CANADIAN PACIFIC SELF-PROPELLED CARS

Chicago, Rock Island and Pacific Rd.—W. F. Crawford, District Passenger Agent, Buffalo, N.Y., is reported to have resigned.

Grand Trunk Pacific Ry.—A. Brunet, Montreal, has been appointed a Director of the G.T. Pacific Ry., as representative of the Dominion Government. He was one of the first members of the National Transcontinental Ry. Commission.

Grand Trunk Ry.—H. B. Cassidy has been appointed roadmaster 6th and 7th districts, Kingston Junction to York, succeeding J. Grahnm, transferred. Office, Belleville, Ont.

J. Crombie, heretofore night chief dispatcher at London, Ont., has been appointed chief dispatcher, vice W. M. Goodwin, assigned to other duties. C. Forrester has been appointed night chief dispatcher.

The following agents have been appointed. Hyde Park, Ont., C. G. Routledge; Bright, Ont., G. W. McVicar; Shallow Lake, Ont., F. W. Hinton; Aubrey, Que., J. E. Braithwaite; Galetta, Ont., J. Clifford; Ravensworth, Ont., D. T. McIntosh.

Intercolonial Ry.—C. F. Burns of the Treasurer's Department, Moncton, N.B., has been appointed Auditor of Disbursements.

Railway Rolling Stock Notes.

The Intercolonial Ry. has received two Rodger ballast cars from the Dominion Dump Car Co., Montreal.

The Canadian Northern Ry. has received three first-class coaches and two mail and express cars from the Crossen Car Manufactnring Co., Cobourg, Ont.

The Locomotive and Machine Co. of Montreal is delivering three consolidation locomotives a week to the G.T.R., and will continue to do so until the end of the year.

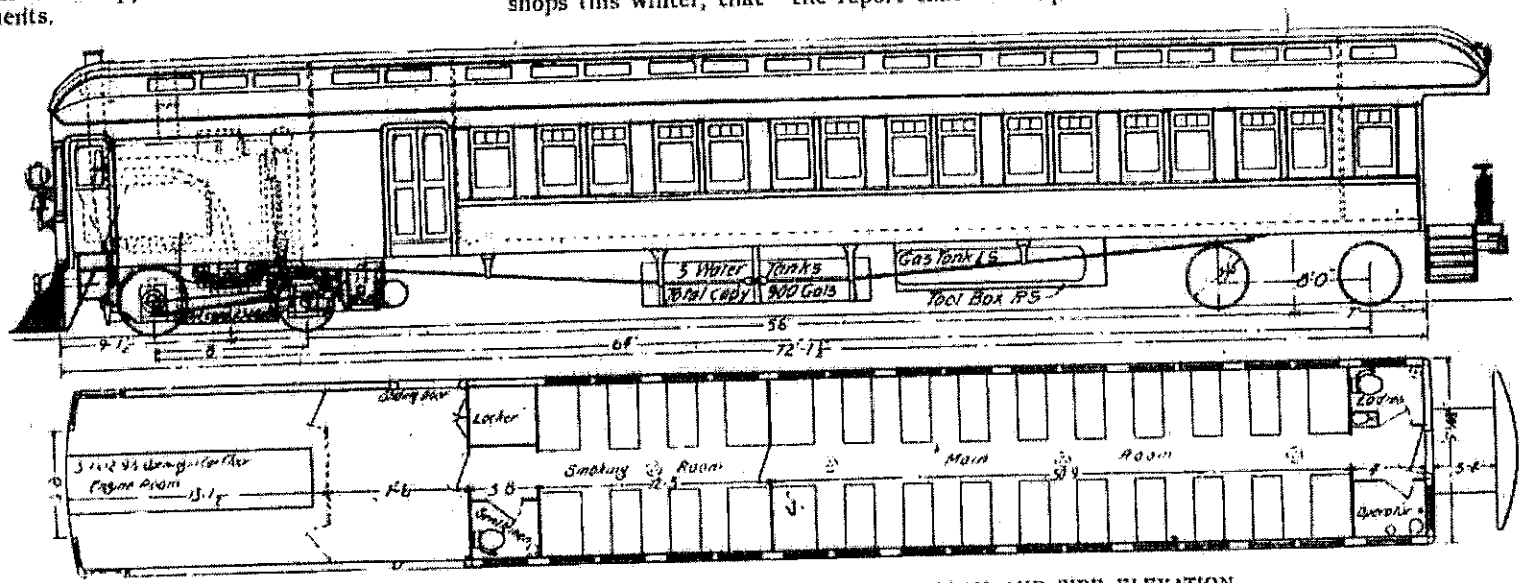
The Bessemer and Barry's Bay Ry. has purchased one locomotive, 12 automatic dump cars, and one flat car. It is considering the question of purchasing additional rolling stock.

The C.P.R. steam motor car which is in operation between Montreal and Vaudreuil, was very fully described in our Aug. issue, pg. 437, and Sept., pg. 515 and 525. Additional illustrations are given on this page and page 595.

We were officially advised Sept. 8, respecting the press reports to the effect that the C.P.R. was making preparations for the building of two more motor cars at the Angus shops this winter, that "the report that we are to build two more motor cars at the present time is incorrect."

of these will be of the 200 class 10 wheels and the other 15 will probably be of the consolidation type; delivery to begin in March, 1907; with the Locomotive & Machine Co. of Montreal, 25 locomotives, 10 of these will be of the 200 class and 15 will probably be of the consolidation type, delivery to begin in Feb., 1907; with the Canada Foundry Co., Toronto, 20 locomotives, type not yet decided; with Rhode, Curry & Co., Amherst, N.S., 1,000 box cars, 30 tons capacity.

The Winnipeg Telegram of Aug. 31 contained an item stating that "The Canadian Northern is adding extensively to the equipment of its rolling stock throughout the west. Six locomotives have been supplied recently by the big Baldwin Locomotive Works of Philadelphia, and orders for 22 more have been placed with the firm. E. S. Currier, of the locomotive works, was in the city yesterday, and had a conference with E. A. James, Manager of the Canadian Northern, regarding the orders." We have been officially informed that the Canadian Northern Ry. has not placed orders for any locomotives with the company named, and we have also been advised that the Baldwin Locomotive Works has not anyone of the name of E. S. Currier upon its staff.



CANADIAN PACIFIC RAILWAY STEAM MOTOR CAR—FLOOR PLAN AND SIDE ELEVATION

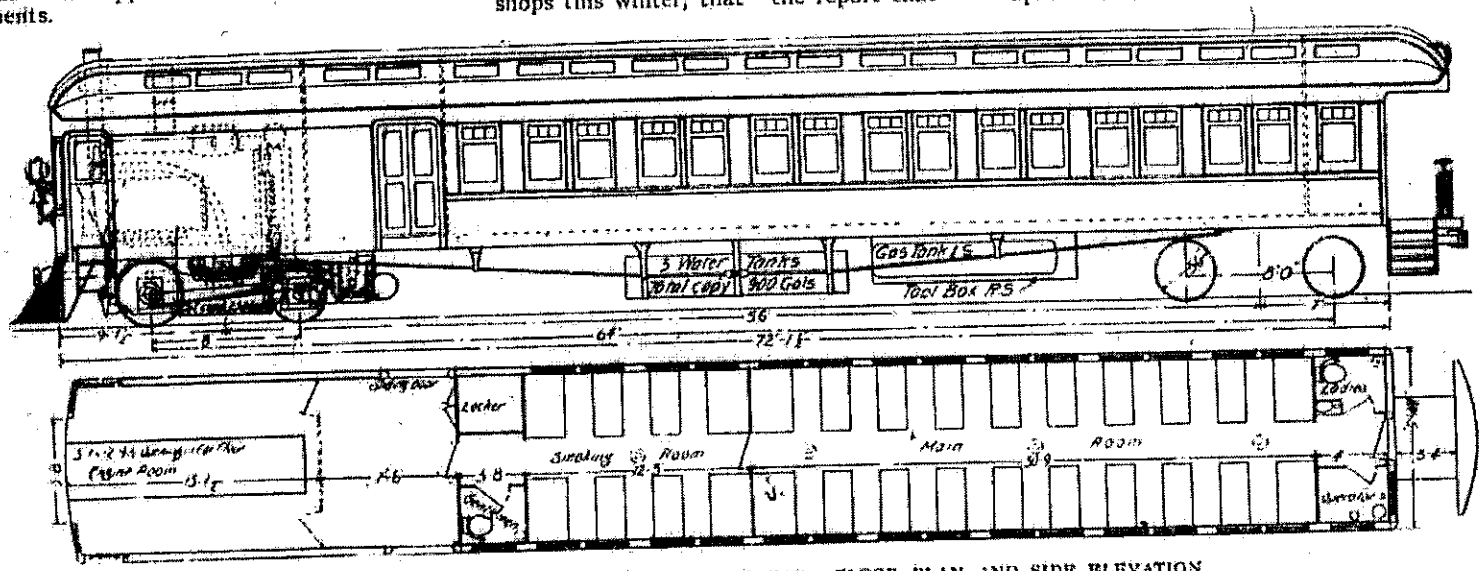
New York Central and Hudson River Rd.—H. A. Thomas, District Passenger Agent,

Canadian Freight Classification Changes.

The Canadian Freight Association has ap-

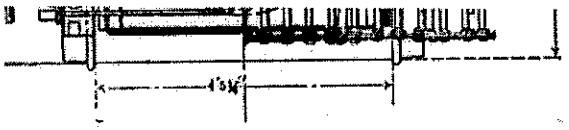
has been appointed [illegible] ments.

shops this winter, that "the report that we [illegible] upon its staff.

