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See page 669.

Instruction of Railway Shop Apprentices.

By S. J. Hungerford, Superintendent
C.P.R. Winnipeg Shops

Apprenticeship in connection with wood and iron working trades has existed in some form from time immemorial, probably ever since men first began to fashion these materials into articles for use and comfort. During the middle ages it was thoroughly established as an institution and very stringent regulations were adopted in some countries to ensure the proper observance of their obligations by the apprentices, and heavy penalties were provided for any violation on their part, but as a rule they did not bear very heavily on the employer when he was at fault. The usual term of apprenticeship was seven years, and during that time the apprentices were subject to the will of the master in almost everything, and they generally lived in his house, as industrial establishments were for the most part small, employing but a few hands. This arrangement possessed the advantage of giving the apprentices the personal supervision of the master, who, having a direct financial interest in making the boys as efficient as possible, took great pains to instruct them carefully in the different processes of the trade.

With the advent of the steam engine and the industrial revolution that followed, this old system passed away. The establishments became much larger, so that it was no longer possible for the owner to give his personal attention to the minor details of the business, and the supervision of the apprentices was therefore delegated to the foremen, who, having no such financial interest in the ability of the boys to perform work efficiently, and generally looking upon them more as a source of

trouble to themselves than anything else, too frequently placed them at work of a simple nature and left them at it, rather than incur the personal trouble of teaching them other lines of work. With the further growth of industrial establishments this unsatisfactory feature of the apprentice system became still more pronounced, and some employers went so far as to abolish the system altogether, while others merely tolerated it as a necessary evil. During the latter part of the last century some enterprising employers in Great Britain and on the European Continent began an effort to educate

apprentices in their employ, this generally taking the form of a free night school, but it is only in recent years that the importance of the matter has been widely appreciated and any really serious effort made to meet the requirements.

In America apprenticeship systems have followed the same general lines as in Europe, but the rules and regulations have not been nearly as uniform, or as rigidly enforced, while the term has

may be said to be auxiliary to certain trades, the general effect was vicious in the final analysis. This, together with the general absence of proper systems for the education of apprentices, is probably responsible for the alleged deterioration among mechanics and the difficulty in obtaining men who are capable of doing everything connected with their respective trades, about which we have heard so much of late. It is likely that on the whole railways have suffered most in this connection, and within the past three or four years a few progressive railway managements have established more or less comprehensive educational systems, and this movement appears to be spreading rapidly at the present time, as all railway mechanical officers are agreed that special instruction outside the shop is necessary, there being only a diversity of opinion as to how this instruction should be given.

About a year and a half ago the C.P.R. management established apprentice classes in the Angus shops at Montreal, and last winter a complete educational scheme was adopted at the Winnipeg shops, following the same general lines, the details being modified, however, to meet the local conditions and also where experience had shown that alterations might be made to advantage. The following is an outline of the system: All applicants are required to pass a physical as well as an educational examination before being engaged. All apprentices receive instruction in both practice and theory during working hours whilst under pay, which can be conveniently divided into two parts, viz., shop instruction and class instruction.

In the machine and erecting shops the boys are placed directly under the supervision of a shop instructor who is an expert machinist, and who personally instructs them how to perform the various operations properly, explains the reasons therefor and also looks after their general conduct. It is also his duty to see that their occupation is changed in accordance with an authorized schedule prepared by the management, this matter not being left to the convenience of the shop foremen, but adhered to as closely as circumstances will permit. The different foremen actually assign the work to them, the inspector merely directing their methods and conduct, and reporting concerning these matters to the supervisor of apprentices, who carefully re-

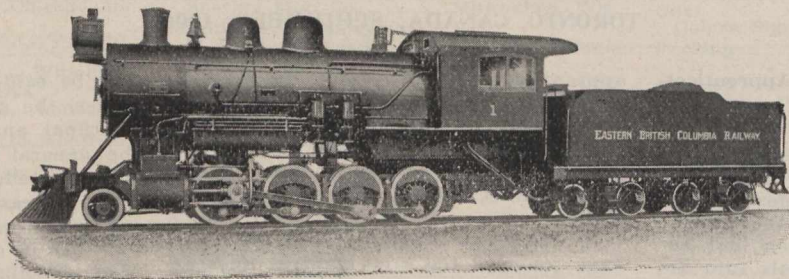


C. MURPHY

General Superintendent Eastern Division Canadian Pacific
Railway.

been somewhat shorter, ranging between three and five years. The same abuses and unsatisfactory features have existed here also, and many firms abandoned the system and had recourse to the plan of educating unskilled men to perform a single operation, or run one kind of machine, and then keeping them at that particular work for all time. By this means a class of operatives was developed that was highly efficient upon its special lines of work, and the whole proposition looked exceedingly attractive to employers, but with the exception of certain lines of work which

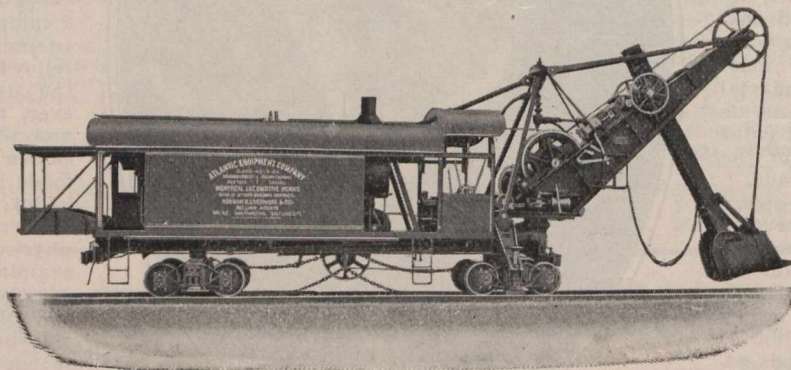
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September Birthdays.

cards same and shows progress on charts which are posted up in the class room. In shops other than the machine and erecting shops, where the number of apprentices is comparatively small, the respective foremen are expected to supervise their work and follow as closely as possible the schedule prepared.

A large and well lighted class room is provided, suitably equipped with tables, stools, etc., where the boys are given instruction in arithmetic, free-hand sketching of shop objects, mechanical drawing, railway history and geography, the class work being intended to associate as closely as possible with their actual work in the shop. For convenience, the apprentices are arranged in classes in the usual way, being grouped together in accordance with their respective educational qualifications. Boys serving their first year are only required to attend one session, two hours in duration, per week, but those serving their second year or upwards must attend two sessions of the same length per week until qualified. It was thought by some that taking the boys from the shop during working hours would prove very awkward, as machines and operations would necessarily have to stop during the period, but this has not been found to be a serious matter in practice, and all concerned are now agreed that class work should be performed during working hours, while the boys are mentally and physically fit and subject to regular discipline, rather than in the evening when tired and usually desirous of finding different amusement.

This class work is under a special instructor, who devotes his entire time to conducting the classes, checking the boys' papers, preparing new matter and posting up the progress charts, which are open to inspection and show graphically the relative progress and standing of each one, thereby putting each boy into competition with every other boy. As far as possible, the classes sit during the first two working hours of the day, as this has been found to be the most satisfactory period. Instruction papers, stationery, etc., are furnished free of charge, and a set of drawing instruments, including tee and set squares, board, etc., are loaned to each one during his apprenticeship and are presented to him upon the completion of his term, if his services have been satisfactory. An apprentice supervisor has general charge of all apprentice matters and attends personally to the examination of applicants, application of discipline in shop and class, preparing of courses of study and posting of records.

On the whole the plan has worked out most satisfactorily as the boys have almost without exception taken the greatest interest in the work; the foremen and mechanics are sympathetic, and the increased efficiency of the apprentices in the shops has fully justified the management in incurring the initial expense, while the ultimate benefit, both to the future mechanics and the railway company, will undoubtedly be great.

A press report from Calgary, Alta., recently stated that the C.P.R., during the latter part of July, sold 100,000 acres of land in the irrigation belt, at an average of \$25 an acre.

Many happy returns of the day to:—
G. W. Alexander, Local Treasurer G.T.R. Western Lines, Detroit, Mich., born at Lightcliff, Yorks, Eng., Sept. 10, 1859.

W. B. Bamford, District Freight Agent C.P.R., London, Ont., born at Belleville, Ont., Sept. 10, 1863.

W. D. Barclay General Manager Canadian Northern Quebec Ry., Quebec and Lake St. John Ry., Halifax and South-western Ry., and Inverness Ry. and Coal Co., Quebec, Que., born at Campbellton, N.B., Sept. 23, 1852.

G. T. Bell, Assistant Passenger Traffic Manager G.T.R., and G.T.P.R., Montreal, born there, Sept. 7, 1861.

W. H. Biggar, K.C., General Solicitor G.T.R., and Solicitor G.T.P.R., Montreal, born at the Carrying Place, near Trenton, Ont., Sept. 19, 1852.

E. R. Bremner, ex-Division Freight Agent G.T.R. Ottawa Division, Ottawa, born at Toronto, Sept. 9, 1875.

M. H. Brown, General Freight Agent C.P.R. Ontario Division, Toronto, born at Victoria Square, Ont., Sept. 2, 1866.

W. G. Brownlee, General Transportation Manager G.T.R., Montreal, born at Lawrenceville, Ill., Sept. 9, 1858.

J. R. Bruce, ex-Traffic Auditor Intercolonial Ry., Moncton, N.B., born at Portsoy, Banffshire, Scotland, Sept. 23, 1848.

W. B. Bulling, Assistant Freight Traffic Manager C.P.R. Eastern Lines, Montreal, born there, Sept. 16, 1858.

C. F. Burns, Auditor of Disbursements Intercolonial Ry., Moncton, N.B., born at Clements Port, N.S., Sept. 10, 1854.

A. D. Cartwright, Secretary Board of Railway Commissioners, Ottawa, born at Kingston, Ont., Sept. 20, 1864.

W. F. Egg, ex-City Passenger Agent C.P.R., Montreal, born at Plymouth, Eng., Sept. 7, 1859.

W. H. Estano, Traffic Auditor Intercolonial Ry., Moncton, N.B., born at Halifax, N.S., Sept. 29, 1874.

C. B. Foster, Assistant General Passenger Agent C.P.R., Vancouver, B.C., born at Kingston, N.B., Sept. 30, 1871.

L. A. Hamilton, ex-Land Commissioner C.P.R., born at Penetanguishene, Ont., Sept. 30, 1852.

D. W. Hatch, Travelling Agent Atcheson, Topeka and Santa Fe Ry., Montreal, born at Bedford, Que., Sept. 1, 1841.

L. B. Howland, President and General Manager Irondale, Bancroft and Ottawa Ry., Irondale, Ont., born at Lambton Mills, Ont., Sept. 2, 1869.

J. E. Hutcheson, Superintendent and Purchasing Agent Ottawa Electric Ry., born at Brockville, Ont., Sept. 15, 1858.

J. F. Kane, Fuel Agent C.P.R. Western Division, Calgary, Alta., born at Toronto, Sept. 8, 1884.

W. H. Kelson, ex-General Storekeeper C.P.R., now of the W. H. Kelson Co., Montreal, born at Bath, Eng., Sept. 5, 1850.

C. B. King, Manager London St. Ry., London, Ont., born at Galena, Ind., Sept. 12, 1871.

V. Kistler, District Freight and Passenger Agent Great Northern Ry., Grand Forks, B.C., born at Clyde, Ohio, Sept. 4, 1881.

R. E. Larmour, General Freight Agent C.P.R. Central Division, Winnipeg, born at Brantford, Ont., Sept. 26, 1868.

H. D. Lumsden, C.E., ex-Chief Engin-

eer National Transcontinental Ry., Ottawa, born at Belhaire, Scotland, Sept. 7, 1844.

J. Bruce Macdonald, Director Niagara Navigation Co., Toronto, born at Glengarry, Ont., Sept. 19, 1850.

F. J. Mahon, Superintendent Telegraphs C.P.R. Atlantic Division, St. John, N.B., born at Montreal, Sept. 18, 1865.

J. F. Mundle, City Freight Agent C.P.R., Montreal, born at Prescott, Ont., Sept. 20, 1857.

B. S. Murray, Route Agent Canadian Express Co., London, Ont., born at Glenwood, N.Y., Sept. 17, 1856.

J. Osborne, General Superintendent C.P.R. Ontario Division, Toronto, born at Montreal, Sept. 19, 1861.

S. S. Oliver, Engineer of Maintenance Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry., Quebec, Que., born there, Sept. 9, 1858.

S. N. Parent, Chairman National Transcontinental Ry. Commission, Ottawa, born at Quebec, Sept. 12, 1855.

J. Paul, General Freight Agent Niagara, St. Catharines and Toronto Ry., born in Euphrasia Tp., Grey Co., Ont., Sept. 13, 1858.

R. P. Perry, C.P.R. Ticket Agent, Bracebridge, Ont., born at Whitby, Ont., Sept. 2, 1850.

C. S. Richardson, District Freight Agent C.P.R., Buffalo, N.Y., born at New York City, Sept. 26, 1870.

W. D. Robb, Superintendent of Motive Power G.T.R., Montreal, born at Longueuil, Que., Sept. 21, 1857.

W. H. Rosevear, ex-General Car Accountant G.T.R., Montreal, born at Wadebridge, Cornwall, Eng., Sept. 26, 1837.

E. W. Taylor, General Freight Agent Reid Newfoundland Co., born at Carbonear, Nfld., Sept. 8, 1870.

W. Whyte, Second Vice President C.P.R., Winnipeg, born at Charleston, Scotland, Sept. 15, 1843.

H. A. Young, Traffic Manager Canadian Lake Line, Toronto, born at Brooklyn, N.Y., Sept. 1, 1864.

Assistance to Ladies Debarking.—

F. P. Brady, General Superintendent Intercolonial and Prince Edward Island Rys., has issued the following circular:—"I notice almost entire neglect on the part of brakemen on passenger trains to assist ladies debarking from trains. In future brakemen will give lady passengers every possible attention, and will assist them with their children and hand baggage in getting on and off trains. Conductors will see that these instructions are carried out, and will advise the superintendent if there is any failure on the part of the brakemen."

The annual meeting of the American Association of General Passenger and Ticket Agents, which was to have been held Oct. 19, at Toledo, Ohio, will be held there, Sept. 14 and 15. G. T. Bell, Assistant Passenger Traffic Manager G.T.R., and G.T.P.R., Montreal, is President of the Association.

E. J. Chamberlin, Vice President and General Manager G.T.P.R., recently said that though labor had been plentiful all the season, he expected that railway construction operations would be almost paralyzed until harvesting was over, as farmers were offering higher rates of pay and inducing men to leave the railways.

Canadian Northern Winnipeg Shops.

The accompanying plan shows the layout of the C.N.R. shops completed recently at Winnipeg. The company has provided in the location and construction of the buildings everything in the line of convenience and facility for handling cars and locomotives, and the new shops are up to date in every respect. They are located on the company's main line, just west of Pembina St., Fort Rouge, Winnipeg, and within easy reach of the new Fort Garry terminal station in the city. They are built of concrete, brick and steel and of the latest type of fire resisting materials. The height of the buildings range from 20 to 60 ft., giving ample room for the handling of large locomotives, coaches, etc. All the buildings are provided with large iron and wired glass skylights, and the latest type of ventilators; also inside gutters to take off condensation, thus providing for the most essential features of railway shops, namely, ample light and ventilation. Space has been arranged for future extension of all buildings. The lighting throughout is electric. All machinery is electric driven with separate motors to each machine. The buildings throughout are heated by a vacuum heating system. The mains, air lines and returns are carried on overhead trestles and are therefore easily accessible at all points.

THE COAL CHUTES are operated by the gravity bucket system and are so constructed that locomotives may be coaled on either side of chute.

ASH PITS.—The two ash pits are each 80 ft. long with fire brick floor and walls. Through tracks are carried on cast iron pedestals with depressed tracks for handling cinders on either side.

THE ENGINE HOUSE has 21 stalls, which can be increased to a 40-stall capacity with annexes for repair rooms. The locomotive foreman's offices are situated near the incoming and outgoing tracks from locomotive house, giving complete oversight of incoming and outgoing locomotives.

THE MACHINE ERECTING SHOP is 164 ft. by 572 ft. long, with annexes for air brake equipment, tool room and lavatories, and is one of the most complete buildings of its kind, having all the facilities necessary for the complete overhauling and repairing of the heaviest type of locomotives. It has a capacity of 25 locomotives in the west bay in connection

with the electrically controlled transfer table. On this side there is a 120-ton locomotive hoist, also five 2½-ton hand cranes running full length of building. The centre bay has a 7½-ton crane the full length of building, and the east bay has two 3½-ton cranes. These cranes are so arranged that all parts of a locomotive can be quickly distributed to the various repairing machines. Adjoining this shop, on the east side, is the tube shop annex complete with rumbler.

THE BLACKSMITH SHOP, 140 x 100 ft., is accessible to machine erecting shop and equipped with steam hammers, forges, etc. Forges are operated by forced draught.

THE FOUNDRY is 130 x 100 ft., and is situated east of the blacksmith shop. It contains a complete equipment for moulding, casting, brass work, etc., and is provided with a 10-ton crane in centre bay running full length of building.

THE STORES BUILDING, two stories and basement, is 150 x 90 ft. long, and is conveniently located for communication with all shops and transfer table so that all necessary material may be quickly distributed to the various departments. A portion of the main floor is laid out for General Storekeeper's offices. At the east of the building on the main floor is the oil supply room with large storage tanks for different kinds of oil in basement. The Bowser system, complete with pumps, gauges, etc., has been installed. Surrounding the stores building is a large storage and distributing platform 600 by 120 ft., complete with lorry tracks and turntables. Another special feature is the scrap bins which are located at the east end of the platform with storage and sales tracks on each side.

THE FREIGHT CAR REPAIR SHOP, 200 by 100 ft. is at west end of yard and connected with freight car repair tracks.

THE PLANING MILL, 145 x 100 ft., is situated between the freight car repair shop and power house, and is complete with wood working machines and shaving exhaust system connected to boilers in power house.

THE POWER HOUSE, including boilers and compressors, 125 x 55 ft., has two batteries of boilers equipped with economizers and forced draught system. The compressor room has motor generators, transformers, switch board and air compressor, etc.

WATER SUPPLY.—The water for tanks and general use throughout the shops is

taken from the Red River, with hydrants throughout the yard, and fire hose connection in all shops, giving complete fire protection to both inside and outside of buildings. For drinking purposes there is an independent supply from the city to all shops, with emergency fire equipment and connections, so that yards and buildings have two complete systems of fire protection.

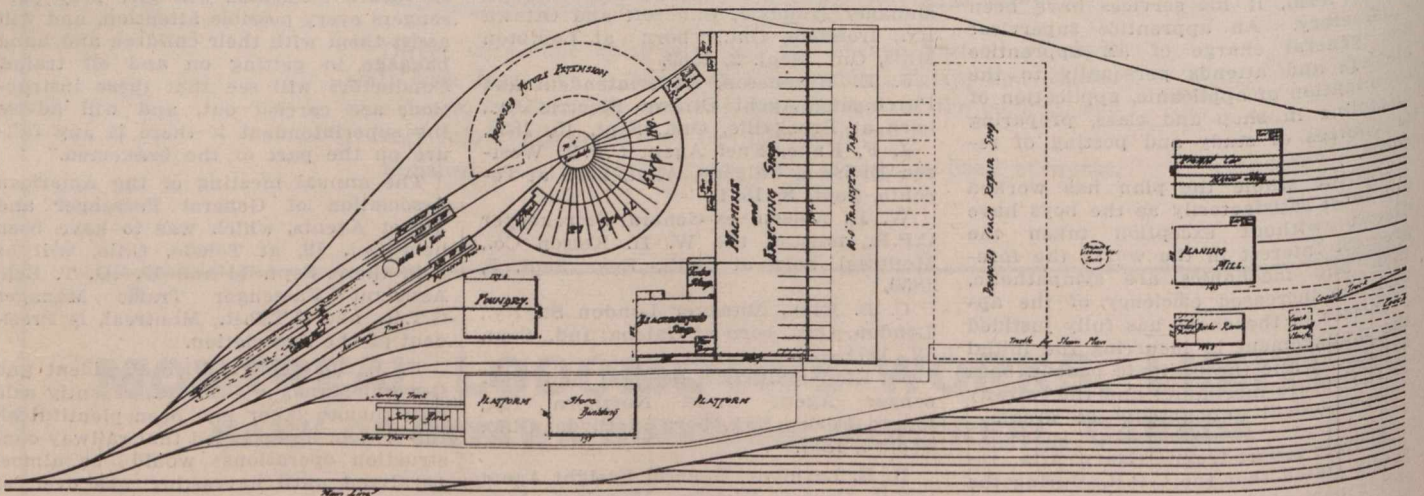
The proposed boiler, tank, coach, repair and paint shop will be situated on the west side of transfer table and so arranged that it can be served by transfer table adjoining machine erecting shop.

West of the shops are located the distributing and sorting yards for east and west bound freight, with ample grounds for future extension of yards.

The yard layout and shop were prepared and designed by R. B. Pratt, Railway Architect, and under the direction of M. H. MacLeod, General Manager and Chief Engineer.

H. & S. W. R. Ore-Handling Plant.

The Halifax and South-Western Ry., in conjunction with the Canada Iron Corporation, is about to construct a large ore-handling plant at Port Wade, N.S. The first part of the work consists of the construction of a branch line of 4 miles from Nictaux, a station on the line 4 miles from Middleton, on the old Nova Scotia Central Ry., to the Canada Iron Corporation Iron mines. The ore will be carried over the H. and S.W.R. to Port Wade, 47 miles from the mines, where it will be shipped. The ore handling plant, which it is proposed to erect at Port Wade, will be the largest and most modern in America, and will contain features not to be found in any other similar plant. It will consist of three parts, the storage pocket, the conveyor system, and the loading pocket. Generally speaking, it will be planned on the same principle as that operated by the Nova Scotia Steel and Coal Co. in Newfoundland. The storage pocket will be built on the shore, at the point where the Dominion Government pier commences. It will be a timber structure 150 ft. long, and will have a capacity of 7,800 tons. For filling this pocket a short spur will be constructed from the main line. This spur will have considerable curvature, but will not have a gradient of more than 1.5%. Leading from this spur to the top of the pocket will be two tracks,



CANADIAN NORTHERN RY. SHOPS AND YARDS, WINNIPEG. SEE CONTINUANCE OF PLAN ON PAGE 663.

laid with 28 lb. steel rails. When filled, the storage pocket will contain a body of ore 150 ft. long 50 ft. wide and 32 ft. high, above the ports leading to the conveyors. Running along the middle of the pocket, at the bottom, will be an A-shaped construction for taking the pressure of the ore from the ports leading to the conveyors. These ports will be 15 ft. apart, one on each side of the A. The A will be sufficiently large to permit a man to walk through, so that when loading is going on a man may be going backwards and forwards watching the process, and clearing away any blocking of ore there may be, through the port holes. The loading pocket is to be constructed at the angle of the wharf, which is to be considerably strengthened at this point to carry the weight. The pocket will have a capacity of 270 tons, and will be 50 ft. high from the floor of the wharf. It will be divided into three compartments, one above another, so as to permit loading to be carried on at all stages of the tide. It is in this feature that the divergence from any existing ore loading plant is apparent. The depth of water at the wharf at the lowest stage of the tide is 25 ft., and the tide has a rise and fall of 27 ft. Ore may be dropped into either of the compartments from the conveyor system, and the loading can be proceeded with from whichever compartment suits the state of the tide. Each compartment is to be provided with a loading port and an apron to connect it with the self-trimming loading chute. This chute may be raised or lowered as required, on a track running up and down the front of the structure. At low tide, the lowest port will be used, and at high tide the loading will take place from the topmost port. At the end of the chute there will be a steel trimmer, which may be so adjusted that the load in the vessel's hold may be trimmed without the necessity of employing men. The ore will be conveyed from the storage pocket to the loading pocket by means of two conveyors, which will run under the storage pocket in a tunnel, and will be carried along the wharf on the level for 150 ft., and then by a 33% gradient to the top of the loading pocket. The conveyor buckets will each be 3 ft. by 3 ft. 9 in. by 2 ft. 4 in. and will have a capacity of 11.2 cubic ft., or 1,680 lbs. of ore. The conveyors will carry from 2,400 to 3,400 tons an hour. The plant will be driven by engines to

which steam will be delivered by boilers capable of developing 170 h.p.

The plans for the plant have been prepared by D. O. Lewis, of Mackenzie, Mann & Co.'s offices, Toronto. The details have been carefully worked out, and when completed the plant will be one of the most compact and substantial operated in conjunction with any ore-producing property. It has been designed to suit the capacity of the most modern of the Three Island elevated side tank ore-carrying steamers of which the Admiral Borensen is the latest type. The dimensions of this steamer are: capacity, 6,700 tons; loaded draught, 23 ft.; light draught, 7 1/4 ft.; length, 375 ft.; breadth, 50 1/4 ft.; width of hatch, 18 ft.; height of hatch above bottom, 32 ft.

No contracts have yet been placed for the construction of the line or the plant, but it is expected that tenders will be invited at an early date.

The Railway Grade Crossing Fund.

The Board of Railway Commissioners passed the following order 7591, July 29, which is of considerable importance, as it is the first order passed under the legislation of last session establishing a railway grade crossing fund:—Re the dangerous condition of crossing of Raglan St., Renfrew, Ont., by C.P.R. and Kingston and Pembroke Ry. tracks. Upon hearing what was alleged by counsel for the Town of Renfrew, and considering the reports of officials of the Board, it is ordered that the railway companies erect and maintain gates at their crossing of Raglan St., in said town; that the railway companies submit a plan of proposed gates for the approval of an engineer of the Board, on or before Aug. 10, 1909, and erect and commence to operate said gates within 30 days from the date of the approval of the plan by an engineer of the Board; that a gateman, to be employed by the railway companies, be in charge of said gates at all times; that 20% of the cost of the construction of the said gates be paid out of "The Railway Grade Crossing Fund," provided by 8-9 Edward VII., Cap. 32; that one-third of the wages of the men in charge of said gates be paid by the Town of Renfrew, accounts for same to be rendered quarterly by the railway companies; that the railway companies remove the bell at present in use at Raglan St. to Argyle St.

Uniform Code of Operating Rules.

The Board of Railway Commissioners passed the following order, July 27:—Re the memorial of the Trainmen's Association of Canada, for the adoption of certain regulations by the Board, having in view the protection of employes of railway companies subject to the Board's jurisdiction, upon the report of the Board's operating officials and upon hearing the representatives of the railway companies and of the employes, and in pursuance of the powers conferred upon it by sec. 30, 268 and 269 of the Railway Act, and of all other powers possessed by the Board in that behalf, it is ordered that the train rules attached hereto marked "A" and designated as the proposed Uniform Code for Canadian Railways be approved.

We are advised that the proposed rules do not differ materially from the rules already in effect on railways using the Standard Code of rules, there being no radical changes in the Uniform Code adopted.

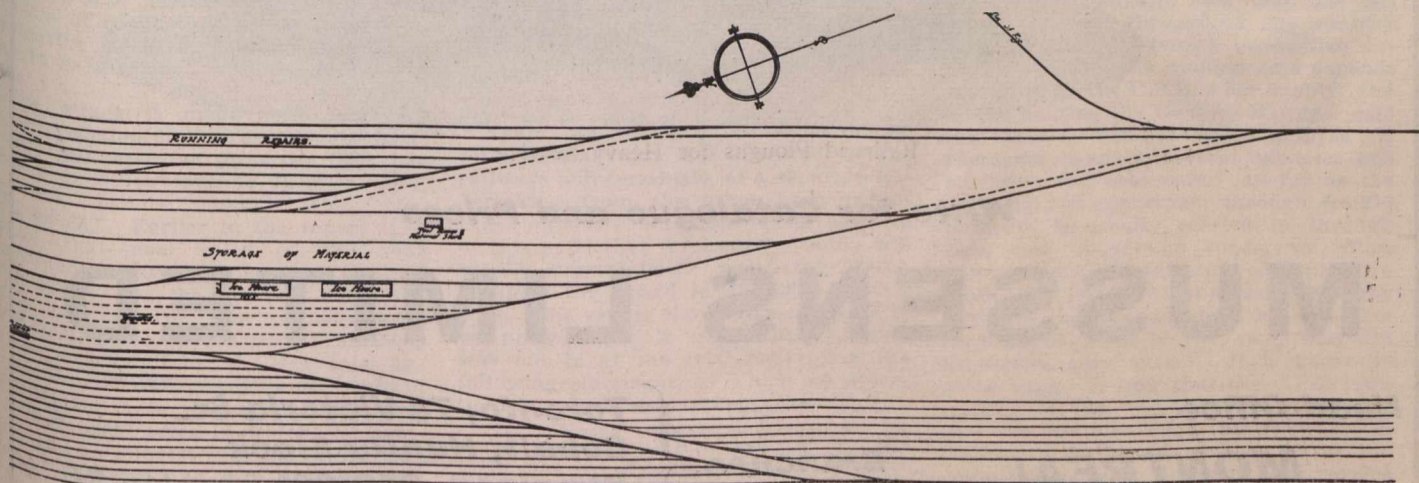
There is reason to believe that the Uniform Code will also be adopted on the Intercolonial Ry. and the P. E. Island Ry.

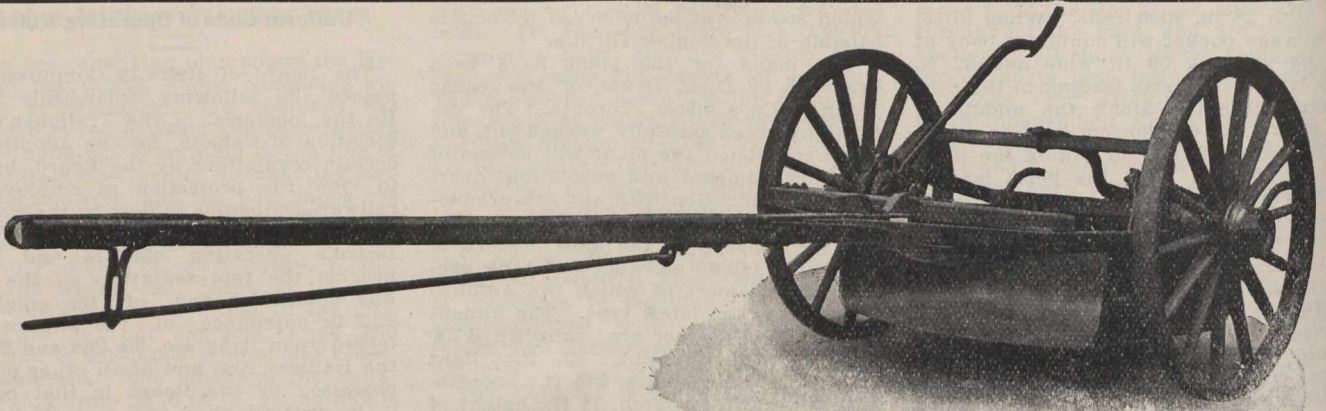
Railway Lands Patented.—Letters patent covering lands situated in Manitoba, Saskatchewan, Alberta, and British Columbia, were issued during May, as follows:

	Acres.
Calgary and Edmonton Ry.	4,135.00
Canadian Northern Ry.	3,959.32
Canadian Pacific Ry.	412.18
Grand Trunk Pacific Ry.	209.80
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	247.00
Total	8,963.30

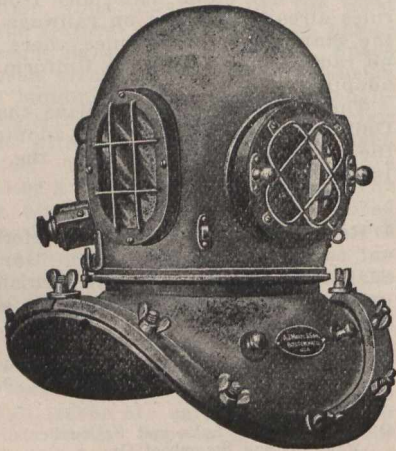
The Board of Railway Commissioners has approved of the Quebec Ry., Light and Power Co.'s Standard Local Passenger Tariff, C.R.C. 8, compiled on the basis of 2 1/2 c. a mile.

The conciliation board appointed to enquire into the differences between the G.T.P.R. and its employes, consisting of Hon. R. F. Sutherland, chairman, F. H. McGuigan, representing the company, and J. G. O'Donoghue, representing the men, has completed its work and submitted its report to the Minister of Labor. It is understood that the finding of the board will meet with the approval of all the parties concerned.

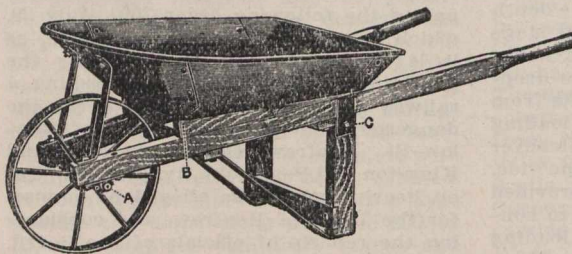




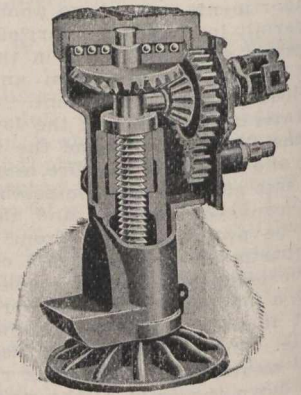
Wheel Scrapers Pressed or Square Bowl, with Sandpro of Wood or Iron Hubs, also Drag Scrapers of all sizes and weights.



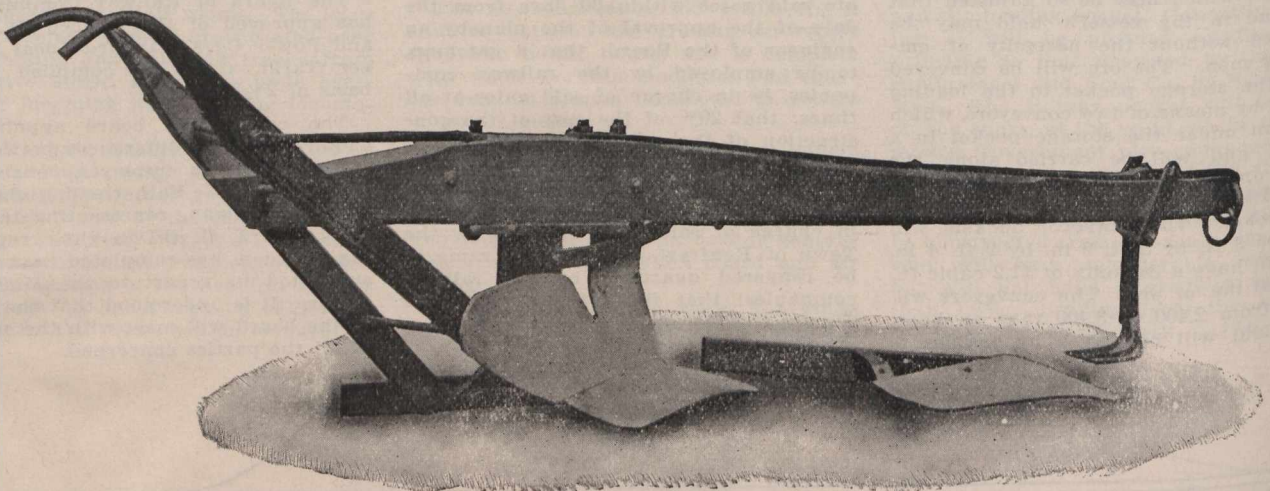
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Alberta Railway and Irrigation Co.

In the case of the Cardston Board of Trade vs. the Alberta Ry. and Irrigation Co., J. P. Mabee, Chief Railway Commissioner, gave the following judgment recently:—The complaint in this matter alleges excessive passenger and freight charges, excessive express charges, want of proper train accommodation and facilities. The respondents operate a railway in Southern Alberta running southerly from Lethbridge; they own large areas of land that are being irrigated under an extensive system in course of construction by them; they own and operate coal mines and have large numbers of town lots in Lethbridge and Raymond. The present corporation is the result of an amalgamation in July, 1904, of four corporations, viz., The Alberta Ry. and Coal Co., The Canadian Northwest Irrigation Co., The St. Marys River Ry. Co., and The Alberta Ry. and Irrigation Co. At the hearing, the Board was furnished with but little information as to the financial position of the company, or of the organization, financial history, and capitalization of the four companies prior to the amalgamation. Since the hearing, the amalgamation agreement of July, 1904, and the directors' report for the year ended June 30, 1908, have been filed, and we have been left to spell out the position as best we may. The documents that have been given us, and such information as we were furnished with at the hearing, in no way present, with any minute detail, the financial history of this organization. Counsel told us at the hearing that all the outstanding stock, both common and debenture, represented actual cash invested. This may be quite true, and we have no doubt counsel was so instructed and fully believed to be the fact, but it is something that could be so easily proved and is of so much importance that we take the liberty of thinking should not have been left open to question. There are many complicated matters in the amalgamation agreement that do not explain themselves, and while desiring to studiously avoid in any way injuring the amalgamated corporation, it is difficult to approach a consideration of this matter without feeling that it is strange that there are so many points that have been left open and unexplained to the Board. Owing to the variety of the corporation's interests and its various sources of revenue, each having its own incidental expense of production, it was more than ordinarily necessary that the Board should be furnished with the fullest details.

The attack is made here upon the railway portion of the respondents' business. The report of June 30, 1908, has this item, "Net revenue from colliery, railways, canals, land sales, etc., \$322,493.23." Earlier in the report it is stated that coal sales of the year amounted to 208,016 tons as compared with 122,947 for the previous year; the gross earnings of the railway were \$228,775.07 as compared with \$197,608.09 for the previous year; and the land sales aggregated 125,202 acres and realized \$712,644.00; there was also sold during the year 3,206 acres in which the company had an interest with the C.P.R. Co.; the profit from the sale of town lots was \$9,594.00; also that in connection with land sales there was in reserve

\$941,574.31; the receipts for the year from water rentals were \$24,635.41, as compared with \$18,969.78 for the previous year. It is stated that on June 30, 1908, the company had on hand 427,981 acres remaining unsold, in addition to many lots in Lethbridge and Raymond. The following extracts are taken from this same report:—

"Generally the company's prospects are very encouraging. The crops of the district have proved most satisfactory; the lands sold by the company are being occupied and cultivated by well-to-do settlers, tending to increased railway earnings, to coal sales, and to enhancement of the value of the company's lands and town lots. The C.P.R. in its annual report this year, mentions that it has managed to secure such an interest in the company as will constitute a substantial control; and the report adds that their investment will prove a profitable one. Your directors congratulate the shareholders on the C.P.R. on having become largely interested in the company, thus securing the active co-operation of that powerful and successful corporation."

A statement sent to the Board subsequent to the hearing shows the earnings from the operation of the railway for the year ended June 30, 1908, to have been, including \$10,046.69 earnings from "telegraph, telephone, and other sources," \$204,094.07 and not \$228,775.07, as shown in the directors' report, and this difference of \$24,681.00 is to the extent of \$23,914.41 explained in this way:—"The company, for the purpose of showing the railway earnings to better advantage, made a book-keeping entry debiting the colliery with the switching charge of 12½c. a ton on the total output for the year, and crediting the railway with the same." Now in one aspect of the situation this is an entirely domestic matter, and something that the public have no business to inquire about, but as it arises here, it ceases to be a private booking matter of the company and becomes one that the public is largely concerned in. The attack is that the freight and passenger tolls charged the public are too high; the answer is that the railway does not pay. It then appears that the railway hauls large quantities of coal, the property of the company, and that someone thought it was only fair to the railway to credit it with \$23,914.41, being 12½c. a ton, as a "switching charge" for the coal output. We are not informed what this switching movement consisted of, and have no means of knowing whether 12½c. a ton is too much or too little, or whether there are other services that might properly be credited to the railway or not. This is given as an illustration of why, in a case like the present, it is so necessary to be informed of all details of the company's business, and we think the company should have furnished such information.

Again, we were not informed of the total capital that was invested in the railways and terminals, as a separate undertaking from the other branches of the company's activities. The absence of this and other information which will readily suggest itself as being useful, hampers the Board in disposing of this case. The report shows the company to be prosperous. A newspaper clipping was put in at the trial containing the following statement, to which no objection has since been taken:

"The following clipping is taken from the annual report of the C.P.R. Co. for the year ended June 30, 1908: 'The Alberta R. and Irrigation Co., owning 113 miles of railway in Southern Alberta, as well as an important colliery and about 425,000 acres of land, part of which is served by irrigation ditches, was operated by its

owners as a close friendly connection of our company, yielding to our lines a large revenue from traffic interchanged, and furnishing the company and settlers along the railway a supply of coal. To insure a continuance of this desirable connection, your directors deem it prudent for the company to secure such an interest in the property as will constitute a substantial control, and they have arranged to do this at an approximate cost of \$2,000,000. Apart from the traffic advantages thereby safeguarded, the investment itself will prove a profitable one."

This also indicates prosperity. Counsel told us at the hearing that "the things paying are being used for the support of the railway and irrigation ends that are not paying. That is the size of it. Land and coal cover the deficits." I endeavored as far as possible at the hearing to get at the bottom of the matter, and although I have again gone over the notes of argument and the documents subsequently filed, I am unable to find evidence that there are deficits in the operations of the "railway and irrigation ends." In the first place, we are not furnished with the figures showing receipts and expenditures of each of these enterprises separately, and until that is done, as well as an intimate knowledge of capitalization acquired, we can make no finding of fact as to which, if any, are the weak sisters in this family, and treated as a whole, both the directors of the respondent corporation, and the C.P.R., the recent purchasers of a controlling interest, regard the holdings as desirable; and treating the corporation as a whole, which is the way the matter is left upon our hands, we have no doubt that the views of the directors, and the purchasers of the stock, were well founded. At the hearing, I endeavored to get some idea of the amount of capital that was employed in this railway and its equipment, but was told no apportionment had ever been made, although the Department of Railways had repeatedly called for it, and the respondents have had much trouble from time to time over that matter. We regard the control acquired over this road by the C.P.R. Co., a very material factor in this case. It was stated at the hearing, not by counsel for the respondent, but by a gentleman who should know, that the C.P.R. Co. had acquired 66% to 70% of the stock. This, of course, would place it in "substantial control." Now, the only connection the respondent has in Canada is with the C.P.R., and it has always been much dependent upon that company for its existence.

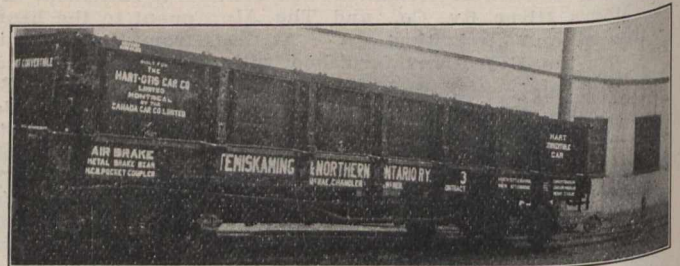
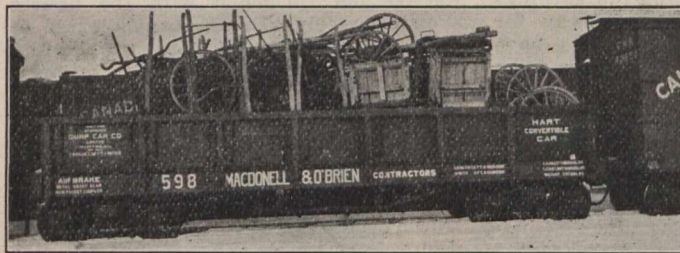
In addressing the last annual meeting of the shareholders, the President of the respondent company said that the demand for coal throughout the country exceeded the company's productive capacity and that the tonnage sold depends wholly upon the C.P.R.'s car supply; and at the hearing the General Manager said the company had "seven locomotives, six passenger coaches, several cabooses and box cars and coal cars. As far as the equipment is concerned, through freight business, is usually carried in through cars, cars of foreign roads; we allow none of our equipment off our own road;" and again, when asked how many box cars the company had, he said, "we have probably 10 of our own; they are in service very little." It is naturally to be supposed now that the C.P.R. is in control of the respondent corporation; that the facilities upon this railway will be greatly improved, and so far as the complaint covers deficient car service and insufficient passenger facilities, it may remain in abeyance, so that an op-

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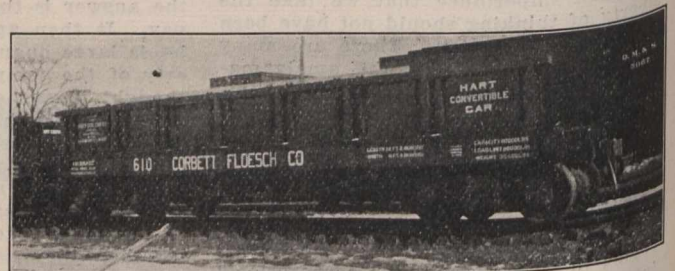
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portunity may be given for improvement by the management, and after, say, six months, upon application by the complainants, if they find the course necessary, the Board will send one of its operating officials over the road, and will be guided by his report in directing any changes or improvements in train service and otherwise that may be reasonable.

There is no separate express company operating over this railway, but express matter is handled by the company on its freight and mixed trains. No express tariffs have been filed, and it was said the same charges are made as are shown in the Dominion Express Co.'s tariffs. Express packages are gathered and delivered in Lethbridge by the Dominion Express Co.'s wagons, and respondents pay the latter for this service; the basis of such payments was not given to us. The company is in default regarding its express business. The law is imperative in its provisions regarding the filing of express tariffs, and provides that no goods shall be carried by express unless and until the tariff of express tolls has been submitted to and filed with the Board. And express toll means any toll, rate, or charge to be charged by the company, or any person or corporation other than the company to any persons for hire, or otherwise, for or in connection with the collecting, receiving, carrying for, or handling of any goods for the purpose of being transported by express, or for any service incidental thereto. The whole express situation is now being considered by the Board, and its result will be applicable to this company's express business, and nothing more need now be said as to this feature of the complaint, except that the company must at once prepare and file its tariff of express tolls and comply generally with the Act's tariff clauses.

