	"	W. R. Jones, Vancouver, B. C.
Hamonic	122,553	Collingwood, Ont., 1909	" 364 "	319.7	50.0	24.0	5265	3295	Collingwood, Ont.	Northern Navigation Co. of Ontario, Ltd., Collingwood, Ont.
Harrison	126,053	Owen Sound, Ont., 1909	" 46 "	120.0	22.2	10.6	222	149	Owen Sound	J. Harrison & Sons Co., Ltd., Owen Sound, Ont.
Iloilo	126,246	Seattle, Wash., 1905	" 6 "	51.5	11.4	4.0	23	14	Victoria	R. P. Butchart, Victoria.
J. O. Gravel	126,490	Dumbarton, Scotland, 1909	" 54 "	94.5	21.0	12.6	197	4	Montreal	Sincennes-McNaughton Line, Ltd., Montreal.
John R	126,461	Kingston, Ont., Rebuilt 1909	" 6 "	170.4	25.6	5.6	225	175	Kingston, Ont.	J. H. Davis, Kingston, Ont.
Johnson	126,427	Port Essington, B. C., 1909	" 4 "	38.5	10.0	4.0	12	8	Vancouver, B. C.	D. Burns, Vancouver, B. C.
Keego	126,411	Toronto, 1905	" 24 "	63.0	10.6	6.0	23	16	Toronto	Temagami Steamboat & Hotel Co., Ltd., Temagami, Ont.
Lady Van	126,426	Vancouver, B. C., 1909	" 2 "	33.0	9.5	4.6	10	7	Vancouver, B. C.	H. D. Hulme, Vancouver, B. C.
Lambton	126,409	Sorel, Que., 1909	" 89 "	108.0	25.1	12.7	323	182	Ottawa	Minister of Marine and Fisheries, Ottawa.
Lasata	107,427	New York, N. Y., 1905	" 17 "	82.4	14.6	6.8	50	40	Brockville, Ont.	A. C. Hardy, Brockville, Ont.
Lorancia	126,485	Valleyfield, Que., 1909	" 27 "	112.0	22.2	7.7	346	205	Montreal	Z. Leroux, Valleyfield, Que.
Madrona	126,243	Victoria, 1909	" 2 "	28.0	9.0	4.2	8	4	Victoria	J. Douglas, Victoria.
Meander	126,428	Vancouver, B. C., 1909	" 2 "	35.0	8.6	3.7	11	7	Vancouver, B. C.	J. D. Magee and A. D. Drummond, Victoria.
Minawa	126,047	Lake Nipigon, Ont., 1908	" 23 "	105.0	24.0	6.0	172	100	Port Arthur, Ont.	Revillon Bros., Ltd., Montreal.
New Success	126,255	Burnt Church, N. B., 1909	" 11 "	78.0	23.0	5.0	77	38	Chatham, N. B.	J. Anderson, Burnt Church, N. B.
Oakesella	121,819	Digby, N. S., 1909	" 7 1/2 "	23.3	6.3	3.3	5	3	Digby, N. S.	E. M. Dunham, Digby, N. S.
Port Wade	126,014	Weymouth, N. S., 1909	" 3 "	43.0	12.0	5.0	17	13	Annapolis Royal, N. S.	J. E. Keans, M. O., Port Wade, N. S.
Pulp	126,436	Vancouver, B. C., 1909	" 2 "	31.5	9.2	4.0	11	7	Vancouver, B. C.	E. Easthope, Vancouver, B. C.
Quesnel	126,245	Quesnel, B. C., 1909	Paddle 3 "	70.0	16.2	3.7	130	77	Victoria	P. Marion, Quesnel, B. C.
Quinnat	126,437	Port Nelson, B. C., 1909	Screw 4 "	40.5	11.8	4.7	16	11	Vancouver, B. C.	Port Nelson Canning & Salting Co., Ltd., Vancouver, B. C.
Sam Brisbin	122,554	Collingwood, Ont., 1909	" 4 "	47.5	11.0	4.5	26	7	Collingwood, Ont.	H. H. Ross, The Pass, Sask.
See Em Oh	126,027	Glace Bay, N. S., 1908	" 3 "	26.3	6.4	2.2	4	3	Sidney, N. S.	C. M. O'Dell, Glace Bay, N. S.
Sen'r Jansen	126,272	New Westminster, B. C., '09	Paddle 9 "	112.0	24.0	3.0	230	93	N. Westminster, B. C.	Fraser River Lumber Co., Ltd., Fraser Mills, B. C.
Stella Marion	126,284	Oromocto, N. B., 1909	" 6 "	71.5	15.0	5.0	63	40	St. John, N. B.	R. Smith and M. Currier, Oromocto, N. B.
Yedder	126,275	New Westminster, B. C., '09	" 3 "	75.0	16.0	3.3	103	61	N. Westminster, B. C.	A. E. Yates, M. O., New Westminster, B. C.
Waubic	122,555	Collingwood, Ont., 1909	Screw 67 "	134.1	25.0	9.6	314	244	Collingwood, Ont.	Northern Navigation Co. of Ontario, Ltd., Collingwood, Ont.
Wawana	126,055	Owen Sound, Ont., 1908	" 2 "	60.0	13.0	4.6	31	15	Owen Sound, Ont.	H. Manley and W. Butchart, Meaford, Ont.
Wendigo	126,444	Kenora, Ont., 1908	" 2 "	52.0	11.0	4.0	33	22	Kenora, Ont.	Rat Portage Lumber Co., Winnipeg.
Westover	126,434	North Vancouver, B. C., 1909	" 3 "	34.5	8.6	4.6	10	7	Vancouver, B. C.	W. R. Spencer, Vancouver, B. C.
White Swan	126,244	Victoria, 1909	Paddle 4 "	65.0	13.6	3.5	30	16	Victoria	R. W. Buller, Victoria.
Flyer	126,408	Sturgeon Falls, Ont., 1907	" 14 "	60.0	16.0	5.2	62	46	Ottawa	J. R. Booth, Ottawa.

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

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Alberic A.	126,452	Notre Dame de Pierreville Que., 1909	Sloop	110.0	23.3	7.4	124	Sorel, Que.	A. A. Mondon, Pierreville, Que.
Arab Boy	126,378	Mahone Bay, N. S., 1907	"	29.5	8.8	4.5	5	Halifax	F. G. Zwicker, Halifax.
Arthur J. Parker	126,236	Cumberland Bay, N. B., 1909	Schr.	84.5	27.3	7.6	119	St. John, N. B.	T. W. Parker, Cumberland Bay, N. B.
Beatrice Donovan	126,028	Ingonish, N. S., 1909	"	39.0	12.5	6.2	18	Sydney, N. S.	J. Donovan, Ingonish, N. S.
Emilien Burke	122,584	Yarmouth, N. S., 1909	"	81.0	22.4	9.5	90	Yarmouth, N. S.	H. Lewis, M. O., Yarmouth, N. S.
Guido	123,223	Manitowoc, U. S. A., 1856	"	114.9	24.9	7.3	95	Saralia, Ont.	W. G. Atkinson, Whitby, Ont.
H. C. Corson	126,026	Dingwall, N. S., 1909	"	65.2	18.0	6.3	38	Sydney, N. S.	W. O'Brien, Victoria.
Hazel Levy	126,374	Owl's Head, N. S., 1909	"	41.8	11.5	5.4	14	Halifax	C. Levy, Owl's Head, N. S.
Horrigan	126,441	Keewatin, Ont., 1909	Scow	75.0	20.0	5.6	73	Kenora, Ont.	J. Horrigan and R. Beagle, Port Arthur, Ont.
Ideal	126,373	Sambro, N. S., 1909	Schr.	42.0	11.8	6.5	16	Halifax	C. W. Schnare, M. O., Pennant, N. S.
Inta	85,407	Magdalen Islands, Que., 1909	"	69.9	22.0	8.3	67	Magdalen Isl's, Que.	A. T. Arsenan, Magdalen Islands, Que.
Ketra	126,285	Rothesay, N. B., 1909	Yawl	50.2	14.6	5.0	28	St. John, N. B.	W. R. Turnbull, Rothesay, N. B.
Kite II	126,375	Halifax, N. S., 1909	Sloop	29.0	9.0	5.0	6	Halifax	R. L. Lessel, Halifax.
Mildred	122,314	Lunenburg, N. S., 1907	Schr.	107.0	27.0	10.8	166	Sydney, N. S.	W. C. Job, St. John's, Nfld.
Moose	126,443	Keewatin, Ont., 1909	Drdge.	80.0	30.0	6.0	213	Kenora, Ont.	J. Horrigan and R. Beagle, Port Arthur, Ont.
Muriel	103,758	Lunenburg, N. S., 1897	Schr.	104.6	25.2	10.2	110	Lunenburg, N. S.	C. E. Whidden, Antigonish, N. S.
Olinda	103,775	Lunenburg, N. S., 1899	"	110.0	28.5	10.6	199	Liverpool, N. S.	W. S. Monroe, St. John's Nfld.
P. A. No. 1	126,275	Liverpool, N. S., 1899	"	110.0	28.5	10.6	199	Vancouver, B. C.	A. R. Best, Vancouver, B. C.
Spar	126,429	New Westminster, B. C., 1909	Scow	51.0	22.0	6.0	40	Kenora, Ont.	J. Horrigan and R. Beagle, Port Arthur, Ont.
W. J. P. Co., No. 8	126,442	Keewatin, Ont., 1909	"	75.0	20.0	5.6	73	Halifax	A. F. Haliburton, Halifax.
" " " " " " " "	126,377	Brooklyn, N. S., 1907	Sloop	26.8	7.8	3.0	3	Montreal	W. J. Poupore Co., Montreal.
" " " " " " " "	126,364	Sorel, Que., 1908	Scow	69.6	19.2	7.0	75	"	"
" " " " " " " "	126,365	Morrisburg, Ont., 1896	"	79.5	22.2	7.7	115	"	"
" " " " " " " "	126,366	"	"	79.6	22.2	7.4	112	"	"
" " " " " " " "	126,367	Sorel, Que., 1908	"	72.7	17.8	6.8	72	"	"
" " " " " " " "	126,368	"	"	72.3	17.7	6.5	68	"	"
" " " " " " " "	126,369	Pembroke, Ont., 1897	"	49.4	21.0	4.2	36	"	"
" " " " " " " "	126,370	Bout de l'Île, Que., 1903	"	39.8	10.6	2.0	6	"	"
" " " " " " " "	126,481	Sorel, Que., 1908	"	48.7	16.7	3.4	22	"	"
" " " " " " " "	126,482	Montreal, 1903	"	78.4	24.8	4.4	71	"	"
" " " " " " " "	126,483	Bout de l'Île, Que., 1903	"	47.0	15.1	3.4	19	"	"
" " " " " " " "	126,484	Montreal, 1903	"	80.2	19.2	6.0	74	"	"
" " " " " " " "	126,133	Sorel, Que., 1909	"	85.5	22.1	7.5	117	"	"
Wylo.	126,370	Mahone Bay, N. S., 1908	Sloop	21.7	6.5	3.4	4	Halifax	A. L. Patrick, Halifax.