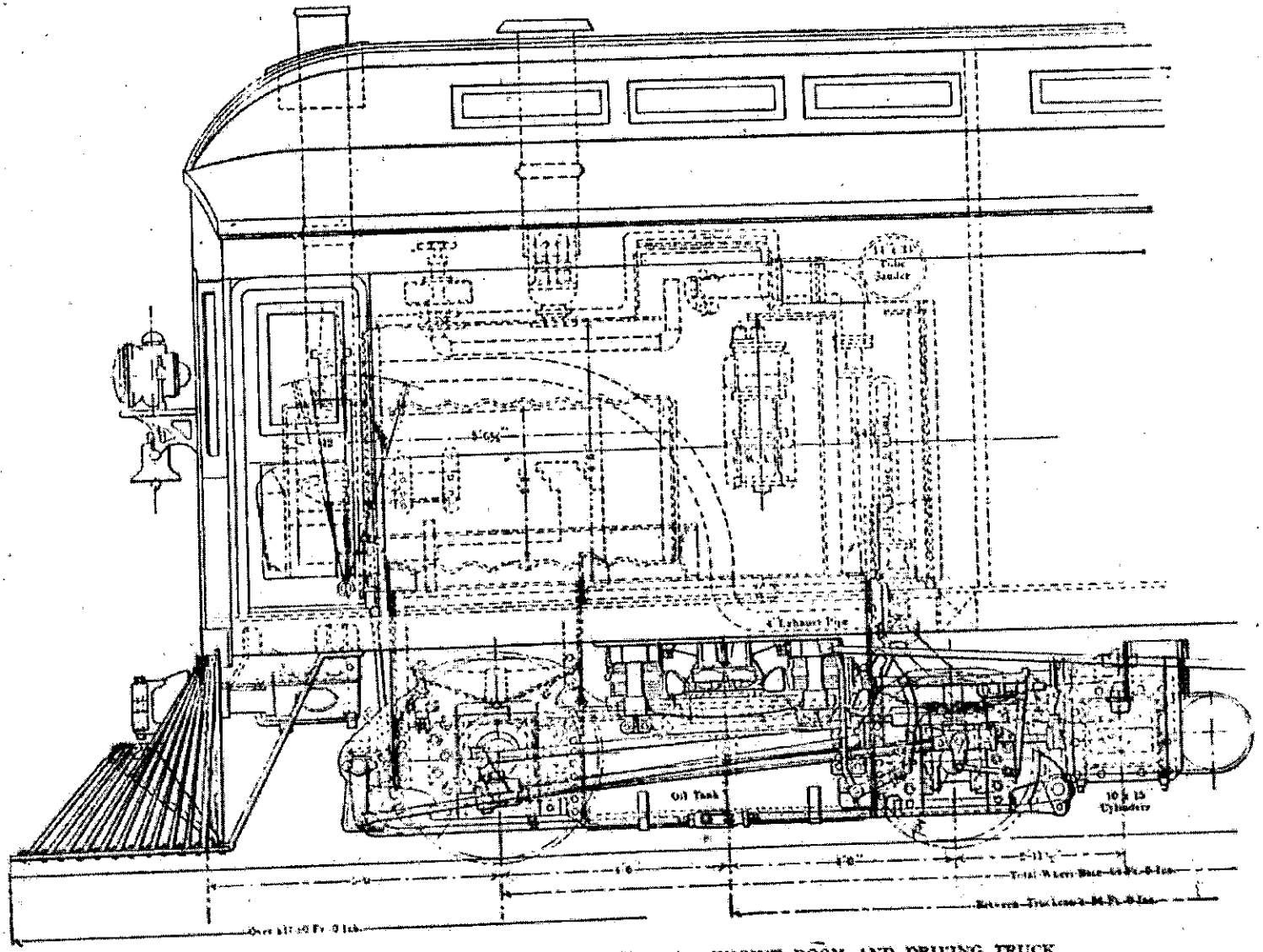


CANADIAN PACIFIC RAILWAY STEAM MOTOR CAR—FLOOR PLAN AND SIDE ELEVATION

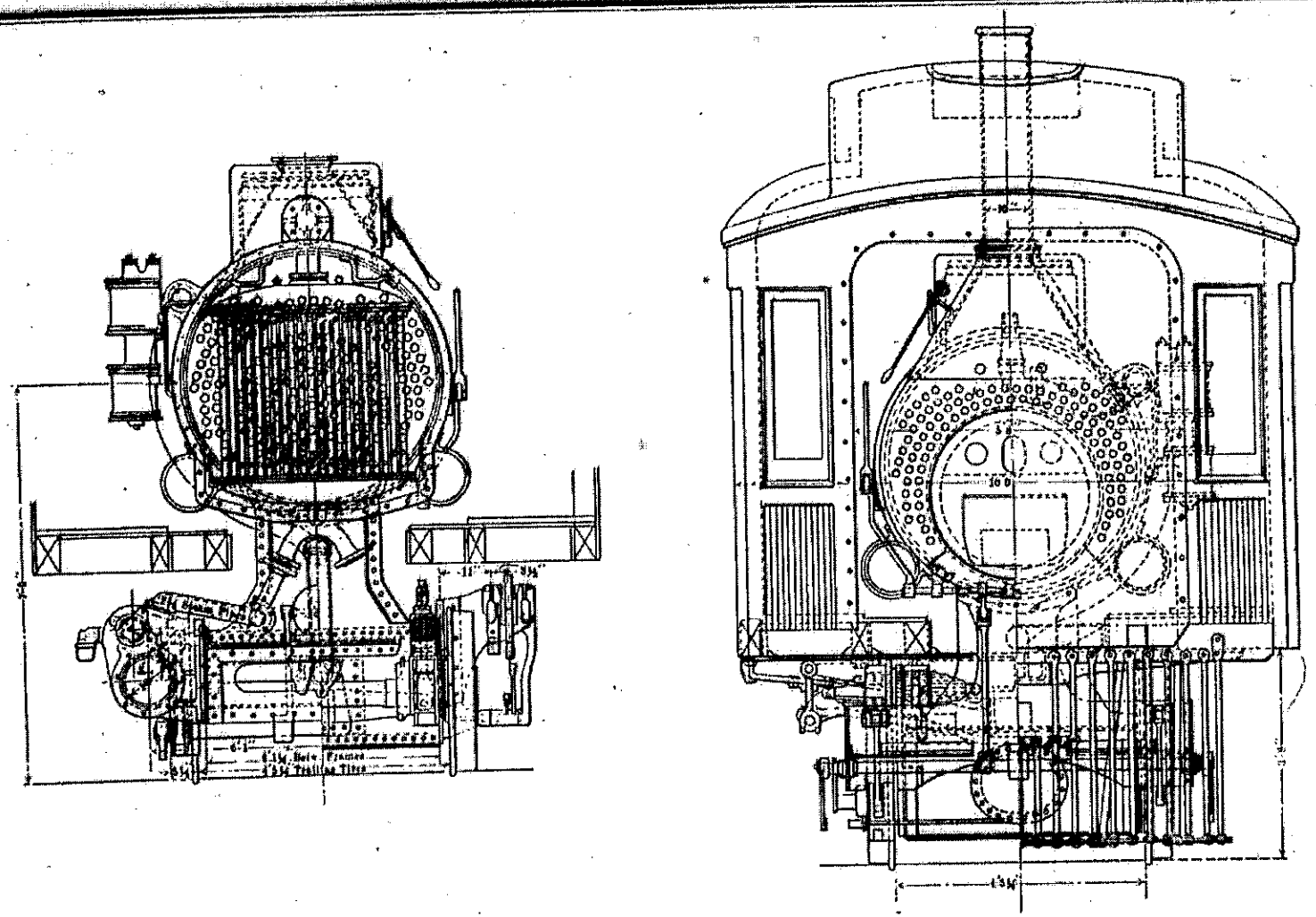
Canadian Freight Classification Changes.



CANADIAN PACIFIC RAILWAY STEAM MOTOR CAR—END VIEW AND SECTION



CANADIAN PACIFIC RAILWAY STEAM MOTOR CAR—ENGINE ROOM AND DRIVING TRUCK



CANADIAN PACIFIC RAILWAY STEAM MOTOR CAR—END VIEW AND SECTION

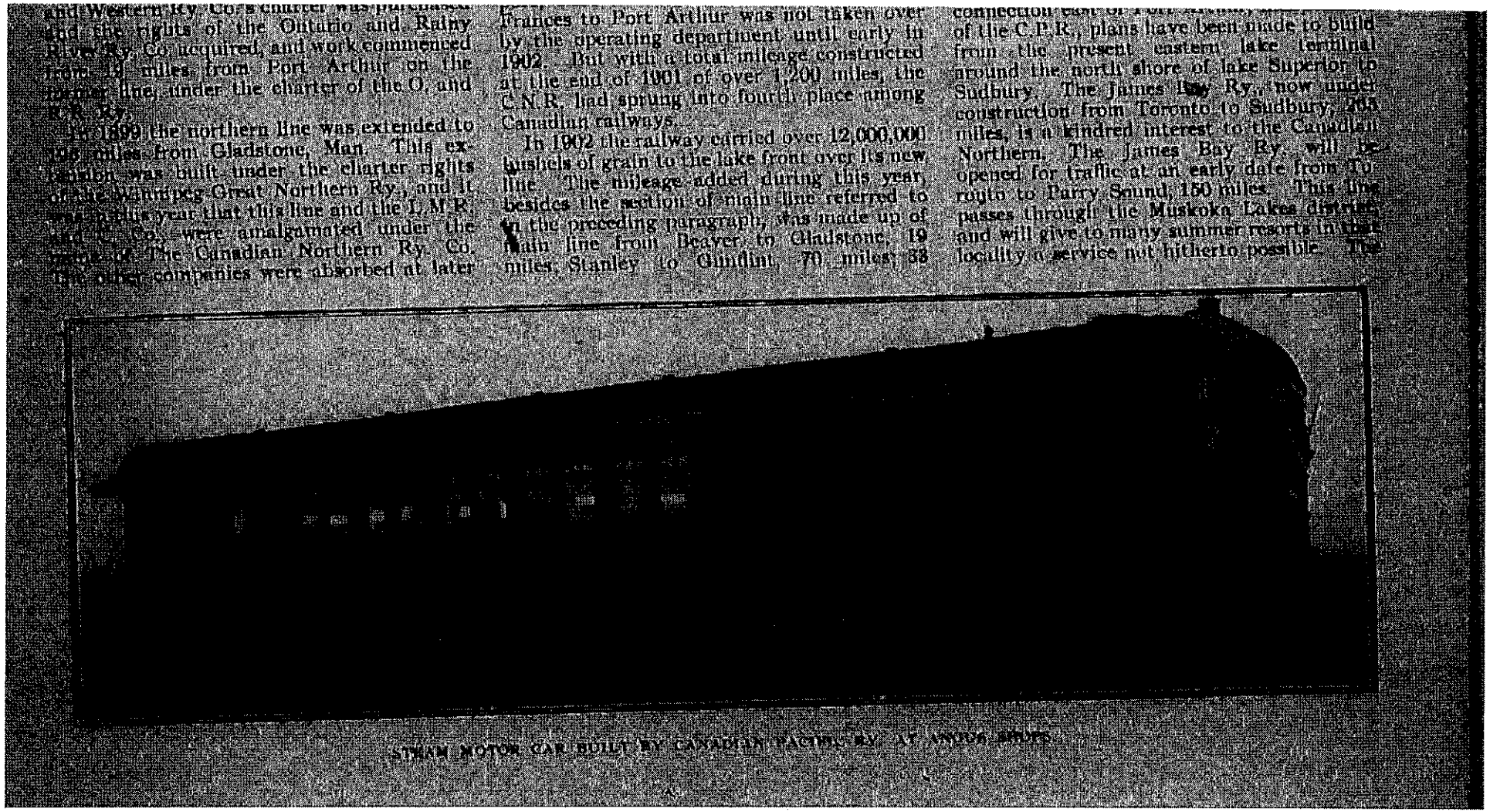
and Western Ry Co's charter was purchased, and the rights of the Ontario and Rainy River Ry. Co. acquired, and work commenced from 13 miles from Port Arthur on the former line, under the charter of the O. and R.R. Ry.

In 1899 the northern line was extended to 106 miles from Gladstone, Man. This extension was built under the charter rights of the Winnipeg Great Northern Ry., and it was in this year that this line and the L.M.R. and T. Co. were amalgamated under the name of The Canadian Northern Ry. Co. The other companies were absorbed at later

Frances to Port Arthur was not taken over by the operating department until early in 1902. But with a total mileage constructed at the end of 1901 of over 1,200 miles, the C.N.R. had sprung into fourth place among Canadian railways.

In 1902 the railway carried over 12,000,000 bushels of grain to the lake front over its new line. The mileage added during this year, besides the section of main line referred to in the preceding paragraph, was made up of main line from Beaver to Gladstone, 19 miles; Stanley to Quinlan, 70 miles; 38

connection east of [illegible] of the C.P.R., plans have been made to build from the present eastern lake terminal around the north shore of lake Superior to Sudbury. The James Bay Ry., now under construction from Toronto to Sudbury, 265 miles, is a kindred interest to the Canadian Northern. The James Bay Ry. will be opened for traffic at an early date from Toronto to Parry Sound, 150 miles. This line passes through the Muskoka Lakes district, and will give to many summer resorts in that locality a service not hitherto possible. The



STEAM MOTOR CAR BUILT BY CANADIAN PACIFIC RY. AT ANGUS SHOPS

Old Series, No. 181.
New Series, No. 162.

TORONTO, CANADA, AUG., 1906.

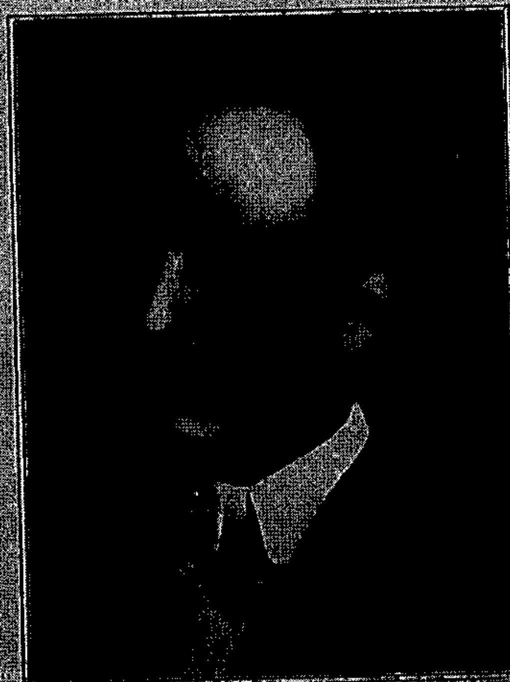
Subscription, $1 a Year.
Toronto Postal Delivery $1.25 a Year.

C.P.R. Steam Motor Car.

Illustrations of the steam motor car which the C.P.R. is operating between Montreal and Vaudreuil, Que., are given on page 489. Four round trips are made per day. The car is 75 ft. long and is divided into engine room, baggage and express compartments, smoking compartment seating 16 and first class compartment seating 40.

The boiler is of the return tube type, being 4½ ft. inside diameter x 7 ft. 11 ins. between flue sheets and contains one 33 in. corrugated furnace and 95 1¾ in. tubes, and has a total heating surface of 536 sq. ft., of which 486 are in the tubes and 61 in the furnace. The superheater consists of 31 1¼ in. steel tubes and contains 62 sq. ft. of superheating surface. Pistons are of cast iron 10 ins. in diameter by 8 ins. thick. Cylinders, 10 x 35 ins., have inside admission piston valves which are operated by valve gear. Driving and trailing wheels have centres made of cast steel, the former being 42 ins. on tread, the latter 34 ins. on tread. All journals under motor are 8 x 12 ins. and under truck of car [illegible] 9 ins. Main frames of motor [illegible] of [illegible] steel plate. The total weight of car in running order [illegible] lbs., of which 82,880 are at the motor end of car and 58,740 at the rear end of car, the portion at the motor end being divided [illegible] lbs. being on the driving wheels and [illegible] on the trailing wheels. The fuel used is [illegible] oil and is carried in a tank having a capacity of 2,000 lbs. [illegible] [illegible]

arrive at any conclusion you want to, almost, by accepting different premises. I was asked to get up a motor car last year, experimentally, for branch line service, to be operated by two men. A car that is operated by two men is impracticable, except on branch lines where you are absolutely sure that only one car will be permitted on the branch line at a time. A third man is absolutely necessary for flagging, and now as the difference in cost between firemen and brakemen is very small, you might as well have a fireman on the car as a brakeman. However, as the result of



[illegible] VAUGHAN,
Assistant to the Vice-President, Canadian Pacific Railway.

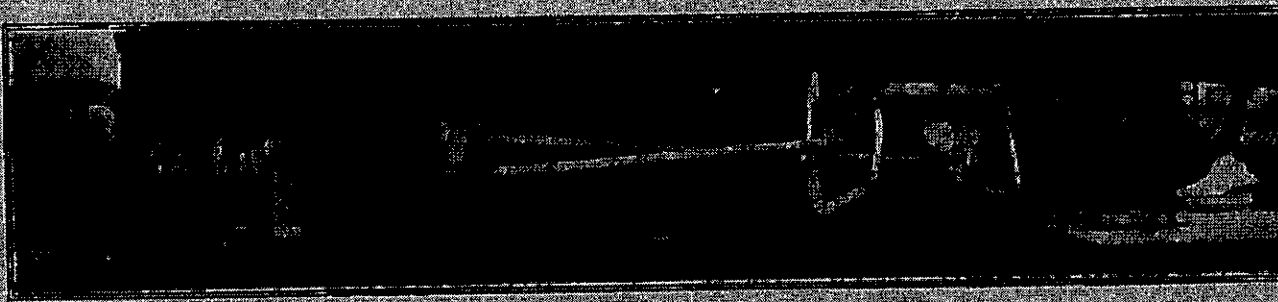
the demand for a car to be operated by two men we felt that a steam car operated with oil [illegible]. We have had that car in service about a month now.

The car with the motor equipment weighs from 80,000 to 92,000 lbs. It is a four-wheeled truck car. The water carried [illegible] [illegible]

can be duplicated in every respect. The inches of draft per pound of back pressure are duplicated. The evaporation per square foot of heating surface is duplicated. The horse-power this car will develop is practically the same, the weight of the boiler per square foot of heating surface is rather less than in the ordinary locomotive. So we really have a reduced locomotive in every way running on that car, and our experience shows that it is perfectly safe to apply existing locomotive data to very small cars of that kind and expect the results to be duplicated. The master mechanics' improved form of stack cannot be duplicated, however. The stack has to be a little larger than the formula gives. I suppose that is because the size of the front end would be 24 ins. and there is not enough room for the gases in the size the formula gives.

After a certain amount of experimenting we put the car in service, and the only troubles we have had are: The first trip the car broke a spring hanger and the second time a cross-head arm actuating the valve gear. This was due to defective design, but otherwise the car runs satisfactorily. We are making four round trips a day, 24 miles each way. Our regular local passenger schedule 24 miles is 50 minutes. We have made it in 48 minutes with the motor car. There is no difficulty in running at a speed of 30 to 40 miles an hour.

I am practically sure, however, that we will not go to coal and again. We will keep to coal. [illegible]



FRONT TRUCK ON C.P.R. STEAM MOTOR CAR.

car. I think a separate motor car will probably be designed, attractive in appearance, to enable us to put the motor car in the roundhouse at night and the trail car in the yard. That is one of the objections of the combined car. Another objection is the difficulty of washing out; a small boiler, such as is used, has to be washed out properly, just as a big boiler. One of the advantages about the steam car is the fact that you can put that car on a branch line and have no difficulty with men trained as engineers. The roundhouse force is accustomed to it, and there is nothing about the car that involves a new proposition or a new force, and the fuel is, of course, very cheap. With a car weighing 60 tons the oil consumption is 1.8 gallons per car mile.

Historical Notes, Canadian Northern Ry.

In 1895 the charter was acquired of the Lake Manitoba Ry. and Canal Co., and in the following year was commenced the construction of a railway from Gladstone, 100 miles were completed by the autumn of 1896, and at once put into operation.

In 1897 the operation of the line was extended 25 miles to Lake Winnipegosis.