The questions then remain as to the complaints regarding charges made for transportation of passengers and freight. Prior to 1907, the company had been charging 5c. a mile, and by the Board's order of July 26, 1907, the company was directed to reduce its standard tariff to the basis of 4c. a mile with return fares at 1½ times the rate for the single journey, and I understand the company has since been charging upon that basis. On March 16, 1907, the Board's Chief Traffic Officer expressed the opinion that passenger fares should be reduced to 3½c. a mile, round-trip tickets to be one-sixth less. The passenger earnings for the year ended June 30, 1906, were \$38,740.29; and for the year ending June 30, 1908, \$52,516.85. The section of the country through which this road operates is rapidly being settled and the population is increasing, and we see no reason why the passenger fares south of Lethbridge over this line should be higher than those north of Lethbridge over the C.P.R.; the passenger fares must be reduced to 3c. a mile, round-trip tickets to be one-sixth less, and standard passenger tariffs must be at once filed carrying these reductions into effect.

The Board's Chief Traffic Officer reports that "the territory in which the A.R. & I. Co. operates is in all respects similar to that of the C.P.R. in Southern Alberta, and it is my view that the A.R. & I. Co.'s freight rates, both standard and special, should not exceed those in effect for similar distances, and on similar commodities on the C.P.R. be-

tween the Crow's Nest Pass and its connection with that company's main line near Medicine Hat." The impression I formed of the situation as developed during the argument, and from a perusal of the file, and the great amount of correspondence attached to it, as well as Mr. Hardwell's former reports, is in entire accord with his recommendation; and I have no doubt that it would have been much to the advantage of this company had it granted reasonable concessions upon some, at least, of the matters covered by the complaint.

The Board's order will be: That passenger fares shall not exceed 3c. a mile; round trip tickets to be sold by the company at one-sixth less. Standard passenger tariff to be filed carrying this direction into effect. That the respondent company be required, where it has not already done so, to publish and file special tariffs of freight rates between all its stations on bases that shall not exceed those of the C.P.R. for the same or similar distances and on the same commodities, as are or may be put into effect on the Canadian Pacific Ry. between the Crow's Nest Pass and Coleridge on its main line. That the respondent company be required to put into effect a special tariff of class rates from Lethbridge to all of its stations, which shall not be higher than the C.P.R. special class rate tariff from Lethbridge for the same or for the nearest equivalent distances. The foregoing tariff to be prepared, filed and published within 30 days. That the complaints relating to the express service and charges, furnished and made, by the respondents shall stand for disposition when the general express enquiry is dealt with; but the respondents must forthwith file their express tariff of tolls as required by the Railway Act. That if the complainants find such steps necessary, they may at the expiration of six months, renew their complaints regarding deficient car service and passenger facilities.

Loading Long Materials and Stone.

The Board of Railway Commissioners passed order 7599, July 24, as follows:—Whereas the Board's attention has been called to a number of accidents—in some instances fatal—caused by defects in flat and open materials and stone, not affording proper safeguards for the handling of such traffic, it is ordered that every railway company subject to the legislative authority of the Parliament of Canada, operating a railway by steam power, shall strictly conform to the rules and regulations from time to time approved by the M.C.B. Association governing the loading of lumber, logs and stone on flat and open cars. That if the load on a car shifts in transit, the train crew shall see that it is re-adjusted in accordance with this order before the same is allowed to proceed. That shippers and the railway companies and their operators and employes shall see that all open and flat cars are loaded, and the loads protected in accordance with the terms of this order. That every such railway company shall be liable to a penalty not exceeding \$50 for every failure to comply with the foregoing regulations. That every employe of such railway company, and every shipper, shall be liable to a penalty

not exceeding \$25 for every failure to comply with the foregoing regulations.

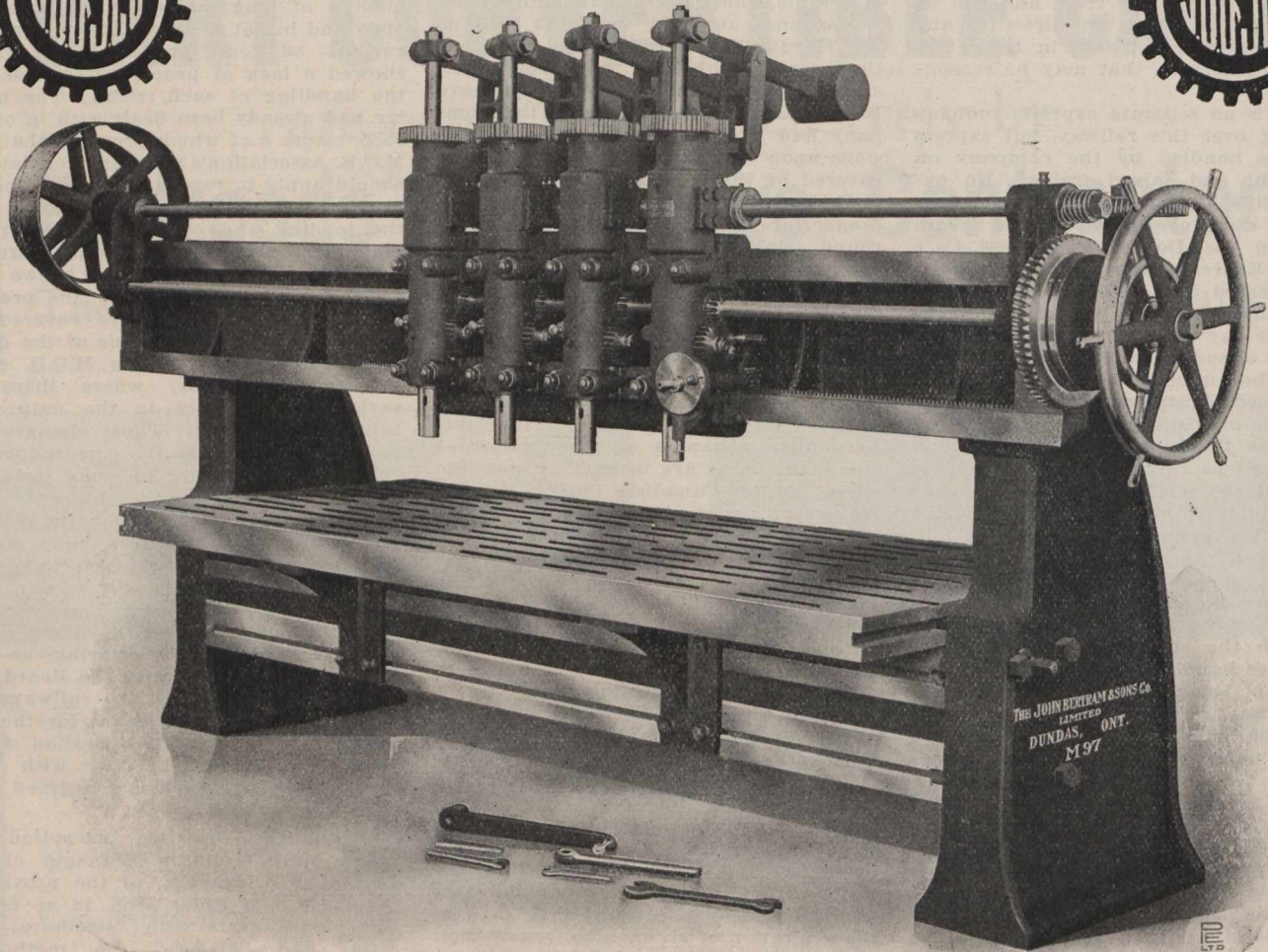
Commissioner McLean gave the following judgment:—The draft order proposing regulations in connection with the loading of long materials and stone in open and in flat cars was the outcome of various accident investigations which showed a lack of proper safeguards for the handling of such traffic. The matter had already been dealt with in order 5888, clause 8 of which provided that the M.C.B. Association's rules and regulations should apply in regard to the loading of lumber, logs, and stone in open cars, and the loading and carrying of structural material, plates, rails, and girders. Reference to the M.C.B. rules shows that all the matters covered by the present draft order and more are covered by these rules. The provisions of the draft order follow those of the M.C.B. rules with few variations; where there are variations these are in the nature of being more drastic. These changes are experimental, and as the correspondence on file shows, would in some instances work a hardship on the shippers. The M.C.B. rules on the other hand have been built up on a large body of experience which has continuously developed since 1890. Practically all Canadian railways are now operating under these rules. Representatives of the lumber shippers raised at the hearing, as well as in correspondence with the Board, the question of placing on the railways the expense of supplying stakes for the flat cars. This is a rate question which should if developed be dealt with aside from the order which is concerned with operating.

During the hearing, exception was taken by P. Johnson, Manager of the Dominion Bridge Co., to the provisions of clause 8 of order 5888, in so far as this clause deals with "structural material" and "girders." A method of loading used by his company and other bridge companies in Canada was illustrated by model. It was shown that this method had been in use for years. The method submitted by him appeared to be safe and satisfactory. But the Board must consider the advantage of uniformity. If we had any assurance that this was the only method of loading such material, outside of that prescribed by the M.C.B. rules, which would be offered, we might authorize its use. But we have no such assurance. The advantage of having uniformity of practice throughout Canada in this regard as well as the necessity of uniformity in regard to international traffic is so manifest that I am constrained, while recognizing merits in Mr. Johnson's contention, to hold the opinion that clause 8 of order 5888 should stand.

During June, 23 employes were killed and 26 injured, in the course of their work on Canadian railways. Of the fatalities, 11 were due to being run over, 6 to collisions, 2 to drowning, and one each to being struck by an object in passing, to a dynamite explosion, to electric shock and to a fall; while of the non-fatal accidents, 7 were due to falls, 4 each to collisions and to being run over, 3 to derailments, 2 each to being caught between cars, to falling material, to burns or scalds, and one each to being struck by a locomotive, and to machinery.



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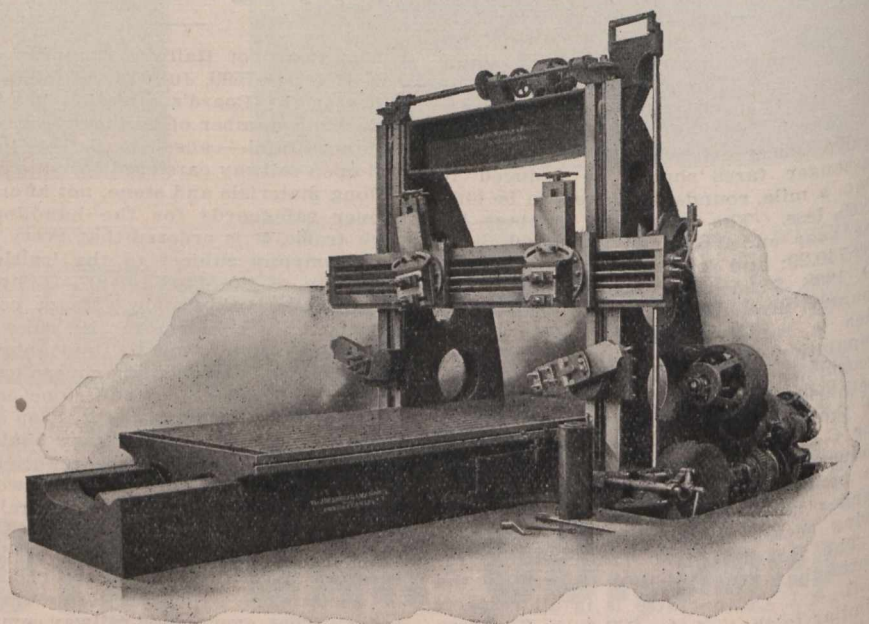
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Tobique and Campbellton Ry.—J. E. Stewart, Andover, N.B., stated in St. John, Aug. 4, that the contract for the construction of this railway would be let early in the fall, and that work would be gone on with during the winter. The new railway is an extension of the Tobique Valley Ry., operated by the C.P.R., which now terminates at Plaster Rock, to Riley Brook, about 28 miles. A contract for its operation by the C.P.R. has been arranged and is ready for signature. The route is along the Tobique River valley through a thickly settled district, crossing the National Transcontinental Ry. a short distance from Plaster Rock. It is the company's intention to extend it at a future date to the International Ry. of New Brunswick. The bond issue, it is stated, has been arranged for, the Dominion Government has voted the usual subsidy, and it is expected that the N. B. Legislature will grant an additional subsidy.

Aroostook Valley Ry.—A company with this title has been incorporated in the State of Maine to construct a railway from Presqu'île to Washburn, Me., 12 miles, with the intention of extending it to the St. John River, a further 110 miles. The line will connect with the C.P.R. at Presqu'île, and will run through territory at present served by the Bangor and Aroostook Rd. We are advised that in consideration of a traffic agreement the C.P.R. has undertaken to guarantee the payment of the company's bonds to the amount of \$300,000. It is stated that the Bangor and Aroostook Rd. is protected by law from the invasion of steam railways, and, therefore, the new line will be operated by electricity for both passenger and freight traffic.

Aroostook Jct., Me.—Press reports state that contracts have been let for the construction of various buildings at Aroostook Jct., Me., the company's new divisional point. A 6-stall engine house, a foundation for a turntable, and two cottages will be built by J. H. Hague, St. John, and a boarding house, with bunk quarters, by H. Post, Woodstock, N.B. The company's men will construct the new freight shed.

Sherbrooke, Que.—An agreement has been entered into between the C.P.R. and the city of Sherbrooke under which the company agrees to spend at least \$130,000 upon improvements within the next 12 months. The improvements to be made consist of the erection of a new station and freight shed, a roundhouse, coal chutes, machine shop, etc., and the laying of some additional tracks in the yards. A contract was let for the work, Aug. 10, to the Sherbrooke Construction Co., and work was started on the following day.

Northern Colonization Ry.—The Board of Railway Commissioners has approved the revised location plans for the extension of this line from about 15 miles northwesterly from Nominig for 5 miles.

Branch lines at Lachine.—Application is being made to the Board of Railway Commissioners for authority to construct a branch line in Lachine, from the Lachine Canal South Bank branch of the company's line southwesterly along the canal about 5,100 ft.; and a second branch in the vicinity for about 1,440 ft.

Kingston and Pembroke Ry.—W. R. Baker, Vice-President and General Manager, accompanied the directors over the line, Aug. 11. It was subsequently stated that the growth of business necessitated the undertaking of some further improvements and extensions. The matter is now under consideration.

Georgian Bay and Seaboard Ry.—The Board of Railway Commissioners has approved the revised location of this projected line from mileage 41.95 to 48.05 and of location plans from mileage 48.05 to 63.42. The company has deposited with the Department of Public Works plans and description of the site of a 160 ft. h.d.p.g. swing span bridge, which it is proposed to construct across the narrows of Lake Couchiching near Orillia, Ont.

Guelph and Goderich Ry.—The Guelph, Ont., Board of Trade has passed a resolution urging upon the company the necessity of constructing a branch from Weisenburg, to Elora, on the Credit Valley Ry., also operated by the C.P.R. The length of the suggested branch is 7 miles.

Schreiber, Ont.—A contract is reported let to F. Munroe, Westmount, Que., for excavation, concrete and steel work of a subway at Schreiber, Ont. The Board of Railway Commissioners has approved the plans for the subway.

Fort William Union Station.—We are advised that excavating for the foundations of the union station at Fort William, Ont., has been commenced by the C.P.R. The plans for the superstructure are under consideration by the company's executive and will be approved at an early date.

Fort William—Winnipeg Second track.—The Board of Railway Commissioners has passed an order authorizing the company to open for traffic the new track between mileage 115.1 and 120.8, Fort William section, and from mileage 119.8 to 120, Ignace section.

Sheho to Prince Albert.—Work was started July 26 on the extension of the Manitoba and Northwestern Ry. from Sheho, Sask., to Prince Albert. Press reports state that 1,500 men were set to work and that 600 more were expected to be started at the Prince Albert end within a week. A temporary bridge will be constructed across the South Saskatchewan River at once and a permanent bridge will be erected during the winter.

Saskatoon to Wetaskiwin.—The grading on the short line to Edmonton, Alta., is reported completed. The line branches off from the old Manitoba and Northwestern Ry. (which for years terminated at Yorkton, Sask., at Sheho, and runs to Lanigan, where it is joined by the Pheasant Hills branch starting from Kirkella, Man., and then runs into Saskatoon. From there it runs westerly to Wilkie, where it connects with a Calgary and Edmonton Ry. branch running easterly from Wetaskiwin, Alta. It is expected that the work remaining between Sedgwick and Wilkie to be done to complete the connection will be finished by Oct. 1.

Weyburn to Lethbridge.—In connection with the construction of this projected line, the Lethbridge Board of Trade recently wrote to W. Whyte, Second Vice-President, asking that construction be started at that end at an

early date. In reply Mr. Whyte said he hardly expected that anything would be done from the Lethbridge end this year. He assured the Board, however, that the matter would be given consideration when the construction programme for 1910 was being laid out.

Langdon Branch.—Some grading is reported to have been done on this branch. The line has been located for 80 miles, and the plans have been approved for that distance by the Board of Railway Commissioners. The present objective point is Alix, about 40 miles northerly from Langdon, Alta.

Lethbridge-Macleod Cut-off.—It is expected that track-laying, ballasting, and other work on this cut-off will be completed by the end of Sept., and that the line will then be opened for traffic.

Lethbridge Northerly.—A considerable amount of grading has been done on the line under construction from Lethbridge to the Calgary and Edmonton Ry. near High River or Aldersyde, Alta. It is expected that grading will have been completed as far as Carmangay by the middle of Sept.

Lacombe Branch.—Grading is reported completed on the Calgary and Edmonton Ry. branch at present being operated from Lacombe to Stettler, easterly to Castor, Alta. This line is to be connected with the line at present under construction from Moose Jaw, which is in operation as far as Conan.

Strathcona-Edmonton Bridge.—We are advised that the company's engineering staff is designing a bridge, which it is proposed to erect at the crossing of the Saskatchewan River, on a piece of line to connect the Calgary and Edmonton Ry., now terminating at Strathcona, with Edmonton. The original plans were for a high level railway bridge only, but, in order to meet the wishes of the Strathcona and Edmonton Councils, the engineers are revising the plans to provide for the accommodation of general as well as railway traffic. It will be some time before the plans are sufficiently advanced to be submitted to the two councils.

Hope Mountains.—Press reports state that the C.P.R. has commenced surveys for a railway through the Hope Mountains, B.C. It is said that the line will start from the neighborhood of Hope, on the main line, run to Pentiction and from there to Okanagan Landing. It is also said that surveys will be made for a line from Pentiction to connect with the company's lines in the boundary country.

Vancouver and Lulu Island Ry.—The construction of an extension of this line from Eburne, at the crossing of the north arm of the Fraser River, into New Westminster, B.C., 9.65 miles, has been completed. The line follows the north arm of the Fraser River, passing through a market garden section, and its proximity to the river gives access to a number of factory sites. Grading was done by J. B. Bright and tracklaying and ballasting by the C.P.R. The extension is being electrified by the B. C. Electric Ry., which will operate over it, as well as over the rest of the V. and L.I. Ry.

Esquimalt and Nanaimo Ry.—The Board of Railway Commissioners has approved a book of reference showing change of location of the extension of the line to Alberni, from mileage 100 to 127, and of the location of the Comox

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CHARLES MILLER,

PRESIDENT

extension from Union Bay to Black Creek, through Nelson and Comox districts.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—Tracklaying was completed July 30 on the extension from Brooton to Superior, Minn. The line is expected to be opened for traffic early in Sept. Since construction was started, the company has obtained a lease of the Wisconsin Central Ry., with terminals in Superior, and it is stated that the terminals of the two lines will be consolidated.

A press report quotes an officer of the company as saying that work will be begun at once on shortening the line in Minneapolis, upon which the company expected to spend \$500,000 this year and an additional \$500,000 later. (Aug., pg. 585.)

Motor Cars on the C. P. R.

H. H. Vaughan, Assistant to the Vice President, C.P.R., in the course of a discussion on motor cars at the recent meeting of the American Railway Master Mechanics Association at Atlantic City, said:—"We have had some experience with the motor car. Before we got a motor car, the passenger business of the road depended on our developing a motor car. After we got a motor car we could not find any place in which we wanted to use it. That has been our experience for the last three years. Personally, I do not believe, unless the gasolene motor car can be made a satisfactory car, that there is anything in a motor car for railway service. The whole matter of the combining of a steam engine in a passenger coach is, to my mind, radically wrong. The proper place to put a passenger coach at night is in the passenger car yard. The proper place to put a steam engine at night is in the roundhouse. If you put a passenger car in the roundhouse, which is full of smoke, the car becomes dirty and grimy and you have to send car cleaners from the car yard to the roundhouse to clean the motor car. If you put the car in the passenger car yard, you must send men from the roundhouse to the passenger car yard to repair the engine. There is nothing radical about a motor car. It is simply a small steam engine; it takes about as much coal per mile as any other engine, possibly a little more; it is easier to fire, because it is small, and its capacity is limited. We have had cases where our people thought the motor car should pull two or three trailers with ease, and the car will not do it. It is simply applicable for a light service, which, in most of our conditions, which are, of course, rather different from those further south, can be handled by mixed trains better than they can be by motor car service. You must, in the majority of cases, run three men, an engineer, a fireman and a conductor, and it seems to me that a very much better solution of the question is to build a little tank engine with a baggage compartment on it, in which you can get a fireman to attend to the baggage and let the conductor look after the tickets. We have prepared designs for such a car, and now await the passenger department to find a place where they want to run it. The motor car question is going along very quietly with us and we are not spending any money on it."

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for June, \$16,263, against \$21,394 for June, 1908. Aggregate net profits for 12 months ended June 30, \$364,395. Railway traffic receipts for July, \$27,041, against \$20,557 for July, 1908.

Buffalo and Lake Huron Ry.—The report for the half year ended June 30, shows that after providing for interest on 1st and 2nd mortgage bonds, the available balance, including the amount brought forward from the previous half year, was £14,757 14s., enabling the payment of the usual dividend of 5s. 3d. a share and leaving a balance of £973 0s. 9d. to be carried forward. The line is leased to the G.T.R. The directors are, M. H. Maxwell, Chairman; E. Ashton, Liverpool, and J. M. Synge, Westerham, Eng.

Canada Atlantic Ry.—A discharge of the mortgage of \$3,450,000, dated Jan. 2, 1889, to the Farmers' Loan and Trust Co., trustee for the bondholders, and a reconveyance of the property to the C.A.R. Co. was deposited with the Secretary of State at Ottawa, July 14.

Central Counties Ry.—A special meeting of shareholders was held at Ottawa, Aug. 25, to authorize the issue of first mortgage A bonds upon sections 1 and 3 of the railway, to the extent of \$475,000, being at the rate of \$12,500 a mile, and to ratify a mortgage deed to secure the bonds.

Dominion Atlantic Ry.—Gross earnings for June, \$112,500, against \$106,125 for June, 1908. Aggregate gross earnings for 6 months ended June 30, \$486,150, against \$470,598 for same period 1908.

Dominion Lime Co.—By an act passed at the last session of the Quebec Legislature the capital of the D. L. Co., which owns a short line from Dudswell Jct. to Lime Ridge, Que., was reduced to \$225,000, the new shares to be allotted to the present shareholders at the rate of fifty per cent. of their present holdings. It was also provided that the stock may be further reduced upon a by-law approved by a majority of the shareholders at a meeting convened for that purpose.

Great North West Central Ry.—An action in which J. Codd sought to recover certain monies, in connection with the promotion of the Great North West Central Ry., now a part of the C.P.R., which has been before the courts in London, Eng., for over eleven years, was dismissed July 30.

Kingston and Pembroke Ry.—The annual meeting was held at Kingston, Ont., Aug. 11. The report showed that the business done during the year was satisfactory, and that considerable improvements had been made. The road is operated by the C.P.R., W. R. Baker, Secretary C.P.R., being Vice President and General Manager.

Minneapolis, St. Paul and Sault Ste. Marie Ry.—The directors have declared out of the earnings of 1908, a semi-annual dividend of 3½% on the preferred stock, and 3% on the common stock, payable Oct. 16, to stockholders of record Oct. 1.

New Brunswick Ry.—The annual meeting was held at St. John, N.B., Aug. 5. The directors were re-elected as follows:

R. Meighen, F. S. Meighen, W. T. Whitehead and J. Turnbull. Apart from the formal business transacted, it was decided to increase the stumpage rates by 25c., on all lumber cut on the company's lands.

Quebec and Lake St. John Ry.—Gross earnings for July, \$54,388.32, against \$71,057.16 for July, 1908. Aggregate gross earnings for 7 months ended July 31, \$332,409.88, against \$328,996.78 for same period 1908.

Quebec Central Ry.—Gross earnings for June, \$92,103.60; expenses, \$65,591.84; net earnings, \$26,511.76, against \$111,117.00 gross earnings; \$88,792.79 expenses; \$22,324.21 net earnings for June, 1908. Aggregate gross earnings for 12 months ended June 30, \$1,019,488.25; expenses, \$724,227.93; net earnings, \$295,260.32, against \$1,110,724.38 gross earnings; \$787,293.15 expenses; \$323,431.23 net earnings for same period 1907-08.

Salisbury and Harvey Ry.—A meeting of shareholders has been called to be held at Hillsborough, N.B., Sept. 2, for the election of directors, to authorize the issue of bonds, and to execute a mortgage upon the railway and other property of the company to secure the bond issue. The notice calling the meeting is signed by J. D. Newton, D. E. Bergen, J. D. Hazen, D. K. Hazen, E. P. Raymond, provisional directors.

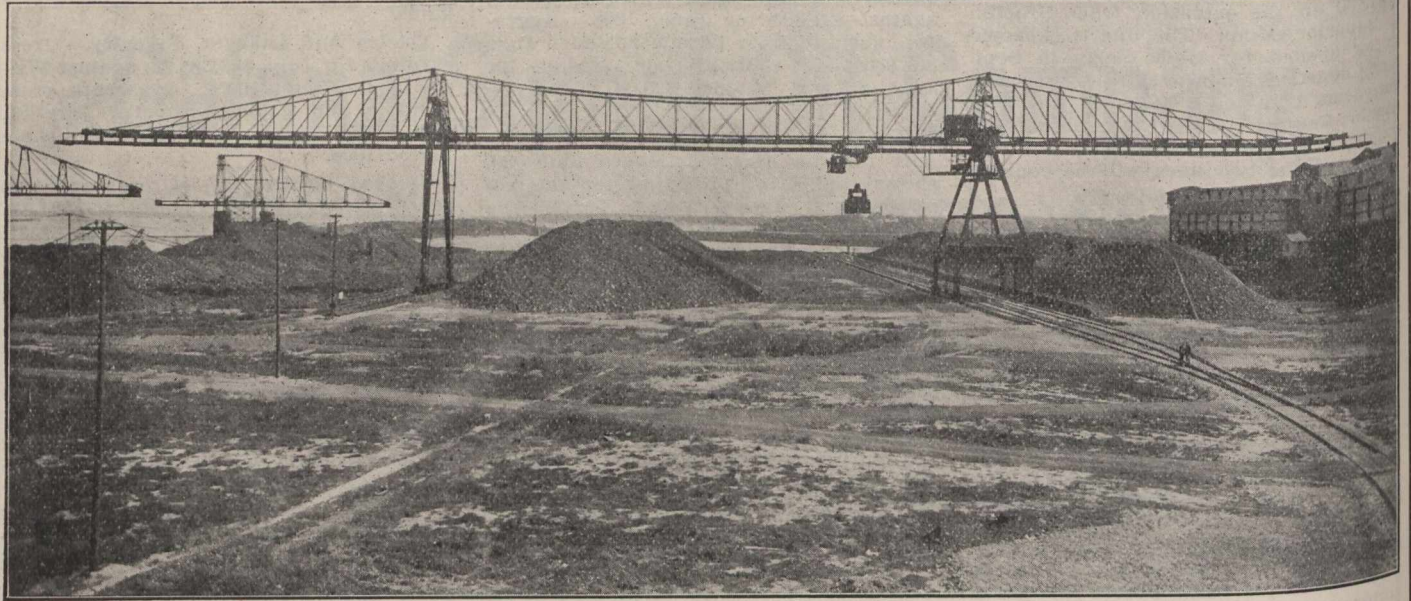
Temiscouata Ry.—Total earnings for June, \$18,350.58. Aggregate for year ended June 30, \$230,154.89. Total earnings for July, \$20,922.55.

Western Canadian Collieries.—Application was made to the Board of Railway Commissioners, Aug. 26, for an order recommending the Governor in council to sanction an agreement for the sale and transfer of the franchises, rights, powers, railway and undertakings of the United Coal Fields of British Columbia to the Western Canadian Collieries. The railway referred to extends from Frank to Grassy Mountain, Alta., about 7 miles, and was badly damaged by the landslide in 1903. It has not been operated since, but the Board of Railway Commissioners, Aug. 5, approved a book of reference showing amended location of the line.

White Pass and Yukon Ry.—Gross earnings for the year ended June 30, \$1,255,027.

Railway to Hudson Bay.

The last party of engineers engaged on the surveys being made for the Dominion Government to enable it to decide on the feasibility of constructing a railway to Hudson Bay returned to Winnipeg Aug. 13. They report having located a route from Split Lake to Fort Churchill, about 200 miles, upon which they found that there would not be any serious difficulties in the way of construction. They also made an inspection of the harborage at Port Nelson and report that a good harbor can be secured there, as well as at Fort Churchill, the terminal point of the other suggested route. M. J. Butler, Deputy Minister of Railways and Canals, who is on a trip of inspection of railways in the West, had a conference with the engineers while in Winnipeg. The complete reports of the engineers is being prepared and it is expected will be ready for presentation at the next session of Parliament.



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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.

7527. July 13.—Authorizing City of Toronto to lay water pipe under G.T.R., at Front St. East.

7528. July 13.—Authorizing Bell Telephone Company to erect wires across C.P.R., near Waterloo station, Que.

7529. July 10.—Rescinding order 7298, of June 19, which dismissed application of C.P.R. for order directing G.T.R. to receive C.P.R. passenger and baggage cars at the junction between the two railways near Sappers' bridge, Ottawa, the application to be set down for hearing at the sittings at Ottawa in Sept., unless before that time the matter has been settled between the companies.

7530. July 15.—Authorizing C.P.R. to construct a bridge on Laggan section and three bridges on Red Deer section, Western Division.

7531. July 16.—Authorizing C.P.R. to build spur line to Imperial Oil Co.'s premises, Delorimier, Que.

7532. July 16.—Authorizing C.P.R. to construct two spur lines to the Canadian Pacific Lumber Co.'s premises, Port Moody, B.C.

7533. July 16.—Authorizing C.P.R. to construct two spur lines to the International Harvester Company and T. H. Blow's premises, Calgary, Alberta.

7534. July 16.—Authorizing C.P.R. to construct spur line from south limit of 24th St. to south limit of lot 15, Saskatoon, Sask., upon consent of Enterprise Hardware Co., A. Carruthers & Co., and City Council of Saskatoon.

7535. July 16.—Authorizing C.P.R. to construct a branch line into the Corporation yard, Princess St., Toronto.

7536. July 16.—Authorizing Montreal Park and Island Ry. to construct spur line to the Lakefield Cement Co.'s premises, Longue Pointe, Que.

7537. July 16.—Authorizing Government of Alberta to erect telephone wires across C.N.R. at Raith.

7538, 7539. July 16.—Authorizing Bell Telephone Co. to erect wires across G.T.R. near Unionville station and at Clifford station, Ont.

7540. July 16.—Authorizing Creston Power, Light & Telephone Co., of Creston, B.C., to erect wires across C.P.R.

7541, 7542. July 17.—Authorizing Bell Telephone Co. to erect wires across C.P.R. at public crossing near Streetsville Jct. and near Streetsville station, Ont.

7543. July 20.—Authorizing the C.P.R. to build spur line to the Western Canada Agency's premises, Lethbridge, Alta.

7544. July 20.—Authorizing C.P.R. to build spur line to J. D. Clark & Co.'s premises, Winnipeg, Man.

7545. July 20.—Authorizing G.T.R. to build temporary branch line from its Lakefield branch, Douro tsp., Ont., westerly to property of Water Commissioners, City of Peterboro, Ont.

7546. July 20.—Authorizing Town of Boissevain, Man., to erect electric light wires across C.P.R. on Cook St.

7547. July 20.—Authorizing the C.P.R. to construct bridge 12.89 on its St. John section, Atlantic Division.

7548. July 20.—Authorizing F. Karlenzig to erect telephone wires across C.P.R. at Lemberg, Sask.

7549. July 20.—Authorizing Village of Ste. Anne de Beaupre, Que., to lay water-pipe under Quebec Ry. Light & Power Co.'s track.

7550. July 20.—Authorizing Town of Parry Sound, Ont., to lay water pipe under C.N.O.R.

7551. July 21.—Authorizing Tilbury Telephone Co. to erect telephone wires across Pere Marquette Rd., near Glenwood station, Ont.

7552. July 7.—Directing Bedlington & Nelson Ry. Co. to refund to C. P. Riel excess freight charges on railway ties from Rykerts, B.C., to Portage la Prairie, Man. This order is given in full on another page.

7553. July 20.—Authorizing G.T.R. to construct spur line to Thornbury Transportation & Reduction Co.'s premises, Thornbury, Ont.

7554. July 6.—Refusing application of G.T.R. for approval of revised location of the Brunswick, Balke & Collender Co.'s spur on Pacific Ave., Toronto.

7555. July 6.—Approving location of C.N.O.R. through Gloucester and Nepean tps., Ontario, from mileage 53.91 to 57.42 west from Hawkesbury, Ont.

7556. July 21.—Approving location of Esquimalt & Nanaimo Ry., Comox extension, Union Bay to Black Creek, through Nelson and Comox Districts, B.C.

7557. July 21.—Approving location of C.N.R., from near the mouth of North Thompson River, sec. 24, tp. 20, range 17, west 6th meridian, to sec. 4, twp. 22, range 17, west 6th meridian, 10 miles.

7558 to 7560. July 21.—Approving location and plans of C.P.R. stations at Canford, Haney and Meritt, B.C.

7561. Mar. 22.—Authorizing C.P.R. to construct its railway across highways on Piapot to Maple Creek main line grade division, Sask., mileage 67.3 to 80.7.

7562. July 15.—Approving two forms of bill of lading for joint use in Canada.

7563. July 12.—Approving uniform code of operating rules for Canadian railways.

7564, 7565. July 6.—Authorizing G.T. Pacific Ry. Co. to make corrections on plans on the main line with respect to Marsan and Girouard's property, in connection with location of railway through Edmonton, Alta.

7566. July 22.—Authorizing C.P.R. to construct spur from its right of way between Young and Scott sts westerly, crossing lots B and A along Eighth Ave., to the easterly limit of Broad St., and ten spurs from the first named, across parts of blocks 184 to 190 and 23 to 25, Regina, Sask.

7567. July 15.—Refusing application of C.P.R. to construct spur from its station grounds, Fort William, Ont., to a point west of the western limit of Bethune St.

7568. July 21.—Authorizing C.P.R. to construct spur to Columbia Flour Mill Co.'s premises, Enderby, B.C.

7569. July 22.—Approving Marconi Wireless Telegraph Co.'s by-law authorizing H. G. Matthews, Secretary-Treasurer, to prepare and issue tariffs of tolls.

7570. July 15.—Refusing application of C.P.R. to construct branch line across Hardisty St., Fort William, Ont.

7571. July 21.—Approving location and detail plans of C.P.R. station, Mission Jct., B. C.

7572. July 21.—Extending until Oct. 6 time, by order 6803, within which inter-Orders by Railway Commissioners

Continued.
locking plant is to be provided by C.P.R. and G.T.R. at Brampton, Ont.

7573. July 22.—Authorizing North Regina Rural Telephone Co. to carry wires across C.N.R., Regina, Sask.

7574. July 22.—Authorizing Fairview Rural Telephone Co. to carry wires across C.N.R., Fairview, Sask.

7575. July 21.—Authorizing Erie Telephone Co. to carry wires across M.C. Rd., Townsend station, Ont.

7576. July 21.—Authorizing Kootenay Telephone Co. to carry wires across C.P.R., Cranbrook, B.C.

7577, 7578. July 22.—Authorizing Commissioner of Railways and Telephones of Saskatchewan to carry wires across C.N.R. at two points, Aylesbury, Sask.

7579, 7580. July 21.—Authorizing Manitoba Government Telephones to carry wires across C.P.R. at two points near Varcoe station.

7581 to 7583. July 22.—Authorizing Bell Telephone Co. to carry wires across G.T.R. at Port Hope, Moose Creek and Maxville, Ont.

7584. July 22.—Authorizing Vancouver, Victoria & Eastern Ry. and Navigation Co. to construct branch to connect its main line with International boundary, near Myncaster, B.C.

7585. July 23.—Ordering Alberta Ry. and Irrigation Co. to file tariffs, etc. This order is given in full on another page.

7586. July 23.—Approving plans of M.C. Rd. Co.'s proposed subway at Tecumseh road, Sandwich West tp., Ont.

7587. July 21.—Authorizing Bell Telephone Co. to carry wires across C.P.R. near Streetsville station, Ont.

7588 to 7590. Mar. 22.—Authorizing C.P.R. to construct railway across 8 highways in its authorized main line grade division between Gull Lake and Carmichael; across 9 highways in Medicine Hat section, and across 8 highways between Seward and Antelope, Sask.

7591. July 6.—Ordering C.P.R. and Kingston and Pembroke Ry., to erect and maintain gates at their Raglan St. crossing, Renfrew, Ont.; gateman to be employed by the companies and be in charge at all times; 20% of cost of construction to be paid out of the Railway Grade Crossing Fund; one third of the wages of men to be paid by the Town of Renfrew. The bell at present in use there to be moved to Argyle street.

7592. July 23.—Approving location and detail plans of the C.N. Ontario Ry.'s proposed station at Sudbury, Ont.

7593. July 22.—Authorizing city of Edmonton, Alta., to cross with its electric railway the Edmonton, Yukon and Pacific Ry.

7594. July 23.—Reinstating for hearing complaint of F. W. Godsall, Cowley, Alta., against excessive passenger rates on C.P.R. steamers between ports of call on the Kootenay and Arrow Lakes, B.C., and the Nelson Board of Trade in support. This order is given in full on another page.

7595. July 23.—Approving C.N.R. local standard passenger tariff, C.R.C. 503, between stations on its branch line from Hudson Bay Jct., Sask., to Pas Mission, Keewatin Territory.

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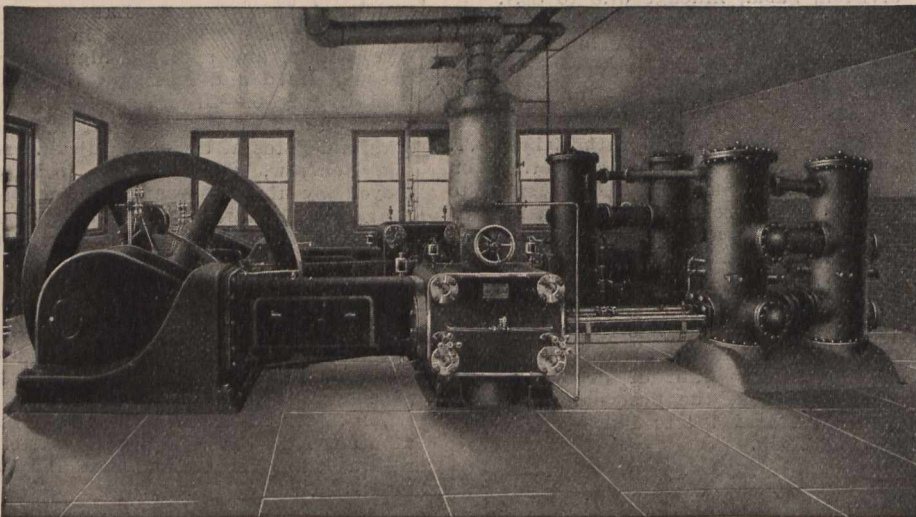
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Calgary Block, Calgary, J. F. Porter, Manager.

7596. July 24.—Rescinding order of June 10 which approved amalgamation agreement between C.N.R. and Edmonton & Slave Lake Ry. Cos.

7597. July 24.—Authorizing C.N.R. to use crossing with the Ottawa and Prescott Ry., mileage 56.6 west from Hawkesbury, Ont., for construction purposes only, pending installation of interlocking plant provided for in order 7490.

7598. July 22.—Approving plan showing footbridge proposed to be constructed by Saskatoon corporation over C.N.R. yard at Twentieth St.

7599. July 24.—Ordering that railways subject to the Board's jurisdiction shall conform to the rules and regulations from time to time approved by Master Car Builders' Association governing the loading of lumber, logs and stone on flat and open cars. This order is given in full on another page.

7600. July 27.—Approving location of the Nipissing Central Ry., from Cobalt to Haileybury, 5.1 miles, through Buck and Coleman tps., Ont.

7601. July 15.—Authorizing city of Fort William, Ont., to cross C.N.R. with its electric railway at Fredericka St.

7602. July 23.—Ordering that C.P.R. and C.N.R. publish and file joint class and commodity tariff of rates on freight traffic in classes 6 to 10, inclusive, of the Canadian Classification, between certain points in Alberta. This order is given in full on another page.

7603. July 15.—Approving revised location of the Fort William Terminal Ry. and Bridge Co.'s line from near Christina St., crossing the Kaministikwia River and Islands 1 and 2, Fort William, Ont.

7604. July 22.—Authorizing G.T.P.R. to use Edmonton & Slave Lake Ry. crossing in sec. 15, tp. 55, r. 25, w. 4th meridian, Alta., for construction purposes only, until Nov. 30, pending installation of interlocking plant provided for by order 4672.

7605. July 24.—Approving location of C.P.R. Langdon North branch, mileage 60 to 80, from sec. 34, tp. 31, r. 24, w. 4th mer., to sec. 35, tp. 34, r. 25, w. 4th mer., Alta.

7606 to 7608. July 24.—Authorizing C.N. Ontario Ry. to construct tracks across Russell road, across Cyrville road, and across Concession road, Gloucester tp., mileage 56.78, 55.46 and 55.22 respectively, west from Hawkesbury, Ont.

7609. July 24.—Authorizing C.P.R. to change location of its station at Putnam, Ont.

7610. July 24.—Authorizing city of Woodstock, Ont., to lay drain under G.T.R. at Beale St.

7611. July 24.—Authorizing Guelph Water Commissioners to lay conduit under C.P.R., Guelph Jct. branch, Ont., and rescinding order 6295, Feb. 19.

7612. July 24.—Authorizing Guelph Water Commissioners to lay water main across C.P.R., on Metcalfe St., Guelph, Ont.

7613. July 22.—Ordering G.T.R. to file for approval of the Board, within 30 days from date of order, plans for station to be constructed near where company's line crosses town line between Clinton and Louth tps., Lincoln Co., on its line from Hamilton to Niagara Falls, Ont.

7614. July 23.—Ordering C.N.R. to remove by Apr. 1, 1910, to the satisfaction of the Board's Engineer, and in compliance with sec. 230 of the Railway Act,

all obstructions placed by the company at Coulter's Narrows, Muskoka Dist., Ont.

7615. July 24.—Authorizing C.P.R. to construct spur to Johnston & Gill's premises, Kamloops, B.C.

7616. July 24.—Authorizing C.P.R. to construct spur to Peter Lyall & Sons' premises, Notre Dame de Grace, Que.

7617. July 24.—Authorizing C.P.R. to construct 2 branch lines to E. N. Heney's premises, Delorimier, Que.

7618. July 26.—Authorizing C.P.R. to construct branch to I. L. Lafleur's premises, Cote St. Pierre, Que.

7619. July 26.—Authorizing G.T.R. to construct spur to J. R. Eaton & Sons' premises, Orillia, Ont.

7620. July 15.—Approving location of G.T.P.R. through Fort William, Ont., subject to terms and conditions of an agreement between the G.T.P.R. and C.P.R., and subject to the condition that the G.T.P.R. shall do as little damage as possible and make full compensation to all persons interested for all damage sustained by them by reason of the railway along any street in Fort William, as provided in the agreement.

7621. July 24.—Authorizing C.N. Ontario Ry. to operate interlocking plant at crossing with G.T.R. spur line to Edwards Mills, Rockland, Ont.

7622. July 26.—Approving construction of 8 bridges on the Atlantic, Quebec & Western Ry.

7623. July 24.—Authorizing C.P.R. to construct spur to Watt Milling and Feed Co.'s premises, Toronto.

7624. July 26.—Authorizing Bethel Rural Telephone Co. to cross C.P.R. near con. 3, lot 211, Proton tp., Ont.

7625. July 26.—Authorizing Ivy-Thornton Mutual Telephone Association to erect wires across G.T.R. between lots 15 and 16, Essa tp., Ont.

7626 to 7631. July 26.—Authorizing the Alberta Government to erect wires across C.N.R. at 6 points.

7632 to 7636. July 26.—Authorizing Bell Telephone Co. to erect wires across G.T.R. and C.P.R. at 5 points in Ontario.

7637. July 26.—Authorizing Bethel Rural Telephone Co. to cross C.P.R. at lot 216, Proton tp., Ont.

7638. July 26.—Authorizing G.T.R. to construct spur to Dain Manufacturing Co.'s premises, Humberstone tp., Welling Co., Ont.

7639, 7640. July 27.—Authorizing C.P.R. to use 9 bridges, on its eastern lines.

7641, 7642. July 26.—Authorizing city of Guelph, Ont., to lay sewer pipe under G.T.R. and C.P.R., at Marcon St., and under G.T.R. at Norwich St.

7643. July 22.—Authorizing Citizens Telephone Co. to erect wires across C.P.R. south of Cowansville station, Que.

7644. July 26.—Authorizing Bell Telephone Co. to carry wires across Toronto, Hamilton & Buffalo Ry., 2½ miles west of Stoney Creek station, Ont.

7645. July 27.—Authorizing Brantford Gas Co. to lay gas main under Toronto, Hamilton and Buffalo Ry., Oak St., Brantford, Ont.

7646. July 23.—Ordering C.P.R. to forthwith erect station known as its standard no. 6, at Wattsburg, B.C.

7647. July 27.—Approving basis of Quebec Railway, Light and Power Co.'s Standard Passenger Tariff, C.R.C. 8, at 2½c. per mile.

7648, 7649. July 26.—Authorizing city of Toronto to lay water pipe under G.T.R. and C.P.R. at Royce Ave.

7650. July 27.—Authorizing Pere Marquette Rd. to remove east derail at Walkerville Jct., Ont., 495 ft. from the crossing.

7651. July 27.—Approving plan and profile of proposed crossing of the municipality of Johnston, Tarbutt and Tarbutt Additional over C.P.R., near milepost 148, between lots 4 and 5, con. 6, Johnston tp., Ont.

7652. July 27.—Extending until Dec. 1 time fixed by order 6804, Apr. 6, for installation of C.P.R. interlocking plant at Drumbo, Ont.

7653. July 26.—Refusing application of city of Toronto for leave to construct additional bridge across C.P.R. and G.T.R. at Dundas St.

