

Canadian Railway and Marine World

November, 1920

Snow Fighting Equipment.

By W. H. Winterrowd, Chief Mechanical Engineer, Canadian Pacific Railway.

The earlier portions of this paper were published in Canadian Railway and Marine World for September and October.

Grand Trunk Pacific Rotary Ploughs. Fig. 32 shows a rotary plough built by the Bucyrus Co. for the Grand Trunk Pacific Ry. As far as the writer has been able to learn, only two of these ploughs were built. The wheel is of a modified scoop type, and has 10 radial scoops, the inner ends of which are fastened to a steel casting keyed to the main shaft. The general form of the scoop is the same as in the rotaries described previously, except that the adjoining edges of the scoops are brought straight out towards the face of the wheel. The flanges of a heavy hinge casting are placed over the double edges thus formed. This casting is fastened by rivets passing through both flanges and the adjoining edges of the scoop plates. Near the outer periphery of the wheel, heavy braces or spacer bars are applied between each hinge casting. The cutting blades are double edge and made of cast steel. Each blade adjusts itself automatically and independently and no connecting links are used. The inner ends of five of the knives are carried close to the center of the wheel; the other five knives are shortened so that they will not interfere with the longer ones.

Union Pacific Rotary. — Four rotary snow ploughs were built by the Union Pacific Rd. The cutting wheel is built up around a cast steel center secured in the usual manner to the front end of the

of the wheel. The outer ring is of mild steel 1 x 4 in. section. Between the inner and outer rings are riveted two types of cast steel arms. Each alternate arm is provided with bosses for hinging knives. The front edges of the ½ in.

operated by air and the cutting wings are heavily braced in working position. When not in use, the wings are drawn in by means of levers operated by a hand screw. The boilers on these ploughs are equipped with superheaters. The use

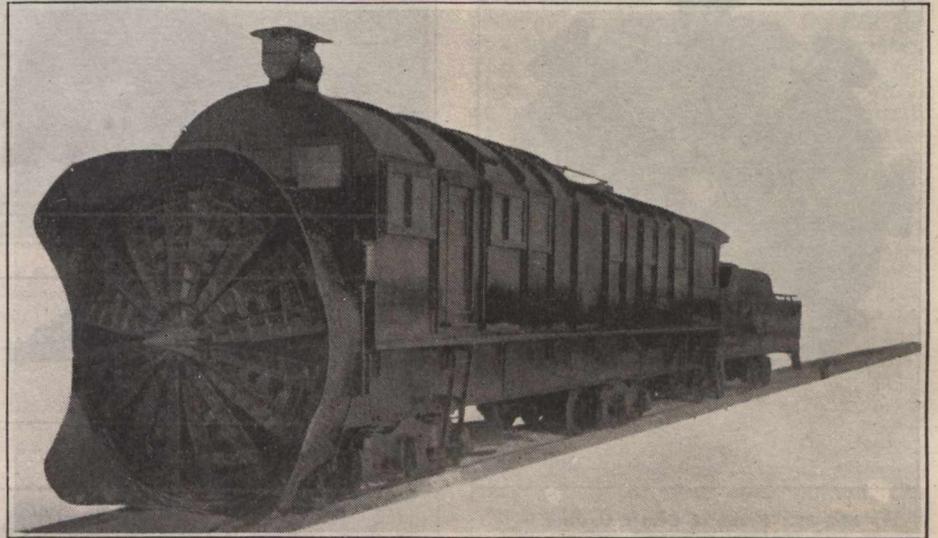


Fig. 33. Canadian Pacific Ry. Heavy Rotary Snow Plough.

plate partitions are riveted to the arms without bosses. The plain arms also serve as stops for the knives, which are double edged and of cast steel, and which

of highly superheated steam provides a substantial increase in power and reduces the consumption of fuel and water, enabling the plough to remain out longer without running for an additional supply.

Canadian Pacific Heavy Rotary.—The greatest test of a rotary snow plough is its ability to cut through snow slides. The plough can be subjected to no heavier service than one which is occasionally required on all roads crossing the Rocky, Cascade and Selkirk Mountains. The snow in these slides is not only packed exceedingly hard, but often contains trees and rocks. It is impossible for rotaries to overcome such obstacles. It is generally customary to probe the slide with sounding rods to locate them, and, if possible, they are removed by blasting, or by being pulled out. Sometimes, however, these obstacles are not discovered and when the plough encounters them the ordinary cutting knives are generally damaged and the plough often put out of commission. The repair of the knives is generally difficult and slow.

During the winter of 1908-09, Mr. George Bury, then General Manager, Western Lines, C.P.R., decided that a plough was needed which would not break down, and he stated that he wished a rotary plough with cutting knives of 2 in. armor plate, and the rest of the plough built in proportion. The following spring, authority was given for two such ploughs and arrangements were made with the Montreal Locomotive Works for their construction. H. H. Vaughan, then Assistant to the Vice President of the C.P.R., engaged John Play-er, Consulting Engineer of the American

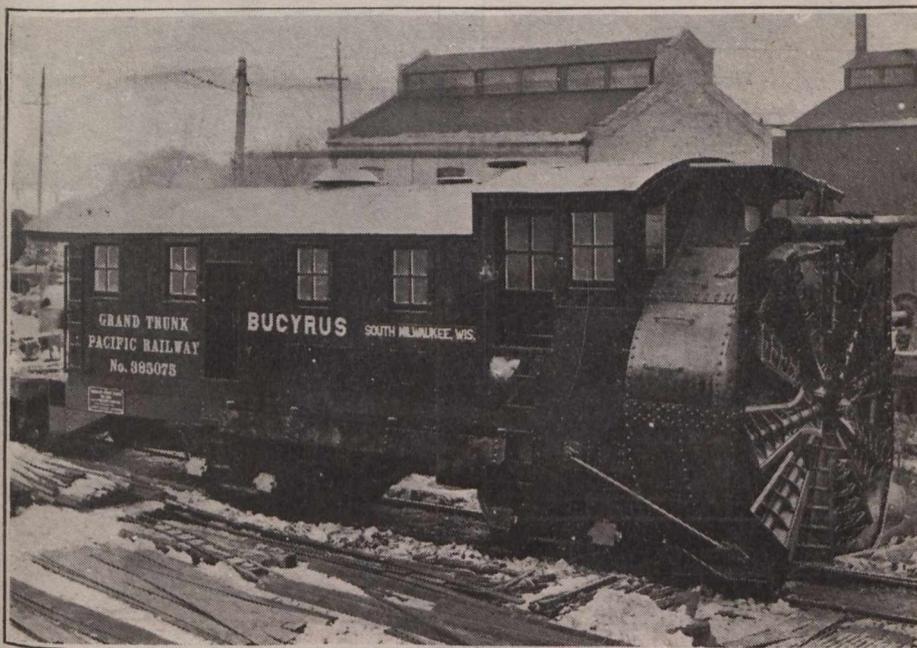


Fig. 32. Grand Trunk Pacific Ry. Rotary Snow Plough.

wheel shaft. This casting is spool shaped. The front is 50 in. in diameter and contains a number of spokes. On three of these spokes the small center cutting knives are hinged. The outer ring of this center casting forms the inner ring

adjust themselves independently without connecting links. These knives are hinged to the bossed steel arms by means of continuous pins. A drop nose and very substantial cutting wings are fastened to the front casing. The drop nose is

Locomotive Co., to prepare the designs in collaboration with him. As a result it was decided to modify considerably the

wheel direct in marine engine style, and that the frame of the plough should resemble a bridge girder to thoroughly

cutting knives and scoops of exceedingly thick plate, and all other construction in proportion, would have resulted in a weight that was impractical. A wheel, however, was built which was quite different from any others and which was immensely strong. The wheel was made of cast steel. As no facilities were avail-

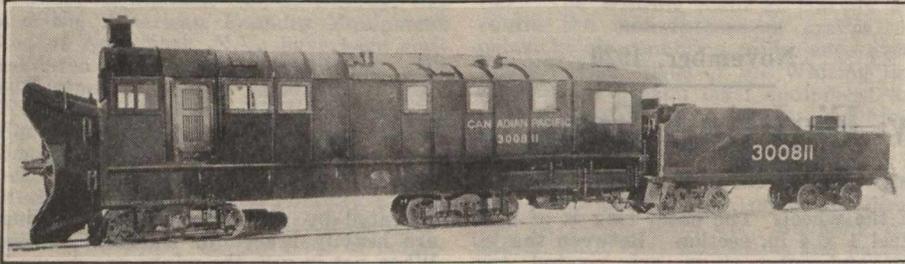


Fig. 34. Canadian Pacific Ry. Heavy Rotary Snow Plough.

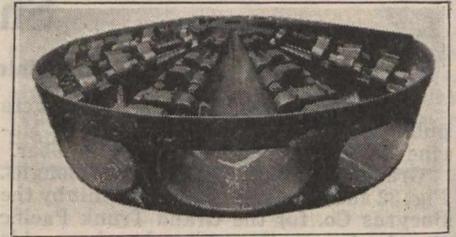


Fig. 38. Assembled Wheel, without Cutting Knives.

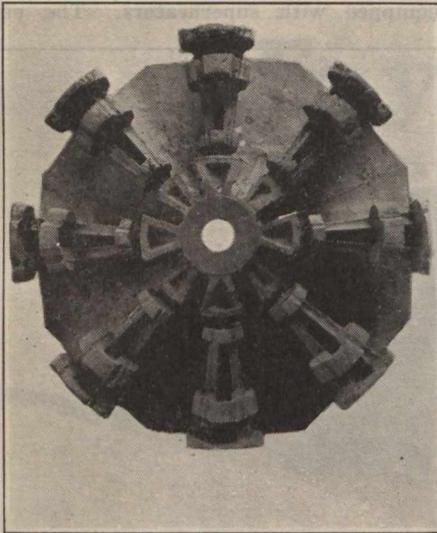


Fig. 35. Front of Center Casting.

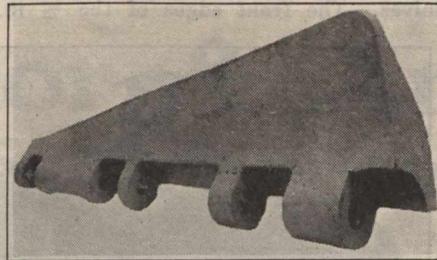


Figure 39.



Figure 40.

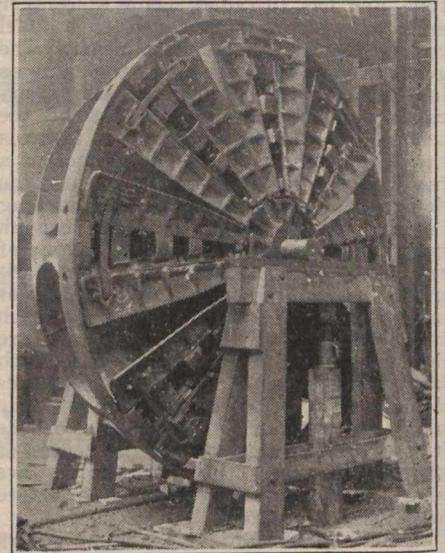


Fig. 43. C.P.R. Heavy Rotary Snow Plough Wheel, being balanced.

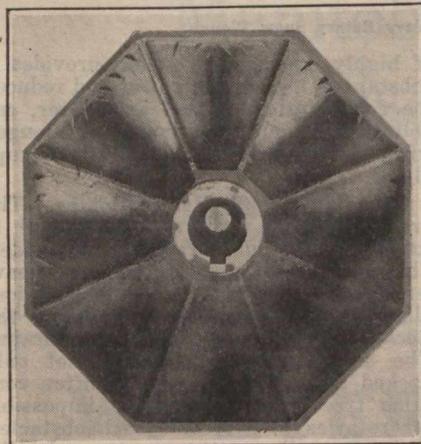


Fig. 36. Rear of Center Casting.

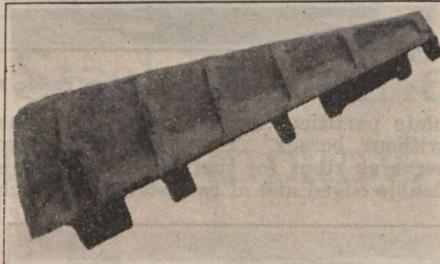


Figure 41.

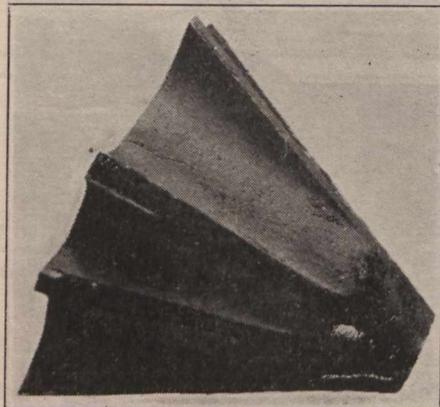


Figure 42. Cutting Knives and Nose Piece.

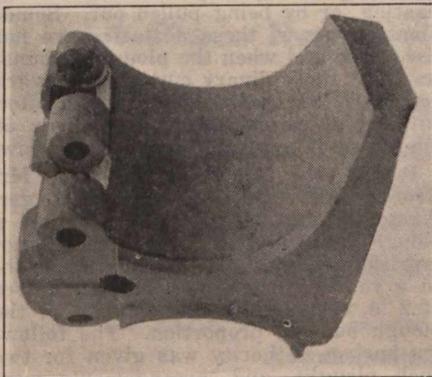


Fig. 37. Cast Steel Segment.

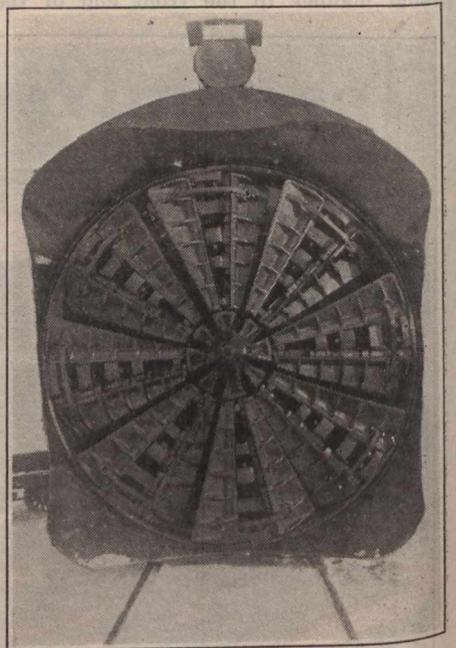


Fig. 44. Completed Wheel in Place, on C.P.R. Heavy Rotary Snow Plough.

construction of existing ploughs. It was Mr. Vaughan's idea that better results could be obtained by driving the plough

support the casing or hood. This idea has been justified, as the ploughs operate with practically no vibration. It was decided to build the ploughs, incorporating these ideas. The finished ploughs are shown in figs. 33 and 34, and are the largest and most powerful that have ever been built.

The design of a tremendously strong and rugged wheel was one of the most important problems. To have made the

able for machining or annealing a casting of the required size, a built-up construction was used. The center casting, the front and back of which is shown in figs. 35 and 36, was made in octagon form 80 in across the flats. Fig. 37 shows one of

the eight segments which were bolted to the faces of the center casting. These segments follow the curved form of a scoop wheel and have at the outer edges 6 in. diameter bosses for 2½ in. diameter hinge pins. The segments are bolted

fore the cutting knives are attached. This view shows the 1¼ in. thick by 10 in. wide band bolted to the segments, and which helps hold them in place. The band is increased in thickness to compensate for the hinge pin and bolt holes.

40 and 41 are other views of these blades and show how they are heavily ribbed. These blades are ¾ in. thick at the cutting edge.

Fig. 42 shows the nose piece for the center of the wheel. Fig. 43 shows the completed wheel, without the nose piece, being balanced. As shown in this view, the wheel weighed 24,000 lb. and as it was designed to run at 400 revolutions per minute it was necessary to balance it accurately.

Fig. 44 shows the finished wheel in place on the plough.

Figs. 45 and 46 show the arrangement of engine and plough. The casing is made of ¾ in. plate and tapered to eliminate any flat surfaces on which snow or ice might accumulate. The bottom of the casing is reinforced by an additional ¾ in. plate. The back of the casing consists of steel castings with flanges for attachment to supporting gusset plates. This view also shows the boiler and engines in place, as well as the taper wheel fit on the front end of the main shaft. The main shaft is 11½ in. in diameter and 12 ft. 2 in. long. The front bearing is 11½ in. in diameter by 28 in. long. Behind the front bearing is a marine type thrust bearing with 10 collars. There is a rear bearing 10 in. in diameter by 16½ in. long. The thrust bearing, which is peculiar to this plough, is intended to take up the thrust ordinarily received by the back wall of the wheel casing. It has proved of decided benefit in service. The engines are of the marine type and have cylinders 20 in. in diameter and 24 in. stroke. The steam chests are cast integral with the cylinders. The supporting columns are cast steel. As head room was limited, the connecting rods are short in proportion to the stroke, and the area of the cross-head bearing surfaces was increased accordingly. The crank pin of the engine was connected to a crank disc on the rear of the wheel shaft by means of a drag link coupling. This was used in case there should be any variation in alignment of the wheel shaft and engine crank shaft and to prevent any bending strains from being transmitted from one to the other. Duplicate reverse lever and throttle are provided so that the engine can be operated from either side.

Fig. 47 shows the main frames and gusset plates which support the casing. The frames are box girders 36 in. deep at the front end. The outside plate of the girder is ¾ in. thick and the inner ½ in. thick. The top and bottom members are 13 in. ship channels. The boiler applied to these ploughs is similar to those of the Canadian Pacific class M-4 consolidation type locomotives. It has 2,108 sq. ft. of heating surface and 44 sq. ft. of grate surface, and is of greater capacity than any boilers that have been used for snow plough service. The trucks are of the 6-wheel type specially designed for the purpose, and have cast steel frames. The axles have 7 x 12 in. journals, and the steel tired wheels are 34 in. in diameter.

In working order, these ploughs weigh 260,000 lb. The weight is practically equal on the two trucks. The tender has a water capacity of 7,000 Imperial gallons and holds 16 tons of coal. The tender was made 32 ft. long over end frames, as, on account of bridge limitations, it was necessary to separate the weight of the plough from the weight of the pushing locomotives. The tender trucks are of the 4-wheel, equalizer pedestal type, using standard engine truck wheels and axles. An officer who has used them

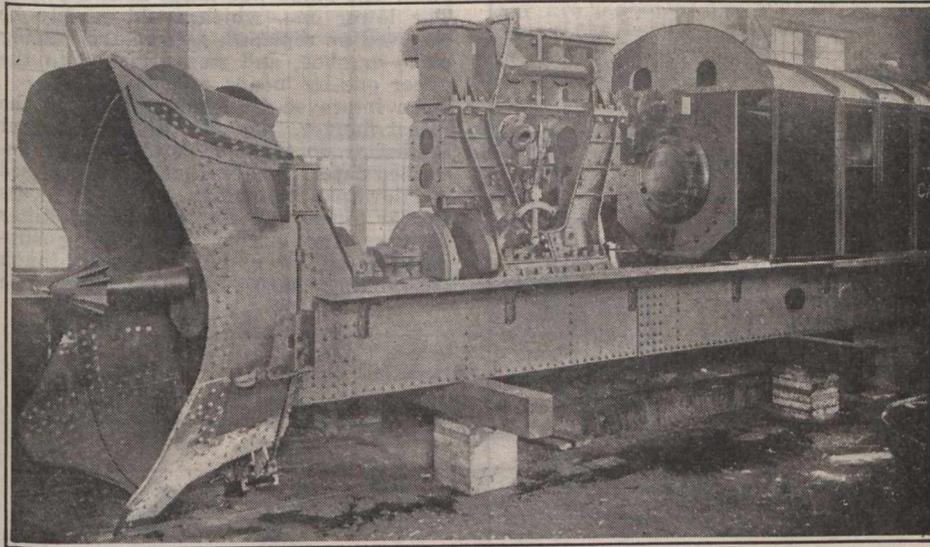


Fig. 45. Arrangement of Engine and Wheel, C.P.R. Heavy Rotary Snow Plough.

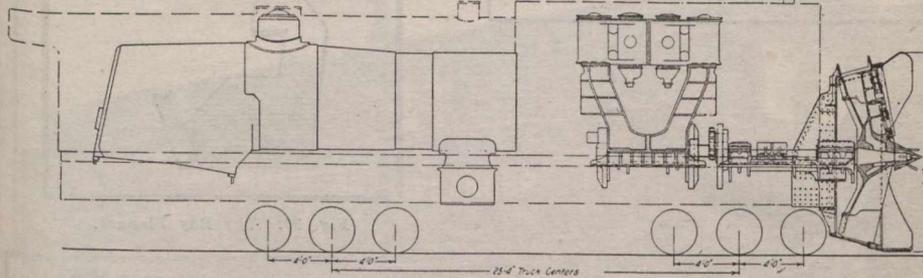


Fig. 46. Arrangement of Engine and Wheel, C.P.R. Heavy Rotary Snow Plough.

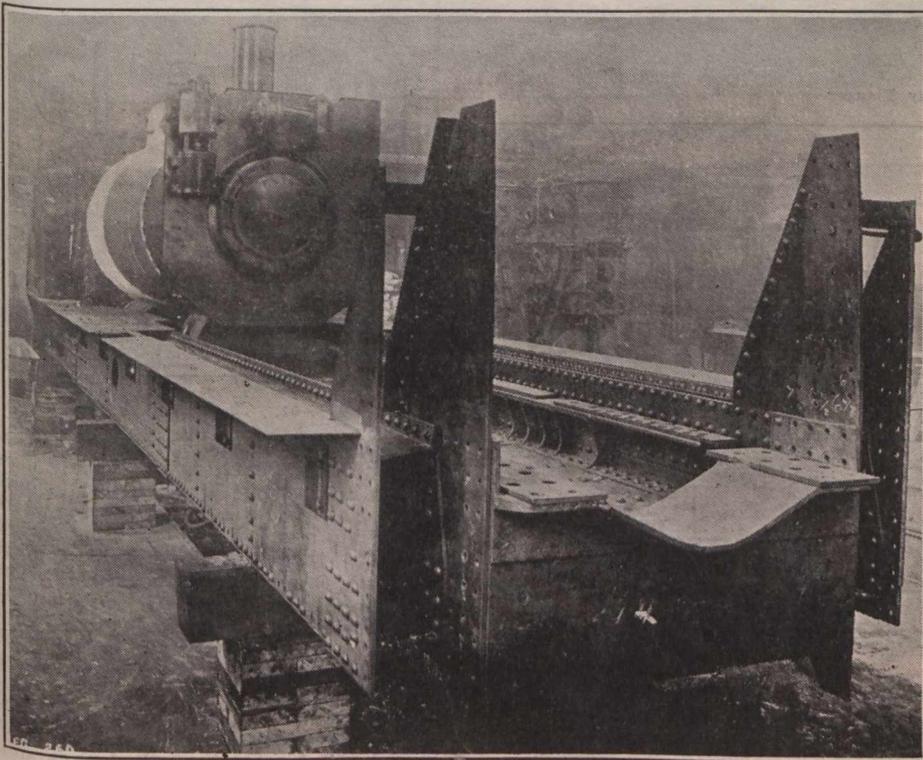


Fig. 47. Main Frames, with Gusset Plates in Position, C.P.R. Heavy Rotary Snow Plough.

to the center casting with 2¼ in. diameter bolts. The adjacent segments are bolted together through flanges at their rear edges.

Fig. 38 shows the wheel assembled be-

This band is made in section with L shaped lugs on each end which fit into grooves in the segments.

Fig. 39 shows the inside of one of the massive cast steel knife blades. Figs.

states that the knives are quite sufficient for dealing with small trees. They have cut trees 4 in. in diameter. He also states that the slight angle at which the cutting knives are placed makes the

up the track and to clear out the space between the rails for a depth of from 2 to 4 in., flangers are generally used. Flangers are applied either to the front of the locomotive, temporarily to box

knife-like blade, one end of which was pivoted to the nose of the locomotive pilot. It was lowered and raised by means of lever connections from the locomotive cab, and when down in working position was practically parallel to the side of the pilot. The blade was made in two pieces. The lower one, which could readily be removed or replaced, formed the cutting plate or shoe, and was attached to the upper one by means of springs.

An improved type was known as the Priest flanger. Its general arrangement is similar to that of the Ray type described later, except that it was raised and lowered through a system of levers similar to those of the Temple and Miller flangers, the motive power being supplied by an air cylinder bolted through the running board of the locomotive. The

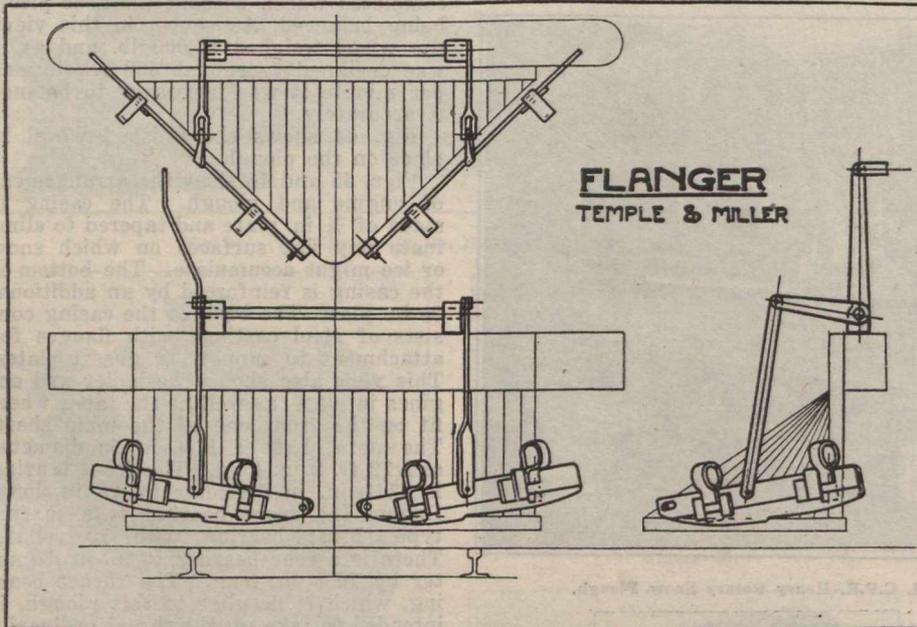


Figure 48.

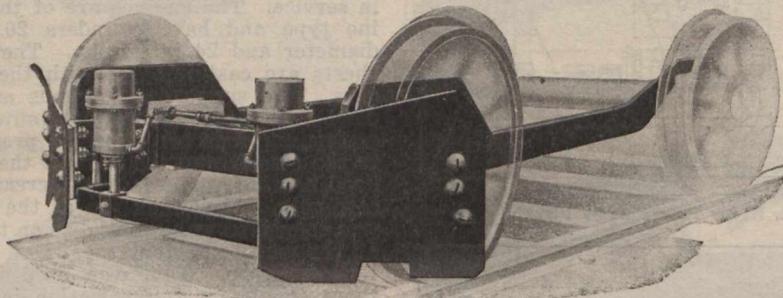


Fig. 49. The Ray Flanger.

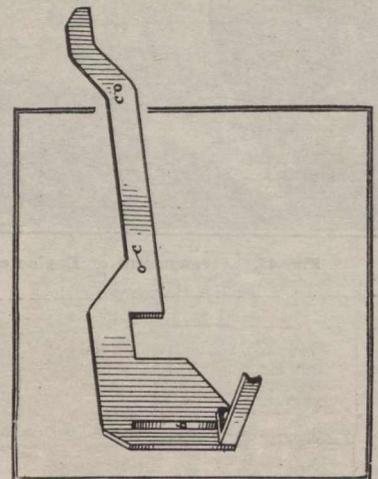


Fig. 50. The Ray Flanger.

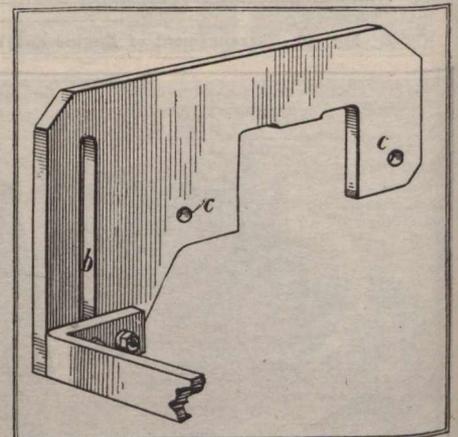


Fig. 51. The Ray Flanger.

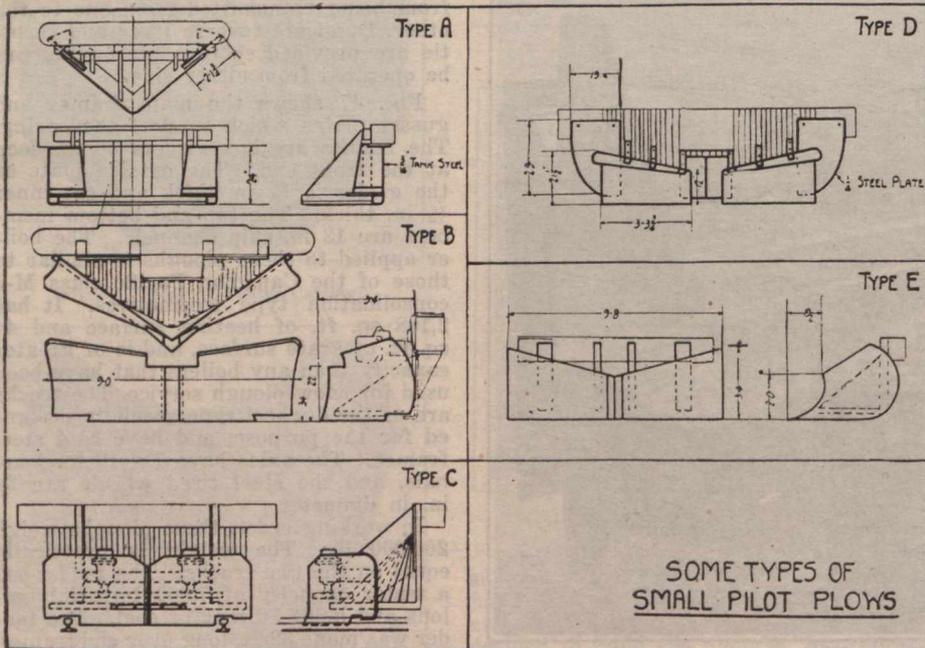


Figure 52.

plough somewhat slower in its progress through a slide, but the knives do not break when they strike obstructions such as rocks and trees.

Flangers.—In order to properly clean

cars or flat cars, or permanently to snow ploughs or flanger cars. Fig. 48 shows one of the early type of flangers used on locomotives. It was known as the Temple and Miller type. It consisted of a

manufacturers of the Priest flanger developed the Ray flanger. This widely used flanger is shown in figs. 49, 50 & 51. These illustrations show how the air cylinders for raising and lowering the flangers are bolted to the cross tie which connects the front end of special equalizers. The flanger is held in raised position by means of a strong spring in each cylinder. The air is used only to keep the flanger down in operating position. These flangers make a cut 2 in. deep on the inside of the rail and 1 in. deep on the outside. The total width of the cut is about 20 inches. Air for the cylinders is supplied from the locomotive main reservoir, the operating valve being located in the cab within easy reach of the engineer. Ray flangers are made in different styles. By extending the inner edges of flanger blades a very useful combination snow plough and flanger is made. Such a type

is shown in fig. 52, illustrating various types of pilot ploughs. For double track operation, a single cutting plate extending the full width of the trackway is used.

As stated previously, flangers are applied to snow ploughs of various types. Sometimes flangers are attached to a special car. The smallest flanger car

raising the flanger is contained within the car. The majority of the large cars are equipped with two flangers in order that the car may be operated in either direction. On some roads the flangers are hung from the underframe of the car between the trucks. On other roads they are placed at the ends of the cars outside the trucks. Figs. 53, 54 and 55

has developed and is using a type of ice cutter shown in fig. 57. This cutter is applied to the plough of a Jordan spreader car. The cutter consists of 29 2 in. square cutting tools of hardened steel, ground to a point at the bottom end. These knives are carried in a flanged channel which is fastened to the plough at the front of the spreader. This method of attachment permits the entire cutter to be raised and lowered by the existing spreader mechanism. Fig. 57 shows the cutter in working position. Figs. 58 and 59 shows the cutter entering a snow and ice covered track and leaving it in clear condition.

Sweepers. — For removing ordinary light snows in yards, a few roads have used the well known street railway type of sweeper. A sweeper of this type is shown in figs. 60 and 61. The revolving brooms at each end of the sweeper are operated by means of a single cylinder reversible steam engine located in the body of the car. This engine takes steam from the locomotive pushing the sweeper. The broom shaft is driven by means of a chain drive. The writer has been advised that these cars are very efficient in removing light snow, and particularly in cleaning up terminals and terminal yards.

Operation of Equipment. — All snow fighting equipment should be in good condition before the start of the snow season. This is best accomplished by means of a definite summer repair programme. Snow fighting conditions vary greatly. Some roads, in order to determine the probable weather conditions, keep in close touch with the government observatories, which advise the localities or areas in which storms exist or are probable.

Operation of equipment usually starts with the beginning of a storm. In clearing snow under ordinary conditions, pilot, push and wing plows are generally run at a good speed, in order that the snow may be thrown well clear of the track. If a good speed is maintained, the ploughs will frequently go through a cut without stalling, whereas, if the speed is slow the plough may catch or stall half way through the cut or drift, with the result that it may be stuck or buried and have to be shoveled out.

Particular care should be used upon approaching a cut, particularly one with a side drift at the entrance, as with a double track plough sufficient side pressure may develop to cause derailment. Such an approach is generally squared off before pushing the plough into it. If the snow is too deep for the plough to handle, it is leveled off by shoveling until reduced to a reasonable depth. The man in charge of the snow plough must be one with considerable initiative, as weather and snow conditions vary greatly, and situations frequently arise which call for good judgment and quick decision.

Rotary snow ploughs are handled in an entirely different manner from the push and wing ploughs. Instead of depending upon speed to get through the drifts, the rotary plough approaches the drift slowly and the cutting wheel is fed into the drift instead of bucking it. A snow bank or slide is generally approached at a speed of about 3 or 4 miles an hour with the rotary wheel revolving about 150 revolutions a minute. When coming close to the obstruction the speed of the wheel is increased, and the pusher engines keep moving just fast enough to keep the plough up against the drift. If the pusher engine crowds the rotary too much the pilot signals the locomotive

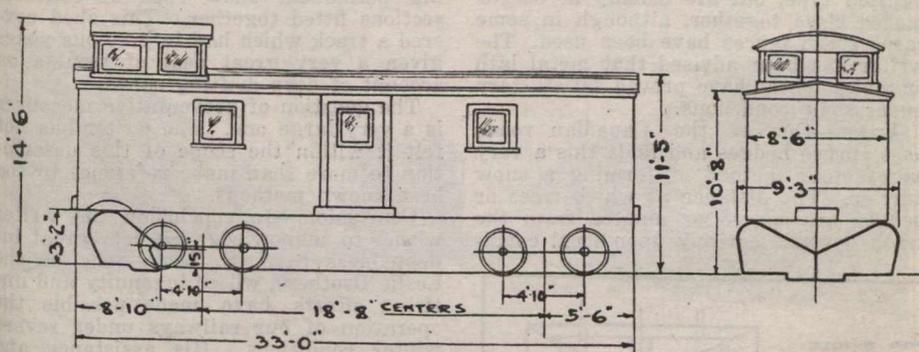


Fig. 53. Flanger Car.

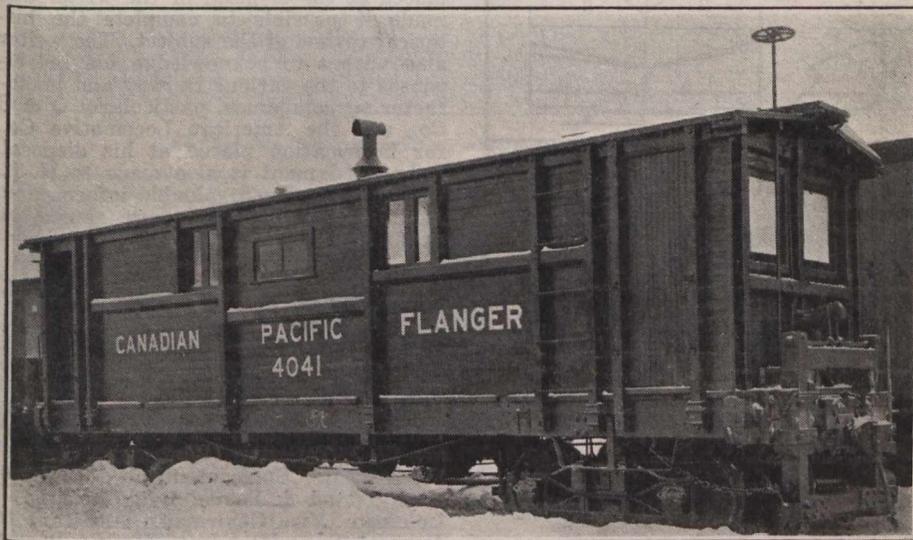


Fig. 54. Flanger Car, Canadian Pacific Railway.



Fig. 55. Flanger Car, Canadian Pacific Railway.

is practically a 4-wheel truck to which flangers have been applied. A platform is built over the truck and carries the operating mechanism as well as a load of heavy material to hold the flanger down to its work. The large flanger cars are ordinarily of the caboose type, and are usually equipped with two 4-wheeled trucks. The mechanism for lowering and

show some different types of flanger cars.

Some of the various styles of flangers used under such cars or other equipment are shown in fig. 56.

Ice Cutters. — The formation of ice around and over tracks in yards is a cause of great delay. Removal by hand is slow and retards switching operations. To remove such ice quickly, the C.P.R.

man of the rotary to increase the speed of the wheel. In case the pusher engine still crowds the rotary, the pilot should apply the air brakes to check the pusher. If the pusher cannot be checked with the brakes, the pilot should signal the locomotive man of the pusher to shut off. He should respond quickly to prevent stalling the rotary. In case the rotary is stalled the flangers are raised and the plough drawn back four or five feet from the cut.

When again ready, the wheel is started and pushed into the cut. The rotary plough should never be pushed into the bank from a distance of more than 4 or 5 feet, as failure of the rotary will result. If the wheel of the rotary becomes blocked with snow the plough should be stopped and back up a few feet. The snow can then be loosened between the

the style shown in fig. 62. The horizontal slats which are attached to the top extension of the back braces tend to throw drifting snow backward and to cause it to pile upon the outer side of the fence. Some roads use a portable fence, the alternating panels of which form an A design.

Permanent fences may be of any recognized type, but are usually of boards placed close together, although in some cases stone fences have been used. The writer has been advised that metal lath or metal fences have proved satisfactory under some conditions.

Trees.—One of the Canadian roads uses spruce hedges and finds this a very satisfactory method of forming a snow barrier. The distance at which trees or hedges are spaced or planted from the track depends entirely upon local condi-

falling or drifting snow. The valley type shed is generally placed against an embankment in such a way that a slide will pass over the roof of the shed without falling on or damaging the track. The sheds are ordinarily braced with crib-work backed with earth or gravel. Several years ago at Rock River, the Union Pacific Rd. constructed a very interesting permanent snow shed of concrete sections fitted together. This shed covered a track which had in previous years given a very great deal of trouble on account of deep drifting snow.

The question of preventative measures is a very large one. The writer has not felt it within the scope of this description to more than make reference to the best known methods.

Conclusion.—In conclusion the writer wishes to acknowledge his very great indebtedness to J. S. Leslie, one of the Leslie Brothers, whose ingenuity and untiring efforts have made possible the operation of our railways under severe winter conditions. His assistance and collection of data and photographs were placed at the disposal of the writer and made it possible to complete the historical review of the subject. The writer also wishes to acknowledge his indebtedness to the various railway and manufacturing companies, particularly Q & C Co., and the American Locomotive Co., for information placed at his disposal. Acknowledgment is also made to H. H. Vaughan for much valuable information. Additional illustrations are shown on pages 587 and 588.

American Railway Association's Mechanical Committees.

As stated previously in Canadian Railway and Marine World, the officers of the American Railway Association, Section 3, Mechanical, for the current year are W. J. Tollerton (Chairman), General Mechanical Superintendent, Chicago, Rock Island & Pacific Ry., Chicago; J. Coleman (Vice Chairman), Assistant to General Superintendent, Motive Power, and Car Department, G.T.R., Montreal; V. R. Hawthorne, Chicago, being Secretary. At a recent meeting of the general committee, committees were appointed to serve until June, 1921. Following is a list of the committees, with the names of their chairmen, and also names of officials of Canadian railways, allied lines, etc., who are members of the committees.

General Committee.—W. J. Tollerton (Chairman), General Mechanical Superintendent, Chicago, Rock Island & Pacific Ry., Chicago; J. Coleman (Vice Chairman), Assistant to General Superintendent, Motive Power and Car Department, G.T.R., Montreal; W.H. Winterrowd, Chief Mechanical Engineer, C.P.R., Montreal.

Nominating.—F. W. Brazier (Chairman), Assistant to General Superintendent, Rolling Stock, New York Central Rd., New York.

Arbitration.—T. H. Goodnow (Chairman), Superintendent, Car Department, Chicago & Northwestern Ry., Chicago, Illinois; J. Coleman, Assistant to General Superintendent, Motive Power and Car Department, G.T.R., Montreal, Que.

Prices for Labor and Material.—A. E. Calkins (Chairman), Superintendent, Rolling Stock, New York Central Rd., New York; I. N. Clark, Master Car Builder, G.T.R., London, Ont.

Arrangements.—W. J. Tollerton, (Chairman), General Mechanical Superintendent, Chicago, Rock Island & Pacific Ry., Chicago; J. Coleman, Assistant

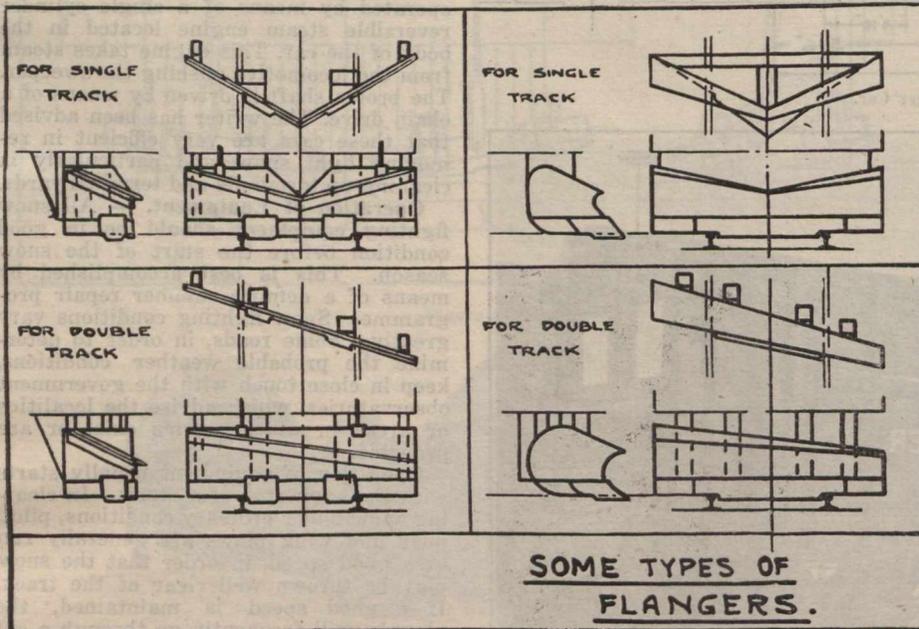


Figure 56.

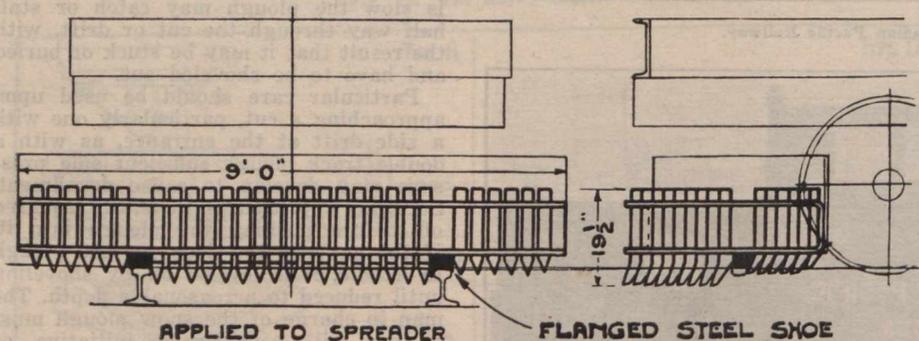


Fig. 57. Ice Cutter, Canadian Pacific Railway.

casing and the scoops, after which the wheel will clear itself. Rotary ploughs should not be forced through snow deeper than the hood. When the snow is deeper than the hood the top bank should be shoveled off. In slides or ice formations the top of the obstruction is frequently loosened by blasting.

The successful operation of the rotary depends greatly upon the manner in which it is handled, and it is highly essential that the men on both the rotary and the pusher engines should be experienced men.

Preventative Measures. — At points where it is known that snow will drift it is usual to construct snow fences; these may be either temporary or permanent. The usual temporary snow fence is about 7 ft. high, frequently of

tions. On the C.P.R., tree planting has been done in selected localities, species native to the locality being used. Along the north shore of Lake Superior jack pine and spruce are utilized. In Quebec spruce and balsam and some cedar are used. The trees, when planted, are generally not over 30 in. high. The practice of using hedges and trees for this purpose is quite general in Europe. When properly planted, hedges and trees not only give snow protection but enhance the appearance of the right of way.

Snow Sheds.—On roads passing through mountain territory where slides are frequent, snow sheds are generally used for protection. Snow sheds are of various types and built to suit local conditions. The level fall type is of box-like section and used simply to protect the road from

to General Superintendent, Motive Power and Car Department, G.T.R., Montreal.

Autogenous and Electric Welding.—J. T. Wallis (Chairman), Chief of Motive Power, Pennsylvania System, Philadelphia.

Car Construction.—W. F. Kiesel, Jr.

Assistant to General Mechanical Superintendent, Northern Pacific Ry., St. Paul, Minn.; G. E. Smart, Mechanical Assistant, Car Department, Canadian National Rys., Toronto.

Couplers and Draft Gears.—R. L. Kleine (Chairman), Assistant Chief of

Train Brake and Signal Equipment.—T. L. Burton (Chairman), Consulting Air Brake Engineer, New York Central Rd., New York; W. J. Hatch, General Air Brake Inspector, C.P.R., Montreal.

Car Wheels.—W. C. A. Henry (Chairman), General Superintendent, Motive Power, Pennsylvania System, St. Louis, Mo.; W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., Montreal; L. K. Sillcox, General Superintendent, Motive Power, Chicago, Milwaukee & St. Paul Rd., Chicago, Illinois.

Locomotive Construction.—H. T. Bentley (Chairman), Superintendent, Motive Power and Machinery, Chicago & Northwestern Ry., Chicago; W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., Montreal.

Design and Maintenance of Locomotive Boilers.—G. H. Emerson (Chairman), Chief of Motive Power and Equipment, Baltimore & Ohio Rd., Baltimore, Maryland.

Feed Water Heaters for Locomotives. F. M. Waring (Chairman), Engineer, Tests, Pennsylvania System, Altoona, Pa.; W. H. Sample, General Superintendent, Motive Power and Car Department, G.T.R., Montreal.

Fuel Economy and Smoke Prevention. William Schlafge (Chairman), Mechanical Manager, Erie Rd., New York; W. H. Sample, General Superintendent, Motive Power and Car Department, Grand Trunk Railway, Montreal.

Mechanical Stokers.—M. A. Kinney (Chairman), Superintendent, Motive Power, Hocking Valley Ry., Columbus, Ohio.

Loading Rules.—R. L. Kleine (Chairman), Assistant Chief of Motive Power, Pennsylvania System, Philadelphia, Pa.; E. J. Robertson, Superintendent, Car Department, Soo Line, Minneapolis, Minn.

Manual.—W. E. Dunham (Chairman), Assistant Superintendent, Motive Power and Machinery, Chicago & Northwestern Ry., Chicago; W. J. Robider, General Master Car Builder, C.P.R., Montreal.

Safety Appliances.—C. E. Chambers (Chairman), Superintendent, Motive Power and Equipment, Central Railroad of New Jersey, Jersey City.

Specifications and Tests for Materials. F. M. Waring (Chairman), Engineer, Tests, Pennsylvania System, Altoona, Pa.

Subjects.—Willard Kells (Chairman), General Superintendent, Motive Power, Atlantic Coast Line Rd., Wilmington, N.C.; W. H. Sample, General Superintendent, Motive Power and Car Department, G.T.R., Montreal.

Tank Cars.—A. W. Gibbs (Chairman), Chief Mechanical Engineer, Pennsylvania System, Philadelphia.

Amalgamation of other Mechanical Organizations with Section 3—Mechanical, of American Railroad Association.—W. O. Thompson (Chairman), General Superintendent, Rolling Stock, New York Central Rd., Buffalo, N.Y.

Car Repair Shop Layouts.—I. S. Downing (Chairman), General Master Car Builder, Cleveland, Cincinnati, Chicago & St. Louis Ry., Indianapolis, Indiana; W. J. Robider, General Master Car Builder, Canadian Pacific Railway, Montreal.

Design, Maintenance and Operation of Electric Rolling Stock.—G. C. Bishop (Chairman), Superintendent, Motive Power, Long Island Rd., Richmond Hill, N.Y.; L. K. Sillcox, General Superintendent, Motive Power, Chicago, Milwaukee & St. Paul Rd., Chicago.

Engine Terminals, Design and Operation.—C. E. Fuller (Chairman), Superintendent, Motive Power and Machinery, Union Pacific Rd., Omaha, Nebraska;



Fig. 58. Ice Cutter, Canadian Pacific Railway. See page 585.

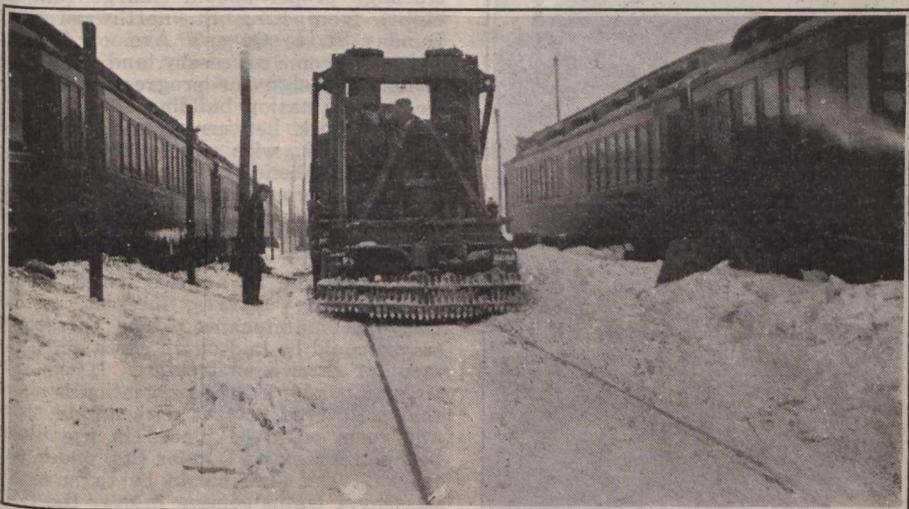


Fig. 59. Ice Cutter, Canadian Pacific Railway. See page 585.