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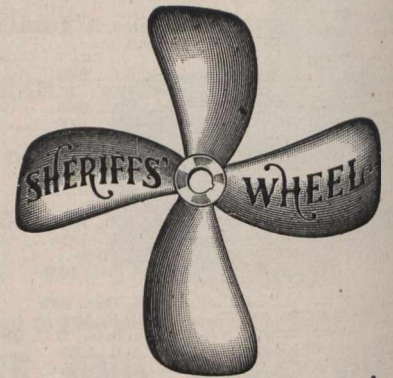
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Notice to Shareholders.
The Annual General Meeting of the Shareholders of this Company will be held on Wednesday, 11th day of August next, at the Head Office of the Company in Kingston at eleven o'clock a.m. for the purpose of electing Directors and transacting other business.

The Stock Transfer Books will close in New York on Saturday, 31st day of July, 1909, at 1 p.m. All books will be re-opened on Thursday, 12th day of August, 1909.

ARCHIBALD MCNAUGHTON,
Secretary and Treasurer.
Kingston, July 10th, 1909.

cently on her maiden voyage, completed the voyage from Liverpool in 7 days, 9 hrs. 27 mins., having been delayed twice by fog. She was not pushed at all, the highest speed in one day reaching 17½ knots an hour.

The Montreal Harbor Commissioners' revenue for June was \$51,329.84, and from the opening of navigation to June 30, \$88,054.68, against \$54,491.20 and \$89,710.71 for same periods 1908. Up to June 30 this year, 224 vessels of a tonnage of 622,649 arrived at the port, against 246 vessels of a tonnage of 655,155 for the same period 1908.

The schooner *Drusie*, of Paspébiac, Que., is reported to have been wrecked while homeward bound from the Barbadoes, July 11. The crew were rescued by an Italian liner and taken to New York, while the wreck was set on fire. The *Drusie* was built at Liverpool, N.S., in 1905, her dimensions being: length, 100.3 ft.; breadth, 25.5 ft.; depth, 9.5 ft.; tonnage, 99 register.

The Osaka Marine Court (Japan) has given judgment in the enquiry into the stranding of the C.P.R. s.s. *Empress of China*, in the Japan Sea, holding that the pilot, Capt. J. S. Stevenson, was guilty of negligence in not taking soundings when the vessel was carried out of its course owing to the abnormal set of the current, and, in addition to reprimanding him, ordered that he pay the costs of the hearing.

The Thomson Steamship Line is about to increase its service, by the addition of passenger vessels, to operate between Montreal and Naples during the summer, and between some other port, not yet selected, and Naples in the winter. An order has been placed on the Tyne for the construction of the first vessel for this service, to be named *Tortona*, and the first sailing from Montreal, it is announced, will take place in Nov.

The Hudson Bay Co.'s s.s. *Pelican* on her annual voyage from England to Hudson Bay ports, arrived at Montreal recently, and subsequently sailed for the north. During the next four months she will be engaged in delivering stores at the company's various stations. The first stop after leaving Montreal will be Cartwright, about 200 miles north of Belle Isle Straits, after which calls will be made at Rigollette, Davis Inlet and York Factory.

The Department of Trade and Commerce has decided that the subsidy of \$100,000, half of which is paid by Canada, and half by New Zealand, to the R. A. Alley Steamship Line for a service between the Pacific coast and New Zealand, be discontinued at the end of the present agreement. The New Zealand Government has declined to renew its share in view of the existing trade conditions, and the Canadian Government does not think it advisable to maintain the service alone.

The appeal of the Allan Steamship Line against the decision of the British Admiralty Court, in the case of the collision of the company's s.s. *Corinthian* with the s.s. *Malin Head* last fall, was heard before the Court of Appeal in England recently, and the judgment of the lower court, whereby the *Corinthian* was held to be solely responsible for the accident, was varied, and the blame was distributed between both vessels. Each side was directed to pay its own costs of the litigation, and each will have to

pay a moiety of the other's assessed damages.

It is reported that the Allan, Thomson and Donaldson Steamship Lines have recently drawn up a schedule of rates for the carriage of grain to Glasgow, Scotland, each company binding itself not to accept cargoes at a lower rate than named in the schedule. The rate on wheat is said to be 1s. 3d. a quarter, which is quoted against the rate of 9d. a quarter to Glasgow from Boston and New York. This, it is claimed has affected the shipments of grain from Montreal to Glasgow, to a considerable extent, and the Montreal Board of Trade has taken the matter up with the Government.

Sir Thos. G. Shaughnessy, President C.P.R., who arrived at his summer home, St. Andrews, July 11, in the course of an interview with the representative of a St. John paper, regarding new steamships for the C.P.R. Atlantic service, is reported to have said that the company had had in mind some radical changes. Its Pacific trade was demanding a larger and better type of steamer, and it was contemplated to transfer some of the large boats from the Atlantic. The character of the new vessels which would be placed on the Atlantic to take the place of those transferred would be of the best, with a capacity of about 20 or 21 knots an hour. The company did not care to make any change in this respect until it found out what the policy of the Governments concerned was regarding the future of the Atlantic service. It might turn out that after the company had entered upon the project, that the Governments would give a subsidy to a competing line, and for this reason the C.P.R. had not made any move in the direction of ordering larger vessels.

Maritime Provinces and Newfoundland.

C. H. Harvey has been appointed agent Department of Marine at Halifax, succeeding J. F. L. Parsons, who died there recently.

The sinking the fourth crib in the construction of the South Rodney wharf extension at St. John, N.B., was completed July 5.

F. Curran, F. Ferguson, W. E. Forbes and R. O'Leary have been appointed Pilotage Commissioners for Richibucto district, N.B.

The U.S. schooner *Arthur Binney*, which stranded at Fourchu, N.S., recently, is to be sold by auction, the efforts to release her having failed.

The s.s. *King Edward*, which ran ashore at Anticosti Island, last fall, and was subsequently abandoned to the underwriters, was raised and floated off, July 6.

The work of constructing ice piers at Annapolis Royal, N.S., is proceeding. The contractors are the Nova Scotia Construction Co., Sydney, and the total amount of the contract is \$46,736.

The Quebec Steamship Co.'s s.s. *Trinidad* has replaced the recently wrecked s.s. *Campana*, and sailed for Gaspé, Charlottetown and Pietou for the first time, July 5.

The St. John, N.B., city council has instructed the city engineer to report on the condition of the ferry steamboat *Ludlow's* machinery, on receipt of which tenders may be called for for the necessary repairs.

Capt. W. Livingston, who died at Bras d'Or, N.S., recently, aged 74, sailed on his first voyage in 1854 in the brigantine *Caradock*, which he had assisted his father to build. He subsequently served through the Indian Mutiny and the American Civil War, and after engaging in transatlantic business for some years, he settled in the coasting trade in which he was engaged for 30 years.

Arrangements are reported to be in progress for the construction, at Harbor Grace, Nfld., of a dock consisting of two marine railway slips, 24 ft. apart, each divided in two, making four sections, each to accommodate a vessel. Two sections will take boats of from 95 to 110 tons, and the other two, vessels of from 50 to 60 tons. The cost is estimated at about \$40,000, and it is stated that the Government will guarantee 5% interest on the stock for 10 years.

The order in council discontinuing the coasting privileges granted to foreign vessels came into force July 1. According to Halifax reports, the effects of the partial embargo upon foreign coasting have already been felt in the province. It is stated that vessels which have been laid up for some time are now being utilized, and Canadian bottoms engaged elsewhere have been attracted home and a number of new vessels are being built, the first steel vessel ever built in the maritime provinces being now under construction at Yarmouth, N.S.