7654. July 26.—Authorizing C.P.R. to construct two spurs into R. Gordon's premises, Arcola, Sask.

7655. July 22.—Reopening for consideration at first sitting of Board in Hamilton or Brantford, Ont., application of Toronto, Hamilton & Buffalo Ry. for order to reconstruct highway bridge under which it crosses public highway about 3 miles east of Brantford.

7656. July 27.—Approving location of C.N.R. mileage 0 to 16.09 through tps. 10-9, r. 30-32, w. p. m., Sask.

7657 to 7670. July 24.—Approving tariffs of Sleeping and Parlor Car Rates of C.N.Q.R., C.P.R., M.C. Rd., G.N.R., Rutland Rd., and Toronto, Hamilton and Buffalo Ry.; Maximum Parlor Car Tolls of C.N.O.R., G.T.R., Q. Ry. L. and P. Co., Esquimalt and Nanaimo Ry., and Wabash Rd.; Berth and Seat Rates of C.N.R., Central Vermont Ry., and Pullman Co.

7671. July 26.—Authorizing Vancouver & Lulu Island Ry. to construct line across Granville St., Point Grey, B.C., such authority to be in force only for 3 months from date, pending a further hearing in Vancouver.

7672. July 23.—Approving plans for superstructure of bridge carrying Dominion Atlantic Ry. across Sissiboo River at Weymouth, N.S.

7673. July 29.—Ordering G.N.R. to forthwith provide station accommodation at old stopping place adjoining spur into the mill at Hazelmere, B.C.

7674. July 23.—Extending until Sept. 7, time within which G.T.R. and Bay of Quinte Ry. shall establish through joint rate on bituminous coal to Marlbank, Ont.

7675. Aug. 3.—Authorizing C.N.Q.R. to construct bridge to replace wooden structure near Stonefield station, Que.

7676. Aug. 3.—Authorizing C.P.R. to open for traffic that portion of the second track of its Ignace section, mileage 119.8 to 120.0.

7677. July 30.—Authorizing C.P.R. to open for traffic the double track portion of its Ignace section, mileage 115.1 to 120.8, Fort William section, Ont.

7678. July 30.—Authorizing Bethesda and Stouffville Telephone Co. to install instruments in G.T.R. stations at Stouffville and Unionville, Ont.

7679. July 30.—Approving New Brunswick Southern Ry. plan for construction of bridge at West Waweig, N.B.

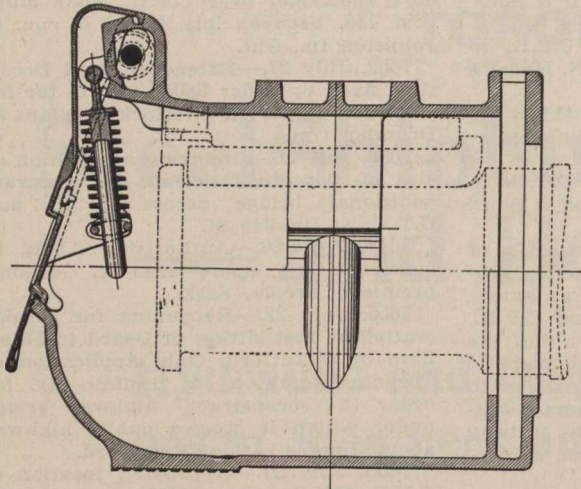
7680. July 30.—Approving detail plan of C.P.R. subway at Winnipeg St., Schreiber, Ont.

7681. July 30.—Approving plans of the proposed C.N.Q.R. bridge over Blanche River near Montcalm station.

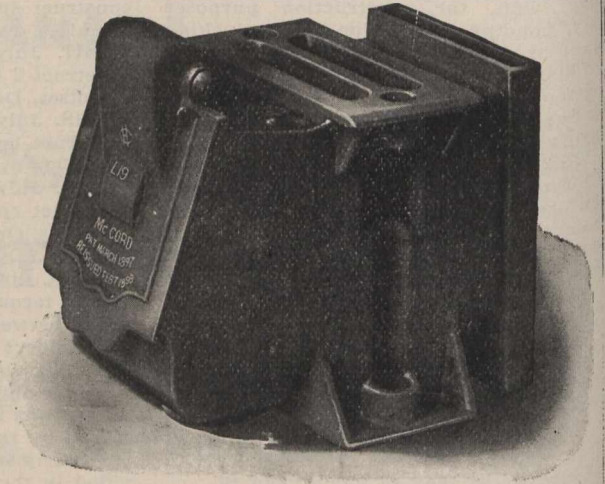
7682. Aug. 3.—Authorizing C.N.Q.R. to construct its line across public road be-

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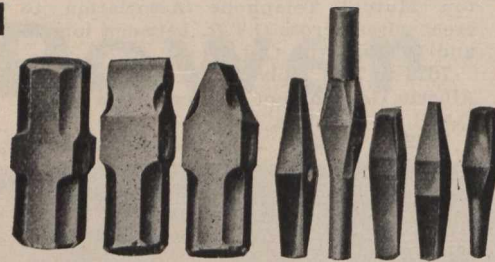
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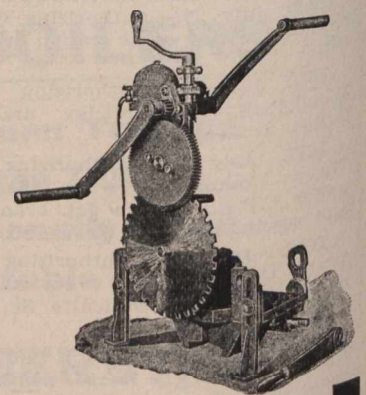
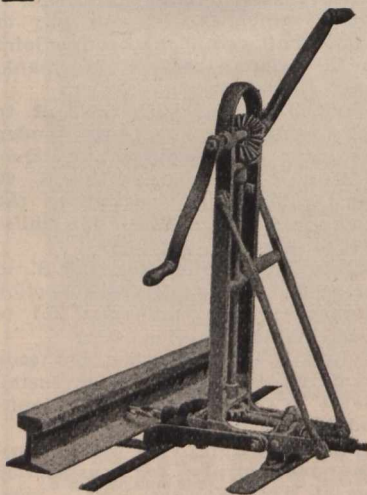


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tween lots 213 and 147, St. Severin parish, mileage 71.44 west from Quebec bridge.

7683 to 7686. July 16.—Authorizing C.N.Q.R. to construct its line across public roads between lots 345 and 344, 344-a and 346, mileage 62.23 west from Quebec bridge; between lots 336 and 331, 332, 334 and 335, mileage 61.0; between lots 324 and 317 and 318, mileage 60.11; and between lots 429 and 430, 431 and 432 in St. Prosper parish, Que.

7687, 7688. Aug. 3.—Authorizing C.N.Q.R. to construct line across the public roads on northeast side of lots 9 and 10, and on the northeast side of lot 130 E., southwest of St. Severin station, mileage 73.77 and 73.51 west from the Quebec bridge.

7689. July 29.—Authorizing C.N.Q.R. to open for traffic the portion of its line from its connection with the Q. and L. St. J. Ry. at Quebec to Garneau Jct., 78.76 miles.

7690. Aug. 3.—Approving revised location of the Chemin de Fer de Colonization du Nord, mileage 15 to 20 northwesterly from Noming, Que.

7691. July 16.—Authorizing Montreal Terminal Ry. to construct branch line on Lakefield Cement Co.'s premises, Longue Point, Que.

7692. Aug. 3.—Authorizing Bolton Telephone Co. to carry wires across C.P.R., Albion tp., Ont.

7693. Aug. 4.—Authorizing council of Maidstone, Ont., to carry wires across G.T.R. at Puce station.

7694. Aug. 3.—Authorizing Oro Telephone Co. to carry wires across G.T.R., Oro tp., Ont.

7695. Aug. 3.—Authorizing Fingal Telephone Co. to carry wires across Pere Marquette Rd., near St. Thomas, Ont.

7696. Aug. 3.—Authorizing Oro Telephone Co. to carry wires across G.T.R., Oro tp., Ont.

7697. Aug. 3.—Authorizing Maidstone municipality to carry wires across C.P.R. about 3 miles west of Belle River station, Ont.

7698. Aug. 3.—Authorizing C.P.R. to construct spur to Wood McNab Lumber Co.'s premises on the B.C. Southern Ry., East Kootenay District, B.C.

7699. Aug. 3.—Authorizing G.T.R. to construct 5 bridges between Chatham and Windsor, Ont.

7700. Aug. 3.—Authorizing Atlantic, Quebec & Western Ry. to construct bridge at Grand River crossing, sec. 6, mileage 51.

7701. Aug. 3.—Authorizing C.P.R. to construct branch to Ontario Lime Association's premises, Dupont St., Toronto.

7702. Aug. 3.—Authorizing C.N.O.R. to construct bridge over Vermillion River, mileage 26.66 from Sudbury Jct., Ont.

7703. Aug. 5.—Temporarily approving agreements with six rural telephone companies, pending the final determination by the Board, of the tariffs of tolls which Bell Telephone Co. be authorized to charge.

7704. Aug. 3.—Authorizing C.P.R. to construct bridge 77.7, Moose Jaw section, Western Division.

7705. Aug. 3.—Authorizing C.P.R. to construct bridge 9.4, north branch Michel Creek, Cranbrook section, B.C.

7706. Aug. 3.—Authorizing G.T.R. to construct branch from its station yard, Oakville, Ont., northeasterly to the north side of the Seventh Line road.

7707. Aug. 5.—Authorizing Hamilton Cataract Power, Light & Traction Co. to

carry power wires across Toronto, Hamilton & Buffalo Ry. at Horning Mountain road, Ancaster tp.

7708. Aug. 5.—Recommending to the Governor in council for sanction C.N.Q.R. by-law re spitting and smoking in cars and on premises.

7709. Aug. 5.—Recommending to the Governor in council for sanction lease of St. Mary's & Western Ontario Ry. to C.P.R., dated Feb. 25, 1909.

7710. Aug. 5.—Recommending to the Governor in council for sanction C.N.O.R. by-law re spitting and smoking in cars and on premises.

7711. Aug. 5.—Approving location of C.N.R. through sec. 4, tp. 22, r. 17, w. 6th mer., to 5 miles beyond the railway belt, mileage 10 to 24, B.C.

7712. Aug. 4.—Approving location and detail plans of C.P.R. station, Indian Head, Sask.

7713. Aug. 5.—Extending until Oct. 1 time for the installation of gates at C.P.R. crossings at Columbia Ave., Vancouver, B.C.

7714. July 15.—Authorizing city of Fort William, Ont., to cross C.P.R. with its electric railway at the intersection of the line with Pacific Ave.

7715. Aug. 5.—Ordering the National Transcontinental Ry. Commissioners to provide an interlocking plant at crossing of Temiscouata Ry., Grand Falls, N.B., and authorizing operation of trains at crossing for construction purposes only pending installation of interlocking system.

7716. Aug. 5.—Approving book of reference of United Coal Fields of British Columbia, Ltd., showing amended location of line from Frank to Grassy Mountain, B.C.

7717. Aug. 5.—Approving Esquimalt and Nanaimo Ry.'s book of reference showing change in location of line from mileage 100 to 107 and 107 to 127.

7718. Aug. 5.—Approving location of Georgian Bay & Seaboard Ry. from lot 17, con. 1, Eldon tp., to lot 23, con. 12, Mariposa tp., mileage 48.05 to 63.42, Ont.

7719. Aug. 5.—Approving revised location of Georgian Bay & Seaboard Ry. from lot 10, con. 2, Mara tp., to lot 1, con. 8, Thorah tp., mileage 41.95 to 48.05, Ont.

7720. July 28.—Approving exceptions to rating of silver ore to the official classifications as incorporated in G.T.R. freight tariffs, C.R.C. E-1599 and 1600, and C.P.R. freight tariffs, C.R.C. E-1422 and 1450, applying from North Bay, Ont., to certain points in the U.S.

7721. Aug. 3.—Authorizing Maidstone municipality to carry wires across C.P.R. 3 miles west of Belle River station, Ont.

7722. July 30.—Authorizing city of Brandon, Man., to carry water main under C.P.R. and G.N.R. on Twenty-Sixth St.

7723 to 7728. Aug. 3.—Authorizing Bell Telephone Co. to carry wires across C.P.R. at 6 points in Ontario.

7729. Aug. 3.—Authorizing Bell Telephone Co. to carry wires across Central Vermont Ry., Lake Street, Waterloo, Que.

7730, 7731. Aug. 3.—Authorizing Bell Telephone Co. to carry its wires across C.P.R. at 2 points in Ontario.

7732. July 31.—Authorizing Caradoc and Ekfrid Telephone Co. to carry wires across C.P.R. between Caradoc and Ekfrid, Ont.

Great Northern Ry. Lines in Canada.

Midland Ry.—J. Fisher, K.C., President, together with a number of officers of the Great Northern Ry., St. Paul, Minn., met the Railway Committee of the city of Winnipeg, Aug. 3, to discuss the question of the entrance of the various G.N.R. subsidiary lines in Manitoba, into Winnipeg. The plans, which were filed with the Board of Railway Commissioners in 1906, show an entrance from the city boundary on lot 56 to a site on Paulin St., between Ross and Pacific avenues, west of Princess St. At that time it was intended that a passenger station would be constructed on Paulin St. It is now proposed that the site be used for a freight shed and yard only, and that the passenger traffic come in over the Canadian Northern Ry. from Fort Whyte, and be deposited at the Fort Garry station. The land purchased in Winnipeg in the interests of the G.N.R. comprises blocks A, B, and C, 110 acres. It is said that according to the original plans, the property between Ross and Pacific avenues will be used for tracks, crossing Leonard, Ellen, Isabel and Nena streets. The track will pass between Ross and Pacific until about midway between Nena and Tecumseh, then it will swing south, crossing Ross and Elgin avenues diagonally. After Tecumseh the line will run along the north tier of lots between Elgin and William streets. It will cross Tecumseh, Brant and McPhillips streets and join the old roadbed of the Manitoba and Southwest Colonization Ry., now owned by the C.P.R., crossing Notre Dame St. on river lot 50, and continue along the old route to lot 45. It will then run south, adjoining the C.P.R. Pembina branch, to the Assiniboine River. Adjacent to the river it will turn east to approach a swing bridge across the river, which will be necessary to provide for the passage of steamers. On the other side of the river it will enter lot 56, pass through the Borebank property and parallel the C.P.R. to the city limits. The shops and yards will be on the west side of McPhillips St., on the n.w. quarter of sec. 7, tp. 11, range 3, east. The conference was private, but it is understood that the company's engineers and the City Engineer will go over the plans, and consider the question of subways, crossings, etc., before another conference takes place.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The Board of Railway Commissioners has approved of the company's plans for a branch line to connect its main line with the line it owns south of the international boundary. The negotiations between the company and the Vancouver city council with respect to the improvement of False Creek by dredging have been practically settled. As soon as the necessary papers have been drawn up and signed the company will be enabled to go ahead with the construction of its passenger station, freight sheds, and deep water shipping, pier, etc. (Aug., pg. 577.)

A party of British engineering students arrived in Canada recently, for the purpose of studying a number of the most important engineering plants and features in the Dominion. Among the places to be visited are Quebec, Montreal, Toronto, Ottawa, Peterboro, Cobalt, Muskoka, St. Catharines, Stratford, Sarnia, London, Brantford, and Hamilton.

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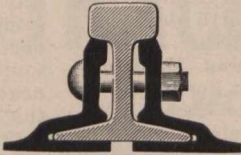
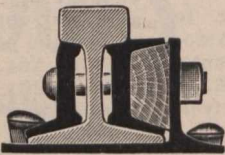

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Projected Lines, Surveys, Construction Betterments.

Algoma Central and Hudson Bay Ry.—J. M. Shanley, C.E., Montreal, returned there, July 27, from a trip of inspection over the route of the proposed extension of the line to the National Transcontinental Ry. He states that the company has 180 miles of grading completed and that track has been laid upon 90 miles. This mileage includes the main line from Sault Ste. Marie and the branch lines from Michipicoten to the Helen and other iron mines. The other 90 miles, upon which grading has been done, extends from Pangissin towards a junction with the C.P.R. He stated that there is nothing in the country between the present track end and the Transcontinental Ry. to make construction difficult, although there are a good many bridges to be constructed, both on the graded section and the section north of the C.P.R. (June, pg. 413.)

Angus Short Line Co.—The Quebec Legislature recently incorporated a company with this title to construct a railway from East Angus, Compton county, through Westbury and Eaton tps., to Cookshire. The company is authorised to construct the line in sections, and to operate it by steam, electric or other motive power, and to enter into agreements of various kinds with other similar companies. The offices are to be at Sherbrooke; the capital is \$200,000, and power is given to issue mortgage bonds. The company is empowered to acquire land, water powers, and other property necessary for its business. The Brompton Pulp and Paper Co. is authorised to become a shareholder of the company. The provisional directors are: F. M. McCrea, Sherbrooke; G. Vandyke, E. P. Lindsay, Boston, Mass.; C. C. Wilson, W. N. Munroe, Auburn, Mass.

Atlantic, Quebec and Western Ry.—Rapid progress is reported to have been made with the construction of this line between Paspébiac and Gaspé, Que. It is practically completed to Pabos, 20 miles beyond Port Daniel, and the contractors have 1,800 men at work on the remaining 60 miles into Gaspé. There are a large number of bridges to be constructed on this section of the line. The Board of Railway Commissioners has just approved of plans for the construction of the bridge at Grand River crossing, sec. 6, mileage 51.

C. B. K. Carpenter, Managing Director of the New Canadian Co., London, Eng., contractors for the line, stated recently, that as soon as the line is finished, and linked up with the Intercolonial Ry. at Metapédia, arrangements will be made with one of the steamship companies running out of the St. Lawrence or New York to place a fast steamer on the Gaspé route, to ascertain the time to be made between Liverpool and Gaspé harbor. It is believed that one of the fast steamers can do the distance in 3½ days. An interesting fact in connection with this statement is the announcement that the Department of Public Works is about to ask for tenders for the construction of a wharf at Gaspé, to be used in connection with the railway, as soon as it is ready for traffic. The wharf will be about 600 ft. long to a water depth of about 45 ft., sufficient to allow the

largest steamers to approach at all stages of the tide. (See Atlantic and Lake Superior Ry., July, pg. 473.)

Canada Western Ry.—The surveys for this projected line are being pushed forward rapidly. On July 30 the survey party had reached Pincher Creek, Alta., where they spent some time looking over possible routes for entering the town. It is said that the route for the line will be as follows: starting from Calgary, it will run south, a few miles west of the Calgary and Edmonton Ry., as far as De Winton, then veer west, crossing High River, about 25 miles west of that town, at the Bar ranch, then through the pass at the head of Willow Creek, south through the Walrond ranch in the valley between the Porcupine and Livingstone ranges, crossing the north fork of the Old Man river and the C.P.R. Crow's Nest Pass line near Cowley, then on to Pincher Creek. From Pincher Creek the line will pass through the Yarrow and Twin Butte valleys to Cardston, and on to the International boundary at Whiskey Pass. From Walrond ranch a spur line will be constructed to the coal mines in the Livingstone range and extended to Michel and Elk River. (Aug., pg. 573.)

Dominion Atlantic Ry.—The Board of Railway Commissioners has approved plans for the superstructure of a bridge over the Sissibo River at Weymouth, N.S. (Sept., 1908, pg. 615.)

Farmers Ry.—There was a gathering at Melfort, Sask., recently when there was some ceremony in connection with the cutting of the first sod of this railway to Regina. A despatch from Melfort, Sask., Aug. 14, says the grading done was started at Flett Springs and that 1.5 miles had been completed. The work is being done by farmers in the vicinity, who are taking payment in stock of the company. Work has been suspended for the present, owing to the harvest, but as soon as this is over it will be resumed and it is expected that grading will be completed into Melfort, a distance of 18 miles, by the fall. (June, pg. 415.)

Fort William Terminal Ry. and Bridge Co.—The Board of Railway Commissioners has approved the revised location of this projected railway, from Christina St., Fort William, Ont., crossing the Kaministikwia River and Islands 1 and 2. (Aug., pg. 573.)

Grand Lake and Bell River Ry. Co.—The Quebec Legislature at its last session incorporated a company with this title to construct a line from the National Transcontinental Ry., near Bell River, along the valley of the river to Twenty-one Mile Bay, an arm of Grand Lake, or to Rabbit Lake, on the Ottawa River, in Pontiac county. The work of construction is to be commenced within 6 months after the completion of the N.T.R. to Bell River, and to be completed within 5 years thereafter. The company is authorised to enter into agreements with other companies, to construct telephone and telegraph lines, to build and operate boarding houses for its employes and for travellers, to carry on a general navigation business on waters reached by its line, and to construct or acquire docks, wharves, etc. The capital is fixed at \$500,000 and bonds to the extent of \$20,000 a mile may be issued. The provisional directors are: J. B. Fraser, J. Riopelle, W. H. A. Fraser,

Ottawa; Hon. W. Gibson, Beamsville, Ont.; A. Barnett, Renfrew, Ont.; Hon. G. Bryson, Fort Coulonge, Que. (June, pg. 413.)

Indian River Ry.—Surveys are being made from the north end of Lake Megantic southerly to the international boundary near Rivière Morte. One route has already been surveyed southerly and east of Louise mountain and Lake Maccanamac, but it was found to be almost impracticable and another route is being sought for through Woburn and Louise via Three Lakes to Lake Megantic. These surveys are expected to be completed during the current month, and the plans prepared for consideration by the directors. The engineer in charge of the surveys is — Bushmer. The company has power to connect its line with the Rumford Falls and Rangeley Lakes Rd. or the Portland and Rumford Falls Ry. in the United States. The former of these lines terminates at Oquosoc, Me., and the latter at Rangeley, Me., and both are operated by the Maine Central Rd. Press reports state that the charter has been acquired by the Boston and Maine Rd. L. Tuttle, President of the B. and M. Rd., is also president of the M. C. Ry.

The Quebec Legislature in 1908 voted a land subsidy in aid of construction. The officers and directors formerly included: President, M. P. Davis; Vice-President and General Manager, W. Tettenhill, Rumford Falls; other directors, W. P. Davis, L. A. Cannon, G. Parent; Treasurer, G. W. York, Portland, Me. (July, pg. 447.)

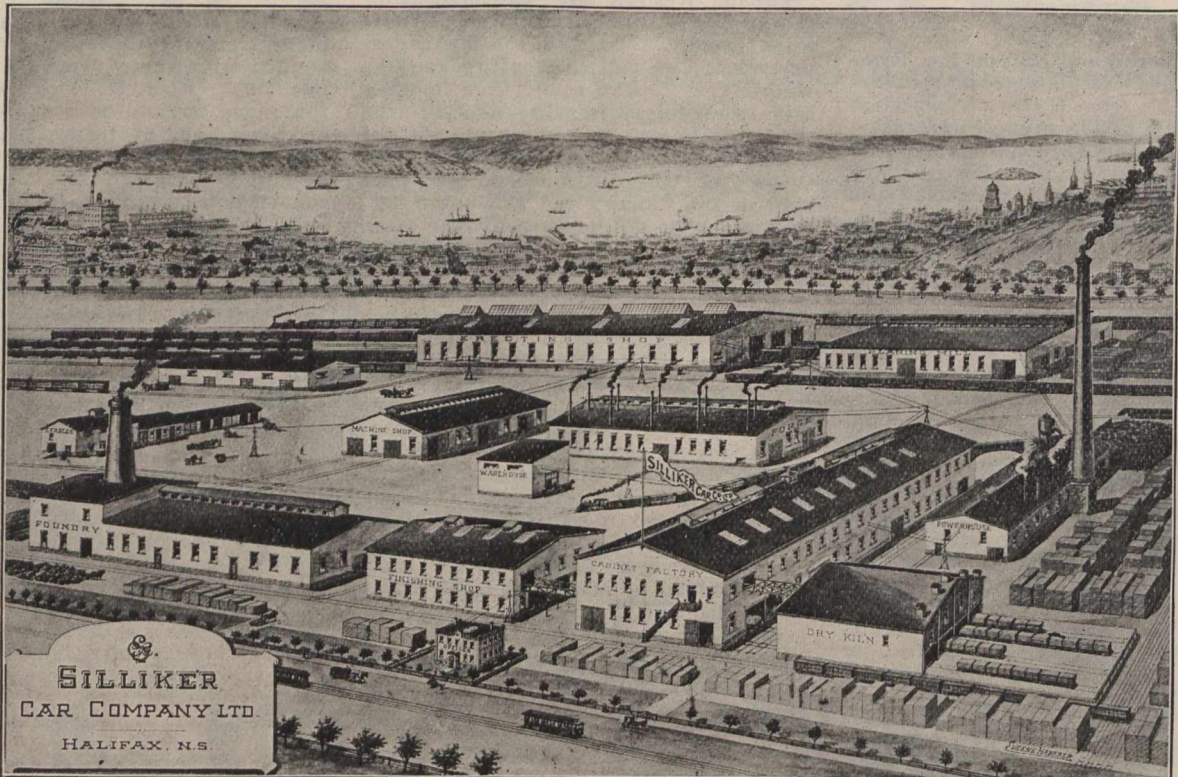
Intercolonial Ry.—We are advised that the freight car and passenger car repair shop, which it is proposed to erect at St. John, N.B., will be near the locomotive house and other buildings erected at the Island yard during the past five years. The new shop will be 125 by 45 ft. It will be constructed of wood, and be used for the making of light repairs to freight and passenger cars. (Aug., pg. 573.)

International Ry. of New Brunswick.—Grading has been completed from Campbellton for about 80 miles, and from St. Leonards, towards Campbellton, for about 22 miles, leaving about 12 miles to be graded to complete the line. It is expected to complete the grading by the end of Sept. There are at present about 1,000 men engaged upon the work. Track has been laid from Campbellton on the whole of the 80 miles, and as fast as grading operations will permit tracklaying will be proceeded with towards St. Leonards. It is hoped to have track laid from Campbellton to the St. John River at St. Leonards by the end of Sept. or early in Oct. A supply train, with passenger car attached, is being run daily from Campbellton for a distance of 67 miles. It is expected to start a regular freight and passenger service over the whole line in Oct. At St. Leonards connection will be made with the C.P.R. The company has power to construct a bridge across the St. John River at St. Leonards. On the Maine shore of the river connection will be made with the Bangor and Aroostook Rd. at or near Van Buren. The bridge will have a length of about 800 ft. and will be of steel on concrete piers and abutments. Work will probably be started on the bridge during the winter.

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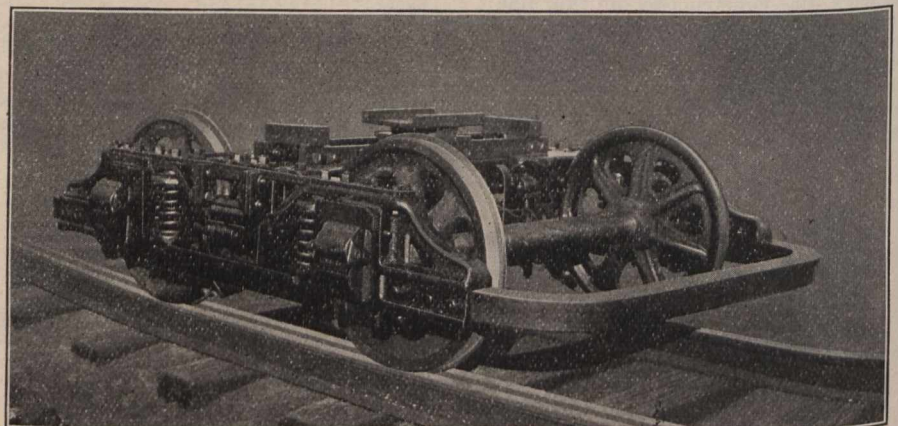
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Leonards is being constructed to a high standard. There are no wooden bridge structures on the whole line, with the exception of small culverts. There are altogether 26 bridges, all of steel on concrete piers and abutments. Of these bridges 19 were erected by the Dominion Bridge Co. and seven by Duncan and McLellan, of Campbellton.

At the Campbellton end the Inter-provincial Bridge Co. of New Brunswick, which is under the same ownership, is authorized to construct a railway and passenger bridge over the Restigouche River to connect Campbellton with the mission on the Quebec side. The construction of the bridge will enable a connection to be made with the Atlantic and Lake Superior Ry. It is probable that work will be started on this bridge at an early date. (April, pg. 247.)

International Ry. of New Brunswick.—Some arbitration proceedings in connection with the expropriation of the right of way for this railway have just been completed. For about 28.50 miles the right of way passes through land owned by the New Brunswick Ry. Co., and the arbitration proceedings had to do with the fixing of the value of this strip of land. The company offered \$900, but this was refused on the ground that the timber was worth more. Arbitration was resorted to with the result that the New Brunswick Ry. has been awarded \$3,000 for the land, and costs, which are said to amount to \$4,500. The I. Ry. of N.B. has given notice of appeal.

Irondale, Bancroft and Ottawa Ry.—The company has power to extend its line from the present terminus at Bird Creek, Ont., to Renfrew, and the matter of starting work on this extension is at present under consideration. The route of the proposed extension has been looked over by the Ontario Railway and Municipal Board. We are advised that in addition to extending the line the company intends to improve the existing line between its junction with the G.T.R. near Kinmount and Bird Creek. (Sept., 1908, pg. 617.)

Manitoulin and North Shore Ry.—The contract for the extension of the line from Gertrude mines to Crane Hill mine, Ont., has been let to the O'Boyle Bros. Construction Co., Sault Ste. Marie, Ont. The work is in progress, and the contractors expect to complete the first 8 miles this year. C. LeB. Miles, C.E., is superintending construction for the contractors. (July, pg. 479.)

Matane and Gaspé Ry.—See Canada and Gulf Terminal Ry.

New Brunswick Southern Ry.—A new station building and a 90 ft. platform are being erected at Spruce Lake. The old station has been removed across the track, and will be used as a car shed and a section workshop. The Board of Railway Commissioners has approved plans for the construction of a bridge at West Waweig, N.B.

North Eastern Ry.—The Quebec Legislature last session granted this company an extension of 3 years within which it may commence the construction, and 10 years within which it may complete its projected line of railway. (Feb., pg. 103.)

Northern New Brunswick and Seaboard Ry.—It was reported in Montreal, July 31, that the contractors for the construction of the Canada Iron Corpora-

tion's railway from its Gloucester county iron mines to Bathurst, N.B., had 400 men engaged on the work, that grading had been completed on over 4 miles, and that the line would be completed in November. (Aug., pg. 573.)

Quebec Eastern Ry.—We are advised that it is intended to start construction at the southern end of the Quebec bridge and to run to Sherbrooke, with a branch line in the vicinity of Inverness, connecting with the Lotbiniere and Megantic Ry. at Lyster, Que. W. G. Campbell is engineer in charge of surveys. It has not been decided when construction will be started. (Aug., pg. 575.)

Temiskaming and Northern Ontario Ry.—The Commissioners and principal officers returned to Toronto recently, having completed an inspection of the line between North Bay and Cochrane, for which purpose they left Toronto, Aug. 6. The construction of a second track between Cobalt and Haileybury is in progress, and it is expected that it will be completed early in Sept. Press reports state it is intended to operate this section between Cobalt and Haileybury by electricity, but we are advised that this is a question that has not yet come up for consideration.

The work of laying out the extensive yards at Cochrane, the point of junction with the National Transcontinental Railway, is being progressed with rapidly. The grading has been almost completed and it is expected that track will be laid within a few weeks.

A contract has been let to S. F. Whitham, Toronto, for the erection of the new station at Cobalt. The building will be 148 by 32 ft., and will have a public waiting room 65 ft. long. There will be a platform around the whole building. The platform will have a length along the line of 500 ft. The foundations of the structure will be of concrete and the building itself of hard burned vitrified brick. The waiting room will be lined with enameled brick dado and pressed brick. The roof will be of timber and green slate. Along the ends and sides will be a verandah hood. The interior finish will be of red oak. The general waiting room, ticket and telegraph offices, baggage room and lavatories will be on the main floor, and on the first floor will be offices for the telegraphers and engineers.

The entire telephone system on the line between North Bay and New Liskeard is being reconstructed. Two gangs are engaged on the work, and it is expected it will be completed by the end of Sept. The new system will have the most modern improvements, and will be extended so as to give a service to the mines in the vicinity of the railway. The line is to be extended along the Kerr Lake branch, and, it is expected it will also be extended to the present railway terminus at Cochrane. (Aug., pg. 575.)

The C.N.R. is reported to have entered into a new wages agreement with its maintenance of way employes, whereby a general increase has been granted. The advances average from 10 to 15c. a day, with the exception of to the laborers, whose rate remains unchanged. The new schedule became effective Aug. 11, and is terminable at 60 days' notice from either side.

G. T. R. Betterments, Construction Etc.

Ottawa Station and Hotel.—T. T. Amos, representative in Ottawa of the Geo. A. Fuller Co. of New York, said recently that the company will take over the excavation work commenced by the G.T.R. on the hotel site and push it to a conclusion. This would take two or three months to complete on account of the hard rock bed.

Lindsay Roundhouse.—It is reported that a new roundhouse is to be erected at Lindsay, Ont., in the near future, in connection with the construction of a second track on the old Midland Ry. between Port Hope and Midland, which it is said will be undertaken at an early date.

Toronto Union Station.—In an interview at Toronto Aug. 5, Sir C. Rivers Wilson, President, said he had been discussing the question of the elevation of the tracks with C. M. Hays, Second Vice-President, as they came along from Montreal. He looked at the matter first of all from the financial point of view, but the company had also to look at it from the view of the people. Under the circumstances, as far as he could see, a satisfactory arrangement had been made and the company must bow to the inevitable.

Toronto Roundhouse.—Plans have been prepared for the erection of a new roundhouse at Toronto, and the question of just where it is to be erected is under consideration. The present roundhouse, which has a capacity for 26 locomotives, is situated at the foot of Spadina ave., and it is said that, since the Board of Railway Commissioners has ordered the building of a viaduct along the water front, the company's officials have been considering the removal of the structure to another site, so as not to interfere with any future building operations in the local yards. Three sites have been under consideration: one at the foot of Bathurst street, one at Parkdale, and one at Mimico. The company erected a large roundhouse at Mimico about five years ago in connection with the freight yards which it laid out there. It is considered likely that the site chosen for the proposed house will be at the foot of Bathurst St., that being the most convenient point for housing the passenger locomotives. The plans provide for a 50-stall roundhouse, with all the most modern appliances. No decision has been reached as to when or where it will be erected.

Terminals at North Bay.—Press reports state that the company has completed arrangements with the Commissioners of the Temiskaming and Northern Ontario Ry. for the use of its terminals at North Bay, Ont.

Guelph Station.—The Board of Railway Commissioners' order directing the erection of a new station at Guelph, Ont., requires that it must be completed by Sept. 1, 1910, and that the company provide a 40 ft. subway at Gordon St., and an 8 ft. one at Huskisson St. The question of a subway at Neave St. is to be settled later. The company is given Jubilee park as a site.

Bridge Construction, Chatham to Windsor.—The Board of Railway Commissioners has authorized the company to reconstruct five bridges at different points between Chatham and Windsor, Ont. (Aug., pg. 599.)

Pintsch Light

Steam Heat

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



Car Heating Systems guaranteed to meet all conditions of service. Controllable Direct Steam, Hot Water or Thermo Jet System where pressure not desired. Steam tight couplers, traps, train pipe valves and other appliances.

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National Transcontinental Ry.

An accident occurred, Aug. 14, at Mullin's Brook, N.B., where there is under construction a trestle 1,500 ft. long and 50 ft. high. The trestle is on a curve, and it will take 40,000 yards of material to fill it in. While an engine with seven cars of material were on the structure six of the twelve spans gave way and the engine and cars were hurled to the bottom. One man was crushed by a car and killed and several were severely injured. The loss will fall entirely on the contractors, the Toronto Construction Co., the Superintendent of which, H. F. McLean, says that the cause of the accident was the melting of snow and ice beneath the foundations, the structure having been put up during the winter.

In connection with the appointment of additional engineers to consult with the Commission of three engineers appointed to prepare plans for the reconstruction of the bridge over the St. Lawrence at Quebec, it is stated that there are no insurmountable differences between the commissioners, but that there are problems arising which render it advisable that other opinions be obtained before a decision is arrived at. The questions to be dealt with by H. Holgate, Montreal, and A. Noble, New York, who have been appointed in a consultative capacity, have

96 ft. above the water. The two principal spans will be of 210 ft. each. It is expected to be completed by the end of the year. West from Cochrane 14 miles of track have been laid.

Some trouble was given to the track-laying gang on the section of the line between Superior Jct., Ont., and Winnipeg, by a sinkhole 49 miles west of Superior Junction. The dump at the point in question was reported to have sunk 18 ft. The difficulty was got over Aug. 1 and track laid over the new dump. Tracklaying was expected to be finished so as to connect up the G. T. Pacific Ry.'s branch to Fort William with the line from Winnipeg to Edmonton, Alta., by Sept. 1.

It was reported Aug. 10 that the Commissioners had issued orders holding payment of progress estimates of contractors where charges of overclassification had been made. These matters are to be enquired into by G. Grant, the new Chief Engineer.

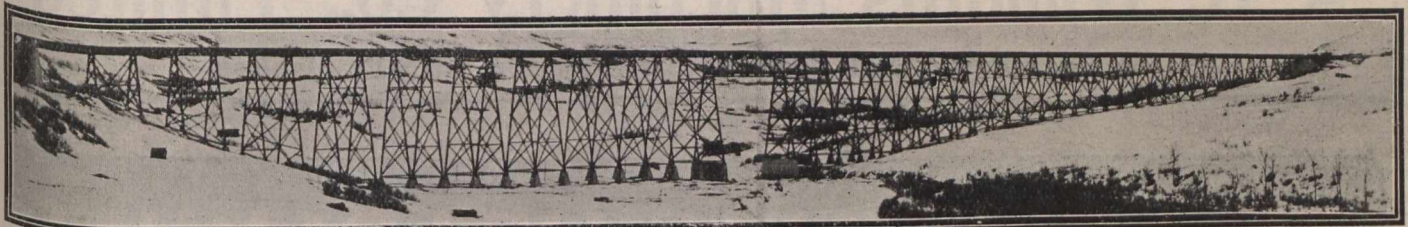
At the site of the shops and yards, on the Springfield road, near Winnipeg, several parallel lines of track have been laid in the receiving and classification yard. On the north of these tracks a 24-stall roundhouse is practically completed, and a good deal of preliminary work has been done on the other buildings, for which the J. D. McArthur Co. has the contract.

Winnipeg, to form a caisson, where the pier on the west side of the river will be located. The contractors are Haney, Quinlan and Robinson.

GRAND TRUNK PACIFIC RAILWAY.

The Battle River viaduct, which is illustrated on this page, crosses Battle River valley 675.5 miles west of Winnipeg on the G.T.P.R. main line. The foundations were made in the usual way by means of open coffer dams and concrete forms. The substructure of plain concrete comprises two wing abutments, two river piers and 48 pairs of pedestals, nearly all resting on piles. The total amount of concrete used in the foundations was 11,300 cu. yds. The superstructure is composed of one 70 ft. and one 50 ft. end spans, fifty 50 ft. intermediate plate girder spans and one 150 ft. intermediate deck truss span, resting on 26 steel towers. The amount of steel used in the superstructure is 3,400 tons. The total length of this viaduct between parapets is 2,772 ft., and the distance from base of rail to low water is about 184 ft. The average height between base of rail and ground line is about 139 ft. Work was begun on the substructure in Oct., 1907, and the entire structure completed in Dec., 1908.

The first passenger train over the G.T.P.R. from Winnipeg to Edmonton, Alta., ran into the Canadian Northern Ry. station in the latter city Aug. 13. The



GRAND TRUNK PACIFIC RY. BRIDGE, BATTLE RIVER.

to do with the substructure. Some matters relating to the superstructure have been referred to Phelps Johnson, of the Dominion Bridge Co., and P. Wolfel, of Pittsburg, Pa. The opinions of these gentlemen on the points referred to them will be considered by the bridge commissioners and by the Minister of Railways before a final decision is arrived at. It is reported as not being improbable that the commissioners will recommend that the bridge be constructed on the suspension principle, and not as a cantilever structure, as provided for in the old plans.

A large area of land is reported to have been purchased by the N.T.R. Commissioners at St. Perpetue, Que., upon which it is proposed to erect workshops for the eastern section of the line. Plans are being prepared and it is expected that tenders will be asked for at an early date.

On the sections east and west of Abitibi grading is reported to be going along very rapidly. Some steel has been laid, and it is expected that by the end of the year a good many miles will be laid both east and west from Cochrane. Rapid progress is also being made with the bridge across the Abitibi River. The track has been laid up to this point, eight miles from Cochrane. The bridge to be constructed will be 840 ft. long and

The foundation work for the various shop buildings is also being proceeded with rapidly. The foundations for the locomotive and machine shop have been completed and the steel work is being erected. In addition to the foundation work to carry the building it was necessary to put in large masses of concrete to form bases for the heavy machines to be installed. The contractors for these buildings are Haney, Quinlan and Robinson.

The Commissioners propose to lay a pipe line, five miles long, from the Red River to supply water at the shops and to erect a tank with a capacity of 200,000 gallons.

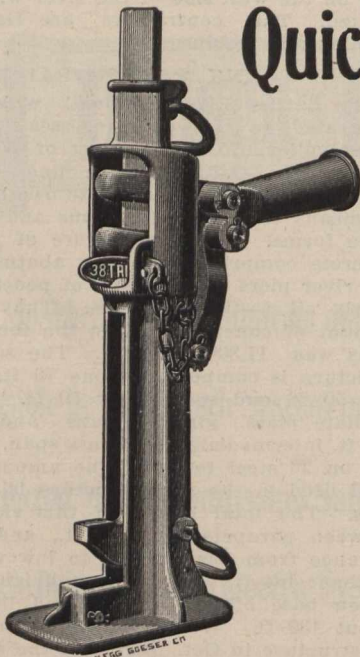
The selection of the route from St. Boniface was finally determined upon Aug. 13, at a conference at which W. Mackenzie, President Canadian Northern Ry., and C. A. Young, one of the Commissioners, were present. Mr. Young subsequently saw W. Whyte, Second Vice-President C.P.R., and closed up the matter so far as that company was concerned.

Work on the bridge across the Red River between St. Boniface and Winnipeg is well under way. Excavations have been completed for the pier on the east side of the river, and the concrete work has been started. Steel piles are being driven at the foot of Lombard St.,

train left Winnipeg at nine o'clock on Wednesday morning and reached Edmonton at 1.45 on Friday afternoon. The regular train service between the two points was inaugurated Aug. 15. For the present the company will use the C.N.R. tracks into Edmonton. A divisional point will be located there, and it is expected that work will be commenced this fall on the roundhouse and other necessary buildings.

West of Edmonton the tracklaying gang had reached Stoney Plains Aug. 6, and it was expected that track would be laid to 40 miles west of Edmonton by Sept. 1. It is desired to have the track laid as far as the crossing of the Pembina River, 75 miles west of Edmonton, this fall. Within easy distance of the Pembina River are the coal areas which are being developed by the Pacific Pass Coal Co. The company has control of about 5,000 acres upon which considerable prospecting has been done, and some seams are being developed. Large quantities of machinery are being forwarded, and will be delivered as soon as the railway is open to the river. The coal company expects to be in a position to be able to deliver about 10,000 tons of coal a day by the end of the year. The erection of the bridge across the Pembina River will be gone on with as soon as track is laid to the river. This bridge is

Quick Trip Track Jacks

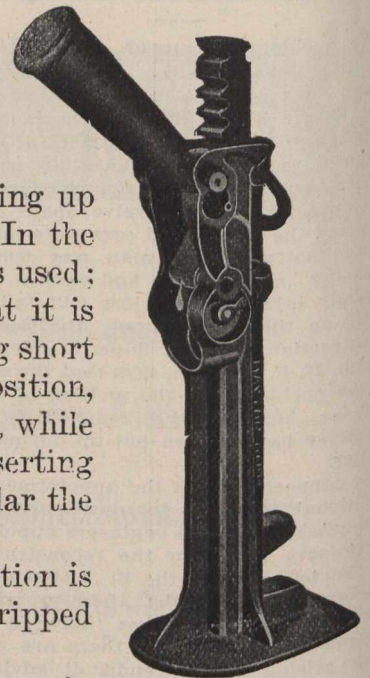


TOGGLE JOINT
TRACK JACK

The Joyce-Cridland Jacks shown herewith are specially designed for lining up tracks, the bases fitting between ties. In the toggle-joint jack, a square lifting bar is used; this gives strong wedging force so that it is impossible for the bar to slip. By taking short strokes with the lever in a horizontal position, tremendous lifting force can be applied, while long strokes give greater speed. By inserting the tripping wedge under the lower collar the bar can be quickly dropped.

In the automatic jack, the raising action is entirely automatic and the jack can be tripped by a slight touch of the lever.

Full description of these jacks given in Bulletins 33 and 35.



AUTOMATIC
TRACK JACK

A. R. Williams Machinery Co., Limited

Toronto, Winnipeg and Vancouver. WILLIAMS & WILSON, Montreal

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."

PLYE-NATIONAL ELECTRIC HEADLIGHT CO.
MONADNOCK, CHICAGO

TRADE AND SUPPLY NOTES.

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

The Canadian Pilling Co., Montreal, supplied a compressed air turntable to the C.P.R. at Souris, Man., recently.

The Canadian Pilling Co., Montreal, has supplied an electrical tractor to turn the swing bridge over the Welland River at Thorold, Ont.

The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio, advises receipt of an order for a large quantity of Falls Hollow staybolt iron bars from the Northern Ry. of Costa Rica.

The Canadian Westinghouse Co., Hamilton, Ont., has issued circular 1079, relating to O.I.W.C. transformers, etc., with illustrations of the series supplied to the Shawinigan Water and Power Co., Shawinigan Falls, Que.

The B. Greening Wire Co., Hamilton, Ont., has instructed its architect to prepare plans for a new wire rope factory. It will be a one-storey concrete and brick structure, 124 ft. x 112 ft., with saw tooth roof construction. The flooring will be solid concrete so as to withstand the weights of heavy machinery and large reels of cable. It will be an up-to-date factory in every respect. Orders have been placed for additional rope machinery of the latest design. It is expected the new mill will be completed and machinery installed by Nov. next. The present rope mill will be used as an extension of the wire working branch of the business, and will provide much needed room for the rapidly growing demand for wire guards, garden fencing, and bordering, factory lockers, etc.