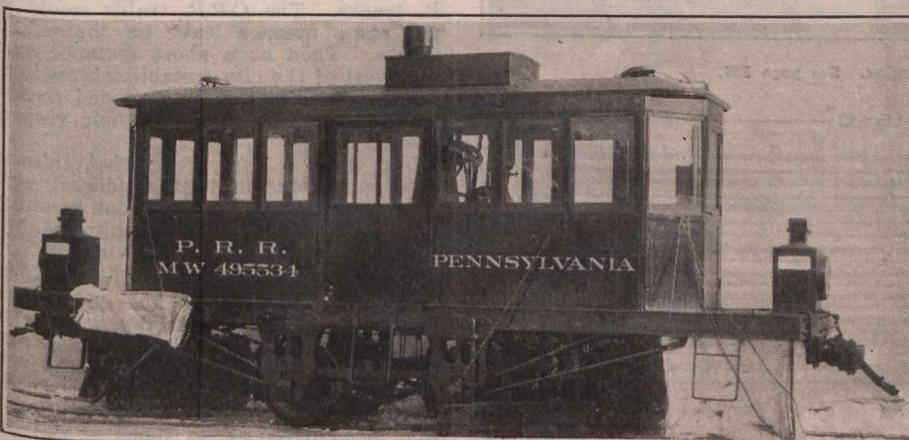


Fig. 60. Snow Sweeper, Pennsylvania Railroad. See page 585.

(Chairman), Mechanical Engineer, Pennsylvania System, Altoona, Pa.; W. J. Robider, General Master Car Builder, C.P.R., Montreal.

Brake Shoe and Brake Beam Equipment.—W. J. Bohan (Chairman), As-

stant to General Superintendent, Pennsylvania System, Philadelphia, Pa.; L. K. Sillcox, General Superintendent, Motive Power, Chicago, Milwaukee & St. Paul Rd., Chicago; C. Brady, General Car Construction, C.P.R., Montreal.

H. H. Boyd, Assistant Chief Mechanical Engineer, C.P.R., Montreal.

Lateral Motion Locomotives. — Willard Kells (Chairman), General Superintendent, Motive Power, Atlantic Coast Line Rd., Wilmington, N.C.; T. A.

tion Lamps.—W. H. Flynn (Chairman), Superintendent, Motive Power, Michigan Central Rd., Detroit.

Modernization of Stationary Boiler Plants.—L. A. Richardson (Chairman), Mechanical Superintendent, Chicago,

E. T. Spidy, Production Engineer, C.P.R., Montreal.

Standard Blocking for Cradles of Car Dumping Machines. — J. McMullen, (Chairman), Superintendent Car Department, Erie Rd., New York.

Standard Method of Packing Journal Boxes.—C. J. Bodemer (Chairman), Assistant Superintendent, Machinery, Louisville, Kentucky.

Train Lighting and Equipment.—J. R. Sloan (Chairman), Chief Electrician, Pennsylvania System, Pittsburg, Pa.

Train Resistance and Tonnage Rating. O. P. Reese (Chairman), Superintendent, Motive Power, Pennsylvania System, Toledo, Ohio.

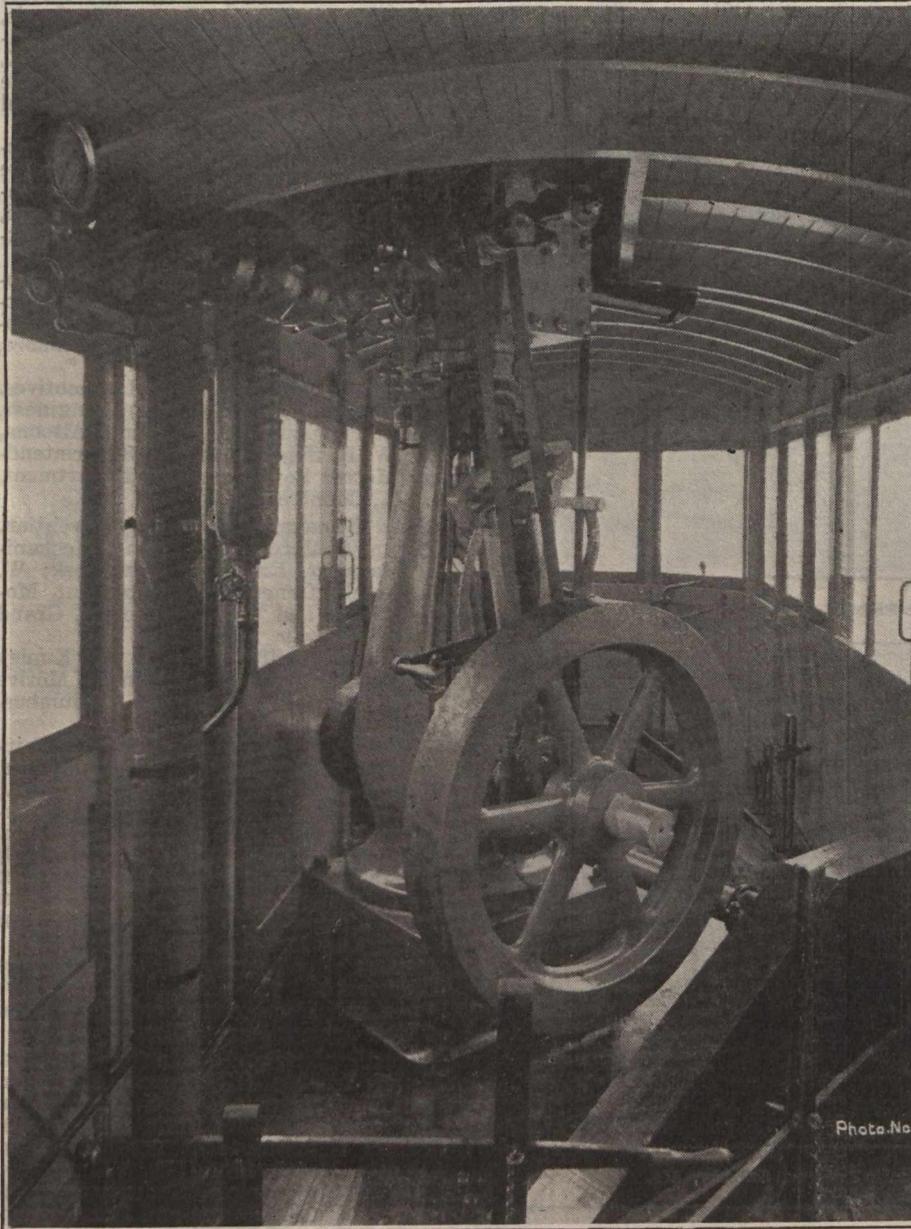


Fig. 61. Snow Sweeper Engine. See page 585.

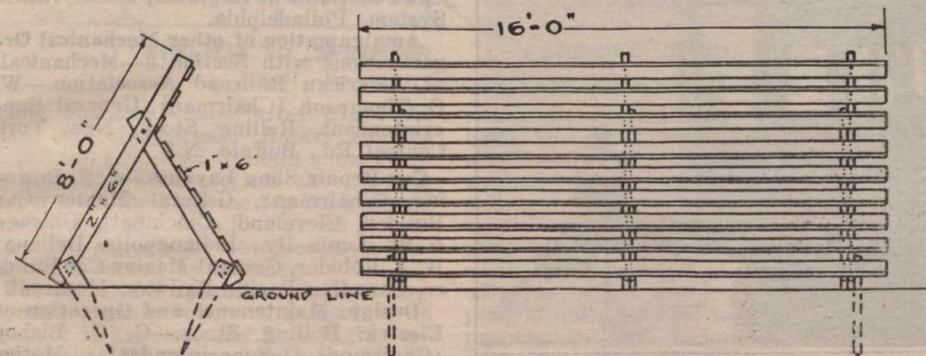


Fig. 62. Snow Fence. See page 586.

Foque, General Mechanical Superintendent, Soo Line, Minneapolis, Minn.; W. H. Sample, General Superintendent, Motive Power and Car Department, G.T.R., Montreal.

Locomotive Headlights and Classifica-

tion Lamps.—Rock Island & Pacific Ry., Des Moines, Iowa.

Scheduling of Equipment Through Repair Shops.—Henry Gardner (Chairman), Corporate Mechanical Engineer, Baltimore & Ohio Ry., Baltimore, Maryland;

London Railway Terminals, Tracks, Etc.

N. Cauchon, C.E., Ottawa, who was engaged by the London, Ont., City Council, to advise as to civic improvements, has presented a preliminary report. Among other things, he recommends elevation of railway tracks throughout the city and then says:—"It is recommended that union passenger terminals be sought on an elevated cross-town line, at right angles between the elevated tracks of the two railways and midway through the long blocks between Waterloo and Colborne Sts. The station trackage proper should enlarge (six or eight) from King St. northward over Dundas St. to Queen's Ave. or farther as may become necessary, and with provision in design for progressive expansion. The station building should occupy the block between Dundas St. and Queen's Ave., with access to the platforms from beneath."

He also recommends that the terminal should be municipally owned and leased to a terminal company in which the railways and city would be represented for joint operation at a price which would pay carrying charges, interest, operation and maintenance. The crosstown tracks could be laid on an earth embankment or carried on trestles. If the latter plan is adopted the suggestion is made that a covered market with ample storage room could be placed in the block between King and Dundas Sts. under the tracks. The plan would be to have all passenger trains coming in over the G.T.R. tracks, pass the station over the cross-town line, and leave the city via the C.P.R. tracks. The C.P.R. trains would in the same manner leave on the G.T.R. tracks. Then at a short distance east and west of the city suitable interswitching facilities would be provided so the trains could again regain their respective roads.

The Ontario Association of Architects gave consideration to the general plan at its annual meeting in London recently, and passed a resolution of approval.

Fuel Oil for French Railways.—The great scarcity of coal has caused the Paris, Lyons & Mediterranean Ry. to transform some of its motive power from coal to fuel oil consumption, which is about to be followed by the Chemin de Fer de l'Etat, or state owned railway, and locomotives at its shops at Saintes are undergoing changes for experimental purposes. Much attention is being directed to the announcement that the first named company is planning to equip 200 locomotives for fuel oil and install numerous storage reservoirs, of from 40 to 100 tons capacity, at various points on its lines.

Location Betterments on Canadian National Railways.

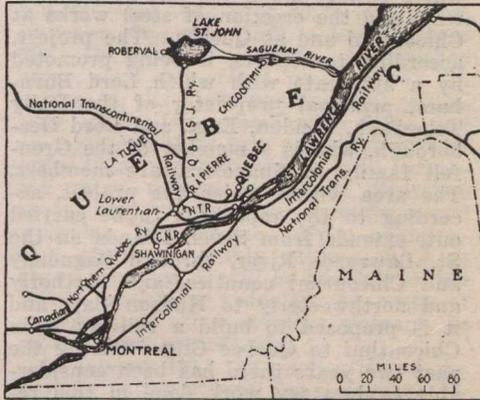
By Henry K. Wicksteed, B.A.Sc., Chief Locating Engineer, Canadian National Railways.

Present construction and studies for location betterments on the Canadian National Rys. may best be understood by a brief review of early railway building on the Canadian Northern. The principal component of the lines composing the Canadian National Rys. System is that of the Canadian Northern. This was financed, designed, and built, as everyone knows, by the firm of Mackenzie & Mann, both members of which were not only very able business men and financiers, but had had a long previous experience in contracting on the Canadian Pacific, and an absolute confidence in the resources of Canada and its future. They knew personally a great many of the older engineers, and others who had been identified with the construction of the older road, and they gathered about them a number of these men who knew the topography of Canada as no one else could know it, and the weak points of the older roads as well as the strong. Under these circumstances it is not surprising that the Canadian Northern, from Montreal and Toronto to Vancouver, has the reputation of being the best long distance line on the continent in proportion to cost, and the best on this continent from an economic point of view means the best in the world. Some day justice will be done to the extraordinary talent and vision of these two men. Public opinion is even now swinging round in that direction. The successful man has always a great crowd of detractors, but as a successful man remarked to me a few days ago, it is easier to make and keep a reputation than to do things. These men attempted the impossible and

tions for some 25 miles between Toronto and Ottawa. Grades of 1.5% were reduced to 0.5%, while the other construction was going on, and finished simultaneously, the stations being left in their original positions, and the existing business of the line being left undisturbed. A still more important link in the main chain between Montreal and Quebec was the Great Northern of Canada, completed

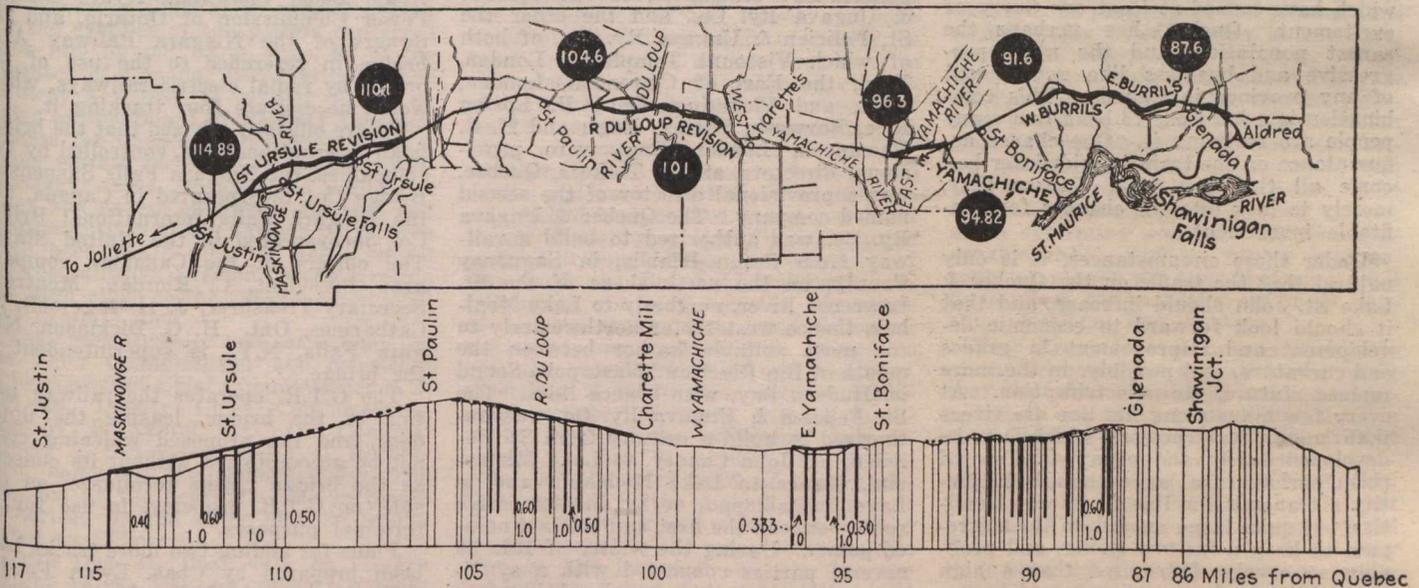
sated to 0.60% compensated. This provided for nearly one half the distance between Quebec and Montreal, and two fifths of that from Quebec to Hawkesbury. Nine miles of the remainder was taken up by a sharp drop into the St. Maurice valley, and an equally sharp rise on the opposite side, and of the remainder all but 30 miles was on the great Montreal plain, and where the grades were at all objectionable, they were all so short as to be easily reducible by ordinary steam shovel work.

The St. Maurice depression, involving as it did the moving of a station and raising of a bridge over the river, has been left alone for the present, and is being worked as a special short division, but this 30 miles, involving some long 1% grades, became one of the first studies of the Canadian National staff. Surveys showed that these could be reduced to 0.60% by the construction of some 14 miles of new line, and 4° curves substituted for the 8° standard now obtaining, and that the capitalized value of the change would amount to some \$5,000,000 or more, while the cost was estimated at \$1,500,000, but this cost was largely made up by that of four steel viaducts over as many rivers. The existing bridges, which had been standing some 20 years, were none too heavy in the first place, and quite unequal to modern loads, and rebuilding them in the new sites was somewhat cheaper than in the old. The amount chargeable to grade revisions therefore, was less than \$500,000 and it needed little argument to convince the directorate that the expenditure was a good investment. Work on these



Canadian National Railways Lines in the Quebec District.

about 1900, and itself composed of older roads coupled together. It extended originally from Hawkesbury, on the Grand Trunk, 60 miles east of Ottawa, to Riviere a Pierre, on the Quebec & Lake St. John, and was intended as an overflow route for the somewhat heavy flow of grain then going east from the Georgian Bay at Parry Sound to Quebec. One



Betterments under construction on St. Lawrence Subdivision, Canadian National Railways.

got away with it. Two farmers' sons built 10,000 miles in less than 20 years. Part of this system in the east was composed of acquired lines which were linked together and sometimes acted merely as feeders to the parent system; sometimes formed part of the main line itself. They had nearly all been finished years before, and in location features higher standards demanded at the present were not on a par with the somewhat antique. One such road was the Bay of Quinte, which was used with modifica-

hundred miles of this route, from Quebec to the St. Maurice, was made up of two colonization roads, the Lower Laurentian and the Quebec & Lake St. John, and had a number of grades of 2%, and curvature as sharp as 10°, in combination. The newer portion had been built to a 1% standard. The most objectionable part of the combination was eliminated by building a new line from the St. Maurice River, 80 miles, to Quebec, which reduced the distance some 17 miles, and the ruling gradient from 2% uncompen-

changes has actually been commenced. Meantime the traffic on the Quebec & Lake St. John, a little separate system of 280 miles, built as a colonization road, had grown very rapidly, owing to the development of the wood pulp and paper industry in the Saguenay basin, and its 1.5% grades (and on the Quebec end 2%) had become very expensive to maintain and operate. Most of this traffic goes to and beyond Montreal, and leaves the Q. & L. St. J. at Riviere a Pierre, running over the 40 miles of the Lower Lauren-

tian above mentioned, with 2% grades, and into the main line at the St. Maurice River. The National Transcontinental Ry., another member of the Canadian National Rys. System, crosses this midway between Riviere a Pierre and the St. Maurice, and this, too, is carrying more traffic to and from Montreal over this little one-horse colonization branch. Studies now being made, for the reduction of these 2% grades to the same 0.60% standard, are well advanced and very encouraging, but obviously in a reduction from 2% to 0.60%, with considerable changes in elevation, it cannot be expected that much of the old line will remain. It is possible, however, to retain all the station and traffic points intact. Otherwise there would be a very serious rebellion among the good people of the Province of Quebec.

Last in importance perhaps, and farthest away from the great trade centers, but among the most interesting of all, are the studies on the Quebec & Lake St. John itself. One hundred and twenty-five miles north of Quebec City is the Town of Chicoutimi. Many Canadians have never heard of it, and probably the great majority of Americans. Yet it is a seaport nearer to Europe than any in the United States. Within 50 miles of it are a million horsepowers of water running to waste. Within 150 miles are some of the greatest spruce forests of the world, and at its doors, and extending more than 50 miles, are 1,000 square miles of good agricultural land. In this city, and on this land, are 50,000 to 60,000 industrious and thrifty French Canadians. From Canada, the United States, and both England and France, capital has come freely in the past, and is still coming for investment in pulp grinding and paper making. To the westward, and tributary to this city are mineral areas which have caused at least one flurry of excitement. Quebec has perhaps the sanest population, and the most progressive and business like government of any province in Canada. This combination is a hard one to beat, and many people are realizing it. One chance acquaintance on the train in midwinter had come all the way from Kansas City, merely to look into the chances for profitable investment.

Under these circumstances, it is only natural that the traffic on the Quebec & Lake St. John should increase, and that it should look forward to economic development and improvement in grades and curvature, and possibly, in the more remote future, to electrification. At every few miles along its line are rivers with minor waterpowers which can be developed easily and cheaply. Few of them perhaps are large enough to justify a transmission line to distant localities, but quite large enough in the aggregate to keep a railway going, and probably so evenly distributed that a high tension line and converters would be unnecessary. This matter of electrification of Quebec lines will soon be well worth studying, but the question of grade reduction and increasing at moderate expenditure the train load by 50% and sometimes over 100%, remains relatively just as important. Electrification will reduce or nearly eliminate the coal bill. Grade reduction will reduce both coal and wages in proportion to tonnage. Both expenditures will probably soon be worth while. The accompanying plans and profiles show some of the most interesting of the problems under construction and study.

Projected Railway and Industrial Development in Quebec.

A press report states that a large project for industrial expansion in the province of Quebec is taking shape, embracing the construction of a railway from Hudson Bay to the Seven Islands, passing by Lake Mistassini, Lake St. John and Chicoutimi, to enter Quebec by the Montmorency Valley, which would shorten the route from Chicoutimi to Quebec by 100 miles; the establishment of pulp and paper mills at Seven Islands and at other places where there are important water powers along the line of the railway, and the erection of steel works at Chicoutimi and at Quebec. The project, according to reports, is being promoted by a syndicate with which Lord Burnham, principal proprietor of the Daily Telegraph, London, Eng., and Lord Desborough, who is a member of the Grenfell family of financiers, are members. The area within which the project, according to the report, is to be carried out, extends from Seven Islands on the St. Lawrence River, through Saguenay and Chicoutimi counties, and northerly and northwesterly to Hudson Bay, and it is proposed to build a railway from Chicoutimi to Quebec City. During the past two years there has been considerable exploratory work done in this region, and several charters have been secured from the Quebec Legislature, authorizing railway construction, development of water powers, navigation rights, etc., while land subsidies for the building of 200 miles of railway have been provided and are available for any company undertaking to build the lines specified. Following are particulars of the companies incorporated having construction rights in the area.

The Quebec Legislature in 1919 incorporated two companies, one the Quebec & Ungava Ry. Co., and the other the St. Felicien & Ungava Ry. Co., of both of which Viscount Templeton, London, Eng., the Earl of Clarendon, London, Eng., and Pickering, Ont.; B. Spring Rice, Burwash, Sussex, Eng.; and H. C. Thompson, London, Eng., were provisional directors, and J. T. Ross, Quebec, was a provisional director of the second named company. The Quebec & Ungava Ry. Co. was authorized to build a railway from Seven Islands, in Saguenay County, on the north shore of the St. Lawrence River, northerly to Lake Menihak, thence westerly or northwesterly to the most suitable harbor between the mouth of Big River and Nastapoka Sound on Hudson Bay, with branch lines. The St. Felicien & Ungava Ry. Co. was authorized to build a railway from St. Felicien, St. John County, to Lake Mistassini, thence to Lake Nichikuin and to Lake Petitsikapau, or by an alternative route between the first and the last named points. During the winter of 1919-20 several parties connected with a syndicate with which the provisional directors of these two companies were associated, carried on explorations in the territory through which these lines were projected.

At Seven Islands, the Clarke interests carried on extensive developments, including the building of Clarke City, with wharves, and a power and pulp plant, in connection with which a railway was built during the construction period. A recent report stated that the Clarke properties had been sold to a syndicate, which proposed to make extensive developments in the region.

The Quebec & Chibougamau Ry. Co. was incorporated by the Quebec Legisla-

ture at its last session to build a railway from Quebec northerly through Quebec, Montmorency, Charlevoix and Chicoutimi counties to Chicoutimi, to the Saguenay River, and thence through Chicoutimi and St. John counties to Lake Chibougamau, with branch lines.

The Quebec Legislature at its last session voted a subsidy of 4,000 acres a mile, not convertible into money, to a company building a railway from near Chicoutimi, on the Quebec & St. John Ry., to St. Felicien, to the west of Lake St. John, running through the regions situated east and north of the lake, as well as branch lines, the total length of main line and branches subsidized being 120 miles. The Legislature, at the same time, voted a similar subsidy to a company to build a line from Malbaie to Ha Ha Bay, in the St. John Lake district.

A recent press report stated that the Quebec Ry., Light & Power Co. was negotiating the sale of its charter for the operation of a steam railway, and such part of its lines as was used for that purpose, to a syndicate interested in the development of the province. This piece of line might be useful in connection with the building of a line to Chicoutimi.

[See Quebec Subsidies for Railway Construction, Mar., pg. 122; Quebec & Ungava Ry., May., 1919, pg. 254; St. Felicien & Ungava Ry., May, 1919, pg. 254; Quebec & Lake Chibougamau Ry. Co., Aug., pg. 428; Quebec Ry., Light & Power Co., Oct., pg. 557.]

Proposed Enlargement of Niagara Railway Arch Bridge.

A recent press report stated that a conference had been held between Sir Adam Beck, Chairman, Hydro Electric Power Commission of Ontario, and the owners of the Niagara Railway Arch bridge in reference to the use of the bridge by radial electric railways, which would necessitate four tracking it.

We are officially advised that the bridge is an international one, controlled by two companies, the Niagara Falls Suspension Bridge Co., incorporated in Canada, and the Niagara Falls International Bridge Co., incorporated in the United States. The officers of the Canadian company are:—President, C. Riordan, Montreal; Secretary-Treasurer, J. H. Ingersoll, St. Catharines, Ont. H. G. Dickinson, Niagara Falls, N.Y., is superintendent of the bridge.

The G.T.R. operates the railway portion of the bridge, leasing the upper deck, and the proposed widening could not be accomplished without its consent, as the bridge tracks terminate, on one side, on G.T.R. property, in use for its terminal purposes.

Plans for adding two more tracks have been prepared by Chas. Ewan Fowler, C.E., New York, N.Y. It is proposed that the four tracks on the upper deck shall have a capacity for E.70 locomotives and that the lower deck will have two electric railway tracks in the center, two 20-ft. roadways, and two 10-ft. sidewalks. Mr. Fowler says that it is hoped to have progressed far enough so that construction may be started next spring. He is also engaged on plans for the proposed Windsor-Detroit bridge.

Lucerne Railway Club Ltd. has been incorporated under the British Columbia Companies Act with authorized capital of \$2,000, to carry on a social club.

The Dominion Government's Decision in the Appeals Against Increases in Freight and Passenger Rates.

The appeals against the Board of Railway Commissioner's judgment of Sept. 6, authorizing increases in railway freight and passenger rates, full particulars of which were given in Canadian Railway and Marine World for October, were heard at Ottawa Sept. 29 and 30 by Right Hon. Arthur Meighen, Prime Minister; Sir George Foster, Minister of Trade and Commerce; Sir James Lougheed, Minister of the Interior; Right Hon. C. J. Doherty, Minister of Justice; Hon. C. C. Ballantyne, Minister of Marine and Fisheries, and of Naval Defence; Right Hon. A. L. Sifton, Secretary of State, and Hon. B. W. Wigmore, Minister of Customs and Inland Revenue. The appellants were represented by counsel, etc., as follows:—Manitoba Government, H. G. Symington and Alex. McDonald; Saskatchewan Government, D'Arcy Scott; City of Toronto, G. R. Geary, K.C.; Toronto Board of Trade, A. C. MacMaster; Winnipeg Board of Trade, J. B. Coyne; Wholesale Grocers Association, Hugh Blain; Dominion Millers Association, C. B. Watts; Nova Scotia applegrowers, J. Finn. The railways were represented by W. N. Tilley, K.C., and F. H. Chrysler, K.C. The Dominion Government's decision was announced Oct. 7, in the form of an order in council, which is now published in full, for the first time, by Canadian Railway and Marine World, as follows, only portions of it having been published elsewhere heretofore:—

The following report of the committee of the Privy Council was approved by the Governor General on Oct. 6. The committee of the Privy Council have had under consideration certain petitions to the Governor General in council asking for the exercise of the powers conferred upon him by sec. 52 of chap. 68 of the Statutes of Canada, 1919, intituled The Railway Act, 1919, to vary or rescind an order of the Board of Railway Commissioners for Canada, dated Sept. 6, 1920, fixing certain increases in freight rates, passenger fares, sleeping and parlor car rates and excess baggage. Counsel and representatives of the various petitioners have been heard and, as well, counsel for the railways affected. Consideration has been given to the various cases cited and exhibits filed.

The order appealed against is made by the Chief Commissioner and concurred in by Assistant Chief Commissioner S. J. McLean, Deputy Chief Commissioner, Hon. W. B. Nantel, K.C., and Commissioners A. S. Goodeve and J. G. Rutherford, being all the commissioners who presided at the hearing. The increases authorized by the order may be briefly stated as follows:—

Until Dec. 31, 1920, 40% on eastern freight rates, 35% on western freight rates, 20% on eastern and western passenger fares, not exceeding 4c. a mile, 50% on sleeping and parlor car rates, 20% on excess baggage.

The first three to be reduced on Jan. 1, 1921, to 35% on eastern freight, 30% on western freight, 10% on passenger fares, to July 1, 1921; after July 1, passenger fares to be reduced to rate prevailing before the order.

Provision is also made in the order that the Canadian Pacific, Grand Trunk and Canadian Northern Railways shall furnish monthly returns of operating revenues, and the right is reserved to

the Board to make such readjustment of rates as may be justified by such returns. The increases provided for are noted in the order to wholly expire on July 6, 1922, unless in the meantime Parliament extends the provisions of sec. 325 of the Railway Act, enabling such order to be longer effective. To the above general increase there are, however, the following exceptions fixed:—On coal, increases limited as follows: In rates 0 to 80c. a ton, increase 10c.; over 80 to 50c. a ton, increase 15c.; over 150c. a ton, increase 20c. On milk, no increase. On crushed stone, sand and gravel, no increase. On cordwood, slabs, edgings and mill refuse, only 10%. On commutation fares and on minimum class rate as established by order in council 1863 and on local switching rates, milling in transit diversion, reconignment, stopovers, demurrage and weighing, no increase. Upon examination of the monthly returns, filed as above provided, it will be the duty of the Board, should a reduction in costs of materials or other services warrant, to reduce rates accordingly.

It appears that the application of the various railways was for a general increase, without limitations, of 40% east and west on freight traffic, of 20% on passenger fares, of 50% in sleeping and parlor car rates, of 40% on milk and 20% on excess baggage.

In connection with this appeal it must be observed that one of the duties, if not indeed the principal task, of the Board of Railway Commissioners, is to determine upon application, what are fair and reasonable rates to be charged from time to time for the various services performed by public utilities under the jurisdiction of the Board. In such determination there must of course be taken into account, as has been done in the present case, all relevant circumstances, such as changes in the scale of wages, and the cost of materials, the effect of competitive means of carriage whether by lake route or by lines to the south, and such other facts as may be established and as are found pertinent to the issue by a lawfully constituted judicial tribunal. For the purposes of this work the Board of Railway Commissioners not only has the advantage of hearing the evidence, and following the cross examination, but brings to bear the experience of its own members, extending in many cases over a considerable number of years, and the familiarity with railway problems thus acquired. It has, in addition, at its disposal, a permanent staff of expert officials, trained in the various branches of the Board's work and able to advise the commissioners in the many intricate and more or less technical subjects that are before the Board for adjudication. It follows that a decision of the Board, so arrived at, as to what may constitute under all the circumstances a few and reasonable rate, could not, except for extraordinary cause, be usefully reviewed by your Excellency's advisers. Indeed, for your Excellency's advisers to take upon themselves to weigh the evidence adduced and substitute their own judgment for the judgment of the Board upon the question of fact arising on the issue, and to be determined upon such evidence, would defeat the purpose for which the Board of Railway Commissioners was created and would in the end

be highly prejudicial to the public interest.

The committee of the Privy Council is, however, of opinion that if it should be disclosed in the order or established in argument that the Board in coming to a conclusion on the evidence submitted (in this case as to what is a fair and reasonable rate) had applied principles which it should not have applied, principles which the committee of the Privy Council consider not in consonance with public policy, such appropriate action should be taken as will lead to a finding in which only correct principles will be applied.

In the case under consideration the terms of the order disclose on pages 286 and 287 of the Judgments, Orders, Regulations and Rulings of the Board, that in determining what would be a fair and reasonable rate, the Board took into account as one element for consideration, the requirements of the Canadian National Rys. System, which system as constituted now includes within its mileage railways of great extent, and involving heavy cost of operation, which must be held to have been built, not as purely railway enterprises of a business character, but in a substantial degree for colonization and other purposes. The reorganization of this system, looking to the better utilizing of these lines is, moreover, now only under way. Railways so constructed cannot, under the best of operation, on any practicable scale of rates, be made, for some time at least, a financial success. A system largely composed of such roads and in such state of reorganization, would not therefore appear to your Excellency's advisers to be properly at the present time a factor for consideration in the solution of a rate-making problem. What constitutes a fair and reasonable rate should now be arrived at without reference to the requirements of the Canadian National Rys. System and your committee recommends that the order in this case be referred back to the Board, to be corrected in its findings in such manner as to determine what are fair and reasonable rates, without taking into account at all for the time the order shall be in effect, the requirements of the Canadian National Rys. System.

Very strong representations were made at the argument on appeal, to the effect that the order continued, and indeed intensified, an unjust discrimination in rates, it being claimed that higher freight rates prevail generally in western Canada, that is west of Fort William, than prevail in eastern Canada, that is east of Fort William. It was strongly urged that the reasons, whatever they may have been, for this differential, no longer exist, and that as a matter of public policy the principle of equalization of rates east and west should now be recognized. On the other hand, it was urged that the competition arising out of lake and river transportation, and as well out of lower competitive rates on eastern United States lines, compelled a somewhat lower scale in eastern Canada than in western Canada. Whether or not these reasons now obtain in any substantial degree, is a question which requires minute and expert investigation, such as can be best conducted by the Railway Commission itself and not by your Excellency's advisers, but the committee is

strongly impressed with the very great desirability of bringing about with the least possible delay equalization of eastern and western rates.

The committee of the Privy Council therefore further recommend that as conditions have probably changed materially in recent years, tending more and more to make equalization practicable, an enquiry by the Board be directed to be held at the earliest date, with a view to the establishment of rates meeting to the utmost extent possible the above requirement as to equalization.

Strong argument was advanced as well against the application of a 5% greater freight rate for the remainder of 1920 than shall prevail after Jan. 1, 1921, in order to overtake in part at least the extra burden imposed on the railways due to advances in wages which took effect May 1, 1920. The ground of the objections was that this imposed an unfair burden upon shippers during the last four months of this year, such shippers being largely in western Canada. There can

of which it is submitted review by the Governor General in council is justified, it is conceivable that, upon the hearing of a petition, there might appear in the order under review, whether as the result of omission to take fully into account important evidence, or for other reasons, some such manifest error entailing a substantial miscarriage of justice, as would constitute ground for modification or reference back for correction. Such error was contended by counsel, particularly counsel for the Manitoba and Saskatchewan Governments, and of the Winnipeg Board of Trade, to have occurred in the present case. The contention of these appellants was that the finding of the commissioners applicable to all railways under their jurisdiction would, according to the estimate of the commissioners themselves, afford an unwarrantably high return to one railway, the Canadian Pacific. Reference was made in this connection to words in the order wherein it was conjectured that should the application of the railways be

tirely disappear. At any rate there does not appear a probability of any return so unwarrantable as to be evidence of such error on the part of the Railway Commissioners as would justify, for this cause alone, interference on the ground of mistake.

Canadian Railway and Marine World was advised from Ottawa, on Oct. 25, that no date had been fixed, by the Board of Railway Commissioners, for consideration of the matters referred to it by the Privy Council, and further that the Chief Commissioner was expected to return there, from the west, on Oct. 30. He is reported, in a press dispatch, to have said at Winnipeg, Oct. 26: "It will be some time before a new decision is handed down in the freight and passenger rates case, which was referred back to the Board of Railway Commissioners for reconsideration."

H. J. Symington, K.C., representing the Manitoba Government, is reported in a Winnipeg press dispatch of Oct. 26 to have applied there to the Chief Com-

Canadian Pacific Railway—Estimate for 1921 of the results of recent rate increase.

	July to Dec. 1919, plus 20% increase in freight, 10% increase in passenger		Total		Increase applied for		Increase granted		Estimated Result.
	Jan. to June, 1920	\$32,344,000	\$62,891,000	Taken as \$63,000,000	Per cent.	Amount	Per cent.	Amount.	
Freight, eastern lines	\$30,547,000		73,622,000	74,000,000	40%	\$25,200,000	35% except coal, wood, etc.	\$21,873,000	
Freight, western lines	30,325,000	43,297,000			40%	29,600,000	30% except coal, wood, etc.	21,505,000	
Passenger, less deduction of troops and coolies carried in basic period	19,443,000	25,574,000	45,017,000	45,000,000	20%	9,000,000	10% to June 30th only	1,920,000	
Sleeping and parlor car fares	1,954,000	2,368,000	5,085,000	5,000,000	50%	2,500,000	50%	2,500,000	
Add a/c increased ratio granted in May, 1920	290,000	473,000							
Express	3,435,000	3,778,000	7,213,000	7,000,000					
Mail	723,000	770,000	1,493,000	1,500,000					
Excess baggage	190,000	210,000	400,000	400,000	20%	80,000	20%	80,000	
Milk	133,000	117,000	250,000	250,000	40%	100,000	disallowed		
Switching	273,000	325,000	598,000	600,000	40%	240,000	disallowed		
Other items	3,530,000	3,350,000	6,880,000	7,000,000					
	\$190,845,000	\$112,606,000		\$203,750,000		\$66,720,000		\$47,878,000	\$251,628,000
Expenses—									
Actual	80,629,000								
Estimated at same ratio as latter half year 1919, 7.3% of \$112,606,000		89,292,000							
Total before increase in wages and cost of coal and other material				169,921,000					
Estimate of increased costs as per page 289 of judgment				47310,000					217,231,000
Fixed charges and pension fund									34,397,000
									11,850,000
Income tax 10 1/4%									23,047,000
									2,420,000
Dividend requirements									20,627,000
									21,427,277

Note.—Basis actual first six week 1920, plus 20% increase in volume of freight and 10% increase in passenger traffic over last half 1919.

be no doubt that the fair distribution over all of Canada of any necessary burdens is a principle that must to the utmost be adhered to and the committee recommend that if it seems to the Board practicable, by way of diminution of the extra percentage, and if absolutely necessary its extension over a longer period, it meet as far as possible the objection above set out.

It was urged in argument, as well very generally by the applicants, that the increase in passenger rates should not be diminished or discontinued before a reduction in freight rates is ordered. This is a matter, however, which seems properly a subject for the disposition of the Board and the terms of the order are such that effect may be given to the contention if in the judgment of the Board the public interest is considered to be served thereby.

In addition to such matters of principle as are referred to above, in respect

allowed, there would be a surplus to this company in the year 1921, after payment of its regular dividend and income tax of \$15,064,500. The order, however, did not contain any estimate as to the effect upon these figures of the reductions made by the award from what was requested in the application, and also of the exceptions stipulated in the award. In order to arrive at what the correct figures should be, after taking these reductions and exceptions into account, an estimate was made on the second day of the hearing jointly by W. Moule, Assistant Comptroller for the C.P.R., and by Alex. McDonald, Chief Accountant, as regards this appeal, for the Province of Manitoba. A copy of this estimate, signed by the above named accountants, is attached hereto. The basis on which it is made appears thereon, and the result indicates that the surplus above referred to would, after such exceptions and deductions are allowed for, probably en-

missioner, Board of Railway Commissioners, Hon. F. B. Carvell, to suspend the increased rates authorized, pending further hearing, the dispatch stating that Mr. Carvell refused the application, saying that it must be made to Ottawa in the ordinary way.

Another Winnipeg press dispatch says that the Manitoba Government has instructed its counsel, H. J. Symington, to apply direct to the Dominion Government for a suspension of the increases authorized, pending the further hearing, and an Ottawa press dispatch says that D'Arcy Scott will make a similar application for the Saskatchewan Government. In view of the Dominion Government's recent decision to refer certain matters back to the Board of Railway Commissioners for further consideration, it is not likely that there will be any further action by the Government, at least not until after the Board has dealt with the matter.

Traffic Orders by Board of Railway Commissioners.

Increase in Through Rates Between the United States and Canada.

General order 313, Sept. 22.—Re general order 303, Aug. 13, 1920, providing that the proportions of through rates, fares, and charges between the United States and Canada, in both directions, in effect at the date of the order, accruing within Canada, may, by general or blanket supplement to existing tariffs, be increased to conform to the increased rates, fares, and charges authorized by the Interstate Commerce Commission by order dated July 29. Whereas by Special Permission 50,480, dated Washington, D.C., Aug. 26, 1920, the Interstate Commerce Commission authorized U.S. carriers, or their agents, to file, upon one day's notice, special supplements correcting increased rates and charges filed under but not in conformity with its order dated July 29, as amended Aug. 11 and 18, it is therefore ordered that the Board's general order 303 be amended to provide that the said corrections, where necessary, be made in the general or blanket supplement authorized by the general order 303, upon one day's notice.

Coal Rates from Telkwa to Prince Rupert.

30,147. Sept. 27.—Re complaint of Thomas McClyment of Prince Rupert, B. C., that the Grand Trunk Pacific Ry.'s rate of \$2.40 a net ton on coal from Telkwa, B.C., to Prince Rupert, B.C., is excessive and discriminatory compared with the rate charged by the railway from mines located on its Alberta lines. Upon hearing the complaint at Edmonton, Alta., June 21, in the presence of counsel for the railway company, no one appearing for the complainant, and upon reading the written submissions filed, it is ordered that the complaint be dismissed.

Coal and Coke Rates from Minnesota to Western Canada.

30,157. Oct. 1.—Re application of the Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. for permission to issue on one day notice revised rates on coal and coke from Duluth, St. Paul, Minn., etc., to stations in Western Canada. Whereas the Interstate Commerce Commission has issued a special permission, authorizing a revision of the rates on coal and coke from Duluth, St. Paul, etc., to Western Canada, on one day notice, and it being necessary that similar permission should be granted to cover the railway haul within Canada, the Board orders that the Minneapolis, St. Paul & Sault Ste. Marie Ry. Company, or other railway companies operating from Duluth, St. Paul, etc., to stations in Western Canada, be permitted to file revised rates on coal and coke from Duluth, St. Paul, etc., to stations in Western Canada upon one day notice.

Machinery Rates from Chicago and Milwaukee to Ontario.

30,158. Oct. 4.—Re application of Chicago, Milwaukee & St. Paul Ry. for permission to publish, on 15 days notice, revised rates on machinery from Chicago and Milwaukee to stations in Ontario. Whereas the Interstate Commerce Commission has issued a special permission, authorizing a revision of rates on machinery from Chicago and Milwaukee to stations in Ontario, on 15 days notice, and it being necessary that similar permission should be granted to cover the railway haul within Canada, the Board orders that the Chicago, Milwaukee & St.

Paul Ry. be permitted to file revised rates on machinery from Chicago and Milwaukee, to stations in Ontario, upon 15 days notice.

Maine Central Rd. Passenger Tariff.

30,164. Oct. 1.—Re application of Railway Association of Canada, on behalf of the railway companies members thereof and of all other railway companies within the Board's jurisdiction, for authority to make a general advance of 30% in tolls charged for carriage of freight, and the further application for an additional increase of 10% in all freight rates and an increase of 20% in passenger fares, 50% in sleeping and parlor car rates, 40% in milk rates, and 20% on excess baggage rates. Whereas the Maine Central Rd. has filed a supplement to its Standard Passenger Tariff C. R.C. 214, on the basis prescribed by the Board's judgment of Sept. 6, and General order 308, Sept. 9, it is ordered that the Maine Central Rd.'s Supplement 2 to Standard Passenger Tariff C.R.C. 214 be approved; the said supplement, with a reference to this order, to be published in at least two consecutive weekly issues of The Canada Gazette.

Sydney and North Sydney Export and Import Rates.

30,190. Oct. 6. — Re application of Boards of Trade of Sydney and North Sydney, N.S., that the said points be given the benefit of special tariffs on export and import freight, and for passengers holding steamship tickets, as possessed by other Canadian ports engaged in this traffic. Upon hearing the application at Ottawa, Sept. 27, the applicants, the Canadian National, Canadian Pacific and Grand Trunk Railways, and the Canadian Freight Association being represented at the hearing, and what was alleged, and its appearance that the Board has no jurisdiction over the rates on the Intercolonial Ry., the Board orders that the application be dismissed.

At the hearing, the applicants' case was stated by A. N. McLennan, President, and F. C. Kimber, Secretary, Sydney Board of Trade. The Assistant Chief Commissioner, S. J. McLean, gave the following judgment:—"The presentation of the merits in this case has been very ably put forward by Mr. McLennan. We can readily appreciate his desire to obtain this basis of rates. The fundamental question, however, is, the question of our powers. The Canadian National Rys. (using that term as descriptive of the System), is not as yet a term of legal precision. The Canadian National Rys. organization has not yet been fully worked out. We have jurisdiction now, as before, over the Canadian Northern Ry. The one great difficulty that arises in this case is that, in order to carry passengers and freight from Sydney, for a very considerable distance the lines of the Canadian Government Rys. have to be utilized. While at present the organization of the Canadian National System, as I have said, is a descriptive term, not a term of legal precision, it is looking after the management of the Canadian Northern and the Canadian Government Rys. But that fact of itself does not give us jurisdiction.

"There is the further point that, while provision is made in Canadian National legislation, that on the issuance of orders in council railways in which the Government has ownership or interest can be brought under our jurisdiction, no

such order in council has been issued yet in regard to Canadian Government Rys. As our powers must be derived from acts passed by Parliament, we have to say frankly that we have been given no power to control rates over the Canadian Government Rys. or to compel them to initiate rates. Under the present circumstances, having no jurisdiction, notwithstanding the clear statement Mr. McLennan has put forward, the Board has no power to issue the order asked for. I am hopeful that Mr. McLennan's presentation as found in the record will bring about what is desired by him."

Demurrage at Utopia.

30,206. Oct. 11.—Re complaint of White & Co. Ltd., of Hamilton, Ont., against demurrage charged, under rule 5 of Canadian Car Demurrage Rules, on two cars of potatoes delayed in loading at Utopia, Ont. Upon hearing the complaint at Hamilton, Oct. 7, in the presence of representatives of the applicant and the Canadian Car Demurrage Bureau, and what was alleged, it is ordered that the complaint be dismissed.

Release Form for Apple Shipments on Dominion Atlantic Ry.

30,237. Oct. 21.—Re application of Dominion Atlantic Ry., under sec. 348 of the Railway Act, 1919, for approval of release form extending to shippers the privilege of shipping apples in ordinary box cars to the Maritime Provinces and the Province of Quebec, later than Nov. 1, at owner's risk of frost. Upon reading what is filed in support of the application and on behalf of the Nova Scotia Shippers Association, it is ordered that the applicant company's release form extending to shippers the privilege of shipping apples in ordinary box cars to the Maritime Provinces, and the Province of Quebec, later than Nov. 1, at owner's risk of frost, on file with the Board under file no. 16749.1, be approved as follows, viz.—

Dominion Atlantic Railway Company Release.

.....Station,19.....
 Memorandum of Agreement made this.....
 day of A.D. 19....., between
 in the county of
 of the one part, and the Dominion Atlantic Ry.
 Co. of the other part. The said.....
 hereby agrees to ship car of
 number..... as described below, at his
 own risk of frost, and to assume all risk of
 freezing said in transit. And
 further hereby releases the said Dominion Atlantic
 Ry. Co., or any common carrier on which the said
 car will be transported, from any and all claims
 for loss or damage by frost to said
 while same are in transit and until delivery.
 Car no. and initials..... Station from.....
 Consigned to..... Destination.....
Witness.....Shipper.

Crude Ore Rate from Sandon, B.C.

30,255. Oct. 23.—Re application of C. Cunningham, of Alamo, B.C., for an order reducing the C.P.R. rate on crude ore from Sandon, B.C., to the Alamo concentrator, from 70c. a net ton to 35c. a net ton; and also directing reparation accordingly from the commencement of shipping in June, 1919. Upon hearing the application at Calgary, Alta., June 15, in the presence of counsel for the railway company, the applicant appearing in person, and what was alleged, and upon reading the written submissions filed, the Board orders that the application be refused.

Demurrage on Tank Cars at Vancouver.

The Board of Railway Commissioners gave the following interim ruling in the case of Procter & Gamble and the Canadian Freight Association, on May 3,

which was made public on Oct. 1:—Five P.G.X. tank cars were billed from a point in the United States consigned to the owner's representative in Vancouver, B. C., to be loaded with coconut oil in cases ex steamship. No requisition, it was alleged, had been made for the tank cars, the oil having been loaded in box cars, and the former were rebilled, empty, to Seattle on instructions from the owners, who then applied to the C.P.R. for cancellation of the accrued demurrage. Subject to the submission of objections, which have not been made, the Board ruled as follows:—The Board's investigation indicates that the lack of facilities, alleged to be a lack on the part of the C.P.R., has reference to the absence of facilities at Vancouver for liquifying

the coconut oil received from the steamship Meigan Maru—a facility which the Railway Act does not require the railway company to furnish; that the tanks cars in question were consigned to Vancouver, where they were not required and had not been ordered; that tank car mileage equalization has no bearing on demurrage; that the exception to rule 1 of the Canadian Car Demurrage Rules exempting empty private cars stored on carriers' or private tracks has no application in the circumstances, and that rule 4 (f) of the said rules provides that when empty cars are placed for loading on orders and are not used, demurrage shall be charged from the first 7 a.m. after placement until released without any free time allowance.

Canadian Pacific Railway Construction, Betterments, Etc.

St. John Level Crossing.—A press report states that the Chief Commissioner, Board of Railway Commissioners, was in consultation with the Mayor and others interested, as to the elimination of the level crossing at Douglas Ave., St. John, N.B. The report states that an overhead crossing is favored at a cost estimated at from \$100,000 to \$150,000.

Timiskaming, Que., District.—A press report states that the Quebec Government on Oct. 8 ratified a contract with the C.P.R. for the construction of a railway from Timiskaming, Que., the terminus of the C.P.R. Mattawa branch, to the Quinze River Falls, for which the Quebec Legislature voted a subsidy at its last session.

The Board of Railway Commissioners passed order 30,420, Oct. 22, approving Interprovincial & James Bay Ry. revised route map of general location, from terminus of its line already built, at mile 10, to mile 70, near Riviere des Quinze.

The C.P.R. owns the charter of the Interprovincial and James Bay Ry., under which 10 miles of track were laid from Kipawa, the terminus of a branch line from Timiskaming, northerly, and surveys were made for its construction to Ville Marie and the Quinze River Falls. The project remained in abeyance for some years until last spring. (Oct., pg. 551.)

Westboro Station.—The Board of Railway Commissioners has ordered the building of a station with passenger, freight, express and telegraph accommodation, at or near Victoria Ave., Westboro, Ont., by Dec. 1. Westboro is on the outskirts of Ottawa, and the order is the outcome of an application made by the residents.

Harriston to Listowel.—A press report states that surveys are being made for a line from Harriston, Ont., mile 104 from Toronto, on the Wingham-Teeswater branch, through Palmerston, to Listowel, the terminus of a branch from Linwood on the Toronto-Guelph-Goderich line. Enquiry at the C.P.R.'s Ontario District headquarters has elicited the information that nothing is known there of any such projected line and that the press report referred to above is undoubtedly incorrect.

Windsor Yard.—The Board of Railway Commissioners recently heard objections of the Windsor, Ont., City Council to the plans for the extension of the C.P.R. yards there. The company desires to lay tracks on Caron Ave., to which the city objects.

Algoma District Bridges.—The Board of Railway Commissioners has authorized the rebuilding of bridges at the following points:—bridge 29.27 over Riley's Creek, North Bay Subdivision; bridge 91.48, Carter Subdivision; bridge 19.17, White River Subdivision; bridge 81.5 over Little Pic River, Heron Bay Subdivision.

Winnipeg Subway.—A press report credits the Winnipeg City Engineer with stating that plans for a subway under the C.P.R. tracks at Sherbrooke St., Winnipeg, to connect with Andrews St., are nearly completed. They will provide for a subway 773 ft. long, carrying 58 tracks, and the approaches will add 920 ft. more of construction, the structure to be 68 ft. wide, with 14 ft. 8 in. headway, and to be built of steel and concrete.

Conquest Transfer Track.—The Board of Railway Commissioners on Sept. 23 ordered the C.P.R. to build a transfer track to connect its tracks with the Canadian National Rys. at Conquest, Sask., by Nov. 1.

Leader Southeasterly Branch.—The Board of Railway Commissioners has approved revised location of a portion of this line from Leader, Sask., southeasterly, mile 0 to 25.7.