L. Coste, of the Department of Public Works engineering staff, was in St. John, N.B., July 6, in connection with the proposed transfer of foreshore lots at Sand Point, for railway connections with the wharves. Among the new points to be incorporated in the transfer is that the spur lines to be constructed in connection with the proposed facilities shall be regarded as common property and that the terms of the lease shall provide that any railway desiring to connect with the wharves may obtain the use thereof. It was also announced that the G.T.P.R. would construct terminal facilities on the St. John side of Courtenay Bay.

In referring to the recent announcement regarding the tariff preference to British manufactured goods, which is to apply only to such goods as are shipped direct to Canadian ports, the Minister of Public Works said recently at St. John, N.B.: "This announcement is in accordance with the settled policy of the Government approved by Parliament in 1907, when a clause was inserted in the tariff act providing that after a date to be fixed by the Governor General in council the British preference shall be limited to importations to Canada in vessels direct to Canadian ports. At the time the act was passed, the Premier announced that the date for bringing it in force would be when the National Transcontinental Ry. was completed, and I presume that the Minister of Marine intends by his announcement to refer to the date of completion of the railway as the time when this policy will be carried into effect. I regard this as a matter of the very greatest importance for the development of Canadian ports and more especially the ports of the Maritime Provinces, which in the winter season suffer keen competition with Portland, Boston and New York. It would be one of the greatest levers that could be brought to bear in directing Canadian trade through Canadian channels."

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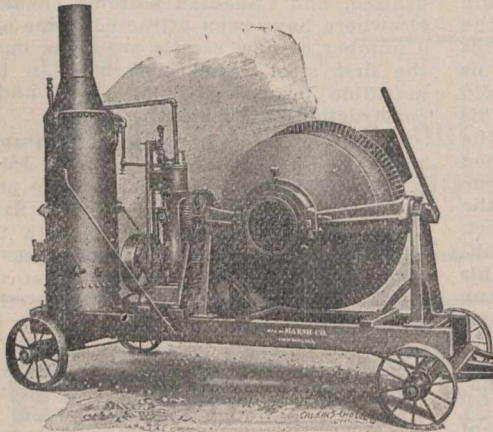
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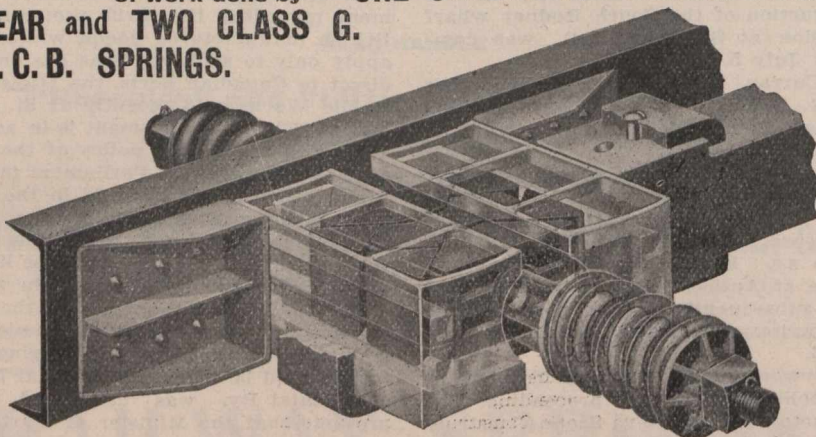
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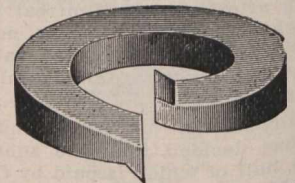
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Province of Quebec Marine

Montreal reports state that freights for outgoing vessels are, up to the present, very light, and that about half of the longshoremen are unemployed.

The Dominion Government, some years ago, obtained \$135,717.20 of Quebec harbor debenture stock, which, notwithstanding that the investment has been unremunerative, has been carried in the public accounts as an asset at par value. This amount has been eliminated, as a result of the investigation into Dominion assets by a committee appointed by the House of Commons last session.

The Montreal Harbor Commissioners' floating crane, Montreal No. 1, was tested, in the harbor, July 10, by F. W. Cowie, Chief Engineer. This is the crane which broke adrift from the tug which was towing her from England last year. The letting of the contract for the towing of her across the ocean this year to a Dutch firm, has given rise to some severe comment in England.

The Erne Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$32,000, and office at Montreal to purchase, build, or otherwise acquire and operate steam and other vessels, and to carry on the business of common carriers on the high seas and inland waters. The provisional directors are:—N. M. Ward, Orange, N.J.; G. I. Dewar, Ottawa; W. A. Taft and W. A. Taft, jr., Arlington, Mass.

The King Edward Park Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$1,000,000 and office at Montreal, to establish pleasure parks, etc., and in connection therewith to build, purchase, or otherwise acquire and operate steam and other vessels for the transportation of passengers and merchandise. The provisional directors are:—J. Gravel, E. C. dit Saint-Amour, L. A. Taillon, J. W. Blanchet, Montreal; N. M. Cantin, St. Joseph, Ont.

The steel screw tugboat Sin-Mac, illustrated on this page, and which has been built for the Sincennes-McNaughton Line, Montreal, by Archd. McMillan & Son, Dumbarton, Scotland, was launched there May 12, and, after having her machinery fitted on board, proceeded on trial on June 3, when a speed of 14¼ miles per hour was attained, which was considered very satisfactory. The vessel is of the following dimensions:—Length, 138 ft.; breadth, 26 ft.; depth, 14 ft. She is fitted with triple expansion engines, having cylinders 17½", 28" and 46" x 30" stroke, supplied with steam at 185 lbs. pressure from one large boiler fitted with forced draught. She has all latest improvements for quick handling of vessels under tow, including a large steam towing winch, and is also fitted with salvage apparatus as well as appliances for extinguishing fires in harbors. The accommodation is of a very superior nature, the rooms being large and well furnished, and she is fitted throughout with electric light. Water ballast is arranged for in cellular double bottom under engine space and also in fore and after peaks. This is the second and larger of two such vessels built by McMillan & Son for the same owners. The Sin-Mac arrived at Montreal recently, and has been put into service. Her first tow was performed by bringing up the first sailing vessels to enter Montreal for several years.

Ontario and the Great Lakes.

The Hamilton longshoremen struck work, July 8, for an increase of pay from 25c. to 37c. an hour.

The Inland Navigation Co.'s steamboat Dunelm, bound from Fort William to Montreal, ran aground at Presqu'Île Bay, July 9.

The Farrar Transportation Co.'s steamboat Collingwood was docked at Collingwood, July 6, for bottom repairs, after grounding at Michipocoten harbor.

Representatives of the Belgian Government visiting Canada inspected the Welland Canal, July 9, paying particular attention to the operation of the locks.

The coal handling record at Fort William was broken in May, when about 200,000 tons was handled at the C.P.R. docks. This is about 20,000 tons ahead of any previous month.

Capt. John Ellison, well known on the lakes as a builder of vessels, wharves and harbors, and as a vessel captain, died at Port Stanley, recently, aged 66. He was a Fenian Raid veteran.

The C.P.R. s.s. Assiniboia is again on her route after being overhauled and having 17 plates and 7 frames straightened. The damage was caused in the recent accident at the Sault Ste. Marie locks.

F. King, Counsel Dominion Marine Association, has been appointed a member of the Great Lakes and St. Lawrence Navigation and Improvement Association, which is taking up the question of deepening the Welland and other canals on that route.

The Northern Navigation Co.'s s.s. Hamonic was presented with a Canadian ensign in silk, and the captain with an illuminated address, on her arrival at Port Arthur recently on her maiden trip. Civic welcomes were accorded at Port Arthur and Fort William.

An order in council has been passed exempting all Canadian fishing vessels, whilst employed exclusively in fishing, from paying side wharfage, and all fish, on being landed, whether fresh, partly or wholly cured, if of the ship's catch, from paying top wharfage.

The C.P.R. is pushing forward the construction of its docks at Victoria Harbor, and Government dredges are at work there. It is anticipated that though the work will not be completed this year,

that sufficient will be done to enable grain to be handled by this route in the fall.

Frank Plummer and C. H. F. Plummer have formed a partnership as Plummer & Plummer, vessel owners, etc., to manage The Canadian Lake Transportation Co., Ltd., The Canadian Lake Line and other steamship interests. Their offices are at 18 Wellington St. East, Toronto.

The C.P.R. upper lake service, which was put in full force July 4, consists of the Assiniboia, Keewatin, Manitoba, Alberta and Athabasca. A five days a week service is being operated each way between Owen Sound and Fort William, an increase of two sailings each way over previous service.

The Lake Carriers Association has issued a notice that the dredging plant operating in the middle Neebish Channel is now engaged in the south channel, or west of the centre line, between Mud Lake and Hay Lake, and cautioning vessels to keep in the east half of the channel, as indicated by lights and buoys along the centre line.