The American Locomotive Co. has recently issued pamphlet 10,034, containing a very complete and instructive paper on the articulated compound type of locomotive read by C. J. Mellin, the company's consulting engineer, before the American Society of Mechanical Engineers. The paper very fully describes the characteristic features of this type of locomotive, and the text is well illustrated by drawings of its special details as constructed by the company. Illustrations of the side elevations of a number of different designs of articulated compound locomotives are also included in the pamphlet, among which are two preliminary designs for passenger service. Extracts from the discussion of the paper, and half-tone illustrations of a number of locomotives of this type built in the U.S., are also given, with the principal specifications of each design shown.

C. P. R. Grade Revision in the Rockies.

With the completion of the spiral tunnels through the Rocky Mountains between Hector and Field, B.C., the C.P.R. is enabled to save considerably upon the cost of conducting transportation in that section, notwithstanding the fact that the line has been lengthened. The gradient

on the route which is to be abandoned was 4.5% and required the use of special locomotives as well as pushers. The gradient of the new line is 2.2%, which will enable heavy trains to be hauled by a single locomotive.

A contract was let for the work to Macdonnell, Gzowski and Co. in Sept., 1907, and the work has been in progress since that time. In a recent interview with the Toronto Globe, Mr. Macdonnell gave the following interesting particulars of the work which had been done:—

"This improvement has meant 8.5 miles of work, of which 1.5 miles were tunnelled under mountains of 10,000 ft. or more in height, while it increases the length of the line by 4.25 miles, at a cost of about \$1,500,000, it will mean the reduction of the gradient from 4.5% to 2.2% at the worst point, while the general grade will be less than 2%. The result of this will be that where on the old track with its big grade it took four engines to handle a train, now only two will be needed; and where the four used to be able to only make four or five miles an hour, the two on the new line will be able to make 25. In this way the cost of operating a train over this difficult piece of line will be cut to about one-third of the present cost, with an improvement in the time of running, while the element of danger, inseparable from high grades, has been practically eliminated. It is these factors which have induced the C.P.R. to go to such tremendous expense to cut out the famous 'Big Hill' grade.

"The conformation of the new track is most peculiar. Coming from the east, the road first enters the western corkscrew tunnel of 3,200 ft. under Cathedral Mountain. Emerging from the tunnel twist the track runs back east across the Kicking Horse River, and then enters the eastern spiral tunnel of 2,910 ft. under Wapta Mountain, and after describing an elliptic curve emerges to again cross the Kicking Horse westward. The whole thing is a perfect maze, the railway doubling back upon itself twice, tunnelling under mountains and crossing the river twice in order to cut down the gradient. The two tunnels alone involved an excavation of 130,000 cubic yards of rock, while over 500,000 yards were blasted out in the other cuttings.

"Put in brief, the work which has now been completed is as follows:—Length of two tunnels, 1.5 miles; length of cutting outside of tunnels, 7 miles; increase in length of track, 4.5 miles; reduction in grade, from 4.5% to 2.2%; approximate cost of work, \$1,500,000; number of men employed, about 1,000, with complete outfit of steam equipment; time of work, 20 months, from Oct., 1907, to July, 1909; rock removed, about 650,000 cubic yards.

"To cut out this quantity of rock, of which there were 500,000 cubic yards in the open cutting and 150,000 cubic yards in the tunnelling, 75 carloads of dynamite were used, or upwards of 1,500,000 lbs., the cost of which was over \$250,000.

"During the tunnel work the contractors operated steam shovels with compressed air, one of these machines being installed at the working ahead in each tunnel, the cutting being worked from opposite ends. Despite the complicated work caused by the spiral shape of the tunnels, they met practically exactly, and the work has been completed with marvellous exactness. This is not merely the greatest piece of tunnelling ever at-

a fairly large one, and its erection will enable tracklaying to be gone on with towards the crossing of the McLeod River at Wolfe Creek, which point it is hoped to reach by Dec. 1. A contract has been let to Foley, Welch and Stewart for the grading of 70 miles westerly from Wolfe Creek. This contract will carry the line to Tete Jaune Cache, about 50 miles beyond the Yellowhead Pass.

A press despatch from Prince Rupert, Aug. 20, says that a contract has been let to Foley, Welch and Stewart for a second section east of Prince Rupert. This section will cover 135 miles easterly from Copper River to Aldermere, B.C. The work on this section will be very heavy, it being calculated that there will be at least 1,500,000 cubic yards of rock to be taken out. With the letting of this contract there now remains about 350 miles of the line in British Columbia to be placed under contract.

A contract has been let to the May-Sharpe Construction Co. for the concrete work on the bridges over Wolfe Creek and the McLeod River. The substructure of the Wolfe Creek bridge is expected to be completed by March next and that for the McLeod River bridge a month later.

Collingwood Schreiber, Consulting Engineer for the Dominion Government, is making his annual inspection of the line. He left Winnipeg Aug. 3 and will not return to Ottawa until early in Sept.

GRAND TRUNK PACIFIC BRANCH LINES.—An announcement was made in Winnipeg Aug. 11 that it is intended to construct a line southerly from that point to Emerson, Man., where connection will be made with the Northern Pacific Ry. It is not expected that any construction will be done on this branch this year.

It is reported that construction will be started this year on a branch from Justice, Man., southeasterly to Brandon, Man., 18 miles.

As soon as the tracklaying gang has completed its work as far as the Pembina River it will come east to Melville and start work on the branch under construction northerly towards Hudson Bay. Grading on the branch under construction southerly from Melville to Regina is reported to be practically completed to Balcarres, 33 miles. Track will be laid on it as soon as grading has been completed. The question of the route to be followed from Balcarres to Regina has not been announced. One route surveyed is from Balcarres by way of Fort Qu'Appelle, and the other is to Indian Head and then west through Balgonie. As soon as the route has been decided upon a contract will probably be let. The Board of Railway Commissioners has approved plans for the location of a branch line from Regina southerly to Portal.

A contract is reported to have been awarded to J. D. McArthur for the construction of a branch line from Tofield to Calgary, Alta. The route is practically parallel with the Calgary and Edmonton Ry. Work was reported to have started on the line Aug. 5 by G. H. Webster, Edmonton, who is said to have secured a subcontract under the general contractor. E. J. Chamberlin, General Manager, said that it was hoped to have 50 miles of this line completed this fall. The contract for the substructure of the bridges on this 50 miles has been let to S. C. Hill and Sons, and their plant was delivered at Tofield, Aug. 12. (Aug., pg. 581.)

The Hamilton Steel & Iron Co.

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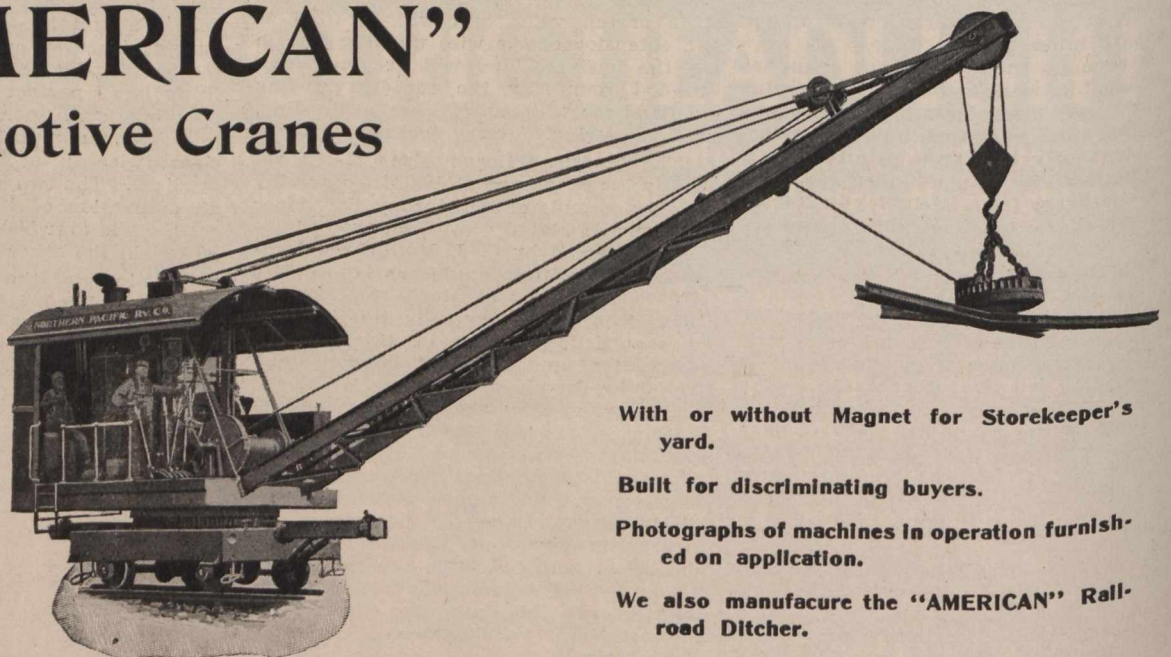
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NEW ORLEANS

tempted in Canada, but the first introduction of this spiral system of tunnels on this continent."

A sketch plan showing the old and the new routes was given in our issue of Sept., 1907.

C. P. R. Articulated Locomotive.

A lot of silly twaddle has appeared in a number of daily papers in reference to the C.P.R. articulated compound locomotive which was fully described and illustrated in our last issue. Some papers went so far as to state that the locomotive was an entire failure, and that it would have to be sent to the scrap heap. This and other similarly ridiculous statements are entirely unfounded. On account of this locomotive having been constructed in a very short space of time, and being to a large extent of a novel type, its total weight was about 5% greater than was estimated. The C.P.R.'s policy is to take no chances whatever with regard to the weight of locomotives allowed to run over its bridges, and while it was endeavored to design a locomotive which would weigh as nearly as possible as much as the bridge engineers considered absolutely safe to run, when it was found that this allowed weight was exceeded, it was decided to return the locomotive to the shops and change it so as to bring it within the limit which had been set. This was not a difficult matter, as the front section of the boiler had been constructed of larger diameter than was actually necessary, in order to furnish the weight which was deemed necessary for adhesion, and the work is now under way. Apart from this, so far as the tests show, the locomotive is an entire success; it has developed rather more tractive power than had been expected, owing to the exceedingly good results obtained from the superheating arrangement, and the management considers that the locomotive is in every way satisfactory so far as could be developed from the two trips which were made as trials. It is expected as soon as the alterations are completed, which will reduce the weight about 10,000 lbs., to put the locomotive into regular service.

Brotherhood of Locomotive Firemen.

The Canadian Brotherhood of Locomotive Firemen and Enginemen commenced its convention at Winnipeg, Aug. 3, when the delegates were tendered a civic welcome. A letter was read from W. Whyte, Second Vice President C.P.R., regretting his inability to be present, a portion of which was read, as follows:—"I can assure you that I have a deep feeling of respect for the brotherhood, for during all the years of my railway career, which is the whole time of my life, because I started railway work when a stripling, the brotherhood of locomotive firemen and enginemen has caused me less inconvenience and worry than any other organization in the railway service. The reason of this may be set down to the fact that the chiefs and executive of this brotherhood have been broad-minded, reasonable and fair, not looking for trouble, but rather working in the interests of peace and harmony. And when that feeling obtains among the chiefs of the brotherhood and a similar feeling among the officials of a

railway, there is very little likelihood of any serious difficulty arising. In other words, if the officers of a railway will give due consideration to the reasonable requests of the employes of the railway and the chiefs of the brotherhood will give the same consideration to the rights of the railway company, trouble is not likely to arise. What we all should aim at is to avoid taking an arbitrary position, but to respect the rights and reasonable demands of others. I sincerely trust that the good feeling that has existed in the past, and exists at the present

time, may broaden and deepen in the future."

Railway Commissioners' Western Sitings.—The following are the approximate dates fixed for the Board's sittings during its western circuit: Winnipeg, Oct. 11 and 12; Brandon, Man., Oct. 13; Regina, Sask., Oct. 14; Saskatoon, Sask., Oct. 15; Prince Albert, Sask., Oct. 18; Edmonton, Alta., Oct. 20; Calgary, Alta., Oct. 22; Vancouver, B.C., Oct. 27; Victoria, B.C., Oct. 29; Nelson date to be fixed later on.



The Grand Trunk Railway's London, Eng., Offices.

The G.T.R. European Traffic Department is now housed in the company's own building at 17 to 19 Cockspur St., London, S.W. The site, which extends through from Cockspur St. to Warwick St., was secured from the London County Council. The public offices are on the ground floor, the principal feature being a room 40 ft. long by 18 ft. high. There is also a conference room on this floor. In the basement are offices and storerooms, the caretaker's apartments being located on the top floor. The building consists of six storeys, those situated between the ground and top floors, being let as general offices. The G.T.R. offices are intended to be used, not only for the transaction of the company's traffic business, but also for the convenience of Canadian travellers, the situation being convenient for all the centres of interest. The frontage of the building is faced with Portland stone, treated on broad lines, ornament being used only sparingly where the surrounding plain surfaces serve to emphasize its effect. The carvings include the coats of arms of the various Canadian provinces, and there are large emblematic figures of travel by land and sea, over the principal entrance. In the general office on the ground floor, there is a frieze showing the country through which the railway passes, with life size figures typical of Canadian life before and after the coming of the civilizing influence of the white man. The building is fully equipped with all modern conveniences, including electric light, hot water heating and vacuum cleaner plant.

MAINLY ABOUT PEOPLE

W. Wainwright, Fourth Vice President G.T.R., returned to Canada from England, early in August.

G. A. Mitchell, of the Peter Lyall-Mitchell Construction Co., died at Winnipeg, from heart failure, Aug. 20.

J. P. Mabee, Chief Railway Commissioner and Mrs. Mabee, left Canada at the end of July for a trip to Europe. They will return early in Sept.

J. W. Pyke, of J. W. Pyke & Co., Montreal, has been elected President Mount Royal Spinning Co., in place of the late W. C. McIntyre.

Sir Wm. C. VanHorne has a number of exhibits for competition in the various cattle classes at the Canadian National Exhibition, Toronto.

Sir C. Rivers Wilson, President G.T.R., arrived in Montreal, July 30, by the s.s. Megantic, and proceeded on an inspection tour over the G.T.R. and G.T.P.R.

Sir Thomas Shaughnessy, President C.P.R., entertained the Rt. Hon. J. Bryce, British Ambassador to the U. S., at his summer home, St. Andrews, N.B., early in August.

C. W. VanBuren, Master Car Builder, C.P.R. Eastern Lines, Montreal, biographical details of whom we gave in our last issue, was born in Rensselaer Co., N.Y., Oct. 15, 1867.

Among the passengers to arrive by the C.P.R. s.s. Empress of Ireland, at Quebec, Aug. 19, were Hon. G. P. Graham, Minister of Railways and Canals, and Sir Sandford Fleming.

D. D. Mann, Vice President Canadian Northern Ry., is reported as considering the question of entering politics. It is scarcely necessary to say that there is no ground for the rumor.

L. L. Buck, a well known civil engineer, died at Hastings, N.Y., recently aged 72. He was the designer of two steel bridges spanning the Niagara River, between Canada and the U.S.

A. J. Nixon, Assistant Superintendent G.T.R., London, Ont., was presented with two club bags, Aug. 21, by the G.T.R. trainmen at Hamilton, on the occasion of his leaving the company's service.

J. M. Egan, who was Superintendent of the C.P.R. in Winnipeg, in its early days, was visiting there at the end of July. He was on his way to Alaska, where he intends to spend some time.

F. E. P. Turner, C.E., who died at Bracondale, Ont., July 30, was engaged in 1887, by the Dominion Government, to report upon the Trent Valley Canal project.

H. R. Charlton, General Advertising Agent, G.T.R. and G.T.P.R., accompanied by J. W. Swan, official photographer, left Montreal, Aug. 11, for Prince Rupert, B.C.

D. McNicoll, Vice President C.P.R., left Montreal, Aug. 11, on a tour of inspection of the company's lines to the Pacific coast, intending to return early in September.

Lord Strathcona arrived in Canada in August, and during the time he will remain here, he has arranged to visit the principal centres of activity throughout the Dominion.

W. H. Estano, Traffic Auditor Intercolonial Ry., Moncton, N.B., was married

Aug. 11, at West Aylmer, Ont., to Miss E. O. Terrill. The I.C.R. audit staff marked the occasion by the presentation of a china cabinet.

A. B. Ingram and H. N. Kittson of the Ontario Railway and Municipal Board, were in St. Thomas, Ont., Aug. 7, when they inspected the street railway there, and also went over the Southwestern Traction Co.'s line.

The engagement is announced of Mrs. A. W. Mackenzie, widow of the late A. W. Mackenzie, at one time Treasurer C.N.R. and subsidiary companies, to K. R. Marshall, Vice President Standard Fuel Co., Toronto.

D. B. Hanna, Third Vice President Canadian Northern Ry., accompanied by A. D. Davidson, C.N.R. Land Commissioner, sailed for England Aug. 5 on a business visit, and will return to Canada early in September.

A. A. Ingram, son of A. B. Ingram of the Ontario Railway and Municipal Board, and who is engaged in the St. Thomas office of Kingsmill, Saunders Torrance and Kingsmill, Solicitors for the Michigan Central Rd., has been appointed a Notary Public for Ontario.

Arthur Hawkes, Superintendent of Publicity, Canadian Northern Ry., Toronto, read a paper on "Advertising a Nation," at the 5th Annual Convention of the Associated Advertising Clubs of America, which was held at Louisville, Ky., Aug. 25 to 27.

H. D. Lumsden, who recently resigned the position of Chief Engineer National Transcontinental Ry. Commission, sailed for Great Britain on the C.P.R. s.s. Empress of Ireland, July 30, intending to return to Canada about the middle of September.

Among the provisional directors of the Kirchhoffer Shooting Club, recently incorporated in Manitoba, for the encouragement of the preservation of game, and to establish a shooting club, are, Sir Henry M. Pellatt, F. Nicholls and G. G. S. Lindsey, of Toronto.

G. H. Carter, railway contractor, who died at Guelph, Ont., Aug. 12, was interested in the construction of the Buffalo and Lake Huron Ry., at Goderich, and part of the old Great Western Ry., at St. George, both now forming part of the G.T.R. system.

J. Murray Gibbon, C.P.R. Advertising Agent, London, Eng., who was visiting Canada, during August, crossed the Atlantic in the company's s.s. Empress of Ireland as a steerage passenger to gain personal experience as to the general treatment of emigrants on these vessels.

H. Pellatt, who died at Orillia recently, was at one time Auditor of the old Northern Ry. Co., and at the time of his death was a director of the Dominion Telegraph Co. and of the Victoria Rolling Stock Co. He was father of Sir H. M. Pellatt, who is a director of a number of transportation companies.

Sir John Jackson, an English railway contractor, who has recently completed the construction of what is claimed to be the highest railway in the world, between La Paz, Bolivia and Arica, Chili, was in Montreal during August, when he was the guest of G. W. Stephens, Chairman of the Montreal Harbor Commission.

C. A. Saylor, who has been appointed Locomotive Foreman G.T.R., Hamilton,

Ont., entered G.T.R. service at Point Edward, Nov., 1897, and with the exception of two intervals, from Nov., 1901, to June, 1902, and from July to Nov., 1902, he has been with that company ever since, at Battle Creek, Mich., and Sarnia tunnel.

Robt. Reid, member of the National Transcontinental Railway Commission, who died at Ogunquit, Me., Aug. 21, was born at London, Ont., July, 1855, and entered his father's wholesale stationery business there, and which was taken over by himself and a brother in 1878. He was appointed to the Commission Sept., 1904, on its formation.

Among the ticket agents who have joined the Canadian Ticket Agents Association recently are:—J. Ransford, G.T.R., Clinton, Ont.; H. MacDougall, G.T.R., Brampton, Ont.; W. R. Russell, G.N.R., Humboldt, Sask.; J. DeW. Randall, M.C.R., Niagara-on-the-Lake, Ont.; D. A. Campbell, C.P.R., Gravenhurst, Ont.; F. J. Hutchins, C.P.R., Parkhill, Ont.

J. G. Swalwell, whose appointment as Local Auditor in charge of Traffic Receipts, G.T.P.R., Winnipeg, was announced in our last issue, was born at Montreal, July 3, 1867, and entered G.T.R. service Oct. 28, 1881, since when he has been, to Nov. 1, 1894, in various positions in the Freight Traffic Audit Office, Montreal, and from that date to June, 1909, Travelling Auditor.

S. Rothwell, Locomotive Foreman, Brockville, Westport and Northwestern Ry., died at Brockville, Ont., Aug. 14, aged 52. He was born at St. Catharines, Ont., but had lived in Brockville the greater part of his life. Prior to his service with the B.W. and N.W.R., he had been engaged with the G.T.R. and the C.P.R., having in the latter case been employed on the construction of the Rocky Mountain section.

G. Blackbird, who is said to be the oldest living ex-employee of the G.T.R., celebrated his 91st birthday recently at Richmond, Que. He was born at Newcastle, Eng., and after some years of service on the early English railways, he engaged with the firm who secured the contract for the construction of the G.T.R., and was sent to Canada in 1854. He was in charge of the first passenger train to run between Toronto and Port Hope.

John Saxby, the inventor of railway signals, recently celebrated his 89th birthday, at his home, Hassocks, Eng. He began life as a carpenter's apprentice, and was subsequently the inventor of the interlocking system of signalling, which has become universal. He was intimately associated with railways in their early days, and came into personal contact with Brunel and Stephenson, and also with railway men of a later date, such as Fowler and Baker. He is the head of the firm of Saxby and Farmer, Ltd.

John Date, who died at Montreal, July 26, aged 86, was probably the oldest master plumber in Canada, if not in America. He was born at Tavistock, Devonshire, Eng., came to Canada when about 20 years of age, and after being at Hamilton and Toronto for a time started business on Craig St., Montreal, as a plumber. He also began the manufacture of diving apparatus, which under his management has grown to large dimensions. He leaves a widow, three

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sons and a daughter. The business is being carried on by two of the sons, and his son-in-law, H. T. Garlick, remains with them.

C. Murphy, whose portrait appears on the first page of this issue, was born at Prescott, Ont., Nov. 20, 1865, and entered C.P.R. service in 1883, since when he has been, to 1885, operator; 1885 to 1890, chief operator and dispatcher; 1890 to 1899, chief dispatcher, Ottawa; 1899 to June, 1900, acting Superintendent, and June, 1900, Superintendent, Chapleau, Ont.; 1902 to Nov., 1903, Superintendent, North Bay, Ont.; Nov., 1903, to Feb., 1908, Superintendent, District 2, Ontario Division. He was appointed General Superintendent, Eastern Division, Montreal, in June, 1908, and in the interval acted as relieving General Superintendent at North Bay, Ont., and Montreal.

W. Marshall, who has been appointed Superintendent C.P.R. Telegraphs, Ontario Division, Toronto, was born at Garden Island, Ont., May 18, 1859, and entered telegraph service July 12, 1876, since when he has been to 1877, in the stores department, Dominion Telegraph Co.; 1877 to 1878, telegraph operator and lineman, same company, St. Catharines, Ont.; 1878 to 1880, foreman of line construction, Canada Mutual Telegraph Co., Toronto; 1880 to 1886, foreman of line construction, Western Union Telegraph Co., Buffalo, N.Y.; Sept. 1, 1886, to July 1, 1906, Inspector of Telegraphs, C.P.R. Ontario Division; July 1, 1906, to Aug., 1909, Superintendent of Construction, C.P.R. Telegraphs, Ontario Division, Toronto.

A. W. Barber, Superintendent of Telegraphs, C.P.R., Ontario Division, whose death was announced in our last issue, was born at Toronto, Feb. 17, 1855, and entered telegraph service in 1871, with the Montreal Telegraph Co. at Toronto, since when, to Aug. 1, 1886, he held various positions as operator with that company at Toronto and Dundas, Ont.; as operator Toronto and Nipissing Ry. Toronto; dispatcher Canada Southern Ry., St. Thomas, Ont.; chief operator Dominion Telegraph Co., Toronto; and chief operator Canada Mutual Telegraph Co., Toronto. From Aug. 1, 1886, to Dec. 1, 1899, he was Manager C.P.R. Telegraph office at Toronto, and from Dec. 1, 1899, to the date of his death, was Superintendent of Telegraphs for the C.P.R., Ontario Division. He leaves one son, C. T. Barber, who is Assistant Traffic Chief, C.P.R. Telegraphs.

The Imperial Construction Co., which has just commenced business in Toronto, is composed of John Montgomery and A. M. Grantham. Mr. Montgomery has been actively engaged in building operations for many years, and has for a number of years been engaged with Mackenzie, Mann & Co. in various important works. Mr. Grantham, who is a civil engineer, is also Superintendent of Construction and Purchasing Agent, Toronto Railway. The Imperial Construction Co. has been awarded contracts for the Ca-Hotel at Port Arthur, for the Toronto Ry.'s new car barns, and also for some work in Quebec.

M. J. Butler, Deputy Minister of Railways, left Ottawa Aug. 12 on a trip of inspection over all the railway lines in the West which are subsidized by the Dominion Government.

Canadian Northern Ry. Earnings, Etc.

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

	Earnings.	Expenses.	Net Earnings, or Decrease.	Net Increase
July	\$ 843,500	\$613,900	\$229,600	\$26,700
Inc. or Dec.	\$ 115,000	\$ 88,300	\$26,700	.....

Approximate gross earnings for 3 weeks ended Aug. 21, \$553,000 against \$504,500 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, or Decrease.	Net Increase
July	\$6,292,889.82	\$4,018,207.57	\$2,274,673.24	\$232,279.41
Aug.	6,385,956.69	3,807,057.98	2,578,898.71	8,623.56+
Sept.	6,391,672.48	4,277,094.71	2,114,607.77	36,745.58-
Oct.	7,381,970.41	4,726,530.80	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	241,951.95-
Feb.	4,966,208.14	4,204,063.36	762,144.78	405,048.17+
Mar.	6,518,763.14	4,715,055.01	1,803,708.13	502,678.64+
Apr.	6,384,038.32	4,240,530.80	2,143,507.52	421,273.08+
May.	6,420,640.04	4,493,779.55	1,926,860.49	245,365.25+
June	6,550,153.68	4,661,728.89	1,888,424.79	212,928.92+
	\$76,313,320.96	\$53,748,062.22	\$22,555,258.74	\$1,163,206.88+
Inc. or Dec.	\$4,929,147.24	\$3,765,940.36	\$1,163,206.88	.....

The net results of the company's operations for the year ended June 30, are as follows:

Gross earnings	\$76,313,321
Working expenses	53,357,748
Net earnings	22,955,573
Net earnings of steamships in excess of amounts included in monthly reports	399,910
Income from other sources	1,906,578
Total net income	\$25,262,061
Deduct fixed charges	9,427,033
Surplus	\$15,835,028
Deduct amount placed to steamship replacement account	800,000
Deduct contribution to pension fund	80,000
Net revenue available for dividends	\$14,955,028
Surplus for year carried forward after payment of all dividends	\$3,847,161

Approximate gross earnings for July, \$7,004,000, and for 2 weeks ended Aug 14, \$3,213,000; against \$6,196,000 and \$2,890,000 for same periods 1908.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross revenue for June, \$376,764.03; net revenue, \$171,895.62; against \$210,774.74 gross revenue, \$46,868.37 net revenue, for June, 1908. Aggregate gross revenue for 12 months ended June 30, \$2,931,795.50; net revenue, \$952,277.43; against \$2,921,916.02 gross revenue, \$811,148.91 net revenue, for same period, 1907-08. Approximate gross earnings for July, \$297,564, and for 2 weeks ended Aug. 14, \$149,779, against \$230,932 and \$109,854 for same periods 1908.

MINERAL RANGE RD.—Gross revenue for June, \$70,584.72; net revenue, \$5,460.59; against \$70,135.67 gross revenue, \$10,551.83 net revenue, for June, 1908. Aggregate gross revenue for 12 months ended June 30, \$829,424.61; net revenue, \$128,391.27; against \$810,393.98 gross revenue, \$121,529.00 net revenue, for same period 1907-08. Approximate gross earnings for July, \$73,257, and for 2 weeks ended Aug. 14, \$34,020, against \$71,119 and \$32,330 for same periods 1908.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for June, \$1,072,626.47; net earnings, \$478,010.79; against \$920,752.83 gross earnings, \$377,062.48 net earnings for June, 1908. Aggregate gross earnings for 12 months ended June 30, \$12,609,299.17; net earnings, \$5,551,582.58; against \$11,509,857.32 gross earnings, \$4,393,892.41 net earnings, for same period 1907-08. Approximate earnings for July, \$998,071, and for 2 weeks ended Aug. 14, \$491,563; against \$927,145 and \$430,180 for same periods 1908.

Grand Trunk Ry. Earnings, Expenses Etc.

Subject to audit, the accounts for the half-year ended June 30, show the following results:

Gross receipts	\$2,866,400
Working expenses	2,079,200
Net receipts	\$ 787,200
Income from rentals, outside operations, and car mileage balance	58,100
Total net revenue	\$ 845,300

Net revenue charges for the half year —less credits 498,600

Balance	£ 346,700
Deduct, Canada Atlantic deficiency for the half year	£41,100
Deduct, Detroit, Grand Haven & Milwaukee deficiency for half year	25,700
Surplus	£ 279,900

This surplus of £279,900 added to the balance of £12,200 from December, 1908, makes a total of £292,100 available for dividend, which will admit of the payment of the full dividend for the half-year on the 4% Guaranteed Stock, and First Preference Stock, leaving a balance of about £9,900 to be carried forward.

The accounts of the G.T. Western Ry. for the year ended June 30, including the balance brought forward from the previous year, show a surplus sufficient to propitiate for the interest on the First Mortgage Bonds, and leave a balance of about £18,000.

TRAFFIC RECEIPTS OF THE SYSTEM

Aggregate from July 1;	1909		1908	
	Inc.	Decr.	Inc.	Decr.
Grand Trunk	£559,037	£517,862	£41,175	.....
Canada Atlantic	30,672	37,446	.....	\$6,774
G. T. Western	96,760	96,262	498	.....
D.G.H. & M.	30,898	30,645	253	.....
Total	£717,367	£682,215	£35,512	.....

Approximate earnings for July, \$3,491,184, and for 2 weeks ended Aug. 14, \$1,700,877; against \$3,320,114 and \$1,573,498 for same periods 1908.

High Level Bridge in Toronto.

The Board of Railway Commissioners has ordered the erection of a high level bridge across the Don river and the C.P.R., C.N.R. and G.T.R. tracks at Queen St. East, Toronto, on the application of the city of Toronto, as follows:—

That the applicant be authorized to construct a bridge to carry the highway and the Toronto Ry. Co.'s tracks over the C.P.R., G.T.R. and C.N.R. Co.'s tracks where they cross Queen street east, Toronto.

That the applicant submit detail plans of the proposed bridge and approaches, for the approval of an engineer of the board, by Sept. 15, 1909, and construct the bridge ready for traffic by July 1, 1910.

That the cost of the construction of the bridge and approaches, and the land damages, if any, shall be paid as follows:—City of Toronto, 15%; Toronto Ry Co., 15%; C.P.R. Co., 35%; Canadian Northern Ontario Ry. Co., 25%, and the G.T.R. Co. (Belt Line), 10%.

That upon completion the bridge shall be maintained by the applicant. The cost of such maintenance, with the exception of the cost of the maintenance of the roadway and sidewalks on said bridge and approaches, shall be paid as follows:—by City of Toronto, 70%; by C.P.R. Co., 10%; by the Canadian Northern Ontario Ry. Co., 10%, and by the G.T.R. Co., 10%. The cost of the maintenance of the roadway and sidewalks on bridge and approaches shall be borne entirely by the applicant.

Any matter in dispute between any of the parties hereto, with regard to the carrying out of the provisions of the order, shall be determined by the Board's Chief Engineer.

Sir Wm. C. Van Horne, Chairman of the Board, C.P.R., in his evidence at the investigation of the affairs of the Grand Falls Power Co., St. John, N.B., Aug. 10, said the value of the undeveloped power site there was \$1,000,000, and added that it was not equalled on the continent.

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Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The Board of Railway Commissioners on July 29 authorised the company to open for traffic the cut-off from Garneau Jct. into Quebec, 78.76 miles, and the line was formally opened for traffic Aug. 22. The new route gives the company a line having a length of 176.5 miles between Montreal and Quebec, against 196.5 miles by the old route via Riviere a Pierre, and is only a little over two miles longer than the C.P.R. route between Montreal and Quebec. The work was started in 1906, the contractors being O'Brien and Mullarkey. Some delay took place in carrying on the work owing to the fact that the route selected for the National Transcontinental Railway conflicted with that selected by C.N.Q.R. After some negotiations the difficulty was settled, and a new route surveyed for the line where the two lines previously came together. Starting from Garneau Junction, the line gradually works down to the St. Lawrence River, which is reached near Deschambault, and from that point to Cap Rouge, a distance of about 40 miles, it follows the river. There are concrete and steel bridges over Batiscan, Charest, Ste. Anne, Jacques Cartier, and Portneuf Rivers, while a smaller structure has been erected across the river at Cap Rouge. The line passes under the National Transcontinental Railway viaduct across Cap Rouge valley. The new line has been laid with 80 lb. steel rails, and is well ballasted.

In contemplation of the completion of this line the company has been replacing the 70 lb. rails on the section of the line between Montreal and St. Boniface, the section between St. Boniface and Garneau Jct., having already been replaced.

The grading on the 11 miles of line under construction from St. Jacques to Rawdon, Que., is reported to be well advanced. J. P. Mullarkey, the contractor, stated Aug. 7 that it was expected to have the track laid this fall.

Quebec and Lake St. John Ry.—The Quebec Legislature, at its last session, granted an extension of time for the construction of a number of branch lines. The branch line authorised to be constructed from Roberval to the north-western boundary of St. Felicien, are to be commenced by July 1 and completed before Jan. 1, 1911.

Canadian Northern Ontario Ry.—The Board of Railway Commissioners has approved of location plans of the line through Gloucester and Nepean tps., Ont., from mileage 51.91 to 57.42 west from Hawkesbury. It is expected that the work on the line from Hawkesbury to Ottawa will be completed so as to permit of the operation of trains over it by Oct. 15.

Surveys have been started at Toronto for the company's line to Ottawa on the east, and to Niagara Falls on the west. The survey party started work at East Toronto and is working past Scarborough Heights, almost parallel to, but a quarter of a mile from the G.T.R. tracks along the lake shore. The route gone over will carry the line under the G.T.R. about 7 miles east of the Woodbine. It will then run along the front of the heights to Port Union, where it again goes under the G.T.R. tracks, and then bears off to the northeast. An alternative route is

being surveyed up the Don valley, a considerable distance north of the C.P.R. This line is being carried over to Yonge St., so as to avoid the heavy gradient met with on the other line. From Yonge St. it will run easterly along the ridge of land for several miles and then bear away southeasterly towards the lake shore and then will parallel the G.T.R. for a considerable distance. Between Toronto and Niagara Falls the route to be followed runs along the Electrical Development Co.'s right of way of the power line, which terminates at Yonge St., just south of the hill. On the completion of the surveys now being made, a report will be prepared for consideration and the route finally determined upon. It is expected, however, that the northern route will finally be selected.

The Board of Railway Commissioners has approved of plans for the construction of a bridge across the Vermillion River, mileage 26.66 from Sudbury Jct., Ont., on the extension of the line now under construction towards Port Arthur.

A press report recently stated that arrangements had been made by which the company secured trackage rights over the C.P.R. from Sudbury to Port Arthur, but Sir Thos. G. Shaughnessy, President C.P.R., says that the appearance of the report in the papers was the first he had heard of it.

Port Arthur Hotel.—A contract has been let by the C.N.R. Co. to the Imperial Construction Co., Toronto, for the erection of the Prince Arthur Hotel, at Port Arthur. The plans show a palatial building, which will front on Water street overlooking the bay and run back to Cumberland street. The portion now to be erected will be about 213 by 52 ft. and 6 storeys high, and will contain about 125 rooms, with a large number of bath-rooms. The building will be a thoroughly up-to-date one in every respect, and will cost about \$250,000.

Canadian Northern Ry.—W. Mackenzie, President, arrived in Port Arthur Aug. 11 on an inspection trip over the line. He was met by M. H. MacLeod, General Manager and Chief Engineer, who accompanied him westward.

The work of relaying the line between Port Arthur and Winnipeg with 80 lb. steel is being rapidly proceeded with. M. H. MacLeod recently stated that about 50 miles of the new steel had been laid, and that in order to expedite the work a fourth gang would be set to work.

Hallboro, the point from which an extension is being constructed through central Manitoba, is a station on the line between Neepawa and Neepawa Jct. Among the sub-contracts let on the Maryfield extension, it is reported that one has been let to Mrs. Bennett. This is said to be the first appearance of a woman in the railway contracting field in Canada.

The Board of Railway Commissioners has approved of location plans for a line through tps. 9 and 10, ranges 30 and 32 west of the principal meridian in Saskatchewan, mileage 0 to 16.09.

J. H. Gordon, a trader from Pas Mission, Sask., arrived in Winnipeg, Aug. 6. He reported that the ballasting on the line from Hudson Bay Jct. to the Pas was completed, and the line in good shape for traffic. The charter does not call for a train service until Jan. 1, 1910, but it is probable that a service will be put on before that time.

Tracklaying on the branch line southerly from Vegreville towards Calgary, Alta., was started July 29, and it is expected to have it completed as far as Camrose early in Sept. Grading has been completed for 85 miles from Vegreville, and the grading gang is working in the vicinity of Stettler.

After inspecting the lines in operation and under construction in the Prairie provinces, President Mackenzie went on to Vancouver, B.C., to deal with questions connected with the extension of the line to the Pacific coast. The route of this extension is under survey, the particular part of the work at present in hand being the location of the route into Vancouver or New Westminster, B.C. The Board of Railway Commissioners has approved of the location of this part of the line as follows; from the west bank of the North Thompson River, north-westerly from Kamloops, following the west bank of the river for a distance of ten miles northerly, and for a further distance of 14 miles to a point five miles beyond the railway belt. (Aug. pg. 595.)

Telephone Dispatching on the C.P.R.

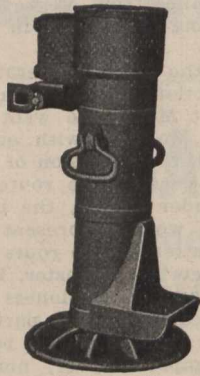
—The adoption of the system of dispatching trains by telephone instead of by telegraph, on the C.P.R., has proved that about 50% more traffic can be handled by the former than by the latter. This system has been in use on the company's lines between Montreal and Newport since June, 1908, and it has been found to be very satisfactory. Other circuits have been added from time to time, details of which we have already published. During August, the equipment of the following circuits was completed, on the Western Lines: from Swift Current to Medicine Hat, Alta., 147 miles; from Winnipeg to Brandon, Man., 133 miles; and from White River to Fort William, Ont., 251 miles.

Canada and Gulf Terminal Ry. Co.

The Quebec Legislature at its last session changed the title of the Matane and Gaspé Ry. Co. to the above. The section as to the lines authorised to be constructed contained in the previous acts was repealed, and a new section inserted authorising the company to construct the following lines: from the Intercolonial Ry. near St. Flavie easterly, following as much as possible the maritime road to Matane, along the valley of the Matane River to its headwaters and northeasterly to Mont Louis, Gaspé county, thence to Gaspé Basin; from Matane easterly to Mont Louis, with the right to construct a branch up the valley of the Ste. Anne River to a junction with the first mentioned line; from St. Flavie to the National Transcontinental Ry., in either Temiscouata or Kamouraska county; from St. Flavie westerly to Rimouski, thence southerly to a junction with the last mentioned line. Other sections of the original acts are repealed and new sections inserted. These provide that the capital stock shall be \$4,000,000; that the head office shall be in Quebec; and that the company shall have power to issue bonds to the amount of \$30,000 a mile. A contract has been entered into between the Department of Railways and the Matane and Gaspé Ry. Co., in respect of the construction, under subsidy, of a line from near St. Flavie, on the Intercolonial Ry., to Matane, in lieu of the subsidy granted by cap. 43, 1906, for 38 miles. (June, pg. 413.)

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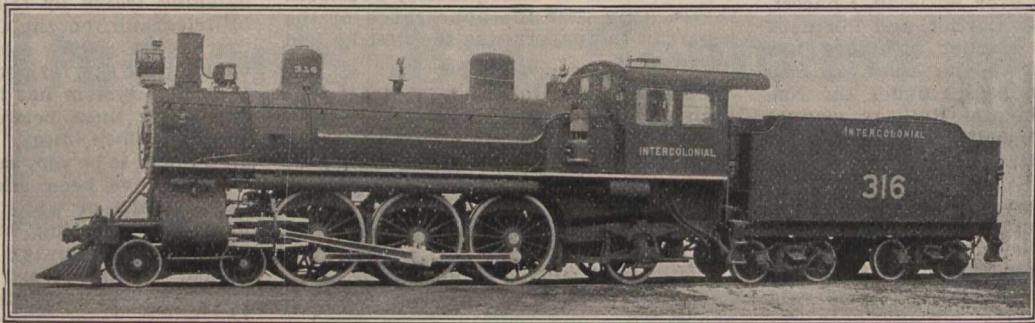


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Railway Commissioners Traffic Orders.

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

BEDLINGTON & NELSON RY. REFUND.

7552. July 7.—Re application of C. P. Riel for order directing Bedlington & Nelson Ry. Co. to refund to applicant \$2,007.36, amount of alleged overcharge by the company on shipments of railway ties made by applicant between Jan. 11 and 30, 1908, from Rykerts, B.C., to Portage la Prairie, Man.; upon hearing the application in the presence of counsel for the applicant and the railway company, and what was alleged, and upon the report of the Board's Chief Traffic Officer, the railway company consenting, it is ordered that the railway company be authorized to refund to applicant all freight charges in excess of the rate and minimum weight bases published in the company's tariff, C.P. Ry. C.R.C. A-151, on all railway ties loaded at Rykerts not later than Jan. 31, 1908, and consigned to Portage la Prairie, Man.

PASSENGER RATES ON B.C. STEAM-BOATS.

7594. July 23.—Re complaint of F. W. Godsall, of Cowley, Alta., alleging excessive passenger rates on C.P.R. steamboats between ports of call on the Kootenay and Arrow Lakes, B.C., and re complaint of Nelson Board of Trade, in support of said complaint; upon consideration of the applications for an order rescinding order 6619, of March 8, 1909, it is ordered that the said order be rescinded, and the complaint reinstated for hearing.

LUMBER RATES, B.C. TO EDMONTON.

7602. July 23.—Re complaint of Fullerton Lumber & Shingle Co., of Vancouver, B.C., against rate of \$10 a car charged in addition to rate to Strathcona, Alta., on lumber shipments from B.C. mills to Edmonton; upon hearing the complaint at the sittings at Edmonton, Vancouver and Ottawa, in the presence of counsel for the applicant, the C.P.R. and the C.N.R. companies, the evidence adduced, and what was alleged, and upon the report and recommendation of the Board's Chief Traffic Officer, it is ordered that the C.P.R. and the C.N.R. companies be directed to publish and file joint class and commodity tariffs of rates on freight traffic in classes 6 to 10, inclusive, of the Canadian Classification, between Edmonton and North Edmonton and all points on the C.P.R. south of and including Red Deer, east of and including Daysland and Tees, and east and west of Calgary and Macleod, via Strathcona Jct., on the basis of 1c. per 100 lbs. over and above the C.P.R. class and commodity rates to or from Strathcona, and that in the division thereof, the C.N.R. be allowed a proportional rate of \$10 a carload, regardless of weight, between Strathcona Jct. and any or all sidings in Edmonton, including those owned by the C.P.R. Co., but excepting the Griffin packing house, to or from which the C.N.R. be allowed \$12 a carload, regardless of weight, provided that in no case shall the joint rates to or from C.P.R. stations between Red Deer, Daysland and Tees and Strathcona Jct. exceed the joint rates herein prescribed

to or from those points, nor the proportion allowed the C.N.R. exceed the joint rates charged for local traffic between Strathcona and Edmonton and North Edmonton aforesaid. Order 6835, of April 6, 1909, is rescinded.

RAILWAY BILLS OF LADING.

7562. July 15.—Re complaint of Canadian Manufacturers' Association, supported by the Bankers' Association and by various boards of trade, merchants, and shippers throughout the Dominion, respecting the terms and conditions of carriage embodied in the bills of lading of railway companies subject to the legislative authority of the Parliament of Canada, and in the matter of sec. 340 of The Railway Act, upon hearing the complaint in the presence of counsel for the complainants and the G.T.R., C.P.R., C.N.R. and M.C.R. Companies, and what was alleged, and upon consideration of the draft forms of bill of lading agreed to by the parties thereto, and submitted for the approval of the Board, it is ordered that the two forms of bill of lading for use in Canada, namely, that for consignments "to order" and that for so termed "straight" consignments, attached hereto and marked "A" and "B," be and they are hereby approved, and it is further ordered that the conditions and limitations to be endorsed upon the said bills of lading shall be the following:—

Owing to lack of space the forms and conditions, etc., above referred to are not reproduced here.

EXCEPTIONS TO RATINGS ON SILVER ORE.

7720. July 28.—Re application of C.P.R. and G.T.R. Companies, through the Advisory Committee of the Canadian Freight Association, under sub-sec. 4 of sec. 321 of The Railway Act, for approval of certain exceptions to the Official Classification of Silver Ore to points in the United States, upon reading what was alleged in the letter of application, and upon the report of the Chief Traffic Officer of the Board, it is ordered that the "exceptions" to the ratings of silver ore of the Official Classification, as incorporated in the G.T.R. freight tariffs C.R.C. E-1599 and 1600, and the C.P.R. freight tariffs C.R.C. E-1422 and 1450, applying from North Bay, Ont., to certain points in the U.S., be approved, subject to any order or direction of the Board herein.

Grace Henderson, employed as cashier Thousand Islands Ry., at Gananoque, Ont., was recently committed for trial on a charge of embezzlement of \$500, \$96 and \$2,620.

H. W. Wills, Superintendent C.P.R. Hotels, Western Lines, while in Victoria recently, is reported to have said that the company is contemplating the establishment of another hotel on the Island, subsidiary to the Empress Hotel.

An action has been entered in the Manitoba courts to recover \$100,000 in connection with some land transactions in the neighbourhood of the National Transcontinental Ry. shops at Winnipeg. It is alleged on the part of the defendants that they were induced to go into the deal by statements in regard to the location of the shops and by the fact, which they allege, that C. A. Young, one of the N.T.R. Commissioners, was interested in the sale of the lands.

Railway Charters Granted 1888-1908.