Swift Current Northwesterly Branch. The Board of Railway Commissioners has approved revised location of a portion of this line from Swift Current, Sask., northwesterly, from mile 28.6 to 34.23, and has authorized the building of the line across certain road allowances. (Oct., pg. 551.)

Grain Inspected at Western Points.

The following figures, compiled by the Dominion Bureau of Statistics' Internal Trade Division, show the number of cars of grain inspected at Winnipeg and other points on the Western Division, during Sept., 1920, and Sept., 1919:—

	Sept. 1920	Sept. 1919
Canadian National Rys.	5,502	7,100
Canadian Pacific Ry.	11,595	10,878
Grand Trunk Pacific Ry.	1,552	2,829
Great Northern Ry. (Duluth)	101	130
Totals	18,750	20,937

The Franklin Medal has been awarded to Sir Charles Parsons "in recognition of his epoch-making success in the development and the construction of the steam turbine, which has revolutionized the art of steam engineering, particularly in regard to the propulsion of mercantile and naval vessels, and the driving of electrical generators."

Oil Fuel Experiments on British Railways.

The Great Central Ry. and the London & Northwestern Ry. in England have been carrying on a series of experiments with oil and other fuels for locomotives. The tests on the L. & N.W.R., which have been carried out by C. J. Bowen Cooke, Chief Mechanical Engineer, extending over some months past, have yielded very satisfactory results, and it is believed that the employment of oil fuel has now reached a stage when express trains can be hauled without risk of breakdown, by oil fired locomotives.

There has been no attempt to do otherwise than proceed by slow stages, and while more than one new fuel has been the subject of experiment it is said that the Scarab oil burning system, which was developed in Mesopotamia during the war, is that which has up to the present shown the best results with oil fuel. In the locomotive with which trial runs between London and Birmingham were made recently, the oil fuel is carried in a tank, having a capacity of 1,000 gall., which is mounted on the tender, the oil being fed to the burners by gravity. The locomotive, the Watt, is one of the old Precursor type, non-superheated, and has been fired on oil fuel some months past. The train load on a recent test, when the oil fired locomotive worked the 11.30 a. m. from Euston to Birmingham and the 4.50 p.m. return train, was nearly 300 tons, but on both the outward and return trips, with one stop in each case, the journey was accomplished ahead of the scheduled time.

The figures of oil consumption, which have hitherto been withheld by both the Great Central and London and Northwestern Rys., have in the case of the last named company now been issued. They indicate that, as compared with an average consumption of about 70 lb. of coal a mile with the same load on a similar run, the locomotive working on oil fuel with a train load of 294 tons consumed 32 lb. of oil a mile, or 10.88 lb. per 100 ton miles. Nor should the economy realized end with the saving of fuel, as the oil fired locomotive requires far less cleaning than a coal burning one, and the conversion of a large number of locomotives from coal to oil, which could be effected in a very short space of time, should be associated with a considerable saving of labor charges in running sheds and locomotive houses.

Much would, of course, depend on the relative prices of coal and oil fuel, and it is certain that any attempt to convert the whole of the existing coal fired locomotives on British railways to oil burning would be associated with a rise in price of the fuel which might counterbalance the savings in other directions.

Creeping of Railway Rails.—J. A. L. Waddell, consulting engineer, 35 Nassau St., New York, N.Y., writes Canadian Railway and Marine World: "The American Society of Civil Engineers is about to issue a paper of mine, entitled 'The Creeping of Railway Rails,' which consists mainly of a compendium of information received through a questionnaire from over 100 of the highest authorities on the subject in North America. I greatly desire to have this paper discussed thoroughly, so if any railway man wishing to discuss it will write me to that effect, I shall send him an advance copy, provided that his letter reaches me before my supply of copies is exhausted."

Mainly About Railway People Throughout Canada.

R. B. Angus, one of the C.P.R. directors, closed his summer house at Senneville, Que., early in October, and returned to Montreal.

J. R. Ayers, General Master Painter, C.P.R., who has supervision of painting of locomotives and cars, over the whole system, with headquarters at Angus shops, Montreal, has been elected Second Vice President, Equipment Painting Division, Section 3, Mechanical, American Railway Association.

Augustus Brostedt, whose appointment as General Freight Agent, Canadian National-Grand Trunk Pacific Rys., and Grand Trunk Pacific Coast Steamship Co., Vancouver, B.C., was announced in our last issue, was born in Sweden in 1877 and entered railway service in 1898, since when he has been, to 1901, operator, cashier and agent, Great Northern Ry., Moosehead, Minn.; 1901 to 1903, Travelling Passenger Agent, same road, Philadelphia, Pa.; 1903 to 1905, District Passenger Agent, same road, Pittsburg, Pa.; 1905 to 1907, Northern Passenger Agent, same road, Duluth, Minn.; 1907 to 1913, District Freight and Passenger Agent, same road, Winnipeg; 1913 to 1915, District Freight Agent, Canadian Northern Ry. Calgary, Alta.; 1915 to 1917, District Freight and Passenger Agent, same road, Vancouver, B.C.; 1919 to Aug. 31, 1920, Assistant Freight and Passenger Agent, Canadian National Rys., Vancouver, B.C.

Lady Brown, wife of Sir Geo. McLaren Brown, General European Manager, C.P.R., reached Quebec by the s.s. Empress of Britain, on Oct. 6, and, after staying a short time in Montreal, went on to Hamilton, Ont., to visit her mother, Mrs. Crerar.

M. Brown, chief clerk, Import Freight Department, G.T.R., Toronto, died there, Oct. 13, after a short illness. He had been in G.T.R. service since 1882.

J. R. Cameron, who arrived at Vancouver, B.C., at the end of September, to take over the duties of Assistant General Manager, Canadian National-Grand Trunk Pacific Rys., was recalled to Winnipeg almost immediately, owing to the serious illness of his mother, who died shortly after his return there, aged 91. She was buried at Truro, N.S.

Senator N. Curry, Chairman of the Board, Canadian Car & Foundry Co., Montreal, and Mrs. Curry and daughter, travelled from Belgium to London, Eng., by aeroplane, on Oct. 10, after visiting his son's grave in the battlefield area.

John Devereux, Locomotive Foreman, Canadian National Rys., Campbellton, N. B., has been superannuated, after 43 years service.

Jas. W. Doyle, formerly General Manager at St. Peters, N.S., of the Cape Breton Ry., which has been taken over by the Dominion Government, and merged into the Canadian National Rys., was presented with an address and a smoking cabinet, recently, by employees who had been under his jurisdiction.

R. L. Fairbairn, who has been appointed Assistant Passenger Traffic Manager, Eastern Lines, Canadian National Rys., Toronto, was born at Stillwater, Minn., Nov. 24, 1880, his parentage being Canadian. He entered railway service in July, 1899, since when he has been, to Mar. 1904 in office of Auditor of Passenger Receipts, G.N.R.; Mar. 1904 to May 1, 1906, in Passenger Traffic Manager's of-

fice, same road; May 1 to Dec. 1, 1906, assistant rate clerk, Passenger Department, same road; Dec. 1, 1906 to June 1, 1908, chief rate clerk, Passenger Department, same road; June 15, 1908 to Oct. 1910, chief clerk, Passenger Department, Canadian Northern Ry., Winnipeg; Oct. 1910 to Apr. 1911, District Passenger Agent, C.N.R., Saskatoon, Sask.; Apr. 1911 to May 1912, Assistant General Passenger Agent, lines east of Port Arthur, C.N.R., Toronto; May 1912 to Oct. 4, 1920, General Passenger Agent, Eastern Lines, Canadian Northern Ry., and latterly Canadian National Rys., Toronto.

W. J. Fee, Travelling Engineer, G.T.R., was elected Fourth Vice President, Travelling Engineers Association, at the annual convention in Chicago recently.

Sir Ailwyn Fellowes, K.C.V.O., Deputy Chairman, Great Eastern Ry., returned to England, by the s.s. Megantic, Oct. 16, after a trip through Canada.



A. Brostedt,
General Freight Agent, Canadian National-Grand
Trunk Pacific Rys., Vancouver, B.C.

Blake P. Fraser, Division Passenger Agent, Pennsylvania System, Buffalo, N. Y., died suddenly there, Oct. 24.

J. M. Gibbon, General Publicity Agent, C.P.R., Montreal, has written another novel, "The Conquering Hero." Opening in a hunting party's camp in the Maritime Provinces, the scenes shift to a ranch near the Rocky Mountains, without breaking the continuity or interest of the tale.

T. H. Ginnelly, of the Freight Claims Department, C.N.R., Winnipeg, was presented with a case of pipes and a gold penknife, with a gold wrist watch and cut glass bowl for Mrs. Ginnelly, recently, by a number of his friends, on leaving Winnipeg, for Vancouver, B.C., where he has been appointed Assistant Freight Claims Agent, Canadian National-Grand Trunk Pacific Rys.

Sacheveral M. Greene, whose appointment as City Ticket Agent, Canadian

National-Grand Trunk Pacific Rys., Regina, Sask., was announced in our last issue, was born at Derby, Eng., Feb. 15, 1887, and entered railway service Aug. 28, 1908, since when he has been, to May 30, 1910, clerk, Freight Department, Grand Trunk Pacific Ry., Saskatoon, Sask.; June 1 to July 18, 1910, cashier, Freight Department, C.P.R., Saskatoon, Sask.; July 19, 1910, to Feb. 28, 1916, Assistant City Passenger and Ticket Agent, G.T.P.R., Saskatoon, Sask.; Mar. 1, 1916, to Aug. 31, 1920, City Passenger and Ticket Agent, G.T.P.R., Regina, Sask.

George Nelson Goad, whose appointment as Superintendent, Nipissing Division, Ontario District, Canadian National Rys., Capreol, Ont., was announced in our last issue, was born at Toronto, Nov. 26, 1884, and entered railway service in Sept. 1901, since when he has been, to July 1902, junior clerk, G.T.R., Toronto; July 1902 to Sept. 1904, junior clerk and stenographer, Division Freight Agent's office, G.T.R., Toronto; Sept. 1904 to Dec. 1905, chief clerk Division Freight Agent's office, Lehigh Valley Rd., Toronto; Dec. 1905 to Feb. 28, 1907, stenographer to Third Vice President, Canadian Northern Ry., Toronto; Mar. 1, 1907, to Aug. 31, 1915, chief clerk to Superintendent, and to General Superintendent, successively, same road, Toronto; Sept. 1 to Dec. 31, 1915, chief clerk, General Manager's office, same road, Toronto; Jan. 1 to Dec. 20, 1916, Inspector of Transportation, Eastern Lines, same road, Toronto; Dec. 21, 1916 to Nov. 30, 1917, Trainmaster, Toronto Terminals and Muskoka Subdivision, same road, Toronto; Dec. 1, 1917, to Dec. 22, 1918, Assistant Superintendent, Toronto Division, same road, Toronto; Dec. 23, 1918, to Aug. 31, 1920, Superintendent, Superior Division, Ontario District, Canadian National Rys., Hornepayne, Ont.

Casimir Stanislaus Gzowski, who has been appointed Assistant to Vice President of Construction, Canadian National Rys.-Grand Trunk Pacific Ry., Toronto, was born at Toronto, May 1, 1876, and entered transportation service in April, 1897. While attending Toronto University he was engaged during the summers on survey work, in 1897 being with the C.P.R. on survey and construction on its Crownsnest Branch and subsequently in various positions in charge of location and construction work for the C.P.R. and other roads. In 1905 he became a partner in Macdonell, Gzowski & Co., Vancouver, B.C., and later with a branch in Spokane, Wash., under the name of G. O. Foss & Co., as contractors and engineers, building the C.P.R. Nicola Branch, changes of line on C.P.R. at Rogers Pass, near Nelson, B.C., and on the Esquimalt & Nanaimo Ry., Vancouver Island. The firm also built parts of the Milwaukee extension westerly, Grand Northern Ry. changes of lines and parts of branches in Canada and the U.S.; C.P.R. spiral tunnels at Field, B.C., and considerable other railway work in Canada and the U.S., until its dissolution in 1914, after which he did valuation work for the Dominion commission of enquiry into railways and also acted as special engineer for the Canadian Northern Ry. on the ation. From June, 1919, to Sept. 1920, government arbitration of its stock value he was Special Engineer to Vice President, Operation, Maintenance and Construction, Canadian National Rys., Toronto.

Grant Hall, Vice President, C.P.R., returned to Montreal, Oct. 12, after a shooting trip at Bonney River, where he secured a large moose.

Sir Arthur Harris, Special Traffic Representative, C.P.R., and **Lady Harris**, returned to Montreal early in October from Murray Bay, and were to sail for Bermuda on Oct. 29.

George Alexander Hoag, whose appointment as Superintendent of Transportation, Ontario District, Canadian National Rys., Toronto, was announced in our last issue, was born at Walters Falls, Ont., May 31, 1866, and educated at Kingston, Ont., public schools and business college. He entered railway service June 8, 1884, as switchman, G.T.R., and served at various points until May 3, 1886, when he was appointed night operator, and promoted to day operator and relieving agent, Jan. 1888. From 1899 to 1901, he was agent, same road, Trenton, Ont.; 1901 to 1905, Yardmaster, same road, Belleville, Ont.; Oct. 1905 to Mar. 1908, Trainmaster, Central Ontario Ry., Trenton, Ont.; Mar. 1, 1908 to July 1914, Superintendent, same road, Trenton, Ont.; July 1914, appointed Superintendent of Car Service, Eastern Lines, Canadian Northern Ry., Toronto; and later, to Apr. 1916, Assistant Superintendent, same road, Ottawa, Ont.; Apr. to Aug. 1916, Assistant Superintendent, Toronto District, Ontario Division, same road, Rose-dale, Toronto; Aug. 1916 to Apr. 1917, Assistant Superintendent, Toronto District, Ontario Division, same road, Trenton, Ont.; Apr. to Nov. 1, 1917, Assistant Superintendent, Toronto District, Ontario Division, same road, Toronto; Nov. 1, 1917, to Dec. 1918, Superintendent, Superior District, Ontario Division, same road, Hornepayne, Ont.; Dec. 1918 to Sept. 1920, Superintendent, Nipissing Division, Ontario District, Canadian National Rys., Capreol, Ont.

F. L. Hutchinson, Manager in Chief, C.P.R. hotel, Montreal, is reported to have decided to retire from that company's service at the end of the year, and to have bought a farm of 260 acres near Chemainus, B.C.

William Albert Kirkpatrick, whose appointment as Superintendent of Transportation, Prairie District, Canadian National Rys., Saskatoon, Sask., was announced in our last issue, was born at West Lorne, Ont., Aug. 28, 1883, and entered railway service in July 1898, since when he has been, to Sept. 1902, operator and agent, Michigan Central Rd., at various points; Sept. 1902 to Dec. 1904, dispatcher, Pere Marquette Rd., St. Thomas, Ont.; Apr. to Aug. 17, 1905, operator and ticket agent, C.P.R.; Aug. 17, 1905, to Dec. 1, 1906, operator and dispatcher, Canadian Northern Ry.; Dec. 1, 1906, to Dec. 1, 1910, chief clerk to Superintendent, and General Superintendent, same road; Dec. 1, 1910, to Sept. 1, 1913, Inspector of Transportation, same road; Sept. 1, 1913, to Sept. 1, 1920, Trainmaster and Assistant Superintendent, same road, latterly, Canadian National Rys., Neepawa, Man.

J. W. N. Johnstone, who has been appointed General Agent for the Dominion of Newfoundland, Canadian National Rys. and Canadian Government Merchant Marine Ltd., St. John's, Nfld., was born at Campobello, N.B., Oct. 4, 1878, and entered transportation service in the General Freight Department, C.P.R., St. John, N.B., serving in various capacities in that department from junior clerk to assistant to chief clerk, until Feb. 1902, when he entered Reid Newfoundland Co.'s

service as chief clerk to the General Freight Agent, St. John's, Nfld. He was appointed General Passenger Agent for that company, Aug. 21, 1906, and for a short time, at the end of 1917, was also Assistant to the President (Sir William D. Reid), and subsequent to the change of President, he acted as Sir William D. Reid's private Secretary.

E. McDonald, whose appointment as Assistant General Baggage Agent, Canadian National-Grand Trunk Pacific Rys., Winnipeg, was announced in our last issue, was, from June, 1906, to May, 1910, clerk, G.T.R., Toronto; May, 1910, to Sept., 1920, General Baggage Agent, Grand Trunk Pacific Ry., Winnipeg.

G. E. McGlade, City Ticket Agent, C. P.R., Brockville, Ont., was struck by an automobile there, on Oct. 11, sustaining a sprained ankle and severe bruises, necessitating his removal to a hospital.

A. J. Mitchell, Vice President, Finance and Accounts, Canadian National Rys., who left Toronto Sept. 28 for England, is expected to sail from there on Nov. 3



L. F. Muncey,
Superintendent, Canadian National Railways,
Kamloops, B.C.

by the s.s. Adriatic on his return journey.

L. F. Muncey, whose appointment as Superintendent, Canadian National Rys., Kamloops, B.C., was announced in our last issue, was born at Kensington, P.E.I., Mar. 15, 1876, and entered railway service in Aug. 1891, since when he has been, to Oct. 1893, operator, New Brunswick & Prince Edward Island Ry., Cape Tormentine, N.B.; Aug. 1896 to Aug. 1897, relieving agent, Prince Edward Island Ry.; Aug. 1897 to June 1901, audit clerk, P.E.I.R., Charlottetown, P.E.I.; June 1901 to Aug. 1902, agent and operator, Canadian Northern Ry., at various points; Aug. 1902 to May 1908, Travelling Auditor, same road, Winnipeg; May 1908 to Apr. 1909, Chief Travelling Auditor, same road, Winnipeg; Apr. 1909 to Dec. 1914, agent, same road, Beaudette, Minn.; Dec. 1914 to May 1919, General Chairman of Order of Railroad Telegraphers, Winnipeg; May 1919 to Aug. 1920,

Assistant Superintendent, Canadian National Rys., Vancouver, B.C.

F. L. Norman, whose appointment as Commercial Agent, Canadian National-Grand Trunk Pacific Rys., Seattle, Wash., was announced in our last issue, was born at Kansas City, Mo., Jan. 30, 1879, and entered railway service Feb. 1, 1906, since when he has been, to Feb. 1, 1907, Soliciting Freight Agent, Rutland Rd., Michigan Central Rd., and Ontario Central Despatch Lines, Kansas City, Mo.; Mar. 1, 1907, to June 1, 1910, Soliciting Freight Agent, G.T.R., Kansas City, Mo.; June 1, 1910, to June 30, 1918, Commercial Agent, G.T.R., Seattle, Wash.; July 1, 1918, to Sept. 8, 1920, Commercial Agent, Grand Trunk Pacific Ry. and Grand Trunk Pacific Coast Steamship Co., Seattle, Wash.

John Henry Pakenham, whose appointment as Assistant Superintendent of Terminals, Canadian National Rys., Quebec, Que., was announced in our last issue, was born at St. Raymond, Que., Nov. 24, 1886, and entered railway service in July 1903, since when he has been, to May 1904, assistant agent, Quebec & Lake St. John Ry., St. Raymond, Que.; May 1904 to Oct. 1905, operator and agent, same road, at various points; Oct. 1905 to June 1907, operator, C.P.R., at various points; June 1907 to Aug. 1909, dispatcher, C.P.R., Kenora, Ont.; Nov. 1909 to Mar. 1910, operator, C.P.R., at various points; May 1910 to Aug. 1913, train baggageman, Canadian Northern Ry., Quebec, Que.; Aug. 1913 to Nov. 1918, Yardmaster, C.N.R., Quebec, Que.; Nov. 1918 to Sept. 1920, dispatcher, Canadian National Rys., Montreal.

Thomas Edmund Peter Pringle, whose appointment as City Passenger Agent, Canadian National-Grand Trunk Pacific Rys., Winnipeg, was announced in our last issue, was born at Huntingdon, Que., May 1, 1887, and entered railway service July 23, 1906, since when he has been, to Aug. 16, 1907, clerk, Passenger Traffic Manager's office, C.P.R., Montreal; Aug. 17, 1907, to May 15, 1909, ticket clerk, C.P.R., Calgary, Alta.; May 16, 1909, to Sept. 15, 1911, ticket clerk, City ticket office, C.P.R., Winnipeg; Sept. 16, 1911, to Aug. 11, 1920, City Passenger and Ticket Agent, Grand Trunk Pacific Ry., Winnipeg.

Miss Elsie Robider, daughter of W. J. Robider, General Master Car Builder, C.P.R., was married at Montreal Oct. 2, to Dr. M. J. Egan, of Savannah, Georgia.

William A. B. Russell, whose appointment as Division Freight Agent, Canadian National-Grand Trunk Pacific Rys., Calgary, Alta., was announced in our last issue, was born at Rednersville, Ont., Jan. 1, 1886, and entered railway service Mar. 20, 1904, since when he has been, to Apr. 30, 1904, clerk, Local Freight Department, Central Vermont Ry., St. Albans, Vt.; May 1 to Nov. 17, 1904, stenographer, General Freight Agent's office, same road St. Albans, Vt.; Nov. 17, 1904, to Aug. 14, 1905, stenographer to General Freight Agent, same road, St. Albans, Vt.; Aug. 15, 1905, to Apr. 30, 1908, stenographer to General Freight Agent, G.T.R., Montreal; May 1 to Dec. 31, 1908, stenographer to Assistant Freight Traffic Manager, Winnipeg; Jan. 1, 1909, to Dec. 31, 1910, clerk, Freight Traffic Department, same road, Winnipeg; Jan. 1, 1911, to Dec. 31, 1915, chief clerk, Freight Traffic Department, same road, Winnipeg; Jan. 1 to Sept. 30, 1916, chief clerk to Traffic Manager, G.T.P.R., and Western Traffic Manager, Canadian Government Rys., Winnipeg; Oct. 1, 1916,

to Sept. 4, 1920, Commercial Agent, G. T.P.R., Regina, Sask.

Frank L. Sample, who has been appointed Assistant Superintendent of Terminals, G.T.R., Detroit, Mich., was born at Altona, N.Y., June 23, 1873, and entered railway service in Oct. 1891, since when he has been, to Sept. 1892, telegraph operator, Central Vermont Ry., Essex Jct., Vt.; Sept. 1892 to Aug. 1899, dispatcher, same road, New London, Conn.; Aug. 1899 to May 1901, ticket agent and spare dispatcher, New York, New Haven & Hartford Rd., Norwich, Conn.; May 1901 to Apr. 1902, dispatcher, Rutland Rd., Rutland, Vt.; Apr. 1902 to Sept. 1920, dispatcher, Boston & Albany Rd., Springfield, Mass., and Trainmaster, same road, Pittsfield, Mass.

John Richardson Scott, whose appointment as Assistant General Freight Agent, British Columbia Lines, Canadian National-Grand Trunk Pacific Rys., and Grand Trunk Pacific Coast Steamship Co., Vancouver, B.C., was announced in our last issue, was born at Lochmaben, Scotland, Jan. 3, 1882, and entered railway service in 1896, since when he has been, to 1898, junior clerk, Freight Department, Caledonian Ry., Lanark, Scotland; 1898 to 1899, clerk, Passenger Department, same road, Kelvinbridge, Glasgow, Scotland; 1899 to 1900, assistant parcels clerk, same road, Bridge St. station, Glasgow, Scotland; 1900 to 1902, clerk, Passenger Department, same road, Wishaw Central, Scotland; Aug. 1902 to Mar. 1908, clerk and chief clerk, Import Freight Department, C.P.R., Montreal; Apr. 1908 to Nov. 1915, clerk and chief clerk, Freight Traffic Department, Canadian Northern Ry., Winnipeg; Dec. 1915 to Sept. 10, 1920, Division Freight Agent, Canadian Northern Ry., and Canadian National Rys., Port Arthur, Ont.

Mrs. Alfred Shaughnessy, widow of Capt. the Hon. Alfred Shaughnessy, Lord Shaughnessy's son, who was killed in the war, is announced as being engaged in England to Capt. the Hon. P. W. Legh, son of Lord Newton.

Lord Shaughnessy, Chairman, C.P.R. Co., Hon. Marguerite Shaughnessy, and Hon. W. J. and Mrs. Shaughnessy, attended the race at Windsor, Ont., Oct. 11, between Man o' War and Sir Barton, the latter horse being owned by J. K. L. Ross, one of the C.P.R. directors.

Frederick Anderson Shaw, who has been appointed General Agent, Freight Department, Canadian National-Grand Trunk Rys., Cleveland, Ohio, was born at Smiths Falls, Ont., Sept. 29, 1872, and entered railway service in 1897, since when he has been, to Feb. 1898, billing clerk, C.P.R., Winnipeg; Feb. to June 1908, clerk, Local Freight Department, C.P.R., Brandon, Man.; June 1898 to Oct. 1899, with Foley Bros. and Larson, St. Paul, Minn.; Oct. 1899 to 1902, in commercial business, Montreal; 1902 to 1903, chief clerk, Commercial Agent's office, Canadian Northern Ry., Montreal; 1903 to 1904, Travelling Freight Agent, C.N.R., Toronto; 1904 to 1906, Soliciting Freight Agent, C.N.R., Montreal; 1906 to 1912, City Freight Agent, C.N.R., Montreal; 1912 to Jan. 1, 1914, District Freight Agent, lines east of Montreal, C.N.R., Montreal; Jan. 1, 1914, to Apr. 9, 1917, Division Freight Agent, lines east of Port Arthur and west of Ottawa, C.N.R., Toronto; Apr. 9, 1917, to Sept. 10, 1920, General Agent, Freight and Passenger Departments, Canadian National Rys., Detroit, Mich.

George Stephen, whose appointment as Freight Traffic Manager, Canadian Na-

tional and Grand Trunk Pacific Rys., and Grand Trunk Pacific Coast Steamship Co., Toronto, was announced in a recent issue, was born at Montreal, July 5, 1876, and entered railway service in 1889, since when he has been, to 1899, clerk, C.P.R.; 1899 to 1900, chief clerk to Assistant General Freight Agent, C.P.R., Winnipeg; 1900 to 1901, Travelling Freight Agent, Manitoba Lines, C.P.R.; 1901 to 1903, Contracting Freight Agent, C.P.R., Nelson, B.C.; 1903 to Jan. 1907, chief clerk to General Traffic Manager, Canadian Northern Ry., Winnipeg; Jan. 1907 to May 1909, Assistant General Freight Agent, C.N.R., Winnipeg; May 1909 to Dec. 31, 1915, General Freight Agent, C.N.R., Winnipeg; Jan. 1 to Nov. 6, 1916, Assistant Freight Traffic Manager, Western Lines, C.N.R., Winnipeg; Nov. 1916 to Dec. 1918, Freight Traffic Manager, Western Lines, Canadian Northern Ry., Winnipeg; Dec. 1918 to Aug. 24, 1920, Freight Traffic Manager, Canadian National Rys., Toronto.

A. F. Stewart, heretofore Chief Engineer, Canadian National Rys. at Toronto, was entertained at dinner at the Albany Club there, and presented with a handsome clock, on Oct. 15, by a number of C.N.R. officials and other personal friends, on the eve of his leaving for Moncton, N.B., to become Chief Engineer, C.N.R., there.

Brigadier General J. W. Stewart, railway contractor, and his daughter, Miss Margaret Stewart, returned to Vancouver, early in October, from England.

Lt. Col. Claude C. Stibbard, D.S.O., who was appointed Trainmaster, C.P.R., at Lethbridge, Alta., on Aug. 1, was born in Essex, Eng., Oct. 19, 1885. He first entered transportation service Jan. 17, 1906, and was from 1910 to 1915 locomotiveman, C.P.R., at Winnipeg. After serving with the Canadian overseas forces for a year, he was selected by the War Office to be seconded to the Imperial forces, and to be attached to Sir Eric Geddes' organization department, when the latter took over the re-organization of the railways on the western front. He remained in this position throughout the whole of Sir Eric Geddes' term of service as Director General of Transportation, and also throughout the terms of service of Major General Sir Phillip A. M. Nash, and Major General Sir S. D. A. Crookshank, successors in turn to Sir Eric Geddes, as Directors General of Transportation. In Nov. 1918, he was ordered to North Russia, to assist in the re-organization of the railways in that region, and was appointed Director of Railways. One of the many problems was the solving of the financial difficulties, and that this and all other problems were handled successfully is evidence by a letter of appreciation which he received from the General Officer Commanding the North Russian forces. Following the evacuation of the North Russian forces, he was appointed to the Railway Advisory Staff for South Russia, as Officer Commanding Railways in Ekatorinodar, and also for the whole of the Crimea. He made a tour of inspection through Turkey, Bulgaria, Roumania, Jugo-Slavia, Italy and Switzerland, to compare the various systems of railway management and organization. For his work on railways during the war, he was awarded the D.S.O. and the order of St. Stanislaus, was twice mentioned in dispatches and was the subject of special orders of the day from Lord Rawlinson, and from the Russian General Officer Commanding in the Crimea. He was on the steamship Carpathia when she was torpedoed, and

lost all the effects he was travelling with.

Marshall D. Thompson, whose appointment as Superintendent, Canadian National-Grand Trunk Pacific Rys., Regina, Sask., was announced in our last issue, was born at Parkhill, Ont., Aug. 9, 1885, and entered railway service Aug. 16, 1901, since when he has been, to Mar. 1904, operator, G.T.R., Stratford, Ont.; Mar. 1904 to Aug. 1906, dispatcher, G.T.R., Stratford, Ont.; Aug. 1906 to Oct. 1908, dispatcher, G.T.R., Allandale, Ont.; Oct. 1908 to July 1909, dispatcher, Grand Trunk Pacific Ry., Melville, Sask.; July 1909 to June 1910, Chief Dispatcher, G.T.P.R., Wainwright, Alta.; June 1910 to Nov. 1917, Chief Dispatcher, G.T.P.R., Melville, Sask.; Nov. 1917 to Sept. 1920, Assistant Superintendent, G.T.P.R., Regina, Sask.

Ephraim Tiffin, Special Representative, Canadian National Rys., Toronto, after a lengthy illness, died Oct. 2, at Preston, Ont., where he and his wife had lived for several years with their daughter, Mrs. E. O. Schlueter. He was born at Hamilton, Ont., May 5, 1849, and entered railway service in 1863, since when he had been to 1865, messenger, Chief Engineer's office, Great Western Ry. of Canada; 1865 to 1867, clerk in General Manager's office, same road; 1867 to 1869, ticket clerk, same road, London and Toronto, consecutively; 1869 to 1871, clerk in Superintendent's office, same road; 1871 to 1877, station master, same road, Brantford, Ont.; 1877 to 1881, Travelling Freight Agent, same road; 1881 to 1888, General Freight Agent, Credit Valley Ry., Toronto; and he remained in that position during several reorganizations, viz., Credit Valley and Toronto Grey & Bruce Rys.; Ontario & Quebec Ry.; and Ontario Division, C.P.R.; 1888 to 1890, General Southwestern Agent, Commercial Express Fast Freight Line, St. Louis, Mo.; 1890 to Feb. 1896, General Freight Agent, Atlantic Division, C.P.R., St. John, N.B.; Feb. 1896 to Jan. 1901, General Freight Agent, Ontario Division, C.P.R., Toronto; Jan. 1901 to Apr. 1909, Traffic Manager, Intercolonial Ry., Moncton, N.B.; Apr. 1909 to July 1913, member of Canadian Government Railways Managing Board, and General Traffic Manager, Canadian Government Rys., Moncton, N.B.; July 1913 to May 1919, General Western Agent, Canadian Government Rys., Toronto; May 1919, to the date of his death, Special Representative, Canadian National Rys., Toronto. He was buried at Hamilton, Ont., the Canadian National Rys. providing a special car for the journey from Preston there.

Arthur A. Tisdale, who has been appointed Assistant to General Manager, Western Lines, Canadian National Rys., and G.T.P. Ry., Winnipeg, was born at Mount Vernon, Ont., Mar. 8, 1874, and entered railway service Sept. 18, 1889, since when he has been, to July, 1892, in local freight office, G.T.R., Hamilton, Ont.; July 1892 to May 1899, secretary to Chief Engineer, Hamilton and Montreal; May 1899 to Oct. 1907, successively, secretary, chief clerk, and Assistant to Fourth Vice President in charge of Transportation and Maintenance of Way, G.T.R., Montreal; Oct. 1907 to Oct. 1909, Assistant to Vice President and General Manager, Grand Trunk Pacific Ry., Montreal; Oct. 1909 to June 1916, Superintendent, Lake Superior Division, same road, Fort William, Ont.; June 1916 to Jan. 1, 1916, Superintendent, Regina Division, same road, Regina, Sask.; Jan. 1, 1916, to Aug. 1920, Assistant to Vice President and General Manager, same road, Winnipeg.

Joseph Alfred Trudel, whose appointment as Assistant Superintendent, Levis Division, Quebec District, Canadian National Rys., Levis, Que., was announced in our last issue, was born at Nicolet, Que., Dec. 15, 1882, and entered railway service Mar. 15, 1907, since when he has been, to Mar. 31, 1907, porter, Canadian Northern Ry., St. Henri Jct., Que.; Apr. 1 to Apr. 26, 1907, freight clerk, same road, Chaudiere Jct., Que.; Apr. 26, 1907, to Sept. 1, 1911, freight clerk, same road, Riviere-du-Loup, Que.; Mar. 28, 1912, to Sept. 1, 1913, train agent, same road; Sept. 1 to Oct. 16, 1913, freight clerk, same road, Riviere-du-Loup, Que.; Oct. 15, to Nov. 10, 1913, freight agent, same road, Riviere-du-Loup, Que.; Nov. 10, 1913, to Dec. 1, 1915, freight agent, same road, Quebec, Que.; Dec. 1, 1915, to Feb. 1, 1918, Terminal Agent, same road, Quebec, Que.; Feb. 1, 1918, to Sept. 13, 1920, Assistant Superintendent of Terminals, Canadian National Rys., Quebec, Que.

Mrs. C. E. E. Ussher, wife of the Passenger Traffic Manager, C.P.R., and the Misses Ussher returned to Montreal early in October, after spending some time in the Rocky Mountains and at the Pacific Coast.

R. C. Vaughan, Assistant to President, Canadian National Rys., and Canadian Government Merchant Marine, has bought the house, 57 Douglas Drive, Toronto, which was occupied until recently by Sir Clifford Sifton as tenant, and will remove there with his family.

N. B. Walton, whose appointment as Assistant General Superintendent, Grand Trunk Pacific Ry., Prince Rupert, B.C., was announced in our last issue, was born at Palmerston, Ont., July 27, 1884, and entered railway service Aug. 20, 1900, since when he has been, to Jan. 1907, in various positions as clerk, operator and secretary to Vice President, G. T.R.; Jan. to Apr. 1907, Trainmaster, same road; Apr. to Dec. 1907, in Great Northern Ry. service at St. Paul, Minn.; Jan. to Oct. 1908, Claims Agent, G.T.D.; Oct. 1908 to Aug. 1910, secretary to General Superintendent, Grand Trunk Pacific Ry.; Aug. 1910 to July 1911, Trainmaster and Assistant to General Superintendent, same road, Winnipeg; July 1911 to Aug. 31, 1920, Superintendent, Edmonton Division, same road, Edmonton, Alta.

F. L. Wanklyn, General Executive Assistant, C.P.R., closed his summer house at Senneville, Que., early in October, and returned to Montreal, with Mrs. Wanklyn and family, for the winter.

Fred Yates, who has been appointed City Passenger Agent, Canadian National-Grand Trunk Pacific Rys., Seattle, Wash., was born in England, July 4, 1891, and entered railway service in Oct. 1907, since when he has been, to May 1911, clerk and stenographer, C.P.R., Winnipeg; Aug. 9, 1911, to Oct. 1912, clerk and stenographer, Grand Trunk Pacific Ry., Winnipeg; Oct. 1912 to Dec. 1914, secretary to General Passenger Agent, same road, Winnipeg; Dec. 1914 to Aug. 1916, rate clerk, Passenger Department, same road, Winnipeg; Aug. 1916 to Feb. 1920, chief rate clerk, same road, Winnipeg; Feb. 16 to Aug. 15, 1920, chief clerk, Canadian National Rys., Seattle, Wash.

Timiskaming & Northern Ontario Ry. Restaurant Privileges. — Tenders have been accepted for restaurant privileges as follows:—Englehart station, D. W. Porter, 602 Shaw St., Toronto; Temagami station, F. W. Wilson, Timagami, Ont.

Prepayment of Certain Freight Charges from the U.S. to Canada Suspended.

A Washington, D.C., press dispatch, Oct. 5, stated that the Interstate Commerce Commission had suspended until Feb. 2, 1921, proposed rules and regulations in the south, requiring the prepayment of freight charges on cotton and cotton linters, from points in the United States to points in Canada. The order referred to is as follows:—

"It appearing that there has been filed with the Commission by F. A. Leland, agent, a tariff containing schedules stating new individual and joint regulations and practices affecting rates and charges, to become effective on Oct. 5, designated as follows: 'F. A. Leland, Agent; supplement 11 to I.C.C. 1334,' it is ordered that the Commission, upon complaint, without formal pleading, enter upon a hearing concerning the lawfulness of the regulations and practices stated in the said schedules contained in item 10, on page 6 of said tariff. It further appearing that said schedules make certain increases in rates for the interstate transportation of cotton and cotton linters, and the rights and interests of the public appearing to be injuriously affected thereby, and it being the opinion of the Commission that the effective date of the said schedules contained in said tariff should be postponed pending said hearing and decision thereon, it is further ordered that the operation of the said schedules contained in said tariff be suspended, and that the use of the regulations and practices therein stated be deferred upon interstate traffic until Feb. 2, 1921, unless otherwise ordered by the Commission, and no change shall be made in such regulations and practices during the said period of suspension unless authorized by special permission of the Commission. It is further ordered that the rates and charges thereby sought to be changed shall not be increased and the regulations and practices thereby sought to be altered shall not be changed by any subsequent tariff or schedule, until this investigation and suspension proceeding has been disposed of or until the period of suspension and any extension thereof has expired, unless authorized by special permission of the Commission. And it is further ordered that a copy of this order be filed with said schedules in the Commission's office, and that copies hereof be forthwith served upon the carriers parties to said schedules and upon F. A. Leland, and that said carriers parties to said schedules be made respondents to this proceeding, and that they be notified of the time and place of the hearing above ordered."

In this connection we give the following addition to the Commission's Conference Ruling 207, adopted May 18, as follows:—"The existing difference in exchange value between the monies of the United States and the Dominion of Canada, while continuing to bear the same denomination, has been productive of confusion and uncertainty as to the construction to be placed upon tariff schedules, division sheets, and accounts in respect of traffic crossing the international boundary. We are of opinion that where transportation of persons or property, or transmission of intelligence by wire or wireless, takes place partly within the U.S. and partly within Canada, the tariff charges or divisions thereof accruing for the part which takes place within the U. S. are paying only in lawful money of

the U.S., irrespective of the money in which tariff charges or divisions thereof accruing for the part which takes place in Canada may be payable under the laws there in force. Adjustments should be made in accordance herewith, by carriers subject to the act, in settling their accounts with connecting carriers. Appropriate rules or regulations to give effect to this ruling may also be included by such carriers in their tariff schedules, if they so desire. The practice, which has grown up since development of said difference in exchange value, of requiring prepayment of charges in cases where not customarily required theretofore, tends to embarrass shippers and impede foreign commerce. Carriers subject to the act will be expected to refrain from such unusual requirements in cases where they are not justified by other considerations."

In transmitting the foregoing information on Oct. 12, the Interstate Commerce Commission's Secretary wrote Canadian Railway and Marine World as follows:—"The general question of prepayment on Canadian traffic is receiving the Commission's attention, and it is not improbable that some announcement will be made on the subject at a not distant date."

A Railway Official's Novel.

J. Murray Gibbon, General Publicity Agent, C.P.R., Montreal, author of "Drums Afar" and "Hearts and Faces," has written another novel, "The Conquering Hero," which is published by S. B. Gundy, Toronto. The opening scene is rather curious and quite original. Into the midst of a fishing party of city men steps a glorious vision, who introduces herself as Princess Stephanie Sobieska. It transpires that she is a "movie" star and has her business manager and press agent in attendance. The two parties join forces and young Donald MacDonald, farmer, guide, and sergeant in the late war, becomes her prime favorite. After they part Donald is horrified to find his D.C.M. medal is missing. Who was this woman? Princess? Actress? Thief? Back on his British Columbia farm, Donald hears from her again, and, through her, regains his lost medal, but, also through her, for a time loses his little Scotch sweetheart who had promised to make the lonely farm homelike for him. But the Princess turns out to be a good friend and brings them together again.

There is much excellent description of the beautiful Rocky Mountain scenery, the horrors of a forest fire, ranching in Canada and the difficulties of the denizens of the old world to adjust themselves to the new world conditions, all of which is depicted with the steady pen of one who knows his subject and is not drawing solely upon his imagination.

Freight Car Robberies.—Five C.P.R. employes at Montreal were committed for trial, Oct. 1, on charges of stealing some \$45,000 worth of cigarettes, liquor, cloth and a large variety of other goods from freight cars. John Doyle, one of the accused, pleaded guilty and gave evidence as to the thefts and the manner of disposing of the stolen goods. Charges of receiving stolen goods are pending against other men.

Standard Specification for Steel Railway Bridges.

The Canadian Engineering Standards Association, which has its office in Ottawa, has issued its Standard Specification for Steel Railway Bridges, in booklet form, 6 x 9 in., 79 pages, including index. The preface is as follows:—

"This specification is issued with a view of giving to the bridge designer, detailer, and manufacturer, guidance along definite lines, thus leading to uniformity in the provisions to be made for strength and utility. The various clauses have been framed without any intention of limiting the engineer's choice as to type of bridge, and it is believed that no unnecessary restriction has been placed on the designer as regards details of construction.

"The specification is based on that for steel railway bridges originally issued by the Canadian Society of Civil Engineers in 1912, the work on which was naturally continued by the Engineering Institute of Canada when it succeeded the Canadian Society of Civil Engineers. The present specification is thus largely due to the activity of the Committee of the Engineering Institute of Canada's committee working under the chairmanship of P. B. Motley (Engineer of Bridges, C. P.R.). A revised draft specification was prepared and approved by that committee on Oct. 17, 1918. It was submitted to the Engineering Institute of Canada's council, referred by the council to the annual general meeting for 1919, and early in 1919 was transmitted to the membership of the Institute for comment and criticism.

"On the formation of the Canadian Engineering Standards Association in 1919, the council of the Institute felt that the completion and final approval of the specification would be facilitated if it were placed in the hands of the Association; and the council approved of an arrangement which handed the E. I. C. Specification over to the Association for action. The main committee of the Association at its meeting on June 4, 1919, accordingly appointed a sectional committee on steel bridges and construction, under the chairmanship of G. H. Duggan, and a sub-committee on steel railway bridges under the chairmanship of P. B. Motley. As the membership of the C.E.S.A. sub-committee is identical with that of the E.I.C. committee which prepared the draft specification, the E.I.C. committee practically became the sub-committee of the Canadian Engineering Standards Association.

"In accordance with the regular system of the Association, the sub-committee's specification was submitted to the sectional committee for consideration, and immediate action was taken. Copies of the specification in its draft form were forwarded to representatives of the railway administrations, bridge manufacturers, and others interested, with a request for criticism and suggestions, and with the view of obtaining as wide acceptance as possible. As a result a large number of suggested amendments were sent in, not only from members of the original E.I.C. committee, but also from the various bridge companies and steel makers, who were consulted as to any possible difficulties arising from the contractors' and manufacturers' point of view. These communications were considered at a meeting of the sectional committee on Jan. 27, 1920, a number of amendments were decided upon, and the specification, as thus modified was submitted to the

main committee on April 12, 1920.

"In view of the obvious desirability of agreement between a Canadian specification of this kind and similar documents prepared by authoritative bodies in the United States, the sub-committee and the sectional committee have carefully considered the bridge specifications of the American Railroad Engineering Association and the specifications for bridge materials issued by the American Society for Testing Materials. It is believed that the specification in its present form, while not in absolute agreement with the U.S. specifications on all points, will be found to be in substantial agreement therewith, the principal points of difference being such as are found desirable in order to comply with Canadian conditions.

"The specification was adopted by the sectional committee on steel bridges on Jan. 27, 1920, and was approved by the main committee on April 12, 1920."

Starting Engines on Locomotives.

Locomotives with "booster" or starting engines on the trailing axles to give increased power in starting are being tried on the New York Central Rd. as a means of increasing the efficiency in handling heavy passenger and freight trains. A 2 cylinder inclosed horizontal engine, mounted at the rear of the frame of the trailing truck, drives a pinion, which, through an idler, drives a gear on the trailing axle. The locomotive man can put this "booster" in operation only when the reversing lever is in full position and the throttle is open. When he notches up the lever the booster is cut out automatically and is disengaged so that it cannot become a load on the locomotive when running at ordinary speeds. The additional weight is about 3,500 lb. but is said to be equivalent to increasing the adhesion weight of the engine by about 25 tons. It is intended to give an increase of 25 to 30% in drawbar pull for different types of locomotives, thus ensuring a steady and even start, which reduces damage to the locomotive and the cars.

Engineering Institute of Canada. — A branch of this Institute was organized in Moncton, N.B., Oct. 11, when the following officers, etc., were elected:—Chairman, W. A. Duff, Assistant Chief Engineer, C.N.R.; Vice Chairman, J. D. McBeath; Secretary-Treasurer, M. J. Murphy; Committee: R. McManus, R. G. Gage, J. E. Dington, F. B. Fripp, S. B. Wass, H. G. Grudge.

Railway Lands Patented.—Letters patent were issued during September respecting Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Canadian Northern Alberta Ry.	152.58
Canadian Northern Pacific Ry.	75.88
Canadian Northern Western Ry.	8.19
Canadian Pacific Ry.	212.07
Total	448.67

The West Kootenay Power & Light Co., of which C. R. Hosmer, one of the C.P.R. directors, is President, is reported to have completed the extension of its power line from Greenwood to Copper Mountain, B.C., 108 miles, in connection with the mining developments at Copper Mountain, to provide railway accommodation for which the Kettle Valley Ry. has built a branch line from Princeton.

Steel Rails Manufacture.

Montreal press dispatch Oct. 11:—The outlook for the continued operation of the Dominion Iron & Steel Co.'s rail mill during the winter is not encouraging. Since Mar. 31 last, the only contract obtainable for rails has been one from the Canadian National Rys., for 7,500 tons. This contract was placed at a low figure. The actual production of the rails has resulted in a cost substantially in excess of the price received. Enquiry at the company's office brings the information that competition in the rail market is becoming increasingly keen, and a reduction, rather than an increase, in price is apprehended, and in that connection it is pointed out that if for any reason the cost of steel production be increased, the operation of the rail mill will become increasingly difficult. The rail mill's capacity for production is much greater than that of any other of the finishing mills operated by the company. With favorable conditions and a possible market, a monthly output of from 15,000 to 20,000 tons would be available.

Forgery of C.P.R. Official's Name.—A. J. Robinson was committed for trial at Montreal, Oct. 20, on two charges of forgery and one of fraud, in connection with cheques for \$50, \$55 and \$25, each of which purported to be signed by "Grant Hall, V.P., C.P.R." Mr. Hall stated in court that he did not know the person handling the cheques, that at the time he was supposed to have signed the cheques he was not in Montreal, that the signature purporting to be his did not in any way resemble it, and that he never signed cheques with the letters as shown after his name.

Canadian Superheater Corporation Ltd. has been incorporated under the Dominion Companies Act, with \$200,000 authorized capital and office at Montreal, to manufacture and deal in all kinds of apparatus and merchandise which may be used in the transportation of persons and property in any manner whatsoever, including railway passenger and freight cars, street cars, car trucks, etc. The incorporators are: N. J. Holden, A. Allan, V. G. R. Vickers, W. Palmer, and G. C. Palmer, all associated with The Holden Co. Ltd., railway supplies, Montreal.

Edmonton, Dunvegan & British Columbia Ry. Terminals, Etc.—The Edmonton, Dunvegan & British Columbia Ry., and the Central Canada Ry., which are being operated by the C.P.R., under a 5 years arrangement with the Alberta Government, have heretofore used the Grand Trunk Pacific Ry. terminals at Edmonton, but it is probable that an arrangement will be made for the joint use of the C.P.R. terminals at Edmonton and Strathcona, and that this will include the handling of shop repairs by the C.P.R.

The American Railway Engineering Association's executive committee met in Montreal, Oct. 11, H. R. Safford, formerly Chief Engineer G.T.R., and now Assistant to President, Chicago, Burlington & Quincy Rd., presiding. After the transaction of business the members were the guests at a dinner given by the Engineering Institute of Canada, and on Oct. 12 were taken by special train to the Quebec Bridge, the day being spent in an inspection of the structure.

Canadian National Railways Social Club.—Employes of the C.N.R. in Vancouver, B.C., have formed a social club, and a meeting for the adoption of the constitution, etc., was held Oct. 7.

Transportation Appointments Throughout Canada.

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

Algoma Eastern Ry.—G. A. MONTGOMERY, heretofore Vice President, has been appointed President, vice R. Home Smith, resigned. Office, Sault Ste. Marie, Ont.

Canadian Car Demurrage Bureau.—F. CAREY has been appointed Inspector at Montreal, vice J. Jones, resigned.

E. J. DOWNEY, heretofore Inspector, Toronto, has been appointed Chief Inspector, vice A. J. Letch, promoted. Office, Toronto.

A. J. LETCH, heretofore Chief Inspector, Toronto, has been appointed Assistant Manager, vice M. J. Riley, deceased. Office, Montreal.

C. H. THURBER, heretofore at Peterborough, Ont., has been appointed Inspector, Toronto, vice E. J. Downey, promoted.

Canadian Government Merchant Marine Ltd.—J. P. DOHERTY, heretofore Port Agent, St. John, N.B., has been appointed Export Freight Agent. Office, 230 St. James St., Montreal.

C. H. HICKIE has been appointed Assistant Treasurer, in charge of Canadian Government Merchant Marine Ltd. and Grand Trunk Pacific Ry. general accounts. Office, Toronto.

J. W. N. JOHNSTONE, formerly secretary to President, Reid Newfoundland Co., St. John's, Nfld., has been appointed General Agent for Newfoundland, Canadian National Rys. and Canadian Government Merchant Marine Ltd. Office, St. John's, Nfld.

W. H. THOMPSON, heretofore Assistant Export and Import Freight Agent, has been appointed Import Freight Agent. Office, 230 St. James St., Montreal.

Canadian National Rys.—T. H. BEST has been appointed Assistant to Treasurer, Canadian Northern Rys. System-Grand Trunk Pacific Rys., in charge of general accounts, etc. Office, Toronto.

H. C. BOURLIER, Assistant General Passenger Agent, Eastern Lines, Toronto, has been given supervision of such details of the Passenger Department as are not under the jurisdiction of the Assistant Passenger Traffic Manager, and which were formerly under the supervision of the General Passenger Agent, Eastern Lines.

J. R. BLACK, heretofore Assistant Solicitor, Grand Trunk Pacific Ry., Winnipeg, has been attached to the legal staff of R. H. M. Temple, General Solicitor and General Claims Agent, Western Lines, C.N.R., and G.T.P.R., Winnipeg.

C. B. BROWN, heretofore Chief Engineer, Canadian Government Rys., Moncton, N.B., has been appointed Engineering Assistant to Vice President, Operation and Maintenance, Canadian National Rys. Office, Toronto.

F. J. BULLER, heretofore Paymaster, Eastern Lines, Canadian Northern Ry., has been appointed Assistant Treasurer, Canadian Northern Ry. System-Grand Trunk Pacific Rys., in charge of local treasurers and paymasters. Office, Toronto.

D. R. CAMPBELL, heretofore General Superintendent, Pacific Division, Vancouver, B.C., has been placed in charge of Construction Department, Western Lines,

Winnipeg, and his former position has been abolished.