In 1898, under the charter of the Manitoba and South-Eastern Ry. Co., a commencement was made on the grain carrying trunk line from Winnipeg towards Lake Superior, on which 45 miles of track were laid. At the Lake Superior end the Port Arthur, Duluth and Western Ry. Co.'s charter was purchased and the rights of the Ontario and Rainy River Ry. Co. acquired, and work commenced from 19 miles from Port Arthur on the former line, under the charter of the O. and R. R. Ry.

In 1899 the northern line was extended to 195 miles from Gladstone, Man. This extension was built under the charter rights of the Winnipeg Great Northern Ry., and it was in this year that this line and the L. M. R. and C. Co. were amalgamated under the name of The Canadian Northern Ry. Co. The other companies were absorbed at later dates. Before the close of the year the gap between the rails on the Lake Superior line had been considerably lessened.

In 1900, the Manitoba and South-Eastern Ry. was completed to Rainy River, Ont., where the construction of a large swing steel bridge had to be undertaken. From Dauphin, Man., westerly, the company built 25 miles through the Gilbert Plains and pushed the north line through the northwest corner of Manitoba to some 20 miles west of the provincial boundary.

1901 was remarkable in the annals of the company. Firstly, as the year in which it took over from the Manitoba Government the railway lines of the Northern Pacific and Manitoba Ry. This step secured for the C.N.R. a main line through the fertile Portage Plains to within 19 miles of Gladstone, where the north line of the C.N.R. had been commenced, which link was completed within the year. Branch lines to Brandon and Hartney, through unexcelled grain areas, and a connection to the south from Winnipeg to St. Paul and Minneapolis, were also obtained by this acquisition, making an addition to the company's operative mileage of 350 miles. In addition to this mileage, a valuable terminal in the heart of Winnipeg was obtained, which by its proximity to the large tract of terminal property which had already been acquired for the C.N.R. became of much greater value. Secondly, the year was notable as that in which was completed the line between Winnipeg and the Great Lakes port, Port Arthur. The section from Fort Frances to Port Arthur was not taken over by the operating department until early in 1902. But with a total mileage constructed at the end of 1901 of over 1,200 miles, the C.N.R. had sprung into fourth place among Canadian railways.

In 1902 the railway carried over 12,000,000 bushels of grain to the lake front over its new line. The mileage added during this year, besides the section of main line referred to in the preceding paragraph, was made up of main line from Beaver to Gladstone, 19 miles; Stanley to Gundini, 70 miles; 83 miles on the Neepawa branch; 44 miles on the Carman branch.

In 1903 the following additions were made: Neepawa to McCreary Jct., 41 miles; Vassar cut off, 12 miles; Rossburn branch, 20 miles; Carman branch, 20 miles.

In 1904 the operation of the main line was extended to Kamsack, Sask., 71.8 miles. Much additional grading was done and more track laid on the main line but not taken over for operation until early in 1905. The northern branch was extended to Melfort, Sask., 107 miles west of Erwood, and the Oak Point branch of 34 miles was also turned over to the operating department before the close of the year.

1905 witnessed the completion of the track-laying of the main line to Edmonton, Alta., from Kamsack, 546 miles. Branch lines were also added in Manitoba as follows: Arizona Jct. to Brandon, 77 miles; Greenway to Adelpha, 61 miles; Clan William to Rossburn, 58 miles; Brandon Jct. to Carberry Jct., 22 miles; Hartney to Virden, 37 miles; also a line to connect the Carman branch with the Hartney branch, 16 miles.

1906 has already been marked by the entrance of the line to Prince Albert, the objective point of the northern line. This added 10 miles to this branch.

The above mileage mentioned in particular makes up the present system of the Canadian Northern Ry. west of Lake Superior, and the mileage now owned, operated or leased is somewhat over 2,400 miles.

Though at present the C.N.R. has no rail connection east of Port Arthur, independent of the C.P.R., plans have been made to build from the present eastern lake terminal around the north shore of lake Superior to Sudbury. The James Bay Ry., now under construction from Toronto to Sudbury, 300 miles, is a kindred interest to the Canadian Northern. The James Bay Ry. will be opened for traffic at an early date from Toronto to Parry Sound, 160 miles. This line passes through the Muskoka Lakes district, and will give to many summer resorts in that locality a service not hitherto possible. The

immediate delivery and a snowplow for Dec. delivery for the C.P.R.

The C.P.R. has ordered the following rolling stock: 10 passenger locomotives, Pacific type, 67 box cars, 1 refrigerator, 2 stock cars, 30 flat cars, 5 steel coal cars, at its Angus, Montreal, shops; 3 vans at its Farnham, Que., shops; 1 rotary snowplow at the Locomotive and Machine Co., Montreal; and 2 60-ton wrecking cranes in the U.S.

The Imperial Rolling Stock Co., for the Canadian Northern Ry., is placing through the Dominion Securities Co., Toronto, and W. A. Reid & Co., New York City, an issue of $1,500,000 series O equipment trust 4½% notes. The notes mature in 10 equal annual instalments beginning June 1, 1908, and are secured on 750 box cars, 170 dump cars, 190 flat cars, 25 cabooses, four snowplows, 21 ten-wheel locomotives, and 29 passenger cars.

The G.T. Pacific Ry. has ordered from the Canada Foundry Co., Toronto, 20 locomotives, to the following specifications: Weight on drivers, 125,000 lbs.; weight on leading truck, 44,000 lbs.; driving wheels, 69 ins.; cylinders, 18 and 24 ins.; truck wheels, 34 ins.; water capacity, 6,000 imp. gals.; coal capacity, 12 tons. They are of the eight-wheel express type, with two pairs of coupled drivers and four-wheel leading truck.

The Toronto, Hamilton and Buffalo Ry. is having 140 box cars built by the Canada Car Co., Montreal, which are to be of the standard specification for 60,000 lbs. capacity, the special fittings including: Diamond arch bar trucks, wheel base, 5 ft. 2 in., Westinghouse air brakes, Simplex body and truck bolsters, Simplex brake beams, McCord journal boxes, Canadian Bronze Co.'s journal bearings, cast iron wheels, 33 ins.

The specifications for the 32 ore cars, 100,000 lbs. capacity, 61 box cars, 40 flat cars, five stock cars, refrigerator car, ballast car, two vans, 25 colonist cars, 20 first-class cars without smoking rooms, and 10 first-class cars with smoking rooms, recently ordered at the company's Angus, Montreal, shops, are similar to those described in our Sept. issue. The 10 sleeping cars are similar to those described in our May issue; the 40-ton coal cars are 36 ft. 8 in. by 8 ft. 10 in. over frame, have side doors and standard equipment similar to freight cars already described.

The C.P.R. between Aug. 14 and Sept. 17, received the following additions to rolling stock: 740 box cars, 26 steel coal cars, 20 coal cars of 40 tons capacity, 12 suburban cars, 7 first-class cars, 3 tourist cars, 3 passenger locomotives, 6 switching locomotives and 2 pile drivers, from its Angus, Montreal, shops; 8 vans from its Farnham, Que., shops; 11 steel ore cars from the Dominion Car and Foundry Co., Montreal; 10 freight locomotives and 1 steam shovel from the Locomotive and Machine Co., Montreal, and 2 sleeping cars, 2 first-class and smoking cars, and 2 tourist cars from the U.S.

The C.P.R. motor car which was operated between Montreal and Vaudreuil, in the summer of 1906, was changed during last winter so as to burn coal instead of oil, as last year's experience showed that there was not sufficient advantage in burning oil to compensate for the additional cost. The boiler has also been turned round, partly to enable it to be more conveniently fired with coal and partly on account of the rearrangement of details of the superheater in order to avoid the burning out of the superheater tubes, which occurred once or twice last year. These are practically all the alterations made, but there were some repairs necessary to such portions as showed wear, which, however, amounted to very little. The car has not been operated this year as in consequence of the second track and bridge work which is going on on the line extra service in addition to the regular steam trains could be conveniently given. It was proposed to operate the car between Toronto and Brampton for suburban traffic, but this idea was abandoned. The operation of this car in 1906 is said to have been satisfactory from a mechanical standpoint, but the service was too exacting for one car, its daily run being 184 miles in train service and 10 miles in terminal run. There should be at least two, or possibly three cars, in order to give such a service satisfactorily.

Canadian Northern Ry. Construction, Etc.

Liverpool and Milton Ry.—Tracklaying on the line is about completed, and the connection with the Halifax and Southwestern Ry. has been made. Four spans of the new bridge across the Mersey River have been erected, and work is being rushed on the trestle across the docks at Liverpool.

St. John Valley Ry.—Wm. Mackenzie, of Mackenzie, Mann & Co., Ltd., recently made a trip of inspection over the company's eastern lines. Before returning to Toronto he said the project for the construction of a railway down the St. John River valley had not sufficiently developed for him to say anything about it.

Canadian Northern Quebec Ry.—Tracklaying is reported to be in progress on the cut-off between Garneau Junction and Quebec city, and it is expected that the line will be completed early in the summer of 1908. Plans showing the location of the company's line between the junction with the National Transcontinental Ry. at mileage 2.1 west from the Quebec Bridge, and a point north of St. Foye road, have been deposited in the registry office of the county of Quebec, at Quebec city.

The line connecting the Montfort branch—the old Montfort and Gatineau Colonization Ry.—with the company's line at St. Jerome, has been completed, and was opened for freight traffic Aug. 26, and for passenger traffic, Sept. 16. The new line extends from St. Jerome, and effects a junction with the old line near Morin's Flats, 21.6 miles. The old line extends to Huberdeau, 26 miles, giving the branch a total length of 47 miles.

The construction of the branch from St. Jacques to Rawden, Que., about nine miles, has been started, the company doing the work direct. It is expected to have it completed this year.

Canadian Northern Ontario Ry.—A plan showing the location of the company's projected line in the county of Two Mountains, Que., mileage 19.6 to mileage 38 east of Hawkesbury, Ont., has been deposited in the registry office at Ste. Scholastique, Que. The construction gangs on the extension of the line from Hawkesbury to Ottawa have reached that city and grading is well in hand. It is not expected, however, that the line will be completed as early as was anticipated, but H. K. Wicksteed, C.E., says that trains will be running over it by the end of the year. The entrance of the line into Ottawa has not been finally determined upon, but it is expected that for the present the entrance will be over the tracks of one of the existing lines from Hurdman's Bridge.

Canadian Northern Ry.—After several conferences between officials of the C.N.R. and the G.T. Pacific Ry., D. D. Mann, Vice-President C.N.R., stated Sept. 12, that the difficulty experienced in reaching a satisfactory agreement respecting the proposed union station at Winnipeg, was on account of the fact that the site at present in view did not contain sufficient room to adequately accommodate both companies to the extent they would really need. He added: "We have abandoned the idea of building the hotel in the terminal, as the limited space will not allow of it, and it will be built nearer the business center of the city if possible. Anyway that is a matter that can be deferred for the present, as the first consideration is a good terminal."

Work has been started on the new roundhouse for the company at Dauphin, Man. The building is to be of solid brick. S. Brown, Winnipeg, is the contractor.

A new roundhouse is in progress of construction at Brandon, Man., the May-Sharpe Construction Co., Winnipeg, being the contractors. The building is expected to be completed early in Nov. Replying to a deputation Sept. 8, M. H. McLeod, General Manager, stated that he could not make any definite promise when the erection of the new station at Brandon would be commenced.

Work is being proceeded with upon the grading of the line from Elbowman, Sask., towards Hudson Bay. It is stated that it is the intention of the company to bring in large quantities of supplies during the coming winter, which will be cached at points along the right of way for use of the engineers and contractors during the following summer.

A start has been made upon the construction of the line from Saskatoon to the Goose Lake district. Contractor McCrimmon's plant reached Saskatoon from Edmonton, Sept. 12, and a camp was pitched at Bonehill, about 18 miles out. Gangs of men were set to work in both directions. A. J. Sill is engineer in charge of the work.

D. D. Mann, Vice-President, stated in an interview at Edmonton, Alta., Sept. 4, that six construction trains were at work between Vermillion and Edmonton, engaged in strengthening the line. As soon as this section of the line is completed the work of reballasting the section between Vermillion and Battlefort will be taken in hand. The great trouble with the railways west of Winnipeg was the want of coal. The whole foothills country, from the Yellowhead pass to the International boundary, is an immense and continuous coal field, and it was imperative that the Canadian Northern Ry. extend its system as quickly as possible to tap those coal fields. This extension, said Mr. Mann, would be the first thing to receive the company's attention in 1908.

D. D. Mann, Vice-President, reached Vancouver, B.C., Sept. 8, and stated in an interview that the company was ready to complete the line through British Columbia to Vancouver if the Provincial Government provided a substantial subsidy. Such a line from Vancouver to the main line would, said Mr. Mann, be probably constructed before the main line was completed. He further stated that it had been decided that the Pacific terminus of the C.N.R. would not be at Port Simpson. Several plans were under consideration, but he was not in a position to make any announcement. He subsequently proceeded to Victoria, where he had several interviews with the Provincial Government upon the subsidy question. (Sept., pg. 665.)

The Northern Construction Co. has been registered under the Northwest Territories ordinance respecting foreign corporations.

There is no foundation, we are advised, for the recent press reports that the G.T.P.R. had decided to appoint auditors to make ticket collections on its trains in place of conductors, as at present.

The Department of the Interior has issued a map of the Dominion, giving a view of the whole railway system. It is of convenient size, and while not all the railways, nor all the branches of the trunk lines, are shown, the principal lines are indicated in such a way that it can be readily seen where they come in contact one with the other, and their relative importance.

MOTOR CAR

P. W. Brown, Purchasing Agent, Duluth, South Shore and Atlantic Ry., and Mineral Range Ry., Marquette, Mich., born at Uxbridge, Worcester Co., Mass., Jan. 18, 1845.

E. L. Chudleigh, Assistant Superintendent C.P.R., Calgary, Alta., born at Clinton, Ont., Jan. 3, 1873.

W. A. Cowan, Resident Engineer, C.P.R., Toronto, born at Galt, Ont., Jan. 22, 1877.

N. S. Dunlop, Tax Commissioner C.P.R., Montreal, born near Almonte, Ont., Jan. 17, 1861.

Sir Sandford Fleming, K.C.M.G., Director C.P.R., born at Kirkcaldy, Scotland, Jan. 7, 1827.

Railway Rolling Stock Notes.

The Canadian Northern Ry. ordered two snow ploughs for Dec. delivery from Rhodes, Curry & Co., Amherst, N.S.

The G.T.R. recently placed an order for 400 refrigerator cars, 60,000 lbs. capacity, for delivery in April and May

The Canada Car Co. made delivery between Nov. 14 and Dec. 14, of 500 box cars to the G.T. Pacific Ry. and the Canadian Northern Ry.

The G.T.R. between Oct. 20 and Dec. 8, 1906, added to its rolling stock 23 compound consolidation locomotives, two snow ploughs Canadian Northern Ry., and six flat cars for the British Columbia Mills Lumber and Trading Co.