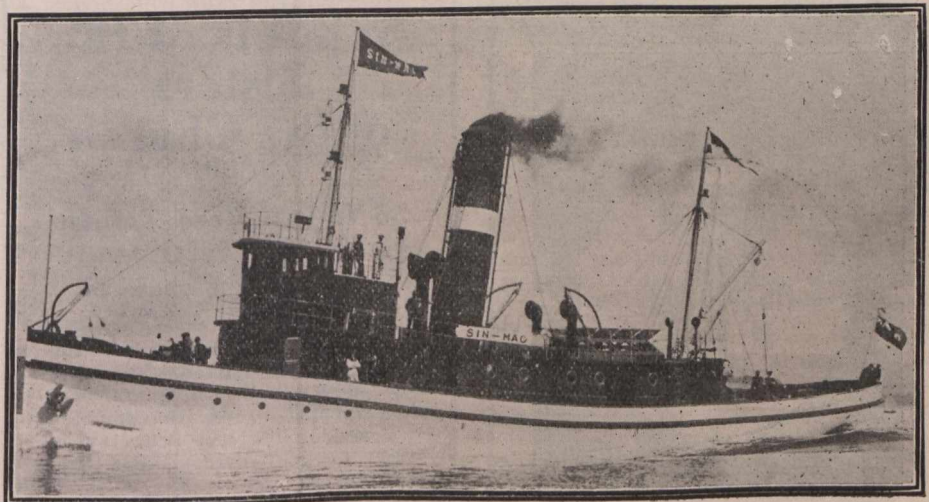
The Minister of Public Works, at a meeting of the Canadian Club at Fort William, recently, said that the harbor would be dredged to a depth of 25 ft., so that the largest lake vessels would be able to use it without danger, and that a deep channel to the G.T.P. elevator on the Mission River would be completed by September.

The Hamilton Ferry Co., which operates a summer park at Oaklands, will run the steamboats John R. and Ivan R. across Hamilton bay during the season. The John R., which has recently been reconstructed, is, according to a Toronto daily paper, to run between Toronto and Hamilton, but we are advised that she cannot operate outside Hamilton bay.

Following is a list of the vessels operated this season by the Upper Ontario Steamboat Co., together with the captains and chief engineers:—

Adrelexa	— Harris	P. Soul
Aileen	R. Hansen	J. McCaw
Britannia	H. A. Cartwright	T. Arbin
Gipsy	W. Hamilton	— Stoner
Lena May	H. P. Lawson	E. Spurway
S. & Y.	W. R. Reynolds	— Adams
St. Antoine	R. Rowlandson	G. Mongrain
Wenona	A. McLeod	C. Carrier

The effect of the wreck of the locks in the Sault Ste. Marie Canadian canal, early in June, is shown by the traffic returns given on another page. The num-



Steam Tug Sin-Mac of Sincennes-McNaughton Line.

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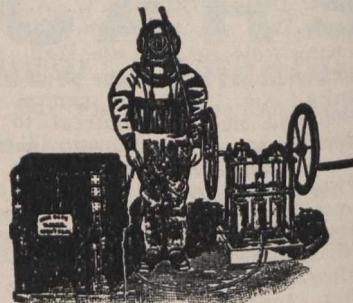
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ber of vessel passages through the Canadian canal during June was 455, and through the U.S. canal, 1,895, against 688 and 1,264 respectively, for June, 1908. The total freight, however, shows a large increase, being 1,742,015 tons, against 988,884 tons for June, 1908.

An order in council has been passed, defining the limits of the port of Sarnia, as follows:—All the waters of the River St. Clair east of the international boundary line from a point on the beach, 500 yds. north of the north wall of the G.T.R. passenger station on the north, to the several outlets of the said river into Lake St. Clair on the south, including the whole of Sarnia bay, as well as any dredged channels at the mouths of the rivers.

The Canadian Lake and Ocean Navigation Co.'s steamboat H. M. Pellatt, which is being operated this season by the Merchants' Mutual Line, while docking at Toronto, June 30, collided with and sank the Toronto Ferry Co.'s steamboat John Hanlan, which was moored to the wharf. The John Hanlan was built at Port Dalhousie, Ont., in 1884, and has been on the Toronto ferry route since 1890. It is said that she is insured for about \$5,000, representing half her value.

C. J. Smith, Manager Richelieu and Ontario Navigation Co., and President Dominion Marine Association, has been added to the committee of the Association of Passenger Steamboat Lines, which is investigating the workings of a co-operative insurance plan for vessels operating on the Great Lakes, etc., similar to that recently adopted by the lake freight lines. A report on the matter will be presented at the association's winter meeting at Washington, D.C.

The Mathews Steamship Co.'s steamboat Haddington, operated by the Merchants Mutual Line, Toronto, in passing through the Rapids to Montreal, recently, lost her rudder and shoe. She was towed to Kingston, where she was docked and a new rudder and shoe supplied by the Polson Iron Works, Toronto, were applied. A considerable time in completing the repair was saved by adopting the Goldschmidt Thermit process in effecting the adjustment.

T. J. Stockwell, Kingsville, Ont., recently sued the Doty Engine Works, Goderich, in connection with the sale of the steamboat Lincoln. The defendants had sold the steamboat to the plaintiff for \$12,000, of which it was claimed \$900 had been paid on account. It was also claimed that defendants had not carried out their contract as to rebuilding; that the workmanship was inferior and that the vessel had been seized and re-sold for \$10,000. The claim was dismissed with costs.

The U.S. Lake Survey reports the stages of the great lakes for June in feet above tidewater as follows:—Superior, 601.93; Michigan and Huron, 581.07; Erie, 573.21; Ontario, 247.30. It was anticipated that, during July, Superior would rise 2 3/4 ins., Michigan and Huron, 2 ins.; Erie, 1/2 in., and Ontario, 1/2 in. Compared with the average June stages for the past 10 years, Superior was 9 ins. lower, Michigan and Huron, 1/4 in. higher; Erie, 5 1/4 ins. higher, and Ontario, 7 1/4 ins. higher.

Capt. A. W. Crawford, who was connected with lake transportation for many years, died at Toronto, July 3, aged 55. Between 1893 and 1903 he was captain

at different times of the Hamilton Steamboat Co.'s steamboats Macassa and Modjeska. He was one of the organizers of the Turbine Steamship Co., and brought the s.s. Turbinia over from England, and was the first commander. He retired from navigation business a few years ago. His son, H. Crawford, is manager Argyle Steamship Co.

The Prescott and Ogdensburg Ferry Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000, and office at Prescott, Ont., to acquire and operate steam and other vessels and transfer plant for the purpose of conveying passengers, freight, railway cars with passengers and freight, mails and other traffic on the River St. Lawrence between Prescott, Ont., and Ogdensburg, N.Y., and for other purposes. The provisional directors are: J. E., F. W., E. M. and J. Dubrule, Jr., J. K. Dowsley, Prescott, Ont.

An order in council has been passed providing rules for the regulation of traffic at the Lime Kiln Crossing in the Lower Detroit River. The Lower Detroit River is defined to include all the limits of the port of Amherstburg, which shall be in charge of the harbor master, and the rules provide that no freight boat down-bound shall pass or approach another freight boat bound in the same direction, nearer than one-quarter mile, between the north limit of the port and the lower end of Bois Blanc Island; no passenger boat down-bound shall pass another boat down-bound between the south gas buoy 2, Ballard Reef channel, and the head of Bois Blanc Island; no vessel shall pass another going in the same direction or in the opposite direction in the narrow portion of the channel at Lime Kiln Crossing, during the widening of the channel. Other provisions relate to the slowing down, signalling, etc., of vessels and the powers of the harbor master of the port.

Manitoba, Saskatchewan and Alberta.

Following are the vessels operated by the Northern Fish Co., Selkirk, Man., this season, with the names of the captains and chief engineers:—

Alert	J. Olson	A. Paquette
Balmoral	F. Joyce	B. Reid
Chieftain	J. Stevens	A. Sinclair
Highlander	W. P. Simpson	J. Black
Idell	S. Stefanson	W. Jarvis
Tempest	W. R. Thomas	J. Dewar
Wolverine	T. E. Pollock	J. Seaman

A suggestion was recently made by J. Conmee, M.P., that a canal should be constructed from the head of the lakes, by way of the Kaministikwia River and other waters, to the Saskatchewan River, thus connecting the Great Lakes with the foothills of the Rockies. He stated that the canal would be 2,000 miles long, with very little restricted water, and would be the cheapest canal for its length ever constructed.

The Hyland Navigation and Trading Co.'s steamboat Winnitoba was launched from J. L. Hyland & Co.'s yard, near the mouth of the Seine, St. Boniface, Man., July 6. The actual dimensions of the vessel are: length, 187 1/2 ft.; breadth, 44 ft.; beam, 30 ft.; depth, 9 ft.; light draught, 5 ft.; loaded draught, 6 1/2 ft. She is equipped with two 250 h.p. engines, for a speed of 19 miles an hour; lighted with electricity supplied by 25 kilowatt direct connected apparatus. She will be able to accommodate 1,500 river passengers, or 1,000 lake passen-

gers, and has berth accommodation for 225. She will be operated on the Red River and Lake Winnipeg.

B.C. and Pacific Coast Marine.

The name of the schooner Selma has been changed by order in council to Elsie Bradford.

An order in council has been passed declaring Prince Rupert to be a port of registry for ships, etc.

Capt. D. McPhaiden, shipping master at Vancouver, and a well known coast seaman, died there recently, aged 81.

The steamboat Leebro sailed from Victoria recently with men and material for the construction of a second order lighthouse at the mouth of Quatsino Sound.

Capt. C. W. Seal, for many years chief officer of the C.P.R. s.s. Empress of Japan, died at Vancouver, recently, aged 56. He retired from the sea some years ago.

Nothing has, as yet, been done regarding the construction of the steel passenger steamer, which the C.P.R. recently decided to build for its Pacific coast service. The matter is said to be in abeyance.

An agreement is said to have been reached between the Nelson council and the C.P.R., whereby the company takes over the city dock at an annual rental, with a reasonable tariff for all users.

The Dominion Warehouse and Cartage Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$50,000, to carry on the business of warehousemen in all its branches, and in connection therewith to build, purchase or otherwise acquire and operate steam and other vessels and to carry passengers and goods.