D. CROMBIE, heretofore General Superintendent, Ontario District, Toronto, has been appointed Transportation Assistant to Vice President, Operation and Maintenance. He will assist in connection with transportation matters, and perform such other duties as may be assigned to him from time to time. Office, Toronto.

C. D. COWIE, Assistant to Vice President, Finance and Accounts, C.N.R., Toronto, has had his jurisdiction extended to include the Grand Trunk Pacific Ry.

M. C. DUNN, City Freight Agent, C.N.R., Kingston, Ont., will also act in the same capacity there for the G.T.R.

R. L. FAIRBAIRN, heretofore General Passenger Agent, Eastern Lines, has been appointed Assistant Passenger Traffic Manager, Eastern Lines, with supervision of details pertaining to passenger



G. A. Montgomery,
President, Algoma Eastern Railway.

train schedules, distribution of timetable folders, assignment of train equipment, mail services, and such other duties as may be assigned to him. Office, Toronto.

P. J. FARLEY, General Paymaster, C.N.R., Winnipeg, has had his jurisdiction extended to cover C.N.R. lines west of Armstrong, Ont., and Grand Trunk Pacific Ry. Office, Winnipeg.

DR. W. A. FERGUSON, Chief Medical Officer, Moncton, N.B., has had his jurisdiction extended to cover all C.N.R. lines to Armstrong, Ont., inclusive.

H. G. FOREMAN, heretofore Assistant Treasurer, has been appointed Treasurer, Canadian Northern Railway System, and Grand Trunk Pacific Ry. Office, Toronto.

T. GINNELLY, heretofore in Freight Claims Department, C.N.R., Winnipeg, has been appointed Assistant Freight Claims Agent, Western Lines, C.N.R., Grand Trunk Pacific Ry., and G.T.P. Coast Steamship Co., with jurisdiction

Lucerne, B.C., and west. Office, Vancouver, B.C.

A. H. GOW has been appointed City Freight Agent, C.N.R. and G.T.R., Ottawa, Ont., and not General Freight Agent, as mentioned in a previous issue.

W. H. GRANT, General Tie Agent, C.N.R., has had his jurisdiction extended over the Grand Trunk Pacific Ry. Office, Toronto.

D. R. GUNN, heretofore Assistant Registrar, Canadian Northern Ry. System, has been appointed Registrar and Transfer Officer, Canadian National Rys. System-Grand Trunk Pacific Ry. Office, Toronto.

C. S. GZOWSKI, Jr., heretofore Special Engineer to Vice President, Operation, Maintenance and Construction, has been appointed Assistant to Vice President, Construction. Office, Toronto.

G. M. HAIR, heretofore Assistant Solicitor, Grand Trunk Pacific Ry., Winnipeg, has been attached to the legal staff of R. H. M. Temple, General Solicitor and General Claims Agent, Western Lines, C.N.R., and G.T.P.R., at Winnipeg.

H. H. HANSARD, heretofore Solicitor, Grand Trunk Pacific Ry., Winnipeg, has been temporarily attached to the Toronto office, as Assistant to General Counsel.

F. G. HAYDEN has been appointed Assistant Registrar, Canadian Northern Ry. System-Grand Trunk Pacific Ry. Office, Toronto.

H. T. HAZEN, Engineer of Maintenance of Way, Eastern Lines, Canadian Northern Railway System, Toronto, will temporarily also perform the duties of Chief Engineer, Eastern Lines, Canadian Northern Railway System, vice A. F. Stewart, appointed Chief Engineer, Canadian Government Railways, etc., at Moncton, N.B.

The jurisdiction of the chief engineer at Toronto embraces all the lines east of Port Arthur, operated formerly by the Canadian Northern Ry., with the exception of the Halifax & South Western Ry., which is under the jurisdiction of the Chief Engineer at Moncton, N.B.

J. W. N. JOHNSTONE, formerly secretary to President, Reid Newfoundland Co., St. John's, Nfld., has been appointed General Agent for Dominion of Newfoundland, Canadian National Rys. and Canadian Government Merchant Marine Ltd. Office, St. John's, Nfld.

C. C. LABRIE, heretofore Purchasing Agent, C.N.R., Vancouver, B.C., has been appointed Purchasing Agent, Western Lines, C.N.R., and Grand Trunk Pacific Ry., there.

R. C. W. LETT, heretofore Tourist and Colonization Agent, Grand Trunk Pacific Ry., Winnipeg, has been appointed General Agent, Colonization, Industrial and Resources Department, Canadian National-Grand Trunk Pacific Rys. Territory, Alberta and British Columbia. Office, Edmonton, Alta.

J. McCAWLEY, heretofore in Grand Trunk Pacific Ry., Claims Department, Winnipeg, has been attached to the Claims Department staff of R. H. M. Temple, General Solicitor and General Claims Agent, Western Lines, C.N.R. and G.T.P.R., Winnipeg.

E. McDONALD, heretofore General Baggage Agent, Grand Trunk Pacific Ry., Winnipeg, has been appointed Assistant General Baggage Agent, Western Lines, C.N.R., G.T.P.R., and G.T.P. Coast Steamship Co. Territory Lucerne, B.C., and

west. Office, Vancouver, B.C.

S. E. McKIE, heretofore chief clerk to Fuel Agent, Moncton, N.B., has been transferred to the General Fuel Agent's office at Toronto, temporarily, as chief clerk.

T. J. MACABE, heretofore Registrar and Transfer Officer, Canadian Northern Ry. System, has been appointed Assistant Treasurer, Canadian Northern Ry. System-Grand Trunk Pacific Ry., with supervision of Registrar and Transfer Department. Office, Toronto.

A. H. MAHON, heretofore District Master Mechanic, Grand Trunk Pacific Ry., Edson, Alta., has been appointed Assistant Master Mechanic, C.N.R.-G.T.P.R., with jurisdiction over G.T.P.R., from Edmonton, Alta., not including Edmonton, to McBride, B.C., and from Edson to Lovett and Mountain Park, Alta. Office, Edson, Alta.

R. R. NICHOL, Assistant Tax Commissioner, C.N.R., Winnipeg, has had his jurisdiction extended over the Grand Trunk Pacific Ry. Taxation of C.N.R., townsite lands are dealt with by him and that relating to railway right of way and station grounds, etc., is handled from Toronto. His duties also include all matters of assessment and taxation of Grand Trunk Pacific Development Co.'s townsite lands.

J. H. PARKINSON, heretofore in Grand Trunk Pacific Ry. Claims Department, Winnipeg, has been attached to the Claims Department staff of R. H. M. Temple, General Solicitor and General Claims Agent, Western Lines, C.N.R. and G.T.P.R., Winnipeg.

C. J. QUANTIC, Master Mechanic, C.N.R., Vancouver, B.C., has had his jurisdiction extended to include all C.N.R. and Grand Trunk Pacific Ry. lines west of Edmonton, Alta., not including Edmonton. Office, Vancouver.

G. M. RUSSELL, heretofore Assistant Solicitor, Grand Trunk Pacific Ry., Winnipeg, has been attached to the legal staff of R. H. M. Temple, General Solicitor and General Claims Agent, Western Lines, C.N.R. and G.T.P.R., Winnipeg.

G. E. SMART, heretofore Master Car Builder, Toronto, has been appointed Mechanical Assistant, Car Department, to Vice President, Operation and Maintenance. Office, Toronto.

H. M. SPENCE has been appointed Assistant General Baggage Agent, Western Lines, C.N.R., and Grand Trunk Pacific Ry. Territory east of Lucerne, B.C., and west of Port Arthur and Armstrong, Ont., and Duluth, Minn. Office, Winnipeg.

A. F. STEWART, heretofore Chief Engineer at Toronto, has been appointed Chief Engineer at Moncton, N.B., vice C. B. Brown, appointed Engineering Assistant to Vice President, Operation and Maintenance, Toronto. His jurisdiction includes the Prince Edward Island Ry., Intercolonial Ry., Halifax & South Western Ry., National Transcontinentl Ry. east of Armstrong, Ont., and the various local lines in Nova Scotia and New Brunswick, which have been acquired by the Dominion Government, and are now operated as branches of the Intercolonial Ry.

W. J. STURGESS, heretofore Assistant Purchasing Agent, Grand Trunk Pacific Ry., is acting for the present as Assistant Purchasing Agent, Western Lines, C.N.R. and G.T.P.R., Winnipeg.

R. H. M. TEMPLE, General Solicitor and General Claims Agent, Western Lines, C.N.R., has had his jurisdiction extended over the Grand Trunk Pacific Ry. Office, Winnipeg.

A. A. TISDALE, heretofore Assistant to Vice President and General Manager, has been appointed Assistant to General Manager, Western Lines, C.N.R. and G.T.P.R. Office, Winnipeg.

F. W. TISDALE, heretofore Purchasing Agent, C.N.R., Winnipeg, has been appointed Purchasing Agent, Western Lines, C.N.R. and Grand Trunk Pacific Ry., there.

JOHN WARDROP, heretofore General Agent, Colonization, Industrial and Resources Department, C.N.R., Winnipeg, has had his jurisdiction extended over the Grand Trunk Pacific Ry., his territory now comprising all lines from Alberta boundary line east to Armstrong and Port Arthur, Ont., and Duluth, Minn. Office, Winnipeg.

A. WATTS, heretofore District Master Mechanic, Grand Trunk Pacific Ry., Smithers, B.C., has been appointed Assistant Master Mechanic, C.N.R. and G.T.P.R., with jurisdiction over G.T.P.R., McBride to Prince Rupert, B.C., including McBride. Office, Smithers, B.C.



R. L. Fairbairn,
Assistant Passenger Traffic Manager, Eastern
Lines, Canadian National Railways.

F. YATES, heretofore chief clerk, C.N.R., Seattle, Wash., has been appointed City Passenger Agent, Canadian National-Grand Trunk Pacific Rys., there, and not City Ticket Agent, as stated in our last issue.

Grand Trunk Pacific Ry. — C. H. HICKIE has been appointed Assistant Treasurer, in charge of Grand Trunk Pacific Ry. and Canadian Government Merchant Marine Ltd. general accounts. Office, Toronto.

See also Canadian National Railways.
Grand Trunk Pacific Coast Steamship Co.—J. McARTHUR is reported to have been appointed Dock Agent, Victoria, B.C.

See also Canadian National Railways.
Canadian Pacific Ry. — A. E. BENNETT, heretofore Night Locomotive Foreman, Revelstoke, B.C., has been appointed Locomotive Foreman, North Bend, B.C., vice S. Hayward, retired.

G. L. BOER, heretofore acting Agent, Department of Colonization and Development, London, Eng., has resumed his former position as Agent for that Department there.

D. R. KENNEDY, heretofore Traveling Passenger Agent, Montreal, is reported to have been appointed Assistant District Passenger Agent, with supervision of rail traffic ex Atlantic steamships, with office at Quebec, Que., during the St. Lawrence navigation season, and at St. John, N.B., during the winter.

A. MAGUIRE has been appointed Assistant Fuel Agent, Western Lines. Office, Calgary, Alta.

H. J. MAIN has been appointed Car Service Agent, Quebec District. Office, Montreal.

H. MOLE has been appointed Night Locomotive Foreman, Revelstoke, B.C., vice A. E. Bennett, transferred.

R. A. SEWELL, heretofore Superintendent of Car Service, Eastern Lines, Montreal, has been appointed Car Service Agent, New Brunswick District, vice C. L. Leighty, resigned. Office, St. John, N.B.

J. SPRINGETT has been appointed Agent for Holland. Office, 42 Coolsingel, Rotterdam.

J. A. TOBIN has been appointed Assistant Superintendent, Laurentian Division, Quebec District, vice F. A. Winter-son, transferred. Office, Montreal.

HUGH B. WALKEM, heretofore Assistant Engineer, Vancouver, B.C., has retired from the company's service.

Chicago & North Western Ry.—G. S. DONALDSON, heretofore Travelling Freight Agent, G.T.R., Toronto, has been appointed Travelling Agent, Canadian Territory, C. & N. W. R. Headquarters, Toronto.

Duluth, South Shore & Atlantic Ry., Mineral Range Rd.—W. L. MARTIN, Vice President in charge of Traffic; W. R. CALLAWAY, Passenger Traffic Manager, and H. M. LEWIS, General Passenger Agent, have resigned, as reported in our last issue. The similar positions which they hold on the Minneapolis, St. Paul & Sault Ste. Marie Ry. are not affected.

S. R. LEWIS, heretofore General Freight Agent, has been appointed Traffic Manager. Office, Duluth, Minn.

J. MANEY, heretofore Assistant General Passenger Agent, has been appointed General Passenger Agent, vice H. M. Lewis, resigned, and will also act as General Baggage Agent, vice O. A. Roedell, resigned. Office, Duluth, Minn.

Grand Trunk Ry.—F. DEARING has been appointed Travelling Car Service Agent, Ontario Lines. Office, Toronto.

M. C. DUNN, City Freight Agent, Canadian National Rys., Kingston, Ont., will also act in the same capacity there for the G.T.R.

J. W. O'NEIL has been appointed Locomotive Foreman, York, Ont., vice W. H. Archer, assigned to other duties.

W. R. YOUNG has been appointed Superintendent of Telegraph and Signals, Western Lines, vice N. E. Baker, resigned. Office, Chicago, Ill.

Grand Trunk Pacific Ry.—H. B. DUFFIEF, heretofore Assistant to Solicitor, Winnipeg, has left the service.

See also Canadian National Railways.
Inverness Ry. & Coal Co.—THOS. J. BROWN, General Manager, is reported to have resigned.

Michigan Central Rd.—C. W. ADAMS, heretofore General Foreman, Locomotive Department, St. Thomas, Ont., has been appointed Superintendent of Shops, Jack-

son, Mich., vice W. C. Bell, transferred. M. R. BENSON, heretofore Assistant General Foreman, has been appointed General Foreman, Locomotive Department, St. Thomas, Ont., vice C. W. Adams, promoted.

Travelling Engineers Association's Convention.

Geo. A. Kell, Travelling Engineer, G. T.R., Turcot, Que., who presided at the Travelling Engineers Association's Convention in Chicago recently, said in his opening address, in part, as follows:—"One of the more important items in which the travelling engineer is directly concerned, and which, if properly handled, becomes a most important factor in accomplishing that which is the aim and object of every operating official on all well conducted railways, is the matter of increased efficiency and reduced expenses of operation. This, owing to the high cost of material and the continued demand for higher wages, is of greater interest and importance at the present time than ever before. During the past few years, in particular during the great war, special efforts were made, I believe, by each and every man employed in the operation of railways of this country to conserve coal in particular and to successfully operate the railways at the lowest possible expense in general. In this the travelling engineer or road foreman took no small part. Many of our members have been called upon to take up important positions in connection with this matter and have proved beyond doubt that they were equal to the occasion and worthy of that calling.

"It is just as important to save coal and supplies today as it ever has been, and to maintain the record and reputation that we as travelling engineers have attained by zealously guarding the power, fuel and supplies of all kinds under our charge and seeing that the best possible use is secured from them. The cost of coal, oil, and supplies of all kinds is greater today than it has ever been before. Therefore there should be no relaxation on our part in any way, but every effort should be put forth to get more skillful operation of the locomotives on the road with increased efficiency in handling trains at the lowest possible cost of operation.

"The drastic labor conditions that prevail throughout the country are cause for great anxiety and concern. There is social, racial, and industrial unrest everywhere, brought about to a great extent by the spirit and practice of profiteering and the high cost of living. Strikes and tieups have taken place; in some cases due to over zeal, self appointed would-be labor leaders more than to anything else. The fact that strikes have occurred, illegally in some cases, goes to show that many men have been led through the condition of unrest and the influence of the would-be leaders to take part in these strikes. The travelling engineers, whose conservativeness and loyalty have never been questioned and who are scattered throughout the different parts of the country and who come in contact with a great many of the railway employes, can do a great deal toward influencing the rank and file of the men toward taking the right view of the critical conditions as they exist. If ever there was a time in the world's history when calm and cool judgment should be exercised, now is the time."

Venereal Diseases Notices on Railways.

The Board of Railway Commissioners passed general order 315 Sept. 29, as follows:—Re application of Dominion Department of Public Health, under the provisions of the Railway Act, 1919, for permission to place signs dealing with the prevention and spread of venereal disease, in passenger cars and railway station lavatories. Upon its being represented to the Board that the signs in question are issued under the authority of the Dominion Department of Health, and reading what is filed in support of the application, the Board orders that permission be granted the applicant to place signs dealing with the prevention and spread of venereal disease in all passenger cars and station lavatories of railway companies in Canada subject to the Board's jurisdiction, provided that a notation be carried on the bottom of each copy of the sign set up or placed under the provisions of this order to the effect that the same is issued under the authority of the Dominion Department of Health.

The C.P.R.'s Entrance into Northern Alberta.

The following editorial appeared in the Edmonton, Alta., Journal recently:—"The Journal has laid great emphasis from the first, on the immense impulse to the development of Northern Alberta which has been given by the entrance of the C.P.R. there. All the news which comes from that part of the province indicates that the greatest confidence has been inspired by the event and that everyone is busy and optimistic and that the coming year will see a most wonderful transformation there. The Edmonton Bulletin had an article calling attention to the interruption of traffic which took place during the previous week as a result of the overflow of the waters of Lesser Slave Lake. This was a most unusual occurrence and came at a most unfortunate time. Six miles of track was affected. The editor went on to say:—

"The best of will, without capital equipment and organization, could not have repaired the break for many days. Traffic would have been stopped and a great country and population would have been tied up indefinitely. With the means available and the means to use them, the break which occurred on Tuesday was repaired on Sunday. The quick action taken and satisfactory results achieved in this instance are an assurance to the people of Peace River that rail traffic will be maintained under all possible circumstances and conditions. This assurance is the result of the recent arrangement between the Alberta Government and the C.P.R. whereby that company becomes responsible for the efficient operation of the railway. If there ever was any question as to the satisfactory operation of the railway there is none now. This is the basis of all investment of time, labor or money in the Peace River country."

The Journal is aware that, in quoting an extract of this length from the editorial page of its local contemporary and giving its complete approval to the views therein expressed, it makes this a red letter day in the history of Edmonton. But there it is. It desires to add, however, a thought of its own, as the Sunday school superintendent is wont to say, that the C.P.R. could not have accomplished all this if it were not a well organized business concern, with very large resources.

"In the past, in the columns of The Bulletin and in the columns of most other Canadian newspapers, the possession of these resources has been regarded as a public evil. Railway prosperity has been

treated as if it constituted a grievance. Whenever anyone has the courage to say that it was not for the general good to adopt measures which would unduly weaken the C.P.R. and other railways, he has been invariably described as the paid agent of the corporation controlling these. Much language of this kind has been heard throughout the country in recent weeks, in connection with the discussion of the application for an increase in railway rates. We do not think, however, that for some time at least the people of Northern Alberta will begrudge the C.P.R. its prosperity or be anxious to have this seriously impaired. Neither they nor any of the other producers of the Dominion can regard with indifference any attempt on the part of that corporation to make unfair exactions. But at the same time they must recognize that it is not for their good that it should be reduced to the impecunious status of the average transportation system of this continent."

Canadian National Railways Earnings.

	1920	1919
January	\$ 7,727,562	\$ 6,787,517
February	6,516,059	6,265,562
March	7,761,326	7,160,036
April	8,207,478	6,936,635
May	8,305,860	7,884,287
June	7,776,538	6,433,035
July	9,003,674	7,896,685
August	9,582,989	8,415,864
September	9,685,682	8,853,007

\$74,107,168 \$66,632,628
Approximate earnings for three months ended Oct. 21, \$8,477,063, against \$6,320,610 for same period 1919.

Canadian Northern Railway System.

	1920	1919
January	\$4,200,700	\$4,026,000
February	3,862,300	3,363,800
March	4,587,700	3,554,350
April	4,732,623	3,878,149
May	4,863,500	4,337,750
June	4,364,600	3,131,000
July	5,168,500	4,347,300
August	5,900,700	4,901,150
	\$37,680,623	\$31,539,499

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1920, compared with those of 1919:

	Gross	Expenses	Net	Increase or decrease
Jan.	\$13,914,569	\$13,328,628	\$585,941	*\$967,571
Feb.	13,557,104	12,843,231	713,873	*\$267,242
Mar.	15,715,937	13,758,171	1,957,766	418,721
Apr.	15,929,416	13,587,570	2,341,846	253,222
May	16,459,986	13,262,044	3,197,942	164,182
June	16,480,574	13,849,757	2,630,817	*\$359,604
July	17,375,761	15,756,275	1,619,486	*\$1,377,218
Aug.	17,994,769	15,793,956	2,200,813	*\$1,577,355
Sept.	20,009,287	16,100,632	3,908,655	*\$183,265

\$147,438,403 \$128,280,263 \$19,157,130 *\$3,896,130
Incr. 23,197,429 27,093,559
Decr. \$3,896,130

Approximate earnings for three weeks ended Oct. 21, \$17,028,000, against \$12,235,000 for same period 1919.

*Decreases.

Grand Trunk Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1920, compared with those of 1919:

	Gross	Expenses	Net
January	\$5,054,034	\$5,867,445	*\$813,441
February	4,660,831	5,159,742	*\$498,911
March	5,756,372	5,491,293	265,079
April	5,477,816	5,187,340	290,476
May	5,878,934	5,547,513	331,421
June	6,645,433	6,146,600	498,833
July	7,592,000	6,568,053	1,023,947
August	7,764,280	6,273,621	1,490,659

\$48,329,700 \$46,241,607 \$2,588,093
Incr. \$6,500,553 \$8,266,180
Decr. \$1,765,627

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TORONTO, CANADA, NOVEMBER, 1920

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Canadian National Railways' Di- rectors' Western Inspection Trip.

D. B. Hanna, President, Canadian National Rys., left Toronto Oct. 8 for Ottawa, and started from there the next day for an inspection trip over the C.N. R. western lines, accompanied by two other directors, Thos. Cantley, and Robt. Hobson; another director, R. T. Riley, joining them at Winnipeg. The party were accompanied throughout the trip by the following officials:—S. J. Hungerford, Vice President, Operation and Maintenance; R. P. Ormsby, Secretary; C. B. Brown, Engineering Assistant to Vice President, Operation and Maintenance; D. Crombie, Transportation Assistant to Vice President, Operation and Maintenance; C. S. Gzowski, Jr., Assistant to Vice President in charge of Construction; and A. T. Weldon, Assistant Freight Traffic Manager, Montreal. F. P. Brady, General Manager, Eastern Lines, accompanied the party to Winnipeg and they were met at Port Arthur by A. E. Warren, General Manager, Western Lines, who accompanied them to the Pacific coast and back to Winnipeg. The following officials went from Winnipeg to the Pacific coast and return:—C. E. Brooks, Mechanical Assistant, Locomotive Department, to Vice President Operation and Maintenance; H. A. Dixon, Chief Engineer, Western Lines; A. H. Eager, Mechanical Superintendent, Western Lines; A. McCowan, Master Car Builder, Western Lines. J. R. Cameron, Assistant General Manager, Vancouver, met the party at Edmonton and accompanied them to Prince Rupert, Vancouver, Victoria, and back to Lucerne, B.C. Local operating officials travelled on the train over their respective jurisdictions.

The party travelled by special train, the route being via C.N.R., Ottawa to Edmonton; Grand Trunk Pacific Ry., Edmonton to Prince Rupert, and back to Lucerne, B.C.; C.N.R., Lucerne to Vancouver; steamship Vancouver to Victoria; C.N.R., Victoria to end of track, towards Alberni, and return; steamship, Victoria to Vancouver; C.N.R., Vancouver to Edmonton, Drumheller and Saskatoon; G.T. P.R., Saskatoon to Winnipeg; National Transcontinental Ry., Winnipeg to Cochrane; Timiskaming & Northern Ontario Ry., Cochrane to North Bay, and C.N.R. from North Bay, via Capreol, to Toronto, which was reached Oct. 27.

During the trip Mr. Hanna discussed business matters with a number of individuals, boards of trade, etc. He and his party were entertained at luncheon at Vancouver by the board of trade.

Suit Against Dominion Government for Ordering Steel Rails Manu- facture.

Ottawa press dispatch, Oct. 25.—Three million dollars is at stake in a case brought before the Exchequer Court today. Because Hon. J. D. Reid, Minister of Railways, directed the Dominion Iron & Steel Co. to divert its organization from the making of shell steel to the manufacture of steel rails, the company demands that under the compensatory clause of the War Measures Act it shall have made good to it the additional profits it would have made on shell steel for the Minister's order. The order in council through which the Minister made his order effective stated that he would himself set the price later after finding

out the cost of production. The price set later was \$65 a ton, and the dispute is whether the order in council or the compensatory clause of the War Measures Act governs. Wallace Nesbitt, K.C., E. M. McDonald, K.C., and Hector McInnes, K.C., appear for the steel company, and Messrs. Meredith and Holden for the Government. The steel rails were for the railways, the latter have an incidental interest in the enquiry. The C.P.R. is represented by W. N. Tilley, K.C., the Grand Trunk by W. C. Chisholm, and the T. H. & B. Ry. by Mr. Sewell, K.C., of Hamilton.

Authority to Seize and Sell Coal and Coke Not Unloaded Promptly.

General order 316. Oct. 5, as follows: Re the question of the coal supply of Canada; and in the matter of expediting the transportation performance of coal carrying equipment in Canada, and the powers conferred upon the Board by chap. 66 of the Acts of the Parliament of Canada, 1920. Upon its appearing to the Board that there is a shortage of coal carrying equipment, and that the rate at which coal cars have been, and are being, unloaded is impeding the full utilization of available equipment, and in pursuance of the powers conferred by the said act, chapter 66, 1920, the Board doth order that whenever, by reference from the Board or otherwise, it comes to the knowledge of the fuel administrator for the time being of any province, duly appointed by the government of such province, that any freight car containing coal or coke has remained under load at its destination or elsewhere on any railway in Canada for a longer period than six days after arrival, the fuel administrator may notify the consignee by registered mail, or by telegram, that unless the said car is unloaded, or furtherance order given as the case may be, within two days after date of such notice, the fuel administrator will take the action hereinafter outlined, and the fuel administrator may thereupon authorize the railway company to seize the contents of the said car, and summarily offer the same for sale to the municipality at which the said car is seized, and to any coal or coke dealers at the said point, and to sell the same to the municipality or the dealer offering the highest price therefor; and after paying all charges that may be due and chargeable thereon, as well as the expenses connected with the seizure and sale, the railway company shall pay the balance, if any, of the proceeds of such sale to the consignee or to the consignor, as their interest may appear. The Board doth further order that any fuel administrator taking action under the foregoing paragraph shall thereupon report to the Board what action has been taken by him, together with recommendations for any further action he may deem necessary.

Phoenix Contracting Co. Ltd. has been incorporated under the British Columbia Companies Act, with \$25,000 authorized capital, and office at Vancouver, B.C., to carry on a general construction business, including ships, piers, wharves, breakwaters, and harbor development works, railways, etc.

The trial of a number of C.P.R. conductors for irregularities in connection with selling tickets on trains, which was fixed to come off in the Court of King's Bench, Montreal, on Oct. 13, was postponed to Nov. 10.

Railway Rolling Stock Orders and Deliveries.

The G.T.R. has received 3 eight-wheel switching locomotives from Canadian Locomotive Co.

The Paris-Oreals Ry., France, is reported to have ordered 50 Pacific type locomotives from American Locomotive Co., at an approximate cost of \$4,000,000.

The C.P.R., between Sept. 17 and Oct. 13, received 2 passenger locomotives and 7 vans from its Angus shops, Montreal, and also received a 12 ton locomotive crane, the purchase of which was announced in our August issue.

The Railways and Canals Department, Ottawa, will receive tenders to Nov. 1 for a new or second hand 0-4-0 switching locomotive, 50 or 60 tons, saddle tank type preferred, but locomotive with tender will be accepted if former not obtainable. Delivery to be made at Government siding, Merritton, Ont., for use on Welland Ship Canal construction.

The Reid Newfoundland Co.'s 200 car trucks, which Canadian Car & Foundry Co. is building, will be of the arch bar type, for 3½ ft. gauge track, equipped with McCord journal boxes for 3¾ x 7 in. journals, Simplex I beams, brake beams, axles with M.C.B. 3¾ x 7 in. journals, wooden truck bolster, trussed wood-

Wheel base of engine, rigid	13 ft. 6 in.
Wheel base of engine, total	30 ft. 9 in.
Wheel base of engine and tender	61 ft. 3 in.
Heating surface, fire box and arch tubes	179 sq. ft.
Heating surface, tubes	2,244 sq. ft.
Heating surface, total	2,423 sq. ft.
Driving wheels, diar.	51 in.
Driving wheel, centers	Cast steel
Driving journals, diar. and length	9½ and 9 x 12
Cylinders, diar. and stroke	22 x 28 in.
Boiler, type	Extended wagon top, radial stayed
Boiler pressure	190 lb.
Tubes, number and diar.	24-5¾; 189-2 in.
Tubes, length	17 ft.
Injectors	Nathan No. 9
Safety valves	3 in. Lunkenheimer
Air brakes	Westinghouse American
Packing	King, metallic
Superheated—Locomotive Superheater Co., type A	
Frame cradle	Commonwealth
Trailing truck	Delta
Valve motion	Walschaert
Headlight	Electric
Weight of tender loaded	153,500 lb.
Tank capacity, oil	2,700 imp. galls.
Tank capacity, water	6,000 imp. galls.
Tank, type	Water bottom
Truck, type	Equalized
Wheel, diar.	33 in.
Wheel type	Steel tired
Journal diar. and length	5½ x 10 in.
Brakebeam	Safety simplex

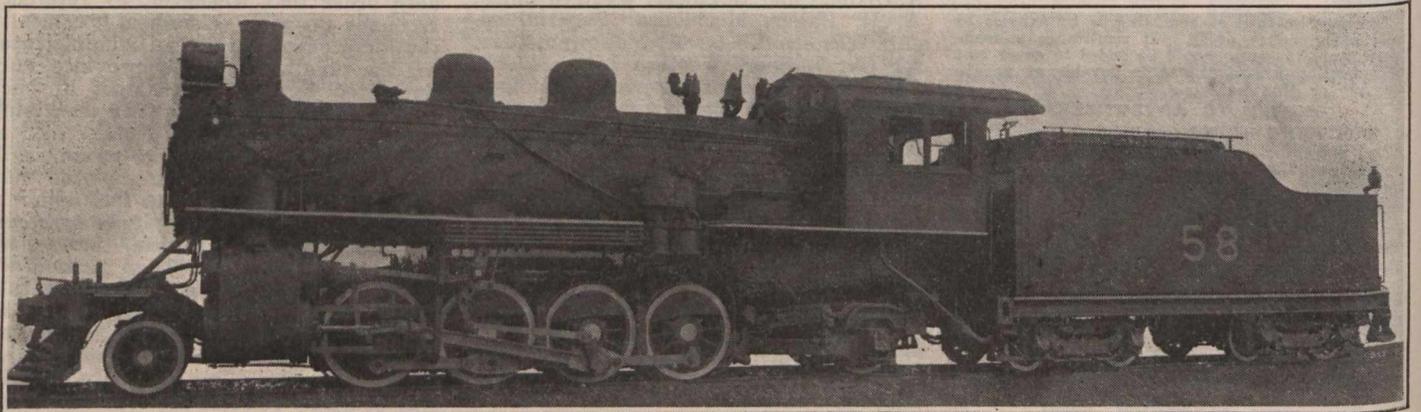
The Lake Superior Paper Co. has ordered a 6 wheel switching locomotive from Montreal Locomotive Works. The chief details are as follows:—

Weight	12,300 lb.
--------------	------------

Tubes, no. and diar.....	100, 2 in.	141, 2 in.
Heating surface, tubes...	426 sq. ft.	935 sq. ft.
Heating surface, firebox...	58 sq. ft.	83 sq. ft.
Heating surface, total...	484 sq. ft.	1,018 sq. ft.
Grate area	10.2 sq. ft.	15 sq. ft.
Tractive power	8,900 lb.	16,700 lb.
Factor of adhesion.....	3.94	4.25
Reverse gear	Hand lever	Hand lever
Cab	Wood	Wood
Tender frame	Steel channels	Steel channels
Tender wheel diar.	26 in.	26 in.
Tender truck, type.....	Arch bar	Arch bar
Tender journals	3¾x7 in.	3¾x7 in.
Tank, type	U shape	U shape
Water capacity	1,200 gall.	2,000 gall.
Fuel capacity	1¼ cords wood	2 cords wood

The Rhodesian Railways, South Africa, have ordered twelve 4-8-2 type locomotives from Montreal Locomotive Works. Following are the chief details:—

Gauge	3 ft. 6 in.
Weight on truck	31,000 lb.
Weight on trailer	23,500 lb.
Weight, total	170,000 lb.
Wheel base, driving	12 ft. 9 in.
Cylinders, diar. and stroke	22 x 24 in.
Driving wheel diar.	48 in.
Driving journals...main 9 x 9 in.; others 8 x 9 in.	
Trailing wheel diar.	33 in.
Trailing wheel journals	6 x 12 in.
Engine truck wheels	28½ in.
Engine truck wheel journals.....	5½ x 9½ in.
Boiler, type	Belpaire straight top
Boiler pressure	180 lb.
Boiler, diar., inside first ring	65 in.
Firebox, length and width.....	80¾ x 62¾ in.
Tubes, no. and diar.....	129-2¼ in.



Pacific Great Eastern Ry. Mikado Locomotive.

en transoms and wooden spring plank. The wheel base will be 5 ft. 3½ in., top of rail to top of bolster 2 ft. 3 in., center of side bearings 4 ft. 1 in.

Canadian National Rys. rolling stock receipts to Oct. 9, on account of orders placed early in the year, were as follows: 13 Santa Fe (2-10-2) locomotives, out of an order for 25, from Montreal Locomotive Works; 20 switching (0-6-0) locomotives, out of an order for 30, from Canadian Locomotive Co.; 924 general service cars out of an order for 1,150, from Eastern Car Co.; 552 box cars, out of an order for 1,000; 21 refrigerator cars, out of an order for 600, and 79 cabooses, out of an order for 80, from Canadian Car & Foundry Co.; 70 box cars, out of an order for 1,500, from National Steel Car Co.; 350 Hart-Otis ballast cars, completing order, from Hart-Otis Car Co.; 7 cabooses, out of an order for 20, from Preston Car & Coach Co. and 10 cabooses, out of an order for 30, from the C.N.R. shops, Transcona, Man.

The Pacific Great Eastern Ry. Mikado locomotive, illustrated on this page, is one of three built for that road by the Canadian Locomotive Co. The chief details are as follows:—

Fuel used	Oil
Weight on drivers	162,000 lb.
Weight of engine, total	212,000 lb.

Wheel base	11 ft.
Cylinders, diar. and stroke.....	19 x 24 in.
Driving wheel, diar.	50 in.
Journals	9 x 10 in.
Boiler, type	Straight top
Boiler pressure	185 lb.
Boiler diar., inside first ring	57 in.
Firebox, length and width	84 x 33¾ in.
Tubes, no. and diar.	218-2 in.
Heating surface, tubes	1,246 sq. ft.
Heating surface, firebox	101 sq. ft.
Heating surface, total	1,347 sq. ft.
Grate area	19.7 sq. ft.
Tractive power	27,300 lb.
Factor of adhesion	4.5
Reverse gear	Hand lever
Cab	Wood
Tank, type	Saddle
Water capacity	1,500 gall.
Fuel capacity	1½ tons

The Haytian American Corporation has ordered one 4-wheel (0-4-0) locomotive, and one mogul (2-6-0) locomotive from Montreal Locomotive Works. The chief details of each are as follows:—

	0-4-0	2-6-0
Gauge	30 in.	30 in.
Weight on drivers	35,000 lb.	71,000 lb.
Weight on truck	9,000 lb.	9,000 lb.
Weight, total	35,000 lb.	80,000 lb.
Wheel base	4 ft. 9 in.	8 ft. 4 in.
Cylinders, diar. & stroke	11x16 in.	15x20 in.
Driving wheel diar.	30½ in.	40 in.
Journals	5 x 6 in.	7 x 8 in.
Truck wheel	26 in.	26 in.
Truck wheel journals	4½ x 7 in.	4½ x 7 in.
Boiler type	Straight top	Straight top
Boiler pressure	165 lb.	175 lb.
Boiler diar., inside first ring	41 in.	51 in.
Firebox, length and width	40x36¼ in.	58x37¼ in.

Flues, no. and diar.....	26-5½ in.
Heating surface, tubes	1,415 sq. ft.
Heating surface, flues	695 sq. ft.
Heating surface, f.b. tubes	16 sq. ft.
Heating surface, firebox	137 sq. ft.
Heating surface, total	2,263 sq. ft.
Superheating surface	582 sq. ft.
Grate area	35.2 sq. ft.
Tractive power	37,000 lb.
Factor of adhesion	3.1
Superheater	Locomotive Superheater, type A
Reverse gear	South African Standard
Cab	Steel plate
Tender frame	Steel channels
Tender wheel diar.	34 in.
Tender journals	5¼ x 10 in.
Tank, type	Water bottom
Water capacity	4,000 imp. gall.
Fuel capacity	9½ tons
Speed recorder	Hasler

The C.P.R., as announced in our last issue, has ordered 15 Mikado (2-8-2) locomotives from Montreal Locomotive Works. Following are the chief details:—

Weight on drivers	234,000 lb.
Weight on truck	23,000 lb.
Weight on trailer	56,000 lb.
Weight, total	318,000 lb.
Wheel base, driving	16 ft. 6 in.
Cylinders, diar. and stroke	25½ x 28 in.
Driving wheel, diar.	63 in.
Driving journals, main	11½ x 21 in.
Driving journals, others	10½ x 14 in.
Trailer wheel, diar.	45 in.
Trailing wheel journals	6 x 12 in.
Engine truck wheels	31 in.
Engine truck wheel journals	6 x 12 in.
Boiler, type	Straight type, taper bottom
Boiler, diar., inside first ring	78½ in.
Boiler pressure	200 lb.
Firebox, length and width.....	120¾ x 84¾ in.
Tubes, no. and diar.....	211-2¼ in.

Flues, no. and diar.	40-5 1/2 in.
Heating surface, tubes	2,287 sq. ft.
Heating surface, flues	1,060 sq. ft.
Heating surface, f.b. tubes	43 sq. ft.
Heating surface, firebox	274 sq. ft.
Heating surface, total	3,664 sq. ft.
Superheating surface	845 sq. ft.
Grate area	70.3 sq. ft.
Tractive power	56,147 lb.
Factor of adhesion	4.17
Superheater.....Locomotive Superheater, type A	
Reverse gear.....Ragonnet	
Cab.....C.P.R. standard vestibule	
Tender frame.....Commonwealth cast steel	
Tender wheel diar.	36 1/4 in.
Tender truck, type.....C.P.R. standard pedestal	
Tender journals	6 x 11 in.
Frame cradle.....Commonwealth	
Tank, type.....Water bottom	
Water capacity	8,000 imp. gall.
Coal capacity	14 tons

The Canadian National Rys. Santa Fe locomotives, 25 of which were ordered early in the year from Montreal Locomotive Works, and which has been delivered, have the following chief details:—

Cylinders, diar. and stroke	26 x 32 in.
Tractive power	64,500 lb.
Factor of adhesion	3.99
Wheel base, driving	20 ft. 6 in.
Wheel base, total	37 ft. 10 in.
Wheel base, engine and tender	70 ft. 10 1/2 in.
Weight in working order	319,300 lb.
Weight on drivers	257,800 lb.

Weight on trailer	29,500 lb.
Weight on engine truck	32,000 lb.
Weight, engine and tender	518,500 lb.
Boiler, type.....Extended wagon top	
Boiler, diar. inside first ring	78 in.
Boiler pressure	200 lb.
Firebox, length and width.....144 1/2 x 84 1/4 in.	
Crown staying.....Radial button head and	
Alco flexible	
Tubes.....Hot rolled steel	
Tubes, no. and diar.	252-2 in.
Flues, no. and diar.	45-5 3/8 in.
Heating surface, tubes	2,230.83 sq. ft.
Heating surface, flues	1,022.99 sq. ft.
Heating surface, firebox	245 sq. ft.
Heating surface, arch tubes	41 sq. ft.
Heating surface, total	3,539.82 sq. ft.
Superheater surface	850 sq. ft.
Grate area	66.7 sq. ft.
Driving wheels, diar.	57 in.
Driving wheels, type.....main, cast steel;	
.....others, cast steel, steel tired	
Engine truck wheels, diar.	31 1/4 in.
Trailing truck wheels, diar.	31 1/4 in.
Tender truck wheels, diar.	31 1/4 in.
Driving journals	11 1/2 x 22 in.
Engine truck journals	7 x 12 in.
Trailing truck journals	7 x 12 in.
Tender truck journals	6 x 11 in.
Journal boxes.....main, Cole cast steel;	
.....others, cast steel	
Air brakes.....Westinghouse E.T.6	
Tender frame.....Steel channel	
Tank, type.....Water bottom	
Water capacity	8,300 imp. gall.
Coal capacity	17 tons

the Topsonto District, lying between Millertown Jct. and Port aux Basques, was so blocked by snow and ice that traffic was suspended for a considerable period.

The Canadian National Rys. took over the operation of the Quebec & Saguenay Ry., from Quebec to La Malbaie (Murray Bay), on Oct. 1. The train service is as follows:—Monday, Wednesday and Friday, leave La Malbaie 8.45 a.m., arrive Quebec 1.30 p.m.; leave Quebec 12.30 p.m., arrive La Malbaie 6.50 p.m. Tuesday, Thursday and Saturday, leave La Malbaie 7.15 a.m., arrive Quebec 1.30 p.m.; leave Quebec 12.30 p.m., arrive La Malbaie 5.05 p.m.

The Pacific Great Eastern Ry. is reported to have inaugurated a combined steamboat and train service twice-a-week from Vancouver to Williams Lake, at mile 277.8 on the railway. The Terminal Steamship Line runs a steamboat leaving Vancouver at 9.15 a.m. on Wednesday and Saturday for Squamish, where passengers, etc., are transferred to the train, which reaches Williams Lake at 5.45 a.m. on Thursday and Sunday. The return train leaves Williams Lake at 10 p.m. on Sunday and Thursday, and Vancouver is reached at 7.30 p.m. on the following days.

The Canadian National Rys., following the co-ordination of perating which has been arranged between the C.N.R., the G.T.R., and the G.T. Pacific Ry., has put in operation a new daily train service between Montreal and Vancouver, which with connecting trains to and from the Atlantic coast, Toronto and other points, and Prince Rupert, gives practically through service from coast to coast, with a double daily service between Montreal and Winnipeg, and the choice of alternative routes west of Winnipeg. The service is operated from the Maritime Provinces to Montreal by the Ocean Limited and connecting trains from Sydney and St. John. The new train starts from Bonaventure station, Montreal, at 5 p.m. daily and runs over the G.T.R. to Ottawa, and thence over the C.N.R. via North Bay, Capreol and Port Arthur to Winnipeg, which is reached at 8.45 p.m. central time, on the second day. The second service between Montreal and Winnipeg is the train known as the National, which runs over the G.T.R. from Montreal via Toronto to North Bay, over the Timiskaming & Northern Ontario Ry. to North Bay to Cochrane, and over the National Transcontinental Ry. from Cochrane to Winnipeg. The new transcontinental train is run over the G.T. Pacific Ry. from Winnipeg via Saskatoon to Edmonton and over the Canadian Northern Ry. from Edmonton to Vancouver, connecting three days a week at Jasper, B.C., with a G.T.P.R. train to Prince Rupert. Starting from Halifax, N.S., at 8.10 a.m. on say, a Monday, the trip to Vancouver is completed at 9 a.m. on the following Sunday. The train equipment used on the route consists of Compartment, observation car between Montreal and Vancouver; standard sleepers between Halifax, Sydney, Moncton and Montreal; between Montreal and Vancouver; Winnipeg and Edmonton, Winnipeg and Prince Rupert; Edmonton and Vancouver. Dining car between Halifax and Montreal; Montreal and Winnipeg; Winnipeg and Vancouver; Montreal and Vancouver. Tourist sleeper between Montreal and Vancouver. Standard first class cars and colonist cars—all steel equipment.

Freight and Passenger Traffic Notes.

The Board of Railway Commissioners has dismissed the Canadian National Rys. application to discontinue stopping trains 5 and 6, at Richmond, Ont.

The Delaware & Hudson Co. has taken for its exclusive use the ticket office at 238 St. James St., Montreal, which for the past two years has been operated as a consolidated ticket office.

The C.P.R. Trans-Canada Limited 7 and 8, operating between Montreal and Vancouver, both ways, started from the two terminal points Oct. 2 on their last trips for this year.

The Board of Railway Commissioners has refused to order the C.P.R. to replace an agent at Reaburn Station, Man., as the earnings do not amount to \$15,000 a year.

A special G.T.R. train carrying a United States financial man, left Montreal on Oct. 1 at 2 a.m. for Toronto, which was reached in seven hours, an average speed of 47.7 miles an hour.

The Board of Railway Commissioners has recommended the sanctioning of an agreement between the C.P.R. and the Pere Marquette Rd., for the joint use of C.P.R. facilities at Windsor, and Walkerville Jct., Ont.

The New York Central Lines, and the Rutland Rd., which for the past two years have been using the consolidated ticket office at 238 St. James St., Montreal, have opened a joint ticket office at 9 Victoria Square, Montreal.

Hon. W. F. Coaker, Chairman of the Newfoundland Railway Commission, is reported to have announced that passenger rates on the Reid Newfoundland Ry. are to be increased 1c. a mile, and that an increase in freight rates will probably be made.

Detroit, Mich., people are, a press report states, buying railway tickets for United States points in Windsor, Ont., are saving money by so doing, owing to exchange rates, and the difference between the Canadian and the United States war tax.

The Alberta & Great Waterways Ry. is, we are officially advised, operating under the Alberta Government's management a mixed train, twice a week on Mondays and Thursdays from Edmonton

to Lac la Biche, and on Tuesdays and Fridays from Lac la Biche to Edmonton.

The Grand Trunk Ry., beginning Oct. 3, attached to the Montreal-Toronto train leaving Montreal at 7.30 p.m. an additional sleeping car for Kingston Jct., and Trenton, Ont. Returning, the car leaves Trenton at 9.10 p.m. and Kingston Jct. at 1.55 a.m. It is operated daily, except Sunday.

The Western Canadian Passenger Association is reported to have notified the Winnipeg Social Welfare Commission that after Oct. 1 no half fare tickets would be granted for the transportation of aged persons, or those with incurable diseases from Winnipeg to places where they can be cared for.

The Canadian National Rys. car ferry between Cape Tormentine, N.B., and Borden, P.E.I., is now making only one regular trip a day each way on week days only. Connection is made with the 1.15 p.m. Sackville-Cape Tormentine train, by trains leaving Moncton at 8.55 a.m. and 10.55 a.m.; by the train leaving St. John at 7.10 a.m., and by trains leaving Halifax, N.S., at 7.40 a.m. and 8.10 a.m.

The Canadian National Rys. are reported to have inaugurated a new freight service, Oct. 11, from Regina to Moose Jaw and Riverhurst, Sask., on Mondays, Wednesdays and Fridays, returning to Regina on Tuesdays, Thursdays and Saturdays; and from Regina to Moose Jaw and Radville, Sask., on Tuesdays, Thursdays and Saturdays, returning to Regina, Mondays, Wednesdays and Fridays.

The Board of Railway Commissioners has dismissed a complaint by Thos. McClymont, Prince Rupert, B.C., that the Grand Trunk Pacific Ry. rate of \$2.40 a net ton from Telkwa to Prince Rupert is excessive and discriminatory, compared with the rate charged by the railway from mines located on its Alberta lines, as it had not been established that the rate was contrary to the discrimination sections of the Railway Act.

A Newfoundland press report states that the cross-country train service on the Reid Newfoundland Ry. will be discontinued during the winter, and that trains will only run from St. John's to Millertown Jct., 310 miles. During the winter of 1919-20 the railway through

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

The Alberta & Great Waterways Ry. extends from Carbondale Jct., on the Edmonton, Dunvegan & British Columbia Ry., 14.4 miles from Edmonton, Alta., and is in regular operation to Lac la Biche, 113.2 miles. Track has been laid to mile 294, approximately 12 miles from McMurray, the projected terminus, but the line has not been completed for operation. Under the J. D. McArthur control trains were operated into and out of Edmonton over the E., D. & B.C. Ry., and the Grand Trunk Paacific Ry.

The line was mortgaged to secure its bond issue, which was guaranteed, as to principal and interest, by the Alberta Legislature, and the Alberta Government took over the line recently in order to secure its completion. In addition to the railway line, the Government took over the following rolling stock and equipment:—3 locomotives, 1 sleeping car, 1 first class car, 1 combination baggage mail, and express car, 1 business car, 2 gasoline combination cars, 1 Packard car, 99 standard box cars, 35 flat cars, 1 steam shovel.

The former directors have been replaced by the following members of the Alberta Government:—President, Hon. C. Stewart; Vice President and Treasurer, Hon. C. R. Mitchell; other directors:—Hon. J. R. Boyle, Hon. A. J. McLean. The officials in charge of operation are: General Manager, N. L. Harvey, Deputy Minister of Railway and Telephones; Secretary, L. Scott; Chief Engineer and Superintendent, H. A. Warner.

A press report states that a contract has been let to the Northern Construction Co., Vancouver, B.C., for the operation, maintenance and completion of the line from Lac la Biche to McMurray on a cost plus 10% basis. A gang of men is reported to have begun operations at the end of September north of Lac la Biche, and it was expected to have 300 men at work before winter thoroughly set in. All the construction work is to be done under the direction of the government engineers. (Oct., pg. 550.)

Since the above paragraph was put in type the Northern Construction Co. has advised us that it has received the contract and has furnished the following information:—Lac la Biche is the first division point north of Edmonton, being at mile 113. The line is now built to about mile 275, within 20 miles of Fort McMurray, which is its ultimate terminus. There will be very little construction work carried on this winter, with the exception of ballasting, etc., from Lac la Biche to the end of steel, a quantity of ties will be taken out and grading proceeded with from end of steel to Fort McMurray. R. A. Kennan will be in charge of the work as Superintendent for the Northern Construction Co., with office at Edmonton. (Oct., pg. 550.)

Canadian Niagara Bridge Co.—The route map of the proposed railway to be built in Ontario, and in New York State, and the location of the bridge across the Niagara River, shows a line starting from the Michigan Central Rd., 3.15 miles from Welland on the Welland-Niagara Falls line, in an almost straight line through Crowland and Willoughby Tps., to the west bank of the Niagara River, approximately 8.50 miles. The railway will cross Grand Island also in a straight line, and after the second crossing of the Niagara River will run northeasterly to make connection with the New York

Central Rd. The route of the line in Canada has been approved by the Board of Railway Commissioners. E. W. Beatty, President, C.P.R., is President of the C. N. B. Co., and R. L. Latham, Chief Engineer, Toronto, Hamilton & Buffalo Ry., Hamilton, is Chief Engineer, C.N.B. Co. (Oct., pg. 550.)

Maurice C. Spratt, New York Central Rd. Attorney, is reported, in a Bridgeburg, Ont., press dispatch, to have said on Oct. 20:—All work on the bridge to be built over the Niagara River at Black Creek, six miles below Bridgeburg on the Canadian Niagara boulevard, and Grand Island, N.Y., will be held up till spring, when a definite start will be made. More has been done in the past two months than in any previous time since the Canadian-Niagara Bridge Co. secured its charter. The pier holes have been tested and gauged, the right of way optioned, and a large part of Grand Island has been purchased by the New York Central Rd. The right of way from the Michigan Central terminals have been optioned, as well as the A. Weaver farm, which will be the site of the Canadian approach.