An order was made during the recent session of the House of Commons for the preparation of a statement showing the total mileage of railways authorized to be constructed under charters granted by the Dominion Parliament from 1888 to 1908 inclusive, exclusive of the G.T.R., C.P.R., C.N.R., and G.T.P.R.; the number of miles constructed under the said charters; the number of companies so incorporated; the number of companies that have actually constructed any portion of the railways so authorized; the number of charters that have lapsed and the number which have been granted extensions of time for construction. The return shows that excluding the companies above mentioned, there have been 203 companies incorporated within the years named, with authority to construct 63,809 miles of railway, and that 1073 miles have actually been constructed. Of the 203 companies 35 have constructed portions of the lines authorized; 86 of the charters have lapsed, 88 of the companies have been granted one extension of time for construction, 42 have been granted an extension on two occasions, and 18 have been granted three or more extensions of time. The lapsed charters are as follows:—

Granted in 1888.—Annapolis-Atlantic Ry.; Belleville and Lake Nipissing Ry.; Canada and Michigan Tunnel; Chatham (N.B.) Ry.; Chinook Belt and Peace River Ry.; Collingwood and Bay of Quinte Ry.; New York, St. Lawrence and Ottawa Ry.; Ottawa and Parry Sound Ry.; Western Ontario Ry.

Granted in 1889.—Assiniboia, Edmonton and Nipigon Ry.; Calgary, Alberta and Montana Ry.; Cobourg, Northumberland and Pacific Ry.; Kootenay and Athabasca Ry.; Lac Seul Ry.; Moose Jaw to Edmonton; North-Western Junction and Lake of the Woods Ry.; Ontario, Manitoba and Western Ry.; Saskatchewan Ry. and Mining Co.; Three Rivers and Western Ry.; Union Ry.; Victoria, Saanich and New Westminster Ry.

Granted in 1890.—Moncton and Prince Edward Island Ry. and Ferry Co.; Mount Forest, Markdale and Meaford Ry.; North Canadian Atlantic Ry. and Steamship Co.; Ottawa, Morrisburg and New York Ry.; Owen Sound and Lake Huron Ry.; Sault Ste. Marie and Hudson's Bay Ry.

Granted in 1891.—Atikokan Iron Range Ry.; Brighton, Warkworth and Norwood Ry.; Buffalo Lake and Battleford Ry. Coal and Iron Co.; Burrard Inlet and Westminster Valley Ry.; Chatsworth, Georgian Bay and Lake Huron Ry.; Kingston and Pontiac Ry.; Manitoba and Assiniboia Grand Junction Ry.; Peterborough, Sudbury and Sault Ste. Marie Ry.

Granted in 1892.—Buckingham and Lievre River Ry.; Ottawa Valley Ry.; Winnipeg and Atlantic Ry.

Granted in 1894.—Alberta Southern Ry.; Cariboo Ry.; Duluth, Nipigon and James Bay Ry.; Gleichen, Beaver Lake and Victoria Ry.; Lake Megantic Ry.; Metis, Montana and Gaspé Ry.; Pontiac and Ottawa Ry.

Granted in 1895.—Lindsay, Haliburton and Mattawa Ry.; Ottawa and Aylmer Ry. and Bridge Co. (Electric).

Granted in 1897.—Manitoba and Pacific Ry.; Minden and Muskoka Ry.

Granted in 1898.—Cowichan Valley

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Ry.; Lake Bennett and Klondike Ry.; London and Lake Huron Ry.; Montreal and James Bay Ry.; Toronto and Hudson's Bay Ry.

Granted in 1899:—Arthabaska Ry.; Edmonton and Saskatchewan Ry.; Russell, Dundas and Grenville Counties Ry.; Sudbury and Wahnapiatae Ry.; Zenith Mining and Ry. Co.

Granted in 1900:—Lake Superior and Hudson Bay Ry.; Morris and Portage Ry.; Port Dover, Brantford, Berlin and Goderich Ry. (name changed to Grand Valley Ry., 1902, and line being constructed as an electric railway); St. Mary's River Ry. (amalgamated with Alberta Ry. and Irrigation Co.).

Granted in 1901:—Arnprior and Pontiac Ry.; Canada National Ry. and Transport Co.; Fort Qu'Appelle Ry.; Kamloops and Atlin Ry.; Quebec Terminal and Ry. Co.; Similkameen and Keremeos Ry.

Granted in 1902:—Nipissing and Ottawa Ry.; St. Lawrence and Northern Ry.; Velvet (Rossland) Mine Co.; Yukon Pacific Ry.

Granted in 1903:—Brandon, Saskatchewan and Hudson's Bay Ry.; Canadian Yukon Western Ry.; Cardiff Ry.; Coast Yukon Ry.; Hudson's Bay and Occidental Ry.; Huron, Erie and Buffalo Ry.; Joliette and Manuan Colonization Ry.; Nipissing and Pontiac Ry.; St. Chrysostome Ry.

Granted in 1904:—Chicoutimi and Northern Eastern Ry.; Montreal Nipissing and Georgian Bay Ry.; Pontiac and Inter-Provincial Ry. Of these railways there have been constructed the following mileages:—St. Mary's River Ry., 65 miles, the total authorized; Quebec Terminal and Ry. Co., 3 miles out of the 12 authorized; this company was subsequently merged in the Quebec Bridge and Ry. Co., which has since been taken over by the Government; Brandon, Saskatchewan and Hudson's Bay Ry., 70 miles out of the 450 authorized.

Rhodes, Curry Co., Limited.

Rhodes, Curry Co., Ltd., has been incorporated under the Dominion Companies Act, with an authorized capital of \$3,000,000, divided into \$2,000,000 of 7% preference stock, cumulative and preferred, both as to dividends and assets, participating with the ordinary shares in all dividends after 7%. The incorporation is for the purpose of acquiring the properties and business, or the capital stock of Rhodes, Curry & Co., Ltd., car builders, etc., of Amherst, N.S. An issue of \$1,850,000 of the preference stock and \$1,000,000 of the common, was underwritten by C. Meredith & Co., Ltd., and the Royal Securities Co., of Montreal, and W. B. Tennant and J. M. Robinson & Son, of St. John, N.B., and as stated in our last issue, it was intended to invite public subscriptions at 92½ for the preferred stock, with a bonus of 20% of common. However, before the prospectus was printed, subscriptions were received for very much in excess of the amount of stock offering, and the prospectus was therefore only issued as a matter of information.

In a letter printed with the prospectus, N. Curry, President of Rhodes, Curry & Co., Ltd., stated among other things, as follows:—"The company manufactures practically everything that goes into the construction of railway and street cars. The Amherst plant consists of wheel,

grey iron and malleable iron foundries, axle factory and machine shops, planing and rolling mills, cabinet shops and necessary erecting and painting shops, also the largest wood working factory in the Maritime Provinces. The property covers about 40 acres. The company also has 20,000 acres of timber limits, owned in fee simple, at Little Forks, 16 miles from Amherst, equipped with saw and planing mill, necessary dwellings, stores, etc. At Sydney, the company has a wood working factory, a lumber yard connected with the Intercolonial tracks, and another yard on a valuable wharf property; at Halifax, a lumber yard and warehouse for supplying builders' materials. The location of the plant in the centre of the timber producing provinces of Nova Scotia and New Brunswick, guarantees an unfailing supply of spruce and other local woods required in the works at low prices, while the proximity to tide water on the Bay of Fundy enables the importation of southern pine, oak, and other raw materials at very favorable prices, and from Springhill and Sydney we are able to get our supply of coal, iron and steel at a low cost.

"The company sells rolling stock to practically all the railways in Canada. A large part of the output for the last few years has gone to the Northwest to supply the needs of the Canadian Northern, Canadian Pacific, Grand Trunk Pacific and other western roads. The capacity of the plant in 1893 was about three or four cars per day, while at present time it can turn out 20 freight cars per day and five passenger cars per month. The annual output in 1891 was 331 cars, in 1908 it was 2,044 cars. In addition to the car works, a profitable business is being done in constructing buildings of all classes, and in the manufacture and sale of building materials. The best class of labor is obtained in this vicinity, and is abundant and reasonable. An average of 1,000 men are employed throughout the year, as compared with 250 in 1893, and it is a remarkable fact that in the history of the company no serious trouble of any kind has occurred with its employees."

The company's real estate, buildings, machinery and timber limits at Halifax, Sydney, Athol and Amherst were valued by an appraisal company in March, 1907, at \$908,339.90, and the company certified in July, 1909, to an increase of \$82,300.72, making a present valuation of \$990,640.62. Chartered accountants certify that the current assets of Rhodes, Curry & Company, Ltd., at Dec. 31, 1908, were \$1,387,557.94, and the current liabilities at the same date \$380,926.97. The value of the real estate, building, plants and timber limits as fixed by the appraisal company, and the current assets of the company as shown by the accountants' report, amount to \$2,378,198.56. After deducting the current liabilities, the net assets are \$1,997,271.59.

The following statement is also given:

	Profits before charging interest.	Less interest.	Net profits.
1904	\$115,591.67	\$12,033.60	\$103,558.07
1905	108,960.20	17,397.06	86,563.14
1906	220,901.10	19,696.72	201,204.38
1907	274,459.40	44,034.22	230,425.18
1908	331,039.79	28,918.52	302,121.27
An aggregate profit of \$923,872.04 for the five years.			

We understand that the shareholders of Rhodes, Curry & Co., Ltd., will be largely paid in cash for their interest and that N. Curry has undertaken to continue the management for the new company for three years.

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 Pacific Ry.—A statement has been going the round of the daily press to the effect that the retirement of W. Whyte, Second Vice President would, under ordinary circumstances, take place in the near future under the age limit rule, but that his appointment had been extended for two years. We have reason to believe that the whole story originated in some Montreal reporter's brain, and that it is altogether without foundation.

W. Marshall, heretofore Superintendent of Telegraph Construction, Toronto, has been appointed Superintendent of Telegraphs, Ontario Division, vice A. W. Barber, deceased. Office, Toronto.

S. W. Kent has been appointed Ticket Agent, Paris, Ont., vice A. H. Baird, deceased.

W. B. Cronk, heretofore Superintendent District 1, Eastern Division, Farnham, Que., has been appointed Superintendent District 2, Lake Superior Division, White River, Ont., vice A. L. Smith, transferred to Farnham, Que., as reported in our Aug. issue.

D. L. Jones, heretofore Locomotive Foreman, Smith's Falls, Ont., has been appointed District Master Mechanic, District 1, Eastern Division, vice E. W. Campion, assigned to other duties. Office, Farnham, Que.

C. A. Stark, heretofore shop foreman, Carleton Jct., Ont., has been appointed Locomotive Foreman, Smith's Falls, Ont., vice D. L. Jones, promoted.

T. M. Fraser, heretofore Roadmaster, Minnedosa, Man., has been appointed Roadmaster, Souris section and Carman branch, District 2, Central Division, vice P. E. Barry, resigned. Office, Winnipeg.

W. J. Renix was recently appointed acting Locomotive Foreman at Brandon, Man., vice J. H. Wilson, transferred, and has since been succeeded by A. McArthur, who has been appointed Locomotive Foreman.

J. H. Wilson, heretofore Locomotive Foreman at Brandon, Man., has been appointed Locomotive Foreman at Moose Jaw, Sask., vice T. Bates.

J. M. Cameron, heretofore Trainmaster, Grand Forks, B.C., has been appointed Trainmaster District 2, Pacific Division, vice S. L. Prenter resigned. Office, Vancouver, B.C.

F. W. Sadlier, heretofore District Master Mechanic, Moose Jaw, Sask., has been appointed shop foreman at Kamloops, B.C.

H. G. Dring, Assistant General Passenger Agent for Great Britain and Europe, has assumed control of all general and local passenger work, at 62-65 Charing Cross, London, and all correspondence in connection with such matters pertaining to the chief office of the London district are to be addressed to him, the position of London Passenger Agent having been abolished.

D. H. Drakeford, heretofore London Passenger Agent, has been appointed Travelling Passenger Agent for the Southern District, England, reporting to the General Passenger Agent, Liverpool.

G. S. Jones has been appointed London, Eng., City Agent, with control of

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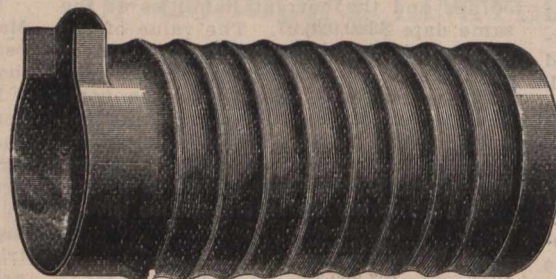
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TORONTO, CANADA, SEPTEMBER, 1909.

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The employes of the C.P.R. Winnipeg shops held their 18th annual picnic at Winnipeg Beach, July 30, when a long programme of sports was gone through.

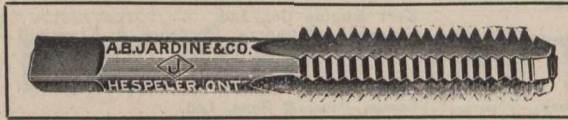
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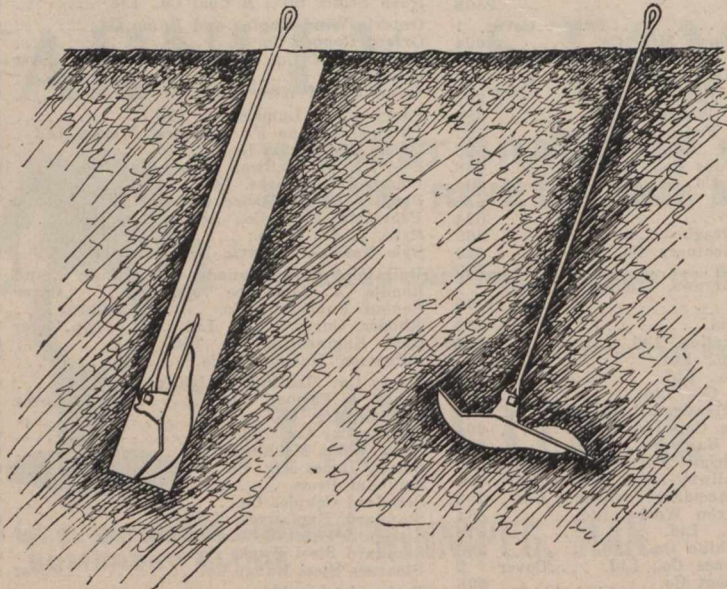
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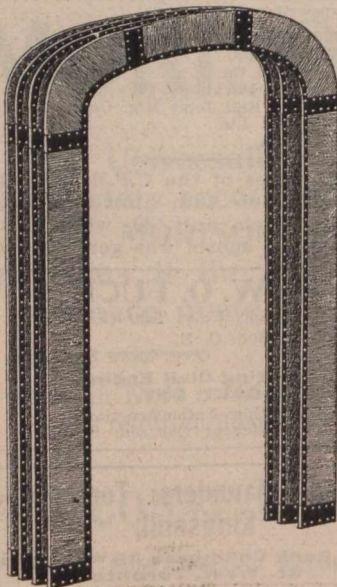
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local freight and passenger work, pertaining to the city branch office, at 67 and 68 King William street, reporting in regard to freight matters to General Freight Agent, and in regard to passenger matters to the General Passenger Agent.

W. J. Pugsley has been appointed Passenger Agent at Liverpool, Eng., in charge of the local passenger and baggage departments, vice G. T. Pearson transferred. He will report to the General Passenger Agent, Liverpool.

G. T. Pearson, heretofore Passenger Agent at Liverpool, has been appointed Travelling Passenger Agent for Ireland, reporting to the General Passenger Agent, Liverpool. Office, Belfast.

Central Vermont Ry.—W. Northgraves has been appointed Roundhouse Foreman, at Brattleboro, Vt., vice J. Pitt.

Government Railways.—W. N. Rippey, heretofore Chief Clerk Superintendent of Car Service office, has been appointed Superintendent of Car Service, vice T. E. Henderson. Office, Moncton, N.B.

T. E. Henderson, heretofore Superintendent of Car Service, has been appointed General Car Tracer. Headquarters, Moncton, N.B.

The new organization provides for a Purchasing Agent, and it is said that one will be appointed in the near future, and that he will probably have his office at Ottawa.

Grand Trunk Pacific Ry.—The offices of E. J. Chamberlin, Vice President and General Manager, and G. U. Ryley, Land Commissioner, have been transferred from Montreal to Winnipeg.

Grand Trunk Ry.—C. A. Saylor has been appointed Locomotive Foreman at Hamilton, Ont., vice W. W. Yeager resigned.

A. J. Nixon, Assistant Superintendent, London, Ont., has resigned, and will leave the service about Sept. 15, to enter the Board of Railway Commissioners' service, Oct. 1.

The following agents have been appointed: Thornton, Ont., D. H. Thompson; Petersburg, Ont., L. K. Fox; Dunnville, Ont., S. Young; Shallow Lake, Ont., Geo. Mann; Alma, Ont., J. A. Scott; Pinkerton, Ont., H. Rose; Ethel, Ont., R. J. Murray; Rockland, Ont., E. H. Pangborn; Carlsbad Springs, Ont., L. G. LeBatt; Arnprior, Ont., F. H. Morrison; Ravensworth, Ont., R. A. Carswell.

Great Northern Ry.—R. J. Smith, heretofore agent at Brandon, Man., has been appointed General Agent, Cincinnati, Ohio, vice W. J. Byrth deceased.

J. Linklater, heretofore agent at Bois-Sevain, Man., has been appointed agent, Brandon, Man., vice R. J. Smith promoted.

Intercolonial Ry.—T. Ryan, heretofore roundhouse foreman at Riviere du Loup, Que., has been appointed acting Division Master Mechanic there, vice F. J. Lozo resigned.

R. E. Perry, heretofore Chief of Tariff Bureau, has also been appointed Assistant General Freight Agent, with charge of the division, Montreal to Dalhousie, N.B., vice W. H. Olive assigned to other duties. Office, Montreal.

W. H. Olive, heretofore Assistant General Freight Agent, Montreal, has been appointed General Travelling Freight Agent, with territory from Dalhousie, N.B., to Belleville, Ont. Office, Montreal.

See also Government railways.

Michigan Central Rd.—J. J. Ross has been appointed Superintendent of Telegraphs, vice E. H. Millington deceased. Office, Detroit, Mich.

Prince Edward Island Ry.—See also Government Railways.

Temiskaming and Northern Ontario Ry.—W. Oldham, heretofore foreman C.P.R. Bridge Department, has been appointed Supervisor of Bridges. Office, North Bay, Ont.

How to be a First Class Trainmaster.

By C. B. Wildman, Trainmaster St. Louis, Iron Mountain and Southern Ry., Van Buren, Ark.

I believe the first duty of a trainmaster to be that of loyalty to his superior officers and to the company which employs him, for without such loyalty he cannot be successful. No matter how well qualified he may be for the position, regardless of his ability as a practical railway man, if in his heart there is not a feeling of absolute loyalty toward his company and his superior officers, he is short a valuable asset, that may eventually prove his downfall. With loyalty must be included truthfulness, not only from a moral standpoint, but from the fact that truth begets confidence, and once the trainmaster has lost or shaken the confidence of his employer, he is to be congratulated if he ever regains it.

As the superintendent is the head of the division, so the trainmaster is his right-hand man, often representing him. As such he should be careful of his personal appearance, bearing in mind that as the representative of the superintendent he would come in contact with the public in such a way that a good personal appearance might, and in all probability would, often result advantageously to the company. He should endeavor so far as possible to closely acquaint himself with the superintendent's ideas and methods of doing business, and as far as practicable conform to those methods.

The trainmaster should keep in close touch with affairs on his territory and should be careful to communicate to the superintendent all information that might prove to be of advantage or interest to him. In other words, he should keep the superintendent thoroughly posted on the little things as well as the more important matters, as it is often the minor things that develop into the important ones. This can usually be accomplished by the trainmaster having access to the superintendent's office; but in case the superintendent is not easy to approach, or the trainmaster does not feel at liberty to speak freely and unrestrainedly, good results may be obtained by writing the superintendent a weekly letter, setting forth in a brief, concise manner the week's happenings. This should be a newsy letter, but care should be taken to make it as brief as consistent with the disclosures he has to make.

Next in importance is the handling of men. A trainmaster may have every other qualification necessary to his success, but if he lack tact or the ability to properly handle men, he is more or less of a failure. He must be able to inspire the confidence of his men and create among them the feeling of fidelity to the division officers and to the company's interests. On such a feeling depends

the successful operation of his particular division. No division can make a creditable showing except by the combined efforts of the officials and the men.

The employing of men should have the trainmaster's personal attention. Care should be taken to employ only men of good habits and character, and of sufficient ability to fill the requirements of the position for which they are selected. He should personally inspect all applications for employment, satisfy himself that the applicant is of legal age, and cause such investigation to be made of his past record as will effectually establish his right to be employed or rejected. He should be kind and considerate, courteous and obliging, but always fair and firm, ever bearing in mind the differences in the mental and physical capacity of different men. He should always try to grant to a worthy employe any reasonable request if within his power to do so. He should study the character and habits of his men and seek to become reasonably familiar with their manner of spending their time when not engaged in the service of the company. It does no harm for a trainmaster to occasionally inquire after the welfare of the employe's family. If it becomes necessary to reprimand an employe it should be done in a quiet, gentlemanly manner, and not in the presence of bystanders.

Here enters the question of enforcing the company's rules and the duty of the trainmaster in this respect. The rules of the railway company are largely for the guidance of the employes toward safe operation. These rules are carefully drafted by the management after a great deal of thought and consideration, each rule covering its own particular point. The trainmaster should carefully impress upon the minds of the employes the extreme importance of a strict observance of all rules. More than ordinary attention should be given to those rules which directly affect the safety of the public, the employes, and the company's property, but the violation of any rule, of whatever significance, should never pass unnoticed by the trainmaster. In other words, he should never turn his back or "wink" at a violation of a rule, no matter how insignificant its violation might seem to be. It is by far the better plan to use every precaution to prevent the violation of any rule rather than to suffer the less important rules to be violated indiscriminately, until an accident occurs, when some drastic action must be taken with the unfortunate employe, of whom an example must be made. One of the best methods of bringing and keeping the rules before the employe is to hold monthly or semi-monthly class meetings for the discussion of rules. It is an easy matter to convince the men that these meetings are not for the purpose of criticizing their actions or opinions, but to bring about a clearer understanding of the rules and to impress upon them the importance of strict compliance with the same. It is my experience that employes will speak freely and many good points will be brought out for the betterment of the service.

As a railway derives its principal revenue from the tonnage it hauls, it is of course incumbent upon the trainmaster to see that its tonnage or revenue is protected. He should carefully impress upon station agents and managers of industries the importance of loading cars to

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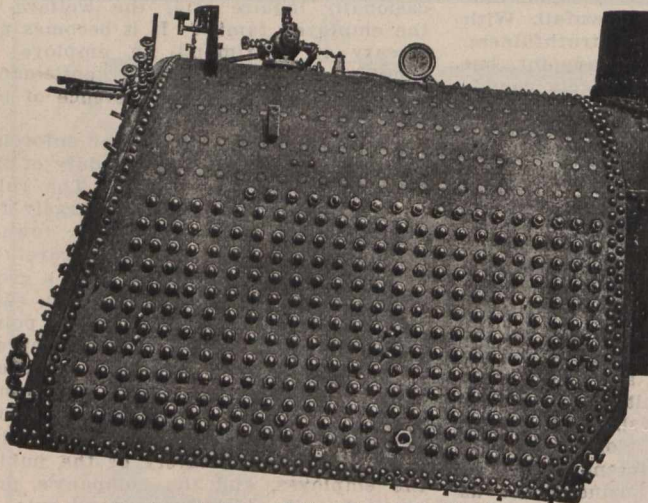
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their capacity, and by frequent personal inspection satisfy himself that this is being done. With this result obtained, it is essential that each train have its full tonnage over the division. With the cars properly loaded and the train given its tonnage according to the capacity of the engine, there is little to be desired except a reasonably quick movement of the train over the division. In this connection the trainmaster should know, by making tonnage tests on the road, that each engine is being loaded to its capacity, and there should be no failure to handle the maximum tonnage at least one way over the district. He should never lose sight of the fact, that heavy tonnage with the least possible mileage is necessary to successful operation. He should impress this feature upon the chief dispatcher and the dispatchers, and by frequent personal observation satisfy himself that the maximum tonnage is being handled.

The trainmaster should also keep in close touch with the engine mileage, that is the mileage of each engine, to see that a good average is made and the full use of each engine assured.

I believe it is as much the duty of the trainmaster as it is that of the superintendent to know at all times the number of net tons per train, as well as of the net tons per train mile, that is being handled over his territory. This information can be obtained either by estimating from operating sheets of previous periods, or by actual figures compiled from the wheel reports. Conductors may be requested to forward copy of wheel report to trainmaster's office, and from this report it is easy to arrive at the actual net tons per train and per train mile. With this information it is comparatively easy to arrive at a close estimate of the cost of operation, so that one does not need to wait for the operating sheet to know what kind of showing the division has made. Here it may be well to mention a few of the advantages of being furnished with a copy of conductor's wheel report. These reports are especially valuable in tracing the movement of cars, obtaining seal records, etc., and reference to them will often avoid correspondence with conductors, thereby saving time. It also frequently occurs that the car accountant is short wheel reports from conductors for which he will wire the superintendent. Instead of consuming three or four days or a week, and perhaps burdening the wires with a number of telegrams, a copy can be made and forwarded by the trainmaster's clerk. If at first conductors object to making a carbon copy of this report, their objections will be quickly withdrawn when they see the advantages of reduced correspondence about wheel reports.

Among the various duties of the trainmaster, I believe none should stand out more clearly or receive closer attention than that of checking and watching overtime and constructive mileage. Constructive mileage, which to a degree is necessary, will increase to an alarming extent if it is not constantly checked. The trainmaster should satisfy himself as to the exact figure of his necessary or arbitrary constructive mileage and never let it go beyond that figure, without knowing the cause of the increase. Dead-heading, which is a form of constructive time, should receive his particular attention. Too much stress cannot be laid

upon the importance of watching and of checking overtime. Occasions may arise when overtime is found to be an extremely good investment, that is, for instance, when by paying a certain amount of overtime the company may obtain the equivalent of its value or perhaps avoid paying a greater amount, in mileage. On the other hand, unnecessary overtime means a waste of the company's money. It is so easy to pass beyond the dividing line between desirable and unnecessary overtime, that the constant and unflagging efforts of the trainmaster are required to prevent a leakage that may prove a burden to his company and result disastrously to himself. I have a statement prepared and left on my desk every morning of each hour's overtime made the previous day, and spend a few moments figuring the cost per mile and investigating such delays as may appear unnecessary. An accurate account or record is kept of the overtime for each day for comparison purposes. In this manner the trainmaster may know at all times just what his overtime is costing. This information is of such value to him that too much cannot be said of its benefits.

The distribution of cars is another important feature connected with the duties of the trainmaster. This is particularly true on territory where coal mines or large industries are located. The available empty cars must be properly pro-rated and distributed. Shippers should be urged to load cars with as little delay as possible, and it devolves upon the trainmaster to provide for the movement of such loaded cars promptly.

The trainmaster in passing over the road should make careful note of all foreign cars and take such steps as may be necessary to insure their prompt movement toward home, either loaded or empty, as conditions may warrant.

Especially important is the prompt release of cars under load. The trainmaster should urge upon station agents this particular feature and if necessary visit consignees in an effort to effect the prompt release of such cars. This is of more than ordinary importance during a temporary shortage of equipment, or when the load is on a foreign car on which per diem is accruing. The release of cars under load with company material should receive his constant attention. He should personally and frequently check large yards, coal mines and other obscure places, to see that empty cars are not lost sight of or loads unnecessarily delayed. Unbilled loads should be given special attention.

Not the least important of the trainmaster's duties is that of the economical equipment of cabooses. Here is the source of one of the common leakages on some of our most important railways. From personal experience it is known that by careful and constant attention the cost of such supplies can be greatly reduced and a large saving made for the company. In two years the cost of co-booze supplies on one division was reduced from three mills to less than one mill per train mile. Train crews should be taught to carefully preserve all scrap or second-hand material with a view of exchanging it for new. Arrangements can be made for a credit to be allowed for second-hand material turned in, and in that way effect a noticeable reduction in the cost of supplies. This practice also contributes to the keeping

of such material cleaned up from along the track, which in itself is an advantage.

Another source of loss to a railway company is found in the manner of taking coal on engines from coal chutes. This loss is caused by enginemen calling for more coal than is needed and in some instances when none at all is required. As a result, the tender being unable to accommodate the amount of coal called for, some of it falls to the ground, and while this waste coal may later on be picked up and used, it has incurred an additional expense by reason of its being handled twice. It is a duty of the trainmaster to take such action as may be necessary to improve such a condition.

The trainmaster should frequently pass over his territory and personally visit station agents and should urge upon them the necessity of familiarizing themselves with the rules of the company and conforming to them. Agents should be required to keep their stations and surrounding grounds clean and when necessary keep the station properly heated and lighted. They should be reminded that the company requires them to be courteous and obliging in their intercourse with the public.

The trainmaster should check freight rooms frequently with a view of locating "astray" freight and to satisfy himself that there is no unclaimed perishable freight on hand. He should also insist upon agents keeping oil, oil cans, lamps, lanterns and other inflammables isolated so far as practicable, and that they allow no waste paper, rags, or other trash of an inflammable character to accumulate. This is a necessary precaution against fire. He should see that agents thoroughly understand the proper manner of handling explosives.

The trainmaster should familiarize himself with the methods employed by agents in checking and loading freight and in a general way with their system of reports.

The trainmaster should ride on local freight trains frequently, instructing conductors as to the proper manner of handling freight, sealing cars, keeping seal records, and reporting "over," "short," or "damaged" freight. He should know that no unnecessary time is consumed in switching at stations and that all local work is properly performed.

The question of handling of time and perishable freight is also one that requires its share of the trainmaster's attention. The prompt switching into proper trains and forwarding of such freight to its destination is important; he should see that fast freight schedules are maintained when practicable; and in the event of any time or perishable freight being set out en route by reason of the car being in bad order or from other causes, that it is again forwarded at the first opportunity.

When the main track is obstructed or traffic interrupted by derailments, high water, wash-outs, burned bridges or other causes, the trainmaster should go to that point as quickly as possible and (in the absence of the superintendent) take full charge of opening the track. He should determine as soon as practicable the exact cause of the accident and advise his superior officers of the true conditions, giving full particulars as to the extent of damage to track, equip-

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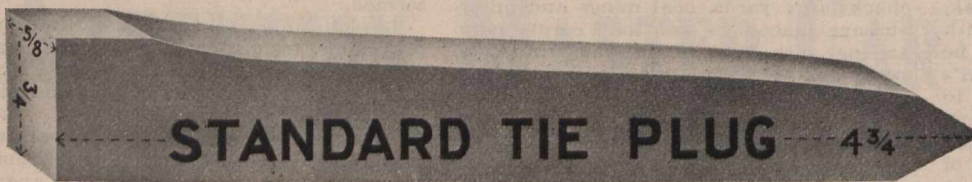
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ment, freight, etc., together with his estimate of the time required to open the track for traffic. He should see that there is no unnecessary loss of time in clearing or opening the track, and that the movement of traffic is resumed at the earliest possible moment. He should take steps to insure the protection of the company's property as well as that of any freight which may be involved. In the event of an injury to employes or passengers they should, of course, be given first consideration and it would devolve upon the trainmaster to see that everything possible was done to add to their comfort. Once the track is clear and the movement of traffic resumed, every attention should be given to the prompt clearing away of all debris, so that the track and right-of-way may at once assume its normal appearance.

The trainmaster should promptly and thoroughly investigate the cause of each accident, locate the responsibility if possible, and apply or recommend such discipline as may seem necessary.

It is a very good plan for a trainmaster to know just what the lost tonnage on account of engine failures is costing. This can be quickly figured by taking the total amount of tonnage lost, from which he can estimate the number of trains it would take to move that amount of tonnage, multiply the number of trains by the number of miles they would have to make (usually one freight district) which will give the train miles, this multiplied by the average transportation cost per mile, will give a close estimate in dollars and cents of what the engine failures cost the company. Engine failures should be investigated as to their cause, delay to trains, effect on tonnage, etc.

Passenger service should occupy not a little of the trainmaster's time and thought. He should bear in mind the daily intercourse between the passenger train employe and the traveling public and with that in view endeavor to select for his passenger train employes such men as seem best fitted for that service. The value of neatness and personal appearance should be impressed upon them and they should be shown the advantages the company will enjoy through their courteous manner and gentlemanly conduct.

Close attention should be given passenger coaches to see that they are clean, well ventilated and comfortable. Particularly should the trainmaster insist upon the strict observance of the rules by passenger train employes, for upon this largely depends the safety of the traveling public as well as the protection of the company's property. The attention of enginemen should be called to any rough handling of the train in stopping or starting and if necessary to the observance of speed restrictions through city limits. Special attention should be given to the importance of maintaining the schedules of passenger trains. Trainmen and enginemen as well as station agents should be instructed to take advantage of every move that would facilitate the handling of passengers, baggage and express, so that the delays incidental to the handling of such business could be reduced to the minimum.

On many railways there is at all times scattered along the track more or less scrap material. This feature should be watched closely by the trainmaster, and all concerned should be urged to use

every effort to keep such material cleaned up or neatly piled at stations.

Bad order cars are a constant source of annoyance to the trainmaster. This is especially true of bad order cars under load. He should personally keep in touch with the bad order situation, see that all such cars under load are promptly repaired or the contents transferred, and keep the line clear of such cars, having the empty cars moved into regular repair points.

It is seldom a trainmaster's territory can show the best results year after year. Often adverse conditions will arise that may preclude the possibility of making the usual good showing. This may be caused by an unusual number of engine failures or by the power being in poor condition so that it cannot handle its full rating; perhaps a few washouts or a greater number of derailments than usual may have contributed to a congestion of loads. There may have been a large number of empty cars for movement from which no revenue tonnage was derived. These are conditions that any up-to-date trainmaster will strain a point to keep in touch with. He will in all probability keep some kind of log book or memorandum to which he can easily and quickly refer, because the above-mentioned feature will bring about conditions that must sooner or later be explained, and if he has forgotten or has no log book he is put at a disadvantage. I believe a good record of the adverse operating conditions is as essential as some of the important records over which more time is spent.

Immediately preceding and during the periods of light business it is customary to reduce expenses so far as existing conditions will permit. While this feature is usually handled by the superintendent, it is in my opinion good form and excellent training for the trainmaster to assist him to the best of his ability. He should scrutinize the pay rolls often and carefully, inquiring into conditions at points where there is a possibility of reducing expense. The superintendent is usually glad to receive a suggestion that will enable him to accomplish this result.

The foregoing remarks, in my opinion, contain the most vital or important points involved in the duties of the trainmaster. These, added to the innumerable minor duties which are constantly claiming his attention, are calculated to make his life a busy one. He should be on the constant lookout for violations of rules, be quick to observe anything that might be out of line, and endeavor to conduct the business of the company with as much satisfaction to himself as if the property belonged to him. He must be prepared to devote his entire time to his company when necessary.

The conscientious trainmaster will at all times show a willingness to do all he can, and a desire to please his employes. With this in mind the knowledge of his duties will remain with him constantly, and notwithstanding any slight error in judgment he may from time to time exhibit, he will, I believe, have done his best to perform his full duty.

The foregoing paper was awarded first prize by the Railroad Age Gazette, New York, in a competition for the best paper on the subject, to be written by a trainmaster of at least one year's experience in that position within the past three years.

The Canadian Ticket Agents' Association's 23rd annual convention will be held in Buffalo, N.Y., Oct. 5, 6 and 7. The headquarters will be at the hotel Statler. The business meeting will take place on Oct. 5 at 10 a.m., and at 8.30 p.m. there will be a Dutch luncheon and vaudeville entertainment, with a theatre party for the ladies. A programme of entertainment will be arranged for Oct. 6, including an evening theatre party, and Oct. 7 will be spent at Niagara Falls, the International Ry. and the Niagara Gorge Rd. having extended the privileges of their routes. The representatives of Buffalo Terminal Lines will co-operate in making arrangements for the entertainment programme, among others attending being B. P. Fraser, D.P.A., Pennsylvania Rd.; H. Parry, G.A.P.D., New York Central Rd.; W. B. Wheeler, G.W.P.A., Lehigh Valley Rd.; G. B. Wyllie, T.P.A., Illinois Central Rd.; H. M. Morgan, C.P.A. Grand Trunk Ry., and others.

The C.P.R. has been the victim for some time past of considerable thefts of iron and steel from its Angus shops. Montreal. Five employes were recently arrested in that connection.

Sir C. Rivers Wilson, President G.T.R., arrived in Montreal Aug. 3, and subsequently, in company with a number of officers of the company, started out on a special train to make an inspection of the company's lines in Canada and the United States, and to go over the Grand Trunk Pacific Ry. under operation and construction.

The Maritime Board of Trade passed a resolution, Aug. 19, to memorialize the Dominion Government to acquire such branch lines of the Intercolonial Ry. as may be feeders to it and to use every endeavor to encourage existing industries and promote new ones in the country which it controls from the railway standpoint.

A Montreal press dispatch states that the C.P.R. legal department has announced that it has discovered a conspiracy to obtain money from the C.P.R. and other similar companies, by means of false claims for damages for personal injuries received in alleged accidents. It is stated that a regular organization is in existence, with branches at various centres throughout Canada and the U.S. Charges are at present proceeding against three men in Montreal, and it is stated that other arrests will be made shortly.

W. H. Olive, who has been appointed General Travelling Agent, Intercolonial Ry., for the territory between Dalhousie, N.B., and Belleville, Ont., was born at St. John, N.B., Aug. 5, 1837. In 1898 he opened the first western coupon ticket office in St. John, and in 1874 was appointed Intercolonial Ry. city passenger agent there, which position he held until shortly after the change of government in 1878. In 1885 he removed to Montreal and engaged in insurance business and in 1896 was appointed Intercolonial Ry. Eastern Freight and Passenger Agent in Montreal, from which position he was removed while A. H. Harris was in charge of the traffic department. Subsequently he was appointed General Travelling Freight Agent and on J. Hardwell being appointed Chief Traffic Officer of the Board of Railway Commissioners Mr. Olive succeeded him as Assistant General Freight Agent I.C.R., which position he held until Aug. 1, 1909.

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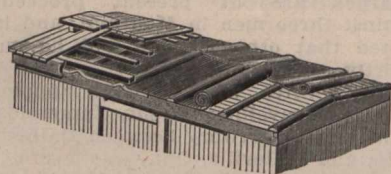
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Railway Rolling Stock Notes.

The Duluth, South Shore and Atlantic Ry. has ordered one locomotive from the Baldwin Locomotive Works, Philadelphia, Pa.

Between July 14 and Aug. 14, the Canadian Locomotive Co., Ltd., Kingston, Ont., delivered 8 mogul locomotives to the G.T.P.R.

The Dominion Car and Foundry Co., Montreal, is completing 7 caboose steel underframes for the Temiskaming and Northern Ontario Ry.

The International Ry. of New Brunswick has the following rolling stock on its line:—4 locomotives, 5 passenger cars, 7 box cars, and 55 flat cars. It will probably order in the near future 25 or 30 large flat cars for logging traffic, similar to those in use on the Halifax and South Western Ry.

Rhodes, Curry Co., Ltd., Amherst, N.S., advise having delivered to Canadian Northern Ry., between June 15 and Aug. 25, 400 box cars, 60,000 lbs. capacity, 5 baggage cars, 3 first-class coaches and 4 conductors' vans; to the Halifax and Southwestern Ry., 2 parlor cars, and to the Colonial Coal Co., 30 mine cars.

The C.P.R., between July 13 and Aug. 14, placed orders for rolling stock as follows: 1 sleeping car, 1 baggage and express car, 2 refrigerator cars, 84 box cars, 15 flat cars, 8 stock cars, 2 ballast cars, 4 coal cars and 1 cinder car at its Angus shops, Montreal; 4 vans at its Farnham shops, Que.; and 4 steel coal cars at the Dominion Car and Foundry Co., Montreal.

The C.P.R. between July 13 and Aug. 14, received the following additions to rolling stock: 5 D10 locomotives, 4 observation cars, 1 sleeping car, 1 baggage and express car, 272 box cars, 37 refrigerator cars, 7 flat cars, 4 stock cars, 2 ballast cars and 1 cinder car from its Angus shops, Montreal; 14 vans from its Farnham shops, Que.; and 79 steel coal cars

from the Dominion Car and Foundry Co., Montreal.

The C.N.R., between July 15 and Aug. 15, received the following additions to rolling stock: 100 steel underframe flat cars from the Dominion Car and Foundry Co., Montreal; 2 consolidation locomotives from the Montreal Locomotive Works; 90 box cars from the Crossen Car Manufacturing Co., Cobourg, Ont.; 144 box cars and 3 baggage cars from Rhodes, Curry & Co., Amherst, N.S., and 2 mail and baggage cars.

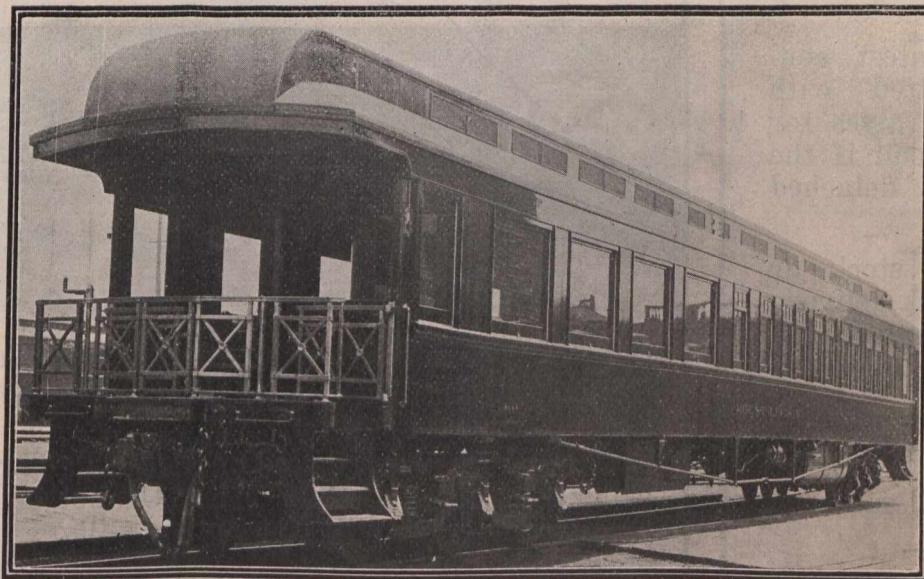
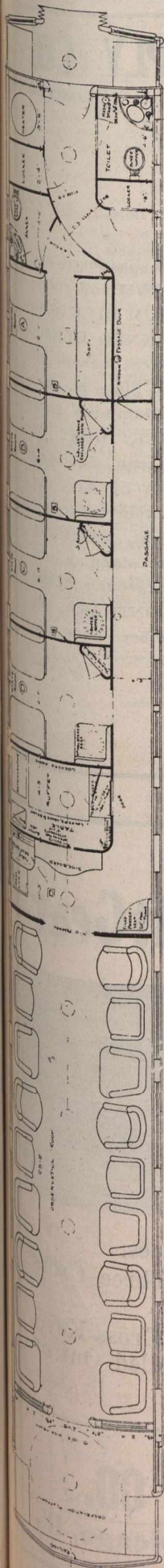
Following are dimensions and other details of the 100 flat cars which the C.N.R. has ordered from the Dominion Car and Foundry Co., Montreal, as mentioned in our last issue:

Capacity	60,000 lbs.
Length over end sills	37' 8½"
Length over striking plates	37' 10"
Length centre to centre of trucks	26' 10"
Width over side sills	9' 0¾"
Width over floor	9' 3¾"
Width over stake pockets	9' 11¾"
Height from rail to top of floor	4' 1¼"
Height from rail over sill	3' 11¾"
Height from rail to top of brake wheel	6' 4¾"
Height from rail to centre of drawbars	2' 10½"
Trucks	Arch bar
Bolsters and brakebeams	Simplex
Couplers	Simplex, side opening
Side bearings	Susemihl frictionless
Brake shoes	Steel back
Axles	Steel
Journal boxes	McCord M.I.
Air brakes	Westinghouse
Springs	M.C.B. class G.

In giving particulars of rolling stock ordered by the C.P.R. at its Angus shops, Montreal, in our last issue, we stated that 10 box cars had been ordered. This should have been 102. Of the rolling stock so ordered, all are being built to the usual specifications, which we have already given, with the exceptions, the van under construction at the Farnham shops will have side look-out windows in addition to the cupola, and the following additional particulars for the cars, as mentioned:

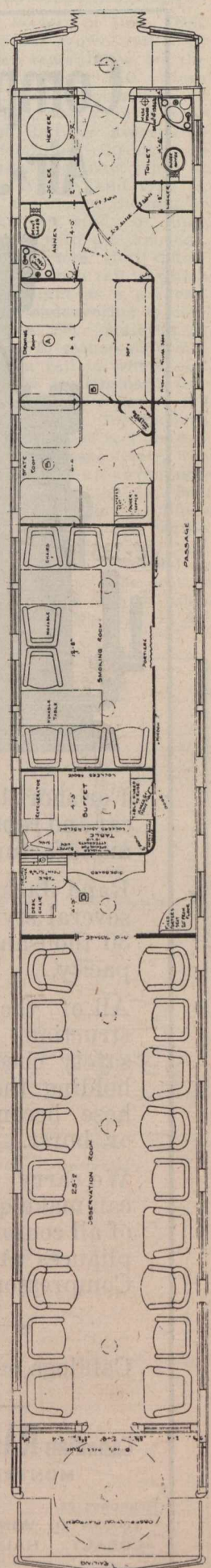
STEEL FLAT CARS.

Capacity	40 tons
Type	Steel frame
Length over buffer blocks	42' 2"
Width over frame	9' 0"

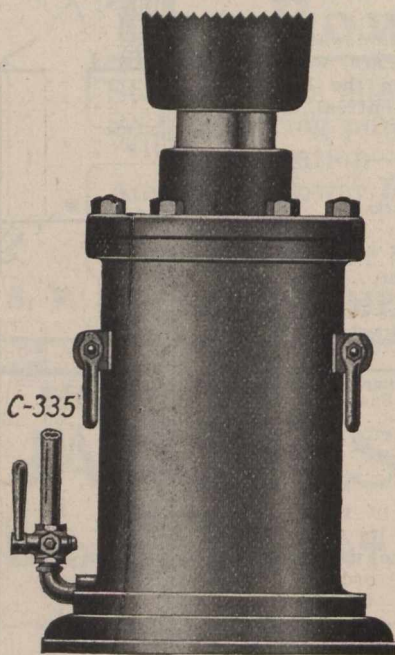


Canadian Pacific Railway Observation Cars.