The C.P.R. s.s. Princess Charlotte has been equipped with a system of wireless telegraphy, and it is stated that a portable equipment has been constructed for the s.s. Princess Royal, to be placed on the upper deck, but which can be transferred from vessel to vessel.

The North Vancouver City Ferries, Ltd., has been incorporated under the B.C. Companies Act with a capital of \$250,000, to carry into effect an agreement made with the city of North Vancouver, and in connection therewith to purchase, lease or otherwise acquire steam and other vessels for the conduct of ferries, etc., and to act as general carriers, ship-owners, stevedores, forwarding agents, etc.

The Royal City Navigation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, to build, purchase or otherwise acquire and operate steam and other vessels for the conveyance of passengers and merchandise and to carry on generally the business of carriers by land and water. The company, it is announced, has decided to acquire or build a steamboat to take the place of the Ramona on the up-river run.

During May, 6 employes were killed and 13 injured in the course of their work of navigation in Canada. Of the fatalities, 4 were due to drowning, and one each to a fall and to fire. Of the other accidents, 4 were due to a fire, 3 each to falling material and to falls, 2 to an explosion of gasoline and one to machinery.

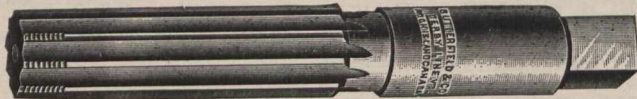


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St. Andrew's Lock and Dam.

The Minister of Public Works made an inspection trip over the works in connection with the construction of St. Andrew's lock and dam on the Red River, near Winnipeg, July 3. He announced that the work would be completed and in readiness for operation by the opening of navigation in the spring. The lock is similar in type to those on the Welland canal, and will accommodate a vessel 215 ft. long, 45 ft. wide, and having a draught of 9 ft. After the inspection, the minister said, that a warm tribute was due to the ability and zeal of the department's engineer in charge of the work, Mr. Dufresne, and to the contractors, Quinlan and Robertson, between whom and the department there had never been the least friction. What this work would mean to Winnipeg no man could estimate, for the great north land bordering Lake Winnipeg—the fifth largest lake in America—held resources as yet unknown. Something was known of the supplies of fuel, lumber, building stone, iron ore and gypsum, which then could be tapped, and it was pointed out that the saving of \$1 a cord to the consumer on the cordwood likely to be brought up the river would alone represent a sum equal to the interest on the cost of the work. Exclusive of the sums spent in earlier years, prior to the abandonment of the work, the lock and dam had cost \$1,100,000, and the speaker thought the character of the work before them, and the results likely to accrue, quite justified the expenditure of this sum. The change from stone work to concrete had been a good one, due to this it had been possible to push the work forward all winter, and the quality of the concrete in the piers before them was obviously of the finest. The placing in position of the rolling curtain dam would have the effect of raising the water level at Winnipeg 2 ft., giving 9 ft. of navigable water at that point. The dam before them was 800 ft. long and 25,000 cubic yards of concrete had entered into its construction. Some idea of the magnitude of the undertaking at St. Andrew's may be gained from the fact that upwards of 360 car-loads of cement have been used on the work and cement forms only about one-eighth part, by bulk, of the concrete, so that 100 trains of 30 cars to the train would be required to haul the dry matter, cement, sand, gravel and rock, that has entered into the concrete work alone. The steel superstructure is a feature of the present work. It is of the two-deck type. The lower level

is for use in connection with the movable curtain dams. An electric travelling crane for raising and lowering them will run on this level, while the upper level will be used as a traffic bridge to connect the two sides of the river.

Statistics of Canadian Shipping.

The total number of vessels of all kinds on the Canadian register at Dec. 31, 1908, was 7,602, with a gross tonnage of 702,324 tons, an increase of 74 vessels and 3,636 tons over 1907. The number of steam vessels on the register is 3,084, with a gross tonnage of 483,031 tons, which at an assumed average value of \$30 a ton, represents a total value of \$21,069,720. The number of new vessels built and registered during 1908 was 304, with a register tonnage of 28,983 tons, which at an average value of \$45 a ton shows a total value of \$1,304,235 for new vessels. This shows a slight falling off as compared with 1907, as shipbuilding in Canada in 1908, as in other countries, was not so active as in the previous year. During 1908, 281 vessels were removed from the register. Of these, 12 were sold to foreigners, 29 wrecked, 12 stranded, 17 lost, 125 broken up, 7 abandoned, 2 wrecked in collision, 2 missing, 6 foundered, 17 burnt, 4 condemned, 15 transferred to Newfoundland, 12 transferred to Barbadoes, and 21 were reported out of existence. During the same period, the names of 20 vessels were changed by orders in council. The number of vessels and their tonnage, according to provinces, is as follows:—

	Sailing Ships and Steamers.	Steamers.	Gross tonnage of steamers.	Net tonnage of sailing ships and steamers.
Ontario	2,028	1,474	187,264	192,970
Quebec	1,384	432	114,711	172,975
Nova Scotia ..	2,053	236	31,153	164,919
Brit. Columbia	939	642	81,473	87,056
New Brunswick	938	184	54,295	66,402
P. E. Island.	154	20	4,492	10,387
Manitoba	87	79	6,149	4,341
Yukon District.	16	14	3,213	2,984
Saskatchewan..	4	3	281	290
Totals	7,602	3,084	483,031	702,324
Totals, 1907.	7,528	3,007	471,795	698,688

The ports of registry are distributed as follows:—Ontario, 38; Nova Scotia, 21; New Brunswick, 7; Quebec, 6; British Columbia, 3; Prince Edward Island, Manitoba, Saskatchewan and the Yukon District, 1 each, while in Alberta no provision has been made for the registration of vessels. The ports having a net ton-

nage of 10,000 tons and over are:—

	Vessels.		Net Tonnage.
	Sailing.	Steam.	
Montreal	434	253	124,297
St. John, N.B.	232	101	51,282
Victoria	110	156	46,479
Quebec, Que.	463	161	42,826
Toronto	83	315	39,214
Windsor, N.S.	72	14	33,460
Ottawa	155	246	32,302
Vancouver, B.C.	113	375	29,409
Lunenburg, N.S.	272	11	22,686
Halifax	321	86	20,374
Parrsboro, N.S.	86	7	19,120
Yarmouth, N.S.	280	29	18,328
Kingston, Ont.	62	136	17,975
Collingwood, Ont. ...	3	77	11,832
Midland, Ont.	3	24	11,459
New Westminster, B.C.	74	111	11,168
Charlottetown, P.E.I..	134	20	10,387

In 1906 there were only 7 vessels on the register of 3,000 gross tons, or over, and in 1907 there were 24, while during 1908 the number was increased to 27. The new vessels built during 1908 are as follows, by provinces:—

	Vessels.	Tons.
Ontario	46	8,695
Quebec	62	7,279
Nova Scotia	80	6,600
British Columbia	76	4,778
New Brunswick	32	1,288
Prince Edward Island	5	254
Yukon District	2	80
Manitoba	1	9
Totals	304	28,983

The names, dimensions, etc., of these vessels were published in our columns monthly, during the year, and lists of the vessels registered during the current year are also appearing monthly, together with the names and tonnage of the vessels removed from the register, and the causes therefor.

Quebec Transportation Club.—The members of the club were the guests of the Richelieu and Ontario Navigation Co., July 3, when a party went by boat to Murray Bay, where they were met by H. W. Paterson, representing the company. Dinner was served at the Manoir Richelieu, and was followed by a dance. The return to Quebec took place July 5. Among those present were: J. Mathews, City Agent, I.C.R.; F. M. Spaidal, General Superintendent, Canadian Northern Quebec and Quebec and Lake St. John Rys.; G. H. Stott, City Passenger and Ticket Agent, G.T.R.; W. J. Thompson, Manager Quebec and Levis Ferry Co.; J. A. Everell, Superintendent Quebec Ry. Light and Power Co.; F. S. Stocking, City Passenger and Ticket Agent, Quebec Central Ry.; M. P. Conolly, General Agent, R. and O. Nav. Co.; A. H. Davis, Chief Clerk, C.P.R.; W. Langford, Master Mechanic, J. S. Blanchet, Car Accountant, J. T. Cassels, Superintendent Overhead Construction, Quebec Ry. Light and Power Co.

The Purchasing Agents' Guide

To the Manufacturers of and Dealers in Steam and Electric Railway, Marine, Grain Elevator, Express, Telegraph Telephone and Contractors' Supplies, &c.

- Aerated Waters**
E. L. Drewry Winnipeg.
- Air Brakes and Fittings**
Canadian Westinghouse Co. Hamilton, Ont.
- Axes**
E. L. Drewry Winnipeg.
- Anchor, Ground**
Ground Anchor Co. Montreal.
- Angle Bars**
Hamilton Steel & Iron Co. Hamilton, Ont.
Montreal Rolling Mills Co. Montreal.

- Anti Rail Creepers**
The Holden Co., Ltd. Montreal.
- Automobiles**
Polson Iron Works, Ltd. Toronto
- Axes**
Hamilton Steel & Iron Co. Hamilton, Ont.
James Smart Mfg. Co. Brockville, Ont.
- Axles**
James Hutton & Co. Montreal.
Jas. W. Pyke & Co. Montreal.
Rhodes, Curry & Co. Amherst, N.S.
- Beacons**
International Marine Signal Co. Ottawa.