Cape Breton Coal, Iron & Ry. Co.—A press report states that the Cape Breton Coal, Iron & Ry. Co., of which H. J. Mayhew, London, Eng., is President, is about to reopen its coal mines at Broughton, N.S. The Broughton colliery was opened up a number of years ago, and under a charter granted by the Nova Scotia Legislature in 1895 the company was authorized to build a railway and to develop a shipping port. Nothing was done under this act until 1903, when a company of which Mr. Mayhew was President obtained control, and between that date and 1905, over \$1,000,000 was said to have been spent in sinking shafts and in building a town at Broughton. A spur line of railway from the collieries to a junction with the Sydney & Louisburg Ry. at Homeville Jct., was completed in 1905, and preparations were made for shipping the output at Louisburg. The company got into financial difficulties, and after some ineffectual attempts were made to sell the property, operations ceased towards the end of 1906, or early in 1907. The colliery is reported to have become full of water. (May, 1907, pg. 323.)

The Dominion Atlantic Ry. has carried out considerable work during the past season on its property in Nova Scotia. About 20 miles of main line track have been relayed with 85 lb. steel rails, replacing 56 and 65 lb. About 10 miles of ballasting have been done, between Ellershouse and Mount Uniacke.

At Kentville the company's headquarters, the 2½ story station and office building has been extended for 40 ft., providing for restaurant and luncheon room and additional office accommodation. An improved station 130 x 30 ft. has been built at Digby, as described in Canadian Railway and Marine World for March., pg. 135. A 25,000 gall. water tank has also been built there.

At Kentville the following buildings have been erected, boiler and power house, 30 x 36 ft.; machine and erecting shop, 60 x 180 ft.; blacksmith and moulding shop, 30 x 144 ft.; turntable, 70 ft., operated by Pilling air tractor. The boiler house has a 36 in. brick stack, 60 ft. high, on concrete base, and is equipped with boilers of 200 h.p. The ma-

chine and erecting shop has an overhead gallery, for tin shop and general foreman's office, in the machinery end, and the erecting shop has two tracks, and an 80 ft. concrete inspection pit, with driving wheel drop pit, equipped with air operated wheel jack. The blacksmith shop has 6 forges and the moulding shop is equipped with forge and brass furnace. The buildings have wood framing, with Bishopric stucco board and cement stucco on outside, the roofing is heavy paroid. All buildings are steam heated and electric lighted. The new shops are located so as to provide for future extensions to the locomotive shed, also car and paint shop, with necessary trackage.

About half a mile from Grand Pre village, Grand Pre Park has been established, in the dyke lands, with an area of 14 acres. It has a rustic gatehouse, and is enclosed with a rustic fence, has a water garden for aquatic plants, and contains a monument of Evangeline, Longfellow's heroine.

Edmonton, Dunvegan & British Columbia Ry.—J. A. Macgregor, General Manager, is reported to have stated recently that improvements on the line are being carried out steadily, as far as the shortage of labor will permit. The work being done consists of putting in new and additional ties, drainage, etc. The real work of reconstruction of the line will be begun next spring. (Oct., pg. 550.)

Esquimalt & Nanaimo Ry.—A press report states that the Victoria, B.C., City Council is about to call for tenders for the construction of the substructure of the Johnson St. bridge. F. M. Preston, City Engineer, returned to Victoria, Oct. 5, from Montreal, where he had been in consultation with C.P.R. engineers in connection with the plans. Some alterations in the original plans were agreed upon, and as soon as the details of these have been worked out tenders will be invited. (Oct., pg. 550.)

The Flinflon Mining District.—A number of members of the Manitoba Legislature were taken on a trip of inspection recently by the Northland Association over the mining belt in which the Flinflon mining proposition is situated. A railway to serve the district would probably start from near Pas, Man., and the probable route is west of Lake Athapapuskwow to the Flinflon mine, approximately 80 miles. It is estimated that this mine will produce copper ore in sufficient quantities to provide 2,000 tons a day for a smelter for 30 years. There are several propositions for a railway line under discussion, but the Northland Association and other interests favor the line being built by the Province of Manitoba. (June, pg. 297.)

The Great Northern Ry., in order to carry out its plans in Vancouver, B.C., has, through its British Columbia subsidiary, the Vancouver, Victoria & Eastern Ry. & Navigation Co., asked the City Council that certain streets and lanes intersecting its cut be closed and conveyed to it, and offers in exchange certain other properties for roadway purposes, and to build eight steel and wooden bridges over the cut. The proposition is being considered by a special committee. (July, pg. 386.)

Hudson Bay Ry.—A press report states that the repairs ordered by the Dominion Government to be carried out on the line between Pas and Kettle River Rapids, Man., have been completed.

Michigan Central Rd.—The Board of Railway Commissioners has approved of locations and plans for freight shed at Ridgetown, Ont., and joint passenger and freight station at Hagersville, Ont.

North Vancouver, Lillooet and Pemberton Meadows, B.C.—A press report states that the Mayor of North Vancouver, B.C., is advocating the construction of a line between North Vancouver and the Lillooet and Pemberton Meadow districts. North Vancouver is the starting point of the Pacific Great Eastern Ry., the section between North Vancouver and Squamish being uncompleted. The P. G. E. Ry. Co. took over the uncompleted line of the old Howe Sound, Pemberton & Northern Ry. and Lillooet is now a station at mile 111.5 on that line, while Pemberton Meadows village is about 7 miles from Pemberton, a station on the P.G.E.R., 57.7 miles from Squamish.

Pacific Great Eastern Ry.—A press report states that the operating department has taken over 68 miles of line between Lone Butte and Williams Lake, B.C., from the contractors, and has ex-

tended the regular train service thereon. It is also stated that track has been laid from Williams Lake to Deep Creek, 16 miles, and that a contractors' service is being given thereon.

The B.C. Government is reported to have sold to a Seattle firm \$1,000,000 of bonds at 100.73684, the proceeds of the issue to be used for construction on the railway. (Oct., pg. 550.)

Reid Newfoundland Co.—A press report states that work is to be started immediately on the construction of about three miles of line to connect the existing line with the proposed new terminal at Argenta, in the Placentia Bay district, and that the terminal pier or breakwater at this point will be ready in Jan. 1921. (Oct., pg. 547.)

Toronto, Hamilton & Buffalo Ry.—Application was made to the Board of Railway Commissioners at Hamilton, Ont., Oct. 7, by the Toronto, Hamilton & Buffalo Ry. Co. for permission to change the alignment of its tracks on Hunter St., at the corner of John St., Hamilton. Judgment was reserved. (June, pg. 298.)

Ocean Services, Ltd., Hong Kong, China, born at Toronto, Nov. 2, 1879.

L. C. Thomson, General Storekeeper, Eastern Lines, Canadian National Rys., Toronto, born at Kingston, Ont., Nov. 25, 1882.

H. P. Timmerman, Industrial Commissioner, Eastern Lines, C.P.R., Montreal, born at Odessa, Ont., Nov. 6, 1856.

Guy Tombs, ex-Assistant Freight Traffic Manager, Eastern Lines, Canadian National Rys., now Traffic Manager, Canadian Export Paper Co., Montreal, born near Lachute, Que., Nov. 22, 1877.

T. D. Utley, Car Foreman, C.P.R., Weyburn, Sask., born at Leytonstone, London, England, Nov. 1, 1890.

T. W. White, District Engineer, Canadian National Rys., Edmonton, Alta., born at Clinton, Ont., Nov. 29, 1880.

H. E. Whittenberger, General Manager, Western Lines, G.T.R., Detroit, Mich., born at Peru, Ind., Nov. 9, 1869.

W. A. Whyte, District Freight Agent, Canadian National Rys., Vancouver, B.C., born at Hornsey, Eng., Nov. 24, 1890.

Grand Trunk Railway Construction, Betterments, Etc.

Hamilton Bridge.—The Board of Railway Commissioners has authorized the rebuilding of the bridge carrying the company's tracks over the Hamilton Radial Electric Ry. at Birch Ave., Hamilton, Ont.

Stoney Creek Subway.—The Board of Railway Commissioners at Hamilton, Ont., Oct. 7, considered a complaint with reference to the subway under the G.T.R. tracks just west of Stoney Creek station, Ont. It was alleged that the subway is 17 ft. wide, and that the height from the surface of the road to the tracks is 10 ft. 3 in., and insufficient to meet traffic requirements, and that it is improperly drained. In addition to the question of the apportionment of the cost of any improvement of the subway, there are some engineering matters to be settled and the Commissioners suggested that the parties should endeavor to get together, and promised the assistance of the Commission's Chief Engineer, G. A. Mountain.

Woodstock Interlocking Plant.—A press report states that plans are under consideration for the installation of an interlocking plant at Woodstock, Ont., at an estimated cost of \$20,000.

London Track Elevation, Etc.—A press report states that the London City Council's level crossing committee expects to have a report ready for submission at an early date. The plans, it is stated, will involve the construction of subways at Rectory and Rideout Sts., both of which will be worked in with a general track elevation plan to be taken up at a future date.

Another press report states that the London City Council has been advised that the Board of Railway Commissioners has decided that in the event of the city engaging with the G.T.R. in track elevation or the building of subways, the city's share of the expense should be only 25% and the railway should pay 75% of the total cost.

Port Huron Shop Extensions.—A U.S. press report states that plans for extensive improvements to the car and locomotive shops at Port Huron, Mich., are under consideration. (Oct., pg. 550.)

The Railway Y.M.C.A. at Bridgeburg, Ont., was badly damaged by fire, on Oct. 13.

Birthdays of Transportation Men in November.

Many happy returns of the day to—

J. O. Adams, General Eastern Freight Agent, Canadian National-Grand Trunk Rys., New York, born at London, Ont., Nov. 21, 1872.

J. O. Apps, General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.

H. E. Beasley, General Superintendent, Esquimalt & Nanaimo Ry., Victoria, B.C., born at Hamilton, Ont., Nov. 10, 1862.

W. C. Blake, Division Accountant, Canadian National-Grand Trunk Pacific Rys., Winnipeg, born at Liverpool, Eng., Nov. 28, 1865.

C. C. Bonter, General Baggage Agent, Canada Steamship Lines, Montreal, born at Toronto, Nov. 13, 1884.

G. B. Burchell, Managing Director, Bras d'Or Coal Co., North Sydney, N.S., Nov. 1, 1877.

J. R. Cameron, Assistant General Manager, Western Lines, Canadian National-Grand Trunk Pacific Rys., Vancouver, B.C., born at Truro, N.S., Nov. 5, 1865.

F. H. Clendenning, Foreign Freight Agent, C.P.R., Vancouver, B.C., born at Montreal, Nov. 9, 1881.

F. Conway, City Freight and Passenger Agent, C.P.R., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

W. L. Crighton, General Advertising Agent, Canadian National Rys., Toronto, born at Derby, Eng., Nov. 9, 1871.

E. C. P. Cushing, Purchasing Agent, C.P.R., Calgary, Alta., born at Ottawa, Ont., Nov. 13, 1886.

W. R. Davidson, General Superintendent, Western Lines, G.T.R., Chicago, Ill., born at Everton, Mo., Nov. 8, 1871.

W. R. Devenish, Superintendent, Moncton Division, Maritime District, Canadian National Rys., Moncton, N.B., born in County Tipperary, Ireland, Nov. 21, 1882.

A. C. Douglas, Assistant General Purchasing Agent, C.P.R., Montreal, born there Nov. 10, 1881.

W. Downie, ex-General Superintendent, Atlantic Division, C.P.R., now of Whitby, Ont., born at Rock Currie, Ireland, Nov. 12, 1850.

Jos. Dubrulle, President, Prescott & Ogdensburg Ferry Co., and General Manager Canadian Pacific Car & Passenger Transfer Co., Prescott, Ont., born at

Spencerville, Ont., Nov. 14, 1872.

R. L. Fairbairn, Assistant Passenger Traffic Manager, Eastern Lines, Canadian National Rys., Toronto, born at Stillwater, Minn., Nov. 24, 1880.

J. E. Gibault, Resident Engineer, Quebec District, Canadian National Rys., Quebec, Que., born at St. Jerome, Terrebonne County, Que., Nov. 16, 1887.

G. N. Goad, Superintendent, Nipissing Division, Ontario District, Canadian National Rys., Capreol, Ont., born at Toronto, Nov. 26, 1884.

Grant Hall, Vice President, C.P.R., Montreal, born there, Nov. 27, 1863.

J. A. C. Kelman, Telegraph Traffic Supervisor, Central and Western Division, Grand Trunk Pacific Ry., born at Bowmanville, Ont., Nov. 1, 1886.

W. E. Ladley, Superintendent of Motive Power, Reid Newfoundland Co., St. John's, Nfld., born at Leeds, Eng., Nov., 1875.

J. McMillan, Manager of Telegraphs, C.P.R., Montreal, born at Liverpool, Eng., Nov. 2, 1866.

A. B. McNaughton, Superintendent, Portland Division, Eastern Lines, G.T.R., Portland, Me., born at Arnprior, Ont., Nov. 10, 1877.

H. R. Mallison, Purchasing Agent and Secretary to President, Montreal Tramways Co., Montreal, born at Toronto, Nov. 14, 1873.

C. Murphy, General Manager, Western Lines, C.P.R., Winnipeg, born at Prescott, Ont., Nov. 20, 1865.

G. H. Nowell, Master Mechanic, Lethbridge Division, Alberta District, C.P.R., Lethbridge, born at Montreal, Nov. 13, 1885.

G. Pelletier, Assistant Superintendent, Canadian National Rys., Levis, Que., born at Isle Verte, Que., Nov. 28, 1872.

W. J. Quinlan, District Passenger Agent, Canadian National-Grand Trunk Pacific Rys., Winnipeg, born at Montreal, Nov. 21, 1883.

J. J. Rose, Robert Reford Co., General Agents, Cunard, Anchor and Anchor-Donaldson Steamship Lines, Toronto, born there, Nov. 22, 1878.

G. H. Shaw, ex-General Traffic Manager, Canadian Northern Ry., Toronto, born at Smiths Falls, Ont., Nov. 25, 1859.

P. D. Sutherland, General Agent, Passenger Department, Canadian Pacific

Orders by Board of Railway Commissioners for Canada.

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

Important traffic orders made by the Board are given in full on another page of this issue.

General order 307. Sept. 1.—Re-consigning rates and penalty charges. Published fully in Canadian Railway and Marine World for October, pg. 549.

General order 308. Sept. 9; 309, Sept. 9; 310, Sept. 15; and 311, Sept. 23; authorizing increases in freight and passenger rates and approving tariffs. Published fully in Canadian Railway and Marine World for October, pgs. 532 and 533.

General order 312. Sept. 22.—Amending general order 301, re coal shipments by water to the United States. Published in full in Canadian Railway and Marine World for October, pg. 549.

General order 313.—Sept. 22.—Amending general order 303 to provide that corrections where necessary be made in general or blanket supplement authorized by general order 303 upon one day notice, to accord with Special Permission 50,480 of Interstate Commerce Commission authorizing U.S. carriers or their agents to file upon 1 day notice special supplements correcting increased rates and charges filed under but not in conformity with its order, dated July 29.

General order 314. Oct. 5.—Regulations governing control of fuel supplies throughout Canada.

General order 315. Sept. 29.—Authorizing Dominion Department of Health to place signs dealing with the prevention and spread of venereal diseases in passenger cars and station lavatories; provided that a notation be carried on bottom of each copy of sign placed under provisions of this order to effect that same is issued under authority of the Dominion Department of Health.

General order 316. Oct. 5.—Ordering action to be taken by fuel administrators respecting cars of coal held loaded longer than six days after arrival.

30,086. Sept. 8.—Authorizing Canadian National Rys., pending further order, to remove agent at Fresters Falls, Ont., on condition that caretaker be appointed.

30,087. Sept. 7.—Ordering C.P.R. to cut down high ground in each direction to not more than 4 ft. above roadway level at crossing of side road between Lots 5 and 6, Con. 10, Morris Tp., Ont., Goderich Branch.

30,088. Sept. 8.—Authorizing Halifax & South Western Ry. (C.N.R.) to fill in Dutch Village trestle, mile 4 Chester Subdivision, Bridgewater Division, N.S.

30,089. Sept. 9.—Authorizing C.P.R. to build two spurs across Carriere St., Montreal, for Barrett Co.

30,090. Sept. 10.—Authorizing Kettle Valley Ry. to build its Pentiction to International Boundary branch at grade across Pentiction-Fairview highway at mile 2.13.

30,091. Sept. 10.—Authorizing C.P.R. to divert road allowance on east boundary of n.w. ¼ Sec. 32, Tp. 13, Range 7, at mile 96, Reston Subdivision, Sask.

30,092. Sept. 9.—Authorizing Union School Section 22, Brantford, and 7, Onondaga, Ont., to build ditch along west side of school section connecting Brantford & Hamilton Ry. ditch with ditch along the Stone Road, Brantford Tp., Ont.

30,093. Sept. 9.—Authorizing Nelson Tp., Ont., to lay highway crossing over Toronto & Niagara Power Co.'s right of way, and Hamilton Radial Electric Ry. in Lot 12, Con. 3, south of Dundas St.

30,094. Sept. 10.—Authorizing C.P.R. to divert road allowance on south boundary of s. w. ¼ Sec. 25, Tp. 14, Range 8, west 2nd meridian, at mile 101, Reston Subdivision, and to close diverted portion within limits of its right of way.

30,095. Sept. 11.—Amending order 29,975, Aug. 12, re rebuilding of Grand River Ry. bridge 4, over Spring Creek, Preston Jct., Ont.

30,096. Sept. 10.—Authorizing G.T.R. to lay 10 in. water main across Montreal Park & Island Ry. right of way, lands and tracks at Turcot, Que.

30,097. Sept. 13.—Ordering that no further protection be required at crossing of Westchester Ave., 1½ miles from St. Catharines, Ont., so long as G.T.R. and Niagara, St. Catharines & Toronto Ry. maintain speed limitation of 10 miles on hour over same.

30,098. Sept. 14.—Approving plan, profile and book of reference showing revised location of Canadian Northern Pacific Ry. through fractional s. w. ¼ Sec. 4, Tp. 19; n. w. ¼ Sec. 32, Tp. 18, Range 14, west 6th meridian, and D.L. 442, Group 1, Kamloops Division, Yale District, B.C., and rescinding order 29,965, Aug. 10.

30,099. Sept. 10.—Rescinding order 21,707, Apr. 26, 1914, re Canadian Northern Ry. spur for Lake Winnipeg Shipping Co. at Woodroyd, Man.

30,100. Sept. 13.—Ordering G.T.R. to pay \$60 to T. Morrison for damages to his land caused by its exercise of powers under order 29,837, re highway obstructions near Niagara Falls, Ont.

30,101. Sept. 14.—Authorizing C.P.R. to build extension to spur for Toronto Carpet Mfg. Co., Parkdale, Ont.

30,102. Sept. 14.—Ordering C.P.R. to build

standard 2 station at Dufrost, Man., by Aug. 1, 1921, and pending erection to provide by Oct. 1, 1920, room and protection for package freight either by removing coal from present freight shed or by furnishing additional accommodation.

30,103. Sept. 14.—Dismissing application of Moose Jaw rural municipality 161, Sask., for order directing C.P.R. to provide crossing at Seventh Ave., Moose Jaw.

30,104. Sept. 16.—Extending for three months time within which C.P.R. spurs for Jenckes Canadian Co., Drummond, Que., may be built.

30,105. Sept. 13.—Ordering Grand Trunk Pacific Ry. to extend station platform at Telkwa, B.C., not less than 150 ft., by Oct. 31.

30,106. Sept. 17.—Extending to July 31, 1921, time within which interlocking plant at crossing of C.P.R. and G.T.R., Kingston, Ont., may be installed.

30,107. Sept. 17.—Approving new location of G.T.R. station at Long Branch, Ont.

30,108. Sept. 16.—Authorizing C.P.R. to build extension of spur for North Star Oil & Refining Co., St. Boniface, Man.

30,109. Sept. 17.—Approving route map of general location of Canadian National Rys. Borden Northerly Branch, mile 0 to 51.6, Sask.

30,110. Sept. 17.—Relieving G.T.R. from providing further protection at crossing west of Greenfield, Ont.

30,111. Sept. 17.—Authorizing Grand River Ry. to make alterations in its line as built in North Dumfries Tp. and Galt, Ont.; to build new station immediately south of Main St., Galt; to take certain G.T.R. lands; to lay track under C.P.R.; to cross G.T.R., south of Dundas Road; to install diamond at crossing of G.T.R., protecting same with interlocking plant, derails, home and distant signals, etc.; to connect with C.P.R., and to cross at grade, Hespeler Road, Samuelson and Beverly St., Dundas and Waterloo Road, Kerr and Main Sts., Grantham Ave., Rollo and Bond Sts., Galt, and portion of Dundas and Waterloo Road and Hespeler Road, North Dumfries Tp., Ont.

30,112. Sept. 18.—Authorizing C.P.R. to divert road allowance on west boundary of s.w. ¼ Sec. 5, Tp. 4, Range 9, west principal meridian, also to carry same at grade across its tracks at mile 107.8, La Riviere Subdivision, and to close diverted portion within right of way limits.

30,113. Sept. 20.—Authorizing C.P.R. to rebuild bridge 81.5 over Little Pic River, Heron Bay Subdivision, Algoma District, Ont.

30,114. Sept. 20.—Authorizing C.P.R. to build spur across Leonard St., Quebec, Que., for Quebec Preserving Co.

30,115. Sept. 20.—Authorizing C.P.R. to divert road allowance on north boundary of n.e. ¼ Sec. 22, Tp. 13, Range 22, west principal meridian, at mile 16.04, Miniota Subdivision, and to close diverted portion within right of way limits.

30,116. Sept. 20.—Extending to Oct. 31, the time within which work shall be done by G.T.R. at Garrison Road crossing, Bertie Tp., Ont.

30,117. Sept. 20.—Dismissing application of residents of Jasmin, Sask., for order requiring Grand Trunk Pacific Ry. to appoint station agent there, and ordering G.T.P.R. to appoint grain agent during September, October, November and December each year until otherwise ordered.

30,118. Sept. 21.—Dismissing application of United Farmers of Manitoba, Reaburn Branch, for an agent at Reaburn, Man., and ordering C.P.R. to appoint caretaker there.

30,119, 30,120. Sept. 22.—Approving revised location of Canadian Northern Pacific Ry. Okanagan Branch from mile 63 to 65 east from Kamloops Junction, and from mile 11.5 to 14.3 south from Vernon, B.C.

30,121. Sept. 22.—Approving revised location of Canadian National Rys. through Victoria Park, Humboldt, Sask., mile 53.09 to 53.62, and authorizing crossing of Limerick St., 2nd, 3rd and 4th Aves., MacLean St., and 5th Ave.

30,122. Sept. 21.—Approving agreement, Sept. 3, between Bell Telephone Co. and Peerless Telephone Co., Oxford County, Ont.

30,123. Sept. 22.—Authorizing C.P.R. to build extension of spur for Canadian Oil Companies, Winnipeg.

30,124. Sept. 22.—Approving location and plan of Michigan Central Rd. freight shed at Ridgetown, Ont.

30,125. Sept. 21.—Authorizing Ontario Lands and Forests Department to make highway crossing over G.T.R. on Lot 18, Con. 11, Chaffey Tp., Muskoka District.

30,126. Sept. 21.—Authorizing Mariposa rural municipality 350, Sask., to make highway crossing over C.P.R. between Secs. 29 and 32, Tp. 35, Range 21, west 3rd meridian.

30,127. Sept. 21.—Authorizing Canadian National Rys. to make highway crossing and diversion in n.w. ¼ Sec. 6, Tp. 26, Range 1, west 4th meridian, Alta.

30,128. Sept. 21.—Approving Boston & Maine Rd. bylaw, Aug. 3, authorizing G. Fort, G. H. Easton, J. R. MacAnanny and F. A. Horter, or any of them, to establish or change rules, regulations, rates, fares, tolls, etc., within Canada and to publish and file tariffs and schedules, and rescinding orders 14,244 and 24,194.

30,129. Sept. 23.—Extending 30 days time within which G.T.R. may do work required under order 29,710, re removal of trees at West Hill,

Ont.

30,130. Sept. 23.—Approving plan showing proposed replacement of detector bars by electric locking at interlocking plant protecting Welland Canal drawbridge, Toronto, Hamilton & Buffalo Ry. connection crossing of Michigan Central Rd. by Niagara, St. Catharines & Toronto Ry. at Welland, Ont.

30,131. Sept. 23.—Approving Grand Trunk Pacific Ry. clearance at sawdust conveyor and planing mill, for Giscome Lumber Co., Giscome, B.C.

30,132. Sept. 25.—Ordering C.P.R. to install gates at crossings of Pall Mall and Waterloo Sts., London, Ont., by June 1, 1921.

30,133. Sept. 23.—Ordering C.P.R. to build transfer track with Canadian National Rys. at Conquest, Sask., by Nov. 1.

30,134. Sept. 23.—Authorizing C.P.R. to make changes to sidings for Corrugated Paper Box Co., Toronto.

30,135. Sept. 24.—Relieving Esquimalt & Nanaimo Ry. from providing further protection at crossing at mile 76.57, about 1,953 ft. north of Wellington south board, Vancouver Island, B.C.

30,136. Sept. 24.—Relieving G.T.R. from providing further protection at first crossing east of Pottersburg, Ont.

30,137. Sept. 24.—Authorizing railways until further order, to issue free transportation to one chief inspector and 3 inspectors of live stock cars and yards of Dominion Department of Agriculture.

30,138. Sept. 24.—Approving agreement between Bell Telephone Co. and Bromley Telephone Association, Renfrew County, Ont., and rescinding order 26,029.

30,139. Sept. 25.—Rescinding order of the Railway Committee of the Privy Council, Nov. 22, 1892, respecting crossing of Wonham St., Ingersoll, Ont., by G.T.R.

30,140. Sept. 27.—Authorizing C.P.R. to build spur for Northwest Grain Dealers Association, St. Boniface, Man.

30,141. Sept. 27.—Authorizing Canadian Northern Pacific Ry. to cross Aberdeen Road at mile 2, Lumby Branch, on its Vernon-Lumby extension, B.C.

30,142. Sept. 25.—Approving agreement between Bell Telephone Co. and Farmers Telephone Co., Chateaugay, Huntingdon and Beauharnois and St. Johns Counties, Que.

30,143. Sept. 27.—Authorizing C.P.R. to divert road allowance in n.w. ¼ Sec. 19, Tp. 26, Range 13, west 3rd meridian, Sask., and to close diverted portion within limits of right of way, mile 241.44 Bassano Easterly Branch.

30,144. Sept. 28.—Recommending to Governor in Council for sanction, agreement between C.P.R. and Pere Marquette Rd. re joint use of C.P.R. facilities at Windsor and Walkerville Jct., Ont., and exempting companies from complying with conditions as to notice and publication as provided.

30,145. Sept. 25.—Approving certain plans of C.P.R. standard reinforced concrete spans.

30,146. Sept. 27.—Approving revised location of Canadian Northern Pacific Ry. Lumby Branch of its Kamloops-Kelowna-Lumby Branch, mile 9.6 to 12.

30,147. Sept. 27.—Dismissing complaint of Thos. McClymont, Prince Rupert, B.C., re Grand Trunk Pacific Ry. rate of \$2.40 a ton on coal from Telkwa to Prince Rupert, B.C.

30,148. Sept. 27.—Approving revised location (Saskatchewan Land Survey) of portion of C.P.R. Leader Southeastery Branch from mile 0 to 25.7.

30,149. Sept. 28.—Authorizing Canadian Northern Pacific Ry. to build Y at Lumby, B.C., and approving station grounds there.

30,150. Sept. 28.—Authorizing G.T.R. to build siding and spur for Sarnia Bridge Co., Sarnia, Ont.

30,151. Sept. 27.—Approving revised location of portion of C.P.R. Swift Current Northwesterly Branch, mile 28.86 to 34.23, and authorizing it to cross certain road allowances.

30,152. Sept. 28.—Authorizing G.T.R. to build spur for Willard Storage Battery Co., and Bate-man-Wilkinson Co., Toronto.

30,153. Sept. 28.—Authorizing G.T.R. to build spur across Lusignan St., Montreal, for Pintsch Compressing Co.

30,154. Sept. 30.—Ordering G.T.R. forthwith to provide siding 2½ miles south of flag station at Souterville, between Glencoe and Kingscourt, Ont.

30,155. Sept. 29.—Ordering C.P.R. to build station with passenger, freight, express and telegraph service, at or near Victoria Ave., Westboro, Ont., by Dec. 1.

30,156. Sept. 28.—Authorizing G.T.R. to rebuild bridge carrying its tracks over Hamilton Radial Electric Ry. at Birch Ave., Hamilton, Ont.

30,157. Oct. 1.—Authorizing Minneapolis, St. Paul & Sault Ste. Marie Ry. and other railways operating from Duluth, St. Paul, etc., to stations in Western Canada, to file revised rates on coal and coke from Duluth, St. Paul, etc., to stations in Western Canada upon one day notice.

30,158. Oct. 4.—Authorizing Chicago, Milwaukee & St. Paul Ry. to file revised rates on machinery from Chicago and Milwaukee to stations in Ontario upon 15 days notice.

30,159. Sept. 30.—Ordering Edmonton, Dunvegan & British Columbia Ry. to erect fences along its right of way through M. Moody's property in

s.w. ¼ Sec. 26, Tp. 65, Range 2, west 5th meridian, Alta., by June 1, 1921.

30,160. Sept. 30.—Authorizing British Columbia Electric Ry. to cross lane between 12th and 13th Aves., Vancouver, B.C.

30,161. Sept. 30.—Authorizing Canadian Northern Quebec Ry. to make highway crossing and diversion in Lots 12, 14 and 197, Range 2, St. Paulin Parish, Que., mile 103.5, St. Lawrence Subdivision.

30,162. Sept. 30.—Approving plan showing extension of Jacques Cartier St., Saraille Road, Ste. Cecile, Que., across St. Lawrence & Adirondack Ry.

30,163. Sept. 30.—Authorizing C.P.R. for 6 months and pending rebuilding of bridge as authorized under order 29,597, to rebuild bridge 9.3, Carleton Place Section, Eastern Division.

30,164. Oct. 1.—Approving Maine Central Rd. supplement 2 to Standard Passenger Tariff C.R. C. 214.

30,165. Sept. 29.—Amending order 29,971, which approved Canadian Northern Pacific Ry. plan, profile and book of reference of its Okanagan Branch revised location from mile 44.7 to 46.11, east from Kamloops Jct., B.C.

30,166. Sept. 30.—Extending peremptorily to Nov. 1 time within which work required to be done under order 28,275, re C.P.R. addition to freight shed at Prelate, Sask., be completed.

30,167. Sept. 30. Authorizing C.P.R. to divert road allowance on north and east boundaries of n.w. ¼ Sec. 25, Tp. 24, Range 3, west 2nd meridian, to carry same across its right of way at mile 15.6 Wynward Subdivision, and to close diverted portion within right of way limits.

30,168. Oct. 1.—Approving location and plans of Michigan Central Rd. joint passenger and freight station at Hagersville, Ont.

30,169. Sept. 29.—Authorizing C.P.R. to rebuild bridge 29.27 over Riley's Creek, North Bay Subdivision, Algoma District, Ont.

30,170. Sept. 29.—Authorizing Grand River Ry. to build at grade an additional track (double track) across Speedsville and Breslau Roads, Waterloo Tp., Ont.

30,171. Sept. 29.—Authorizing C.P.R. to divert Kelley Lake Road in Con. 2, McKim Tp., Ont.; to carry same across its tracks at mile 2.56 Webbwood Subdivision, and to close diverted portion within limits of right of way.

30,172. Sept. 28.—Authorizing C.P.R. to rebuild bridge 91.48, Cartier Subdivision, Algoma District, Ont.

30,173. Oct. 4.—Authorizing Canadian National Rys. to build spur for Prairie Biscuit & Confectionery Co., Regina, Sask.

30,174. Oct. 4.—Authorizing C.P.R. to rebuild bridge 19.17 White River Subdivision, Algoma District, Ont.

30,175. Oct. 1. Approving Canadian Northern Ontario Ry. changes, consisting of diversion of waters of Orient Bay and filling in of two bridges at mile 43.67, Nipigon Subdivision, Thunder Bay District.

30,176. Sept. 26.—Approving revised location of portion of C.P.R. Leader Southeasterly Branch, mile 28.82 to 31.37, and authorizing crossing of certain highways.

30,177. Oct. 6.—Authorizing British Columbia Public Works Department to build crossing with gates over Kootenay Central Ry. at mile 32.22.

30,178, 30,179. Oct. 4.—Approving Bell Telephone Co. agreement with Bonfield Telephone Co., Nipissing District, Ont., and Emily Tp., Ont., and rescinding order 26,382, July 26, 1917.

30,180. Oct. 4.—Approving plan of proposed interlocking plant at crossing of G.T.R. main line and its Port Dover-Stratford line, at Woodstock, Ont.

30,181. Oct. 4.—Relieving Canadian National Rys. from providing further protection at first public crossing west of Lachute, Que.

30,182. Oct. 5.—Authorizing Saskatchewan Public Highways Department to build highway crossing over Grand Trunk Pacific Ry., north of n.w. ¼ Sec. 36, and in center of Sec. 36, Tp. 42, Range 26, west 2nd meridian.

30,183. Oct. 7.—Authorizing G.T.R. to build siding for R. Boehmer & Co., Kitchener, Ont.

30,184. Oct. 5.—Authorizing Saskatchewan Public Highways Department to build highway crossing over Canadian National Rys., in s.e. ¼ Sec. 15, Tp. 26, Range 26, west 3rd meridian.

30,185. Oct. 4.—Authorizing Niagara, St. Catharines & Toronto Ry. to build coal track for Interlake Tissue Mills Co., between Thorold and Merriton, Ont.

30,186. Oct. 6.—Rescinding order 22,242, July 20, 1914, authorizing Canadian Northern Ry. to build spur for Builders Supply Co. at mile 39.67, Oak Point Subdivision, Man.

30,187. Oct. 6.—Extending to Oct. 31 time within which wigwag signals may be installed at G.T.R. crossing of Parkdale Ave., Ottawa, Ont.

30,188. Oct. 6.—Ordering Canadian National Rys. to provide forthwith cattle pass for T. Prudhomme on Lot 37, broken front concession, North Plantagenet Tp., Ont.

30,189. Oct. 6.—Ordering Canadian National Rys. to stop trains 5 and 6, on flag, at Richmond, Ont., and dismissing C.N.R. application to discontinue stopping of these trains. See also order 30,209.

30,190. Oct. 6.—Dismissing application of Boards of Trade of Sydney and North Sydney, N.S., that said points be given benefit of special tariffs on export and import freight and for passengers holding steamship tickets as possessed by

other Canadian ports engaged in this traffic.

30,191. Oct. 6.—Authorizing G.T.R. to operate over siding serving Feldspar Milling Co., Toronto.

30,192. Oct. 6.—Amending order 30,114, Sept. 20, re Canadian National Rys. spur for Quebec Preserving Co., Quebec, Que.

30,193. Oct. 7.—Authorizing Canadian Northern Quebec Ry. to cross and divert highway at mile 101.3 from Montreal, in St. Barnabe Parish, Que.

30,194. Oct. 7.—Authorizing G.T.R. to build three spurs for Dominion Sugar Co., Kitchener, Ont.

30,195. Oct. 7.—Relieving C.P.R. from providing further protection at second crossing west of Sand Point, Ont.

30,196. Oct. 7.—Authorizing Canadian Northern Quebec Ry. to cross and divert highway between St. Severe and St. Barnabe Parishes, Que., mile 102.34 from Montreal.

30,197, 30,198. Oct. 6.—Approving revision of Canadian Northern Pacific Ry. Okanagan Branch mile 21.4 to 24.8, Vernon to Kelowna, on Duck Lake Indian Reserve no. 7, and mile 27.1 to 29.2, Vernon-Kelowna section of its Kamloops-Kelowna Branch, B.C.

30,199. Oct. 6.—Authorizing Canadian Northern Ontario Ry. to open for traffic its branch line from its yard at Cartierville, Que., to the village, 0.845 mile.

30,200. Oct. 9.—Authorizing C.P.R. and Sherbrooke Ry. & Power Co. to operate over crossing at Alexander St., Sherbrooke, Que., without first stopping trains.

30,201. Oct. 9.—Authorizing C.P.R. to rebuild bridge 2.33 over Duchesnay Creek, on its Cartier Subdivision, Ont.

30,202. Oct. 6.—Authorizing G.T.R. to close its station at Aston, Que.

30,203. Oct. 9.—Authorizing Kettle Valley Ry. to open for traffic its line from Copper Mountain to a junction with Vancouver, Victoria & Eastern Ry. (G.N.R.) at Princeton, B.C., mile 0 to 13.7.

30,204. Oct. 9.—Approving Canadian National Rys. bylaw authorizing W. Hateley, Assistant General Freight Agent, to issue tariffs of tolls.

30,205. Oct. 11.—Rescinding orders 9,342 and 12,312, Jan. 18 and Sept. 8, 1910, re G.N.R. train service between Guichen and Colebrook, B.C.

30,206. Oct. 11.—Dismissing complaint of White & Co., Hamilton, Ont., against demurrage charged under rule 5 of Canadian Car Demurrage rules on two cars of potatoes delayed in loading at Utopia, Ont.

30,207. Oct. 11.—Authorizing C.P.R. to rebuild bridge 116.88 over Echo Lake, Thessalon Subdivision, Algoma District, Ont.

30,208. Oct. 12.—Authorizing G.T.R. to rebuild overhead bridge K.E. 43.64 carrying McNab St., Hamilton, Ont., over its tracks.

30,209. Oct. 11.—Amending order 30,189, Oct. 6, re Canadian National Rys. stopping trains 5 and 6 at Richmond, Ont., by striking out the words "on flag."

30,210. Oct. 12.—Ordering Grand Trunk Pacific Ry. to enlarge station and waiting room, install team track and cut away bank west of station at Hazelton, B.C.

30,211. Oct. 12.—Amending order 30,115, Sept. 20, re C.P.R. diversion of road allowance in n.e. ¼ Sec. 22, Tp. 13, Range 22, west principal meridian, mile 16.04 Miniota Subdivision, Man.

30,212. Oct. 12.—Approving location of portion of C.P.R. Moose Jaw Southwesterly Branch., Assiniboia to Consul, mile 57.5 to 65.22, and authorizing crossing of certain highways.

30,213. Oct. 13.—Ordering Atlantic, Quebec & Western Ry. to make ditch along center of P. Tennier's land, Little Pabos, Que., 18 in. deep and 2 ft. wide from culvert under track to water course along his property.

30,214. Oct. 13.—Extending for two months time for installation of automatic bell at C.P.R. crossing about a mile north of Guelph, Ont.

30,215. Oct. 13.—Authorizing Saskatchewan Highways Department to build highway crossing in n.w. ¼ Sec. 24, Tp. 36, Range 8, west 3rd meridian.

30,216. Oct. 12.—Approving agreement between Bell Telephone Co. and Ennismore Tp., Ont.

30,217, to 30,220. Oct. 15.—Extending for two months time within which St. Thomas Municipal Ry. may operate its one-man operated cars over the Pere Marquette Rd. on Wilson Ave., and over London & Port Stanley Ry. on Elm, Wellington and Talbot Sts., St. Thomas, Ont.

30,221. Oct. 14.—Authorizing C.P.R. to build two spurs for Dominion Construction Co. Ltd., and Ramsay, at mile 109.5, Winchester Subdivision, Ont.

30,222. Oct. 14.—Approving revised route map of general location of Interprovincial & James Bay Ry. (C.P.R.) from terminus of its line already built, at mile 10, to mile 70, near Riviere des Quinze, Ont.

30,223. Oct. 15.—Authorizing C.P.R. to use bridge 3.1 over Assiniboine River, at St. James, Man.

30,224. Oct. 15.—Authorizing C.P.R. to rebuild bridges 24.0 and 24.1, over Mississippi River, at Almonte, Ont.

30,225. Oct. 15.—Ordering Grand Trunk Pacific Ry., to grade to tie level, a driveway along commercial track, about 14 ft. wide, suitable for wagon traffic and long enough so that 3 cars at a time may be driven alongside and loaded; a driveway access to be made thereto.

30,226. Oct. 14.—Authorizing C.P.R. to build five spurs for Kipawa Co., Gordon Creek, Ont.

30,227. Oct. 15.—Authorizing Canadian Northern Quebec Ry. to cross highway in lots 242 and 243, St. Ursule Parish, Que.

30,228. Oct. 15.—Amending order 28,071 to provide that Toronto Terminals Ry. Co. be authorized to lay its conduits containing pressure steam pipes across Bay, Yonge and Scott Sts., along and across Esplanade St., between point west of Yonge St. and point east of Scott St., Toronto.

30,229. Oct. 15.—Approving relocation of G. T.R. across Muskoka Road, David, James, First and Philip Sts., Gravenhurst, Ont.

30,230. Oct. 15.—Extending to Dec. 31, time within which C.P.R. may complete spur for Northwestern Milling & Export Co., Moosomin, Sask.

Quebec & Saguenay Railway taken over by Dominion Government.

The Quebec & Saguenay Ry., which extends from St. Joachim to Murray Bay, Que., 63 miles, has been taken over for operation as part of the Canadian National Rys. Construction of the line was started in 1911, but owing to financial difficulties work was suspended. After two or three years of negotiations, the Dominion Government in 1916 took power to acquire the line as a branch line for the Canadian Government Rys., the value to be settled by the Exchequer Court, the total price, however, not to exceed \$4,000,000. A contract was let to M. J. O'Brien and H. Doheny, who had been engaged in the construction of the line from the start, to complete the work, Gordon Grant being put in charge as Chief Engineer for the Government. After some delay the purchase price was fixed, and finally paid over, but while the line has been completed and has been operated for nearly two years by the contractors, it was only finally inspected and taken over for operation by the Canadian National Rys. Oct. 8.

Connection is obtained with Quebec over the Quebec Ry., Light & Power Co.'s line. Heretofore a service of three trains a week in each direction was provided, but the Canadian National Rys. is giving a daily train service in each direction.

The Q. & S. Ry. has been designated as the Murray Bay Subdivision, Saguenay Division, Quebec District, C.N.R., which is under the jurisdiction of J. E. Morazain, General Superintendent. The following district officers also have jurisdiction over the Murray Bay Subdivision: C. H. N. Connell, District Engineer; H. W. Sharpe, Master Mechanic; E. G. Theobald, District Car Foreman. The jurisdictions of the following Saguenay Division officers have been extended over the Murray Bay Subdivision:—R. Colclough, Superintendent; L. St. Oge, Assistant Superintendent; L. C. Dupuis, Division Engineer; J. C. Riddock, Bridge and Building Master; H. B. Cassidy, Roadmaster; J. L. Alain, Chief Dispatcher; J. M. Kerr, Assistant Master Mechanic.

Russian Railway Material at Coquitlam.—A Vancouver press report states that about 30,000 tons of railway material ordered by Russia, and lying in the C.P.R. yards at Coquitlam, B.C., is about to be sold by instruction of the British Government, on whose credit the orders were placed. When the Russian Imperial Government was overthrown, goods awaiting shipment were held up pending developments.

The C.P.R. Social and Athletic Club of Vancouver, B.C., is reported to have elected the following officers:—Honorary President, F.W. Peters; Honorary Vice Presidents, W. F. Salisbury, H. J. Cambie, C. A. Cotterell; President, J. I. Mackay; Vice President, J. T. Brooks; Secretary, A. E. Tennant; Treasurer, A. J. Calderhead.

Canadian National Railways Construction, Betterments, Etc.

Sydney Terminals.—The Dominion Parliament last session voted the Public Works Department \$100,000 on account for a terminal wharf at Sydney, N.S. Nothing has been done with this appropriation, it being stated that the delay has been caused by the C.N.R. management having more comprehensive plans for terminal improvements there. When at Sydney on Sept. 30, President D. B. Hanna discussed the matter with a delegation of citizens. On Oct. 6, Mr. Hanna telegraphed J. C. Douglas, M.P., Glace Bay, as follows: "It is the opinion and was so expressed by our board of management when at Sydney that the dock should be built by the railway, as it is our belief, from information that has been given us from time to time by representative wholesale houses, that larger business could be done, particularly in coast water trade, if proper dock facilities were provided. We therefore expressed to committee which we met that if the vote of \$100,000 which was to be expended by Public Works Department was transferred to us, we would undertake to use it in the building of a dock along the lines of plan laid down by our engineers some time ago. Will be very glad, therefore, if you will see Minister of Public Works, and if he is agreeable to the transfer, we will immediately submit our recommendation to the Minister of Railways and sub-committee of Privy Council, recommending that work be proceeded with under our management at earliest date possible. Our Board is of opinion that such dock, in connection with

railway operation, would add substantially to revenue of railway."

The Dominion Public Works Department advised Canadian Railway and Marine World Oct. 14 that plans and specifications for the Sydney wharf had been prepared and that tenders would probably be invited early in November.

St. John Station.—We are advised that the debris of the old train shed at St. John, N.B., which fell down during the past summer, has been removed and that two temporary wooden umbrella roofs, being extensions of the existing roofs, have been erected in place thereof. These temporary roofs are about 500 ft. long by 17 ft. wide.

St. John Grain Elevator.—The Cyclone Blow Pipe Co., Port Arthur, Ont., has been given a contract for the manufacture, delivery and installation of a dust collector system for the grain elevator at St. John, N.B.

Chaudiere Jct. Coaling Plant.—Tenders were received to Oct. 23 for the construction of a 350 ton mechanical coaling plant at Chaudiere Jct., Que.

Nipigon Subdivision Bridges.—The Board of Railway Commissioners has approved of certain works, consisting of a diversion of waters at Orient Bay, Ont., and the filling in of two bridges at mile 43.67, Nipigon Subdivision, Ont.

Humboldt Revision.—The Board of Railway Commissioners has approved of revised location of the Canadian Northern Ry. through Victoria Park, Humboldt, Sask., mile 53.09 to 53.62, and has authorized the construction of the line

across six streets.

Borden Northeasterly Branch.—The Board of Railway Commissioners has approved of route map and general location of a branch line from Borden, Sask., northerly, mile 0 to 51.6. Borden is a station on the Canadian Northern Ry. main line, 521 miles from Winnipeg, and 305 miles from Edmonton, Alta.

Hanna, Northerly and Westerly.—A press report states that an engineering party has been in the field for some time making surveys northerly and westerly from Hanna, Alta.

Rosebud Valley Diversion.—A press report from Calgary, Alta., Oct. 8, reports progress being made on the diversion and improvements in the Rosebud Creek valley, on the line between Munson Jct. and Calgary. The report refers particularly to the clearing away of a hill, 60 ft. high, on the route of the cut off, by the setting off of a large quantity of explosive charges, on that date. Details of the work were given in Canadian Railway and Marine World, Mar. 1919, pg. 128; April, 1919, pg. 192, and Oct., 1919, pg. 535.

Kamloops, Vernon, Kelowna, Lumby Branch.—The Board of Railway Commissioners has approved of revised location plans for this branch as follows:—Between mile 63 and 65 east from Kamloops Jct.; from mile 11.5 to 14.3 south from Vernon, and from mile 9.6 to 12 on the Lumby branch. (Oct., pg. 552.)

Direct Cable Communication Between Great Britain and Canada.

The Secretary of the British Post Office issued a circular to British Chambers of Commerce, etc., recently, as follows:—"I am directed by the Postmaster General to draw the attention of your chamber to the fact that a state owned cable is now working between this country and Canada, and that telegrams for North America, the West Indies and Australia may be sent over it if handed in at the post office. It is the desire of His Majesty's Government that this cable, which is known as the Imperial cable, should be used mainly, if not exclusively, for traffic between this country and British Dominions. It is well adapted for this purpose, as it works direct between the Central Telegraph Office, London, and Halifax, N.S., where connection is made with Canadian land lines as well as with a British cable to the West Indies. Australasian traffic is sent by a special line direct from Halifax to Bamfield (Vancouver Island), and thence by the state owned Pacific cable to Australia and New Zealand. A telegram from London to Australia thus reaches the Pacific cable with only one retransmission (at Halifax).

"The rates for ordinary telegrams sent by the Imperial cable are the same as those by other Atlantic cables; but the Imperial route is at present the only Atlantic route on which the deferred service has been restored. Deferred telegrams can be sent by the Imperial cable at the following rates per word: Canada—Eastern Provinces, 4½d.; Manitoba, 7d.; western Provinces (excluding the more inaccessible parts of British Columbia and the Yukon), 7½d.; Jamaica and Bermuda, 1s. 3d.; Australia, 1s. 6d.; New Zealand, 1s. 4d. A deferred service is in operation at the same rates in the reverse direction, for telegrams routed for transmission by the Imperial cable—or, in the case of Australasia, by the Pacific cable."

Grain in Store at Elevators.

Grain in store at public terminal elevators, interior terminal elevators, country elevators in Western Division, and public elevators in east, also at U.S. Atlantic seaboard ports. Prepared by the Dominion Bureau of Statistics, Internal Trade Division.

Week ended Oct. 8th, 1920:	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Rye. Bush.	Totals. Bush.
Port William						
C.P.R.	584,310	30,509	98,105		94,862	807,786
Consolidated Elevator Co.	981,558	31,954	22,924	45,079	564	1,082,079
Ogilvie Flour Mills Co.	403,981	26,472	79,995		13,202	523,650
Western Terminal Elevator Co.	601,629	35,881	13,496	16,017	4,100	671,123
G. T. Pacific	273,780	86,601	28,441	24,112	8,072	421,006
Grain Growers' Grain Co.	871,328	205,854	140,703		51,268	1,269,135
Fort William Elevator Co.	315,032	89,495	38,133		19,675	519,228
Northwestern Elevator Co.	343,348	46,135	109,103	44	1,134	499,764
Port Arthur—						
Port Arthur Elevator Co.	779,772	174,777	114,974	927	15,102	1,085,552
Sask. Co-op. Elevator Co.	1,363,166	49,028	35,762	58,114	12,714	1,518,784
Canadian Government Elevator	315,899	108,248	22,644	93,500	7,044	547,335
Davidson and Smith	6,653	985	1,067		422	9,127
Total Public Terminal Elevators ...	6,840,456	885,939	705,347	257,468	265,377	8,954,587
Total Private Terminal Elevators	1,843,927	393,095	118,435	67,518	23,400	1,946,375
Saskatoon: Can. Gov't Elevator	10,714	8,517	181	1,654		21,066
Moose Jaw: Can. Gov't Elevator	107,907	31,485		1,253	5,554	146,199
Calgary: Can. Gov't Elevator	20,693	43,377	4,865	29	155	69,119
Vancouver, B.C.: Can. Gov't Elevator	858	594		8,828		10,280
*Total Interior Terminal Elevators ..	140,172	83,973	5,046	11,764	5,709	246,664
Midland—						
Aberdeen Elevator Co.	2,100					2,100
Port McNicoll	436,346	200				436,546
Goderich—						
Elevator and Transit Co.	56,894	2,699				59,593
West Can. Flour Mills Co., Ltd.	49,246					49,246
Toronto: Campbell Flour Mills Co.	5,739	16,078	7,828			29,645
Kingston—						
Commercial Elevator Co.	5,145	6,173	3,161			14,479
Port Colborne—						
Dom. Gov't Elevator	578,126					578,126
*Maple Leaf Milling Co., Ltd.	149,920					149,920
Harbor Commissioners No. 1 and 2	3,572,099	355,640	291,454	7,256		4,226,449
Montreal Warehousing Co.	949,217					949,217
Ogilvie Flour Mills Co.	46,974					46,974
Quebec Harbor Commissioners	2,629	15,427				18,056
Total Public Elevators	5,854,435	896,217	302,443	7,256		6,560,351
*Total Country Elevators						
Total U.S. Atlantic Seaboard Ports						
Baltimore, Md.	109,050				12,316	121,366
U.S. Atlantic Seaboard Ports—	109,050				12,316	121,366
Total Quantity in Store	14,288,040	1,759,224	1,131,271	344,006	306,802	17,829,343
*Overshipped.						