The C. P. R. motor car which has been operated between Montreal and Vaudreuil, Que., for several months, was taken off the route early in Dec., and returned to the Angus, Montreal, shops for repairs and such improvements as have been suggested by the experience of the summer's work. We are officially advised that the management is very much pleased with the results of the season's running.

The following rolling stock has been delivered recently for the Canadian Northern and other Mackenzie, Mann & Co.'s lines:

E.O. 2082.
BUILT AT THE OTTAWA CAR Co. 1924.

NEG No-M-30.
ANGUS JULY 1924.

CPR SELF-PROPELLED CARS

Canadian Railway and Marine World

June, 1924.

Self Propelled Cars on Steam Railways.

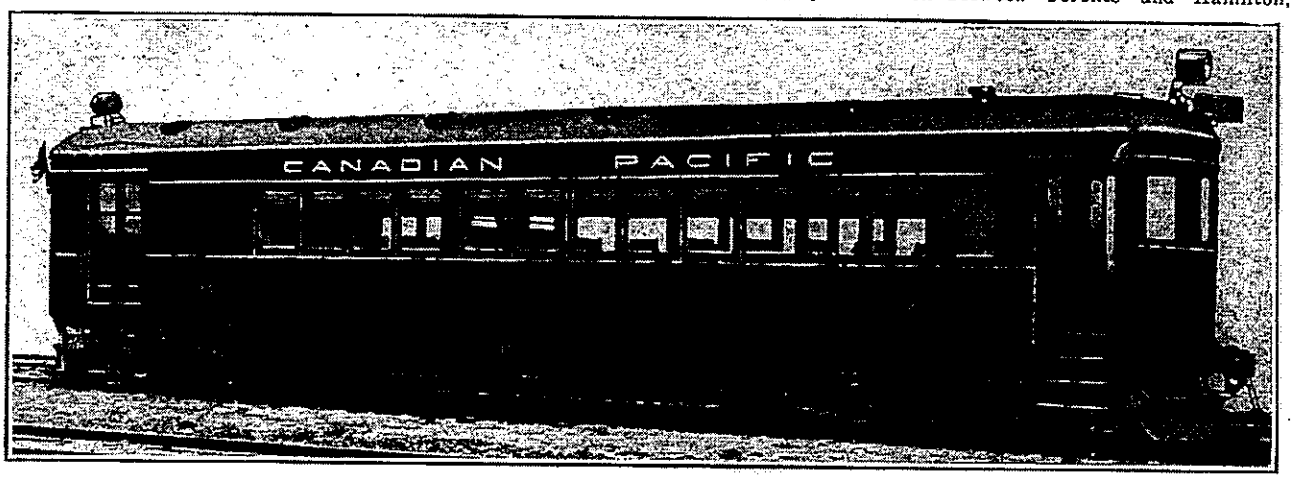
Canadian National Rys.—The 6 storage battery cars ordered by the C.N.R. from International Equipment Co., and built by Canadian Car and Foundry Co., have been delivered. A preliminary description of the cars was given in Canadian Railway and Marine World for January, pg. 19. They have the following general dimensions:—

Length over platform end sills	53 ft. 2 in.
Width over posts	8 ft. 6 in.
" inside	8 ft. 4 5/8 in.
Height from rail to top of roof	12 ft. 3 1/2 in.
Truck centers	36 ft. 10 in.
" wheel base	5 ft. 6 in.

They are of steel construction throughout, the underframe consisting of rolled shapes and pressings of standard design. The center sills are two 12 in. 25 lb. channels, and the side sills 4 x 4 x 5/16 in. angles. The side framing includes pressed steel posts and angle iron side plates, and the vestibules are of all steel construction. The roof covering is railway standard canvas duck.

The interior is divided into 3 compartments. The main passenger compartment has seating capacity for 34, and is equipped with 13 Walkover type seats, and 4 stationary seats, all upholstered in rattan. The passenger compartment contains a lavatory. Large basket racks, on each side above the windows, extend the full length of this compartment. The smoking compartment has 4 Walkover type and 4 stationary seats, giving seating capacity for 16. Both the main passenger and smoking compartments are finished in birch, and stained mahogany. The third compartment, 13 ft. long, is for baggage and express, and its sides, end, and ceiling are sheathed with t. and g. B.C. fir, painted to conform to railway standard. The car floor is built up of 2 layers of t. and g. flooring, with double thickness of building paper between, the lower floor, of yellow pine, being laid diagonally, and the upper floor, of maple, longitudinally.

The heating is by forced draught from a large hot air heater in the baggage room, the hot air being forced through the heating ducts by a fan. The ducts are arranged so as to heat the battery boxes. The main body lighting, tail lights, marker lights and number lamps are all electric, the current being supplied by 10 Edison A-12-H cells. The headlights, one at each end, are 12 in. diameter. The main battery equipment consists of 240 Edison A-12-H cells, and the 4 motors are G.E. type 261-A 25 h.p., one geared to each axle. The cars are equipped for double end control in operation. Trucks are of standard arch bar construction, with railway standard semi-steel center and steel tired wheels, and have SKF self-aligning roller bearings. Brakes are Westinghouse AMM type, for double end operation, and Ackley staff type hand brakes, with drop handle, are applied. Other equipment includes A.R.A. couplers, with 5 x 7 in. shank; steel locomotive type pilots on each end; Dayton air gong with foot control; and marker and classification lamps to enable the display of all signals required by general train and interlocking rules.



Storage Battery Car, Canadian Pacific Railway.

The cars have been placed in operation on the Central Region, as follows:—One between Montreal and St. Eustache, 17 miles, on Mount Royal and L'Orignal Subdivisions, Montreal Division, Quebec District, making 5 round trips daily, the first car leaving Montreal tunnel terminal at 5.10 a.m. and the last leaving St. Eustache at 7.55 p.m.; one between Montreal and Rawdon, 41.2 miles, on the L'Assomption and Rawdon Subdivisions, Montreal Division, Quebec District, making two round trips daily, the first car leaving Montreal St. Catherine St. East station at 7 a.m., and the last leaving Rawdon at 5 p.m. On Sundays, between June 15 and Sept. 7, this service will be supplemented by a steam train service; one between Montreal and Waterloo, 66.96 miles, on Montreal Terminals Division, and Granby Subdivision, St. Lawrence Division, Montreal District. One round trip a day is made, the car leaving Montreal Bonaventure station at 8.37 a.m. and arriving back at 5.32 p.m. This service is in addition to the regular train service, and that supplied by the Montreal and Southern Counties L.y.; one between Ottawa and Pembroke, 86.7 miles, on Hurdman and Beachburg Subdivisions, Ottawa and Capreol Divisions, respectively, Northern Ontario District. The car leaves Ottawa at 7.15 a.m. and arrives back at 7.25 p.m. An Ottawa press dispatch states that this car is at present operating only to Norway Bay, 45 miles, but will run to Pembroke when battery charging facilities are installed there; one between Toronto and Oakville, 21.14 miles, on Toronto Terminals Division and Oakville Subdivision, London Division, Southwestern Ontario District. This car makes 3 round trips daily, leaving Oakville at 5.40 a.m. on the first trip, and arriving there at 9.30 p.m. on the last trip; the sixth car is being held in reserve.

Gasoline car 15,816, formerly in operation between Toronto and Hamilton, and afterwards between Toronto and Oakville, has been laid up temporarily.

A recent London, Ont., press dispatch stated that the Canadian National management was considering placing a self-propelled car in operation between London and Stratford.

A St. John, N.B., press dispatch states that the C.N.R. will place a storage battery car in operation between Fredericton and Centreville, N.B., 88.58 miles, on the Centreville Subdivision, Edmundston Division, Atlantic Region.

The Canadian Pacific Ry. placed in operation on May 18, between Galt and Hamilton, Ont., a storage battery car, similar to the 6 acquired by the Canadian National, and described above. An illustration of this car is given herewith. The run between Hamilton and Guelph Jct., 16.4 miles, is on the Hamilton-Goderich Subdivision, and from Guelph Jct. to Galt, 18 miles, on the Galt Subdivision, London Division, Ontario District. The car makes 2 round trips daily, leaving the Grand River Ry. Main St. station at Galt at 8.35 a.m., arriving at Hamilton at 10 a.m., connections being made at Guelph Jct. with Goderich-Toronto train 638 and Toronto-Goderich train 637. It leaves Hamilton at 10.50 a.m., connection being made with the New York-Toronto train 752, and arrives at Galt

...in St. station at 12.20 p.m. On the second trip it leaves Galt at 4.10 p.m. and arrives at Hamilton at 5.35 p.m. making connection at Guelph Jct. with Goderich-Toronto train 640 and Hamilton-Guelph train 647. Returning, it leaves Hamilton at 5.40 p.m. making connection at Guelph Jct. with Toronto-Goderich train 639, and arriving at Galt Main St. station at 7.15 p.m.

The Eastern British Columbia Associated Boards of Trade passed resolutions urging upon the C.P.R. management the use of self-propelled cars on branch lines in B.C. A recent Victoria press dispatch stated that D. C. Coleman, Vice President, Western Lines, told officers of the Boards that the feasibility and desirability of using gasoline cars was receiving the management's attention; that such a car was on order, and that if experiments with it are satisfactory, the company would be in a position to consider equipping routes in British Columbia. We were officially advised, on May 12, that a self-propelled car is being built for the C.P. by Ottawa Car Mfg. Co., and that it will be placed in operation between New Westminster and Vancouver.

Esquimalt and Nanaimo Ry.—A Victoria press dispatch of May 13 stated that H. E. Beasley, General Superintendent, E. & N. R., had been asked by Victoria Chamber of Commerce officers to have a self-propelled car service started on that line, and he was reported to have stated that no decision would be reached until tests have been made with a self-propelled car ordered for Canadian Pacific B.C. lines. He was probably referring to the car ordered from Ottawa Car Mfg. Co.

The Morrissey, Fernie and Michel Ry. has bought a gasoline passenger motor car, and trailer, from Edwards Railway Motor Car Co., for operation between Fernie and Coal Creek, B.C. It is of all steel construction, with interior finished in birch. It is 34 ft. long over all, and has seating accommodation for 30 passengers. It has a baggage compartment 8 ft. wide and 9¼ ft. long. The passenger compartment is equipped with lavatory facilities. The motor is of 75 h.p. and will drive the car at a maximum speed of 75 m.p.h. About 8 miles per gallon of gasoline is obtained. The equipment includes Westinghouse air brakes. The weight empty is 18,430 lb. The trailer, 28 ft. 7 in. long over all, is of all steel, with interior finish similar to that of the motor car. Its seating capacity is 34, and weight empty 13,200 lb. It has Hyatt roller bearings for all journals, and is equipped with water cooler, lavatory facilities, and air brakes. The motor and trailer makes 6 trips daily between Fernie and Coal Creek, leaving Fernie on the first trip at 7 a.m. and arriving there on the last trip at 5 p.m.

The Timiskaming and Northern Ontario Ry., we are officially advised, has ordered from International Equipment Co. a storage battery car similar to those acquired by the Canadian National and Canadian Pacific Rys., and described above. We are advised that it is probable that this car will be operated between Swastika and Kirkland Lake.

Birthdays of Transportation Men in June.

Many happy returns of the day to:

Thomas Ahearn, President, Ottawa Electric Ry., Ottawa, Ont., and Honorary Advisory Councillor, Canadian Electric Railway Association, born at Ottawa, Ont., June 24, 1855.

F. F. Backus, General Manager, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., born at Rochester, N.Y., June 4, 1860.

F. A. Bourne, Superintendent of Pensions & Relief, Canadian National Rys., Montreal, born at Dublin, Ireland, June 20, 1869.

W. C. Bowles, Assistant Freight Traffic Manager, Eastern Lines, Canadian Pacific Ry., Montreal, born there, June 3, 1875.

J. H. Boyle, Superintendent, Brownville Division, New Brunswick District, Canadian Pacific Ry., Brownville Jct., Me., born at Waterloo, Que., June 26, 1869.

H. W. Brodie, Assistant Passenger Traffic Manager, Eastern Lines, Canadian Pacific Ry., Montreal, born at Fredericton, N.B., June 8, 1874.

G. W. Coburn, Division Engineer, Canadian Pacific Ry., Souris, Man., born at Upper Melbourne, Que., June 24, 1877.

E. P. Coleman, General Manager, Dominion Power & Transmission Co., Ltd., Hamilton, Ont., born at Taunton, Mass., June 14, 1867.

E. L. Cousins, Consulting Engineer, Toronto Harbor Commission, Toronto, born there, June 11, 1883.

A. Craig, City Passenger Agent, Canadian Pacific Ry., Hamilton, Ont., born there, June 5, 1884.

W. Crowe, Locomotive Foreman, Canadian National Rys., Wainwright, Alta., born at Fergus, Ont., June 12, 1871.

J. M. Davidson, Division Engineer, Canadian National Rys., Winnipeg, born at Glasgow, Scotland, June 4, 1877.

Edward de la Hooke, Secretary-Treasurer, Canadian Ticket Agents' Association, London, Ont., born at Chichester, Sussex, Eng., June 29, 1842.

Knowlson Elliott, District Freight Agent, Canadian Pacific Ry., Edmonton, Dunvegan & British Columbia Ry. and Central Canada Ry., Edmonton, Alta., born at Gorrie, Ont., June 26, 1884.

J. M. R. Fairbairn, D.Sc., Chief Engineer, Canadian Pacific Ry., Montreal, born at Peterborough, Ont., June 30, 1873.

R. H. Fish, General Superintendent, Southwestern Ontario District, Central Region, Canadian National Rys., Toronto, born at Oakville, Ont., June 12, 1873.

M. Fitzgerald, Special Representative, Operating & Freight Departments, also acting General Agent for Japan, Canadian Pacific Ry., Tokyo, Japan, born June 7, 1879.

A. A. Goodchild, General Storekeeper, Eastern Lines, Canadian Pacific Ry., Montreal, born at Peckham, London, Eng., June 3, 1866.

W. C. Guthrie, Superintendent, Schreiber Division, Ontario District, Canadian Pacific Ry., Schreiber, Ont., born at Arnprior, Ont., June 15, 1876.

J. A. Heaman, Chief Engineer, Grand Trunk Western, Canadian National Rys., Detroit, Mich., born at Memphis, Tenn., June 3, 1874.

T. M. Hyman, Superintendent, Montreal Car Shops, Canadian National Rys., Montreal, born near Bristol, Eng., June 12, 1885.

Major R. B. Jennings, Division Engineer, Montreal District, Central Region, Canadian National Rys., Montreal, born at Paris, Ont., June 29, 1868.

M. W. Kirkwood, General Manager, Grand River Ry., and Lake Erie & Northern Ry., Galt, Ont., born at Cheltenham, Ont., June 8, 1877.

L. Lavoie, General Purchasing Agent, Canadian National Rys., Montreal, born at Rimouski, Que., June 22, 1879.

R. S. McCormick, Chief Engineer and General Superintendent, Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont., born at Quaker City, Ohio, June 22, 1873.