In our July and August issues we gave a full description, dimensions, etc., of the 22 observation cars which the C.P.R. has built recently for transcontinental service. The illustration above gives a rear end and side view of one of these cars, and at either side of this page are floor plans of the two types of cars, half of which contain, in addition to the observation room, three staterooms and a drawing-room, the other half having a smoking-room, a stateroom and a drawing-room.



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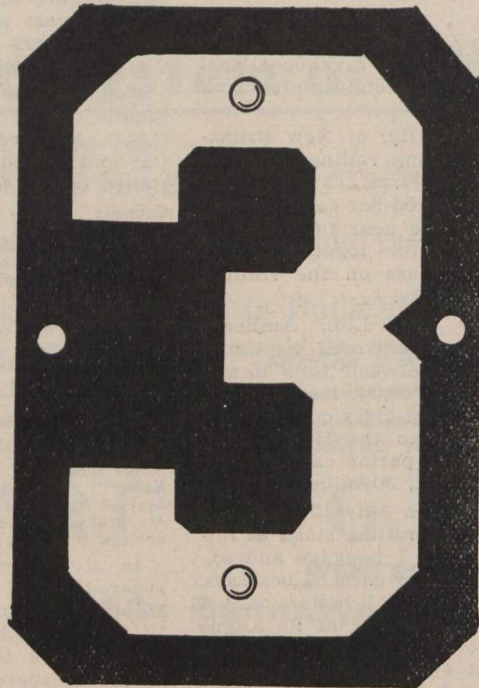
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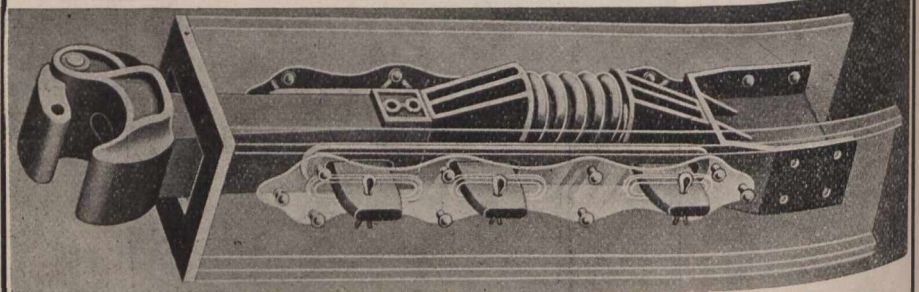
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Height from top of rail	4' 2 1/8"
Body bolsters	Built into frame
STEEL COAL CARS.	
Capacity	50 tons
Length inside	36' 9 1/2"
Height inside	5' 0"
Width inside	9' 6"
Length over end sills	38' 8"
Width over side sills	10' 0 1/2"
Body and underframe	Steel
Axles	5 1/2" by 10" M.C.B.
Paint	Metallic

Rails, Fastenings and Tie Plates.

A sub-committee of the Canadian Society of Civil Engineers has presented the following report: In view of the importance of the subject, and the wide field for investigation, the sub-committee considered it advisable not to undertake the formulation of a complete report, but to present to the general committee on transportation for its consideration, the present state of rail manufacture with respect to the sections which have been in general use for many years and the contemplated departure from those sections, and as the type of rail is necessarily preliminary to a consideration of the fastenings or the tie plates, the latter items were not considered at this time. It has therefore included in its report natural scale drawings of the following sections:

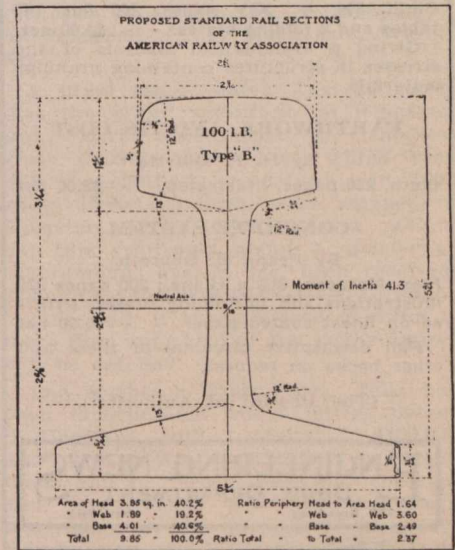
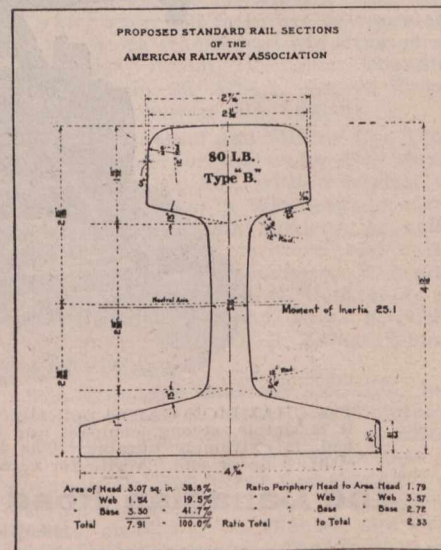
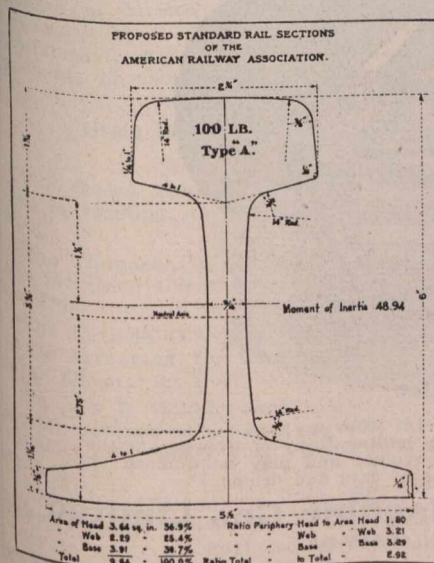
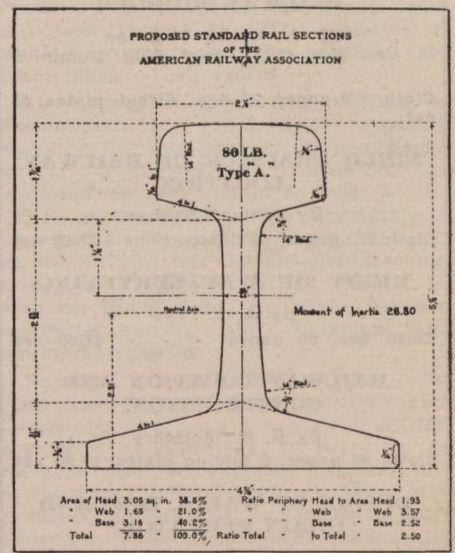
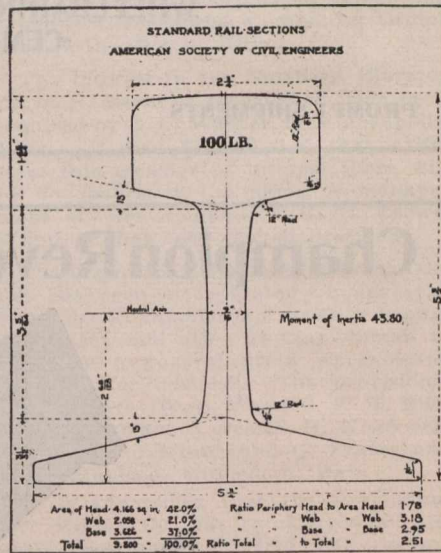
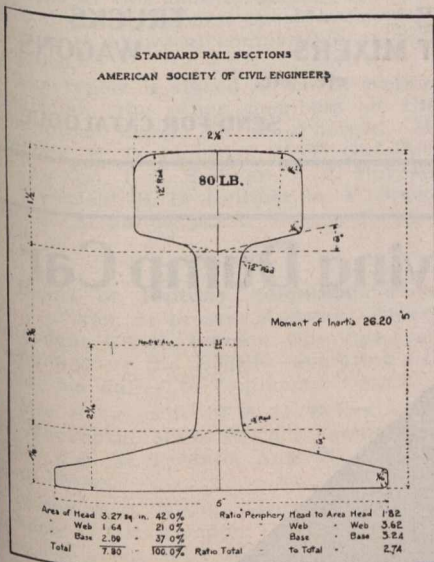
American Society of C. E.	80 lbs. per yd.
American Society of C. E.	100 " "
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American Railway Ass'n., Type A	100 " "
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American Railway Ass'n., Type B	100 " "
Pennsylvania Railroad—Standard	85 " "
Pennsylvania Railroad—Standard	100 " "
N.Y.C. & H.R.R.R.—Standard	85 " "
N.Y.C. & H.R.R.R.—Standard	100 " "
Canadian Pacific Ry.—Standard	85 " "

The sections known as the Am. Soc. C.E. Sections were, after several years of consideration, recommended by a

committee of that Society in June, 1893, and their adoption has grown until they are now in almost general use on the railways of Canada and the U.S. Since their introduction, certain objections to them have developed, and about a year ago the American Railway Association offered for consideration, through its committee on rails, two new types of section, known as type A and type B, each representing a different thought or principle of design. A study of these sections, as compared with the Am. Soc. C.E. sections, will disclose vital differences. Type A represents a rail in which girder strength is sought as a predominant feature, while endeavoring to conserve the disposition of material in head, web, and base, to secure good mill results. Type B is a rail in which mill results are sought as predominant features, while endeavoring to conserve the girder strength required for modern heavy wheel loading. These sections appear to have secured respectively, the salient features sought, in an advantageous way as compared with the Am. Soc. C.E. sections; and experimental rollings have been made of each section within the past few months, from which it hopes to derive reliable information within the next two years. The section used as standard by the Pennsylvania R.R. might be classed with type B, al-

The Great Eastern Railway of England, with one of the largest termini in London and a great suburban traffic, has lost passengers at the rate of 25,000,000 annuum since the advent of the London County Council's electric tramways, and this in spite of a gradual reduction of its fares amounting in some cases to 40%. The council tramways are a municipal undertaking, and while giving good service have been run hitherto at a loss, the deficit being paid out of the rates, so that the railway company, as a large ratepayer, is naturally aggrieved at having to contribute to the support of a successful rival.

The Board of Railway Commissioners has postponed the operating sittings fixed for Ottawa Sept. 7, to Sept. 14, at 10 a.m. The date for the Sept. traffic sittings remains unchanged, and traffic matters will be heard at Ottawa, Sept. 21, at 10 a.m.



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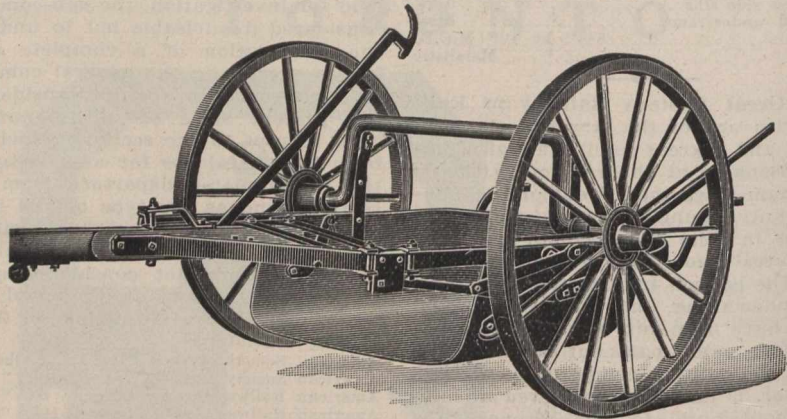
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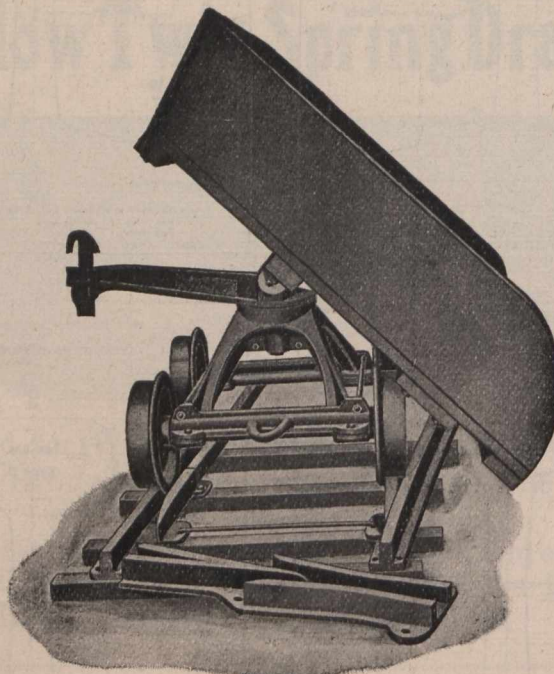
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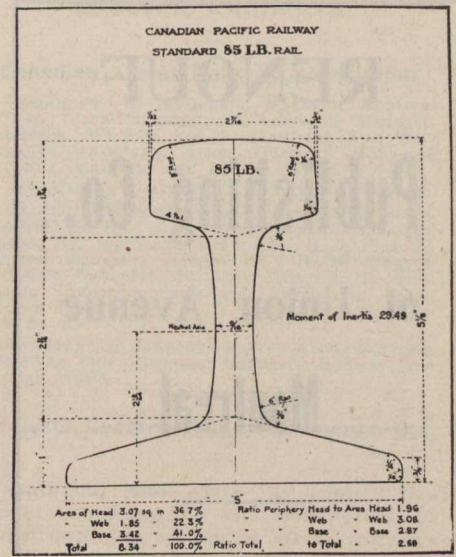
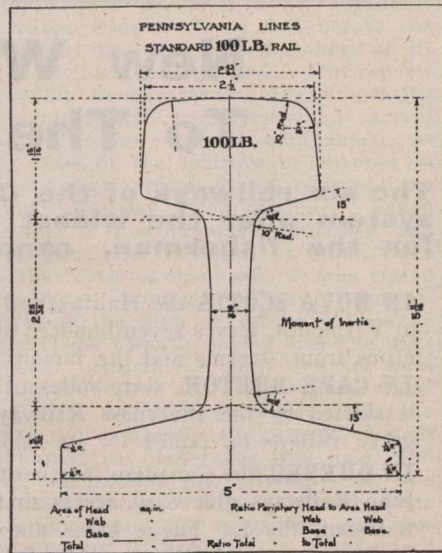
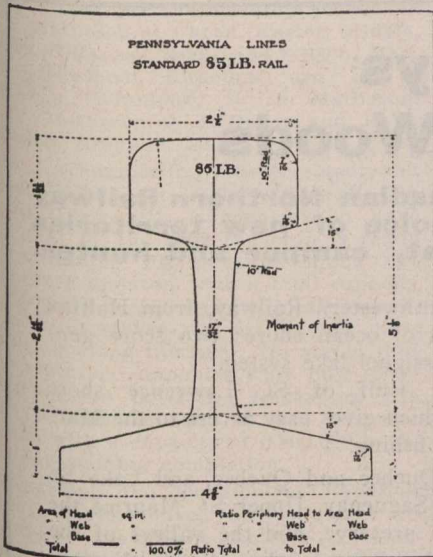
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though differing in detail; while the section used as standard by the N.Y.C. & H.R.R.R. is clearly of type A. The C.P.R. standard 85-lb. section is between the two typical sections.

It is believed by the sub-committee that a careful study of these sections will prove not only interesting but most instructive, and that it would be inopportune at this time to present for consideration any general specification pertaining to chemical composition or mill practice.

The report is signed by H. G. Kelley, Chairman, the other members of the committee being: D. MacPherson, H. Holgate, H. D. Lumsden, F. P. Gutelius, W. McNab, J. G. Sullivan, T. C. Burpee, A. Stansfield, B. B. Kelliher, A. F. Stewart, L. A. Vallee, H. A. Woods, R. McColl.

Board of Railway Commissioners.—A. J. Nixon, at present Assistant Superintendent, G.T.R., London, Ont., has been appointed as the Board's operating officer, his duties to commence Oct. 1.

Mrs. Sykes, wife of S. H. Sykes, C.E., of Mackenzie, Mann & Co.'s engineering staff, died at Toronto, Aug. 25, after a long illness.

When A. J. Nixon, Assistant Superintendent G.T.R., London, Ont., leaves that position about Sept. 15 to become operating officer Board of Railway Commissioners, at Ottawa, he will probably be succeeded by C. G. Bowker, at present Trainmaster at Stratford, Ont., who will probably be succeeded by J. A. McLar-

Grain Elevator Notes.

The Goose Lake Grain and Lumber Co., is erecting an elevator at Harris, Sask.

The Thunder Bay Elevator Co., Ltd., has increased the number of its directors from three to seven.

The National Elevator Co. is reported to be arranging for the erection of a large elevator at Fort William.

Paulson & Winkler are reported as having decided to build an elevator with capacity for 25,000 bush. at Loreburn, Sask.

The Atlas Elevator Co., Ltd., has been licensed under the Foreign Corporations Acts to carry on business in Manitoba and Saskatchewan.

Contracts have been awarded for the construction of elevators at Bruderheim and Pippin, Alta., for J. Gillespie and J. R. Spier, respectively.

The Claresholm Lumber and Grain Co. is reported to have disposed of its elevators at Granum and Stavely, Alta., to C. Terwilliger, Sioux City, Ia.

The Farmers' Elevator Co. of Killam, Ltd., has been incorporated under the Northwest Territories Companies Ordinance, with office at Killam, Sask.

The interest in the Northern Elevator Co. of N. Bawlf is reported to have been acquired by E. C. Warner, of Minneapolis, Minn. It has been stated that apart from this transfer of interest there will be no change in the name or management of the company. G. R. Crowe, Winnipeg, has been elected President.

The Clanwilliam Farmers' Elevator Co. Ltd. has been incorporated under the Manitoba Companies Act, with a capital of \$10,000, and office at Clanwilliam, to carry on a general grain warehousing and elevator business. The provisional directors are: W. B. Waddell, W. T. Bielby, R. Greenlaw, C. Averill, H. Woodcock, J. Proven, of Minto, and G. Frazer and H. F. Maulson, Minnedosa, Man.

It is announced that the Brackman-Ker Milling Co. has transferred all its grain elevators in Alberta with the exception of its storage plants at Edmonton and Strathcona, to the Alberta Grain Co., by which they will in future be operated. The elevators transferred are situated at Wetaskiwin, Leduc, Hobbema, Ellerslie, Stoney Plain, St. Albert, Bittern Lake, Fort Saskatchewan and Lamont.

The Dow Cereal and Milling Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$200,000 and office in Winnipeg, to carry on a general milling business, to build and operate grain elevators, and carry on a general elevator business. The provisional directors are: G. Dow, M. L. B. Colquhoun, Pilot Mound, Man.; E. Nicholson, D. H. Bain, G. S. Laing, Winnipeg.

The Standard Elevator Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$250,000, and office at Winnipeg, to deal in wheat, grain and other cereals, and to own, construct or otherwise acquire, and operate elevators, warehouses, etc., for the storage of grain. The provisional

directors are W. K. Chandler, E. Lockington, H. Phillips, H. W. Whitla, E. A. Fletcher, Winnipeg.

It was recently reported that the C.P.R. was about to establish a sacking plant at Vancouver, to deal with the shipment of grain at that point. Press reports, however, state that a communication was recently received by C.P.R. officials at Vancouver, from W. Whyte, Second Vice-President, to the effect that no decision had been arrived at in the matter of making provision for the handling of grain there.

An extraordinary general meeting of shareholders of the Carlyle Farmers Elevator Co. was held at Carlyle, Sask., Aug. 3, to consider as to whether the proposed elevator should be built on the C.P.R. or the C.N.R. The directors had already decided that it was to be built on the C.P.R., but the shareholders decided, by a majority of 26, that it be built on the C.N.R. Upon the decision becoming known, the President and directors resigned.

Randall, Gee and Mitchell, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$25,000 and office at Winnipeg, to carry on an elevator and warehouse business, and to erect and operate grain elevators, and to build, purchase or otherwise acquire and operate steam and other vessels for the transport of passengers and freight. The provisional directors are F. W. Piche, H. V. Lloyd, C. S. Blanchard, A. Campbell, C. Y. Mackenzie, Winnipeg.

A press report dated Aug. 19 states that the grain elevators at Kingston, Ont., have experienced the smallest grain delivery since 1884, which year had the smallest on record. In 1908 about 15,000,000 bush. were shipped to Kingston, which constituted a record, but this year only about a quarter of that amount has, so far, been received. Though cargoes will be received throughout the fall, it is considered doubtful if more than one-third of last year's figures will be reached.

The Matheson Grain Co., Ltd., has been incorporated under letters patent in Manitoba, with a capital of \$100,000 and office at Winnipeg, to buy and lease lands and to erect buildings thereon, and equip same with the necessary machinery for the purpose of receiving, warehousing and delivering grain, etc.,

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and to take over the elevators owned by T. S. Matheson at Caron, Keeler, Midale, Griffin, Guernsey, Sask., and Stilson, Man. The provisional directors are: T. S. Matheson, Winnipeg; J. S. Matheson, R. M. Matheson, J. McQueen and J. W. Fleming, Brandon, Man.

E. J. Chamberlin, Vice-President and General Manager G.T.P.R., while in Montreal recently, is reported to have said that by the time the crop is ready there will be 102 elevators along the route to Edmonton, with a total capacity of 3,500,000 bush., ready to deal with it. In addition, there will be loading platforms all along the line. He stated that four elevator companies were now operating on the G.T.P.R. Regarding the Fort William elevator, he said that one section with a capacity of 3,800,000 bush. was approaching completion.

Regarding the question of handling wheat at Vancouver for shipment to Europe by the Pacific route, F. F. Bus- teed, General Superintendent C.P.R. Pacific Division, was reported to have stated recently that press reports to the effect that the C.P.R. was doing nothing in the matter were incorrect. When the time comes the C.P.R. will be ready, and is even now preparing to deal with all the grain that will come forward for shipment from that point. What the preparations were he was not in a position to state, but judging from previous statements on the point, it may be surmised that the method to be adopted will be that of sacking the grain.

The number of cars of grain inspected from Sept. 1 to the close of navigation at Port William and Port Arthur, Dec. 12, 1908, was 55, 264. Of this number, 35,258 moved over the C.P.R., 15,823 over the C.N.R., 1,296 over the G.T.P.R., and 2,887 over the G.N.R. to Duluth, Minn. The grain inspected was divided as follows: wheat, 46,707 cars, 49,042,350 bush.; oats, 5,316 cars, 9,568,800 bush.; barley, 2,157 cars, 2,588,400 bush.; flax, 1,078 cars, 1,078,000 bush.; rye, 6 cars, 7,200 bush.; a total of 62,284,750 bush. During the same period, grain was received at the points named, as follows: wheat, 39,429,747 bush.; oats, 7,237,431 bush.; barley, 1,903,315 bush.; flax, 895,295 bush.; rye, 1,077 bush.; a total of 49,466,865 bush. The shipments were: wheat, 36,013,617 bush.; oats, 5,953,201 bush.; barley, 1,450,864 bush.; flax, 519,913 bush.; a total of 43,935,595 bush. The difference between the quantity received and the quantity shipped was unloaded at other points or absorbed locally.

Among the Express Companies.

The Canadian Northern Ex. Co. has opened a waybill office at Bowsman, Man.

S. Coates was sentenced to 5 years in the penitentiary, Aug. 5, on his pleading guilty to forging and uttering Dominion Ex. Co.'s money orders, at Montreal.

Complaint is being made in Winnipeg as to the alleged restricted limits, within which express companies deliver matter there. Since the companies first operated in the city, it has grown considerably, but it is claimed that the original limits have been maintained.

Press reports state that express companies operating throughout the Do-

minion have prepared a new schedule of rates, which will be laid before the Board of Railway Commissioners at its Sept. sittings for approval. The reports probably have reference to joint tariffs governing small packages when carried by two or more express companies. At the close of the hearing in Toronto in June, after argument of counsel, the Chief Railway Commissioner asked counsel if the express companies had considered the question of joint rates on that class of business. It was stated that many complaints had been received of the high charge on a package by express, when it passed over the lines of two companies, and counsel were asked to confer with the express companies to see if they were willing to make any concession in respect of such packages. A conference was held, and later the Board was advised that the companies were willing to make some concession, and the companies are now endeavoring to work out a schedule of charges to govern the traffic referred to, which will be somewhat less than the present charges on the same class of business.

Telegraph and Cable Matters.

The C.P.R. Telegraph Department has announced a reduction in cable rates between Australia and British Columbia, from 18c. to 9c. a word.

Miss M. G. Easson, daughter of R. F. Easson, Press Superintendent, Great Northwestern Telegraph Co., Toronto, was married recently to J. H. Stovel, of Cobalt, Ont.

J. J. Ross, heretofore supervisor of electric signals, M.C.Rd., has been appointed Superintendent of Telegraphs, with office at Detroit, Mich., succeeding the late E. H. Millington, who died recently at St. Thomas, Ont.

An Ottawa press dispatch states that the Department of Marine is considering the question of erecting three additional wireless telegraph stations on the Pacific coast, and that they are to be adapted for commercial purposes as well as for signalling.

J. Kent, Manager, and W. J. Camp, Electrical Engineer C.P.R. Telegraphs, left Montreal, Aug. 10, for an inspection trip over the western lines. B. S. Jenkins, General Superintendent of Telegraphs, Western Lines, joined them at Winnipeg, and the various superintendents were picked up en route through their divisions.

The Marconi wireless telegraph station at Glace Bay, N.S., was destroyed by fire, Aug. 21. The station, which was the only one on this side of the Atlantic capable of dealing with the trans-Atlantic wireless business, was opened in 1907, and arrangements were made at the recent annual meeting of the company in London, Eng., for the duplication of the plant. The business, which had grown to considerable dimensions, is temporarily suspended, but it is understood that the work of getting a new plant into order will be taken in hand at once. The official on the spot is stated to have said that the experience gained in constructing the station just destroyed would enable the company to put up a new one more capable of dealing with amount of work they now had to cope with,

ELECTRIC RAILWAYS

Canadian Street Railway Association

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EXECUTIVE COMMITTEE:—P. Dubee, 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.

Brandon, Man.—The city council has under consideration the desirability of constructing a system of street railways in the city. A proposal was made by J. H. Ingram, but the council, while it has not rejected it, is more favorably inclined to the construction of a municipal system.

Brantford St. Ry.—The laying of the new tracks and the second track on Colborne Street, Brantford, Ont., has been completed on one section, and the cars began running over it Aug. 10. The relaying and second track work on the rest of the street will be gone on with as soon as the concrete foundations have been laid. The whole of the lines in the city are being relaid with 80-lb steel, which is being supplied by the Algoma Steel Co. The special work is being supplied from England. (June, pg. 447.)

The British Columbia Electric Ry. Co. has made application to the Provincial Government for 30,000 miners inches of water from the Indian River, near Vancouver, and proposes to construct an auxiliary power plant.

Work has been started on the electrification of the line to Cloverdale. The poles being used are double the height of the ordinary poles and will carry both the trolley wires and the high voltage wires that will convey the power to Chilliwack.

Tracklaying has been started on the first section of the line from New Westminster to Chilliwack, which extends to Abbotsford, 38 miles. It is expected that this work will be completed by the end of November. Contracts are reported to have been let for the grading of the remaining mileage to Chilliwack, and for a twelve mile branch to the property of the Puget Sound Ditch and Dredging Co. (Aug., pg. 608.)

Calgary, Alta.—The city council placed in operation Aug. 12, a further section of its municipal street railway. This section extends over the Louise bridge for half a mile to the foot of the hill, where a temporary loop has been placed. The commissioners have filed with the Dominion Government plans for a number of extensions, which it is contemplated to construct in the future. (Aug., pg. 608.)

Dunnville, Wellandport and Beamsville Electric Ry.—The by-laws granting aid to the company for the construction of an electric railway through the townships, have been passed by Moulton and Gainsboro. The two townships have voted \$5,000 each. The company pro-

poses to construct a line from Dunnville via Wellandport to Beamsville, Ont., and has already graded some few miles from Dunnville. (Aug., pg. 608.)

Fort William, Ont.—The taxpayers have, by a majority of 632, voted in favor of constructing a second track on the street railway in the city. It is said that the laying of the second track, as well as the constructing of an extension of the existing lines, will be started at an early date. (Aug., pg. 608.)

Hamilton Radial Ry.—The Dominion Power and Transmission Co., which owns this electric railway running from Hamilton to Oakville, Ont., is said to be making arrangements for the extension of its line from Oakville to Toronto. (July, 1908, pg. 509.)

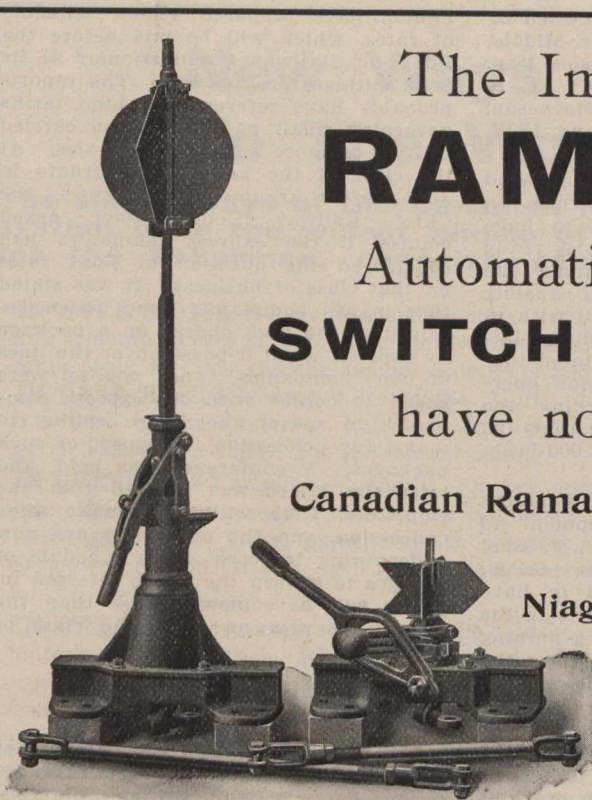
Hamilton Street Ry.—The Dominion Power and Transmission Co., which owns this electric railway, has given notice to the Hamilton city council that it is prepared to go on with the relaying of the tracks on James street, from Herkimer street to the Incline Ry., and to do the paving between the rails at the same time. It is said that the city will repave the other portions of the street at the same time. (June, pg. 447.)

Laval Electric Co. was given power at the Quebec Legislature's last session, to construct tramways, wharves, docks, and other necessary buildings, and to operate steam and other vessels in connection with the businesses which it is authorized by its act of incorporation to carry on.

London and Northwestern Ry.—At a recent meeting of the provisional directors of this company, which was incorporated last session of the Dominion Parliament, held in London, Ont., it was decided to proceed with the sale of shares with the object of raising sufficient funds to engage an engineering staff to make surveys of the proposed route. The route is from London to Sarnia, with a branch from Lobo to Grand Bend. It was also decided that application be made to the different municipalities through which the line will pass for bonuses to aid in the financing of the proposition. Alderman D. A. Stewart, of London, is one of the principal promoters of the company. (Mar., pg. 173.)

Montreal and Southern Counties Ry.—The by-law granting a 20 year franchise to the company for a street railway in St. Lambert municipality, was finally passed Aug. 11. The work of constructing the line through the municipality will be gone on with at once. (June, pg. 523.)

Nipissing Central Ry.—The Board of Railway Commissioners has approved of the route of this electric railway from Cobalt to Haileybury, 5.1 miles. The line starts at Cobalt and runs northerly through Argentite and Port Cobalt to Haileybury. It will serve a population estimated at 25,000. The maximum gradient is 5%, and the maximum curvatures 20 degrees. The line crosses the Temiskaming and Northern Ontario Ry. on an overhead timber trestle 1,200 ft. long. Construction has been in progress for some time, and it is expected that the line will be completed to Haileybury by the end of Oct. We are advised that no contracts for power, electrical equipment or rolling stock have yet been let. The company proposes, upon the com-



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pletion of the line into Halleybury, to undertake the construction of an extension to New Liskeard, a further distance of six miles. G. E. Henry is Chief Engineer in charge of construction. (Aug., pg. 609.)

Peoples Ry.—Surveys are being made for this projected line of electric railway. H. B. Stewart is in charge of the surveys, and A. N. Warfield, New Hamburg, Ont., is consulting engineer. The map of the projected lines show a main line running from New Hamburg through Zubrig, Tavistock, Stratford, Sebringville, Mitchell and Dublin to Seaforth. A line runs southerly from New Hamburg through Haysville, Plattsville, and Innerkip to Woodstock, and northerly to Wellesley. From Sebringville, it is proposed to run three branch lines: one northerly through Rostock to Monkton; one southerly through Avonbank and Avonton to St. Marys; and one south-westerly through Carlingford, Russeldale, Fullerton, Farquhar to Exeter. The survey has been completed from New Hamburg to Wellesley. The township of Wellesley on July 14 voted in favor of a by-law to subscribe \$15,000 of preference stock in the company by way of bonus. The surveys have been completed from New Hamburg to Stratford, and it is hoped to be able to start construction at an early date. W. A. Bugg, who is active in the promotion of the company, stated recently that it had been decided to move the offices of the company to Stratford. (Aug., pg. 609.)

Quebec and Saguenay Ry.—The Quebec Legislature at its last session, continued and renewed the rights and privileges conferred by the company's act of incorporation. The construction of the railway is to be commenced within two years and completed within five years. R. Forget, W. McL. Walbank, W. G. Ross, Montreal; Hon. E. B. Garneau, Hon. C. Langelier, and Hon. P. A. Choquette, Quebec, are among the promoters. (July, pg. 523.)

Quebec County Ry.—The Quebec Legislature at its last session, directed that the company's powers of construction shall not be exercised over any of the roads under the control of the Quebec North Shore Turnpike Trust, without the consent of that body, nor along the road belonging to a municipality without the consent of such municipality. The company is also given power to lay out pleasure grounds, and to acquire lands for building lots, etc., in connection with its business.

Rainy River Radial Ry.—Application will be made at next session of the Dominion Parliament for an act to incorporate a company with this title to construct and operate a line of railway from the International boundary near Fort Frances to the Lake of the Woods, near the mouth of Big Grassie River, and from that line of railway to the International boundary near Rainy River; to the International boundary near the Long Sault Rapids, on the Rainy River; to the Lake of the Woods near the mouth of the Little Grassie River; to the International boundary near the mouth of Rainy River, and from Fort Frances to the southwest shore of the northwest bay of Rainy Lake. Power will also be sought to carry on the general business of a telephone, express, power, light and heat,

shipping, warehousing and forwarding company and general commission merchant; to build and operate hotels, parks and pleasure resorts, coal and ore docks, grain elevators, etc., and to enter into agreements with other railway and transportation companies and municipalities. W. A. Dowler, Fort William, is acting for the applicants.

St. Thomas Street Ry.—The St. Thomas, Ont., city council has had under consideration a report of the commissioners operating the street railway with reference to the repairs which are urgently required. The estimated cost of the repairs which it is considered should be made at once is about \$7,000. It was decided to undertake certain of the work at once, and to take up the consideration of the less urgent parts of the work at a time when it could be undertaken without interfering with the earning capacity of the line. (June, pg. 449.)

Toronto and York Radial Ry.—Engineers have been going over the Mimico division with a view of securing a new route at a number of points between Sunnyside and Port Credit, Ont. It is desired to secure a private right of way so as to run faster cars and to be able to handle freight traffic to greater advantage than can be done over the present route, which is almost entirely along the public road. The adoption of a new route would enable the company to cut out the sharp curves, of which there are a number along the line. It is thought probable that a new bridge will be constructed across the Etobicoke River. (June, pg. 449.)

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for June, \$200,624; operating expenses, \$116,025; operating earnings, \$84,599; renewal funds, \$13,958; net earnings, \$70,641; approximate income from investments, \$13,550; net income, \$84,191; against, \$157,727 gross earnings; \$96,729 operating expenses; \$60,998 operating earnings; \$10,750 renewal funds; \$50,248 net earnings; \$11,036 approximate income from investments; \$61,284 net income for June, 1908. Aggregate gross earnings for 12 months ended June 30, \$2,298,778; net earnings, \$1,027,116; against \$1,926,924 gross, and \$912,928 net for same period 1907-08.

Calgary St. Ry.—Gross earnings for July, \$5,392; expenses, \$1,397; net earnings, \$3,995.

Halifax Electric Tramway.—Railway receipts for 3 weeks ended Aug. 21, \$14,828.54, against \$13,519.74 for same period 1908.

Hull Electric Co.—The Quebec Legislature passed an act last session altering the date of the annual meeting to the first Wednesday in Sept. in each year.

London St. Ry.—Gross earnings for July, \$24,802.95; operating expenses, \$15,767.84; net earnings, \$9,035.11; against, \$22,062.63 gross earnings; \$14,556.24 operating expenses; \$7,506.39 net earnings for July, 1908. Aggregate gross earnings for 7 months ended July 31, \$135,978.89; operating expenses, \$97,176.72; net earnings, \$38,802.17; against, \$129,054.05 aggregate gross earnings; \$95,616.26 operating expenses; \$33,437.79 net earnings for same period 1908.

Montreal Central Terminal Co.—A meeting of the shareholders was held Aug. 9, for the purpose of authorizing the issue of first mortgage bonds, and to authorize the making of agreements with other companies. F. E. Came is Secretary.

Montreal St. Ry.—Passenger earnings for July, \$334,237.57; miscellaneous earnings, \$11,335.99; total earnings, \$345,573.56; operating expenses, \$180,412.11; net earnings, \$165,161.45; city percentage on earnings, \$34,945.22; interest on bonds and loans, \$14,439.62; rent leased lines, \$498.67; total charges, \$49,883.51; surplus, \$115,277.94; against, \$313,353.20 passenger earnings; \$13,171.19 miscellaneous earnings; \$326,524.39 total earnings; \$162,413.90 operating expenses; \$164,110.49 net earnings; \$32,317.33 city percentage on earnings; \$16,583.23 interest on bonds and loans; \$444.43 rent leased lines; \$49,344.99 total charges; \$114,763.50 surplus for July, 1908. Aggregate passenger earnings for 10 months ended July 31, \$3,064,270.17; miscellaneous earnings, \$73,276.66; total earnings, \$3,137,546.83; operating expenses, \$1,894,815.41; net earnings, \$1,242,731.42; city percentage on earnings, \$204,187.00; interest on bonds and loans, \$150,763.70; rent leased lines, \$4,824.01; total charges, \$359,774.71; surplus, \$882,956.71; against, \$2,939,601.00 aggregate passenger earnings; \$59,686.92 miscellaneous earnings; \$2,999,287.92 total earnings; \$1,184,428.44 operating expenses; \$1,184,859.48 net earnings; \$188,992.65 city percentage on earnings; \$175,785.05 interest on bonds and loans; \$4,130.86 rent leased lines; \$368,908.56 total charges; \$815,950.92 surplus for same period 1907-08.

Port Arthur-Fort William Street Ry.—The total earnings for June were \$11,455.94, and the total operating expenses \$5,233.37, leaving net earnings of \$6,222.57. The car mileage was 38,570; the earnings per mile 29.70; operating per car mile 13.57; net earnings per car mile, \$16.13.

South Western Traction Co.—At the annual meeting, Aug. 11, the retiring officers and directors were re-elected. The reports as to earnings were stated to be satisfactory. It was stated that the earnings for every month this year showed an increase, the earnings for July amounting to over \$15,000, an increase of \$2,000 over those for July, 1908.

It is probable that an order for the sale of the company's line, franchises and other property will shortly be granted by the courts. The business has been managed for some little time past by receivers on behalf of the English bondholders. The financial difficulties of the company arose from handling the floating debt of \$100,000 incurred by the adoption of the three-phase system of operation and its necessary abandonment.

Toronto Ry.—Gross earnings for June, \$330,608; operating expenses, \$157,234; net earnings, \$173,374; against, \$302,242 gross earnings; \$155,221 operating expenses; \$147,021 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, \$1,814,283; net earnings, \$882,744; against \$1,675,548 gross and \$724,562 net for same period 1908. Gross earnings for July, \$329,403.94, against \$299,245.75 for July, 1908. The amount of percentage paid to the city for July, was \$65,963.91, against



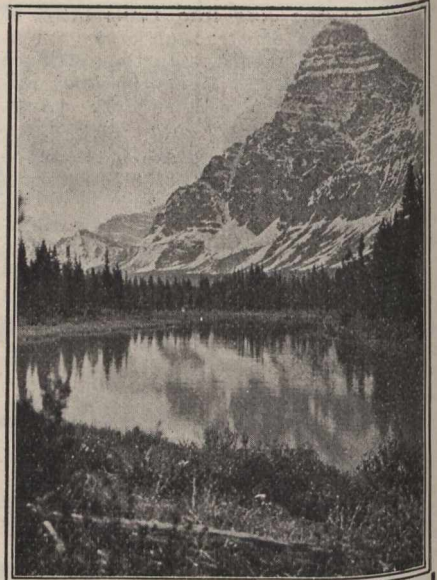
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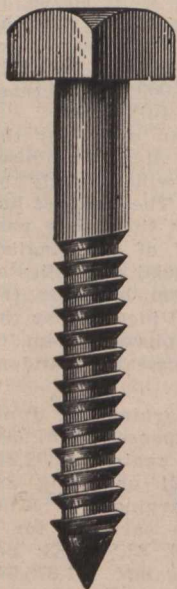
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Winnipeg Electric Ry.—Gross earnings for June, \$193,800; operating expenses, \$95,100; net earnings, \$98,700; against, \$171,100 gross earnings; \$86,400 operating expenses; \$84,700 net earnings for June, 1908. Aggregate gross earnings for 6 months ended June 30, \$1,210,800; net earnings, \$602,200; against \$1,019,100 gross earnings, \$509,900 net earnings for same period 1908.

Electric Railway Notes.

The Calgary St. Ry. has received a further 2 semi-convertible cars, from the Ottawa Car Co.

Calgary ratepayers by a majority of 510 decided, Aug. 5, in favor of running cars on the municipal street railway on Sundays.

The Hull Electric Co., has added to its rolling stock, 2 vestibule cars, with 21 ft. bodies, fitted with longitudinal seats, built by the Ottawa Car Co.

D. Lizabel was fined \$5 and costs recently at Montreal, for having retained coat buttons, after having left the Montreal St. Ry. service.

The Montreal St. Ry. Mutual Benefit Association's picnic was held at Dominion Park, Montreal, during the week ended Aug. 21 and Aug. 23 and 24.

W. Gillespie, a roadmaster on the Toronto Ry., fell from a car roof while fixing a trolley pole and received considerable injuries July 26.

The Ottawa Electric Co., has recently received 2 additional pay-as-you-enter cars from the Ottawa Car Co. A description of these cars has already been given in a former issue.

The Montreal and Southern Counties Ry. has ordered 8 centre aisle interurban cars, with bodies 49' 4" long, each provided with a smoking compartment, from the Ottawa Car Co.

The Board of Railway Commissioners has approved of Standard Local Passenger Tariff C.R.C. 8, on a basis of 2½c. a mile, for the Quebec Ry., Light and Power Co.'s Montmorency Division.

The request of the Winnipeg Electric Ry., for permission to erect poles on certain streets in the city was referred to the city solicitor, Aug. 3, for advice as to the controlling power on the streets.

The joint board controlling the Fort William and Port Arthur electric railways intends to prohibit smoking on the cars, and it is understood that the smoking compartments on closed cars will be abolished.

The first accident on the Calgary St. Ry., occurred Aug. 6. A letter carrier alighted from a car while it was in motion, passed round the back of the car, and was run down by a car on the other track.

The Winnipeg Electric Ry. is gathering statistics connected with the issues of transfers. A new form of transfer is said to be under consideration, with the view of preventing abuses, which have frequently led to prosecutions.

Geo. Cruickshanks has entered an action against the Winnipeg Electric Ry., claiming \$2,000 damages for alleged assault and battery, and for being wrongfully ejected from a street car belonging to the company by one of its servants.

The ratepayers of the municipality of Assinibola voted July 22 by a majority of 233 in favor of the operation of street cars in the villages of St. Charles and Headingly, near Winnipeg. The by-law was finally adopted at the council's August sitting.

The B.C. Electric Ry. has ordered 2 combination smoking and baggage cars, 55 ft. long over all, and 2 combination passenger and smoking compartment vestibule cars, 55 ft. long over all, for use by the Vancouver Power Co., from the Ottawa Car Co.

Guy Boyer, heretofore Superintendent of Car Construction, Montreal St. Ry. Suburban Lines, has been appointed Superintendent of Construction of the whole system. He has had an efficient training in the motive power department, in which he has served in various capacities.

The Winnipeg Electric Ry. Co. has appealed to the County Judge against the conviction of one of its motormen by the Winnipeg Police Magistrate for not stopping his car when the Ninetieth Rifles were crossing the track on June 1. The appeal will probably be heard in September.

Complaint was made, Aug. 21, to the Brantford city council, that the Brantford St. Ry., was refusing to carry passengers from the north ward to the outside gate of Mohawk Park, Hamilton road, for 5c. The committee having charge of such matters has announced that no person should pay more than 5c.

The wage rate of the carmen on the Fort William and Port Arthur street railways has been increased, for beginners, as follows:—first 6 months, 21c. an hour against 20c.; second 6 months, 23c. against 22½c.; second year, 25c. against 22½c.; third year, 26c. against 25c.; and beginning with the fourth year, the maximum rate of 27½c. an hour, which is unchanged.

The Winnipeg Electric Ry. is starting a campaign against the practice of children and young people stealing rides on the vestibule steps while the conductor is collecting fares, jumping on the fender, and holding on to the cars while riding bicycles and on skates. A number of cases have been dealt with in the juvenile court, chiefly with the intention of bringing to notice of parents, the danger involved, which might be avoided by proper control of the children.

The Judicial Committee of the Privy Council has refused the Montreal St. Ry. leave to appeal from the judgment of the Supreme Court of Canada, by which the city's claim for \$39,691.80, the amount of assessment for the years 1902 to 1905 inclusive, on the company's poles, wires, rails and motive power, was allowed. The company claimed that the contract with the city, exempted the property from all taxes, excepting the ordinary assessments for real estate, water rates and school taxes.

As the result of the accident which took place July 25, at the corner of Logan and Main streets, Winnipeg, by which the death of two pedestrians was caused, T. C. Taylor, motorman in the employ of the Winnipeg Electric Ry., in charge of the car alleged to be responsible, was committed for trial on a charge of manslaughter, Aug. 5. The magistrate said that while there might not be sufficient evidence to commit, a

section of the criminal code gave him discretionary powers, which he was acting upon.