Telegraph, Telephone and Cable Matters.

The British Radio Corporation of America Ltd. has been incorporated under the Dominion Companies Act, with \$10,000 authorized capital and office at Montreal, to manufacture and deal in wireless telegraph and telephone apparatus.

A London, Ont., press dispatch of Oct. 19 states that the Direct United States Cable Co.'s shareholders have accepted the British Government's offer of £570,000 for the company's cables and equipment. It is said that the shareholders will receive about £6 a share.

The Manitoba Government telephones show a deficit on operation for the current year of about \$200,000 and the Premier is reported to have stated at Winnipeg, Oct. 15, that this was due to increased wages and operating expenses, and that an increase of rates will be necessary.

The British Columbia Forestry Department is reported to have placed a contract with the Canadian Marconi Co. for the erection of 4 land stations and 5 launch equipments for use in forestry fire protection work. It is stated that the central station at Vancouver, and the equipment of one of the boats, have already been completed.

The Great North Western Telegraph Co. has opened offices at Flaman, Que.; Colborne, Grafton, James Bay Jct., Thor Lake, Ont.; and Lucky Lake, Sask., and has closed its offices at Kiskisink Club House, Little Metis Beach, Manoir Riche-lieu (Pointe au Pic), and Pointe au Pic, Que.; Clifton House, Niagara Falls, Lake Joseph, Muskoka Lakes, Royal Muskoka Hotel and Sparrow Lake, Ont.; East Selkirk, Grand Beach, Scantebury and Victoria Beach, Man.; and Alberta Beach, Alta.

Amongst the interesting items of the war period, which are now being made public, is one relating to cable connections between Canada and Great Britain, reported recently by F. J. Brown, C.B.E., Assistant Secretary to the British Postmaster General, and one of the delegates at Washington, D.C., to consider the final allocation of the cables owned formerly by Germany. He is reported to have stated that the two cables formerly connecting Germany with the U.S., were cut by the British Navy, and diverted, one to France and the other to operate between Great Britain and Canada. The latter was cut about 30 miles from Penzance, on the southwest coast of England, and again in the Atlantic Ocean, about 600 miles from New York, the ends being connected to other cables, giving a direct cable between London, Eng., and Halifax, N.S. This cable was utilized entirely for Government business during the war, but is now open for general commercial business, and is being operated by the Imperial Cable Co. in conjunction with the C.P.R. Telegraphs.

United States Radio Stations are steadily growing in number. It is stated that the government shore radio stations number 135, of which 88 are in continental United States, 20 in Alaska, 19 in the Philippines, 3 in the Canal Zone, 2 in Hawaii, and one each in Porto Rico, Guam and Samoa. The government ship stations total 470.

Cable Construction.—Despite the great development of wireless telegraphy, submarine cables are still being constructed, and with the great increase in commercial and newspaper messages are still regarded as a necessary alternative to

wireless, and by no means obsolete or likely to fall into disuse. In fact, a new cable to the Far East from Great Britain through the Mediterranean, involving a length of 7,000 miles, is being laid section by section as ready, and the possibility of a new cable from Vancouver to Fanning Island is being discussed.

Britain's Wireless Chain.—The long-contemplated plan to connect all parts of the British Empire by wireless telegraph has received fresh impetus through the issue of a report of the committee appointed by the government to formulate such a scheme. The committee's report, which is unanimous, recommends that the Empire shall be linked up wirelessly by stages of about 2,000 miles each and that the system employed shall be that of the generation of radio-telegraphic energy by vacuum tubes. The scheme contemplates two main chains of wireless, one receiving dispatches from Africa, and the other from Asia and Australasia, both with Cairo as their first station. For the first link of the first chain a connection would be made on the Poulsen arc system between Oxford and Cairo, which the Post Office Department has nearly completed.

High Speed Wireless.—Manual operation is apparently doomed as far as long distance radio traffic is concerned. The ever increasing cost of high powered stations makes it necessary to handle a far greater volume of traffic than can be handled by the usual method. Thus some of the present transatlantic stations are operating at 50 to 100 words a minute by means of automatic transmitters and receivers. In England experiments have been going on for some time with automatic transmitters capable of a normal speed of 450 words a minute, and even 1,000 words a minute during demonstrations. The recording is effected by means of a special electro chemical apparatus, which consists of a specially prepared paper drawn between a roller and a marking pointer. The arrival of a signal causes a current to pass through the paper, producing discoloration.

France's Wireless Plans.—A dispatch from Paris states that the French Government has announced plans for an elaborate wireless system whose center will be in Paris and which will cover Europe, Asia, Africa and South America and connect with North America. If this system, part of which is already in existence, is integrally applied as now proposed, France's wireless communications throughout the world will be able to rival with Great Britain's cable communications. According to the details made public at a recent meeting at Rennes, wireless communication was established with Hungary May 20, and will soon be opened with Belgrade. For commercial communication with the United States there is a station at Doual, near Lyons, in addition to the Lafayette station near Bordeaux. Between France and its colonies there will be stations with a range of 7,500 miles at Saigon and at Tahiti. Stations with a radius of at least 4,375 miles will be established at Djiboutil, Antananarivo, Noumeau, and French Guinea. In Africa the system will include stations at Saida and Bamako, which will take care of the traffic between Paris, Algeria and West Africa; another station in Senegal, near Dakar, and finally that of Brazzaville.

Among the Express Companies.

Among the many interesting incidents of the war, which can be contemplated with considerable pride by those who were concerned, some details of which have been made public, the transportation of bullion safely across both the Atlantic and Pacific Oceans, occupies a position of some prominence. V. G. R. Vickers, formerly in charge of the Money Order Department, Dominion Ex. Co., and now Vice President, The Holden Co., Montreal, is the authority for the information that during the war, \$700,000,000 in gold was received at Halifax, N.S., and on the Pacific coast \$262,000,000 of Russian gold was landed and shipped to Ottawa. The Russian shipments came in at different times, the smallest shipment being \$40,000,000 in gold bullion, while the largest was \$98,000,000, which took an all steel train of 13 cars to transport it from Vancouver to Ottawa. These shipments were usually taken from Japanese warships at sea by H.M.C.S. Rainbow, which put to sea under sealed orders and steamed in various directions to deceive any enemy craft as to her possible destination or object, then she made for some small cove on the coast, as remote from shipping as possible, and uninhabited for preference, where the bullion ship would be met. The ships would warp alongside each other, and the cases would be transferred through chutes slung between the ships. All this work was done under the supervision of Dominion Government and Dominion Ex. Co.'s officials. The Rainbow would then proceed to Vancouver by devious routes and get alongside the C.P.R. wharf in darkness, and transfer her cargo to a waiting train. These trains were amply guarded by long service Dominion Ex. Co.'s men and C.P.R. special police, heavily armed, and the train was equipped with telephone communication throughout. On one occasion after the enemy menace on the Pacific coast had been reduced to a practical nullity, the transfer of bullion took place in Esquimalt harbor, and at another time, two Japanese warships steamed into Vancouver in broad daylight, and the bullion was transferred to the train direct. At Halifax, bullion was received in the harbor direct from British cruisers, which ran alongside the Naval Dockyard piers, the cases being discharged into wagons under a guard of marines, who walked alongside the wagons to the waiting train at the south gate of the yard. No traffic was permitted near the bullion train, and guards were placed at every possible point. Some shipments were sent to New York, and others to Ottawa.

Canadian Express Co.

M. J. Dundas, general chairman of express employes of the Canadian Brotherhood of Railway Employes, announced in Ottawa, Oct. 19, that the Canadian Ex. Co. had been served with a notice by its employes asking for increased wages. It is stated that the employes are asking for the same proportionate raise as has been granted to railway employes.

Canadian National Express Co.

Offices have been opened at Orleans, Ont., Notre Dame des Lourdes, Libeau, Man.; the office at St. Proser, Que., has been abandoned and the agent transferred to St. Proser Jct., Que., and the following offices have been closed:—Norway Bay, Que., Lake Joseph and Balla Park, Ont., and Cardiff Jct., Alta.

Electric Railway Department

Proposed Purchase of Ottawa Electric Railway.

The Ottawa City Council had under consideration on Oct. 5 a recommendation from the board of control that the ratepayers be asked to vote at the municipal elections on Jan. 1 on the question "Are you in favor of the city applying for legislation enabling it to borrow money, without a further vote of the electors, to acquire the property and assets of the Ottawa Electric Ry. under the agreement between the city and the company, at a price to be fixed by arbitration, as provided for by the agreement. And in the event of the question being answered in the affirmative, that legislation be applied for conferring the necessary borrowing powers. The Board of control further recommended that the council give it authority to obtain a valuation of the Ottawa Electric Ry. before the vote is taken.

After a lengthened discussion, the council decided not to adopt the recommendation of the board of control for an immediate valuation of the company's property, but agreed to the taking of a vote on the lines suggested, and adopted a suggestion of Alderman Ellis for taking a vote on the same day asking if the ratepayers are in favor of application being made for legislation to provide that the city will not be compelled to acquire the property and assets of the Ottawa Electric Ry., pursuant to the agreement between the city and the railway company, unless a bylaw setting out the amount of the arbitration award shall first be submitted to and receive the assent of the electors entitled to vote on money bylaws, or for such plebiscite as in the opinion of the city solicitor will carry out the intention of this motion.

The Ontario Legislature passed an act at its last session authorizing the Ottawa City Council to appoint a commission with the title of the Ottawa City Transportation Commission; such commission to be a body corporate, and to consist of three resident electors of Ottawa, appointed by the City Council upon the nomination of the Board of Control. The first appointment to the Commission shall be for one, two and three years respectively, so that annually thereafter one member shall be elected for the full term of three years. A member of the Commission is eligible for reappointment, but no member of the City Council may be appointed a commissioner. A bylaw may be passed providing for the payment of salaries to the commissioners.

Upon the acquisition by the city of the Ottawa Electric Ry. Co.'s property used in connection with the working thereof, under the terms of the agreement of June 28, 1893, the control and management thereof, and of all extensions of and additions thereto shall be vested in the Commission, which shall have all the powers conferred upon or exercisable by the City Council, except the power to borrow money upon debentures or by way of a charge upon the plant or property of the railway.

The Commission is given power to complete, alter, extend, maintain and operate a railway, tramway, and any other system of local transportation operated otherwise than by steam, in Ottawa and Hull, and in Gloucester and Nepean Tps., as may be authorized, but no rights shall

be exercised in the Province of Quebec until authorized by the Dominion Parliament or the Quebec Legislature. The Commission may buy rolling stock, plant and other equipment necessary for its lines; carry passengers and freight; appoint workmen, officers, etc., set out their duties and enter into agreements with the same for periods of not exceeding three years at a time; provide a pension fund for its officers and employes; and make agreements with banks for temporary advances.

The Commission may regulate and fix the fares and tolls so that they will produce a sufficient revenue for the operation and maintenance of the railway, provide for renewals and replacements, and

Canadian Electric Railway Association.

Honorary President, Lieut.-Col. J. E. Hutcheson, General Manager, Montreal Tramways Co.

Honorary Vice President, Acton Burrows, Proprietor and Editor, Canadian Railway and Marine World.

President, A. Gaboury, Superintendent, Montreal Tramways Co.

Vice President, G. Gordon Gale, Vice President and General Manager, Hull Electric Co.

Honorary Secretary-Treasurer, pro tem, A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Railway Co.

Executive Committee, The President, Vice President, and F. D. Burpee, Manager, Ottawa Electric Railway Co.; C. C. Curtis, Manager, Cape Breton Electric Co.; A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Railway Co.; Geo. Kidd, General Manager, British Columbia Electric Railway Co.; M. W. Kirkwood, General Manager, Grand River Railway Co. and Lake Erie & Northern Railway Co.; A. W. McLimont, Vice President and General Manager, Winnipeg Electric Railway Co.; R. M. Reade, Superintendent, Quebec Railway Light & Power Co.; Lt.-Col. G. C. Royce, General Manager, Toronto Suburban Railway Co.; C. L. Wilson, Assistant Manager, Toronto & York Radial Railway Co.

Official Organ—Canadian Railway and Marine World, Toronto.

for the payment of principal and interest of all outstanding debentures, encumbrances, fixed and floating liabilities. Should the revenue in any one year fall short of meeting these obligations, the Commission shall increase the fare for the ensuing year to such an extent as will wipe off the deficit and provide sufficient to meet the estimated expenditures for the ensuing year. In the event of the accounts of any year showing a surplus over all expenditures, it shall remain at the disposal of the Commission, to be expended by it for the purposes authorized by the act. The financial year is to end Oct. 31, and the Commission is to present report, with an audited statement of accounts, to the City Council on or before Dec. 15; and on or before Feb. 15 is to present to the Council an estimate of the revenues and expenditures for the then current year. The money necessary to pay principal and interest on debentures is to be paid over at due times by the Commission to the City Council. When debentures are required for the purposes of the Commission, the Council, by a two thirds vote may pass a bylaw to provide the same, without

obtaining the ratepayers' consent, but in the event of such bylaw not obtaining a two thirds vote, or in the event of the Council failing to vote a bylaw within six weeks of receiving the Commission's application, the Commission shall submit a question to the ratepayers whether such debentures should be issued, and should the electors assent thereto the Council shall, within a month thereafter pass the necessary bylaw.

The Council may, by bylaw, authorize the Commission to have charge of and supervision over the negotiations for acquiring the Ottawa Electric Ry. The Council is authorized to acquire the O.E. Ry. property outside the province of Ontario, but such agreement shall not be binding on the City unless, within three months, it shall have been approved by the Ontario Railway and Municipal Board. The Council is authorized to borrow money upon debentures, after obtaining the ratepayers assent, for the purpose of paying for the property taken over from the Ottawa Electric Ry., in Ottawa, and in the adjoining municipalities, together with the costs of the Council in the valuation proceedings. Provision is made for the payment of such price by the City's debentures, and the Commission may assume outstanding mortgages and liabilities of the company in connection with the purchase. The value of the lines outside Ottawa, situated in Ontario, is to be determined by a board of arbitration.

Electric Railway Connection with Toronto Island.

A press report states that the Dominion Minister of Public Works has advised the Mayor of Toronto that directions have been given to the Department's District Engineer at Toronto to report upon the advisability of building a tunnel under the western gap, Toronto harbor, so as to permit the passing of street cars from the city to Toronto Island, as a substitute for the proposed bascule bridge over the gap.

The Assistant City Engineer is credited with saying:—In view of the fact that it is proposed to dredge the channel for ocean going vessels, the tunnel would have to be considerably over 30 ft. below water level. It would depend upon the nature of the soil as to how deep the tunnelling would be. That under the bay, for the water supply, is 200 ft. deep at the island side. The approaches would have to be at least 1,000 ft., to give the proper grades at the two ends of the tunnel.

Winnipeg Electric Ry. Wages Payments:—For the first eight months of this year the gross earnings from operation of the Winnipeg Electric Ry. totalled \$3,406,068.76. Out of these receipts the company paid in wages and salaries to its employes (exclusive of managerial and office expenses), \$2,985,031.88. This means that 59.2% of the company's gross takings, or in other words, 59.2c. out of every dollar the company received from January to August, was paid out again to more than 1,300 workers in the company's employ.

Montreal Tramways Co's Annual Report, Etc.

Following are extracts from the report for the year ended June 30:—

Revenue:	
Allowance from contract	\$2,317,444.80
Other revenue	58,134.78
Gross revenue	\$2,375,579.58
Expenses:	
Interest on bonds	\$1,044,169.20
Interest on debentures.....	850,000.00
Other expenses	28,902.25
Total expenses	\$1,923,071.45
Net income	\$ 452,508.13
Less dividends of 2½% for quarters ended Dec. 31, 1919, Mar. 31, 1920, June 30, 1920	290,550.00
Surplus for the year	\$ 161,958.13
Add surplus at June 30, 1919	1,039,817.86
Total	\$1,201,775.99
From which has been appropriated for:	
Donation to Mrs. Robertson \$ 5,000.00	
Deferred dividends on common stock: 2½% for quarters ended June 30, Sept. 30, and Dec. 31, 1918	255,600.75
Total	260,600.75
General surplus	\$ 941,175.24

The gross revenue for the year was \$2,375,579.58, and the expenses \$1,923,071.45, leaving a net income of \$452,508.13, from which there have been declared three quarterly dividends of 2½% each, amounting to \$290,550.00, leaving a balance carried to the credit of the general surplus account of \$161,958.13, which added to \$1,039,817.86 at the credit of this account in 1919 makes a total of \$1,201,775.99, from which there has been appropriated \$260,600.75, of which \$255,600.75 was on account of deferred dividends paid during the year, and \$5,000 voted by your directors to the widow of one of the company's oldest and most valued officials, Donald S. Robertson, who died during the past year; leaving a balance at the credit of the general surplus account of \$941,175.24.

Your directors desire to point out that from the coming into force of the contract, viz., Feb. 10, 1918, to June 30, 1920, the revenue has not been sufficient to meet the requirements of the contract, the shortage being \$1,728,811.94, of which \$1,192,694.05 is payable to the City of Montreal, when received; and \$223,546.80, which should be placed to the credit of contingent reserve fund under the terms of the contract. The amounts to be received by the company from revenue for account of the City of Montreal of \$1,192,694.05, and for the contingent reserve fund of \$223,546.80, are only payable when the revenue received by the company, under the terms of the contract, is sufficient to pay these charges, after payment of all prior charges. These amounts have not been brought into the statement of assets and liabilities, but are shown on statement of operations under new contract.

Under the terms of the contract the company has to provide from its own funds a guarantee fund amounting to \$500,000, in amounts of not less than \$100,000 a year. Your directors beg to report that \$200,000 is on deposit with a trust company, in accordance with the provisions of the contract.

During the year the company resumed paying its usual quarterly dividends on its common stock at the rate of 2½% per quarter, starting from the quarter ended Dec. 31, 1919; and also paid the quarterly dividend in arrears for the quarters ended June 30, Sept. 30 and Dec. 31, 1918, leaving three quarterly divi-

dends still in arrears.

The employees submitted a demand for a general increase in wages, amounting to about \$3,500,000 a year, which the company declined to accept. The matter was referred to a board of conciliation, appointed under the Industrial Disputes Act of 1907, who unanimously agreed to grant them an increase of approximately \$800,000, which was accepted.

The Tramways Commission, after consideration of the operations of the past year, and after taking into consideration the requirements for the forthcoming year, decided on an increase in fares, effective Sept. 1, 1920.

The company commenced during the course of the year the construction of a modern sub-station at Cote St., and has placed orders for all the equipment thereof. It is hoped to have the same in operation during the coming year.

Statement of Operations under New Contract.

	Feb. 10, 1918 to June 30, 1919	Year ended June 30, 1920	Feb. 10, 1918, to June 30, 1920
Gross earnings	\$11,572,210.48	\$10,782,470.09	\$22,354,680.57
Operating expenses and taxes	6,640,715.22	5,849,911.89	12,490,627.11
Operating profit	45,927.82	46,606.68	92,534.50
Maintenance and renewals	2,098,120.81	2,190,557.43	4,288,678.24
Total	8,784,763.85	8,087,076.00	16,871,839.85
Balance	2,787,446.63	2,695,394.09	5,482,840.72
Allowances due company:—			
6% on capital value	3,018,224.42	2,177,177.70	5,195,402.12
6% on working capital	40,645.44	23,832.96	64,478.40
7% on additions to capital	32,919.35	69,827.46	102,746.81
Expense of financing	251,353.01	181,481.47	432,784.48
Total	3,343,142.22	2,452,269.59	5,795,411.81
Balance debit	555,596.59	*243,124.50	312,571.09
Payable when earned:—			
City of Montreal rental	692,694.05	500,000.00	1,192,694.05
Contingent reserve	115,722.10	107,824.70	223,546.80
Total	808,416.15	607,824.70	1,416,240.85
Deficit	\$1,364,111.74	\$364,700.20	\$1,728,811.94
*Surplus.			

The annual meeting was held Sept. 28. The directors and officers, who were re-elected, were as follows:—E. A. Robert, President; J. W. McConnell, Vice President; Hon. G. G. Foster, K.C., Vice President; W. C. G. Finley, P. J. McIntosh, W. G. Ross, J. M. McIntyre, Hon. J. M. Wilson and Hon. L. C. Webster. Lt. Col. J. E. Hutcheson is General Manager.

The Montreal Tramways Commission has also issued its report for the year ended June 30, stating it had 226 meetings during the year. Following are extracts from the report.

General Statistics.

Total tracks	miles	264.60
Tracks in operation	miles	246.03
Gross receipts per mile of total tracks..		\$40,750.07
Gross receipts per mile of tracks in operation		43,825.88
Percentage of gross receipts devoted to operating expenses and taxes		54.68%
Percentage of gross receipts devoted to maintenance and renewals		20.32%
Percentage of gross receipts devoted to operating expenses		75.00%
Passengers, total number of		255,685,986
Revenue passengers		191,941,835
Transfers		63,744,151
Percentage of transfers to number of revenue passengers		33.21%
Gross receipts per passenger, total...		4.22c.
Gross receipts per revenue passenger...		5.62c.
Receipts per passenger (transportation of passengers only)		5.51c.
Total operating expenses and taxes per revenue passenger		4.21c.

In referring to the deficit on the year's operations, the Commission says:—"The contract has not foreseen the existence of deficits. In order to avoid an excessive rate of fare, the interested parties have agreed not to exact immediately

the payment of the amounts due them. The company's receipts must be applied in the following order to the payment of: 1. Operating expenses and taxes. 2. Maintenance and renewals fund. 3. Remuneration of capital value. 4. City rental. 5. Contingent reserve fund.

"At the end of the fiscal period of operation (Feb. 10, 1918, to June 30, 1919), the gross receipts could only meet the operating expenses and taxes, the maintenance and renewals expenses and a part of the remuneration on capital value (\$2,787,446.63, out of \$3,030,208.66). The accompanying statement shows that at the end of the past year the gross receipts were sufficient to pay not only the operating expenses and taxes and the maintenance and renewals fund, but the whole of the interest on capital value, also on addition to capital, and working capital as well as a part of the financing

expense (\$120,212.39 out of \$432,784.48). There is every indication that, at the end of this year, the situation will be further improved so that the City of Montreal will receive at least a portion on the \$500,000 annual rental."

Answers to Electric Railway Questions.

The following are among answers to question sent to the American Electric Railway Association's question box:—

Near or Far Side Stops.—Do you use the near side or far side stop or a combination of both? Is this required by ordinance or other legal measure? In view of the increase in vehicular traffic, which do you now recommend and what are your reasons for same?

A. Gaboury, Superintendent, Montreal Tramways Co., Montreal: (1) Near side stop is used in general, though far side is used in a few instances, where stop is at the foot of a hill. Near side is much preferable in order to facilitate movement of crossing traffic. Law obliges vehicles to stop behind a standing street car, therefore in case of far side stop at congested corners vehicles behind car would block crossing traffic. In case of far side stop at heavy traffic cross streets car would have to make near side top until crossing traffic had cleared. Near side stop tends to prevent accidents as car is under control ready to stop before reaching cross streets.

The Toronto Railway's Future Management.

The Toronto Transportation Commission, which is arranging matters in connection with the taking over of the Toronto Ry., by the city, in 1921, has appointed H. H. Couzens, General Manager, Toronto Hydro Electric Commission, as General Manager, Toronto Transportation Commission, and has also made the following appointments:—

E. M. Ashworth, heretofore Assistant General Manager, and now acting General Manager, Toronto Hydro Electric Commission, is to be also acting Secretary, Toronto Transportation Commission.

I. S. Fairty, heretofore Assistant City Solicitor, to be Solicitor, Toronto Transportation Commission.

The Commission has also appointed R. C. Harris, City Commissioner of Works; E. L. Cousins, General Manager of the Harbor Commission; and F. A. Gaby, Chief Engineer of the Hydro Electric Power Commission of Ontario, in a consulting capacity, with a view to co-ordinating the interests which they represent and obtaining the benefit of their advice on the problems with which they are familiar.

The Toronto Transportation Commission, which, as stated in Canadian Railway and Marine World for September, consists of P. W. Ellis, wholesale jeweller, President Toronto Hydro Electric Commission and Chairman Queen Victoria Niagara Falls Park Commission, as Chairman; Fred. Miller, of Roger Miller & Sons, railway and harbor contractors, Toronto; and Geo. Wright, hotel proprietor, who is a member of the Toronto Hydro Electric Commission, was appointed under the authority of an act passed at the Ontario Legislature's last session, authorizing the Toronto City Council to pass a bylaw establishing a Commission under the title of the Toronto Transportation Commission, which shall be a body corporate. The Commission is to be composed of three resident ratepayers of Toronto, who shall hold office for three years, and until their successors are appointed, and shall be eligible for reappointment. No member of the City Council is eligible to be appointed a member of the Commission. Appointments to the Commission are to be made by the City Council, on the nomination of the Board of Control, or by a two thirds vote of the Council in the absence of such nomination. The members of the Commission are to be paid such salary as may be fixed by bylaw.

Upon the City Council acquiring the Toronto Ry. under the terms of the agreement, schedule A, chap. 99, Ontario statutes of 55 Victoria, it shall by bylaw transfer the control, maintenance and operation of the same to the Commission, and the Council may, by other bylaws transfer to the Commission the control, maintenance and operation of the civic railway lines, or authorize it to construct and operate tube and subway lines, and operate lines of motor busses. It shall be the duty of the Commission to consider generally all matters relating to local transportation in Toronto, to construct such new lines of street railway, and to provide such plant, equipment and other facilities as it may consider necessary to be constructed or provided, in anticipation of the taking over by the city of the Toronto Ry.

The Commission shall, in particular, but not so as to restrict its general pow-

ers and duties, have power to construct and operate new lines of street railway in addition to or in extension of existing lines; fix such tolls and fares so that its revenue shall be sufficient to make all transportation facilities under its control and management self sustaining, after providing for maintenance, renewals, depreciation and debt charges; and to make requisitions upon the City Council for all sums of money necessary to carry out its powers and duties. The Commission is to make an annual report to the City Council, and publish an audited balance sheet.

The City Council may pass bylaws, without submitting them to the ratepayers, to borrow money to acquire the Toronto Ry. under its agreement; to provide for such plant, equipment and other facilities as may be necessary to be provided in anticipation of the taking over of the railway, and to meet such other expenditures as may be necessary in making arrangements for the operation of the property when taken over; and to provide the Commission with money to construct new lines, and extensions of existing lines, to procure rolling stock, buildings, equipment, etc. The debentures issued for these purposes shall not be counted in ascertaining the limit of the city's borrowing powers for other purposes.

The London Street Railway Situation.

The London, Ont., City Council's special street railway committee is reported to have decided, after a conference with a number of representative men, to recommend to the city council to submit five questions to a vote of the ratepayers, as follows:—

1. Cancellation of the London St. Ry. Co.'s franchise and purchase by the city at a price to be fixed by arbitration.
2. Purchase and operation on behalf of the city by the Hydro Electric Power Commission under hydro radial legislation.
3. Continuance of present ownership with operation by the Ontario Railway Board on a service at cost agreement.
4. Company ownership and operation, with a service at cost agreement.
5. Cancellation of the franchise, ejection of the company from the city streets and establishment of some other municipally owned transportation system, probably motor busses.

Further consideration was given to these questions by the committee on Sept. 29, and prior to the city council's meeting on Oct. 4, when the recommendations were to have come up, Sir Adam Beck is reported to have stated that a vote on the questions suggested would not settle anything, and further that he would not recommend, and the Legislature was not likely to pass, the legislation necessary to give the Hydro Electric Power Commission of Ontario authority to operate the railway for the people.

Suggestions are reported to have been made subsequently to have a vote taken on Jan. 1, as to the purchase of the railway, but up to the time of writing nothing had been settled.

A press report states that owing to the fact that no arrangement has been made between the London City Council and the London St. Ry. as to the various matters about which they differ, A. B.

Ingram, Vice Chairman of the Ontario Railway and Municipal Board, having charge of the operation of the railway, has intimated that the Board does not intend to go on indefinitely with the management, and may relinquish control.

Employees of the London St. Ry. are, it is reported, taking steps to enforce a demand for an increase of wages from 48c. to 52c. an hour; and a press report of Oct. 13 stated that the city council's finance committee has asked the Ontario Railway and Municipal Board to forego payment of bond redemption charges, so that increased wages may be paid.

Increases in Electric Railway Passenger Fares.

British Columbia Electric Ry.—The Victoria, B.C., City Council on Oct. 4 agreed to allow the company to increase its fare on city lines from 5c. to 6c., with six tickets for 35c., and school children's tickets 3c. each, all fares to carry transfer privileges. The company had asked for a 7c. fare, but A. T. Goward, Local Manager, wrote, stating that the increase to that amount would not be pressed and that the company's final offer was a 6c. fare with tickets, etc., as stated above. Heretofore the fare has been 5c. straight, with no transfer privileges or reduced rates for school children. The council also agreed to take steps to eliminate jitney competition. The company is to take over the maintenance of certain portions of the streets. The final details of the agreement are now worked out, and it is not anticipated that there will be much delay in putting the new rates into effect.

Hull Electric Co.—A letter from G. Gordon Gale, Vice President, Hull Electric Co., is reported to have been read at a meeting of the Hull, Que., City Council, Oct. 4, asking that the present agreement governing street car fares which has some years to run yet, be set aside and new rates based on the present cost of operation be made effective. In the letter Mr. Gale claims that since the agreement with the city was made about 26 years ago, an uninterrupted street car service has been provided. He also states that the same fares as charged in 1896 are still being charged, that in the meantime the wages of employes have increased 300%, and that the cost of materials for car repairs, track renewals, and repairs to pavements have increased in like manner, and further that during this long period, the company has been unable to make a profit.

Saskatoon Municipal Ry.—Cash fares on the Saskatoon, Sask., Municipal Ry. were advanced on Oct. 1 from 7c. to 10c., and unlimited tickets are now sold 4 tickets for 25c., instead of 6 for 35c. No change has been made in school children's tickets. Following is a comparison of the old and new rates:—

	New.	Old.
Cash	10c.	7c.
Unlimited tickets	4 for 25c.	6 for 35c.
School children's tickets	8 for 25c.	8 for 25c.

Sudbury-Copper Cliff Suburban Electric Ry.—A press report states that, on Oct. 1, the company put in operation a 5c. increase on the return fare between Sudbury and Copper Cliff, Ont., the new fare being 30c.

Winnipeg Electric Ry.—The Winnipeg City Council on Oct. 11 made an interim appropriation of \$5,000 to carry on an appeal against the Manitoba Public Utilities Commissioner's order of Aug. 23 authorizing an increase of fares on the W. E. R., which went into effect Sept. 1.

Why Winnipeg Electric Railway Asked Abolition of Workmen's Tickets.

The Winnipeg Electric Ry. has published the following statement in reference to the recent abolition of workmen's tickets:—"When we applied to the Manitoba Public Utilities Commission to readjust fares, we asked the Commission to abolish workmen's tickets for the following, among other reasons:—

"To relieve rush hour peak traffic. We found that because red tickets were cheaper than ordinary tickets, shoppers waited until red ticket hours to travel. The shopper load, coupled with the other rush hour traffic, accentuated the peak. It is well known that in order to take care of this peak traffic we have to maintain extra crews, and these extra crews had to be paid standby time; so we found ourselves in the position of giving a more expensive service in the rush hours and getting less for it.

"Sunday car service costs more than week day service. The reason for this is that we have to pay our motormen and conductors 5c. an hour more for the time they work on Sundays than on week days. It surely is not sound business to sell service on Sundays at a lower rate than we sell it for on week days, when it actually costs us more to supply it on Sundays than on week days.

"There was no justification for discrimination. Red tickets meant cheaper fares for those workers who happened to finish work earlier than another set of workers. Probably, when the street cars started operating in 1892 the laboring man received \$1 a day. These workmen's tickets were designed to be used by the workers travelling to and from their work. But the \$1 a day man is no longer with us, and we are all workers now. There is no justification for any particular class in the community being permitted to buy its street railway transportation at a lower rate than any other class. Some one has to pay for the service, and our contention is that the man who uses the cars should pay a fair price for the service he receives, and no one should get any special consideration."

Electric Railway Employees' Wages, Working Conditions, Etc.

British Columbia Electric Ry. — Some time ago the employes applied for an increase in wages, the conductors and motormen asking for an increase from the existing rate of 60c. an hour to 75c. A press report of Oct. 5 stated that the company had offered increases varying from 1c. to 8¼c. an hour, according to the class of work engaged in. The company's offer was laid before the employes at Vancouver, New Westminster and Victoria, and the men voted to accept it. The report states that the new rates, as compared with the old rates are as follows:—

	Per hour.	
	New.	Old
City motormen and conductors	65c.	60c.
Interurban motormen and conductors	67c.	62c.
Car repairers	70c.	62c.
Mechanics' helpers	65c.	62c.
Car cleaners	58c.	58c.
Carpenters	77c.	69c.
Blacksmiths and machinists	80c.	71c.
Trackmen	60c.	59c.

The Sherbrooke Ry. & Power Co. has bought 2 safety one-man operated cars, and is in the market for another 2 of the same, or similar, type.

Mainly About Electric Railway People.

E. H. Bronson, who died at Ottawa, Ont., Oct. 19, aged 76, after a long illness, was a director of the Ottawa Electric Ry. Co.

Henry Herbert Couzens, A.M.I.E.E., who has been appointed General Manager, Toronto Transportation Commission, was born at Totnes, Devonshire, Eng., Oct. 16, 1877, and was educated at the Independent College (Taunton School), Taunton, Eng. He subsequently served as an articled pupil in both mechanical and electrical engineering, with Allen & Sons, Taunton, and the Taunton Corporation Electrical Works respectively, and in 1898 was appointed Assistant Engineer, Bristol Corporation Electrical Department, Bristol, Eng., and held that position until 1901, when he was appointed Deputy City Electrical Engineer, Bristol. He resigned in 1909 on his appointment as Manager and Engineer, West



H. H. Couzens, General Manager, Toronto Transportation Commission.

Ham (London, Eng.) Corporation Electric Supply, and in 1912 was appointed to a similar position with the Hampstead Borough (London, Eng.) Council, and continued for a year as Consulting Engineer for West Ham. He resigned that position at the end of 1912, on his appointment as General Manager, Toronto Hydro Electric System, and took up the duties of the latter position early in 1913. He has been given an indefinite leave of absence pending the full organization of the Transportation Commission, after which, it is said, that he will act as General Manager of the combined systems.

A. H. Dion, Manager, Moose Jaw Electric Ry., Moose Jaw, Sask., is contemplating resigning to engage in commercial work.

W. Marrigan, member of the Public Utilities Commission, Port Arthur, Ont., who died there, Oct. 18, aged 60, was formerly a railway and general contrac-

tor, and carried out several subcontracts on the Intercolonial Ry., New Brunswick Ry., Bangor & Aroostook Rd., Baie des Chaleurs Ry., Soulanges and Welland canals and Port Colborne breakwater.

Fred. R. Miller, who has been appointed one of the members of the Transportation Commission, which has charge of the preparation for the taking over of the Toronto Railway by the city, and which will be in charge after this is accomplished, was born at St. Catharines, Ont., Oct. 31, 1878. He was educated at Ingersoll, Ont., and the Applied Science Faculty, Toronto University, graduating in civil engineering in 1898. He was subsequently associated with Haney & Miller, general contractors, Toronto, and from 1902 to 1909 was engaged in the construction of the waterworks tunnel under Toronto Bay, the Montreal Locomotive Co.'s plant at Montreal, the breakwater at Port Stanley, Ont., and other works. In 1909 he joined the firm of Roger Miller & Son Ltd., and was elected Vice President in 1917. In 1916 he took charge of the production of munitions under the Imperial Munitions Board in Toronto district, and until the winding up of that company was Vice President and General Manager of British Forgings Ltd., Toronto.

G. Pettingell, formerly Superintendent, Winnipeg, Selkirk & Lake Winnipeg Ry., a subsidiary of the Winnipeg Electric Ry., has resigned, and the position is being filled temporarily by L. E. McCall.

P. Pocock, Vice Chairman, London, Ont., Railway Commission, is spending some months in Europe.

Miss Eleanor A. Soper, daughter of Warren Y. Soper, Vice President, Ottawa Electric Ry., Ottawa, was married at Ottawa, Oct. 9 to A. C. Bethune.

John F. Zebley, a Boston, Mass., banker, who is reported to have died suddenly there recently, is said to have financed the construction of the St. John, N.B., Ry., the contractor being his brother, H. B. Zebley, of New York. The first cars were operated Oct. 17, 1887. A prior street car line from Indiantown to Market Square, St. John, was built in 1869, but was abandoned after a few years operation.

The Toronto Ry. city percentage case was before the High Court at Toronto, during October, on the company's application for a declaratory judgment that the unpaid percentage payments due to the city by the company as provided for in the franchise agreement, constitute a lien on the company's assets in priority to the claims of the bondholders. Mr. Justice Orde, in delivering judgment, Oct. 22, stated that he was unable to see what rights of the company were affected, the matter being one as between the city and the bondholders, who had expressed no desire to have the question determined, and therefore dismissed the motion with costs.

Winnipeg Electric Ry. Expenditures, Etc.—The Winnipeg Electric Ry. states that it has disbursed among its employes during the past 4½ years \$8,700,000; that the number of people in the city which it supports aggregates about 5,000; that during the past 4½ years it has purchased goods and material from local business houses which represent \$5,400,000; that it is one of the biggest individual employers of labor in the city.

Electric Railway Projects, Construction, Betterments, Etc.

Calgary Municipal Ry.—The new intersection for Eighth Ave. and Centre St. has been delivered in Calgary, Alta., and is being installed. When the work is completed the running of some lines will be rearranged, thereby effecting improvements in the service. (Oct., pg. 561.)

Grand River Ry.—The Board of Railway Commissioners has authorized the company to make deviations, changes, repairs, etc., on its line in North Dumfries Tp., and in Galt, Ont.; to build a station immediately south of Main St., Galt; to cross certain G.T.R. tracks, and to build under the C.P.R.; to cross the G.T.R. south of Dundas Road, and to install diamond with interlocking plant, derails, home and distant signals, etc.; to connect with the C.P.R. and cross at grade 10 streets or roads in Galt, and three roads in North Dumfries Tp. The Board has also authorized the company to build an additional track (double track) across Speedwell and Bresleau Roads, Waterloo Tp., Ont. (Oct., pg. 561.)

Hydro Electric Power Commission of Ontario.—A press report states that the Commission has filed plans of its projected electric railway lines through the City of Hamilton, and the County of Wentworth. The plans, it is stated, provide for a terminal station on James St., Hamilton, near Stuart St. Hamilton city officials are reported to have said that the filing of the plans was necessary to conform with the Railway Act, in order that they may be examined by interested parties, and objected to if necessary. The plans filed, so far as they affect Hamilton, will be examined by the City Council's railway committee.

Hydro Electric Ry., Essex Division.—We are officially advised that the work in progress on this railway consists of the replacement of the existing single track line extending from Ouelette Ave., along London St., Windsor, Ont., to the Michigan Central Rd., a little over one mile. The work has been undertaken to facilitate operating conditions, and it is expected to have it completed during this year.

A press report states in order to provide funds for the extensions of the street railway system in Windsor and adjacent municipalities, the Hydro Electric Power Commission of Ontario will ask authority to sell another block of debentures, and that when the Ontario Government has taken the necessary action, the municipality may then submit the plan to the people. (Oct., pg. 561.)

London & Port Stanley Ry.—The Board of Railway Commissioners has under consideration an application for authority to build a second track across Bridge St., Port Stanley, Ont. (Oct., pg. 561.)

New Brunswick Power Co.—The St. John, N.B., City Council has been asked to have the company's car tracks removed from Queen St. West. It was stated that the laying of the tracks in this area had been opposed by the residents, and that the city had finally given its approval for the laying of the tracks for three years. This period has expired, and it is desired to have the tracks removed. An alternative route for the tracks was suggested and the applicants were asked to submit their desires in writing in order that the city officials could take up the matter with the company.

Port Burwell, Aylmer and London, Ont. A press report states that the project, discussed at length some years ago for the construction of an electric railway from Port Burwell, on Lake Erie, via Aylmer to London, is again being agitated.

Quebec Ry., Light & Power Co.—Work is reported to have been started on the construction of the extensions on St. Valier St., and in Belvedere Ward, Quebec. It is expected that they will be completed by the end of November. (Oct., pg. 561.)

Sarnia St. Ry.—A press report states that public support is being given to a suggestion that this railway be extended to Corunna, Ont.

Saskatoon Municipal Ry.—We are officially advised that there is now being built about 3,000 ft. of double track on existing lines in Saskatoon, Sask. A contract has been given L. S. Masterson, Pas, Man., for 5,000 track ties, and another contract has been given C. S. Sutherland, Edmonton, Alta., for 65 gross tons of 56 lb. relaying rails with angle bars, bolts, etc. (Sept., pg. 503.)

Tobique to Bathurst, N.B.—A press report states that a proposition is being considered for the building on an electric railway from Tobique to Bathurst, N.B., about 110 miles. Tobique Narrows is a station on the C.P.R. branch line from Perth Jct. to Plaster Rock, and Bathurst is a station on the Canadian National Rys. Such a line would run through Victoria, Northumberland and Gloucester Counties, a very large undeveloped territory containing considerable resources of timber and water powers.

Winnipeg Electric Ry.—A press report of Oct. 11 stated that it was expected to start laying the stone sets on Logan Ave. on Oct. 13, that the loop will be the first part to be completed, and that the car tracks will be laid on Catherine Ave. and Quelch St. instead of Gallagher Ave., this bringing it 300 ft. closer to the C.P.R. shops than its original location. (Sept., pg. 503.)

Public Utilities Should be Self Supporting.

The recent congress of chambers of commerce of the British Empire, in Toronto, adopted the following resolution, moved by E. P. Fredericks, Secretary-Manager, Belleville, Ont., Chamber of Commerce:—"In the operation of public utilities throughout the Empire such utilities, where operated by the nation or a municipality, should be conducted on a self supporting basis and charges for such service should be sufficient to pay the actual cost of the service rendered, without having to make up a deficit by taxation, and thus adding to the already heavy burdens of taxpayers in all parts of the Empire."

Mr. Fredericks said that the resolution was founded on the very sound commercial principle that any business worthy of the name should be at least self supporting. He pointed out that there is a growing tendency, particularly on this side of the Atlantic, to foist broken down public utilities on communities, with the idea that by some process of magic the community can conduct the business at a loss without anyone having to make up the deficit. He added that most cities

are running just about all the charity institutions that they can afford at present, and he urged that public utilities be made to pay their own way, by charging the people who use the service enough to cover the cost of such service. As the congress was being held in Toronto, he used that city as an example of how a public utility would probably work out under public operation. He said that if a reasonable charge for street railway fares of about 5c. had been permitted two years ago the people would have been able to secure the improvements in service for which they have been clamoring. As the matter stood he did not see how it would be possible to get these improvements now inside of two or three years, and at that time the people will be fortunate if they did not have to pay more than 25c. for four rides. He used these figures, because he assumed that the transportation commission which will operate the road will endeavor to make the service at least break even in the matter of cost, because he did not believe that the city should be asked to make up any annual deficit in the operation of this important utility. The people who use the service should pay for it and this opinion was unanimously endorsed by the congress, in fact, the resolution, after being seconded by Wm. Taylor of Owen Sound, Ont., was adopted without a dissenting voice, and after it had been thoroughly considered by representatives of some of the biggest business interests from all parts of the Empire.

Ottawa's Traction Problem.

O.E.R. News, published by Ottawa Electric Ry., has the following in a recent issue:—Those of our readers who have followed the reviews of the United States Federal Commission's report on street railway conditions in that country will now be in a position to appreciate the local electric railway problem, the features of which may be summed up in a few words. In Aug., 1923, the Ottawa Electric Ry. Co.'s franchise expires. Two courses will then be open to the citizens of Ottawa, to purchase the street railway under arbitration, as provided for by the franchise, or to effect a new operating agreement with the company. If the citizens of Ottawa desire that the electric railway become the property of the city, and be operated municipally, the company will do everything in its power to effect a transfer of its property with as little delay as possible. If the citizens decide not to purchase, a new contract with the company becomes necessary if the present good service is to be permanently maintained.

In Ottawa today we have an operating company with an expiring franchise. Such a situation is one that has been duplicated in many cities on this continent, and because the two parties to the contract were unable to get together in good time and decide upon the best course for the future, many places have passed through a period that has been most unfortunate for the business and social life of the community. There is no doubt that in the course of a very few years extensions will be required here into new areas, and possibly additional traffic routes in the districts now served. To finance such construction will require a definite clear cut understanding that will permit those who will operate the railway to regard the future without fear.

We believe that a contract somewhat along the lines of the Taylor Grant,

which has been in operation in Cleveland for the past 10 years, would be the best possible arrangement for Ottawa. The Cleveland contract has been described by a prominent U.S. public service commission as supplying "the best street railway service at the lowest cost of any city in the U.S." It provides competent public supervision and at the same time expert and practical operation under men who have devoted their lives to successful railway management. Contracts of this kind require a flexible fare, which means that the rates of fare are adjusted by a publicly appointed commission at the end of each year's operations. If the commission find the revenue more than sufficient, the rates for the following year are reduced, and if not sufficient they are advanced. In this manner the revenue is always just enough to properly operate the railway, and provide a reasonable return to the owners of the property, thus making it possible at any time to make such extensions and improvements as the citizens through their commission, desire. The flexible fare idea has proved conclusively to be the proper modern system of street railway operation, so much so that a number of municipalities that own and operate their street railways are adopting it. The U. S. Federal Commission found that "the fixed fare contract failed to meet the requirements of the industry and was a relic of a bygone age."

Perhaps our readers know of some better way of dealing with the problem. If so, their suggestions should be put into workable form, for mere theorizing is of no avail where the situation demands a practical conclusion. The service at present provided is good. Is it not wise to carefully consider the whole matter in good time, and adopt the best possible means to make sure that the present good service be permanently maintained?

"The Company Spirit" in British Columbia.

Geo. Kidd, General Manager, B. C. Electric Ry., has addressed the following to the employees:—"At the beginning of another winter season, let me extend to every employe of the company my heartiest wishes for a thoroughly enjoyable time. As the various social and recreational organizations in the company get under way, I hope everyone will enter into the spirit of comradeship and good feeling that has been a feature of the company's existence in the past.

"We have passed our trying times, both as a country and as a company, and while we have problems to face every day, there is no reason why, through the clubs and social organizations of the company, we should not at the proper time forget such worries and join together in the spirit of friendship rather than merely as fellow workers. To this end, the management has provided such facilities as should enable employes to get together from time to time, and I trust they will be made full use of.

"Club rooms, billiard tables and such material goods, however, do not make a company spirit. It is the human factor that counts, the living organization built up of the will to help. Nothing the company can do will provide pleasant relations among the employes unless each employe puts his heart into the game. Neither is everybody constituted the same way. Some are born leaders, some are not. But those who are not can be receptive to the company spirit that

others are fostering. By taking an interest in social gatherings, by entering into competitions, by attending club functions and otherwise expressing their desire to help, employes can do a lot in their individual ways to make it pleasanter for everyone else. Maybe you are not much of a mixer, but you can at any rate meet others half way. This is especially necessary for new employes of the company. Needless to say, we welcome them to our winter activities and I hope the older employes will make them feel at home.

"If it is true that we should know how to work, it is equally so that we should know how to play and when to play. It is the earnest hope of the management that every employe will enter fully into the spirit of the social activities around the company so that the coming season may be the most enjoyable and successful we have ever had."

Electric Railway Finance, Meetings, Etc.

Brantford Municipal Ry.—Brantford, Ont., press dispatch, Oct. 6.—A statement from the Brantford Municipal Ry. Commission shows for eight months of this year gross receipts \$120,419 and gross expenditures \$98,307.49, a gross gain of \$28,111.55. After deducting therefrom interest on bonds and debentures, and making provision for sinking fund, the net gain for the eight months was \$2,584. From the net gain are deducted \$1,666 for depreciation of pavement and \$800 for injuries and damages, leaving a small surplus of \$117.57. The rate of operating expense has gone up from 73.32% in 1919 to 79% this year. Patronage of the West Brantford bus service is growing rapidly.

British Columbia Electric Ry. and allied companies:—

	Aug. 1920	Aug. 1919	2 mos. to Aug. 31, 1920	2 mos. to Aug. 31, 1919
Gross	\$756,543	\$667,170	\$1,496,743	\$1,309,260
Expenses	568,559	500,362	1,134,074	993,343
Net	187,984	166,808	362,669	315,917

Cape Breton Electric Co:—

	Aug. 1920	Aug. 1919	8 mos. to Aug. 31, 1920	8 mos. to Aug. 31, 1919
Gross	\$56,886	\$50,927	\$397,491	\$377,110
Expenses	49,691	38,023	353,155	290,343
Net	7,195	12,904	44,336	86,767

Regina Municipal Ry.—A Regina, Sask., press dispatch of Oct. 2 states that notwithstanding the recent increase in fares the Regina Municipal Ry. had then a deficit of \$40,882 for this year, and that there is a net deficit on the three public utilities of \$79,213, the waterworks department alone showing a surplus.

Toronto Civic Railway.—

	Sept. 1920
Passenger revenue	\$ 46,558
Passengers carried	2,775,708

Toronto Railway.—

	1920		1919	
	Receipts	City percentage	Receipts	City percentage
Jan.	\$ 652,350	\$110,950	\$ 588,923	\$ 88,339
Feb.	595,861	119,172	545,771	96,563
Mar.	745,706	149,141	615,526	123,105
Apr.	653,340	130,668	600,231	120,046
May	644,453	132,892	620,068	124,014
June	544,833	108,966	431,082	86,217
July	641,793	128,539	624,412	128,359
Aug.	631,521	126,304	629,540	125,908
Sept.	690,546	55,243	641,422	51,313
	\$5,820,408	\$1,061,695	\$5,206,975	\$943,864

Toronto Ry., Toronto & York Radial Ry. and allied companies:—

	Aug. 1920	Aug. 1919	8 mos. to Aug. 31, 1920	8 mos. to Aug. 31, 1919
Gross	\$1,225,682	\$1,083,741	\$9,460,745	\$8,194,209
Expenses	871,180	721,687	6,504,758	5,060,016
Net	354,502	362,054	2,955,987	3,161,289

Winnipeg Electric Ry. and allied companies:—

	Aug. 1920	Aug. 1919	8 mos. to Aug. 31, 1920	8 mos. to Aug. 31, 1919
Gross	\$368,616	\$353,194	\$3,405,002	\$2,565,812
Expenses	284,990	288,650	2,537,871	2,030,151
Net	83,626	64,544	867,131	535,661

There was a deficit for August after allowing for fixed charges, of \$1,294.34.

Electric Railway Notes.

Winnipeg Electric Ry. employes reported joining of the One Big Union is denied.

The Point Grey, B.C., Municipal Council is reported to have notified the British Columbia Electric Ry. that a 20-minute service is required on Oak, Dunbar and Crown Sts., as provided for in the franchise.

The Montreal Tramways Co. took proceedings in the Recorder's Court recently against E. Renaud and Mrs. I. Maggell for using transfers illegally, by giving them away. The accused were fined \$40 each, or in default of payment, two months in jail.

The Regina, Sask., City Council is reported to have decided to take another vote of the ratepayers on the bylaw to authorize the operation of one-man cars on the municipal railway, which was defeated by 428 to 321 when it was submitted in July.

The London, Ont., Railway Commission, has under consideration a suggestion for the reduction of the train service between London and Port Stanley. A report on the matter is being prepared by the Manager for consideration at an early meeting of the Commission.

The Assiniboia, Man., municipal council is reported to be making arrangements for operating motor bus lines in the municipality, owing to some differences with the Winnipeg Electric Ry. An effort is being made to have the difficulties adjusted through the Public Utilities Commissioner.