S. J. McLean, M.A., LL.B., Ph.D., Assistant Chief Commissioner, Board of Railway Commisisoners, Ottawa, born at Quebec, June 14, 1871.

C. E. McPherson, Assistant Passenger Traffic Manager, Western Lines, Canadian Pacific Ry., Winnipeg, born at Chatham, Ont., June 7, 1862.

W. E. Massie, Mechanical Superintendent, Niagara, St. Catharines & Toronto Ry., St. Catharines, Ont., born at Elora, Ont., June 5, 1880.

L. Mulkern, Division Freight Agent, Canadian Pacific Ry., North Bay, Ont., born at London, Ont., June 18, 1871.

W. M. Neal, Assistant to Vice President, Canadian Pacific Ry. Co., Montreal, born at Toronto, June 20, 1886.

R. P. Ormsby, Secretary, Canadian National Rys., Montreal, born at Arklow, Ireland, June 26, 1869.

J. E. Pinault, General Superintendent, Canada & Gulf Terminal Ry., Mont Joli, Que., born at Rimouski, June, 24, 1884.

F. R. Porter, Foreign Freight Agent, Canadian National Rys., Toronto, born at Stratford, Ont., June 13, 1875.

F. Price, Superintendent of Car Service, Canadian National Rys., Montreal, born there, June 11, 1864.

W. R. Robertson, General Superintendent, Ontario Hydro Electric Railways, Toronto, born at Hamilton, Ont., June 28, 1876.

J. R. Shaw, Agent, Canadian Pacific Ry., Manila, Phillipine Islands, born at Montreal, June 28, 1871.

J. L. Simpson, Agent, Canadian Pacific Ry., Port McNicoll, Ont., born at Mount Forest, Ont., June 9, 1866.

H. H. Smith, Assistant Car Accountant, Canadian National Rys., Montreal, born at Quebec, Que., June 14, 1872.

Edward Stone, General Agent, Passenger Department, Canadian Pacific Ry., Shanghai, China, born June 28, 1870.

F. W. Thompson, Chairman, Canadian Car Demurrage Bureau, and Canadian Freight Association, Western Lines, Winnipeg, born at Toronto, June 14, 1873.

L. O. Tremblay, District Passenger Agent, Rail and Steamship Lines Canadian Pacific Ry., North Bay, Ont., born at Calument Island, Que., June 19, 1885.

N. Van Wyck, General Purchasing Agent, Canada Steamship Lines, Montreal, born at Hamilton, Ont., June 29, 1883.

V. G. R. Vickers, ex-Manager, Foreign Department, and Superintendent Atlantic Division, Dominion Express Co., now Vice President, The Holden Co., Montreal, born at Toronto, June 1, 1866.

W. Walkden, Bridge Engineer, Western Region, Canadian National Rys., Winnipeg, born at Alderley Edge, Cheshire, Eng., June 1, 1885.

A. E. Warren, General Manager, Western Region, Canadian National Rys., Winnipeg, born at Taunton, Eng., June 9, 1874.

Walter White, Assistant Superintendent, Canadian National Rys., Palmerston, Ont., born at Toronto, June 4, 1866.

Self Propelled Cars on Steam Railways.

Canadian National Ry.—We are advised that a self propelled car service has been placed in operation between Tignish and Summerside, P.E.I., 67.79 miles, on the Tignish Subdivision, Island Division, Atlantic Region, with gasoline car 15,815, which was described fully in a preceding issue. As train 205, it leaves Summerside at 10.45 p.m., and arrives at Tignish at 1.55 a.m., and as train 206 it leaves Tignish at 3.35 a.m., and arrives at Summerside at 5.45 a.m., daily except Sunday. This service is in addition to the regular service, and enables passengers from points west of Summerside to connect with the morning train leaving there at 7 a.m. for mainland points, and also enables passengers from mainland points to make connection for points north of Summerside by the train arriving there at 10.35 p.m. The car's seating capacity is 27.

Canadian Railway and Marine World for June gave, on pg. 265, particulars of the runs upon which the 6 battery cars, acquired recently, had been placed, and it was stated that one of them, no. 15,798, was being held in reserve. We are now advised that it has been assigned to service between Bathurst and Campbellton, N.B., on the Bathurst Subdivision, Campbellton Division, Atlantic Region, 62.96 miles, operating as trains 329 and 330, making one round trip daily, except Sunday, leaving Bathurst at 9.05 a.m., arriving Campbellton at 11.45 a.m., leaving Campbellton at 6.25 p.m., and arriving at Bathurst at 9.20 p.m. It is relieving battery car 15,802, withdrawn for repairs. We are also advised that it is the intention to commence battery car service between Fredericton and Centreville, N.B., on the Centreville Subdivision, Edmunston Division, Atlantic Region, 88.58 miles, and that car 15,798 will probably be transferred to that run.

Battery car 15,804, which has been operating for some time between Toronto and Weston, Ont., on the Brampton Subdivision, Stratford Division, Southwestern Ontario District, and Toronto Terminals Division, Southwestern Ontario District, 8.41 miles, began hauling a trailer on July 3, which is not attached on all trips, but only when traffic requires. We are advised that the car develops sufficient tractive effort to enable it to haul the trailer without difficulty. The car has a seating capacity of about 60, and the trailer of about 45.

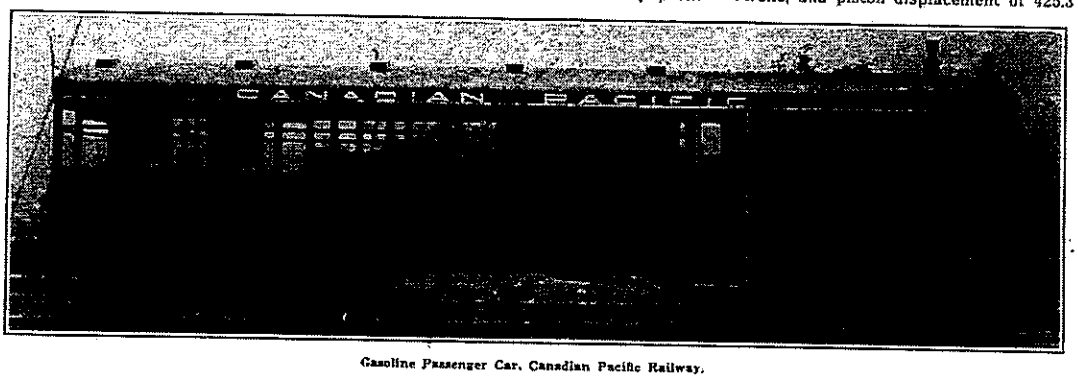
A Kitchener press report stated recently that as a result of negotiations between W. D. Euler, M.P., Waterloo North, Ont., and Sir Henry Thornton, President, Canadian National, a storage battery car service between Kitchener and Elmira, Ont., was a certainty, that such a car would be placed in service and tried, and that unless it showed a loss it would be continued and its run likely extended to between Galt and Elmira. Galt, Kitchener and Elmira are on the Waterloo Subdivision, Stratford Division, Southwestern Ontario District, the distance from Galt to Kitchener being 12.9 miles, and from Kitchener to Elmira 11.73 miles. We are advised that consideration is being given to placing a self propelled car on the Waterloo Subdivision, enquiry being directed to a determination of the most suitable type of car for the service, but at the time of writing, a decision had not been reached. Mr. Euler advises us that he was informed by S. J. Hungerford, Vice President, Operation and Construction Departments, Canadian National, that while there is nothing to indicate that such a service would be actually profitable, the management desires to afford the best possible service to its patrons, and that although no car was then available, the Purchasing Department would be asked to call for tenders for one, which would be placed in service between Kitchener and Elmira, with the understanding that should it show an actual loss, it would be withdrawn and used elsewhere.

Cars are now in operation on the Central Region as follows: 15,815, gasoline, between Trenton, Picton and Napanee, Ont.; 15,804, battery, between Weston and Toronto, Ont.; 15,794, battery, between Toronto and Oakville, Ont.; 15,801, battery, between Toronto and Beaverton, Ont.; 15,795, battery, between Montreal and Rawden, Que.; 15,796, battery, between Montreal and St. Eustache, Que.; 15,799, battery, between Montreal and Waterloo, Que.; 15,803, battery, between Brockville and Westport, Ont.; 15,797, battery, between Ottawa and Pembroke, Ont. The mileages of these various runs, and the subdivisions and divisions on which they are, were given in Canadian Railway and Marine World for June and July. Gasoline car 15,814, which up to a short time ago was in service between Trenton, Picton and Napanee, has been shopped at Trenton, after doing 80,000 miles without major repairs.

Battery car 15,800, operating between Winnipeg and Transcona, on Winnipeg Terminals Division, Manitoba District, 7.1 miles, is making 10 round trips daily, except Sunday, leaving Winnipeg on the first trip at 7.30 a.m., and on the last trip at 11.30 p.m. On Sundays, it makes 4 round trips daily, leaving Winnipeg on the first trip at 7.30 a.m, and on the last trip at 10.15 p.m.

Gasoline car 15,812 is now operating between Victoria and Cowichan Lake, B.C., on the Cowichan Subdivision, Vancouver Island Lines, 73 miles, leaving Victoria at 8.30 a.m., arriving at Cowichan Lake at 12.10 p.m., leaving Cowichan Lake at 1.20 p.m., and arriving at Victoria at 5 p.m., daily, except Sunday.

Canadian Pacific Ry.—Our July issue contained on pg. 337, a description of the gasoline car built for C.P.R. Western Lines service, by the Ottawa Car Mfg. Co., and illustrations of it, showing the exterior, the power or leading truck, and the engine mounting, are given herewith. The engine is a 4-cylinder 4-cycle type, with 4¾ in. bore, and 6 in. stroke, and piston displacement of 425.3 cu. in., and delivering 75 b.h.p. at 1,600 r.p.m. It is mounted on a sub-frame, of 5¼ x 2½ x 5/16 in. pressed steel channel members, the front end of which is attached to the main frame by brackets with case hardened pins, and the rear of which is suspended from the main frame by two large diameter bolts, with springs to protect from shocks. The forward end of the power plant is carried by a rocking sleeve attached by a bracket to the front cross member of the sub-frame, and the rear is carried at two points by a cross member attached to the sub-frame, providing a very flexible mounting. The king pin of the leading truck is hollow, and the rods for engine, clutch and transmission control pass through it. The drive is to both axles of the leading truck. The propeller shafts are about 28 in. long, and are equipped with universal joints, enclosed in dust proof housings, and the axles, of SAE steel, have bevel gears keyed on. The gears are enclosed in large housings, and SKF roller bearings are used. The gear housings are equipped with pivotted torque arms attached to the side frame. The transmission provides 4 speeds in forward motion and 4 in reverse. The view of the power truck shows plainly the large internal diameter of the king pin, and the view of the engine through the trap door in the floor shows how the



Gasoline Passenger Car, Canadian Pacific Railway.

control rods are concentrated to allow of them going through the opening in the king pin. The king pin and crown plate are ball bearing. The trailing truck is of the same design and construction as the leading truck, with the exception of the absence of the power plant and sub-frame. This car was delivered to the railway early in July. We

Engine and Control Arrangement, Gasoline Passenger Car, Canadian Pacific Railway.

are advised that it is to be given a trial between Vancouver and New Westminster, on the Cascade and Westminster Subdivisions, Vancouver Division, British Columbia District, 24.9 miles; that on the result of the trial will depend whether it will be kept there, or used elsewhere, and that by the result of its operation the management will be guided in its policy as concerns additional purchases of self propelled cars.

Toronto, Hamilton and Buffalo Ry. — A recent press report stated that this road intended placing a self propelled car in operation between Smithville and Dunnville, on the Dunville Subdivision, 14.85 miles. We are advised recently that the management had been considering the use of self propelled cars, but that no definite conclusion had been arrived at.

The U.S. Interstate Commerce Commission has authorized the Boston and Maine Rd. to install automatic train control between Greenfield, Mass., and Troy, N.Y.

Hudson Bay Railway Project in Parliament.

Members of the House of Commons from prairie provinces constituencies kept the proposals for the completion of the railway from Pas to Port Nelson, Man., before the House during the recent session, and the On-to-the-Bay Association has been stimulating interest, and promoting agitation in favor of the project throughout the west. The object was to obtain an appropriation in the estimates towards the completion of the line. Events moved rapidly following a statement that nothing would be provided for this work in the supplementary estimates. A deputation, representing the Progressive party, waited on the Minister of Railways, on July 15, and was informed that the Government would take no action to provide funds for the completion of the railway, this year. Action was then transferred to the House, where on the government motion to go into supply, at midnight, July 16, Andrew Knox, Prince Albert, Sask., moved an amendment regretting the Government's failure to provide funds for the completion of the railway to Hudson Bay. Nearly the whole of the Progressive members spoke on the subject, keeping the House in session until July 17, at 7 a.m. During the discussion Sir Henry Drayton repeated his suggestion that the whole project be handed over to the prairie provinces and expressed the opinion that there was no reasonable hope that the present, or any other government with the interests of the whole Dominion at heart, could at present contemplate the financing of the project. The Minister of Railways advised those advocating the immediate completion of the railway to adopt a programme of educating public opinion in favor of the project. The amendment was defeated by 78 to 20.

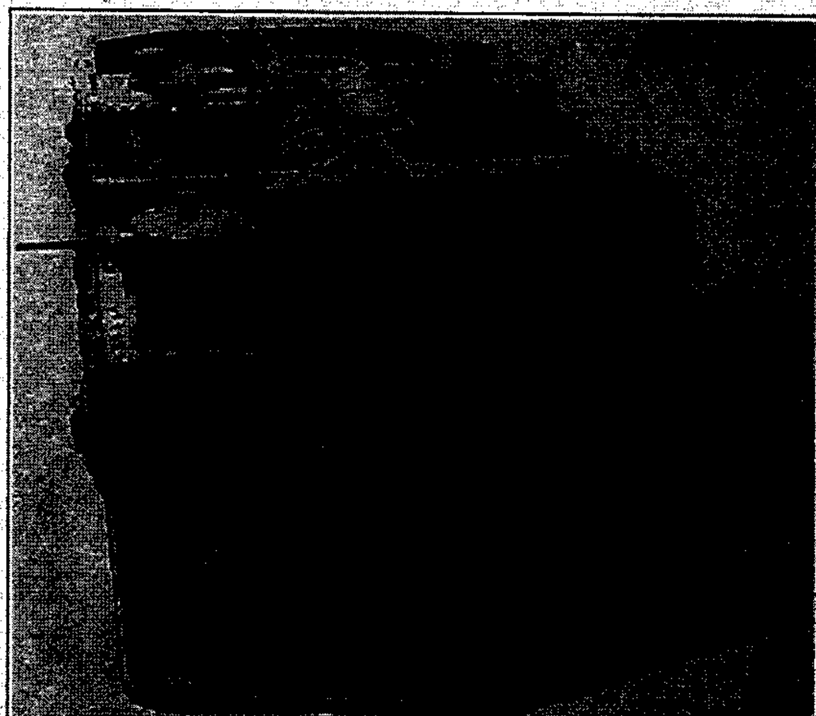
Grain Receipts at Fort William, Port Arthur, and Vancouver.