- Bearings, Slide**
Chicago Railway Equipment Co. Chicago.
Dominion Car and Foundry Co. Montreal.
Union Draft Gear Co. Chicago, Ill.
- Blankets and Bedding**
The Hudson Bay Co.
- Boilers**
Babcock & Wilcox, Ltd. Montreal.
Polson Iron Works, Ltd. Toronto.
Robb Engineering Co., Ltd. Amherst, N.S.
- Boilers, Portable**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.

- Boilers, Stationary and Marine**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N. S.
- Boiler Staybolt Iron or Steel Bars**
Falls Hollow Staybolt Co. Cuyahoga Falls.
- Boilers, Steam**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.
- Boilers, Water Tube**
Babcock & Wilcox, Ltd. Montreal.
Robb Engineering Co., Ltd. Amherst, N.S.
- Bolsters**
Dominion Car and Foundry Co. Montreal.
- Bolts, Bridge**
Montreal Rolling Mills Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Bolts, Carriage and Machine**
Toronto Bolt and Forging Co. Toronto.
- Bolts, Track**
Montreal Rolling Mills Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Books**
Engineering News Book Dept. New York.
Renouf Publishing Co. Montreal.
- Borers, Car Wheel**
John Bertram & Sons Co. Dundas, Ont.
- Braces, Cross Arm**
Montreal Rolling Mills Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Brake Beams**
Chicago Railway Equipment Co. Chicago.
Dominion Car and Foundry Co. Montreal.
- Brake Shoes**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
The Holden Co., Ltd. Montreal.
- Brake Shoes, Electric Ry.**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
- Brake Shoes, Locomotive Driver**
Am. Brake Shoe & F'dry Co. Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
- Brass and Copper Cloth**
The B. Greening Wire Co. Hamilton, Ont.
- Bridge Numbers**
Acton Burrows, Limited. Toronto.
- Bridges**
Canadian Bridge Co. Walkerville, Ont.
Dominion Bridge Co. Montreal.
- Buckets, Coal, Ore and Concrete**
Brown Hoisting Machinery Co. Cleveland.
- Buildings, Steel**
Canadian Bridge Co. Walkerville, Ont.
Dominion Bridge Co. Montreal.
- Bumping Posts**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Buoy Lighting**
Safety Car Heat. & Light. Co. New York.
- Buoys**
International Marine Signal Co. Ottawa.
- Cables Electric and Feeder**
E. F. Phillips Electrical Works. Montreal.
The Wire and Cable Co. Montreal.
- Car Loaders, Box**
Mussens, Ltd. Montreal.
- Car Movers**
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
- Cars**
American Car & Equipment Co. Chicago.
R. M. Burns & Co. Chicago, Ill.
Canada Car Co., Ltd. Montreal.
Crossen Car Mfg. Co. Cobourg, Ont.
Dominion Car and Foundry Co. Montreal.
J. T. Gardner. Chicago, Ill.
Hart-Otis Car Co., Ltd. Montreal.
Hicks Locomotive and Car Works. Chicago.
Ottawa Car Co., Ltd. Ottawa.
Preston Car and Coach Co., Ltd. Preston.
Rhodes, Curry & Co. Amherst, N.S.
Silliker Car Co., Ltd. Halifax, N.S.
- Castings**
Crossen Car Mfg. Co. Cobourg, Ont.
Standard Steel Works Co. Philadelphia, Pa.
- Castings, Brass**
Canadian Bronze Co. Montreal.
Canada Iron Corporation, Ltd. Montreal.
Kerr Engine Co. Walkerville, Ont.
Tallman Brass & Metal Co., Ltd. Hamilton.
- Castings, Car**
American Brake Shoe & F'dry Co. Mahwah.
Canada Iron Corporation, Ltd. Montreal.
- Castings, Iron**
Canada Car Co., Ltd. Montreal.
Canada Iron Corporation, Ltd. Montreal.
Kerr Engine Co. Walkerville, Ont.
- Castings, Iron and Steel**
American Brake Shoe & F'dry Co. Mahwah.
- Castings, Malleable**
Galt Malleable Iron Co. Galt, Ont.
Taylor & Arnold. Montreal.
- Castings, Manganese Steel**
Montreal Steel Works, Ltd. Montreal.
- Castings, Steel**
Canada Iron Corporation, Ltd. Montreal.
Montreal Steel Works. Montreal.
Rhodes, Curry & Co. Amherst, N.S.
- Chains**
B. J. Coghlin & Co. Montreal.
- Closets, Car**
Duner Co. Chicago, Ill.
- Compressors, Air**
Canadian Rand Co. Montreal.
- Concrete Mixers and Rock Crushers**
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
Toronto Pressed Steel Co. Toronto.
- Contractors' Supplies**
F. H. Hopkins & Co. Montreal.
Rice Lewis & Son. Toronto.
Toronto Pressed Steel Co. Toronto.
- Conveyors, Coal and Ash**
Babcock & Wilcox, Ltd. Montreal.
- Copying Presses**
James Smart Mfg. Co. Brockville, Ont.
- Couplers, Car and Locomotive**
Dominion Car and Foundry Co. Montreal.
McConway & Torley Co. Pittsburgh, Pa.
National Malleable Castings Co. Cleveland.
Taylor & Arnold. Montreal.
- Cranes**
Brown Hoisting Machinery Co. Cleveland.
- Cranes, Electric**
Babcock & Wilcox. Montreal.
Dominion Bridge Co. Montreal.
Mussens Limited. Montreal.
- Cranes, Locomotive**
American Hoist and Derrick Co. St. Paul.
- Cranes, Wrecking**
Mussens Limited. Montreal.
- Crowbars**
B. J. Coghlin & Co. Montreal.
Toronto Bolt and Forging Co. Toronto.
- Curtains and Fixtures, Car**
The Holden Co., Ltd. Montreal.
- Cuts**
Acton Burrows, Limited. Toronto.
- Derailing Devices**
Hayes Track Appliance Co. Geneva, N.Y.
- Derricks**
American Hoist and Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
Mussens Limited. Montreal.
- Dies**
Butterfield & Co. Rock Island, Que.
A. B. Jardine & Co. Hespeler, Ont.
- Ditchers**
M. Beatty & Sons. Welland, Ont.
- Diving Outfits**
John Date. Montreal.
Mussens Limited. Montreal.
- Doors, Steel Rolling**
Mussens Limited. Montreal.
- Door Signs**
Acton Burrows Limited. Toronto.
- Draft Gear**
Farlow Draft Gear Co. Baltimore, Md.
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
Standard Coupler Co. New York City.
Union Draft Gear Co. Chicago, Ill.
Waugh Draft Gear Co. Chicago, Ill.
- Draughtsmen's Supplies**
John A. Hart & Co. Winnipeg.
- Dredges**
M. Beatty & Sons. Welland, Ont.
- Drills, Air**
Canadian Rand Co. Montreal.
- Dry Goods**
The Hudson's Bay Co.
- Dump Cars (Contractors')**
Canadian Road Machine Co. Ltd. Hamilton.
F. H. Hopkins & Co. Montreal.
Toronto Pressed Steel Co. Toronto.
- Dump Cars, Hand**
Meaford Wheelbarrow Co., Ltd. Meaford.
- Dust Guards**
Harrison Dust Guard Co. Toledo, O.
- Dynamometers**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Dynamo and Electric Castings**
American Brake Shoe & F'dry Co. Mahwah.
- Economizers**
Babcock & Wilcox (Ltd.) Montreal.
- Electric Car Route Signs**
Acton Burrows Limited. Toronto.
- Electric Apparatus**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Elevators, Grain**
John S. Metcalfe Co. Chicago, Ill.
- Enameled Iron Signs**
Acton Burrows Limited. Toronto.
- Engines, Automatic**
Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Corliss**
Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Gasoline**
Ontario Wind Engine & Pump Co. Toronto.
- Engines, Hoisting**
American Hoist and Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
Robertson Mfg. Co. Welland, Ont.
- Engines, Stationary and Marine**
Polson Iron Works, Ltd. Toronto.
Robb Engineering Co., Ltd. Amherst, N.S.
- Engines, Steam Steering, for Tugs**
Sheriffs Mfg. Co. Milwaukee, Wis.
- Explosives**
Standard Explosives Limited. Montreal.
- Express Office Signs**
Acton Burrows Limited. Toronto.
- Fencing**
McGregor Banwell Fence Co. Walkerville.
Owen Sound Wire Fence Co. Owen Sound.
- Fire Brick**
Mussens Limited. Montreal.
- Flags**
The Hudson's Bay Co.
- Flour**
The Hudson's Bay Co.
- Forgings**
Canada Car Co., Limited. Montreal.
Cleveland City Forge & Iron Co. Cleveland.
Crossen Car Mfg. Co. Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd. Hamilton.
Standard Steel Works Co. Philadelphia, Pa.
- Foundry Appliances**
Goldschmidt Thermit Co. Toronto.
- Frogs**
Canadian Ramapo Iron Wks. Niagara Falls.
- Furnaces, Corrugated**
Continental Iron Works. Brooklyn, N.Y.
- Fuse Batteries**
Standard Explosives Limited. Montreal.
- Fuse Detonators**
Standard Explosives Limited. Montreal.
- Fuses, Electric**
Standard Explosives Limited. Montreal.
- Gaskets**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
- Gates**
McGregor Banwell Fence Co. Walkerville.
Owen Sound Wire Fence Co. Owen Sound.
- Gates, Crossing**
General Railway Signal Co. Rochester, N.Y.
The N. L. Piper Ry. Supply Co. Toronto.
- Gauges, Locomotive**
Taylor & Arnold. Montreal.
- Generators, Electric**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Grates, Shaking**
Babcock & Wilcox, Ltd. Montreal.
- Groceries**
The Hudson's Bay Company.
- Guides and Outfitters**
Otto Bros. Field, B.C.
- Hammers, Cast Steel**
American Brake Shoe & F'dry Co. Mahwah.
James Smart Mfg. Co. Brockville, Ont.
- Handcars**
Crossen Car Mfg. Co. Cobourg, Ont.
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
Rice Lewis & Son. Toronto.
Toronto Pressed Steel Co. Toronto.
- Hardware**
The Hudson's Bay Co. Toronto.
Rice Lewis & Son.
- Headlights**
The N. L. Piper Ry. Supply Co. Toronto.
Pyle National Elec. Headlight Co. Chicago.
- Headlinings**
Crossen Car Mfg. Co. Cobourg, Ont.
- Heaters, Feedwater**
Robb Engineering Co., Ltd. Amherst, N.S.
- Heating, Car**
Canadian Gold Car H'g & L'g Co. Montreal.
Safety Car Heating & L'ting Co. New York.
- Hoists, Electric**
American Hoist & Derrick Co. St. Paul.
- Hoists (Pneumatic)**
Taylor & Arnold. Montreal.
- Hollow Staybolt Iron and Steel Bars**
Falls Hollow Staybolt Co. Cuyahoga Falls.
- Hoppers, Car (Wet or Dry)**
Duner Co. Chicago, Ill.
- Hydrants**
Kerr Engine Co. Walkerville, Ont.
- Illustrations**
Acton Burrows Limited. Toronto.
- Inspections**
R. W. Hunt & Co. Montreal.
- Insurance, Accident**
Canadian Ry. Accident Ins. Co. Ottawa.
Imperial Guarantee & Ac. Ins. Co. Toronto.
- Insurance, Boiler**
Canadian Casualty & Boil. Ins. Co. Toronto.
- Interlocking Plant and Signals**
General Railway Signal Co. Rochester, N.Y.
Montreal Steel Works. Montreal.
Saxby and Farmer, Ltd. Montreal.
- Iron and Steel Bars**
Hamilton Steel & Iron Co., Ltd. Hamilton.
- Iron, Pig**
Hamilton Steel & Iron Co., Ltd. Hamilton.
- Iron Signs**
Acton Burrows Limited. Toronto.