The city of Hamilton recently applied to the Ontario Railway and Municipal Board to recover \$2,418.45 from the Hamilton St. Ry. for repairs to the asphalt pavement on certain streets and for 2 ft. outside of the rails of its lines, claiming this amount in the nature of damages for breach by the company of its obligation to repair the streets named in the petition. The question arose as to whether or not the city could recover for damages through the intervention of the Board, involving the subject of its jurisdiction, which, in this particular instance, the board did not want to assume unless it was clearly its duty to do so, as it might mean inroads on the jurisdiction of the courts. The board finally decided to adjourn the hearing until after the Court of Appeal has determined the question of its jurisdiction. In filing its opinion the board quoted extensively from the act creating it, and gave the city leave to amend its claim and give particulars.

Buffalo, Lockport and Rochester Railway.

Judge Hasel, of Buffalo, N.Y., appointed receivers for this company, Aug. 5, on the application of the National Bond and Share Co., of Toronto. Counsel for the company admitted its inability to meet its obligations and joined in the application for the receiver. J. M. Campbell, Rochester, N.Y., Manager of the railway company, and M. W. Childs, Medina, N.Y., were appointed receivers. The line is operated between Lockport and Rochester through Medina. It was originally the Albion Street Ry., and was incorporated as the B.L. & R.R. in June, 1905, and formally opened in Sept., 1908. Its mortgage liability is \$3,400,000; capital stock, \$4,000,000. The bonds were taken by the Lincoln Trust Company, of New York, with the security of a collateral mortgage. The company has failed to meet interest on the bonds and apparently the object of the action by the National Bond & Share Co. is to forestall any attempt by the New York concern to foreclose on the mortgage. The Toronto concern holds 2,340 shares of the railway company's stock, and besides that claims to be a creditor of the company for \$28,333.34 advanced Feb. 1, 1909.

The B.L. & R.R. bonds are largely held in Canada, the principal holders being a group of Toronto financial men, among whom are F. Nicholls, E. R. Wood and Sir Henry Pellatt. According to a statement issued by these bondholders the receivership was applied for in order to enable the company's undertaking to be carried on without interference from creditors and other parties until its full earning capacity can be demonstrated.

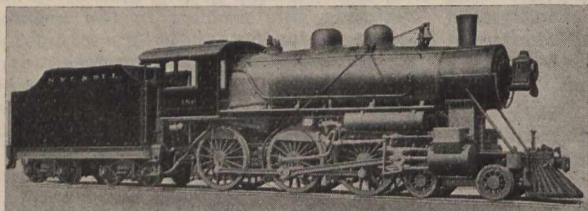
The company has until recently been unable to obtain an entrance into the city of Rochester, owing to its inability to secure the consent of the Public Service Commission to a level crossing over the New York Central Rd. This has now been secured and the necessary connection will shortly be made.

It is said that the receivers will operate the road until it can be placed on a paying basis. There is no intention of allowing the New York Central Rd. or any other organization to get control of the road. This will remain in Canada,

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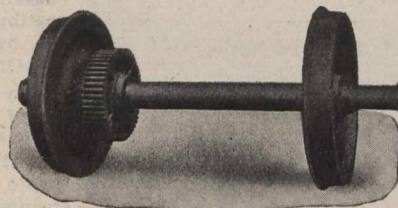
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Canadian Association of Masters and Mates.
 GRAND MASTER, Capt. F. Scott, Collingwood, Ont.; GRAND SECRETARY-TREASURER, Capt. H. O. Jackson, 376 Huron St., Toronto.

Montreal Harbor Report.

The Commissioners' report for 1908 states that the volume of tonnage exceeds that of 1907, which latter had the largest in the port's history. This result has been attributed to the large quantities of grain which have been attracted to the St. Lawrence route, owing to the additional aids to navigation and to the increased handling facilities in the harbor. During the months that navigation was open, the average depth of water in the ship channel was about 34 ft., the highest stage being in May, when it was 41 ft., and the lowest in Nov., 30.5 ft. During the year, the cost of handling freight was reduced by 22c a ton, thus effecting a saving of over \$90,000. The Commissioners first took over the handling of rail traffic in May, 1907, and during that year about 70,000 cars were received and dispatched, the motive power being rented from the railway companies. In 1908 the number of cars handled was less than in the previous year, but the number of cars loaded and discharged direct into the sheds and vessels exceeded that of 1907 by 10,900, and the handling of them was carried on by the Commissioners' own locomotives. The elevator was worked to its full capacity, the quantity handled being 8,661,350 bush. against 1,078,289 bush. in 1907. The system of grain conveyors connecting the elevator direct to 10 of the new steel sheds so that grain is now delivered to the ships at their own berths without interfering with the general handling of cargo, has been in operation through the season. The question of adding to the facilities and storage space is under consideration. A considerable amount of construction work was completed during 1908, including 14 double deck steel and concrete freight sheds with a floor space of over 1,250,000 sq. ft., the grain conveyor system, new permanent railway tracks throughout the high level harbor, relaying railway tracks throughout the low level wharves, and additional permanent wharf space for the Dominion Coal Co.

The revenue for the year was \$386,867.28, a decrease of \$17,407.28 from 1907. The decreases were: wharfages on imports, \$24,973.70, and wharfages on exports, \$1,527.03; total decreases, \$26,500.73. The increases were: local wharfages, \$1,899.19; rentals, etc., \$7,194.26; total increases, \$9,093.45; making a net decrease of \$17,407.28. The revenue from the grain elevator was \$45,351.56, an increase of \$38,260.93 over 1907, and the expenditure was \$65,104.93. Rentals were received for

7 of the new steel sheds, amounting to \$29,500, an increase of \$14,900 over 1907. For switching cars on the wharves, \$68,343.45 was received, a decrease of \$3,472.48 from the previous year. The receipts on revenue account from all sources were \$530,062.29, an increase of \$31,401.17 over 1907, and the disbursements were \$651,093.13. Interest on loans amounted to \$386,131.16, an increase of \$49,853.30. The amount disbursed on capital account was \$1,564,297.88, made up as follows:—steel sheds, \$779,044.27; harbor improvements, \$452,732.96; grain elevator conveyor equipment, \$199,246.16; new floating crane, \$90,662.17; and locomotives, \$42,612.32.

The harbor master reports that 739 sea-going vessels arrived in port during 1908, having a tonnage of 1,958,604 tons, a decrease of 3 vessels and an increase of 32,618 tons over the previous year. Of the vessels 711 were of iron and steel, with a tonnage of 1,995,758 tons, and 28 were built of wood, with a tonnage of 2,851 tons. Of inland vessels, there arrived 12,434, with a tonnage of 3,589,424 tons, a decrease of 1,986 vessels and a tonnage of 31,526 tons.

Wasaga-Paul Collision.

An investigation was held at Montreal, July 24, Aug. 3, 4 and 6, by Capt. L. A. Demers, assisted by Capt. A. Reid and F. Nash, into the circumstances attending the collision on June 30, between the s.s. Wasaga and the tow of the tug J. Paul, on Lake St. Louis, near Chateauguay, when one of the two barges which constituted the tow, was totally destroyed, and the other sustained certain damages. The court having carefully enquired into the circumstances attending the casualty, finds that the cause of the collision was due to the careless navigation of the s.s. Wasaga, by the altering of her course, without any apparent reason, this action being due to the fact that the captain, H. N. Smith, was in a state, if not of inebriety, at least through the results of such, that instead of keeping his course, or stopping, or reversing his engine, in order to avoid a collision, which by the evidence adduced was not apparent, he acted in contravention to articles 19 and 21 of the Rules of the Road, and that the same was done by the wrongful act and default of Captain H. N. Smith of the Wasaga.

In the circumstances disclosed by the evidence that the captain, H. N. Smith, was addicted to strong drink, and that at the time of the casualty he was still under the influence of liquor, and moreover, in view of the fact that he has disregarded all summonses which were duly and lawfully made to him to attend court, thereby showing utter contempt of the court, we think that by allowing him to retain his certificate, he would prove a menace and danger to shipping, the court orders that his certificate, no. 436, be cancelled, but in the event, that after one year from date, he produces satisfactory evidence that he has reformed, the Minister of Marine may return his certificate.

The following is an answer in the recent Ontario schools examinations on history: "British Columbia joined Confederation in 1876, because she was so near the water, and on condition that England should build a bridge across the Pacific Ocean in 10 years."

Vessels Removed from the Register.

The following vessels have been removed from the register, for the causes assigned:—Steam—Boss, New Westminster, B.C., 12 tons, broken up; Campana, Quebec, 1,154 tons, ashore; Carrie, Hamilton, Ont., 2 tons, out of existence; La-prairie, Montreal, 372 tons, burnt; Lytton, New Westminster, B.C., 285 tons, broken up; Ospray, Winnipeg, 14 tons, dismantled; Venture, Victoria, 489 tons, burnt. Sailing—Anna Helen, Chatham, N.B., 12 tons, stranded; Cygnet, Parrsboro, N.S., 77 tons, broken up; Daisy Linden, Digby, N.S., 97 tons, wrecked; Dianthus, Charlottetown, P.E.I., 45 tons, condemned; Drusie, Paspebiac, Que., 99 tons, abandoned; Fleetly, Lunenburg, N.S., 174 tons, transferred to Barbadoes; Gazelle, Weymouth, N.S., 97 tons, broken up; Kate F. Troop, St. John, N.B., 1,097 tons, sold to foreigners; Marcella, Halifax, 32 tons, wrecked; Omega, Charlottetown, P.E.I., 82 tons, wrecked; Serene, Parrsboro, N.S., 54 tons, broken up; Suva, Parrsboro, N.S., 69 tons, condemned; Torato, Lunenburg, N.S., 79 tons, stranded; Viking, Lunenburg, N.S., 95 tons, foundered; W. M. McLaughlan, St. John, N.B., 471 tons, lost.

Notices to Mariners

The Department of Marine has issued the following:—

No. 65. July 23. 163.—Quebec, River St. Lawrence, mouth of the Saguenay River, Prince shoal, lightship placed, gas buoy withdrawn. 164.—Quebec, River St. Lawrence below Quebec, traverse of St. Roche, lower end, lightship no. 7 replaced by lightship no. 17.

No. 66. July 26. 165.—Quebec, River St. Lawrence, Cape Chat, new tower, change in character of light. 166.—Quebec, River St. Lawrence, Goose Cape, hand fog horn at light station.

No. 67. July 28. 167.—Quebec, River St. Lawrence, Riviere du Loup, change in color of light. 168.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Batiscan traverse, change in character of buoy. 169.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap Madeleine to Three Rivers, change in character of buoys. 170.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Ile a l'Aigle, change in character of buoy.

No. 68. Aug. 5. 171.—British Columbia, Chatham Sound, Skeena River, middle passage, Kennedy Island, change in color of beacon, change in character of light. 172.—British Columbia, Hecate Strait, Browning entrance, gas and whistling buoy established off northwest end of Banks Island. 173.—Japan, Iyo-nada, Ya-shima, lighthouse established.

No. 69. Aug. 6. 174.—British Columbia, Hecate Strait, southern approach to Edye passage, rocks located, hydrographic notes. 175.—British Columbia, Hecate Strait, western approach to Edye passage, rocks located, hydrographic notes.

No. 70. Aug. 7. 176.—Quebec, River St. Lawrence, Quebec, change in color of front range lighthouse, back range day mark. 177.—Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Lake St. Peter, curve no. 2, new front range lighthouse.

No. 71. Aug. 7. 178.—Ontario, River

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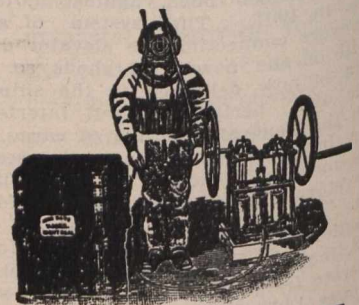
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St. Lawrence, Howe Island, Cold Bath shoal, color of gas buoy light. 179.—Ontario, Lake Huron, north channel, Sheguiandah, range lights established. 180.—United States of America, Lake Ontario, Charlotte harbor entrance, Genesee light station, fog syren established.

No. 72. Aug. 11. 181.—Ontario, Lake Huron, north channel, Killarney east, lighthouse rebuilt. 182.—Ontario, Lake Huron, north channel, Killarney west, lighthouse rebuilt. 183.—Ontario, St. Joseph channel, Shoal island, lighthouse rebuilt. 184.—United States of America, Detroit River, wreck, light exhibited. 185.—United States of America, St. Clair River, Fort Gratiot range front light station, new structure.

No. 73. Aug. 16. 186. Nova Scotia, Bay of Fundy, Chignecto channel, Ragged Reef point, bell buoy established. 187. Newfoundland, Notre Dame Bay,

Herring Neck, Caplin Cove head, lighthouse established. 188. Newfoundland, Twillingate, wharf light. 189. Newfoundland, south coast, Placentia bay, Marticot island, lighthouse established. 190. Newfoundland, south coast, eastern entrance to Fortune bay, Green island, description of light. 191. Newfoundland, west coast, Port au Port, Long point, lighthouse established. 192. Labrador, Cape North, lighthouse established. 193. Labrador, Packs Harbor, lighthouse established. 194. Labrador, Cutthroat point, lighthouse established.

No. 74. Aug. 19. 195.—Nova Scotia, south coast, Little Liscomb harbor, Redman Head, lighthouse established.

No. 75. Aug. 20. 196.—Ontario, depths in harbors in Lake Ontario and Georgian Bay, hydrographic notes.

No. 76. Aug. 21. 197.—New Brunswick, Chaleur Bay, Restigouche River, Dal-

housie harbor, range lights discontinued. 198.—Quebec, Gulf of St. Lawrence, Pointe aux Esquimaux range lights, additional information, corrections.

Among the replies by Ontario pupils in the recent examinations was the following: "Newfoundland joined the Confederation in 1870, and wanted a railway built connecting it with remote places."

The Department of Marine is reported to have awarded the contract for the construction of a steam vessel for hydrographic survey purposes to Swan, Hunter and Wigham Richardson, Newcastle-on-Tyne, Eng. It is stated that the vessel will have twin screws, and be 273 ft. long, the hull to be classed 100 A1 at Lloyds. She is also to be provided with two gasolene launches, each 27 ft. long, and of the latest type.

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

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Billiken	126,544	Vancouver, B.C., 1909	Screw 2 n. h. p.	29.2	28.0	1.4	9	6	Vancouver, B. C.	R. F. Likely, Vancouver, B. C.
City of Lund	126,545	Lund, B.C., 1909	" 9 "	55.5	13.5	6.9	49	34	"	F. G. Thulin, M.O., Lund, B. C.
Des Brisay	126,554	Vancouver, B.C., 1909	" 7 "	48.5	13.2	5.2	33	23	"	Rat Portage Lumber Co., St. Boniface, Man.
Dorothy Symons	126,542	Pingston Creek, B.C., 1909	" 2 "	49.5	9.6	3.7	10	7	"	A. M. Symons, Pingston Creek, B. C.
Ebros	126,546	Vancouver, B.C., 1908	" 1 "	38.4	5.3	2.9	4	3	"	P. & E. Easthope, Vancouver, B. C.
G. A. McLaurin	123,049	Peterboro, Ont., 1909	" 1 "	36.9	10.0	4.4	17	12	Port Arthur, Ont.	G. A. McLaurin, Savanne, Ont.
Glen Erie	121,958	Port Stanley, Ont., 1909	" 16 "	60.0	16.6	7.1	43	29	Port Stanley, Ont.	O. H. Smith & J. Howe, Port Stanley, Ont.
Harrison	126,553	Vancouver, B.C., 1909	" 1 "	22.5	6.0	2.7	3	2	Vancouver, B. C.	A. A. Ouellette, Vancouver, B. C.
Princess Harrison	126,547	Vancouver, B.C., 1909	" 2 "	28.3	8.2	3.5	5	3	"	E. Easthope, Vancouver, B. C.
Queen	126,463	Kingston, Ont., 1909	" 2 "	42.8	11.3	4.4	19	9	Kingston, Ont.	J. H. Davis, Kingston, Ont.
Helen Anita	126,551	Nelson, B.C., 1909	" 36 "	109.8	20.9	8.4	154	105	Vancouver, B. C.	C. P. R., Montreal
Hosmer	126,548	Vancouver, B.C., 1909	" 2 "	42.4	10.0	5.0	20	14	"	G. T. P. R., Montreal
Ka-Yex	126,498	Sorel, Que., 1909	" 46 "	91.8	22.1	10.7	210	118	Montreal	Minister of Public Works, Ottawa
Lisgar	126,447	Fort Francis, Ont., 1909	" 3 "	45.0	10.4	4.0	25	17	Kenora, Ont.	Rat Portage Lumber Co., St. Boniface, Man.
Lispeth	107,429	Brockville, Ont., 1905	" 2 "	39.6	9.0	3.3	8	6	Brockville, Ont.	J. H. Simpson, Lyn, Ont.
Macy	126,550	Steveston, B.C., 1909	" 4 "	56.4	14.0	4.7	28	19	Vancouver, B. C.	T. Nakanishi, Steveston, B. C.
Miyako	126,549	Vancouver, B.C., 1909	" 4 "	35.0	10.5	4.3	15	10	"	F. P. Murray, M.O., Vancouver, B. C.
Murbros	126,440	" " " "	" 3 "	38.0	10.1	4.5	15	10	"	G. W. McLellan, Vancouver, B. C.
T. McL	122,419	Midland, Ont., 1908	" 4 "	50.8	12.0	5.7	30	12	Midland, Ont.	M. Martin, Midland, Ont.
Minnie	126,413	Gravenhurst, Ont., 1909	" 13 "	84.0	16.5	5.7	128	81	Toronto	A. L. Casselman, et al, Port Carling, Ont.
Martin	126,029	Baddeck, N.S., 1909	" 1 "	29.0	9.2	3.7	9	7	Sydney, N.S.	F. J. McFarlane, Baddeck, N. S.
Newminko	126,248	Victoria, 1909	Paddle 17	137.5	31.4	5.4	168	9	Victoria	J. W. Stewart, Vancouver, B. C.
Nox	126,415	Temagami, Ont., 1909	Screw 130	71.5	12.6	6.0	36	25	Toronto	Temagami Steamboat and Hotel Co., Temagami, Ont.
Omineca	126,048	Cleveland, Ohio, 1879	" 133 "	265.0	37.0	14.8	2045	1164	Port Arthur, Ont.	Consolidated Steamship Co., Ltd., Port Arthur, Ont.
Queen of Temagami	107,428	Brockville, Ont., 1909	" 3 "	41.8	8.8	3.6	9	6	Brockville	G. Marrow, Owen Sound, Ont.
Rome	126,492	Dumbarton, Scotland, 1909	" 165 "	130.4	26.2	13.3	322	49	Montreal	Sincennes-McNaughton Line, Montreal
Ruth M	122,556	Meaford, Ont., 1904	" 3 "	36.9	8.7	2.6	4	4	Collingwood, Ont.	C. C. Jenkins & W. Cooper, Meaford, Ont.
Sin-Mac	126,555	Port Essington, B.C., 1908	" 1 "	34.3	3.0	3.1	10	7	Vancouver, B. C.	W. J. O'Neill, Port Essington, B. C.
Surety	126,412	Hamilton, Ont., 1901	" 15 "	29.0	7.0	4.0	8	7	Toronto	H. Wallace, Minett, Ont.
Strongheart	126,097	Cleveland, Ohio, 1888	" 3 "	51.5	14.2	6.6	23	13	St. Catharines, Ont.	J. Mossip & G. R. Gorrell, Haldimand, Ont.
Viola M	126,247	Victoria, 1909	" 4 "	40.3	10.2	5.0	14	8	Victoria	F. R. & F. A. McFarlane, Cobble Hill, B.C.
Wm. Bonfield	126,552	Nakusp, B.C., 1909	" 27 "	89.8	19.0	8.1	106	72	Vancouver, B. C.	C. P. R., Montreal
Wabash	126,541	Steveston, B.C., 1909	" 3 "	43.0	10.0	4.5	18	12	"	K. Ringin, Steveston, B. C.
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LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING JULY, 1909.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
Aggie Curry	117,168	Harbourville, N.S., 1908	Schr.	51.0	14.6	6.2	21	Windsor, N. S.	E. L. Curry, Harbourville, N. S.
Aspnet	122,586	Pubnico, N.S., 1909	Sloop	37.0	14.8	6.4	14	Yarmouth, N. S.	T. W. McComiskey, M. O., Pubnico, N. S.
C. T. W.	122,034	Plympton, N.S., 1909	Schr.	86.0	23.6	8.0	99	Weymouth, N. S.	C. T. Warner, Plympton, N. S.
Caberfeigh	126,561	Ingonish, N. S., 1909	"	34.4	11.4	5.6	12	Sydney, N.S.	J. S. McDonald, Ingonish, N. S.
Cadeo J.	126,495	Longue Point, Que., 1909	Drdgc.	82.8	32.1	7.5	336	Montreal	Societe Canadienne d'Enterprises Generales a Responsabilite Ld., Montreal.
Chum	126,379	Mahone Bay, N. S., 1907	Sloop	29.6	7.3	4.2	3	Halifax	M. R. Morrow, Halifax.
Erzie G. Mildred	126,344	Port Clyde, N.S., 1908	"	28.5	11.9	5.2	10	Barrington, N. S.	S. Nickerson, M. O. Lowerwoods Harbor, N. S.
Ferida	126,543	Vancouver, B.C., 1908	"	25.3	7.2	5.0	6	Vancouver, B. C.	H. A. Bulwer, Vancouver, B. C.
Joseph Touzin	126,494	Vercheres, Que., 1900	Scow	101.0	31.5	7.0	244	Montreal	J. Touzin, Montreal.
Joy Folger	126,030	Ingonish, N.S., 1909	Schr.	43.0	13.0	7.0	17	Sydney, N. S.	J. C. Williams, Ingonish, N. S.
Major N. H. Ferry	126,130	Ferrysburg, Mich., 1867	"	117.0	24.0	8.2	168	Kingston, Ont.	J. F. Sowards, M. O., Kingston, Ont.
Lemay	126,446	Kenora, Ont., 1909	Scow	51.0	14.3	2.8	17	Kenora, Ont.	N. Lemoy, Normon, Ont.
Mina German	122,585	Meteghan, N.S., 1909	Schr.	93.6	27.6	9.6	148	Yarmouth, N. S.	T. German, Meteghan, N. S.
Miss Swift	126,439	Vancouver, B.C., 1909	Scow	31.0	19.9	2.5	68	Vancouver, B. C.	B. G. Duggan, Vancouver, B. C.
Nathalie	126,187	Allendale, N. S., 1909	Schr.	53.2	16.4	6.5	28	Shelbourne N. S.	W. McMillan, Lockport, N.S.
W. J. P. Co., No. 1	126,396	Montreal, 1902	Scow	97.2	27.0	9.6	174	Lunenburg, N. S.	W. J. Poupore Co., Montreal.
" " 2	126,397	Lunenburg, N. S., 1908	"	97.2	27.0	9.6	174	"	"
" " 3	126,398	"	"	97.2	27.0	9.6	174	"	"
" " 4	126,399	Montreal, 1902	"	98.0	30.0	7.0	183	"	"
" " 5	126,400	Liverpool, N. S., 1907	"	33.8	19.4	3.0	18	"	"
Warbler	126,571	Cheticamp, N. S., 1909	Schr.	35.9	15.0	6.0	10	Pt. Hawkesbury, N. S.	C. R. Collas Co., Ltd., Halifax.

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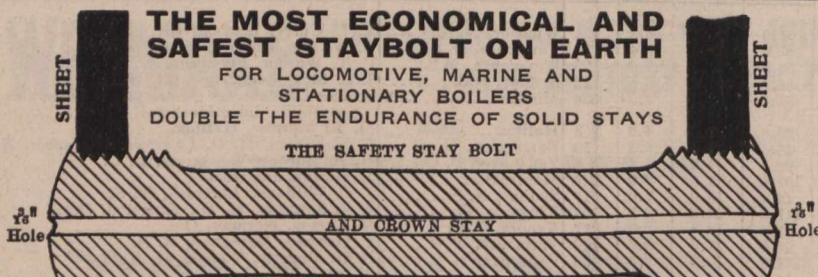
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Checks the broken and partly broken staybolts and crown stays. Positively prevents explosions from broken stays. Assists combustion. Years of hard service have proven their safety and economy.

We furnish full length Hollow Staybolt Bars in the rough, averaging from 8 to 10 ft. long, any size, O.D. & I.D.

We also make solid staybolt bars of the best double refined charcoal iron. Average length, 16 to 20 ft.

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Representatives Dominion of Canada: Brydges Engineering and Supply Co.,
Winnipeg, Canada; Mussens Limited, Montreal, Canada.

THE CANADIAN PACIFIC RAILWAY CO.

Dividends for the half-year ended 30th June, 1909, have been declared as follows:—

On the Preference Stock, two per cent.

On the Common Stock, three per cent.

A further sum equal to one-half of one per cent. on the Common Stock will be paid thereon at the same time out of interest on the proceeds of land sales.

Warrants for the Common Stock Dividend will be mailed on 30th September next to Shareholders of record at the closing of the books in Montreal, New York and London respectively.

The Preference Stock Dividend will be paid on Friday, October 1st next, to Shareholders of record at the closing of the Books at the Company's London Office, No. 62 Charing Cross, London, S.W.

The Common Stock Transfer Books will close in Montreal, New York and London, at 3 p.m., on Wednesday, September 1st. The Preference Stock Books will also close at 3 p.m. on Wednesday, September 1st.

All books will be reopened on Thursday, October 7th next.

By order of the Board.

W. R. BAKER,
Secretary.

Montreal, 9th August, 1909.

THE CANADIAN PACIFIC RAILWAY CO.

NOTICE TO SHAREHOLDERS.

The Twenty-Eighth Annual General Meeting of the Shareholders of this Company for the election of Directors to take the places of the retiring Directors, and for the transaction of business generally, will be held on Wednesday, the 6th day of October next, at the principal office of the Company at Montreal, at twelve o'clock noon.

The Common Stock transfer books will be closed in Montreal, New York and London at 3 p.m. on Wednesday, the first day of September; the Preference Stock books will be closed in London at the same time.

All books will be reopened on Thursday the seventh day of October.

By order of the Board,

W. R. BAKER,
Secretary.

Montreal, August 9th, 1909.

LEGG BROS. ENGRAVING Co.

MAKERS OF FINE 1/2 TONES
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WOOD CUTS, ELECTROS

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TORONTO

Improvements in the Navigation of the St. Lawrence.

By Lieut.-Col. Wm. P. Anderson, Chief Engineer Department of Marine and Fisheries, Past President Can. Soc. C. E., M. Inst. C. E., F.R.G.S.

The commercial successes of a country being proportionate to the facilities which exist for the free interchange of products by water with other countries, the immense importance to Canada as a national trade route of a thoroughfare like the River St. Lawrence can be appreciated. This noble river is unique in permitting ocean traffic to penetrate 1,000 miles into the heart of a great and fertile country, where, at the head of ocean navigation, it meets traffic brought from all parts of the great lakes system in smaller vessels over a route extending 1,200 miles farther into the continent. In this paper no attempt will be made to describe the improvements in navigation effected on the great lakes. These have been carried out in great measure by the United States Government, and have been principally for the benefit of shipping; they are worthy of special attention and deserve a special article, but the following details with reference to the improvements made in the navigation of the St. Lawrence, to fit in for the requirements of modern shipping, may prove of interest.

IMPROVEMENT OF CHANNEL.

ABOVE MONTREAL, from Kingston, at the head of the river, to Montreal, a distance of 170 miles, navigation is limited by the capacity of the canals which, originally accommodating vessels of 9 ft. draft only, were, in the autumn of 1899, opened with locks of the same dimensions as those in the Welland canal, having a width of 45 ft., an available depth of 14 ft., and a minimum length of 270 ft. There are in this stretch six canals, aggregating 45 miles in length, having 21 locks, overcoming a fall of 206 ft., connecting navigable stretches of the river, which are all well buoyed and lighted, insuring safe and easy navigation.

ABOVE QUEBEC, from Montreal to Quebec, 160 miles, a ship channel has been dredged where deepening was required, and with the exception of two points, this channel has now a minimum depth of 30 ft., and a minimum width of 450 ft., with easy and wide curves. At Cape a la Roche there is a rock cut which is at present only 27 ft. deep, with a width of 300 ft., but it is expected that this will be improved to standard width and depth during the coming season. St. Augustin bar has also a depth at extreme low water of only 27 feet, but as the range of tide is here some 16 ft., it occasions very little detention to shipping. From this point to Quebec, 16 miles, the river required no improvement.

Originally the depth between Quebec and Montreal was limited by the depth in Lake St. Peter, which reached the minimum of about 10 ft. during the low water of autumn. An improved channel through the lake, as well as an increased depth at all other points, where works undertaken by the Montreal Harbor Commissioners, and the width and depth of the channel were increased from time to time to keep pace with the increase in size of ocean vessels. Up to March 31, 1898, a total of 56,000,000 yards of dredged material had been removed at a

cost to the Harbor Commissioners and the Government of \$10,000,000. This work was, in 1899, assumed by the Dominion Government as a national work, and the present aim of the Minister of Marine is to secure everywhere a least depth of 30 ft., with a minimum width of 450 ft., at all points between Montreal and the sea.

PLANT.—The dredging plant consists of six large elevator dredges, capable of removing hard pan or even bedded rock, these deliver the material through a side spout into hopper scows; one hydraulic dredge, provided with a cutter head, used for dredging clay, mud, sand and gravel, and washing the dredged material through pipes to an outlet $\frac{1}{2}$ mile from the channel; and two sea going suction dredges, raising the material loosened by a cutting head into their own hoppers and acting on their own lighters. An auxiliary fleet of rock drilling machines, boulder lifters, scows, tugs and tenders is also in use, all of them maintained from a Government shipyard located at Sorel. Each portion of the work as completed is tested by sweeping before vessels are admitted to it.

FROM QUEBEC TO THE SEA.—Below Quebec the river is tidally navigable by any vessel afloat, and at only two points, St. Thomas flats and Beaujeu channel, 40 miles below Quebec, is dredging required to give a depth exceeding 40 ft. at extreme low water. Beaujeu channel has been dredged to a minimum depth of 33 ft., and a minimum width of 1,000 ft. Dredging operations on St. Thomas flats are in progress.

AIDS TO NAVIGATION.

The Dominion Government in the desire to make the navigation of the river and gulf as safe as possible, has bestowed special pains on improving all aids to navigation. These will now be briefly described:—

LIGHTING.—The axes of the several dredged portions of the ship channel, as well as the other tangents between Quebec and Montreal, are marked by pairs of range lights, and in order to establish these above the reach of ice, and of the spring freshets, it has been necessary to build many of them on foundations of extensive concrete monolithic blocks. There are in the river more than 65 pairs of these ranges. Many of the rear range towers are skeleton structures of galvanized steel which can be erected very easily, and sometimes attain a height of 100 ft. We usually surmount them by wooden watchrooms and lanterns. Most of the range light towers are equipped with catoptric apparatus, which has proved the most economical arrangement for projecting a strong beam of light over a restricted area, though for sea coast lights our catoptric installations have nearly all been replaced by dioptric lenses. Below Quebec the usual arrangement of sea coast lights with single towers on headlands is more prevalent, and these are now established on nearly every salient point. There are 71 lights of various descriptions in the river below Quebec.

During the early years of the country, when rigid economy was essential, the lighthouses were somewhat primitive buildings, cheap wooden structures, surmounted by cast iron lanterns, containing catoptric illuminating apparatus. Of late years, as ships have become more valuable, and as speeds have increased,

necessitating more powerful and more easily identified aids to navigation, the country has been replacing these primitive structures by more permanent towers, surmounted by gun metal lanterns, with curved glazing, holding modern quick flashing illuminating apparatus. We are dependent upon British and French manufacturers for our illuminating apparatus, but build a large portion of our lanterns ourselves. Our most powerful light is that on Cape Race, a first order dioptric hyperbolic light, giving a flash every five seconds from the summit of a reinforced concrete tower, 100 ft. high.

It may be stated in general terms that to-day from the northern entrance to the gulf at the strait of Belle Isle and the southern entrance at Cape Race a mariner is scarcely ever out of sight of a light, while in the narrower stretches there are always several lights in sight at once.

LIGHTED BUOYS.—Besides the lighthouses and lightships, gas buoys are extensively used on the River St. Lawrence, there being 21 below Quebec, usually marking isolated dangers, and 71 between Quebec and Montreal, usually marking the curves connecting the tangents that are marked by range lights.

Our first gas buoys were established in 1893 on the Pintsch system. Since 1902 the Pintsch buoys have steadily been replaced by acetylene buoys, on the ground that the acetylene lights are more brilliant and that buoys can be established without any necessity for maintaining a gas producing plant. The first acetylene buoys were filled with the gas under compression, but the buoys now used are designed to carry sufficient carbide to generate their own acetylene for periods running through the whole season of navigation, producing acetylene automatically as it is consumed. There is no question as to the brilliancy of the acetylene light, and as to the convenience of using a buoy that can be charged with an illuminant at a distance from any base of supplies, but the question of relative merit of the Pintsch and acetylene gas systems has not been conclusively settled. Acetylene under compression is undeniably dangerous. Acetylene generated as required without any excessive pressure does not appear open to the same objection, but in practice slight explosions have occurred in refilling the generators with carbide, and no evidence is yet available as to the comparative cost of the two systems.

BUOYS.—In addition to the lighted buoys, dangers and the edges of the channels are marked by large numbers of buoys and spars, including whistling and bell buoys. The whistling buoys are all on the Courtenay principle, which has stood the test of long use, and remains the most reliable automatic signal buoy. In the swifter portions of the river a special arrangement of anchorage of both cans and spars is adopted, ensuring uprightness. The bottom of the buoy is weighted and the mooring chain or wire is fastened to a bridle attached to the buoy at the centre of pressure.

FOG ALARMS are maintained at light stations in the river and gulf of St. Lawrence in the following numbers:—siren, 1; whistles, 4; reed horns, 2; diaphones, 19; and explosive signals, 6.

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BRADSTREET'S
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The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

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THE CLIFTON HOTEL

NIAGARA FALLS, CANADA.

Rates \$4 per day up, American Plan. For weekly rates and further information, address: GEORGE R. MAJOR, Manager.

OPEN THE YEAR ROUND

The only Hotel that Commands an Unrivalled View of Both Falls.

HOW TO REACH THE CLIFTON HOTEL.

Arriving on Grand Trunk Railway or Wabash Rd., at Niagara Falls, Ont. Hotel bus meets all trains or take trolley to hotel—7 minutes. Arriving on Michigan Central Rd., Canadian Pacific Railway, at Victoria Park station—Hotel bus meets all trains, only three minutes' walk from station to hotel.

International Railway (trolleys), connecting with Niagara Navigation Co. steamers at Queenston, to or from Toronto, pass the door.

IMPORTANT

Guests coming to the Hotel should see to it that they are taken to The Clifton Hotel, CANADIAN SIDE, and also that their mail is addressed "Care of The Clifton Hotel, Niagara Falls, CANADA." To insure prompt delivery, don't forget to make Canada plain in the address.

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THE NEWLY-INVENTED
HIGH SPEED STEEL

HARDENS IN
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CUTTING Power and Durability many times greater than that of present high speed steels.

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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.

All prices are subject to change without notice.

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.

F. T. GRIFFIN, Land Commissioner, Winnipeg.

CANADA NORTH-WEST LAND CO.

This Company has 525,000 acres of selected lands in Manitoba and Saskatchewan which offer excellent opportunities to settlers and investors who desire to secure good lands in well-selected districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

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60,000 PAIRS IN USE.

Manufactured at Montreal, Que., and Scranton, Pa.,

of Pressed Steel Plate, and guaranteed to re-rail heaviest equipment.

SOLD BY

F. H. HOPKINS & CO. and MUSSENS LIMITED, MONTREAL

The earliest installations were steam whistles, usually 10 inches in diameter. It is claimed that the whistle on Part-ridge island, at the entrance of St. John harbour, in the Bay of Fundy, established in the early sixties by the colony of New Brunswick, was the first steam fog alarm installed by any country. For the years from 1873 to 1900 the Canadian Government used almost exclusively a reed horn of very simple mechanism, operated with compressed air supplied direct from a single acting steam driven air compressor with the diameter of air cylinder much greater than that of steam cylinder. Defects in this plant were that as air was compressed and a blast given during the upward stroke of the engine, single blasts only could be given and the pitch of the note varied as the air pressure gradually lessened. It was also difficult to keep the reeds in adjustment. Notwithstanding these defects the apparatus was fairly efficient, being easy to operate, and exceedingly economical both in construction and in maintenance. The writer has heard one of these horns for 26 statute miles across a moderate breeze with snow falling.

In 1900 the demands of the larger and faster liners for more powerful fog alarms were met by the installation of a few English and Scotch sirens. One of these, on the south west end of Belle Isle, at the northern approach to the gulf, is operated with air compressed by water power, and this source of energy has proved very satisfactory and economical. Since 1902 all other fog alarms have been supplanted by diaphones, undoubtedly the most powerful sound producing device yet invented. This machine consists essentially of a cylindrical chamber, having parallel slits cut through its walls, and concentrically within the chamber, a cylindrical hollow piston with similar slits and a flange on one end; the whole enclosed in an outer casing. A gas under pressure is admitted to the outside casing and drives the piston rapidly backwards and forwards by opening and closing connection to the back of flange; this permits the main body of gas to escape through the slits in the cylindrical chamber in a series of puffs. The principle is not unlike that of the siren, but the slits being symmetrically spaced all the vibrations are synchronous and the note produced is consequently a pure one. The mechanism is so arranged that the piston's travel is accurately controlled and the note is constant. Air is used at a pressure of 30 lbs. per square inch, which we have found by experience to give the best practical results. The sound is intensified by a resonator properly attuned. In comparative trials of the diaphone with other sound producing devices, we have found that it gives uniformly better results per unit of power. Usually advantage has been taken of the decreased cost of operation to increase the length and frequency of blasts. The diaphone gives its full note from the very beginning to the end of a blast, and responds so quickly to the driving impulse that it is an easy matter to differentiate between different stations by any desired arrangement of Morse or other code. High and low notes could also be introduced by providing differently tuned instruments, as is done with the siren, but this method is cumbersome and unsatisfactory and we have abandoned it. All our diaphones are

designed to give the note of F sharp in the middle register, having 180 vibrations per second. The installations most commonly used in our stations have pistons 4 1/4 in. in diameter, using 11 cub. ft. of air per second of blast, but at important stations like Cape Race a piston 8 1/2 in. in diameter, using 27 cub. ft. per second of blast is installed, and the patentees are now experimenting with a monster instrument having a piston 14 in. in diameter. In practice it is found that 16 h.p. per cubic foot of free air consumed is the gross power required to run a plant.

SUBMARINE BELLS.—Submarine bells have been installed on four lightships in the river St. Lawrence. This system of signalling was invented by A. J. Mundy, of Boston, Mass., and relies for its efficiency on the fact that water, being of a more uniform density than air, will transmit sounds more reliably. Mariners as well as scientists know the distracting and unforeseeable aberrations of ordinary aerial fog signals, and the submarine signal has been developed in the effort to overcome this source of uncertainty. The sounding apparatus is simply a submerged bell, rung either automatically by the motion of the waves, electrically or mechanically. The last named method has proved most satisfactory in practice; blows struck automatically lack force, and electrical connections are difficult to keep insulated under water through long periods of time. The hammers on the lightship bells are operated by compressed air. The receiving apparatus consists of a chamber attached to the skin of a ship, from which the impulses received are transmitted telephonically to ear pieces in the wheelhouse. By placing a receiver on each side of the ship, and comparing the intensity of the sound, the direction of its source is approximately determined, and by swinging the ship until the intensity is equal in the two receivers a ship can be steered for the bell.

From a series of reports made by masters of vessels equipped with receiving apparatus passing a bell operated from a lightship in Lake Erie, it has

been determined that loaded vessels found the signals efficient over a radius of five miles, while the range of light vessels was about two miles, or in other words, that when the receivers were well submerged their efficiency was less affected by the noise of the bow wave. The submarine bell is greatly esteemed by those masters who have vessels equipped with receiving apparatus, and the Canadian Government has received cumulative evidence of its utility, but its use is somewhat restricted. The cost of equipping vessels with receiving apparatus is large, and militates against its adoption by small vessels, and moreover it is somewhat expensive to maintain the bell striking mechanism in working order except in situations where it can be lifted frequently for examination and regulation.

Four stations have been established on our Atlantic coast (but not on the St. Lawrence route) where the bell carried on a tripod submerged below wave action is operated through a cable from an electric station on shore. The acting Commissioner of Lights reports that two bells so installed off Chebucto Head in 1907 are yet in commission. The further extension of the system is being watched with interest.

COMMUNICATION.

GOVERNMENT TELEGRAPH.—A serious problem which confronted the Government in connection with navigation in the gulf, for hundreds of miles along a practically uninhabited coast, was the difficulty of securing communication with vessels in case of shipwreck. Soon after Confederation the Dominion Department of Public Works began extending Government telegraph lines along both shores of the gulf and to the outlying islands over territory where a telegraph installation would not pay as a commercial venture. The Government telegraph system now lines both shores of the gulf, the northern line extending to the Strait of Belle Isle. Anticosti, St. Paul Island, and the Magdalen Islands are all connected with existing telegraph systems by cable, and it is a significant fact that since telegraphic communication was extended to Anticosti

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals during July :

ARTICLES.	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper..... Eastbound..... Net tons	294	16,920	17,214
Grain..... "..... Bushels	1,074,122	1,068,076	2,142,198
Building stone..... "..... Net tons	.....	100	100
Flour..... "..... Barrels	213,475	487,971	701,446
Iron ore..... "..... Net tons	3,884,202	2,633,080	6,467,282
Pig iron..... "..... ".....	.....	4,084	4,084
Lumber..... "..... M. ft. B. M.	5,364	71,513	76,877
Wheat..... "..... Bushels	1,984,360	2,101,283	4,085,643
General merchandise..... "..... Net tons	9,494	12,879	22,373
Passengers..... "..... Number	4,025	4,144	8,169
Coal, hard..... Westbound..... Net tons	52,060	129,524	181,584
Coal, soft..... "..... ".....	498,569	923,532	1,422,101
Flour..... "..... Barrels	230	.....	230
Grain..... "..... Bushels	.....	.....	.....
Manufactured iron..... "..... Net tons	35,811	41,791	77,602
Iron ore..... "..... ".....	2,352	.....	2,352
Salt..... "..... Barrels	24,522	96,241	120,763
General merchandise..... "..... Net tons	67,089	58,755	125,844
Passengers..... "..... Number	5,118	3,920	9,038
Vessel passages..... Number	993	1,910	2,903
Registered tonnage..... Net	2,881,999	4,260,842	7,142,841
Freight—Eastbound..... Net tons	3,954,326	2,924,884	6,879,210
—Westbound..... ".....	659,418	1,168,038	1,827,456
Total Freight..... ".....	4,613,744	4,092,922	8,706,666

THE INTERNATIONAL MARINE SIGNAL CO.

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Manufacturers of

Automatic Acetylene Gas Buoys, Beacons and Fog Signals

Mariners describe our lighted buoys as
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alike, are always on the lookout for goods they use, properly constructed, of good material and offered at a fair price.

On enquiry you will find that the "Dillon" Hinge-Stay and "Monarch" Stiff-Stay Woven Fences of all No. 9 wire, will fill these requirements.

Write for Catalogue, samples and other information.

The Owen Sound Wire Fence Co.

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Can Ship at Once

Bucyrus 70 ton Steam Shovel, modern (2) @	\$7,000
Victor 55 ton Steam Shovel, (used 6 months)	4,000
Marion 70 ton Steam Shovel, Model 60; modern	6,000
Marion 90 ton Steam Shovel, 3½ yard; modern	7,900
Thew No. 1 Full Circle Shovel, 1 yard (Traction)	3,650
Traction Shovel "Little Giant," 1 yard	2,500
Western 36 in. gauge 4 yard dia. frame Cars (30), @	90
Austin "New Era" Grader; new belt; fine	650

We solicit the enquiry of Contractors in the Dominion, assuring them of prompt attention; the released equipment we offer is dependable. We have special bargains in locomotives, dump cars, air compressors, drills, crushers, hoisting engines, concrete mixers, etc., and we issue a printed list of our offerings with prices and location given. Send for it and let us know your requirements in our line.

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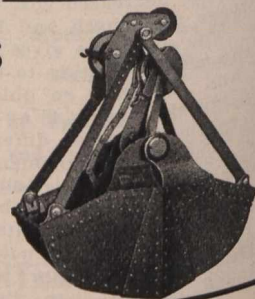
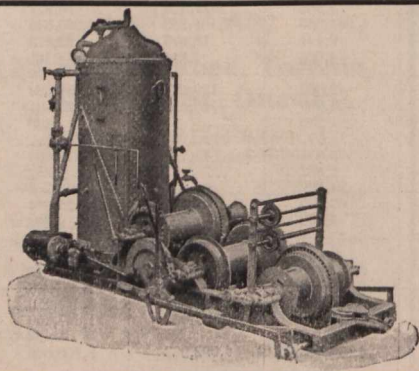
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that district has become unfashionable as a depository for worn-out ships. At frequent intervals along the Government telegraph line, usually at light stations, marine signal stations have been established from which vessels are reported to Quebec and Montreal. These stations are supplied with the international code of flags, and the principal ones are kept specially informed respecting the state of the ice in the river and gulf during the months of April and May.

TELEPHONE.—During the past season the means of promptly locating vessels in the river have been greatly improved by the installation of a telephone service operated by the Marine Department. Telephone offices are established every few miles between Crane Island and Montreal, from which watchmen report the passing of vessels. In this way a vessel can be timed to arrive at Montreal or Quebec within a very few minutes.

WIRELESS TELEGRAPH.—The Government has entered into a contract with the Marconi Wireless Telegraph Co. whereby it has established stations at 12 points in the river and gulf. These stations are bound to receive messages from ships equipped with any system of wireless apparatus and transmit the same either by wireless or by connecting lines to shipping centres.

STORM SIGNALS.—At most of the ports on the St. Lawrence the Meteorological Service of Canada, under the control of the Marine Department, maintains storm signals, mariners being warned by a code hoisted on conspicuous masts of the probable approach of dangerous gales. Daily weather probabilities are issued from the head office in Toronto and the approach of important depressions is communicated by wireless to vessels at sea. Reports by wireless of the state of the ice and the warnings respecting aids to navigation are also communicated to approaching ships.