Receipts of grain at Fort William and Port Arthur, Ont., and Vancouver, B.C., from Sept. 1, 1923, to July 4, 1924, were as follows, in bushels:—

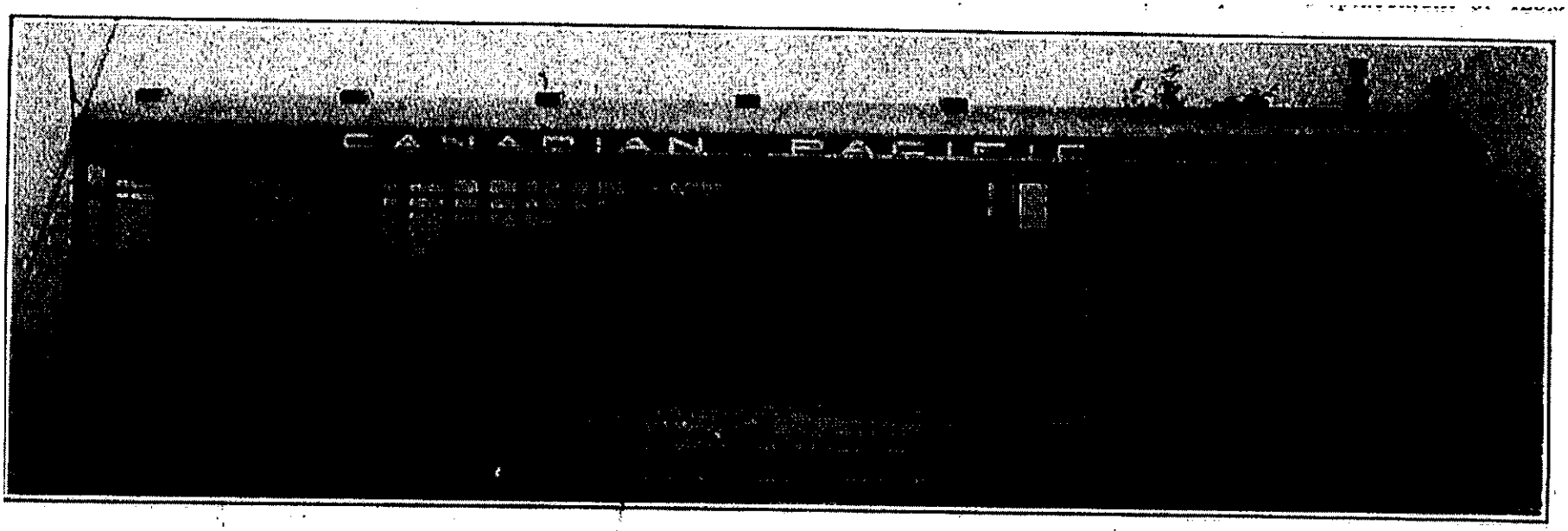
	Fort William & Port Arthur	Vancouver
Wheat	[illegible]	[illegible]
Oats	50,134,991	608,261
Barley	14,496,247	64,185
Flax	[illegible]	—
Rye	6,023,000	332,444
Total	358,402,142	51,965,826
Same period 1922-23	291,046,406	17,162,976
Increase	67,355,736	34,802,850

Scottish Agricultural Editors in Canada.—Five editors of Scottish agricultural newspapers, or writers on agricultural subjects for Sottish papers, are making a tour of Canada under Canadian National Ry. auspices. The party was accompanied from Scotland by Rev. George Adam, the C.N.R. Colonization Department's representative there. A dinner, presided over by W. D. Robb, Vice President, Insurance, Colonization, etc., C.N.R., was given on the arrival of the party in Montreal, July 14. C. Price Green, Commissioner, Colonization and Development Department, has charge of the party in Canada.

The Wellington, Grey & Bruce Ry. Co. —One of the companies absorbed by the old Great Western Ry. Co. and subsequently by the Grand Trunk Ry. Co., paid off on July 1, a number of bonds, drawn for redemption, at the Canadian National Ry. Montreal or London offices. It was announced that the estimated earnings for the half year ended June 30, applicable to meet bond interest would admit of the payment of £3 8s. 8d. on each £100 bond and was being applied as follows:—£2 10s. in final discharge of coupon 80, due July 1, 1910, and £1, 8s. 8d., on account of coupon 81, due Jan. 1, 1911.



Leading or Power Truck, Gasoline Passenger Car, Canadian Pacific Railway.



Gasoline Passenger Car, Canadian Pacific Railway.

Wisconsin Central Railway

Following are the monthly operating revenues, operating expenses and net earnings for 1924 and 1923, for this road, which is controlled by and leased to the Minneapolis, St. Paul and Sault Ste. Marie Ry. Co., a Canadian Pacific subsidiary, as furnished by the management. From Jan. 1 to Apr. 30, 1924, the road had, after paying taxes and rents, a net of $401,648.06, compared with $453,223.00, for the same period of 1923.

	Revenues		Expenses		Net Earnings		Increase or Decrease
	1924	1923	1924	1923	1924	1923	
Jan.	$1,482,192	$1,555,649	$1,262,788	$1,287,246	$169,404	$268,403	*$98,999
Feb.	1,566,528	1,407,432	1,261,542	1,189,793	294,986	217,639	77,346
Mar.	1,688,245	1,746,405	1,344,998	1,452,984	343,247	293,421	49,826
April	1,654,307	1,855,375	1,282,882	1,405,595	371,426	440,780	*78,354
	$6,331,272	$6,564,861	$5,152,210	$5,335,618	$1,179,062	$1,229,243	*$50,181

*Decrease.

Self-Propelled Cars on Steam Railways.

Canadian National Ry.—Gasoline car 15,816, ordered from the National Steel Car Corporation for the Grand Trunk, before the co-ordination, and described and illustrated in preceding issues of Canadian Railway and Marine World, which, as stated in our June issue, had been laid up temporarily at Toronto, after being taken off the Toronto-Hamilton run, has been assigned to service between Trenton and Picton, Ont., on the Picton Subdivision, Ottawa Division, Northern Ontario District, Central Region, 30.6 miles.

Canadian Pacific Ry.—Canadian Railway and Marine World for June stated that the Canadian Pacific had ordered a gasoline car from Ottawa Car Mfg. Co., for operation in British Columbia. It has the following general dimensions:—

Length over all	46 ft. 11½ in.
Width over sheathing	8 ft. 6 in.
Distance between truck centers	30 ft. 1 in.
Height, rail to top of roof	12 ft. 2 15/16 in.
Truck wheel base	9 ft. 4½ in.
Seat spacing	2 ft. 6 in.
Post spacing	2 ft. 6 in.
Height, rail to top of floor	4 ft. 4 in.
Weight, complete	26,500 lb.

It has side sill angles continuous from end sill to end sill, with cross sills joined to the side sills by 2 x 3 x 3/16 in. angles and gusset plates. The corner and side posts are 1½ x 1½ x 3/16 in. steel T's extending from the side sills to the wall plate angles and riveted. The floor is ⅝ in. t. and g. yellow pine, laid double, with Hercules paper between. The roof is of the arched type, constructed with iron carlines of T section, with the necessary wood carlines to secure 3-ply wood veneer. The roof boards are fastened to the carlines with nails, countersunk and puttied, and canvas covered.

It has 3 compartments, a baggage and express compartment at the front, a main passenger compartment in the middle, and a smoking compartment at the rear. The baggage and express compartment is partitioned off from the passenger compartment by a bulkhead and swing door, and has two 36 in. sliding doors. The driver's space, at the front, is partitioned off from the baggage compartment. The baggage compartment contains the heater, which has a 12 volt motor and all accessories. The main passenger compartment contains 17 transverse seats, arranged on each side of the central aisle, providing seating accommodation for 34 passengers. The seats are of steel pressings, and upholstered in rattan. A lavatory and water cooler are installed in the passenger compartment, and continuous parcel racks run the full length of the car on both sides. The passenger compartment entrance doors are at the front end, and are also of the sliding type. The windows are arranged to raise 25 in. in the clear, and are fitted with weather strip. The interior finish is in mahogany. Silk-faced Pantasote curtains are provided for all side and rear windows. The smoking compartment, at the rear, has seating capacity for 10, provided by two cross seats and a circular seat at the back end.

The power plant is mounted in a sub-frame, suspended from the leading truck frame, which has side members constructed from 7 x 3 x ⅜ in. steel channels and end members of 5¾ x 3 x ⅜ in. pressed steel channels. The corners are held together by 3 x 3 x 5/16 in. angles, and fitted with large gusset plates, and the frame is braced by 6 pressed steel channel cross members, and additionally strengthened by 2 large gusset plates on the upper side, which also bind the 2 main cross members carrying the king pin housing. The sub-frame, carrying the power plant, is of 5¼ x 2½ x 5/16 in. pressed steel channel. The front end of the sub-frame is attached to the main frame by brackets carrying case hardened pins, and the rear end is suspended from the main frame by 2 large diameter bolts, with springs to protect the power plant from shocks. The sub-frame is further braced by 2 pressed steel cross members. The forward end of the power plant is carried by a rocking sleeve attached by a bracket to the front cross member of the sub-frame. The rear end is carried at 2 points by a cross member attached to the sub-frame. Thus, the sub-frame has what practically amounts to 3 point suspension from the main frame, while the power plant is mounted at 3 converse points on the sub-frame, providing a flexible cradle mounting for the power plant and affording it good protection from road shocks.

The engine is a 4-cylinder 4-cycle type, with 4¾ in. bore and 6 in. stroke, and piston displacement of 425.3 cu. in., developing 75 b.h.p. at 1,600 r.p.m., and having full force feed type lubrication with self primed oil pump circulation. Cooling is by a rotary pump of 25½ gall. a minute capacity, circulating water through a tubular radiator with cast top and bottom tanks and side members, and there is also an air fan. The carburetor is of the automatic float feed type, and ignition is provided by a high tension magneto equipped with impulse starter. Current for lighting and operating the heater is supplied by a 12 volt engine driven genator, and, when the car is idle, by 12 volt batteries, which are under charge from the generator when the car is in operation. The self starter is a 12 volt engine starter operated by the batteries, and an emergency hand crank is also provided. The clutch is of the multiple disc type, encased in the flywheel housing, and the transmission, of constant mesh type, will provide 4 speeds in forward motion and 4 in reverse. The two propeller shafts are equipped with universal joints, and enclosed in dust proof housing, and the axles, of SAE steel, have bevel gears keyed on. The wheels are 30 in. diam. The king pin and crown plate are ball bearing, and the king pin is hollow. Engine, clutch and transmission controls are operated through a series of bell cranks and rods, the latter passing through the hollow king pin. The trailing truck is identical with the leading truck, with the exception of the elimination of the sub-frame and power plant.

The car is equipped with 8 exhaust ventilators, placed in the roof, and provided with ceiling registers and movable shutters, and has additional equipment as follows: Westinghouse air brakes; Ackley staffless hand brakes with standard connections to truck levers; C. P. standard tail and marker lights and flag sockets; air operated locomotive type bell; two Pyrene fire extinguishers; standard emergency tool equipment; combination snow plough and fender on front end, with provision for installation at rear also; 4 air-operated sand boxes, Ohio no. 10,038; C.P. standard lighting fixtures; Golden Glow headlights at both front and rear, and Tomlinson M.C.B. drawbars. The fuel feed is from a 65 gall. copper gasoline tank slung from the rear of the main frame of the leading truck, and mounted on coil springs, so as to reduce the effect of road shocks. The feed is by the vacuum system.

The Timiskaming & Northern Ontario Ry. has ordered an Edison storage battery car through the International Equipment Co., to be built by Canadian Car & Foundry Co., and to be similar to the one now under construction for that railway, referred to in Canadian Railway and Marine World for June, pg. 266. These cars are identical with those acquired recently by the Canadian National and Canadian Pacific. An illustration of the one being operated by the Canadian Pacific between Hamilton and Galt, Ont., was given in our June issue. We are officially advised that the first car ordered by the T.&N.O.R. is for operation on the Swastika-Kirkland Lake branch, and that the second one will probably be operated there also.

Rail Shipments of Grain from Fort William and Port Arthur.

Shipments of grain by rail from Fort William and Port Arthur, Ont., in May, 1924, and 9 months ended May 31, 1924, were as follows, in bushels:—

	May, 1924	9 month to May 31,1924
Wheat	268,513	7,378,740
Oats	69,608	3,912,843
Barley	20	2,052,103
Flax	.....	364,257
Rye	11,428	46,842
Corn	3,032	41,429
Total	347,601	13,806,214
Total for 9 months to May 31, 1923		21,908,240
Mixed grain, lb.		8,731,189

Commons Committee on Canadian National Estimates.—The following motion, by the Minister of Railways, Mr. Graham, was passed in the House of Commons, on June 4:—"That rule 10 of the House relating to the appointment of the select standing committees be amended by adding to the select standing committees of the House for the present session a select standing committee on railways and shipping owned, operated and controlled by the government, to which will be referred the estimates of the Canadian National Ry. and the Canadian Merchant Marine for the present session for consideration and for report to the House; provided, however, that nothing in this resolution shall be construed to curtail in any way the full right of discussion in committee of supply."

dinary gasoline engine, with mechanical transmission, including clutch and speed change gears, as on an ordinary automobile, includes many varieties, from a truck chassis with flanged wheels up to a car with two 4-wheel trucks, seating 50 passengers. The smaller types, when used at slow speeds on short branches, for unimportant services, are fairly satisfactory, but this method of driving a self propelled car cannot be considered reliable. The difficulty of transmitting power from a gasoline engine through a rigid mechanical drive causes stresses in the transmission far greater than are known in ordinary road work, where speeds are lower and where pneumatic tires absorb most of the road shocks. Another serious point is that a failure of any part leaves the car stranded, and probably necessitates sending out a steam locomotive to pull it in."

He said that many efforts have been made to develop the steam car, but without much success. While the steam engine is an extraordinarily reliable power unit, the steam generator is not sufficiently reliable when it is necessary to make it small enough to suit the space limitations of a single car.

He then spoke on the gasoline-electric, and Diesel-electric type, pointing out that in Europe the latter has been developed to a point of reliability, but adding that the European types are not suitable to Canadian practice, as they are slow and the acceleration is poor. He said that the high price of gasoline in Europe had hastened the development of the Diesel type there, while the low cost in North America had hindered that development, and added: "Recent results in the testing of oil-electric locomotives indicate that the Diesel and semi-Diesel engines will eventually have a wide application, but for self propelled cars, I believe that the gasoline engine will hold its own for some time. The cost of gasoline is from 2 to 3 times the cost of a suitable oil for a Diesel engine, but after all the cost of fuel is a very small item in the operation of these cars. On the other hand, the low first cost of the gasoline engine, as compared with the Diesel, and its lighter weight and more general application, give it decided advantages outside of the cost of fuel. The gasoline-electric car is again being developed in the U.S., and with the tremendous improvement in gasoline engines, together with the development of a type of control which prevents misuse of the equipment, should give satisfactory results."