Among the Express Companies.

A. C. Egan has been appointed Travelling Auditor Canadian Northern Ex. Co., vice L. F. Muncey, who has been transferred to other duties.

J. H. O'Connor has been appointed agent Dominion Ex. Co., Winnipeg, succeeding W. M. Gordon, General Agent, appointed Superintendent Western Division.

A Montreal despatch says express companies' employees are forming a union, and that a demand will be made for the longest run for messengers not to exceed ten hours, for a 9 hour day for drivers, porters and clerks, and for 10 days holiday annually with full pay.

F. P. Brady, General Superintendent Canadian Government Railways, and member of the C.G.R. Managing Board, is reported to have been in conference with V. G. R. Vickers, Superintendent Dominion Ex. Co., Montreal, recently at St. John, N.B., as to the handling of express matter by the I.C.R.

The Board of Railway Commissioners heard a complaint from the Niagara district fruit growers, July 7, against the Canadian Ex. Co., regarding rates from Queenston, which, it was stated, had been advanced from 30c. to 40c. per 100 lbs. In delivering judgment, Chief Commissioner Mabee said that the whole matter of express rates is under consideration, and it was understood that while the matter was pending the existing rates would be maintained. He continued that the Commission has no power to compel the express companies to accept freight, but would issue an order confirming the 30c. rate. The order is given on another page.

The Interstate Commerce Commission has decided, in the matter of contracts of express companies for free transportation of their men and material over railways, that a railway company may lawfully transport the men and supplies of an express company without reference to any tariff provision when employed or used in the business of the express company upon the line of the railway itself, and in the same manner an express company may lawfully transport the packages of a railway company between points upon that line of railway without reference to its tariff rates, and further that a railway company may not lawfully transport men and supplies of an express company when employed or used in the business of that company at points not on the line of railway, and an express company may not lawfully transport for a railway packages between points on its route but not on that particular line of railway.

Marconi Wireless Telegraph Co.

The annual meeting of the shareholders was held in London, Eng., June 28, when the report for the year 1908 was presented. During the year the company made substantial progress. The fresh capital obtained enabled the directors to meet current engagements and to provide for the expenditure required to complete the transatlantic stations at Clifden, Ireland, and Glace Bay, N.S., and in addition allowed the carrying out of the scheme of reorganization of the works which were now on a thoroughly profitable working basis. As soon as the British Post Office authorities give effect to the agreement relative to the acceptance and delivery of Marconi transatlantic messages at all telegraph offices in the

United Kingdom, G. Marconi will visit Glace Bay preparatory to the completion and duplication of that station. The directors regret that they are not able to declare a dividend, but feel that the prospects and position of the company are highly satisfactory and promising, and confidently anticipate that the dividend paying period will be speedily entered upon. In closing their remarks the directors mention the enormous service that wireless telegraphy renders to ships in distress, mentioning the loss of the s.s. Republic and also the wreck of the s.s. Slavonia.

Telegraph and Cable Matters.

C. Mackay, President Mackay Companies, has denied that his company has secured control of the Western Union Telegraph Co.

The directors of the Montreal Telegraph Co. at a recent meeting adopted a resolution expressing their sorrow at the death of A. T. Paterson, Vice President, and placing on record their appreciation of his services.

Sir Sandford Fleming, who sailed for England on the C.P.R. s.s. Empress of Ireland, July 2, will, it is reported, consult the British Government on the question of an additional, or cheaper, cable communication as discussed at the recent Imperial Press Conference there.

It is reported that satisfactory progress has been made with the extension of the Government telegraph line from Athabasca Landing, Alta., westward to Lesser Slave Lake. During last winter, poles were cut for the entire distance and the work of erecting them and stringing wires was commenced early in June, and about 20 miles completed about the middle of the month.

An experiment is reported to be contemplated to establish a wireless telegraph station on the Peel River, about 2,000 miles north of Edmonton, Alta., to provide direct communication between the Arctic circle east of the divide and other centres. The report states the communication will take place between Warn's Camp at Peel River and Seattle, Wash., by relays at Eagle, Valdez and Vancouver.

G. Marconi, in speaking at a meeting of the Marconi Wireless Telegraph Co. in London, Eng., recently, is reported to have said that no doubt a very great extension of the trans-atlantic service might be anticipated. As soon as the duplicate station in Canada was completed his company would be able to accept from 15,000 to 20,000 words a day.

The work of laying an extension cable of 300 miles from Newfoundland to join an existing Atlantic cable of the Commercial Cable Co. has been taken in hand. The cable ship Colonia is in charge of the operation. The company has completed an insurance in connection with the work of £185,000, which, added to the insurance already in force on the vessel, makes a total insurance of £300,000.

At the recent Imperial Press Conference in London, Eng., G. Marconi said that the cost of equipping two stations for communication over a distance, already tested, of 3,000 miles would be £100,000. The speed of transmission at present is 25 words a minute, but he hoped by duplexing to double it. His company, he stated, would, if the service increased, be prepared to reduce the cost of press messages to 2d. a word.

The Late O. S. Wood.

O. S. Wood, who recently died at Turner, N.Y., aged 91, was, in 1847, Superintendent Montreal Telegraph Co., and subsequently General Superintendent until 1866, when he engaged in similar work in the U.S. In referring to Mr. Wood's death, in the Telegraph Age, H. P. Dwight, President G.N.W. Telegraph Co., Toronto, writes as follows:—"I came as a very youthful operator to Mr. Wood, who had been appointed Superintendent of the Montreal Telegraph Co.'s line just erected between Montreal and Toronto, in August, 1847, and remained with him in the Montreal office until 1850, when he sent me to take charge of the Toronto office and the western extensions which were being started in different directions—the beginning of a system since grown to be a network of lines covering the Province of Ontario. Mr. Wood received his instructions as an operator directly from Professor Morse in 1844, and was his first pupil—an honor and privilege which his after life fully justified—and it may be properly said that every Morse operator living may feel honored in the memory of such irreproachable characters as those of Professor Morse and O. S. Wood, the first and chief progenitors of a business since grown to such a marvellous extent, and which has done so much to facilitate the business and promote the happiness of the world. Although it is half a century since Mr. Wood's retirement from the Canadian business and his return to the U.S., his memory is still cherished not only by the very few still living who had the honor of his personal acquaintance, but his name is still a familiar household word among the Canadian telegraph fraternity, who never saw him, and only know of him by tradition. I am sometimes called by the Canadian papers of these latter days 'the Father of Canadian Telegraphs,' but I never fail to tell my friends that whatever may be said in this respect, the Grandfather of the Canadian telegraph system was O. S. Wood."

Dominion Telegraph Company.