SURVEYS.

TIDES.—A survey of the tides and currents in Canadian waters is organized under the control of the Marine Department, and Dr. Dawson, the officer in charge of this survey, has paid particular attention to the St. Lawrence route in view of its commercial importance. Admirable tide tables based on several years' records are published yearly for important points in the river, and tidal differences for intermediate points are referred to these tables. It is yet necessary to increase the number of places for which tidal differences are given, and this list is being extended yearly, as accurate information can be secured.

CURRENTS.—A vessel has also been devoted for several seasons to an examination of the currents, especially in the estuary, and in both entrances to the gulf. The results of these examinations are contained in Government publications and are available to all mariners. There is no question that the results of the work done by the current survey off Cape Race, and off the Gaspé coast, have greatly decreased the number of shipwrecks. The work in the strait of Belle Isle has laid at rest the old fable of a serious influx of the Arctic current through that entrance into the gulf of St. Lawrence.

HYDROGRAPHY.—The charts of the gulf are based upon the admirable surveys of Lieut. (ultimately Admiral) Bayfield, made early in the last century, but the river and all critical parts of the gulf

have been resurveyed and recharted by the Admiralty or the Marine Department. The Canadian Government now has a surveying steamer in commission, which this year is working near the mouth of the Saguenay. The narrower portion of the river has all been elaborately surveyed of late years, and large scale charts in color are being published by the Canadian Hydrographic Office, in charge of W. J. Stewart, Chief Hydrographer, a graduate of the Royal Military College, who received his training from Admiralty surveying officers.

ICE.

NAVIGABLE SEASON.—The important element of climate must not be overlooked in any consideration of work done on the St. Lawrence river. During practically five months in every year navigation is closed, and all shipments must be crowded into the seven months of open navigation. From Kingston to Quebec the river freezes over every winter, except at points where the current is unusually rapid. Below Quebec, although there is heavy border ice, the river never freezes over.

ICE CONDITIONS.—The ice problem confronts the engineer at every step, and must be reckoned with in designing terminals, in ship and lighthouse construction, and in buoy maintenance. Large elevators must be provided to store grain over winter; wharves and docks must be made ice proof; lighthouse piers must be heavy enough and high enough to resist ice shoves, and buoys and other floating aids must be rushed into place as soon as the ice has passed down in the spring and hurriedly removed at great risk after the last vessel has gone to sea in the autumn. It is almost impossible for any one not accustomed to ice conditions to realize what a difference all this makes in planning structures, and how it modifies designs and increases cost.

WINTER NAVIGATION.—Efforts have been made to prolong the navigable season by using specially constructed steamers as ice breakers, and it is claimed that the season of navigation could be materially lengthened, and winter floods prevented, by keeping the river open to Montreal. A Government steamer has been devoted to the task for some winters past, and has probably cleared the river of ice somewhat earlier in the spring. Winter ferries are maintained at several points on the river, and operate successfully, though sometimes irregularly. Last winter successful trips were made to the north shore of the gulf, and there seems no reason to doubt that specially built steamers could navigate the St. Lawrence all winter if the trade proved profitable. Only one attempt has been made to cross the gulf to England; this was in the winter of 1898-9, and the venture was unsuccessful, but primarily because a weak and unsuitable vessel was used.

PORTS.

The principal ocean ports on the river are: Quebec, at the head of the estuary; Three Rivers, at the head of tide water; Sorel, at the mouth of the Richelieu river; and Montreal, at the head of ocean navigation. Quebec and Montreal are under the control of Harbor Commissioners, appointed by the Government, and are assisted by the Dominion with guaranteed loans.

QUEBEC.—At Quebec there is a Government graving dock, which has been outgrown by modern steamers, and large wet and tidal docks at the mouth of the

St. Charles River. The timber wharves that line the city front, and which a generation ago were thronged by sailing vessels, are forsaken and dilapidated, and the traffic of to-day centres at the more easterly basin.

MONTREAL.—At Montreal extensive new wharves have been built, and here it proved a difficult problem to guard against damage by ice. Soon after the river freezes over each winter, there is a local rise of about 10 ft. in the level of the water in the harbour, caused by restriction of the channel by anchor ice; and in the spring of the year, when the volume of water is augmented, this obstruction leads to a further rise, in 1886 reaching a height of 27 ft. above ordinary low water, and flooding the low parts of the city. To prevent future floods a dyke was in 1887 built along the river front. The old wharves were much below this flood level and were covered every year, necessitating the removal annually of all buildings and goods. To prevent this inconvenience the Commission decided to make the new wharves, built as groynes against a continuous embankment, high level wharves, and they have been so constructed, of concrete, and surmounted by permanent steel sheds provided also with grain conveyors from an immense central elevator. With the material excavated from the deepened harbor a guard pier has been built in front of the whole upstream side of the harbor.

The above paper was read before the British Association for the Advancement of Science, at its meeting in Winnipeg recently.

Grounding of s. s. Inishowen Head.

The formal investigation into the causes of the grounding of the s.s. Inishowen Head at Timons Cove, about 5 miles above Quebec, on Oct. 1, 1908, was held Aug. 2, a preliminary investigation having been held Oct. 12, 1908, when the main facts were elicited. The following judgment was delivered, Aug. 3, by Capt. L. A. Demers, Acting Wreck Commissioner, concurred in by Capt. A. Reid and A. Angers, Pilot, who sat as assessors:

The Court, having carefully inquired into the circumstances attending the above-mentioned casualty, finds that the pilot A. Briere has been guilty of a gross error of judgment, and that the grounding of the ship was caused by his fault; but owing to the fact that this is the first mishap during the 18 years of his service as pilot, and in view of the recommendations as to his capacity, the Court orders that he be fined \$50, to be paid in two monthly instalments, the first payment to be made immediately. The captain and crew of the vessel are exonerated from all blame in this casualty.

During June, 5 employes were killed and 16 injured in the course of their work in Canadian navigation. Of the fatalities, 4 were due to drowning and 1 to machinery, while of the non-fatal accidents, 6 were due to falls, 5 to explosions, 2 each to falling material and to machinery and 1 to flying material. In addition to those already mentioned 16 longshoremen were nearly asphyxiated by grain in the hold of a vessel at Montreal.

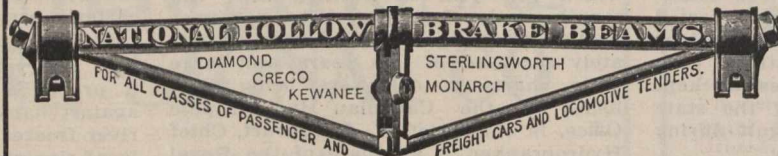
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Atlantic and Pacific Ocean Marine.

Press reports state that the C.P.R. and the Allan Line have come to a working agreement regarding the Atlantic freight business.

The Allan Line s.s. Victorian in arriving at Rimouski, Que., from Liverpool, Eng., in 5 days, 18 hrs., created a new record for vessels of that fleet.

A record passage was made recently by the C.P.R., when passengers from Liverpool, Eng., were landed in Toronto in 6 days, 22 hours, after embarking at Liverpool on the s.s. Empress of Ireland.

The s.s. Crown of Galicia, under charter by the Dominion Iron and Steel Co., sailed from Sydney, N.S., Aug. 17, for Prince Rupert, B.C., by way of the Horn, with 5,000 tons of steel rails for the G.T.P.R.

Elder, Dempster and Co. have commenced their service connecting Montreal with Puerto Mexico, the Atlantic terminus of the Tehuantepec National Ry., in connection with the Canadian-Mexican Pacific Steamship Co.'s service between Salina Cruz, the Pacific terminus, and British Columbia ports.

The s.s. Jeanara, outward bound from Montreal to Buenos Ayres, with lumber, which ran aground at Cranberry Head, near Sydney harbor, N.S., Aug. 13, was floated the following day and taken to Sydney, where a survey was made to ascertain the damage, which was found to be slight. She subsequently proceeded on her voyage.

In response to a question in the British House of Commons, recently, as to whether the all-red scheme had been definitely abandoned, the Prime Minister said, "I am informed that the investigations of the committee which has been enquiring into the scheme have not hitherto succeeded in removing the many difficulties by which it is attended. At the same time, there is no reason to assume that those difficulties will prove insuperable."

Furness Withy & Co. Ltd. has declared a dividend of 5% for the past financial year. Sir Christopher Furness said the company's ability to pay a dividend this year was a proof of its stability. The shipping industry of the whole world had labored in the trough of depression during the past year, and the outlook to-day was not all that could be desired. As a result of its general trading the company's profit for the year was in excess of that of the previous year by £16,088 16s. 9d. The past year was the first under the profit sharing scheme which Sir Christopher Furness introduced with a view to the prevention of strikes and other labor difficulties.

The C.P.R. steamships Empress of Britain and Empress of Ireland have been equipped with electric masthead signalling apparatus, similar to the system which was adopted by the British Navy some time ago and which has been pronounced to be a great success. The system comprises an ordinary telegraph keyboard, situated on the bridge, and connected with an electric lantern on the mast head. The Morse system is used; the vessels are thus enabled to keep in communication with shore stations and report ice and weather conditions. This equipment, which is additional to the wireless telegraph installa-

tion already on these vessels, places the C.P.R. steamships first among the vessels on the St. Lawrence route as regards means of communication with the land.

On his return from an inspection trip through the St. Lawrence ship channel, G. J. Desbarats, Acting Deputy Minister of Marine, is reported to have said, that of the improvements at present under way, Beaujeu Bank, about 50 miles below Quebec, has been widened 700 ft., with a 30 ft. depth of water at low tide. Dredge 9 is working there, and before the end of the season will have the channel widened to 1,000 ft. Five rock dredges are operating at Cap a la Roche and one dredge is at Champlain, clearing the channel. The work at Cap a la Roche will probably result in finishing the widening of the Grondines range this year and lights will be erected on the new centre line. Hydraulic dredge 7 is in Lake St. Peter, working on the last stretch of the channel widening. This dredge has cut one mile this season, leaving about 4 miles still to be widened.

A special meeting of the Montreal Board of Trade council was held, Aug. 10, to consider the portage charges, which were made effective July 26, as a result of the recent Canadian North Atlantic conference. T. Robb, Secretary of the conference, pointed out that the charge for master portage was to cover the cost of handling, sorting and placing of goods on the wharves after they had been discharged from the vessels. Although the rates for carriage only covered delivery from the vessels' tackles, the agents of the steamers had in practice been doing the foregoing work at the expense of the vessel. With the increase in expense of handling cargo on the wharves through higher labor charges, etc., the cost of this work had become a serious item, especially having regard to the moderate rates of freight now charged, that the companies had felt compelled to place at least a portion of this charge on the consignees, who were really entitled to bear it all. The council after listening to the explanation, decided that a special meeting might be called, if desirable, to further discuss the matter.

Maritime Provinces and Newfoundland.

The Dartmouth, N.S., ferry steamer Halifax broke her shaft, Aug. 2, and was taken off the route for repairs.

The Gorton Pew Fisheries Co.'s schooner Orinoco capsized and sank near Sambro, N.S., Aug. 18, only one out of a crew of 12 being saved.

The construction of the new wharf at St. John, N.B., is proceeding rapidly. The fourth crib was sunk in position, Aug. 12. One more crib still remains to be placed.

The Newfoundland schooner Myrtle was driven on the rocks at North Langan Head, N.S., Aug. 11. The captain and crew of six men are missing. The vessel sailed from North Sydney, Aug. 8.

The steamships Sandsend and Winifred put into Halifax, N.S., Aug. 21, the former damaged through the shifting of cargo during a gale and the latter with bottom damages caused by grounding at Anticosti.

The Halifax and Sheet Harbor Steamship Co.'s s.s. Margaret while en route

from Halifax for eastern shore ports struck on Thrum Cap shoal, Aug. 19, in rough weather. The passengers were all landed safely. She was floated later, by tugs, the only apparent damage being the loss of her foremast, to which a tow line had been fastened.

The Dartmouth Steam Fishing and Curing Co., Ltd., has been incorporated under the Nova Scotia Companies Act, with a capital of \$30,000 and office at Dartmouth, N.S., to conduct a general fishing and curing business, and in connection therewith to own and operate steam and other vessels. R. Christie, W. G. Main, and A. G. Allardyce, Dartmouth, N.S., are among the provisional directors.

The s.s. Turret Bell, which was wrecked on the north shore of Prince Edward Island in the later part of 1906, and which was recently floated, was brought into Charlottetown, P.E.I., under her own steam, Aug. 1, and subsequently was towed to Quebec, where she was docked. At the time of the disaster the vessel was under charter to the Inverness Ry. and Coal Co., and after the wreck she was abandoned to the underwriters, who undertook to float her. She was offered for sale by public tender, Aug. 31., for the benefit of the underwriters.

At the recent meetings of the Maritime Board of Trade, at Charlottetown, P.E.I., a resolution was adopted, asking the Dominion Government to operate its own ferry across Northumberland Strait all the year round instead of only during the winter months. A resolution was also adopted, requesting that a complete survey be made of the approaches and pier sites on Tatamagouche Bay, and if found feasible, that the Charlottetown-Brule route be adopted instead of the Pictou route as at present, as experience showed that the former was shorter and less blocked than the latter. Some desultory talk took place as to the proposed tunnel with the main land, but it was decided to drop the matter and deal with something that might be considered to be attainable.

The steel steam tug, which the New Burrell-Johnson Co. is building at Yarmouth, N.S., for the Department of Public Works, will be used by the Department for towing, in connection with dredging at various points in the Maritime Provinces. The dimensions of the vessel are: length, over all 100 ft.; breadth, 22 ft.; depth of hold, 11 ft.; draught, 9.6 ft. The hull and deck-houses are built entirely of steel. The propelling machinery consists of triple expansion engines, with cylinders 12, 19 and 30 ins. diam., by 20 ins. stroke, supplied with steam by a horizontal return tubular boiler, 11 ft. by 9' 6", at a working pressure of 180 lbs. It is fitted with the usual auxiliary pumps, including a centrifugal circulating pump. A combined hand and steam windlass is supplied for the convenient handling of the chains and anchors, and steam steering machinery is placed in the pilot house. The boat, which will be classed A1 at Lloyds, will be very powerful. In connection with the construction of this vessel, it has been claimed that it is the first steel vessel to be constructed in Nova Scotia, but we are advised that a steel schooner was built at New Glasgow a few years ago.

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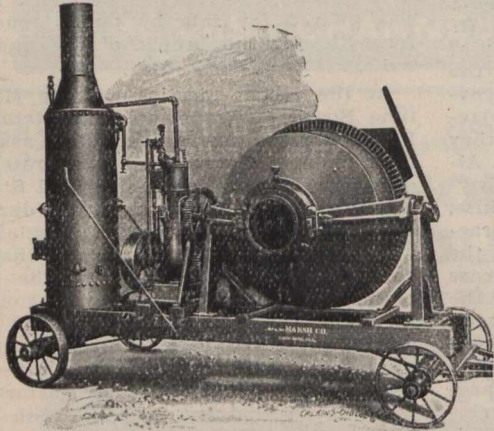
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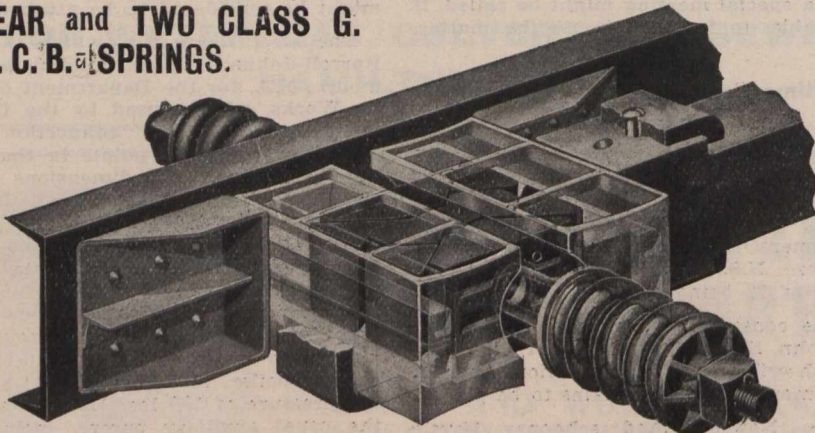
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Province of Quebec Marine

The Quebec and Levis Ferry Co. recently commenced a car ferry service between the points named.

The name of the barge Belle, no. 96868, registered at Montreal, has been changed by order in council to Coteau.

C. C. Ballantyne, one of the Montreal Harbor Commissioners who has been visiting England, in connection with the proposed construction of a dry dock at Montreal, returned home Aug. 6.

It is reported that the contract with the Quebec and Levis Ferry Co., for the operation of a ferry service between these two points, will be renewed next year, when the present contract expires, on a new basis. The municipalities of Quebec and Levis have each obtained authority from the Legislature to operate a ferry service.

The Canadian Graving-Dock and Ship-Building Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$2,000,000 and office at Montreal, to own, build or otherwise acquire and operate docks, slips, steam and other vessels, and to carry on the business of common carriers on the high seas and the inland waters of Canada. The provisional directors are: M. J. O'Brien, J. A. O'Brien, Renfrew, Ont.; F. W. Rous, G. A. Dillon, Montreal; J. R. Roy, Ottawa.

The traffic returns of the Lachine canal for July show that the following passengers, vessels and merchandise were dealt with:—Passengers, 24,903; Canadian owned vessels, steam 656, barges 500; U.S. owned, steam 43, barges, 43; tonnage of vessels, 464,861; wheat, 1,512,874 bush.; corn, 22,000 bush.; oats, 117,626 bush.; barley, 43,357 bush.; flaxseed, 81,959 bush.; eggs, 1,870 boxes; butter, 465 boxes; cheese, 59,936 boxes; lard, 425 barrels; whiskey, 1,063 hds.; coal, 23,773 tons; lumber, 23,640 tons.

The appeal of the Richelieu and Ontario Navigation Co. against the decisions of the Canadian courts, whereby it was held responsible for the damage caused to the Pittsburg and Erie Coal Co.'s steamboat Havana, about two years ago when its steamboat Prescott broke the lower lock in the Lachine canal, was dismissed by the judicial committee of the Privy Council in London, Eng., recently. The judgment of the Canadian courts was upheld. The owners of the Havana claimed \$30,000.

Ontario and the Great Lakes.

The name of the steam tug Eagle, no. 92,304, registered at Collingwood, has been changed, by order in council, to M. Maree.

The Toronto harbor master issued an order, Aug. 9, to restrain owners of vessels from dumping cinders, etc., in Toronto bay.

The cables operating the lower gates of the Sault Ste. Marie Canadian canal were broken, Aug. 8, the damage, however, was soon repaired.

The Department of Railways and Canals is asking for tenders for the reconstruction of the north pier at the upper entrance to the Canadian canal at Sault Ste. Marie.

It is announced that dock accommodation is to be built at Port Cobalt, with facilities sufficient to accommodate the largest steam vessels that can navigate Lake Temiskaming.

The Upper Lake Navigation Co.'s steamboat Adrelexa caught fire, Aug. 2, while en route to Cobalt from Elk Lake. The passengers, crew and mails were saved.

The steamboat City of Montreal was brought into Toronto, Aug. 7, with a broken piston rod. The repair was speedily made and she continued on her route with no loss of time.

The name of the steamboat A. Weston, no. 126,268, registered at Toronto, and owned by the Conger Coal Co., Toronto, has been changed, by order in council, to Congercoal.

The Merchants' Steamship Co.'s steamboat Mapleton, which recently arrived from England, and which ran ashore at Grave Island shoal, near Detour, was refloated Aug. 5, having received considerable damage to her bows.

The Toronto Ferry Co.'s steamboat John Hanlan, which was sunk by the s.s. H. M. Pellatt recently at Toronto, has been raised for repairs. Her machinery is intact, but she will not be ready for further service until next year.

M. J. Haney, Toronto, has applied to the Governor in council for the approval of plans for the extension of his wharf in front of water lots 22 and 23 according to plan 5A deposited in the Toronto Eastern Division Registry Office.

The Dominion Government is carrying out dredging work at the mouth of the Rainy River. The low water there this year has caused some inconvenience. The Rainy River Navigation Co.'s steamboat Keenora, has been laid up during the whole season.

The Montreal Transportation Co.'s schooner Augustus was towed into Prescott Aug. 13, having struck a rock in coming up the St. Lawrence. She was docked there and temporary repairs made to allow her to proceed to her destination on Lake Ontario.

Orders have been issued for the removal of the wreck of the steamboat Nimick, which came to grief off Whitefish Point in Lake Superior about two years ago. The wreckage has long been considered a menace to navigation in the vicinity.

The Inland Navigation Co.'s steamboat Glenellah, while bound from Montreal to Fort William, Aug. 2, struck the east breakwater at Port Colborne, causing considerable damage to her bows and displacing a portion of the breakwater. It is said that the cause of the trouble was the clogging of the steering gear.

Regarding reports to the effect that the control of the Richelieu and Ontario Navigation Co. was about to pass into other hands, R. Forget, M.P., President, recently said: "I have been approached on the matter, but I do not think that under existing circumstances the directors will let go the control of the company."

The construction of a dam at the foot of Lake Temiskaming is progressing, about 100 men being employed. It is estimated that it will be completed in about two years. It is intended to form a part of the proposed Georgian Bay canal scheme, of which C. R. Coutlee is

Engineer in Charge. The contractors are Kerby and Stewart.

The Haileybury Navigation Co.'s steamboat Silverland made her maiden trip, Aug. 6. She is being operated on a half-daily service between Haileybury and South Lorraine. The vessel was built at Haileybury by the Doty Engine Works, Goderich, and is equipped with a fore and aft compound engine, capable of a speed of 15 miles an hour.

It is reported that an estimate of the damage caused by the recent ramming of the lock gates at the Sault Ste. Marie Canadian canal places the cost of repairs to the lock gates at \$50,000. A press report states that after an enquiry into the causes of the disaster the license of the second engineer of the Perry G. Walker, who was in charge of the vessel at the time, has been revoked.

The steamboat Glengarry, owned by J. Richardson & Sons, Kingston, struck the pier of the bridge at Montreal, Aug. 14, and sank with her cargo of 20,000 bush. of wheat. She is a screw-driven vessel, with engine of 300 n.h.p., and was built at St. Catharines in 1872, and re-built at Kingston in 1886. Her dimensions are: length, 170 ft.; breadth, 26 ft.; depth, 11.2 ft.; tonnage, 732 gross, 438 register.

The ratepayers of Port Arthur, Aug. 10, ratified a bylaw granting a bonus of \$25,000 a year for 10 years and a free site for the construction of a dry dock and ship-building plant there by the Western Drydock and Shipbuilding Co. Ltd. The site at Bare Point has been surveyed and soundings taken, and it has been stated that work will be commenced immediately. The cost of the plant has been mentioned as \$1,000,000.

The Pioneer Exploration and Development Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$100,000 and office at Ottawa, to carry on the business of a development company, and in connection therewith, to build, purchase or otherwise acquire and operate steam and other vessels. The provisional directors are: J. S. Crawford, W. E. Brown, J. W. Gamble, J. J. Collins, and C. W. Patton, Ottawa.

The U. S. Lake Survey reports the stages of the various lakes for July, in feet above tide water, as follows: Superior, 602.16; Michigan and Huron, 581.12; Erie, 573.03; Ontario, 247.16. It was anticipated that during Aug. Superior would be 1½" higher; Michigan and Huron ¼" lower; Erie, 2" lower, and Ontario 3" lower. Compared with the average stages for the past 10 years, Superior is 9" lower; Michigan and Huron 1¼" lower; Erie, 2½" higher; Ontario, 5½" higher.

The Western Drydock and Shipbuilding Co.'s proposed drydock and ship-building plant at Port Arthur, it is said, will cost about \$700,000 and be the most complete on the Great Lakes. The Port Arthur city council has agreed to bonus the company to the extent of 100 acres of land and payment of \$25,000 a year for 10 years, in addition to which the company will be exempt from taxes for 20 years, with the exception of \$2,000 a year for school purposes. The dock which it is proposed to build will be 700 ft. long.

The Turbine Steamship Co.'s s.s. Turbinia caused some little damage to a number of vessels at Charlotte, N.Y., Aug.

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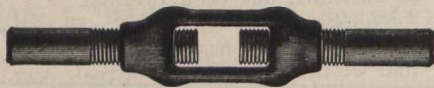
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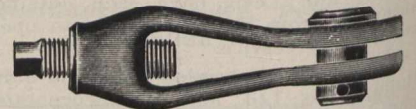
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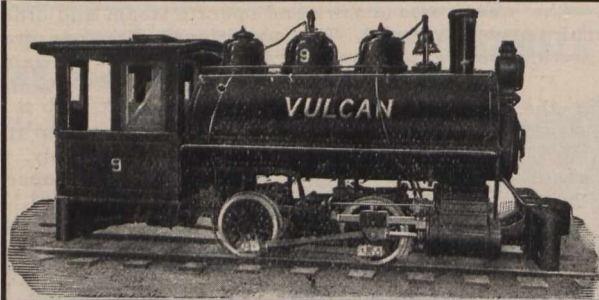
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15. Owing to some unexplained cause, full steam was applied to the Turbinia, while she was moored to the wharf, and she collided with the Richelieu and Ontario Navigation Co.'s s.s. Kingston, which ran into two other vessels. The damage done was comparatively small, as the vessels named were able to proceed on their trips. Official enquiries will be held by Canadian and U.S. authorities, but in the meantime the second engineer of the s.s. Turbinia, who was in charge, has been dismissed.

The Farrar Transportation Co.'s s.s. Collingwood was sunk in collision with the U.S. s.s. George L. Craig in the Detroit River, Aug. 24. It is stated that the latter vessel rammed the Collingwood, and that the cause of the disaster was probably a misunderstanding of the whistle signals. The Collingwood had a large hole torn in her side, about amidships below the water line. The captain, F. A. Basset, attempted to beach the vessel, but she sank forward when within 100 yards from shore, in 40 ft. of water. She had a cargo of 7,000 tons of coal, and was bound for Fort William. The Collingwood was built at Collingwood in 1907, and was equipped with engine of 163 n.h.p., driving a screw. Her dimensions are: length, 386 ft.; breadth, 50 ft.; depth, 23 ft.; tonnage, 4,529 gross, 3,480 register.

The Dominion Department of Public Works has recognized the need of dredging the shoal at the outlet of the Niagara River. Surveys have been made, and shallow places discovered that are a menace to navigation. About three miles from shore a sand bar has existed for many years, and the constant deposits from the river which were increased by the ice jam last spring, have gradually formed a shoal that demands attention. Vessels have grounded at this point, and at present deep draught boats trading on Lake Ontario to and from the Welland canal could not safely seek shelter in the Niagara River. Even the regular passenger steamers operating between Toronto and Niagara have experienced difficulty, and are obliged to run at reduced speed in crossing the bar. The dredge Quebec is at work upon this shoal and will provide a safe channel, which when completed should be well marked with lighted bell buoys.

On the question of the construction of a dam at the Long Sault Rapids, in connection with a proposed power development scheme, the Minister of Railways and Canals is reported to have said, at Brockville, Aug. 22, that "the proposition will have to be decided from the standpoint of the Canadian people. The plans at first presented to the Government were objected to at once. The engineers of the three departments particularly interested, the Marine, Railways and Canals and Public Works, were named to investigate the proposition, and as a result of their protest several important changes have been made in the plans, which would tend to safeguard Canadian interests. Outside of the objections raised in some quarters on account of the obliteration of the rapids, the effect it would have on the great water carrying trade of Canada must be carefully investigated. The cheap rates of transportation afforded by the St. Lawrence route on which Canada has spent many millions are of such vital importance to the trade of

the country that no scheme that would interfere with them could be countenanced."

The freight truckers employed by the C.P.R. at Fort William struck work Aug. 9, without notice, causing some little dislocation of traffic. The men, who are of mixed nationalities, caused some disturbance and a riot ensued during which several of the C.P.R. police were wounded. The introduction of the military quieted things somewhat, and the men returned to work Aug. 16. It is reported that an application has been made to the Minister of Labor to appoint a board of conciliation to enquire into the men's alleged grievances.

Hon. Mackenzie King, Minister of Labor, has received a telegram from F. A. Acland, Deputy Minister, announcing that he left Fort William for Ottawa, Aug. 25, with the report of the board of conciliation which inquired into the difficulties between the C.P.R. and its dock laborers. He reports that the board reached a unanimous finding which is believed to be acceptable to both parties. The work of the board was expeditiously performed, the evidence being taken and the report framed in six days.

Captain Young, of Fort William, was the chairman, Alderman Rankin, of that city, represented the men, and W. J. Christie, of Winnipeg, the company. Mr. Acland was on hand throughout the sittings to give the board the benefit of his advice.

Manitoba, Saskatchewan and Alberta.

The steamboat Orillia arrived at Medicine Hat, Alta., from Saskatoon, Sask., Aug. 14, and it is understood that she left there with the intention of proceeding to Lethbridge.

The Manitoba Beach Co., Ltd., has been incorporated under the Manitoba Companies Act, with a capital of \$100,000 and office at Winnipeg, to carry on the business of land improvement company, and in connection therewith to own and operate vessels of all kinds, and do a general transportation business. The provisional directors are: D. C. Cameron, G. J. Lovell, A. L. Serkau, J. Mahood, C. Goodday, Winnipeg.

The British America Mills and Timber Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$25,000 and office at Winnipeg, to carry on a general timber and merchandise business, and in connection therewith to purchase, lease or otherwise acquire and operate all such transportation facilities by land and water as may be necessary for the conduct of such business, and also to carry on the business of general carriers of passengers and freight. The provisional directors are: M. G. Curran, D. McCleave, D. W. McKerchar, W. Wilson, and H. R. Patriarche, Manager Canadian Car Service Bureau, Western Lines, and Manager and Secretary-Treasurer Canadian Freight Association Western Lines Freight Inspection Bureau, Winnipeg.

In an interview at Winnipeg, Aug. 12, the Minister of Public Works said: "The possibility of connecting Winnipeg and Edmonton by a water route was brought to my attention again, while in Alberta, and I secured much additional information on the subject, which I deemed worthy of the most careful consideration.

The locks at St. Andrews, on which a large sum of money has been spent, will soon be completed, enabling vessels traversing Lake Winnipeg to reach this city. By the expenditure of a reasonable sum it appears that it would be possible to secure water communication by way of the Red River, Lake Winnipeg, and the Saskatchewan River, between Winnipeg and Edmonton. The public benefit resulting from this improvement would be very great. The most serious difficulty in connection with the proposal is created by the rapids between Cedar Lake and Lake Winnipeg at Grand Rapids, on the Saskatchewan. There are very long stretches of navigable water on the Saskatchewan, with only an occasional sandbar, which latter could be readily removed. Further information would be necessary before coming to any conclusion on the matter, but there would seem to be little doubt regarding the practicability of the scheme."

B.C. and Pacific Coast Marine.

F. C. Stratford, Vancouver, has been appointed a Fisheries Protection officer, with the rank of master mariner.

P. Wylie has been appointed shipping master for the port of Vancouver, and H. Dunn has been appointed measuring surveyor of shipping for the port of Prince Rupert.

The New Westminster Pilotage Authority's by-laws have been approved by the Minister of Justice and the Minister of Marine, and have been submitted to the Governor General in council for approval.

The contract for the construction of the hull of the vessel to be operated by the Royal Navigation Co., was placed in New Westminster, Aug. 2. It is expected that the vessel will be completed and on its route, early in November.

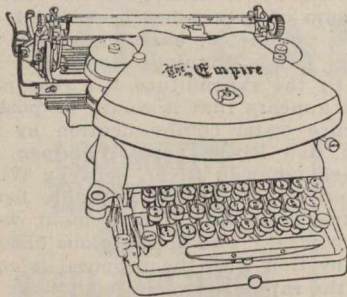
The Canada Shipping Act has been amended by order in council, by the addition of clause 50 prohibiting the navigation of the waters of Victoria Arm above Point Ellice bridge, Victoria harbor, by motor boats, at a greater speed than 6 miles an hour.

The Canada Dredging Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$2,500,000, to acquire certain dredging leases, and among other things to build, purchase or otherwise acquire steam and other vessels and conveniences conducive to any of the company's objects.

The Cariboo Navigation and Development Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$500,000, to build, purchase or otherwise acquire and operate steam and other vessels propelled by whatever power the company may desire, for the transportation of passengers and freight on any B.C. waters, and for other purposes.

Reports continue to be circulated by presumably responsible papers to the effect that the G.T.P.R. has placed an order in Newcastle, Eng., for the construction of a fast steamer, to be operated between Victoria, Vancouver and Prince Rupert. We have been officially advised that arrangements relative to the company's proposed Pacific coast service are not sufficiently advanced to warrant the statement mentioned.

The Judicial Committee of the Privy



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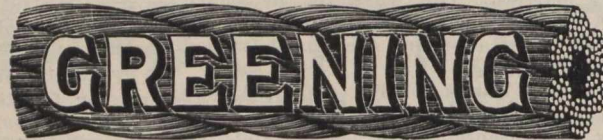
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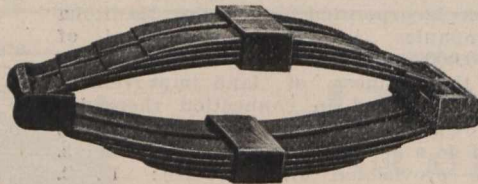
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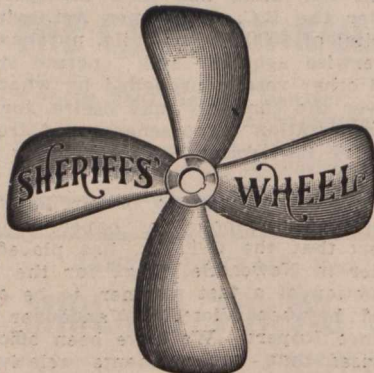
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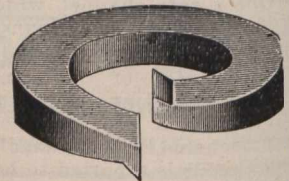
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Council has decided in favor of the C.P.R. in its appeal against the decision of the Canadian Court, by which the company had to pay damages to the relatives of a number of persons who were drowned as the result of a collision between the company's s.s. Princess Victoria and the s.s. Chehalis in 1906. The judgment of the first Canadian Court in favor of the C.P.R. has been reinstated, with costs.

The C.P.R. has added an electric crane to its equipment at its docks at Vancouver. The crane, which has a capacity of 25 tons, has a beam 16" by 18", and a radius of 78 ft. The mast is 52 ft. high, and 18" by 18", supported by two legs, each 75 ft. by 16" by 16". It is worked by an electric motor, and is also fitted with a hand winch. The boom will project 28 ft. over each side of the wharf, and enable materials to be lifted from cars to the vessel direct.

The Department of Public Works has completed surveys for the proposed improvements in Vancouver harbor. The improvements comprise the widening of the first narrows, the removal of Parthia and Burnaby shoals, the dredging of a mooring basin in Coal harbor and a channel in False Creek about 3 miles long by 300 ft. wide. It is estimated that about 5,000,000 cubic yards of material will have to be moved. G. A. Keefer, Resident Engineer, New Westminster, is in charge of the work.

Capt. H. Glide, an old-time mariner of the Pacific coast, recently celebrated the 56th anniversary of his landing at Victoria. He was one of the first mariners to be identified with that port, and during his career, he performed a feat which will long be remembered in the annals of local seamanship. He shares with Capt. Vancouver, the discoverer of the island, the distinction of having sailed a square-rigged vessel from Victoria, through the Straits of Georgia and round the north end of the island, through the tortuous channels and skirting the numerous islands, without an accident. He was born in 1834 and landed at Victoria in 1853.

The Skeena River Transportation Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$25,000, to purchase the steamboat Craigflower from J. J. Sloan and R. J. McDonell, Port Essington, B.C., together with the goodwill and business carried on by them under the name of the Skeena River Transportation Co.; to own and operate steam and other vessels, and to carry on the general busi-

ness of ship owners and carriers by land and water. The steamboat Craigflower is a paddle wheel steamer with engine of 2 n.h.p., and she was built at Victoria in 1908. Her dimensions are: length, 65 ft.; breadth, 12.3 ft.; depth, 2.8 ft.; tonnage, 21 gross, 12 register.

A steamboat named Argonaut has recently been built at Dawson, Y.T., with a method of propulsion which is somewhat novel. The paddle wheels are placed aft and work in a horizontal position with a vertical lift. The boat has been designed and built for light draught service on the side streams of the Yukon for carrying prospectors and supplies as far into the interior as possible. The propelling machinery is stated to be a modification of the Whitworth quick return motion, as used on shapers and other tools in machine shop practice, and the experiment has proved entirely satisfactory and has demonstrated the practicability of the application of the present high speed internal combustion or other high speed engines for the propulsion of light draught, stern propelled river boats. The engine utilized was made locally and is naturally somewhat crude. It is of 25 h.p. On an experimental run, she passed over several bars with but 9" of water, and will carry 5 tons of freight on a 13½" draught.

Grain Clearing House at the Dual Ports.

A meeting of the Dominion Marine Association was held at Toronto, Aug. 19, when the establishment of a grain clearing house was discussed. C. Ruttan, secretary Lake Shippers' Clearing House Association, Winnipeg, was present and outlined the purpose of the association, which is to arrange for the loading of vessels at Fort William and Port Arthur, from one or two elevators, instead of at a greater number as at present, thus obviating the delay which now takes place. Those present endorsed the proposed arrangement, and undertook to bear their proportion of the expense in maintaining such a clearing house.

The expense of maintaining this system will be considerable, as there is to be an accounting staff at Winnipeg, as well as an office at Fort William or Port Arthur, where the loads will be adjusted. The charges which have proved acceptable to the shippers, are.

For a load taken at one house only,	30c. per 1,000 b.
" " " two houses	20c. " "
" " " three or more	" " "
houses	10c. " "

This, it is anticipated, will pay a large proportion of the expense. Under the scheme, shippers at Winnipeg will turn over their railway bills of lading with orders attached, and the clearing house at the shipping port will take them, and all others that may have come in, and rearrange the shipments, with a view to lessening the number of houses at which any vessel will have to call. For example, five shippers may be sending five vessels to five houses each, and the clearing house may be able to so adjust the shipments, that each of the vessels may be able to get her full load at one, two, or at most, three houses. Under the schedule of charges mentioned, the vessel will be under less expense, according as her shipments entail more time and trouble in loading. The matter is now well in hand, and seeing that vessel owners have undertaken a large share of the expense, the scheme should be put on a good working basis very shortly. The Bankers' Association and the owners of the terminal facilities have agreed to the scheme. In carrying out the work, the terminal operators will recognize orders from the clearing house, the shipper having no direct relations with them. An important feature of the scheme is that all shipments will be on this basis, the vessel fee will be collected in cash, and consequently every vessel will be subject to the arrangement, U. S. vessels as well as Canadian. It is understood that the U. S. owners have expressed their concurrence with the arrangements made. The owners of terminal elevators have taken out insurance policies to provide against collapse, and this enables shippers to escape risk of loss in allowing the shuffling of their grain shipments or orders, as other risks are covered.

At the same meeting, it was unanimously resolved to ask that the system of weighing into vessels at these ports under Government supervision be abolished, on the ground that it is not only useless but embarrassing. Hitherto, the Association has asked that the system be extended to the lower ports, and that the Government guarantee the returns, but this is not considered to be feasible, so it now seeks to have the whole system abolished.

Smithers, reading from a newspaper: "I see that the new ocean liner can steam 26 knots an hour."

His wife: "I suppose they steam the knots so that the poor sailors can untie them more easily."

The Purchasing Agents' Guide

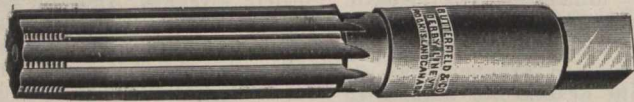
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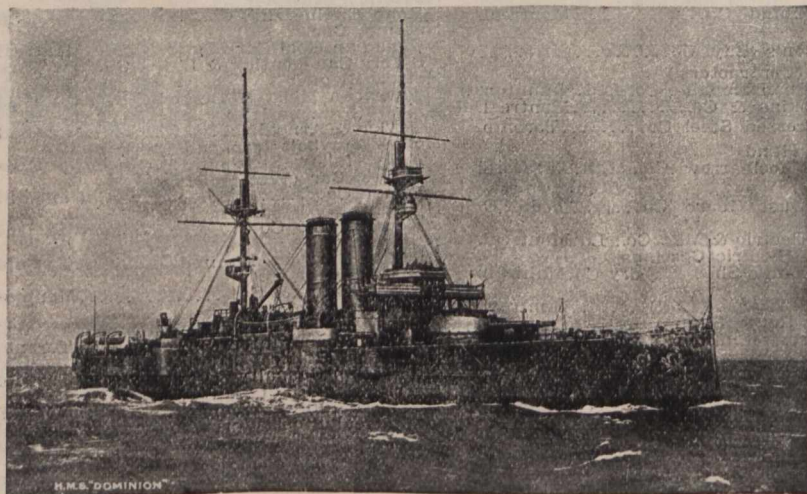
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- Boilers, Stationary and Marine**
 Babcock & Wilcox, Ltd. Montreal.
 Robb Engineering Co., Ltd. Amherst, N. S.
Boiler Staybolt Iron or Steel Bars
 Falls Hollow Staybolt Co. Cuyahoga Falls.
- Boilers, Steam**
 Babcock & Wilcox, Ltd. Montreal.
 Robb 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.
 Nova Scotia Steel & Coal Co., Ltd.,
 New Glasgow, N.S.
 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.
 Canada Iron Corporation, Ltd. Montreal.
- 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**
 Mussels, Ltd. Montreal.
- Car Movers**
 F. H. Hopkins & Co. Montreal.
 Mussels 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.
 Stilliker Car Co., Ltd. Halifax, N.S.
- Castings, Brass**
 Canadian Bronze Co. Montreal.
 Canada Iron Corporation, Ltd. Montreal.
 Kerr Engine Co. Walkerville, Ont.
 Pallman 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.
 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.
- Coal**
 Nova Scotia Steel & Coal Co., Ltd.,
 New Glasgow, N.S.
- Compressors, Air**
 Canadian Rand Co. Montreal.
- Concrete Mixers and Rock Crushers**
 F. H. Hopkins & Co. Montreal.
 Mussels Limited. Montreal.
 Toronto Pressed Steel Co. Toronto.
- Contractors' Supplies**
 F. H. Hopkins & Co. Montreal.
 Rice Lewis & Son. Toronto.
 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.
 Mussels Limited. Montreal.
- Cranes, Locomotive**
 American Hoist and Derrick Co. St. Paul.
- Cranes, Wrecking**
 Mussels Limited. Montreal.
- Crowbars**
 B. J. Coghlin & Co. Montreal.
 Toronto Bolt and Forging Co. Toronto.
- Curtains and Fixtures, Car**
 The Holden Co., Ltd. Montreal.
- 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.
 Mussels Limited. Montreal.
- Dies**
 Butterfield & Co. Rock Island, Que.
 A. B. Jardine & Co. Hespeler, Ont.
- Ditchers**
 M. Beatty & Sons. Welland, Ont.
- Diving Outfits**
 John Date. Montreal.
 Mussels Limited. Montreal.
- Doors, Steel Rolling**
 Mussels Limited. Montreal.
- Door Signs**
 Acton Burrows Limited. Toronto.
- Draft Gear**
 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.
- Dynamos**
 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**
 Mussels 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.
 Nova Scotia Steel & Coal Co., Ltd.,
 New Glasgow, N.S.
 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.
 Mussels Limited. Montreal.
 Rice Lewis & Son. Toronto.
 Toronto Pressed Steel Co. Toronto.
- Hardware**
 The Hudson's Bay Co. Toronto.
 Rice Lewis & Son. Toronto.
- 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.
 Nova Scotia Steel & Coal Co., Ltd.,
 New Glasgow, N.S.
- Iron Signs**
 Acton Burrows Limited. Toronto.
- 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 Mch. Co., Ltd. Toronto.
- Japans**
The Dougal Varnish Co. Ltd. Montreal.
- Journal Bearings**
Canadian Bronze Co. Montreal.
Crosen 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 Mch. Co., Ltd. Toronto.
- Lager Beer, &c.**
E. L. Drewry. Winnipeg.
- Lagging and Covering, Locomotive**
Taylor & Arnold. Montreal.
- Lamps, Arc**
Northern Electric & Mfg. Co., Ltd. Montreal.
- Lamps, Incandescent**
Canadian Westinghouse Co. Hamilton, Ont.
- Lamps and Lanterns**
The Hudson's Bay Company.
The Hiram L. Piper Co. Montreal.
The N. L. Piper Ry. Supply Co. Toronto.
- Lamps, Switch**
The N. L. Piper Ry. Supply Co. Toronto.
- Lathes**
John Bertram & Sons Co. Dundas, Ont.
- Laths**
J. Harrison & Sons Co. Owen Sound, Ont.
- Launches**
Polson Iron Works, Ltd. Toronto.
- Lighting, Car**
Canadian Gold Car H'g & L'g Co. Montreal.
Safety Car H'tg & L'tg 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**
Crosen Car Mfg. Co. Cobourg, Ont.
F. H. Hopkins & Co. Montreal.
- Lubricators**
The Holden Co., Ltd. Montreal.
McCord & Co. Chicago, Ill.
Taylor & Arnold. Montreal.
- Lumber**
Parry Sound Lumber Co. Toronto.
J. Harrison & Sons Co., Owen Sound, Ont.
- Machinery, Cement**
Jas. W. Pyke & Co. Montreal.
- Machinery and Plant, Contractors'**
American Hoist & Derrick Co. St. Paul.
M. Beatty & Sons. Welland, Ont.
R. M. Burns & Co. Chicago, Ill.
J. T. Gardner. Chicago, Ill.
F. H. Hopkins & Co. Montreal.
Mussens Limited. Montreal.
Robertson Mfg. Co. Welland, Ont.
Willis Shaw Mch. 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.
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John Bertram & Sons Co. Dundas, Ont.
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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 Graded Steel Co. Toronto.
- Ploughs, Grading**
Meaford Wheelbarrow Co., Ltd. Meaford.
- Poles**
J. Harrison & Sons Co., Owen Sound, Ont.
- Porter**
E. L. Drewry. Winnipeg.
- Posts**
J. Harrison & Sons Co., Owen Sound, Ont.
- Powder, Blasting**
Standard Explosives Limited. Montreal.
- Printing**
Southam Press. Toronto.
- 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 & Sons. Welland, Ont.
- Rail Benders, Roller**
F. H. Hopkins & Co. Montreal.
Montreal Steel Works. Montreal.



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