The Winnipeg City Council's transportation committee has recommended "that on the advice of solicitors, application be made to the Attorney General for a stated case as to the constitutionality of The Public Utilities Act and that any action that may have been taken by the solicitors with this end in view be confirmed."

The British Columbia Electric Ry. has issued a folder, "Fishing and Shooting along the B.C. Electric," which contains very full information about fish and game to be found near the company's lines, with maps of districts, dates of open seasons, particulars of train service and a map of the company's mainland system, which includes the interurban to Chilliwack, "the longest interurban line in Canada."

The Dominion labor party in Winnipeg has the following in its platform programme for the forthcoming municipal elections:—"We demand that the street railway company live up to the terms of the original contract with the city, or surrender the monopoly; and that if the street railway company does not accede to this demand, this party will seek to elect a city council pledged to the establishment of a municipal motor bus service and take such other steps as may be necessary to remove the city's transportation system from private control."

The Quebec Public Service Commission at Montreal, Oct. 7, heard the Montreal

Tramways Co.'s appeal against the Montreal Tramways Commission's decision regarding \$16,000 which the company had charged as interest on the unpaid return of the past two years, which the company claimed was provided for in the contract between the company and the

city. The Tramways Commission disallowed the claim. The Public Service Commission adjourned the hearing of the matter pending the decision of a court on two other points arising out of the amount of capital on which the company is entitled to a return of 6%.

Motor Busses Cannot Compete with Trolley Cars in Winnipeg.

The Winnipeg Electric Ry.'s experience with its motor bus service, in operation since May, 1918, proves fairly conclusively that the motor bus is not an adequate substitute for an electric street railway, and can best be used to advantage in a new district where travel does not justify the initial cost of railway construction. The company is operating seven 16-passenger busses, on routes which serve as feeders to the railway. Only five are in regular operation, the others being held in reserve for emergencies. The bus services were inaugurated as an expedient, and it is the company's intention to replace these services with electric railway service when conditions warrant.

The results of operation show that the motor bus, in Winnipeg at any rate, is not as economical as the electric car operated over steel rails. In the matter of regular and dependable service, too, the motor bus does not compare favorably with the street car; the severe climatic conditions of that northern city making all the year round efficient operation of the motor bus almost impossible. The company has furnished Canadian Railway and Marine World with the following statement of the cost of operating five of these busses for the seven months ended July 31, 1920. The cost of the five busses was \$12,930, and the total miles operated 66,183:—

	Total costs	Cost per mile
Drivers	\$5,366.30	8.12c.
Tires	980.84	1.48c.
Gasoline	3,593.14	5.42c.
Oil	328.90	.48c.
Labor for repairs	2,056.42	3.11c.
Materials for repairs	1,072.91	1.62c.
Storage rental	350.00	.53c.
Insurance—		
Liability	\$630.00	
Fire	52.78	
	682.78	1.06c.
Taxes, including driver's licenses, provincial and city car licenses	152.00	.23c.
General expenses, including supervision, accounting and other overhead expenses	312.93	.47c.
	\$14,896.22	22.52c.
Depreciation	1,508.50	2.28c.
Interest on investment	603.40	.91
Total costs	\$17,008.12	25.71c.

It will be noted from the table that motor bus costs total 25.71c. a bus mile. The cost of electric street railway service in Winnipeg during the same period was 27.60c. a car mile. In a comparison it is seen that there is a difference of 1.89c. a mile in favor of the bus, but when consideration is given to the relative carrying capacity of the bus and the street car, there is no question that street car operation is the more economical. Another factor bearing on this point is the increasing price of gasoline, and the comparatively constant price of electricity. Gasoline in Winnipeg cost 37c. a gallon in January last, 47c. in June and 51c. in October.

In commenting on this matter, the Winnipeg Electric Ry. says:—"Anyone who suggests that Winnipeg can operate a municipal bus service in competition with the street railway, at rates less than those charged at present in the city, is not well informed. Even if there were

no trolley system at all to compete against, a bus service could not provide anything like adequate transportation for the people of Winnipeg, and could not be operated as cheaply as the present trolley system.

"Picture for yourself the situation in Winnipeg during the evening rush period. Although sometimes in severe weather in the 90 minutes between 5 and 6.30 p.m. as many as 120 street cars pass through the 'neck of the bottle' at the corner of Portage Ave. and Main St. going west on Portage Ave., the street cars at times are taxed to the utmost to carry all the people who want to ride. A street car can carry four and five times as many passengers as a bus, and if busses were to take the place of street cars it would take 500 busses to handle the crowd going west on Portage Ave. alone.

"But apart altogether from the service point of view, there is the question of cost. We operate several motor busses ourselves, and our experience with them is common to the experience of other cities where a bus service is operated. The service life of a motor bus averages three years. After this period they have to be replaced. The average life of a street car is 25 years. Then again there is the cost of motive power. A street car will use up 2c. worth of electricity in going a mile. To go the same distance a motor bus absorbs about 6c. worth of gasoline, a difference of 200% in the cost of motive power for one mile of operation. Elsewhere, as in Winnipeg, experience shows that it costs practically as much for a bus to travel one mile as it does for a street car to travel one mile, but—the street car carries five times as many people as the bus. In other words, for the same cost of operation per car mile, a street car can produce five times as much revenue as a bus."

One-man cars in St. Thomas.—The St. Thomas Street Ry., which is owned by the City of St. Thomas, is operating one-man cars, which are old single truck cars, converted for one-man operation with double end drive. It still has two cars which are operated by two men each, on busy days or holidays. An official writes: "We find these one-man cars very satisfactory. One of our greatest troubles is to get the people educated to have their fares ready when getting on the cars. We have put out tickets among the merchants for sale, so that people can get them easily, and thus save time for the one-man operator."

Ontario Hydro-Electric Railways Commission.—The Commission appointed by the Ontario Government, with Mr. Justice Sutherland as Chairman, to investigate matters connected with the proposed construction and operation of radial electric railways by the Hydro-Electric Power Commission of Ontario, held its first public sitting in Toronto, Sept. 29, and had several other sittings during October for examination of witnesses, most of the time being occupied in the examination of F. A. Gaby, Chief Engineer, Hydro Electric Power Commission of Ontario.

MARINE DEPARTMENT.

Australian Port Improvements.

B. Millin, Canadian Government Commercial Agent at Sydney, New South Wales, writes:—Sydney continues to outgrow its wharfage accommodation, and the Harbour Trust Commissioners have in view a scheme which contemplates the provision of a large amount of additional accommodation. This scheme is to be undertaken in stages and its development will take place in accordance with the rate of increase of shipping trading to the port. In 1901, with few exceptions, the Sydney wharves were in private hands, and owing to the steep nature of the foreshores access was in most cases very difficult. All this has been altered and communication is now easy and convenient. In the year before mentioned, the wharves were assumed by the Sydney Harbour Trust at a cost of £4,700,000, and since that date an additional £4,000,000 has been spent in new wharves and reconstruction.

The port of Newcastle is to have better provision made for deep sea ships, which at present are unable to load to their full capacity, owing to lack of sufficient depth of water at the entrance. At present the bar's mean depth is 24 ft. at low water, and it is to be deepened to 33 ft. The rise and fall of tides at Newcastle is from 4 to 6 ft., and when the proposed work is completed the port will be able to deal with the largest vessels that come to Australia.

Dredging in St. John Harbor.—The Dominion Public Works Department has awarded a contract to J. A. Gregory, of West St. John, N.B., for the following dredging:—Completing deep water berths 5, 6 and 7 to 30 ft. below low water; deep water berths 1, 2, 3 and 4 to 25 ft. below low water; deep water berth no. 7 extension to 15 ft. below low water; deep water berths 15 and 16 to 30 ft. below low water level, and to complete the berth on the east side of Canadian National Rys. long wharf to 30 ft. below low water. The names given above are those by which the berths are known, which correspond with their location in the harbor.

Intensity of Wireless Signals.—A method of measuring and comparing the intensities of signals received by a radio station has been worked out in France with good results. This method, which can be employed only for undamped waves, essentially consists in comparing the intensities of reception of the signal and of the sound produced by a local source of oscillations, of the same frequency and form, constituted by an ordinary heterodyne. By modifying the intensity of the action of the auxiliary oscillation generating device upon, say, the antenna, a rough equalization is first obtained, afterwards, by manoeuvring convenient shunts to the telephone an absolute equality of intensity is obtained. The ratio of intensities is proportional to the shunt resistances. Moreover, by inserting a thermo galvanometer in the antenna the absolute value of the intensity of the auxiliary signals can be obtained.

Marpole Coal Co. Ltd. has been incorporated under the British Columbia Companies Act, with authorized capital of \$200,000, to take over a contract made between Canadian Collieries (Dunsmuir), and R. F. Marpole, for handling coal, and to own and operate steam and other ships, railways, etc.

Marine Department

The Port of Victoria, British Columbia

By Thos. C. Sorby, Secretary, Inner Harbor Association of Victoria.

The Port of Victoria, B.C., is situated at the southeastern end of Vancouver Island, and is the first landfall of ships coming inward from the Pacific Ocean toward lower British Columbia or Puget Sound, and it is a port of call for nearly all ships passing inward or outward. It has a wireless telegraph station which can communicate with ships 250 to 300 miles in the open Pacific Ocean and has cable communication with all parts of the globe. Victoria is the capital of British Columbia, with direct railway, telegraphic, telephonic and wat-

lighted, and abundantly supplied with water; its residential streets are boulevarded, with pretty homes on either side in well kept private gardens. Beacon Hill Park, with its placid lakes, surrounded still by numbers of old forest trees, its shady glades and, in its season, the hill ablaze with the golden broom, overlooks the Straits of San Juan de Fuca, with a magnificent view of the distant snow-clad mountains, and presents a scene of ever varying beauty. The presence of the arbutus tree and the native dog-wood tree are evidences of

the center of the sheds.

The wharves of the inner harbor are privately owned, and have a developed frontage of about 15,500 lin. ft. (exclusive of shipyards) and have a large shed area with a depth of water ranging from 16 to 20 ft. at low tide, the latter being the objective depth throughout the harbor. Amongst these commercial wharves are included the outer wharf (Rithet's), with a water frontage of about 2,680 ft. in 30 to 33 ft. of water at low tide and a freight capacity of some 7,000 tons; the whole property covering 16 acres;



Victoria, B.C.—James Bay, Inner Harbor, from the Causeway, showing Canadian Pacific Ry. wharves at the left and Grand Trunk Pacific Coast Steamship Co.'s wharves at the right.

er communication to all parts of Vancouver Island and the mainland. Victoria is so geographically placed that it enjoys a remarkably equable climate, free from storms, with a temperature that seldom exceeds 80 degrees in summer or descends below 20 degrees in winter. It has a moderate rainfall (about 29 in.) and a maximum of sunshine and relatively small amount of fog, and outdoor work is practicable nearly every day throughout the year. The climate is moderated greatly by the Japanese current to the south in winter and the cool winds from the mountains in summer, and it is by reason of this equable climate that the Dominion Government selected Victoria for the location of its astrophysical observatory, erected a short distance north of the city limits. The city is exceptionally well paved and

the mildness of the climate.

The port and harbor of Victoria is situated on an arm of the sea, the entrance being between McLaughlin Point and the western end of Ogden Point breakwater, from which the Dominion Government has recently completed a breakwater 2,750 ft. long, at a cost of \$2,000,000. This structure protects about 90 acres of water from the heavy, southeasterly seas. Inside the breakwater are two concrete piers, erected at a cost of \$2,300,000, providing about 4,000 ft. of berthage in 35 ft. of water at low tide. On the piers are sheds, one 700 x 200 ft. and another 200 x 200 ft. These have rails along the sides and down the center, connected with the car ferry slip, enabling the cars of all the mainland systems to be run from the manufactories of the east, alongside the ships or into

the Brackman-Ker mills and wharf; the Victoria Chemical Co.'s wharf, 336 ft. frontage in 20 ft. of water; British American Paint Works, with a wharf frontage of about 300 ft.; the wharves of the C.P.R. (British Columbia Coast Service), with a wharf frontage of 1,600 ft.; the Victoria Dock Co., about 360 ft.; the Grand Trunk Pacific Coast Steamship Co., about 1,200 ft.; the Canadian Puget Sound Timber & Lumber Co., about 550 ft.; the Consolidated Whaling Co., with a frontage of about 300 ft., and many small wharves.

Railway Communication.—Victoria is the southern terminus of the Esquimalt & Nanaimo Ry., running from Victoria to Nanaimo and Courtenay, the coal fields on the north, and Alberni on the west coast. This line is an integral part of the C.P.R.'s great transcontinental sys-

tem, and cars from all parts of the Canadian and United States systems are delivered at the Victoria freight station by car-barge ferries from Vancouver to Ladysmith and Esquimalt.

The Canadian Northern Pacific Ry. (now part of the Canadian National Rys.) has built a temporary trestle bridge across Selkirk Water, with a 70 ft. bascule bridge. The temporary terminals of the railway are on the northern side of the Esquimalt Road, at the west end of Point Ellice bridge. This will be the temporary terminus of the Saanich Peninsular branch. In connection with its temporary terminus at Point Ellice, the C.N.R. proposes erecting a car ferry slipway, south of the bridge, so that cars to or from the mainland can be taken at any time to or from the slip at the ocean docks at Ogden Point, or to or from any of the wharves in the harbor.

Car Ferry Service.—The development of the car ferry coasting trade is having an important effect upon industries on the Pacific coast, and is doing much to assist their growth. These ferries call at various points along the coast, bringing railway freight cars to mills and other concerns which are not situated

sula.

Thus it will be seen that the greater part of Vancouver Island is directly connected with the Port of Victoria as the distributing center of an island of 16,000 square miles in area, which occupies a most conspicuous position both geographically and strategically on the map of Western Canada. This area is one of infinite and undeveloped wealth; its forests, coal mines, mineral deposits and fisheries all accessible from a lengthy coast line, or by rail.

Coastwise Service.—The C.P.R. Co. has about 2,500 ft. of wharfage in James Bay, with spacious warehouse accommodation. Its B.C. Coast Steamship Service is operating 16 steamships out of Victoria this year, giving semi-weekly service in summer, and fortnightly in winter, to Alaska, and a weekly service to Prince Rupert throughout the year; a regular service to the west coast of Vancouver Island; two ships a day to and from Vancouver, and a daily ship to Seattle every afternoon. These ships all use the Victoria inner harbor and make their headquarters at the company's piers, and connect with their main line and continental system at Vancouver.

Line), sailings every 28 days to Japan, Hong Kong, Philippine Islands, etc.

Nippon Yusen Kaisha (Japan Mail S. S. Co.), sailings every 10 days to and from Japan and China, in connection with U.S. railways.

The Harrison Direct Line, monthly sailings, to and from Antwerp, Glasgow, London, Liverpool, etc.

The Royal Mail Steam Packet Co., monthly sailings to and from Europe, Hong Kong, China, Ceylon, Manila, and the North Pacific Coast.

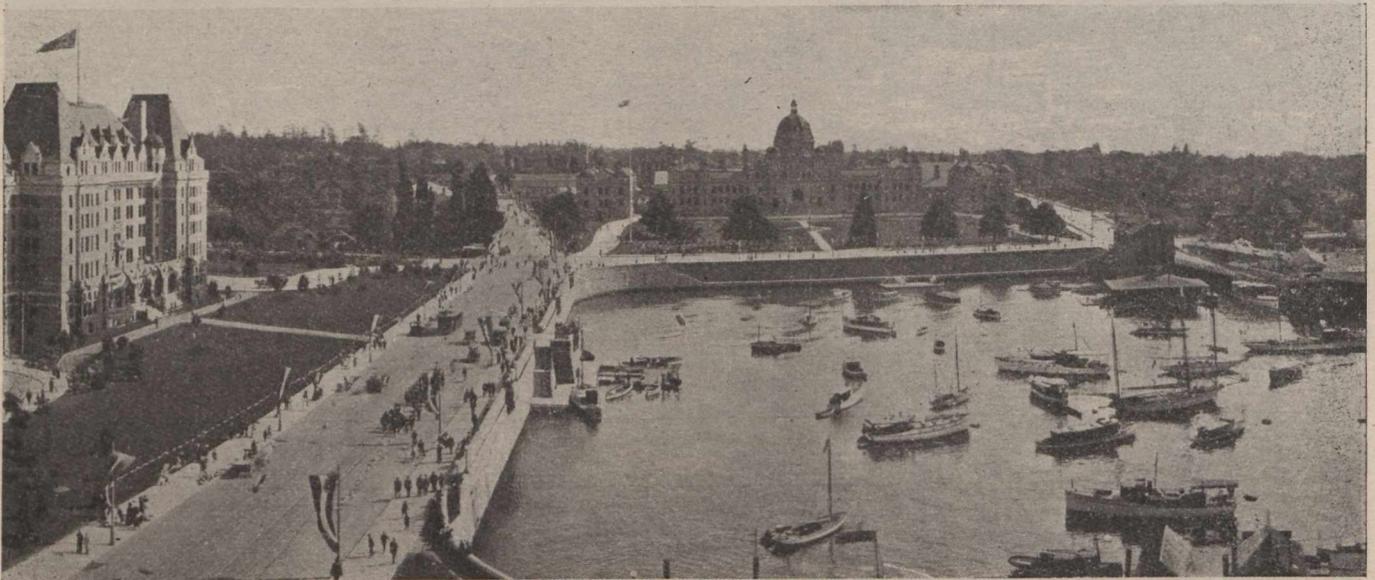
The Pacific S.S. Co., weekly sailings to and from San Francisco and California ports.

The Grace Line, to and from Mexico and South American ports, via San Francisco, and from New York via the Panama Canal.

The Osaka Shosen Kaisha, to and from Japan, Hong Kong, Manila, in connection with the Milwaukee Railway.

The Canadian-Australian Royal Mail, Line with monthly sailings to and from Auckland, Sydney, Honolulu, Suva, etc.

In addition to these lines of steamships, there are a number of tramp steamships, carrying sulphur, nitrate of soda, superphosphate of lime, fuel oil,



Victoria, B.C.—Head of James Bay, near C.P.R. landing, looking north, showing Empress Hotel on the left, and Legislative Buildings to the right.

near a railway. The cars are either landed and loaded, or loaded directly on their barges. In this way, industrial concerns that are actually a considerable distance from a railway are given direct rail connection. A car ferry service is maintained every day in the year by the C.P.R., with four car barges and three tugs between Vancouver and Victoria and Vancouver Island points.

The Canadian National Rys. are maintaining a similar service between Port Mann, on the south side of the Fraser River, and Patricia Bay, on Vancouver Island, by the new car ferry Canora, which is 308 ft. long, with a beam of 52 ft. and a moulded depth to the shelter deck of 28 ft. The draft loaded is 14½ ft., with a displacement of 3,400 tons, and capacity of 20 cars. Her speed on service is 14 miles an hour.

The B.C. Electric Ry. has a complete street railway service, about 42 miles in extent, connecting Esquimalt and the Naval Station on the west, Oak Bay on the east; and also by interurban line (some 23 miles long), giving rapid service to the municipalities, summer resorts and villages on the Saanich Penin-

There is a weekly service to west coast points on the mainland and three trips a month to the west coast of Vancouver Island and four trips a month to the Gulf Islands.

The Grand Trunk Pacific Coast Steamship Co. has a wharf frontage on James Bay of about 1,450 ft., and operates four steamships, using its own piers in the inner harbor. This fleet makes trips twice a week between Seattle, Victoria, Vancouver, Ocean Falls, Swanson Bay, Prince Rupert, and Anyox. The G.T.P. Ry., with its western terminus at Prince Rupert, is operating transcontinental trains between Prince Rupert and points east, making direct connection with steamships both northbound and southbound.

The Puget Sound Navigation Co. operates steamship between Seattle and Victoria, B.C., and all other important points on Puget Sound.

Steamship Lines, running in and out of the port of Victoria, calling at the outer wharf:—

Canadian Pacific Ocean Services, Ltd., to and from China and Japan.

The Ocean S. S. Co., (Blue Funnel

rice, fish, etc. The low port charges make it possible for these lines to call and discharge freight and passengers for Victoria and Vancouver or Seattle in passing.

Ordinary Port Charges, Victoria.

Hospital dues, per net ton, payable three times annually	\$0.01½
Harbor dues, payable twice annually.....	5.00
Bill of health	1.00
Port agency	Up from \$15.00
Dockage charge (no cargo landed), \$4 for first 200 tons and 1½c. for each additional ton.	

Stevedoring.

Loading—	
Salmon or general cargo, per ton.....	70c. to 80c.
Lumber and timber, per m. ft.....	\$2.25 to \$2.50
Discharging—	
General cargo (weight and measurement), per ton	\$0.65
Coal, per ton	1.10

Bunker Coal.—At Union Bay, 120 miles from Victoria, the Canadian Collieries (Dunsmuir) Ltd. has ample facilities for the rapid bunkering of all classes of steamships with Comox steam coal. Dispatch can be given at the rate of 400 tons an hour. The company contracts for the supply of this coal to the British Admiralty, Imperial Japanese Navy, Canadian Pacific, Nippon Yusen Kaisha, Blue Funnel, and other steamship companies.

There are also the Canadian Western Fuel Mines at Nanaimo, and the Pacific Coast coal mines at South Wellington.

Fuel Oil.—Inside McLaughlin Point and opposite the outer wharf is the Imperial Oil Co.'s wharf, where fuel oil, gasoline, distillate, lubricating oils, etc., may be obtained.

The principal industries of the port of Victoria are lumbering, shipbuilding with steel and wood, ship repairing, whaling, grain milling, fish canning, and fruit growing and preserving.

The lumbering business is in a very flourishing condition, the present monthly cut of the five mills bordering the harbor being about 8,000,000 ft. and of the shingle mill about 600,000 ft., and these figures would be considerably increased if a sufficiency of tonnage was

in a forest stand of hemlock and spruce, from which there are cut 250,000 ft. a day and there are exported 65 tons of the finished product, about half of which is sulphite, bleached or unbleached. With the development of the adjacent water power these figures would rapidly be increased.

Shipbuilding.—The Harbour Marine Co. has two ways about 400 ft long for building ships of about 8,100 d.w. tons. This yard is fitted with the most modern shipbuilding appliances, including the largest bar-bending furnace on the coast. The 2 ships now building are for the Canadian Government Merchant Marine Ltd., 400 ft. long, 52 ft. moulded breadth, 31 ft. moulded depth, with a draft of about 25 ft. loaded. They will have carrying capacity of about 8,100 tons, with

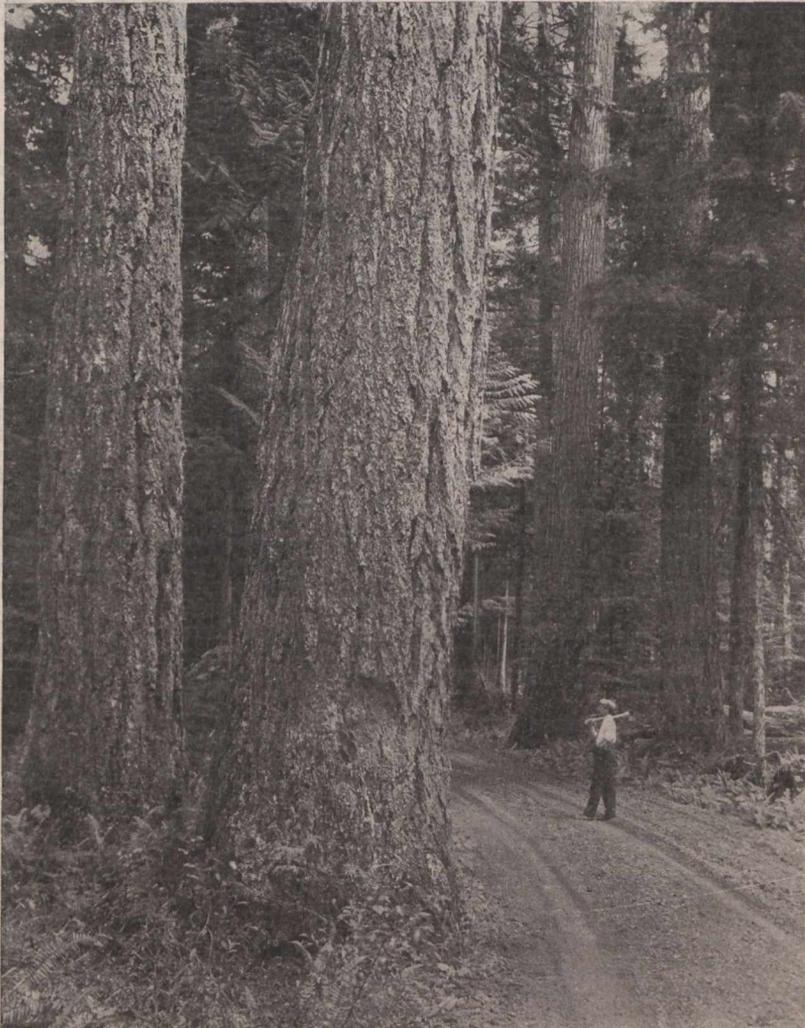
are heavier than usual, and the construction generally will be above classification requirements. The barquentines will have a large sail spread and will have fine lines, permitting fast sailing. Provision is being made for the complete repairing of wooden ships, this being the nearest yard to the open ocean immediately available to a ship in distress.

The Douglas fir, of which these vessels are mainly built, is indigenous to Vancouver Island and grows to greater size and of finer quality on the island and western slope of the mainland than anywhere else. Douglas fir is exceptionally strong for its weight, a fact more important in the shipbuilding industry than almost any other business. It is important that the material used in ship construction be as light as the desired strength will permit, and Douglas fir is one of the few woods whose strength is above the value set by the well established law of weight vs. strength, and frequently squares 45 in. for a length of 90 ft. In addition to the large timbers and planks obtainable from Douglas fir trees, the stumps yield the finest and largest ship knees in the world. These knees are an important item to the shipbuilder, for as many as 200 or 300 are used in a single boat. For many years the large masts and spars for ships built in various shipyards of the world have been supplied from the Douglas fir forests.

Ship Repairing.—In the upper harbor, or basin, are the Victoria Machinery Depot Co.'s works, having a frontage of about 360 ft. The marine ways are fitted with a cradle 280 ft. long by 60 ft. wide, providing dry dockage for repairing, cleaning, etc., for ships up to 3,000 tons displacement; larger ships are docked by the firm at Esquimalt drydock. At the plant are up to date machine shops, boiler shops, blacksmith's shop, foundry and pattern shop and an extensive wharf area for receiving and storage of goods. A 9-ton steam hammer, an oil furnace and another oxy-acetylene welder have been added to the equipment of the company's blacksmith shop, which was recently enlarged by an addition measuring 36 x 40 ft. The old steam hammer in the shop delivers a blow of three tons, while the new one is the largest in the city.

Yarrows Limited shipbuilding, engineering and ship repairing plant is situated in Esquimalt Harbor near Victoria, close to the government drydock, and is adjacent to the site of the new dry dock. This yard is specially equipped to cope with ship repair work and the facilities for the quick dispatch of repairs have been steadily improved and added to. The marine railway can accommodate ships up to 315 ft. long and 3,000 tons displacement, larger ships up to 480 ft. being accommodated in the adjacent drydock. The wharf is 600 ft. long, can accommodate ships on both sides up to 23 ft. draft, and is equipped with shearlegs capable of lifting 60 tons, and is fitted with compressed air, water and electric leads, etc. There is a floating crane of 10 tons capacity, and also a floating compressed air plant and other facilities. The yard is equipped with up to date machine shops, boiler shops, joiner shop, pattern shop, and foundry, also copper-smith and pipe shop, powerful portable electric welding and galvanizing plant.

Dry Docks.—The Esquimalt drydock, near Victoria, is owned by the Dominion Government. Length of dock to gate, 450 ft. at keel blocks; 480 ft. at curb; width at gates, 65 ft.; depth of water, 27 to 29 ft.; minimum charge, \$100 a



Douglas Fir Trees, on the road to Alberni, Vancouver Island.

available for the transportation of the manufactured products to the markets needing the goods.

Wood pulp and paper making woods, in inexhaustible quantities, border the ocean and navigable waters within easy transportation to Victoria. The products of the mills find ready market in Australia, Japan, China, Great Britain, Europe and the northwestern United States. The Powell River mills have a daily capacity of 250 tons of news print. For export purposes ships can load direct at Swanson Bay. The sulphite and fiber mills are capitalized at \$2,500,000 and have a capacity of from 60 to 70 tons a day, the product being shipped to Vancouver and Prince Rupert for rail transportation. These mills are situated

an estimated speed of 12 knots. They are of the two-deck type, with poop, bridge and forecastle, straight stem and elliptical stern.

The Cholberg Ship Co., established for the building of wooden ships, has built 4-masted sailing schooners 210 ft. long, 45 ft. beam, 22 ft. moulded depth, cargo capacity 1,500 d.w. tons, or 1,100,000 ft. b.m. lumber, built to British Lloyd's requirements, adapted for the installation of auxiliary engines on their completion. The ships now building will be of 2,400 d.w. tons, with a capacity of 1,500,000 ft. of lumber. Heavy metal knees of forged steel will replace the usual wooden ones, resulting in there being room for 75,000 ft. more lumber than with ordinary methods. The timbers and bolts

day. The Dominion Government proposes to commence shortly the construction of a new drydock in Esquimalt harbor, immediately adjacent to Yarrow's shipyard. The plans propose the following dimensions: Length from caisson stop to head wall, 1,150 ft.; width of entrance, 120 ft.; depth on sill at ordinary high water spring tides, 40 ft.; width at coping of dock walls, 144 ft. The dock will be divided into two sections, 650 ft. and 500 ft. respectively, each part to be closed by a ship steel caisson. For the purposes of emptying the dock, three centrifugal pumps, each with a pumping capacity of 60,000 gal. a minute, will be installed. Electric power, generated by the dock power plant, will run the pumps and other machinery. The walls of the dock will be of concrete with granite copings. The keel and bilge blocks will rest on granite strips extending the full length of the dock, and granite will be used for the caisson stops. A basin, 560 x 200 ft., will be provided on the south side of the drydock, for the repairing of ships while afloat and to permit the unloading of cargoes before ships enter the graving basin. The structure around the basin will be built of reinforced concrete. Other units of the drydock plant will include: boiler shop, 128 x 60 ft.; machine shop, 240 x 100 ft.; copper and pipe shop, 120 x 60 ft.; general store, 123 x 60 ft.; forge and smith shop, 144 x 60 ft.; smith repair shop, 240 x 80 ft.; slab furnace and angle smith shop, sail loft, paint shop and store. Other buildings to be erected in connection with the drydock will include a spacious generator house, oil service tanks, and oil cistern, lined with concrete, office buildings and various details associated with an industrial plant of this magnitude.

Fishing Industry.—The B.C. salmon fisheries are a most important industry, the activities of which spread over all the rivers and inlets of the B.C. coast. One cannery at Esquimalt, close to Victoria, puts up about 30,000 cases a year. The fish are caught in traps in Straits of San Juan de Fuca. They are shipped mostly over the C.P.R. and other railways to the European markets. There are two or three other canneries on Vancouver Island doing an extensive business, and many more on the mainland. The total pack in B.C. in 1919 was 1,393,156 cases, valued at \$15,000,000, of which the Vancouver Island pack was 165,000 cases, made up principally of sockeyes, red springs, cohoes and pinks, the balance being chums and white springs. The annual export of salmon is about 175,000 tons, of cod about 1,000 tons, of herring 23,000 tons, with halibut, oolachans, trout and clams in corresponding large quantities. Seventy-five per cent. are exported to Great Britain and other large consumers are France, Italy and Greece.

The Consolidated Whaling Corporation Ltd. (late Victoria Whaling Co.) has been incorporated recently with head offices at Toronto and a capital of \$2,500,000. Large consignments of whale oil have been brought to Victoria recently from the various stations on the west coast of Vancouver Island and the Queen Charlotte Islands. The oil is loaded at the wharf side into tank cars, owned by the whaling company, each having a capacity of 200 barrels. The Canadian National Rys. ferry barge, with a capacity of eight cars, is towed to Port Mann, on the mainland, where the oil is shipped to eastern markets. Victoria is the home port for the company's fleet.

The Vancouver Island Whaling Co.

operates from Barkley Sound. Its ships are the largest on the coast, fitted with the most modern appliances and having a speed of 14 knots. In addition to oil production, the company manufactures fertilizer, for which there is considerable demand, from the whale, dog-fish and other fish offal.

Fruit Industry.—At the southern end of Vancouver Island, the district around Keetings and Gordon Head, contiguous to Victoria, is remarkable for fruit-growing. It produces the finest strawberries on the American continent for flavor, color and keeping qualities. The fruit begins to ripen early in June, and picking lasts about six weeks. The earlier pickings are larger and firmer, packed in boxes and used fresh; the later pickings are smaller, and are mostly used for jam. Next to the strawberry is the logan berry, a most delicious fruit, either eaten fresh or made into jam. It grows rapidly to a large size, over trellis work. It is seldom attacked by pests, continues to bear for years, and forms a valuable crop each succeeding year, with but little attention. Amongst the pit fruits, cherries and Italian prunes are the most profitable ones to cultivate in this locality and yield good results. There is practically an unlimited market for these small fruits and producers need not be afraid of over-producing.

Poultry Raising.—The climatic conditions of the southern portion of Vancouver Island are particularly favorable for poultry raising. With a small capital investment, the poultry business shows a greater income return than any other branch of industry.

The foregoing paper will be read before the American Association of Port Authorities at Chicago in October.

The manufacture of Portland cement by the British Columbia Cement Co. at Pemberton and Todd Inlet, is one of the important industries in the immediate neighborhood of Victoria. These two plants are capable of turning out 1,500,000 barrels a year. Both plants are on tidewater and possess the latest manufacturing machinery.

Water Powers.—Vancouver Island is rich in available sources of hydraulic and hydro electric power, and this factor is one of its great natural assets. Taking Jordan River and Goldstream as strategic to Victoria, the B.C. Electric Ry. Co. has 25,000 h.p. developed out of an estimated capacity of 38,000 h.p.; and out of the 25,000 h.p. there is still 12,000 available for prospective industrial use, over and above the present maximum demand, enough to supply the needs of Greater Victoria and the Saanich Peninsula. On the Puntledge River, near Comox, there is a development of 19,000 h.p., of which 9,500 is installed, and approximately 5,000 h.p. available over and above the present maximum load. In the Alberni district there are about a dozen available sites of varying capacities from 1,000 to 20,000 h.p., at present undeveloped, at Quatsino some 10,000, at Nanaimo River some 20,000, and at Campbell River there is upwards of 100,000 h.p. available at one site, which is specially suitable for electric transmission over a considerable area of mining country within feasible transmission distance. On the mainland, within a radius of 100 miles from the City of Vancouver, there is upwards of 750,000 h.p. available, present developments being greatly in excess of the demand. The same plenitude of available power facilities is found along the lines of railway development all over the province,

only waiting to be harnessed up for industrial purposes. The water powers along the coast are within a short distance of tidal water; the harbors are open and accessible at all times of the year.

Longshoremen's Wages at Prince Rupert.

A board of conciliation, to adjust longshoremen's wages at Prince Rupert, B.C., presented a unanimous report recently, and an agreement was entered into between the Pacific Stevedoring & Contracting Co., Grand Trunk Pacific Ry., and G.T. Pacific Coast Steamship Co. and International Longshoremen's local 38-41, the following rates of wages being agreed on, retroactive to July 16:—

General longshore work—90c. per hour day time and \$1.10 overtime. Eight hours to constitute a day's work.

Coal and ore in bulk—\$1 per hour day time and \$1.20 overtime.

Cement in lots of over 25 tons.—\$1 per hour day time and \$1.20 overtime.

Fertilizer and plaster in lots of over 25 tons.—\$1.15 straight time.

Powder, any quantity.—\$1.10 straight time.

Sulphur in bulk, any quantity.—\$1.25 straight time.

Creosoted lumber and piles.—\$1.10 straight time.

Double winch drivers.—\$1.10 day time and \$1.50 overtime.

The following conditions also govern: Eight hours, viz., 8 a.m. to 12 noon and 1 to 5.00 p.m. will constitute a day's work. All time before 8 a.m. and after 5 p.m. and meal hours when worked will be considered overtime.

Longshoremen will line up to G.T.P. no. 2 shed each morning at 8 o'clock, remaining for half an hour. If men are not hired in that time, they may retire to hall, where they will be subject to call up to 11 a.m. The men shall line up for work in the afternoon at 1 o'clock, remaining for half an hour, when they shall then retire to the hall, and will be subject to call up to 5 p.m. The men required for night work shall be notified at the hall not later than 5 p.m., when information as to requirements for night duty is possible to be obtained at that time. In either cases, if there are not sufficient men, either at dock or hall, the union shall endeavor to supply the requisite number, and failing that the employer shall obtain men wherever available.

All men hired for night work and reporting for duty between 7 p.m. and midnight, shall be entitled to a minimum of two hours pay at regular rates. After midnight up to 6 a.m. to four hours pay, when boat fails to arrive at the time for which the men are ordered. If kept under orders for longer periods, they shall receive regular rates for such further time they are kept under orders.

It is understood that these rates of wages and conditions will govern longshoremen employed on the docks at Prince Rupert, B.C., and shall be applicable to coastwise work only, subject to 30 days notice of cancellation or revision from either party.

Toronto Harbor Commission.—The City of Toronto has re-appointed, for a further term of three years, its three representatives on the Commission, viz., Lieut. Governor Lionel Clarke, Mayor T. L. Church and R. Home Smith. The other members of the Commission are John Laxton, appointed by the Dominion Government, and R. S. Gourlay, appointed by the Dominion Government on the Toronto Board of Trade's nomination. Their terms of office expired Oct. 22 and at the time of writing no announcement had been made as to the re-appointment.

Port Arthur Shipbuilding Co.'s Annual Report.

Following are extracts from the Port Arthur Shipbuilding Co. Ltd. annual report for the year ended June 30, 1920:—

The company has this year experienced a reduction in gross earnings due to a decrease in volume of business. The falling off of work has been in ships for new construction; business from dry dock and repair work being very satisfactory, showing an increase of 80% over last year. A falling off in the building of ships has been general, affecting all the shipyards in Canada. The chief causes have been the international exchange situation, which has operated against Canadian yards securing contracts from European countries requiring tonnage, and the cessation of building by the Canadian Government.

Of ships, construction of which was commenced last year, the company completed and delivered four freight steamships of 3,400 d.w. tons each, and launched two freight steamships of approximately 4,500 d.w. tons each, which will be completed and delivered one in September and one in October. All of these ships are for the Canadian Government Merchant Marine fleet. New ship construction commenced this period consists of one freight steamship of approximately 4,000 d.w. tons for the Canadian Government, and one freight steamship of about 3,000 d.w. tons.

In view of the present situation in regard to ship construction, your directors have deemed it advisable to authorize the company to enter upon other work than shipbuilding to which your plant is adaptable. Work has already been commenced upon a contract for 20 compressed air mine shovels for one company, and negotiations with other companies requiring this class of machine have advanced to a point where other contracts seem assured. The undertaking of other suitable work, including the manufacture of pulp machinery and digesters, is also contemplated. If nothing unforeseen arises to interfere with plans at present under consideration, which appear as far as investigation has gone to be entirely feasible, developments along these lines may, within a short time, result in an amount of business equal to, if not greater, than the falling off in new construction, and this at very small additional capital expenditure.

During the year the company redeemed \$126,500 par value of preferred stock, and retired \$60,000 par value of mortgage bonds. Capital expenditures made this year have been for ordinary additions and betterments only, including the installation of some improved machinery, and amounted to \$94,846. A recent appraisal of the company's permanent assets, book value of which is \$2,091,522, shows the present net cash value to be \$3,250,000.

Financial Statement, June 30, 1920.

ASSETS.	
Cash, accounts receivable and merchandise inventory	\$1,088,960.65
Construction work in process	1,974,027.15
Land, buildings, machinery, etc. (less depreciation)	2,091,522.13
Good will	713,359.51
Miscellaneous accounts, notes and prepaid expenses	114,292.69
	\$5,982,162.13
LIABILITIES.	
Acceptances, accounts payable and accrued	\$ 166,274.40
Dividends payable	49,141.00
Provision for Dominion tax (estimated)	241,512.95

Advances on construction contracts	1,801,910.00
Bonded debt	450,000.00
Reserves for construction work	127,701.92
Capital stock—	
Preferred, 7% cumulative	\$ 665,200.00
Common	1,500,000.00
	2,165,200.00
Surplus	980,421.86
	\$5,982,162.13

Earnings for June 30, 1920.	
Gross profit from operations after deducting cost of material, labor, and manufacturing overhead	\$ 538,369.28
Less, general and administrative expense	164,183.24
	\$ 374,186.04
Add, miscellaneous income	109,110.08
	\$ 483,296.12
Deduct, amortization of plant additions, bond interest and miscellaneous charges, including estimated Dominion tax	182,081.56
Net earnings for year	\$ 301,214.56

The directors are: Jas. Whalen, Port Arthur, President; P. G. Chace, Port Arthur, First Vice President; R. D. Hubbard, Chicago, Second Vice President; A. J. McComber, Port Arthur, Third Vice President; Jno. Burnham and E. W. Rogers, Chicago, and Jas. Playfair, Midland, Ont. The principal officials are: J. H. Smith, General Manager; A. B. Conmee, Secretary-Treasurer, and N. S. Thrasher, Purchasing Agent.

Oil Fuel Results on s.s. Empress of Britain.

Engineer Rear Admiral G. W. Roome, O.B.E., Chief Superintendent Engineer, Canadian Pacific Ocean Services, London, Eng., is reported to have made the following statement recently, on oil versus coal for liners, as exemplified by the recent double voyage of the reconditioned Empress of Britain between Liverpool and Quebec:—

"The use of oil fuel on this double trip of the Empress of Britain was an unqualified success, about 20% above the full power designed was obtained on the trip westward. The speed was as great as the fastest run ever made when the ship was new. The run eastward was intended to show the most economical possible running to maintain the scheduled time on arrival. The speeds were approximately, 18½ knots outward, and 17½ knots homeward.

"The whole installation for burning oil fuel worked perfectly throughout, and the machinery, which is now 14 years

old, did not give the slightest trouble. At present it is more expensive to burn oil than coal, but the wage cost of about 100 men is saved, with the consequent reduction in the pay and food account. There is also a saving in the cost of cleaning the ship. The inherent dustiness of coaling used to involve days of cleaning work by 300 to 400 men each trip. Also, only half a dozen men are required to put oil on board, whereas 150 to 200 were required to coal the ship. Finally, with oil, a more uniform steam pressure is obtainable, and less dirt forms in the boilers and furnaces, all of which lead to economy.

"Experience over a period will show whether there will be a total saving in cost. We have four ships being built, all fitted to burn oil fuel only. A trial with them will decide whether we will have our other ships converted from coal to oil."

Navigation Lights on Great Lakes and St. Lawrence River.

All Canadian lights and fog alarms on Lake Superior will be kept in operation this autumn until the close of navigation, with the exception of those at Otter Island, Caribou Island, Quebec harbor, Davieux Island, and Michipicoten Island east end, which will be closed on Dec. 15, and with the exception of Gargantua, Michipicoten harbor, Corbeil Point, and Ile Parisienne, which will be closed on Dec. 20; also Slate Island, Battle Island, Lamb Island, Shaganash, Point Porphyry, Thunder Cape, Welcome Island, Pie Island, and Victoria Island, which will be closed after the last sailing to or from Port Arthur and Fort William. All Canadian lights and fog alarms on Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, Lake Ontario, and connecting waters, will be maintained in operation until the close of navigation, excepting the southeast shoal lightship, Lake Erie, which may be removed after Dec. 1, and also Lonely Island light, Georgian Bay, which may be closed before the general close of navigation. All Canadian lights on the River St. Lawrence will be maintained in operation until the close of navigation. All gas buoys and other floating aids to navigation will be maintained in position as long as ice conditions will permit, and in cases where it is necessary to remove gas buoys before the close of navigation, the more important points will be marked by spars.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during September, 1920:

Articles		Canadian		
		M. ft.	B. M.	U.S. Canal
Lumber	Eastbound	2,372	30,020	32,392
Flour	"	151,460	469,550	621,010
Wheat	"	2,253,015	9,371,473	11,624,448
Grain, other than wheat	"	838,000	2,264,770	3,102,770
Copper	"	1,658	4,809	6,467
Iron Ore	"	169,966	8,551,446	8,721,412
Pig Iron	"			
Stone	"	2,137	3,200	5,337
General Merchandise	"	600	2,373	2,973
Passengers	"	Number	1,956	4,780
Coal, soft	Westbound	Short tons	42,364	1,998,410
Coal, hard	"	Short tons		177,123
Iron Ore	"	Short tons		26,320
Manufactured Iron and Steel	"	Short tons	4,125	5,271
Salt	"	Short tons	1,768	12,616
Oil	"	Short tons		60,627
Stone	"	Short tons		71,844
General Merchandise	"	Short tons	31,062	30,597
Passengers	"	Number	3,025	1,160
Summary				
Vessel Passages		Number	490	2,184
Registered Tonnage		Net	645,616	7,823,527
Freight—Eastbound		Short tons	285,662	9,004,467
Westbound		Short tons	79,319	2,378,683
Total Freight		Short tons	364,981	11,383,150
				2,458,002
				11,748,181

Canadian Government Merchant Marine Ltd., Shipbuilding, Operation, Etc.

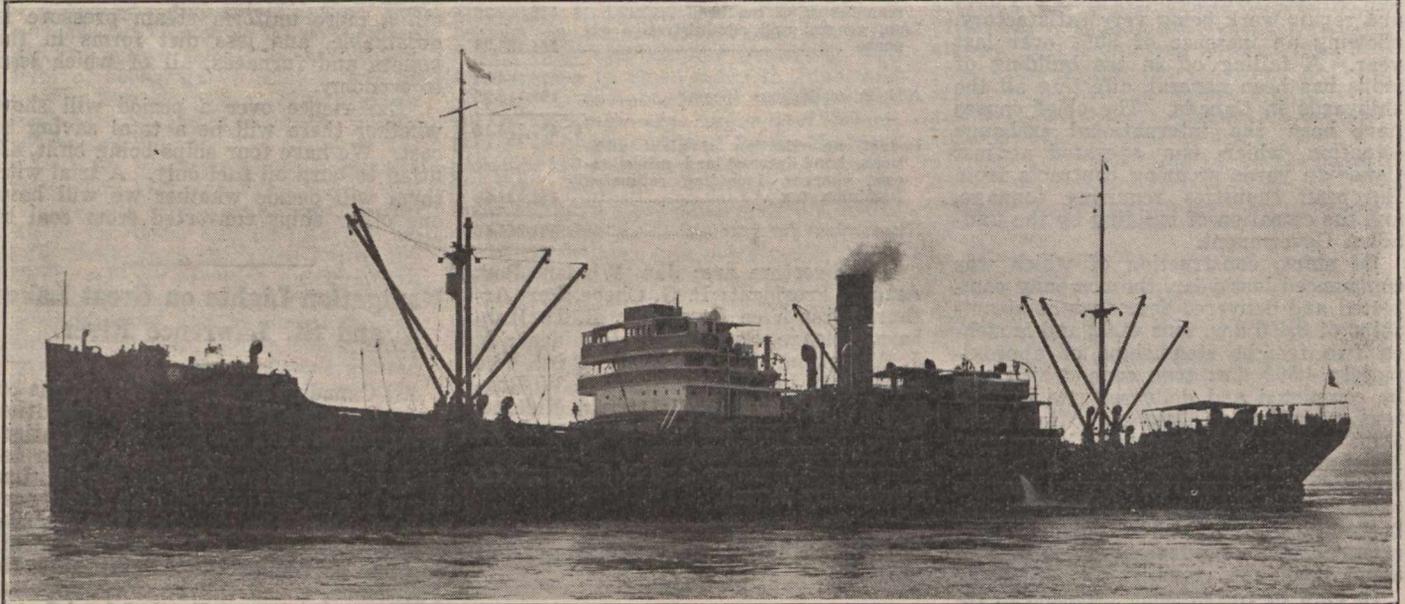
Passenger Accommodation for West Indian Trade.—As stated in Canadian Railway and Marine World for October, the upper structures of the steel cargo steamships Canadian Fisher and Canadian Forester, each approximately 5,100 d.w. tons, which are being built by Tide-

Oct. 14, s.s. Canadian Skirmisher; Marine Department contract 56; builder's yard no. 104; approximately 8,390 d.w. tons; Wallace Shipbuilding & Dry Dock Co., North Vancouver, B.C.

Launching of Steamships.—Since Canadian Railway and Marine World for Oc-

tons; Wallace Shipbuilding & Dry Dock Co., North Vancouver, B.C.

Oct. 19, s.s. Canadian Rover; Marine Department contract 57; builder's yard no. 67; approximately 3,890 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.



Steel Cargo Steamship, Canadian Victor, 8,433 d.w. tons, built for Canadian Government Merchant Marine, Ltd., by Canadian Vickers, Ltd., Montreal.

water Shipbuilders Ltd., Three Rivers, Que., for Canadian Government Merchant Marine, have been changed from the original plans, so as to provide accommodation for 28 passengers on each ship. The Canadian Fisher was launched Aug. 14, and Canadian Forester, Sept. 20, and it is expected that they will start running, early in 1921, for the winter season, between St. John, N.B., the Bahamas, Jamaica and British Honduras, as provided for in the Canada-West Indies Trade Agreement, entered into at Ottawa in July, between the Dominion Government and the governments of the other colonies mentioned, which calls for a fortnightly service.

The last four steel cargo steamships ordered by the Marine Department from Canadian Vickers Ltd., Montreal, for Canadian Government Merchant Marine, each of approximately 8,390 d.w. tons, viz., Canadian Victor, which was delivered Aug. 25; Canadian Conqueror, which was delivered Sept. 30; Canadian Commander, the launching of which was fixed for Oct. 20, are each being provided with accommodation for four passengers, so that commercial travellers and others may be carried. The accommodation, which is located on the bridge deck, consists in each ship of 2 staterooms, one outside and one inside, each 9 x 12 ft., and each containing two berths, sofa, wardrobe and folding lavatory; dining room 18 x 12 ft., containing 2 tables, each with 3 chairs and couch, to accommodate 12 at a sitting; smoking room, 18 x 12 ft., containing 2 tables, 4 chairs, and couch seats all round. Illustrations of these rooms on s.s. Canadian Victor are given herewith.

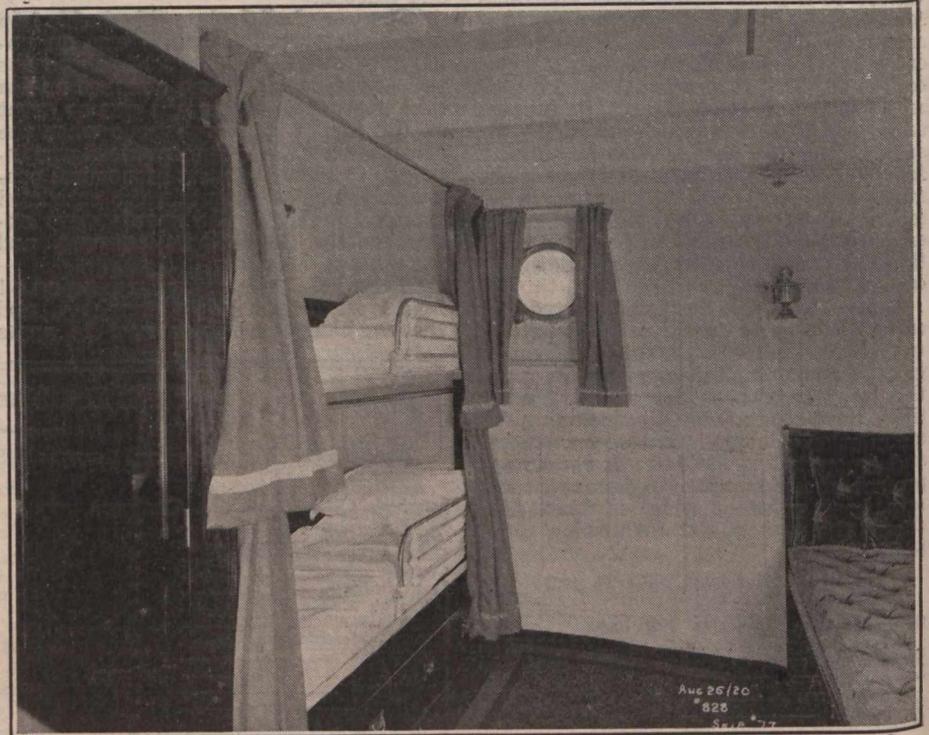
Keel Laying.—Since Canadian Railway and Marine World for October was issued we have been advised of the following laying of keel for steel cargo steamship for Canadian Government Merchant Marine.

tober was issued, we have been advised of the following launchings of steel cargo steamships for Canadian Government Merchant Marine.