He then dealt with the reasons for the use of self propelled cars, and after showing that the various types can be operated at from 15 to 40c a car mile, compared to a minimum of $1.75 for a steam train, said: "It might naturally be supposed that if so large a saving can be made, self propelled cars would come in for more general use. There are other features, however, which are against their adoption in a large way. In the first place, the operating superintendent has become used to the reliability of the steam train, and he hesitates to place on his division a unit the reliability of which is not completely tested. So many of these cars have proved failures, that there is a feeling of distrust for most types. At the same time, progress is being made steadily, and there are now about 20 self propelled cars in operation on the Canadian National."

Concerning future developments, he said: "It is, of course, difficult to say to what extent self propelled cars may be developed in both design and application, but it seems to me that there must be numbers of cases where short branches can be operated without steam equipment of any kind. They would have one or more self propelled cars, and an oil-electric locomotive. This would save the cost of installing and operating water tanks and coal chutes, and it would also reduce very materially the ordinary operating expenses." He then described a type of self propelled car which he suggests for future use, and concerning which, in previous conversations with the writer, he has displayed great belief as to efficiency and economy. Such a car would have a gasoline engine, driving a generator, and a storage battery of, say, half the ordinary capacity. The engine would drive the generator at constant speed, and an amount of power would be delivered to the battery equal to the average consumption over a cycle of operation. This would require a very much smaller engine than for a gasoline-electric car, and at the same time would give a degree of reliability not obtained in present equipment. A failure of the engine would allow the car to be brought in on the battery, which would be capable of driving the car 50 miles. An unusual demand for power could be met, even if the battery was completely discharged, by operating the engine a little longer. While, of course, the same type of car can be, and is being, developed for Diesel engine operation, Mr. Walker is of opinion that with the present low price of gasoline, and the better acquaintance with gasoline engines among operators in this country than with Diesel engines, the gasoline engine is preferable for small units. In conclusion, he expressed the opinion that the next 10 years would see a very material increase in the number of self propelled cars.

Canadian Pacific.—The storage battery car described in Canadian Railway and Marine World for June, pg. 265, continues to operate betwen Hamilton and Galt, Ont. We are advised that it is securing excellent patronage, and that it will probably be in operation there all winter. Battery re-charging is done at Galt.

Morrisey, Fernie and Michel Ry.—We are advised officially that the gasoline motor car obtained from the Edwards Motor Car Co. was not suitable for the grades on the road, and was returned. Another car is being built by the same manufacturers, designed to suit the operating conditions, and delivery of it is expected before the end of the year. The first car was described in Canadian Railway and Marine World for June, pg. 266.

Quebec Central Ry.—The gasoline motor car operated up to Dec. 1, 1923, between Levis and St. George, as trains 9 and 10, has been laid up since. We are advised officially as follows: "Our experience has been that the car cannot be operated satisfactorily under the severe winter conditions prevailing in this section. While in service the car did not prove entirely satisfactory, principally on account of its limitations. Our experience with gasoline equipment, however, has convinced us of its practicability in sections where there is a limited traffic, and there is no question as to the saving that can be effected in operating expenses, as compared with steam service. Our average operating and maintenance costs were about 23c a mile from Apr. 30 to Dec. 1, 1923."

Quebec, Montreal & Southern Ry.—We are advised officially that the 3 gasoline cars owned by this road, described in preceding issues of Canadian Railway and Marine World, did not operate during last winter, and will not operate during this winter.

Timiskaming & Northern Ontario Ry. received, early in November, the 2 battery cars ordered from International Equipment Co., and built by Canadian Car and Foundry Co. They made their first trip Nov. 7, and were later placed in operation on the new branch line built under Nipissing Central Ry. charter between Swastika and the Crown Reserve mine at Larder Lake. They are of the same class as the 5 supplied the Canadian National and the one supplied the Canadian Pacific, which were described and illustrated in Canadian Railway and Marine World for June, pg. 265.

Freight Car Loading Performance.

The Railway Association of Canada has issued a report of fright car loading on railways for August, as follows:

Railway	Loaded car miles	Freight Tons ton miles	per car
Algoma Central	91,360	3,261,202	35.6
Can. National	44,882,518	937,125,000	20.88
Can. Pacific	32,015,935	721,971,235	22.6
Michigan Central	5,777,446	93,567,328	16.20
New York Central	180,390	3,508,768	27.7
Pere Marquette	1,802,882	33,351,333	18.78
Quebec Central	347,524	8,204,729	23.60
Toronto, H. & B.	189,517	5,532,122	29.1
Timiskaming & N. O.	980,246	22,600,934	23.06
Temiscouata	87,162	772,218	20.78
Totals	86,254,980	1,830,494,859	21.11
Comparison:			
Aug. 1923	100,968,319	2,368,078,916	23.41
" 1922	96,077,334	2,129,136,901	22.15
" 1921	87,337,578	2,088,416,585	23.91
" 1920	106,888,849	2,654,099,453	24.83

The Railway Association of Canada has appointed the following chairmen of subcommittees:—Car service, A. E. Lock, Superintendent, Car Service, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont. Perishable freight, A. Hatton, General Superintendent of Transportation, Canadian Pacific Ry., Montreal. Rolling stock, C. E. Brooks, Chief of Motive Power, Canadian National Ry., Montreal.

Machinery Orders.—Canadian National Ry. has ordered 1 asbestos shredder and 1 bed gap lathe, 24 x 44 in. x 14 ft., from Mussens Ltd., and Canada Machinery Corporation. It has also ordered a trolley and bridge from Morgan's Engineering Works, to increase the capacity of the existing crane in Transcona shops, Manitoba.

Grain Carried to Fort William and Port Arthur.

The Dominion Bureau of Statistics, Internal Trade Branch, reports the number of cars of grain unloaded at Fort William and Port Arthur by the Canadian Pacific and Canadian National Rys. in Oct., 1924, and during the 3 months ended Oct. 31, as follows:

	Oct. 1924			Three months to Oct. 31, 1924		
	C.P.R.	C.N.R.	Total.	C.P.R.	C.N.R.	Total.
Wheat	16,880	14,346½	31,226½	20,718½	16,955	37,673½
Oats	1,126½	1,309½	2,436	1,531	1,918	4,449
Barley	2,634½	2,795½	5,430	3,746½	3,859½	7,606
Flax	564½	230	794½	592½	244	836½
Rye	557	439½	996½	1,383	1,003	2,386
Other	74½	52½	127	123	77½	200½
Total	21,837	19,173½	41,010½	28,094½	24,057	52,151½

Eastbound Rice Freight Rates.

The Canadian National and Canadian Pacific Rys. have given notice of intention to increase the rate on rice, eastbound, from Vancouver, from 75c per 100 lb., to $1.15½ on shipments to Montreal and Quebec, and $1.12½ on shipments to Toronto, which has resulted in protests from Vancouver shippers. The 75c rate on rice was established on Apr. 24, 1922, in order to enable Vancouver rice millers to compete in eastern Canada with rice shipped from the U.S., where there had been an exceptionally large crop, with the result that U.S. rice was being marketed in Canada at a very low figure. This rate was also made effective to Winnipeg and other distributing centers in western Canada, for the same reason that it was established to points in eastern Canada. In 1923, the Mount Royal Milling Co., Montreal, feeling that market conditions had changed, took exception to a continuation of the 75c rate from Vancouver, unless it could be given the same rate in the opposite direction, from Montreal to Vancouver and intermediate points. The railways did not see fit to adopt the suggestion as to the westbound rate, whereupon the Mount Royal Milling Co. applied to the Board of Railway Commissioners for rate equalization. The rice millers at Vancouver at first opposed the application, but withdrew their opposition subsequently, at a Board sitting at Vancouver, in June, 1923, when the Montreal and Vancouver millers were directed to confer with railway representatives with a view of affecting an adjustment of the conflicting interests. Both the Mount Royal Milling Co. and railway representatives were prepared to effect some kind of compromise, but as this would necessarily involve an increase in the 75c emergency eastbound rate, the Vancouver millers' representatives declined flatly to entertain any proposition which meant an increase in the 75c rate. The Mount Royal Milling Co. was therefore left in the position of either withdrawing, or pressing, its application to the Board for an adjustment which would place it on a basis somewhere near its Vancouver competitors. The railways felt that they could no longer justify the 75c rate established to meet emergency conditions existing over 2 years ago, and as the Vancouver millers had definitely declined to join with them and the Montreal millers in an attempt to settle matters, they decided that the 75c rate should be dropped, and that rates be published from Vancouver which would about approximate the rates from Montreal to points in the three prairie provinces. As the Vancouver millers have protested to the Board of Railway Commissioners concerning the new rates, it is likely that the matter will be before the Board for consideration in the near future.

Self Propelled Cars on Steam Railways.

Canadian National Ry.—A complete list of self propelled cars operating on each region was given in Canadian Railway and Marine World for August, on pg. 406. Gasoline car 15,815, which had been operating between Trenton, Picton and Napanee, on the Central Region, while gasoline car 15,814 was shopped at Trenton for repairs, has been sent to the Atlantic Region, and the service between Trenton, Picton and Napanee is being given by gasoline cars 15,814 an 15,816. Battery cars 15,804 and 15,794 are still running between Toronto and Weston, Ont., and Toronto and Oakville, respectively. We are advised that it is the intention to have the latter car make one trip daily from Toronto through to Hamilton and return. Battery car 15,796, operating between Montreal and St. Eustache, and battery car 15,799, operating between Montreal and Waterloo, Que., will probably be continued in those services until the winter. We were advised, Sept. 20, that battery car 15,795, operating between Montreal and Rawden, Que., would likely be taken off that run before the end of September, and that battery car 15,797, operating between Ottawa and Pembroke, Ont., would likely be taken off that run at the close of the summer season at Britannia Bay and the other resorts along the line.

Canadian Pacific Ry.—It was announced recently by the C.P.R.'s Publicity Department that motor car no. 1, which was built for the Quebec Central Ry., and which has been operated for some time by the C.P.R. on its Lasalle loop in Montreal, would, in the near future, "be relegated to the duty of pioneering in some other district." We were officially advised, Sept. 12, that no immediate change was contemplated in connection with this car.

The gasoline car built for the C.P.R. by the Ottawa Car Mfg. Co., described and illustrated in Canadian Railway and Marine World for August, pg. 407, which is to be placed in service between Vancouver and New Westminster, left Montreal for the Pacific coast about the middle of September, loaded on two flat cars.

The battery car described and illustrated in our June issue, pg. 265, is still running between Galt and Hamilton, Ont., and is, we are advised, carrying heavy traffic in both directions.

Telegraph and Telephone Meeting at Quebec.

The American Railway Association's Telegraph and Telephone Section's annual meeting was held at the Chateau Frontenac, Quebec, Que., on Sept. 9, 10 and 11, about 250 members attending. They were welcomed by Mayor Samson, who addressed them in both English and French. I. C. Forshee, Pennsylvania Rd., Chairman for the past year, presided at the meeting.

In addition to the presentation of reports by 10 committees and 8 subcommittees, papers were read as follows: "Effects of aurora borealis on communication circuits and means of mitigation" by J. B. Taylor, Consulting Engineer, General Electric Co.; "A. C. mil-ammeter method of testing open wires", by R. T. Davenport, Plant Supervisor, Postal Telegraph Cable Co.; "Machine switching private branch exchanges, and applica-

Grain Exports From Inland Ports of Exit.

Self Propelled Cars on Steam Railways.

Canadian National Ry.—The Brill model 55 gasoline car, mentioned in Canadian Railway and Marine World for May, as having been ordered for operation on Ontario lines, has been received and placed in operation between Trenton and Picton. It is numbered 15,826. Two more cars of the same type have been ordered, one for operation on the Central Region and the other on the Atlantic Region.

Battery car 15,796, which operated between Montreal and St. Eustache prior to being transferred to run between Brantford, Paris, St. George and Harrisburg, Ont., has been returned to the former run, and replaced by battery car 15,803, which was operated for a time between Brockville and Westport. We are advised officially that several changes in Central Region self-propelled car runs, the details of which have not been decided, will take place in June.

Details have been given in these columns previously of the Diesel engined self-propelled cars the C.N.R. management is having built. It was expected to have one or more of them ready for [illegible] depreciation. The depreciation on certain units is rather high, while on others it is very reasonable."—Q. "How do your storage battery cars and your electric cars compare on car mile cost?"—A. "Generally speaking, about 40c a mile."—Q. "How long do you lay up a battery car for charging?"—A. "It takes 7 to 8 hours for a full charge, but the charge is generally split up between 2 or 3 different periods in a 24-hour cycle."

Canadian Pacific Ry.—A Nelson, B.C., press dispatch states that the gasoline car sent to the British Columbia district is giving a daily service between Slocan City and Castlegar, 45.1 miles, on the Slocan and Boundary Subdivisions, Nelson Division.

Newfoundland Government Ry.—H. J. Russell, General Manager, has returned to St. John's from England, where he arranged for the delivery, in June, of 2 Sentinel-Cammell steam operated self-propelled cars, one to be used in the Corner Brook area and the other between St. John's and Kelligrews, 19.26 miles, particularly for summer traffic. The power unit and control is being

Alberta and Nova Scotia Coal Transportation.

T. L. Church, Toronto North, enquired in the House of Commons recently how the $200,000 voted by Parliament in 1924 to bonus coal was expended and distributed, and what amount of the vote was spent to bonus Alberta and Nova Scotia coal respectively. The Minister of the Interior, Mr. Stewart, replied as follows:—"The disbursements from the $200,000 voted by Parliament in 1924 to assist the extension of the market for Canadian coal were made under regulations authorized by order in council of Sept. 3, 1924. The disbursements were as follows:—Paid Canadian Pacific Ry., $657.63; Paid Canadian National Ry., $10,398.44; total expended, $11,051.07. The whole of the expenditure was for Nova Scotia coal and none for Alberta.

Details of arrangements made for the transportation of Alberta domestic coal to Ontario were given in our May issue, pg. 218. A total of 25,000 tons was arranged for, and, as stated in the instructions issued to intending purchasers by the Ontario Government, a freight rate of $7 a ton was provided. On May 8 we were advised officially by the Canadian

ailway Rolling Stock Orders and Deliveries.

Coal Co. has ordered 100 el hopper cars from Eastern / Glasgow, N.S.

and Government Ry. has rial for 3 locomotive boilers xes, to be built at its St.

and Government Ry. has its shops at St. John's a car, the first to be used on Heretofore the mails have in the baggage and express

and Government Ry. has rolling stock a dining car no. been completed at the St. It is of the vestibule end ats 18.