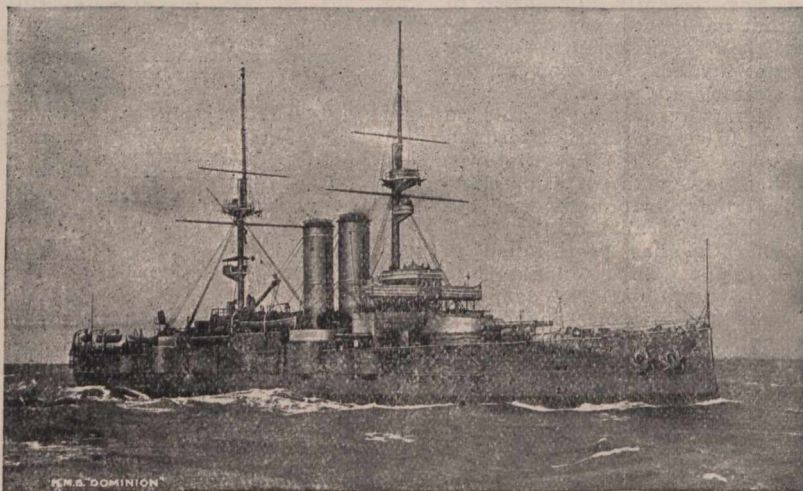
Following is the balance sheet for the year ended June 30, 1909, presented at the 40th annual meeting, at Toronto, July 14:—

ASSETS.	
Capital expenditure	\$1,281,819 47
Toronto, Grey and Bruce Ry. Co. 1983 bonds and interest thereon	1,596 24
Cash in bank and on hand	26,935 73
	\$1,310,351 44
LIABILITIES.	
Capital stock paid up	\$1,000,000 00
Dividends unclaimed	1,399 90
Dividend payable July 15, 1909..	15,000 00
Suspense	97 13
	\$1,016,497 03
Balance at credit of profit and loss	293,854 41
	\$1,310,351 44

The directors reported that payment had been made quarterly, in advance, for the past 30 years, of the guaranteed interest of 6% per annum on the capital stock of the company, by the Western Union Telegraph Co., lessees, and distributed quarterly to the shareholders. The lease is for 99 years from July 1, 1879, to June 30, 1978, inclusive.

The officers and directors for the current year are: President, T. Swinyard; Vice President, Sir Henry M. Pellatt; other directors, B. Brooks, T. F. Clark, R. C. Clowry, Æ. Jarvis, C. O'Reilly, and A. G. Ramsay; Secretary and Treasurer, W. Roper.

- Iron Staybolt Bars**
Falls Hollow Staybolt Co..Cuyahoga Falls.
- Jacks**
H and E Lifting Jack Co..Waterville, Que.
F. H. Hopkins & Co, Ltd.....Montreal.
Montreal Steel Works, Ltd.....Montreal.
Mussens Limited.....Montreal.
A. O. Norton.....Coaticook, Que.
James Smart Mfg. Co.....Brockville, Ont.
A. R. Williams Mchy. Co., Ltd.....Toronto.
- Japans**
The Dougal Varnish Co. Ltd....Montreal.
- Journal Bearings**
Canadian Bronze Co.....Montreal.
Crossen Car Mfg. Co.....Cobourg, Ont.
Kerr Engine Co.....Walkerville, Ont.
Jas. W. Pyke & Co.....Montreal.
- Journal Boxes**
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
- Journal Jacks**
A. R. Williams Mchy. Co., Ltd....Toronto.
- Lager Beer, &c.**
E. L. Drewry.....Winnipeg.
- Lagging and Covering, Locomotive**
Taylor & Arnold.....Montreal.
- Lamps, Arc**
Northern Electric & Mfg. Co, Ltd.Montreal.
- Lamps, Incandescent**
Canadian Westinghouse Co..Hamilton, Ont.
- Lamps and Lanterns**
The Hudson's Bay Company.....
The Hiram L. Piper Co.....Montreal.
The N. L. Piper Ry. Supply Co..Toronto.
- Lamps, Switch**
The N. L. Piper Ry. Supply Co..Toronto.
- Lathes**
John Bertram & Sons Co.....Dundas, Ont.
- Launches**
Polson Iron Works, Ltd.....Toronto.
- Lighting, Car**
Canadian Gold Car H'g & L'g Co.Montreal.
Safety Car H't'g & L't'g Co..New York.
- Lights, Contractors' and Wrecking**
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
- Locomotives (Compressed Air)**
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive W'ks (Ltd.)..Montreal.
- Locomotives (Electric)**
Burnham, Williams & Co..Philadelphia, Pa.
Montreal Locomotive W'ks (Ltd.)..Montreal.
- Locomotives (Logging)**
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
- Locomotives (Rack)**
Burnham, Williams & Co..Philadelphia, Pa.
Canadian Locomotive Co...Kingston, Ont.
Montreal Locomotive Works.....Montreal.
- Locomotives (Steam)**
American Car & Equip. Co...Chicago, Ill.
Burnham, Williams & Co. Philadelphia, Pa.
R. M. Burns & Co.....Chicago, Ill.
Canadian Locomotive Co...Kingston, Ont.
J. T. Gardner.....Chicago, Ill.
Hicks Locomotive & Car Works..Chicago.
Montreal Locomotive W'ks.Montreal.
Vulcan Iron Works.....Wilkesbarre, Pa.
- Lorries, Tracklaying**
Crossen Car Mfg. Co.....Cobourg, Ont.
F. H. Hopkins & Co.....Montreal.
- Lubricators**
The Holden Co., Ltd.....Montreal.
McCord & Co.....Chicago, Ill.
Taylor & Arnold.....Montreal.
- Lumber**
Parry Sound Lumber Co.....Toronto.
- Machinery, Cement**
Jas. W. Pyke & Co.....Montreal.
- Machinery and Plant, Contractors'**
American Hoist & Derrick Co...St. Paul.
M. Beatty & Sons.....Welland, Ont.
R. M. Burns & Co.....Chicago, Ill.
J. T. Gardner.....Chicago, Ill.
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
Robertson Mfg. Co.....Welland, Ont.
Willis Shaw Mchy. Co.....Chicago, Ill.
Toronto Pressed Steel Co.....Toronto.
- Machinery, Hoisting**
American Hoist & Derrick Co...St. Paul.
Brown Hoisting Machinery Co..Cleveland.
- Machinery, Marine**
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Machinery, Tracklaying**
F. H. Hopkins & Co.....Montreal.
- Machines, Boring and Turning**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Drilling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Milling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Planing and Shaping**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Radial Drilling**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Shaping**
John Bertram & Sons Co....Dundas, Ont.
- Machines, Slotting**
John Bertram & Sons Co....Dundas, Ont.
- Machine Tools**
John Bertram & Sons Co....Dundas, Ont.
- 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, Anti-friction**
W. Abbott.....Montreal.
- Metal, Babbit**
Tallman Brass & Metal Mfg. Co. Hamilton.
- Metals**
Goldschmidt Thermit Co.....Toronto.
- Metal Work, Structural**
Canadian Bridge Co.....Walkerville, Ont.
Dominion Bridge Co.....Montreal.
Montreal Locomotive W'ks (Ltd.)..Montreal.
Jas. W. Pyke & Co.....Montreal.
- Milepost Numbers**
Acton Burrows Limited.....Toronto.
- Motors**
McCord & Co.....Chicago, Ill.
- Motors, Electric**
Northern Electric & Mfg. Co. Ld.Montreal.
- Motors, Turntable**
Taylor & Arnold.....Montreal.
- Nickel**
The Orford Copper Co.....New York.
- Nickel for Nickel Steel**
The Orford Copper Co.....New York.
- Numbers**
Acton Burrows Limited.....Toronto.
- Nut Locks**
Positive Lock Washer Co...Newark, N.J.
- Nuts, Clevis**
Cleveland City Forge & Iron Co..Cleveland.
- Nuts, Square and Hexagon**
Montreal Rolling Mills Co.....Montreal.
Toronto Bolt and Forging Co.....Toronto.
- Oakum**
The Hudson's Bay Company.....
- Office Fittings**
Can. Office & Sch'l Furniture Co..Preston.
- Office Signs**
Acton Burrows Limited.....Toronto.
- Oils**
Galena Signal Oil Co..Franklin & Toronto.
- Packing**
The N. L. Piper Ry. Supply Co..Toronto.
- Paints**
Standard Paint & Varnish Co., Ltd.
Windsor, Ont.
- Patterns**
Hamilton Pattern Works...Hamilton, Ont.
- Pile Drivers, Railway**
F. H. Hopkins & Co.....Montreal.
Mussens Limited.....Montreal.
- Pinch Bars**
The N. L. Piper Ry. Supply Co..Toronto.
- Pipe, Culvert (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe, Gas (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe, Sewer (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Pipe Stocks**
Butterfield & Co.....Rock Island, Que.
A. B. Jardine & Co.....Hespeler, Ont.
- Pipe, Water (Cast Iron)**
Gartshore-Thompson Pipe Co...Hamilton.
- Planers**
John Bertram & Sons Co....Dundas, Ont.
- Platforms, Steel**
Standard Coupler Co.....New York City.
- Ploughs, Contractors'**
Mussens Limited.....Montreal.
Toronto Pressed Steel Co.....Toronto.
- Ploughs, Grading**
Meaford Wheelbarrow Co., Ltd...Meaford.
- Porter**
E. L. Drewry.....Winnipeg.
- Powder, Blasting**
Standard Explosives Limited....Montreal.
- Printing**
Southam Press.....Toronto.
- Propeller Wheels**
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Pumps**
S. F. Bowser & Co., Limited.....Toronto.
Ontario Wind Engine & Pump Co..Toronto.
James Smart Mfg. Co.....Brockville, Ont.
- Pumps (Centrifugal)**
M. Beatty & SonsWelland, Ont.
- Rail Benders, Roller**
F. H. Hopkins & Co.....Montreal.
Montreal Steel Works.....Montreal.



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