National Ry. has ordered 5 from Eastern Car Co., New S., in addition to the 5 or- isly, and which were describ- dian Railway and Marine ov. 1925, pg. 557.

er, President, Canadian Car o., in his report to the share- ented at the recent annual in part:—"As the result of rvest which Canada has en- oped that the increased grain gether with the anticipated rovement in the trade and the country, will create an mand for the various pro- factured by your company, ore your business to a status ent with its past record."

ng & Northern Ontario Ry., Canadian Railway and Mar- or Dec. 1925, ordered 3 all ass cars, 3 all steel second nd 3 all steel baggage and , from National Steel Car The first and second class similar in most respects, but st class ones will be divided on into a main room, with city for 64 passengers and upholstered in plush, and a m with seating capacity for seats upholstered in genuine her, the second class ones ed by central partitions into seating capacity for 40 pas- , one for smokers, with seats ms upholstered in genuine her. Each end of the first lass cars will be partitioned on one side and lavatory on e end for men and the other with center hall to the vesti- avatories will contain wash- , water cooler and seat. The ill be provided with 24 in. ing doors with surface floor es and Pantasote finger e hinge side to prevent in- engers' fingers if the doors sheets, and the belt rail of special section. The wooden flooring will be in 2 courses, the lower of 13/16 in. and the upper of 1¼ in. material. Steel roofs will be applied. The trucks will be of the Commonwealth 6-wheel type, with 11 ft. wheelbase, and wheels will be of the rolled steel center, steel tired, type, of 37 in. diam. Journals will be 5 x 9 in. Special equipment will include: Westinghouse U.C. 1-18 air brake system; schedule K air signal system; O.H.S. axles, A.R.A. type; clasp brakes; Hall friction buffers, class M-2; National centering device; A. R. A. type D head couplers, bottom operated; Holco P.C. 311 diaphragms; Hall friction draft gear, class K-8; Miner Ideal hand brakes; Vapor heating system; malleable iron journal boxes; electric lighting system; Creco covered roller side bearings; form K-1 slack adjuster; Security truck locking device, and 20 Mudge ventilators per car.

The baggage and express cars will have the following chief dimensions:

Length over end posts	71 ft.
" " buffers	74 ft. 9½ in.
Distance between truck centers	58 ft. 1 in.
Length inside	69 ft. 2 in.
Width over side sills	9 ft. 10 in.
" " all at eaves	10 ft. 1 in.
" of clerestory	5 ft. 10 in.
" inside	9 ft. 1 in.
Height truck to roof at center	14 ft. 3½ in.
" rail to eave moulding	11 ft. 3 in.
" track to sill at end	3 ft. 5⅞ in.

The underframing, side and end framing, sheathing, belt rails, floor and roof will be generally similar to those of the first and second class passenger cars, as will also the trucks and air brake and other equipment, with the exception that there will be only 10 ventilators per car.

Self Propelled Cars on Steam Railways.

Canadian National Ry. — Information as to additional oil electric cars placed in operation recently is given elsewhere in this issue, under "Oil Electric Cars, C.N.R."

Canadian Pacific Ry. — The gasoline car built by Ottawa Car Mfg. Co., described and illustrated in Canadian Railway and Marine World for July 1924, pg. 337, and which was placed in operation between St. Thomas and Woodstock, Ont., on the schedule given in our Nov. 1925 issue, pg. 565, continues on that run, and is giving satisfactory service. The battery car described and illustrated in our June 1924 issue, pg. 265, which has been in operation between Galt and Hamilton, Ont., has also been giving very satisfactory service on that run. Recently, its running time on the trip has been extended slightly, and the Sunday operation has been discontinued.

diam. x 8 in. stroke, developing 175 h.p. at 1,000 r.p.m.; 110 k.w. 700 v. 1,000 r.p.m. generator; G.E. 240-A 600 v. motors; 150 gall. gasoline tank; 2 high tension magnetos for ignition, and 32 v. 120 amp. hr. storage battery. Gear ratio is 16:59. This car operates from Marcus to Nelson, 99.04 miles, as train 260, leaving Marcus at 1.25 p.m. and arriving at Nelson at 6.30 p.m.; and from Nelson to Marcus as train 259, leaving Nelson at 7.25 a.m., and arriving at Marcus at 12.25 p.m.

Among the Express Companies.

Dominion Express Co. has opened an office at Whitworth, Que.

A. M. Zoller, motorman, Dominion Express Co., Kitchener, Ont., who entered the service Aug. 4, 1916, died Nov. 7, 1925.

I. St. Aubin, stableman, Dominion Express Co., Ottawa, who had been employed since June 3, 1918, was killed by an automobile, Nov. 16, 1925.

Canadian National Ry. Express Department carried 239 silver-black foxes, valued at approximately $50,000, from Prince Edward Island to Montreal, where they were transferred to the s.s. Welland County, for La Havre, France, on Nov. 28, 1925.

Canadian National Ry. Express Department has opened offices at Grand View and Hardwood Ridge, N.B., and has closed its offices at East Mines, N.S., Flatlands, N.B., Oskelaneo River, Que., and MacDiarmid, Ont. The name of Rooney, B.C., has been changed to Goat River. It is a star point.

F. W. Holland, who died in Montreal, Dec. 19, 1925, aged 70, after a short illness, entered Canadian Express Co's service about 1880, and subsequently became General Agent in Montreal. He retired from that position about 2 years ago on account of failing health, and was appointed Special Representative. He resumed the position of General Agent in Montreal following the recent death of D. A. Doty.

As a part of the express rates revision case now awaiting decision by the Board of Railway Commissioners, the Sault Ste. Marie, Ont., Board of Trade applied to have the express rates affecting that city made on the eastern zone basis, instead of the central zone, the latter being the higher, and recently has been pressing the companies, and also, it is said, the Board of Railway Commissioners, for compliance its requests in this connection, inde ntly of the general rates revision case. In answer to its representations the Dominion Express Co. has offered, subject to permission being obtained from the Board of Railway Commissioners, to issue the necessary tariff supplements, to take Sault Ste. Marie out of the central zone and

CANADIAN PACIFIC GAS-ELECTRIC

Photo Number: MAT001505
Photographer: unknown
Location: Stittsville
Railway Name: CANADIAN PACIFIC RAILWAY CO.
Date: 1931-08-14
Caption: Gas electric car No. 49 built by the Ottawa Car Manufacturing Co. in Ottawa in August 1931. At the time this photograph was taken it was en route out west for branch line service. The photograph was taken at Stittsville . The Ottawa Car Company got orders to build two more of these cars.
Subject: Equipment, passenger
Equipment Number: 49
Collection: Mattingly

Photo Number: STR03915a
Photographer: HUTCHINSON, D. COLL.
Location: SOURIS, MAN.
Railway Name: CAN. PACIFIC
Date: 1941-08-09
Subject: MOTIVE POWER - GAS-ELECTRIC LOCO
Model: BAGGAGE MAIL
Type: 8 WHEEL
Equipment Number: 9009
Collection: STR

Photo Number: STR16155a
Photographer: unknown
Location: WINNIPEG, MAN.
Railway Name: CAN. PACIFIC
Date: 1950-09-00
Subject: MOTIVE POWER - GAS / ELECTRIC
Builder Date: 1932-00-00
Model: COMBINATION
Type: B-B
Equipment Number: 9007
Collection: STR

Photo Number: STR16156a
Photographer: unknown
Location: GUELPH, ONT.
Railway Name: CAN. PACIFIC
Date: 1939-03-00
Subject: MOTIVE POWER - GAS / ELECTRIC
Builder Date: 1932-00-00
Model: COMBINATION
Type: B-B
Equipment Number: 9007
Collection: STR

Photo Number: STR16924a
Photographer: unknown
Railway Name: CAN. NATIONAL
Subject: MOTIVE POWER - ELECTRIC LOCO
Builder Date: 1925-05-00
Class: EP-73-A
Type: B-B
Equipment Number: 15904
Disposition: SC 06/1949
Collection: STR

Photo Number: STR14244a
Photographer: unknown
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - DIESEL ELECTRIC
Model: PASSENGER
Type: B-B
Equipment Number: 9008
Collection: STR

Photo Number: STR14242a
Photographer: unknown
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - DIESEL ELECTRIC
Model: PASSENGER
Type: B-B
Equipment Number: 9005
Collection: STR

Photo Number: STR14241a
Photographer: unknown
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - DIESEL ELECTRIC
Model: PASSENGER
Type: B-B
Equipment Number: 9003
Collection: STR

Photo Number: STR19461a
Photographer: MILLER, W.
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - GAS / ELECTRIC
Model: COMBINATION
Type: B-B
Equipment Number: 47
Collection: STR

Photo Number: STR16157a
Photographer: unknown
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - GAS / ELECTRIC
Model: COMBINATION
Type: B-B
Equipment Number: 9008
Collection: STR

Photo Number: STR16154a
Photographer: unknown
Railway Name: CAN. PACIFIC
Subject: MOTIVE POWER - GAS / ELECTRIC
Model: COMBINATION
Type: B-B
Equipment Number: 9006
Collection: STR

Gasoline-Electric Cars, Canadian Pacific Railway.

The second of two gasoline-electric self-propelled cars ordered by Canadian Pacific Ry. from Ottawa Car Mfg. Co. was delivered Jan. 30, and placed in operation on Drummondville Subdivision, Farnham Division, Quebec District, Feb. 1, between Sutton and Drummondville, 58.8 miles, as trains 251 and 254, replacing steam trains of the same numbers. As train 251, the car leaves Sutton 8 a.m., arriving at Drummondville 12.40 p.m.; as train 254, it leaves Drummondville 2.10 p.m., arriving Sutton 7.20 p.m. Delivery of the first car of this order for two was mentioned in our February issue, pg. 73, it being stated that it had been placed in operation on the St. Guillaume Subdivision, Farnham Division, Quebec District, between Farnham and St. Guillaume.

The two cars' chief dimensions are as follows:—Length inside coupler knuckles, 74 ft.; truck centers, 52 ft. 10 in.; width over side sheathing, 9 ft. 9⅝ in.; height, rail to top of floor, 4 ft. 4 in.; height, rail to top of roof, 13 ft. 1¼ in.; length of engine room, 15 ft. 10 in.; length of baggage room, 31 ft. 6½ in.; length of main room, 17¾ ft. The car framing is of steel construction throughout. A wide vestibule is provided at the rear end, with side and trap doors, and a two-fold canvas diaphragm with light vestibule face plate. The passenger room is finished in mahogany and the baggage room in corrugated steel sheets. The headlining is 0.06 in. sheet aluminum finished in cream enamel. The main room has seating capacity for 25 passengers. The seats are fixed, the car being for front end operation only, and are arranged to seat three persons on one side of the aisle and two on the other. All sash in the passenger end of the cars is of brass. A 32-volt lighting system is employed, with Exide cells, which also provide current for engine starting.

The trucks are of cast steel type, the front one carrying the engine and the two motors and having 6 x 11 in. journals. The rear truck, a trailer, has 5 x 9 in. journals. The wheels are of rolled steel type, 36 in. diam. The power plant consists of a 400 h.p. 8-cyl. Winton engine, with cylinders 8 in. bore and 10 in. stroke, special winding built into the generator making it adaptable for starting the engine from the batteries. Provision is also made to use an air starting system when the air reservoirs on the car are charged. There are two gasoline tanks each of 160 gall. capacity. The light weight of car is about 139,000 lb.

The cars are equipped with the "dead man" feature, under which, if the pressure on the control levers is released, the brakes apply immediately. The engine cooling and car heating systems are combined; the car heating hot water system uses coal for fuel, but by connection of the hot water heating system with the engine cooling system, the engine provides hot water for heating the car under mild weather conditions, and the coal-fired car heating system provides for heating the engine's cooling water when the car is not in operation, during severe weather. Fin piping is used in the car heating system. Cooling coils for summer operation are located on the car roof, and can be cut in or out as required, according to weather conditions. When a section is cut out, the water is drained automatically from it to a storage tank in the engine room. Water from all radiators, whether cut in or out, is drained to the storage tank once the engine stops running. The radiators are not only cooled by natural air circulation when the car is in motion, but are also fitted with high efficiency cast aluminum disc type fan motors. The car is equipped with a motor-driven air compressor fitted with a reservoir of sufficient capacity for air brake operation and for supplying air for starting the engine. Control of the car is entirely automatic, the control handles consisting of hand-lever for control of the engine throttle and engine speed, an air-starting valve for starting the engine, and a master controller for forward and reverse operation. The large fuel tanks give the car a range of about 480 miles at an average speed of 30 m.p.h. The maximum speed attainable is from 60 to 65 m.p.h.

The cars operating on the Farnham Division are the second two gasoline-electric self-propelled cars secured by the Canadian Pacific from the Ottawa Car Manufacturing Co., two others having been bought in 1931, and described and illustrated in Canadian Railway and Marine World for Oct., 1931, pg. 640. The cars delivered in 1931 were placed in operation on Western Lines, one between Winnipeg and Arborg, Man., and the other between Regina and Weyburn, Sask. But later the one which had been placed in operation between Winnipeg and Arborg was transferred to Portal Subdivision, Regina Division, Saskatchewan District, where it was placed in operation between Portal and Moose Jaw. These two cars, numbered 48 and 49, are still operating on those runs, one as trains 315 and 316 between Moose Jaw and Portal, and the other as trains 307 and 308 between Regina and Weyburn. The car operating on St. Guillaume Subdivision is numbered 9007; the one operating on Drummondville Subdivision is numbered 9008.

The C.P.R. now has six gasoline-electric cars in operation, two which were bought from St. Louis Car Co. in 1930

MARCH 1932

Gasoline-Electric Cars, Canadian Pacific Railway.

The two gasoline-electric self propelled cars ordered by the Canadian Pacific Ry. from Ottawa Car Mfg. Co., as mentioned in our Sept., 1931, issue, pg. 583, were delivered, one on Jan. 16 and the other on Jan. 22. They are duplicates of the two delivered to the C.P.R. by the same builder last year, which were described and illustrated in our Oct., 1931, issue, pg. 640. They are 74 ft. long inside coupler knuckles, with truck centers at 52 ft. 10 in., width over side sheathing being 9 ft. 9⅝ in., and height 13 ft. 1⅞ in. from rail to top of roof. The framing is of steel construction throughout. The interior is divided into a main passenger compartment, 23 ft. 4 in. long, smoking room, 8⅝ ft. long, baggage room, 20 ft. 2½ in. long, and engine room, 15 ft. 10 in. long. The trucks are of cast steel type, with the front one carrying engine and motors. The engine is a 400 h.p., 8 cyl. one, with cylinders 8 in. bore x 10 in. stroke.

We are advised officially that the first of the two cars delivered began operation, Jan. 18, on St. Guillaume Subdivision, Farnham Division, Quebec District, between Farnham and St. Guillaume, 46.7 miles, as trains 261, 262, 263 and 264, replacing steam trains. Train 262 leaves St. Guillaume 7.50 a.m., arrives Farnham 9.35 a.m.; train 261 leaves Farnham 10.30 a.m., arrives St. Guillaume 12.20 p.m.; train 264 leaves St. Guillaume 2.50 p.m., arrives Farnham 4.40 p.m., and train 263 leaves Farnham 5.35 p.m., arrives St. Guillaume 7.20 p.m.

February 1932