Sept. 29, s.s. Canadian Traveller; Marine Department contract 30; builder's

Oct. 30, s.s. Canadian Commander; Marine Department contract 52; builder's yard no. 79; approximately 8,390 d.w. tons, Canadian Vickers Ltd.

Deliveries of Steamships.—In addition to the steamships mentioned in Canadian



Passenger Stateroom, s.s. Canadian Victor, Canadian Government Merchant Marine Ltd.

yard no. 22; approximately 8,390 d.w. tons, Harbour Marine Co., Victoria, B.C.

Oct. 14, s.s. Canadian Highlander; Marine Department contract 55; builder's yard no. 103; approximately 8,390 d.w.

Railway and Marine World previously, the following have been delivered to Canadian Government Merchant Marine, for operation.

Sept. 30, s.s. Canadian Conqueror; Ma-

rine Department contract 51; builder's yard no. 78; approximately 8,39 d.w. tons; Canadian Vickers Ltd., Montreal. This ship loaded a general cargo at Montreal, and sailed thence, Oct. 5, for Liverpool.

porated, under the Dominion Companies Act, as another Canadian Government Merchant Marine Ltd. subsidiary, to operate the steamship Canadian Coaster, approximately 8,390 d.w. tons, built recently by Collingwood Steamship Co.

and the ship delivered to Canadian Government Marine by the end of October.

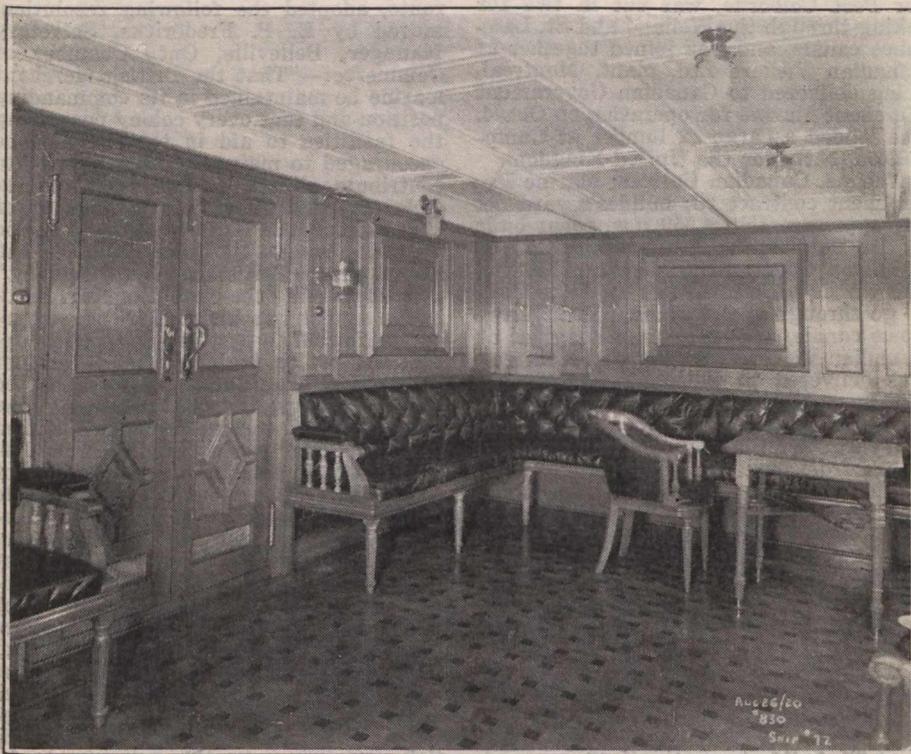
Canadian Vickers Ltd., Montreal, delivered the steel cargo steamship Canadian Conqueror; Marine Department contract 51; builder's yard no. 78; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine, on Sept. 30. She was loaded with general cargo at Montreal, and sailed Oct. 5 for Liverpool.

Canadian Vickers Ltd. advised us Oct. 12 that it expected to launch steel cargo steamships for Canadian Government Merchant Marine as follows:—s.s. Canadian Commander; Marine Department contract 52; builder's yard no. 79; approximately 8,390 d.w. tons; on Oct. 30. Canadian Leader; Marine Department contract 53; builder's yard no. 80; approximately 8,390 d.w. tons; on Nov. 20.

Canadian Vickers Ltd., launched the steel cargo steamship Canadian Commander; Marine Department contract 52; builder's yard no. 79; approximately 8,390 d.w. tons; on Oct. 30, the christening being performed by Mrs. C. C. Ballantyne, wife of the Minister of Marine and Fisheries and of the Naval Service.

Collingwood Shipbuilding Co., Collingwood, Ont., launched the steel cargo steamship Canadian Rover; Marine Department contract 57; builder's yard no. 67; approximately 3,890 d.w. tons, for Canadian Government Merchant Marine, Oct. 19, the christening being performed by Mrs. H. B. Smith, wife of the Collingwood Shipbuilding Co.'s President.

After the launching, Mr. Smith entertained a number of the business and professional men of Collingwood at luncheon there, and in speaking referred to the Collingwood Shipbuilding Co.'s industry, and in regard to shipbuilding and steel manufacturing generally. J. S. Leitch, Managing Director, responded to the toast of the company, which was propos-



Corner of Dining Room, s.s. Canadian Victor, Canadian Government Merchant Marine Ltd.

Oct. 4, s.s. Canadian Runner; Marine Department contract 32; builder's yard no. 43; approximately 4,350 d.w. tons; Port Arthur Shipbuilding Co., Port Arthur, Ont. This ship, after taking a cargo of coal from Port Arthur to Port Colborne, was cut in two for taking through the Welland and St. Lawrence canals, and was joined together at Canadian Vickers Ltd. plant at Montreal. After delivery to Canadian Government Merchant Marine, she loaded a cargo of lumber at Campbellton, N.B., for the United Kingdom.

Oct. 15, s.s. Canadian Carrier; Marine Department contract 33; builder's yard no. 43; approximately 4,350 d.w. tons; Port Arthur Shipbuilding Co., Port Arthur, Ont., This ship was cut in two on Lake Erie, to go through the Welland and St. Lawrence canals, and was joined together at Canadian Vickers Ltd. plant at Montreal. After delivery to Canadian Government Merchant Marine, she loaded a general cargo at Montreal for Glasgow and was expected to sail thence about Oct. 26.

Officers of Steamships.—The following officers have been appointed to Canadian Government Merchant Marine steamships since those mentioned in our last issue:—

Masters.—Canadian Carrier, Capt. H. W. Robson; Canadian Highlander, Capt. R. J. Fisher, formerly of Canadian Trooper; Canadian Signaller, Capt. D. O. Davies, vice Capt. R. D. Maxwell, transferred; Canadian Trader, Capt. G. Foy, vice Capt. J. Murray; Canadian Trooper, Capt. R. D. Maxwell, formerly of Canadian Signaller, vice Capt. R. J. Fisher transferred; J. A. McKee, Capt. J. F. Smeltzer, vice Capt. J. Lintlop; Sheba, Capt. M. Fraser, vice Capt. J. C. Shaw, deceased.

Engineers.—Sheba, J. A. McLarty; T. J. Drummond, C. B. Scott.

Canadian Coaster Ltd. has been incor-

porated, under the Dominion Companies Act, as another Canadian Government Merchant Marine Ltd. subsidiary, to operate the steamship Canadian Coaster, approximately 8,390 d.w. tons, built recently by Collingwood Steamship Co.



Corner of Smoking Room, s.s. Canadian Victor, Canadian Government Merchant Marine Ltd.

ter, which was cut in two to go through the Welland and St. Lawrence canals, were docked on Oct. 13, at Canadian Vickers Ltd. plant, Montreal, and that it was expected to have them joined together,

ed by the Mayor.

J. Coughlan & Sons, Vancouver, B.C., advised us Oct. 6 that they expected to lay the keels of steel cargo steamships Canadian Transporter and Canadian

Freighter; Marine Department contracts 62 and 63; builder's yard nos. 20 and 21; each approximately 8,390 d.w. tons; shortly thereafter.

Dominion Shipbuilding & Repair Co., Toronto, when it assigned on July 31, had under construction for Canadian Government Merchant Marine, two steel cargo steamships, Canadian Pathfinder and Canadian Engineer, each approximately 3,500 d.w. tons. They were both in frame, awaiting shell plates before further erection of the hulls could be proceeded with. As stated in Canadian Railway and Marine World for October, the interim liquidator, Osler Wade, intimated to the Marine Department his willingness to cooperate, so that the loss sustained by the Government might be reduced to the minimum, either by the liquidator continuing the work on a cost plus basis, or by permitting the Government to proceed itself. The liquidator advised us Oct. 13 that the court had made an order directing him to deliver the hulls, engines, etc., to the Dominion Government, and that bills of sale had been executed, but that he had not had any advice as to when the Government proposed to commence operations for the completion of the ships.

Halifax Shipyards Ltd., Halifax, N.S., expects to deliver the steel cargo steamship Canadian Mariner; Marine Department contract 21; builder's yard no. 1; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine; between Nov. 15 and 20.

The company expects to launch the steel steamship Canadian Explorer; Marine Department contract 22; builder's yard no. 2; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine; early in December.

The launching dates of steel cargo steamships Canadian Cruiser and Canadian Constructor; Marine Department contracts 38 and 39; builder's yard nos. 3 and 4; each approximately 10,500 d.w. tons; will depend entirely on weather conditions during the winter, but if they are normal the launchings will probably be in April and June, 1921.

Harbour Marine Co., Victoria, B.C., launched the steel cargo steamship Canadian Traveller; Marine Department contract 30; builder's yard no. 2; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine; Sept. 29, the christening being performed by Mrs. McIntosh, wife of J. C. McIntosh, M.P. for Nanaimo. We are advised that this is the 153rd ship to be built under the direction of J. S. Clark, M.I.N.A., who is now the company's naval architect. Ex-service men provided 85% of the labor for this ship.

Harbour Marine Company expects to deliver the steel cargo steamship Canadian Winner; Marine Department contract 29; builder's yard no. 1; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine, during the first week in November.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.—We were advised Oct. 5, that the contract between this company and the Marine Department, for building the steel cargo steamship Canadian Sapper; Marine Department contract 59; builder's yard no. 8; approximately 2,800 d.w. tons; for Canadian Government Merchant Marine, had been agreed upon and was in the Department's hands for signature.

The company expects to launch the s.s. Canadian Sapper on November 9.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—The steel cargo steamship

s.s. Canadian Runner, Marine Department contract 32; builder's yard no. 43; approximately 4,350 d.w. tons, built by this company for Canadian Government Merchant Marine, and which left Port Arthur, Aug. 8, with a cargo of grain for Port Colborne, was cut in two for taking through the Welland and St. Lawrence canals, and was joined together at Canadian Vickers Ltd. plant, Montreal, being delivered to Canadian Government Merchant Marine for operation on Oct. 4. She loaded a cargo of lumber at Campbellton, N.B., for the United Kingdom.

The s.s. Canadian Carrier; Marine Department contract 33; builder's yard no. 44; approximately 4,350 d.w. tons; built by the Port Arthur Shipbuilding Co. for Canadian Government Merchant Marine, and which was cut in two on Lake Erie, to go through the Welland and St. Lawrence canals, and was joined together at Canadian Vickers Ltd. plant at Montreal, was delivered to Canadian Government Merchant Marine, for operation, on Oct. 15, when she proceeded to load a general cargo for Glasgow and was expected to sail from Montreal about Oct. 26.

The company advised Canadian Railway and Marine World recently that it expected to launch the steel cargo steamship Canadian Harvester; Marine Department contract 61; builder's yard no. 45; approximately 3,890 d.w. tons; for Canadian Government Merchant Marine, on Oct. 30.

Wallace Shipbuilding & Dry Dock Co., North Vancouver, B.C., which laid the keel of the steel cargo steamship Canadian Highlander; Marine Department contract 55; builder's yard no. 103; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine, on Mar. 30, launched her on Oct. 4.

The company laid the keel of the steel cargo steamship Canadian Skirmisher; Marine Department contract 56; builder's yard no. 104; approximately 8,390 d.w. tons; for Canadian Government Merchant Marine on Oct. 14.

The Bear River Steamship Co. Ltd., the incorporation of which, with office at Bear River, N.S., was announced in a recent issue, has an authorized capital of \$150,000 and intends operating a steam packet service between Bear River, N.S., and St. John, N.B. It will take over the shipping business carried on heretofore by Clark Brothers, Ltd., Bear River. The company has a subsidy from the Provincial Government of \$650 a year for a local steamship service and at one time the Dominion Government also gave a subsidy. The officers are:—President, W. W. Clark; Vice President, A. G. McIntyre; Secretary, J. H. Cunningham.

The Necessity of Increasing British Shipbuilding Urged.

The recent congress of chambers of commerce of the British Empire, in Toronto, adopted the following resolution, moved by E. P. Fredericks, Secretary Manager, Belleville, Ont., Chamber of Commerce:—"That the British merchant marine be maintained in its commanding position and that every colony possessing the facilities to aid in this purpose be encouraged to maintain shipyards and to contribute all the British bottoms possible, thus retaining for the benefit of the Empire the skilled mechanics who are being sought by other countries, and also to ensure British marine supremacy."

In supporting the resolution, Mr. Fredericks said it was inspired by the apparent falling off in British shipbuilding operations, which had been made evident by the fact that Canada, as well as the mother country, has within the past year lost several thousand mechanics skilled in shipbuilding work, because of the letting down of shipbuilding operations of this character throughout the Empire. He pointed out that the clearances at Canadian ports as well as ships passing through the Panama Canal, indicated that other countries were pressing the British Empire very closely in the number of ships in commission, and that, where three or four years ago Great Britain had a commanding lead, the figures of the past year showed that the margin in her favor was so slight as to be almost negligible. He contended that if the British supremacy on the sea was to be maintained, and if the extension of trade throughout the world was to be realized, it would be necessary to keep shipbuilding very prominently in the foreground of present activities.

Prince Edward Island Car Ferry Service.—In consequence of the large freight traffic between Prince Edward Island and the mainland of New Brunswick, particularly in potatoes, it was thought possible, early in the autumn, that the car ferry steamship Prince Edward Island might not be able to handle all the business offering. We were advised Oct. 1, that the car ferry Scotia No. 1, used heretofore on Canso Strait, had been altered at one end, so that she could be operated between Port Borden, P.E.I., and Cape Tormentine, N.B., and that if the business warranted it she would be put on that route, to assist the car ferry Prince Edward Island, and would be kept running until ice conditions and storms were too heavy to permit of her operating.

Ships Added to and Deducted From the Canadian Register During July, 1920

	Steam.		Sailing.	
	No.	Tonnage—Gross. Registered.	No.	Tonnage—Gross. Reg' red
Added.				
Built in Canada	31	6,983 4,084	12	2,036 1,865
Purchased from foreigners.....	7	6,754 3,918	.....	.....
Transferred from British Possessions	1	229 54	.....	.....
Other ships	2	54 50	.....	.....
Added on remeasurements	2	27 24	.....	.....
Totals	43	14,047 8,130	12	2,036 1,865
Deducted.				
Wrecked or otherwise lost.....	4	66 49	12	1,194 1,150
Broken up or unfit for use.....	17	1,706 1,137	18	1,329 1,051
Sold to foreigners.....	5	3,801 2,639	1	17 17
Transferred from British Possessions	2	953 593	3	274 249
New registers .....	.....	.....	2	78 78
Other vessels	1	192 49	.....	.....
Totals	29	6,718 4,467	36	2,892 2,545

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

Where the total price does not agree with the finally ascertained deadweight tons multiplied by the price per ton, the extra amount is for changes from specifications, additional equipment, accommodation, etc.

The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p. poop; b., bridge; f'c's'le, forecastle.

Contract date	Name	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed knots	Keel laid	Launched	Delivered.
1 Mar. 4, 1918	Canadian Voyageur	Canadian Vickers Ltd.	66	*4,575	\$207.	\$ 947,025	S.d., p., b. and f'c's'le.....	Lloyd's	11	June 11, 1918	Nov. 23, 1918	Feb. 22, 1919
2 May 22, 1918	Canadian Pioneer	"	67	*8,408	180.	1,513,440	2.d., p., b. and f'c's'le.....	"	11	July 17, 1918	Dec. 3, 1918	May 9, 1919
3 May 18, 1918	Canadian Warrior	Collingwood Shipbldg. Co., C'wood.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Not stated	Dec. 21, 1918	Apr. 26, 1919
4 Mar. 15, 1918	Canadian Volunteer	Wallace Shipbldg. & Dry Dock Co.	100	*4,495.75	207.	930,620.25	2.d., p., b. and f'c's'le.....	Lloyd's	11	Oct. 1, 1918	Apr. 5, 1919	June 19, 1919
5 Nov. 25, 1918	Canadian Trooper	"	106	*4,540	217.	985,180	S.d., p., b. and f'c's'le.....	"	11	Nov. 15, 1918	May 31, 1919	Aug. 7, 1919
6 Nov. 25, 1918	Canadian Aviator	"	101	*5,100	210.	1,071,000	2.d., p., b. and f'c's'le.....	"	11	Apr. 5, 1919	Oct. 9, 1919	Nov. 15, 1919
7 Nov. 25, 1918	Canadian Raider	"	102	*5,100	210.	1,071,000	2.d., p., b. and f'c's'le.....	"	11	May 31, 1919	Dec. 11, 1919	Jan. 17, 1920
10 July 5, 1918	Canadian Recruit	Collingwood Shipbldg. Co., C'wood.	62.	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Jan. 3, 1919	May 3, 1919	June 7, 1919
11 Oct. 17, 1918	Canadian Signaller	"	63	*3,975	205.	814,926.25	2.d., p., b. and f'c's'le.....	"	9	Jan. 16, 1919	June 28, 1919	Aug. 30, 1919
12 Oct. 17, 1918	Canadian Gunner	"	64	*3,978	205.	815,541.25	2.d., p., b. and f'c's'le.....	"	9	Feb. 10, 1919	Oct. 4, 1919	Nov. 6, 1919
13 Aug. 9, 1918	Canadian Settler	Tidewater Shipbuilders Ltd.	5	*5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	Lloyd's	11	Jan. 8, 1919	Sept. 20, 1919	Dec. 2, 1919
14 Aug. 9, 1918	Canadian Rancher	"	6	*4,850	200.	967,000	2.d., p., b. and f'c's'le.....	"	11	Jan. 10, 1919	Nov. 1, 1919	July 11, 1920
15 Jan. 24, 1919	Canadian Fisher	"	7	*5,100	200.	1,020,000	2.d., p., b. and f'c's'le.....	"	11	Sept. 20, 1919	Aug. 14, 1920	.....
16 Jan. 24, 1919	Canadian Forester	"	8	*5,100	200.	1,020,000	2.d., p., b. and f'c's'le.....	"	11	Nov. 1, 1919	Sept. 20, 1920	.....
17 Sept. 4, 1918	Canadian Trapper	Davie Shipbuilding & Repairing Co.	459	*4,992	200.	998,400	2.d., p., b. and f'c's'le.....	"	12	Mar. 11, 1919	Oct. 9, 1919	June 24, 1920
18 Sept. 4, 1918	Canadian Hunter	"	460	*4,992	200.	998,400	2.d., p., b. and f'c's'le.....	"	12	Mar. 28, 1919	May 7, 1920	Aug. 10, 1920
19 Sept. 4, 1918	Canadian Trader	Port Arthur Shipbuilding Co.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	10½	Dec. 9, 1918	May 5, 1919	July 18, 1919
19a Mar. 1, 1919	Canadian Adventurer	"	41	*3,408	210.	715,680	Lake, s.d., p., b. and f'c's'le	"	10	Mar. 31, 1919	Sept. 8, 1919	Oct. 29, 1919
20 Sept. 4, 1918	Canadian Sailor	"	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	10½	Dec. 10, 1918	May 31, 1919	Aug. 7, 1919
20a Mar. 1, 1919	Canadian Sower	"	42	*3,406	210.	715,207.50	Lake, s.d., p., b. and f'c's'le	"	10	Mar. 31, 1919	Oct. 9, 1919	Nov. 18, 1919
21 Sept. 13, 1918	Canadian Mariner	Halifax Shipyards Ltd.	1	8,890	195.	1,686,050	2.d., p., b. and f'c's'le.....	"	10	Feb. 24, 1919	Sept. 4, 1920	.....
22 Sept. 13, 1918	Canadian Explorer	"	2	8,890	195.	1,686,050	2.d., p., b. and f'c's'le.....	"	10	Mar. 15, 1919	.....	.....
23 Oct. 11, 1918	Canadian Navigator	Canadian Vickers Ltd.	73	*4,681	215.	984,915	2.d., p., b. and f'c's'le.....	"	11	Jan. 22, 1919	Oct. 18, 1919	Nov. 22, 1919
24 Oct. 11, 1918	Canadian Ranger	"	68	*8,882	188.	1,575,816	2.d., p., b. and f'c's'le.....	"	11	Aug. 26, 1918	Apr. 19, 1919	May 23, 1919
25 Oct. 11, 1918	Canadian Seigneur	"	69	*8,891	188.	1,577,508	2.d., p., b. and f'c's'le.....	"	11	Nov. 30, 1918	May 7, 1919	Aug. 14, 1919
26 Oct. 11, 1918	Canadian Miller	"	70	*8,890	188.	1,577,320	2.d., p., b. and f'c's'le.....	"	11	Dec. 2, 1918	Aug. 16, 1919	Sept. 24, 1919
27 Oct. 11, 1918	Canadian Spinner	"	71	*8,893	188.	1,577,834	2.d., p., b. and f'c's'le.....	"	11	Apr. 23, 1919	Nov. 8, 1919	Dec. 6, 1919
28 Oct. 11, 1918	Canadian Planter	"	72	*8,899.30	188.	1,579,068.40	2.d., p., b. and f'c's'le.....	"	11	May 10, 1919	Nov. 22, 1919	Dec. 27, 1919
29 Jan. 24, 1919	Canadian Winner	Harbour Marine Co. Ltd.	1	8,890	198.	1,661,220	2.d., p., b. and f'c's'le.....	"	11	July 14, 1919	June 29, 1920	.....
30 Jan. 24, 1919	Canadian Traveller	"	2	8,890	198.	1,661,220	2.d., p., b. and f'c's'le.....	"	11	Aug. 9, 1919	Sept. 29, 1920	.....
31 Dec. 11, 1918	Canadian Beaver	Collingwood Shipbldg. Co., Kingston	15	*3,972.50	205.	855,348.54	2.d., p., b. and f'c's'le.....	Bri. Corp.	9	Apr. 7, 1919	Dec. 10, 1919	May 11, 1920
32 Mar. 1, 1919	Canadian Runner	Port Arthur Shipbuilding Co.	43	4,850	215.	935,250	2.d., p., b. and f'c's'le.....	"	11	Aug. 29, 1919	May 8, 1920	Oct. 4, 1920
33 Mar. 1, 1919	Canadian Carrier	"	44	4,850	215.	935,250	2.d., p., b. and f'c's'le.....	"	11	Aug. 29, 1919	June 26, 1920	Oct. 15, 1920
34 Nov. 22, 1918	Canadian Importer	J. Coughlan & Sons	11	*8,881	198.	1,659,438	2.d., p., b. and f'c's'le.....	Lloyd's	11	Apr. 26, 1919	Dec. 6, 1919	Feb. 5, 1920
35 Nov. 22, 1918	Canadian Exporter	"	12	*8,880	198.	1,659,240	2.d., p., b. and f'c's'le.....	"	11	May 3, 1919	Dec. 27, 1919	Mar. 6, 1920
36 Nov. 22, 1918	Canadian Inventor	"	13	*8,850	198.	1,653,300	2.d., p., b. and f'c's'le.....	"	11	July 24, 1919	Jan. 24, 1920	July 17, 1920
37 Nov. 22, 1918	Canadian Prospector	"	14	*8,850	198.	1,653,300	2.d., p., b. and f'c's'le.....	"	11	Sept. 26, 1919	Feb. 24, 1920	June 15, 1920
38 Dec. 10, 1918	Canadian Cruiser	Halifax Shipyards Ltd.	3	10,500	197.50	2,073,750	3.d. p., and f'c's'le.....	"	12	Oct. 2, 1919	.....	.....
39 Dec. 10, 1918	Canadian Constructor	"	4	10,500	197.50	2,073,750	3.d. p., and f'c's'le.....	"	12	Oct. 6, 1919	.....	.....
40 Mar. 31, 1919	Canadian Sealer	Nova Scotia Steel & Coal Co.	5	*2,776.50	210.	583,065	S.d., p., b. and f'c's'le.....	"	8½	Mar. 27, 1919	Oct. 8, 1919	Dec. 20, 1919
41 Mar. 31, 1919	Canadian Miner	"	6	*2,778	210.	583,380	S.d., p., b. and f'c's'le.....	"	8½	Mar. 31, 1919	Apr. 3, 1920	May 7, 1920
42 Feb. 21, 1919	Canadian Reaper	Prince Rupert Dry Dock & Eng. Co.	1	8,890	198.	1,661,220	2.d., p., b. and f'c's'le.....	Bri. Corp.	11	Sept. 27, 1919	.....	.....
43 Feb. 21, 1919	Canadian Thrasher	"	2	8,890	198.	1,661,220	2.d., p., b. and f'c's'le.....	"	11	Oct. 20, 1919	.....	.....
44 Jan. 23, 1919	Canadian Otter	British American Shipbuilding Co.	4	4,575	215.	983,625	2.d., p., b. and f'c's'le.....	"	11	Mar. 29, 1919	Apr. 13, 1920	Aug. 18, 1920
45 Jan. 23, 1919	Canadian Souatter	"	5	4,575	215.	983,625	2.d., p., b. and f'c's'le.....	"	11	July 14, 1919	July 26, 1920	.....
46 Sept. 11, 1919	Canadian Farmer	Collingwood Shipbldg. Co., C'wood.	65	*3,954	180.	711,720	2.d., p., b. and f'c's'le.....	"	11	Sept. 3, 1919	Dec. 27, 1919	Apr. 28, 1920
47 Sept. 11, 1919	Canadian Observer	"	66	*3,981.75	180.	712,910	2.d., p., b. and f'c's'le.....	"	11	Sept. 12, 1919	May 8, 1920	June 15, 1920
48 Sept. 2, 1919	Canadian Pathfinder	Dominion Shipbuilding & Repair Co.	10	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	Lloyd's	11	Nov. 8, 1919	.....	.....
49 Sept. 2, 1919	Canadian Engineer	"	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	.....	.....
50 Sept. 18, 1919	Canadian Victor	Canadian Vickers Ltd.	77	8,890	170.	1,426,300	2.d. p., b. and f'c's'le.....	Lloyd's	11	Dec. 10, 1919	June 22, 1920	Aug. 25, 1920
51 Sept. 18, 1919	Canadian Conqueror	"	78	8,890	170.	1,426,300	2.d. p., b. and f'c's'le.....	"	11	Jan. 17, 1920	July 27, 1920	Sept. 30, 1920
52 Sept. 18, 1919	Canadian Commander	"	79	8,890	170.	1,426,300	2.d. p., b. and f'c's'le.....	"	11	June 2, 1920	Oct. 30, 1920	.....
53 Sept. 18, 1919	Canadian Leader	"	80	8,890	170.	1,426,300	2.d. p., b. and f'c's'le.....	"	11	June 29, 1920	.....	.....
54 Feb. 26, 1920	Canadian Logger	Midland Shipbuilding Co.	10	3,890	182.50	709,925	2.d., p., b. and f'c's'le.....	Bri. Corp.	11	June 8, 1920	.....	.....
55 Mar. 18, 1920	Canadian Highlander	Wallace Shipbldg. & Dry Dock Co.	103	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	Lloyd's	11	Mar. 30, 1920	Oct. 14, 1920	.....
56 Mar. 18, 1920	Canadian Skirmisher	"	104	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	"	11	Oct. 14, 1920	.....	.....
57 Mar. 13, 1920	Canadian Rover	Collingwood Shipbldg. Co., C'wood.	67	3,890	182.50	709,925	2.d., p., b. and f'c's'le.....	Bri. Corp.	11	June 5, 1920	Oct. 19, 1920	.....
58 Mar. 13, 1920	Canadian Coaster	Collingwood Shipbldg. Co., Kingston	16	3,890	185.50	709,925	2.d., p., b. and f'c's'le.....	"	11	May 6, 1920	.....	.....
.....	Canadian Sapper	Nova Scotia Steel & Coal Co.	8	2,800	190.	532,000	2.d., p., b. and f'c's'le.....	Lloyd's	8½	May 4, 1920	.....	.....
.....	Canadian Challenger	Davie Shipbuilding & Repairing Co.	476	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	"	11	May 14, 1920	.....	.....
60 Feb. 2, 1920	Canadian Harvester	Port Arthur Shipbuilding Co.	45	3,890	182.50	709,925	2.d., p., b. and f'c's'le.....	Bri. Corp.	11	Mar. 30, 1920	.....	.....
61 Feb. 26, 1920	Canadian Transporter	J. Coughlan & Sons	20	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	"	11	.....	.....	.....
62 April 7, 1920	Canadian Transporter	"	21	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	"	11	.....	.....	.....
63 April 7, 1920	Canadian Freighter	"	20	8,890	167.50	1,405,325	2.d. p., b. and f'c's'le.....	"	11	.....	.....	.....

\$79,296.80 \$72,818,073.19

General Shipbuilding Matters Throughout Canada.

B.C. Marine Ltd., Vancouver, B.C., advised *Canadian Railway and Marine World* recently that it expected to launch the auxiliary powered schooner, which it is building for the Hudson's Bay Co., about the end of October, or early in November, and to deliver the completed ship by the end of November.

B.C. Marine Engineers & Shipbuilders Ltd., Vancouver, B.C., which was incorporated recently, as stated in *Canadian Railway and Marine World* for October, to acquire **B.C. Marine Ltd.**, as a going concern, has been organized, with the following directors:—Innes Hopkins,

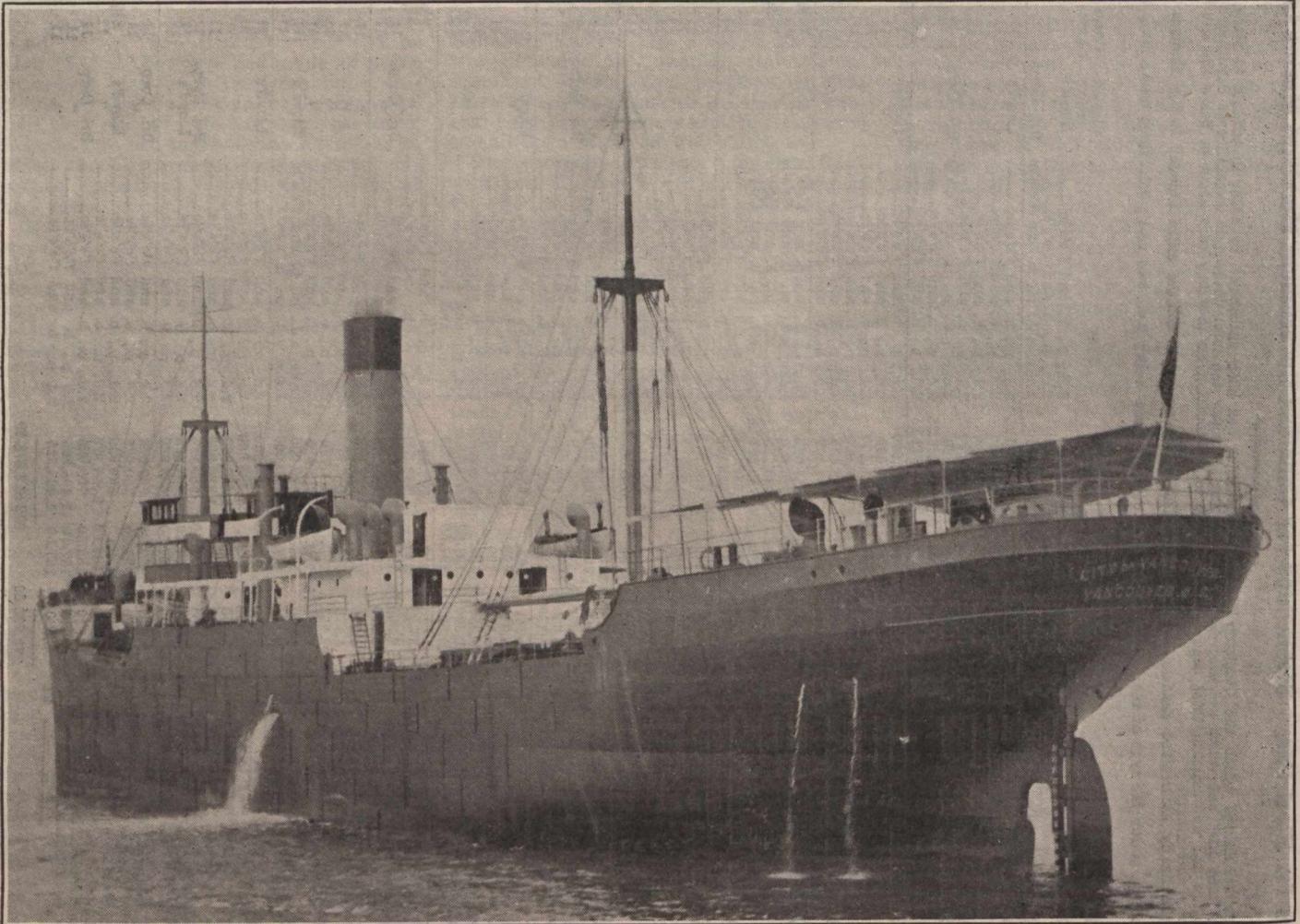
last issue, underwent her trial trips Oct. 2, when she attained a speed of 12.3 knots over the measured mile, and passed her endurance trial of six hours without a hitch. She is being operated by **Vancouver Steamships Ltd.**, a subsidiary company of the builders, and loaded lumber at Vancouver recently for the United Kingdom.

Fraser, Brace, Ltd. has been incorporated under the Dominion Companies Act as a private company, with \$550,000 authorized capital, and office at Montreal, to take over the shipyards and other businesses of **Fraser, Brace & Co. Ltd.**,

is said that the tendency in future will likely be for the production of smaller ships, it being alleged that the timber available is not suitable for ships of more than 150 tons."

Nova Scotia Steel & Coal Co., New Glasgow, N.S., completed its seventh steel cargo steamship, *Volunda*, approximately 2,800 d.w. tons, on Sept. 25. This ship, which will be employed in the coal and iron trade on the Atlantic coast, and to and from Newfoundland, was described in *Canadian Railway and Marine World* for September, pg. 510.

Port Arthur Shipbuilding Co., Port Ar-



Steel Cargo Steamship, *City of Vancouver*, approximately 8,800 d.w. tons, built for **Vancouver Steamships Ltd.**, by **J. Coughlan & Sons**, Vancouver, B.C.

Chairman and Managing Director; **J. K. McKenzie**, General Superintendent; **C. J. Isted**, Secretary; **G. G. Bushby**, **H. F. Buller**, **Capt. W. M. Crawford**.

Canada Steamship Lines.—We were advised Oct. 2, that it had not been decided whether to fabricate the material for this company's 4,000 passenger steamship, for the Toronto-Niagara route, at Collingwood, and ship it to Toronto for erection, or to have it fabricated at Toronto. As stated in *Canadian Railway and Marine World* for September, the steel has been ordered, but it is impossible to say when work on the ship will commence, as deliveries of steel are very uncertain.

J. Coughlan & Sons, Vancouver, B.C.—The s.s. *City of Vancouver*, which was launched Sept. 10, as announced in our

and **Fraser, Brace Shipyards Ltd.**

Harbour Marine Co, Victoria, B.C., reports that good progress is being made in building the car ferry for the C.P.R. and that it should be ready for launching early in November.

Newfoundland.—**Canadian Trade Commissioner W. B. Nicholson** writes as follows:—"The shipbuilding industry was fairly active during the war, though not on a large scale. A Norwegian company operating at Harbour Grace went into liquidation, while other plants, anticipating a fall in prices through the belief that business was being overdone, reduced operations. Marine underwriters recorded a disastrous year for Newfoundland sailing ships, the losses of foreign and local ships numbered more than 130, exceeding anything in previous years. It

thur, Ont.—The company's annual report, published on another page of this issue, refers to the construction of a steel cargo steamship of about 3,000 d.w. tons. We were advised, Oct. 11, that all the material for this ship was on hand, and that the keel would be laid about the end of October, the intention being to complete the ship by the opening of navigation next spring. It is being built on the company's account, and negotiations for its sale are going on.

Wallace Shipbuilding & Dry Dock Co., North Vancouver, B.C., advised us, Oct. 15, that it expected to lay the keel for a steamship for the C.P.R. **British Columbia Coast Steamship Service**, about the end of October. Particulars of this ship were given in *Canadian Railway and Marine World* for October, pg. 564.

Canadian Notices to Mariners.

The Marine Department has issued the following:—

British Columbia, Queen Charlotte Islands.—A gas beacon, consisting of a white acetylene light, automatically occulted at short intervals, visible 8 miles from all points of approach, at an elevation of 22 ft., on a concrete base, surmounted by a staff carrying a slatwork ball with light on top, has been established on the most easterly islet of the Straie Islet group on the west side of the entrance to Masset harbor.

The radiotelegraph station at Ikeda Point, call letters V.A.I., has been permanently discontinued.

Newfoundland, Placentia Bay.—The occulting white light on Point Verde has been replaced by a flashing white acetylene gas light showing 14 flashes every minute. The light is at an elevation of

which lies about 900 ft. 57° from the north end of the south breakwater in Richibucto harbor, Northumberland Strait.

St. John Harbor.—A black wooden spar buoy has been established off Collins point at the entrance to Glenwood channel; a red wooden spar buoy has been established off the inner end of Catons Island bar and about 300 yards east of Glenwood public wharf.

Shippigan Island.—A fixed red light, shown from an anchor lens lantern, at an elevation of 26 ft., has been established on the warehouse, on the outer end of the wharf, at Lamek, on the west coast.

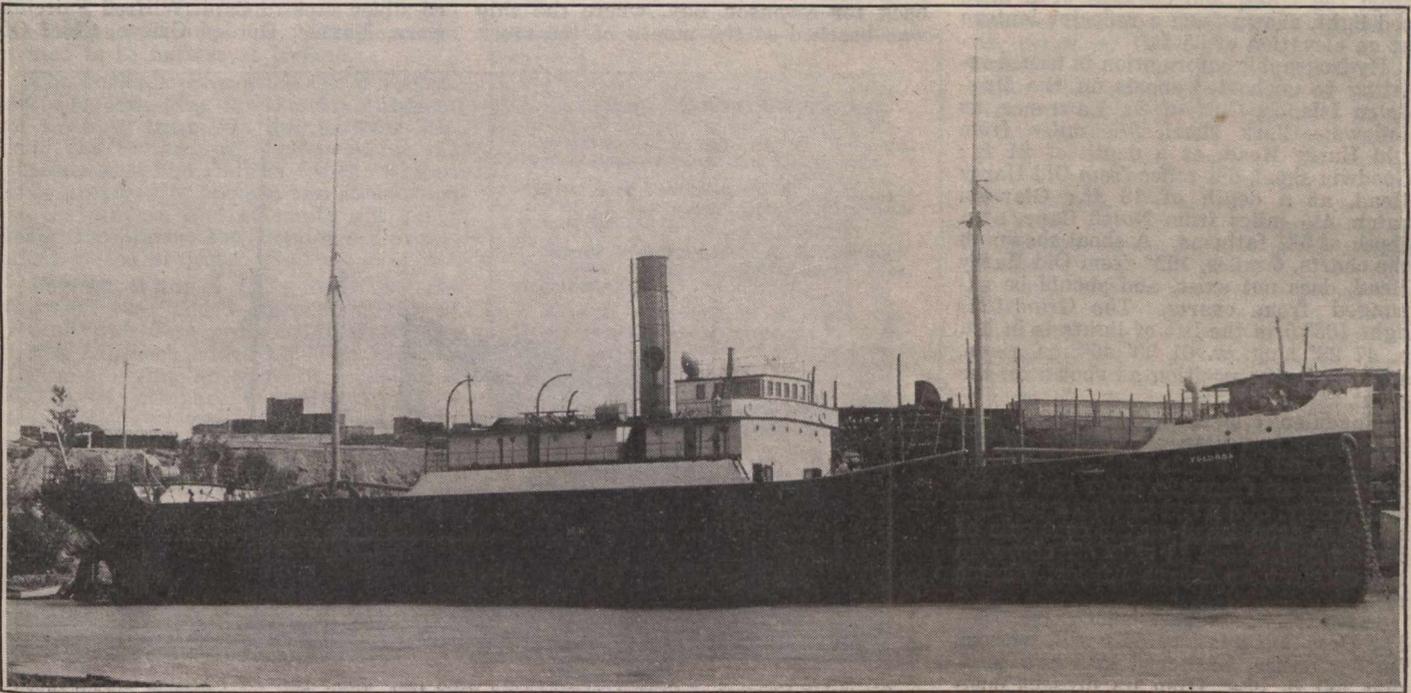
North Atlantic Ocean.—The captain of the steam trawler Commandant-Roquigny reported passing a capsized wooden ship on Sept. 6 in lat. n. 44° 6' 0", long. w.

northerly from the outer end of the west pier to 675 ft. north of Government warehouse, to a least depth of 17 ft. for a width of 50 ft.; and the turning basin in the inner harbor to a least depth of 14 ft.

A steel cylindrical gas and bell buoy, painted in black and white vertical stripes, showing a white light, automatically occulted at short intervals, and with bell rung by motion of the waves, has been established on line of range about 3 miles from front range light at the entrance to Port Colborne.

Lake Huron.—W. W. Ransbury, Tobermory, reports the existence of a shoal in the main channel north of Cove Island. The locality will be examined by a Hydrographic Survey officer as soon as possible.

Lake Superior.—A diaphone fog alarm, operated by air compressed by an oil en-



Steel Cargo Steamship Volunda, approximately 2,800 d.w. tons, built by Nova Scotia Steel & Coal Co., for its coal and iron trade on the Atlantic coast and to and from Newfoundland.

90 ft. with square open wooden frame work with sloping sides.

Ragged Harbor.—A fixed white light on a red wooden stand has been established on White Point at the northwest entrance to Ragged Harbor. The light will only be in operation during open navigation.

Jacques Cartier Island. A flashing white acetylene light, giving one flash of 0.3 sec. duration every 3 sec., has been established on the northeast point of Jacques Cartier Island (Noble Island), at the entrance to Quirpon harbor. The light is at an elevation of 78 ft., and has a white square wooden structure with sloping sides surmounted by a red lantern.

New Brunswick, Bay of Fundy.—The St. John harbor range lights on the west side will be discontinued without further notice. The fixed white light on the northeastern corner of freight shed 16 will be changed to red light.

Northumberland Strait.—Temporary range lights have been fixed at St. Louis gully, Kouchibouguac Bay.

A green spar buoy has been established on the channel side of an old wreck,

52° 12' 0".

A floating mine was sighted Oct. 2 in lat. n. 47 53' long. 38 5'.

Nova Scotia, Cape Breton Island.—The fixed white catoptric light on the summit of the middle of Sea Wolf Island at Margaree will be replaced by group occulting white lights of the second order, with the following characteristic:—light 6 sec, eclipse 3 sec, light 18 sec., eclipse 3 sec.

The group revolving white light on the summit of Henry Island, on the west coast, at the entrance to Port Hood, has been replaced by a flashing white catoptric light showing two flashes, with an interval of 7½ sec. between, every 30 seconds. For half the revolution, or 15 secs., the light will be totally eclipsed, and for the other half a fixed light of 500 c.p. will be visible, through which the flashes of 50,000 c.p. will show.

Ontario, Lake Erie.—The Dominion Public Works Department, during 1920, carried out the following dredging at Port Stanley,—the area between the entrance piers, the outer harbor, and in the car ferry slip to a least depth of 18 ft.; the channel between the piers running

gine, giving two blasts of 2 secs. duration every minute, has been established, in a white square wooden building, near the edge of the cliff, about 400 ft. west of the lighthouse at Otter Island.

An uncharted rock has been discovered almost midway between the southwest corner of Commercial pier and the outer end of the railway wharf, at Michipicoten harbor. The following sextant angles fix the position of the rock,—flag-staff on Clergue Island 0°; east tangent of west point 104° 40'; southwest tangent of ore dock 64° 05'; back range light (old position) 98° 35'.

Prince Edward Island.—The Public Works Department has dredged berths at Charlottetown as follows; between Queens wharf and Buntin and Bell's wharf, a berth 345 ft. long, 80 ft. wide at the outer end and narrowing to 50 ft. at the inner end, to a depth of 20 ft. at the outer end, grading up to 14 ft. at the inner end; on the east side of the wharf a berth 425 ft. long, averaging 50 ft. wide, has been dredged to a depth of 20 ft. in the outer half and 12 ft. in the inner half; at the C.N.R. wharf on the west side a berth 400 ft. long and 110 ft.

wide has been dredged, the outer 75 ft. widening to 190 ft., to a depth of 20 ft. in front of the 225 ft., and 16 ft. for the remainder; on the west side of Pickard's wharf a berth 450 ft. long, averaging 80 ft. wide, has been dredged, the outer 100 ft. widening to 120 ft. and the inner 80 ft. narrowing to 30 ft., to a depth of 14 ft. for the outer 300 ft. and grading up to 12 ft. for the remainder.

Quebec, Gulf of St. Lawrence.—The steel lightship, with two masts and no bowsprit, has been replaced on her station in 22 fathoms, 8 miles, 104° from Heath Point, Anticosti. At the close of navigation in the Gulf of St. Lawrence she will be replaced on the Sambro station.

A new front range light has been established on the outer end of the Government wharf at Great Fox River, Gulf of St. Lawrence, consisting of a fixed red light, shown from a reflector lantern, at an elevation of 20 ft. The back range light has been placed 1,100 ft. 183 15' from the front, and consists of a fixed red light, shown from a reflector lantern at an elevation of 35 ft.

Hydrographic information is issued relating to uncharted shoals off the Magdalen Islands, Gulf of St. Lawrence, as follows:—Clark shoal, 8¼ miles from Old Harry Head, at a depth of 21 ft.; Goodwin shoal, 6¾ miles from Old Harry Head, at a depth of 18 ft.; Glawson patch, 4½ miles from North Cape, at a depth of 5¾ fathoms. A shoal shown on the charts, 6 miles, 102° from Old Harry Head, does not exist, and should be expunged from charts. The Grindstone light 1033.5 in the list of lights is in lat. n. 47 23' long. w. 61 50' 45", as given, and not in the position as shown on the chart.

Magdalen Islands.—A black wooden spar buoy has been established on the western end of Meule rock, about 1,500 ft. southwest from the outer end of the breakwater; and a red wooden spar buoy has been established on the east side of the channel, about ¼ mile off shore, in the entrance to House harbor, Church rock.

River St. Lawrence, below Quebec.—The Port Joli gas buoy 65B will, without further notice, be moved to a new position 750 ft. 334° from its present position.

River St. Lawrence, Lake St. Louis.—A temporary steel cylindrical gas buoy, painted black, showing a fixed red light, has been established at the west entrance to the Lachine Canal.

United States, St. Clair River.—A gas buoy flashing a red light of 0.3 sec. duration every 3 secs. has been established to mark an isolated spot with a least depth of 18½ ft. off south end of Woodtick Island.

St. John, N.B., Pilotage District.—The pilotage district of St. John, which has for some time been indirectly under the jurisdiction of the Minister of Marine, came directly under his jurisdiction Oct. 1, when the regulations as published in Canadian Railway and Marine World for October became effective. J. C. Chesley, Agent, Marine Department, at St. John, has been appointed acting Superintendent of Pilots, and G. U. Thomas, formerly Secretary of Pilotage Commission, has been appointed pilotage clerk. The pilotage office has been moved to the customs house and collections are being made through the collector of customs. The superannuation office has been transferred to Ottawa and will be administered directly by the Marine Department.

Wreck of Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince Rupert.

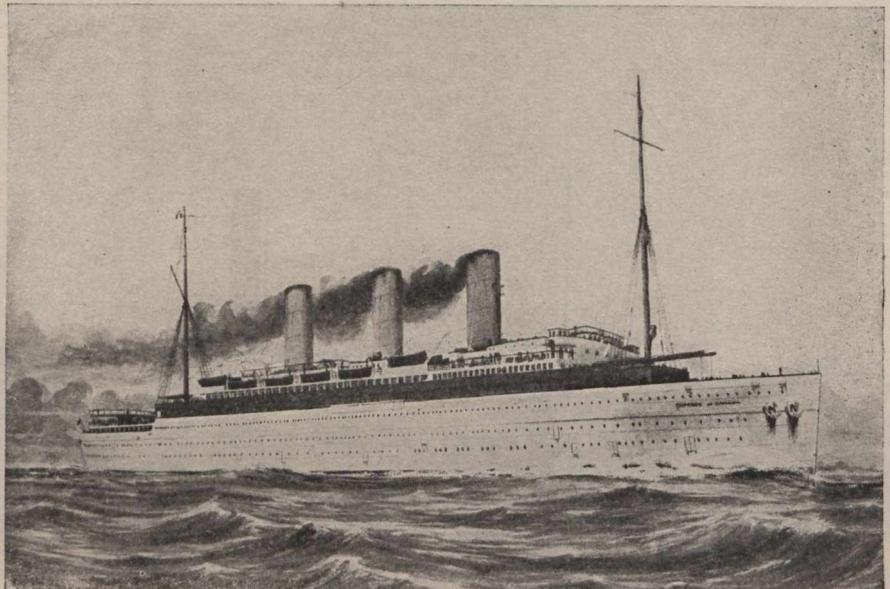
The Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince Rupert, which ran aground in Swanson Bay, B.C., 426 miles north of Vancouver, Sept. 29, and eventually sank in about 70 ft. of water, was built at Wallsend-on-Tyne, Eng., in 1910, with steel hull, and was screw driven by engine of 800 h.p. Her dimensions are,—length 306.7 ft., breadth 42.2 ft., depth 23.9 ft.; tonnage, 3,379 gross, 1,626 net.

She left Swanson Bay, B.C., bound north, Sept. 29, about 3.50 a.m., the weather being foggy, and closing in to thick fog as she entered the channel. She struck on the east side of the channel, 3½ or 4 miles north of Swanson, damaging herself so that holds 1 and 2 were both flooded, and making water very rapidly. As the captain could not find a proper place for beaching her, he started back for Swanson Bay, where the ship was beached at the mouth of the creek

Prince Albert was especially dispatched to the wreck, with A. L. Brownlie, the company's Superintendent Engineer, and arrived at Swanson Bay early on Oct. 1. C. H. Nicholson, Manager, G.T.P. Coast Steamship Co., left Vancouver on the s.s. Prince George, on Sept. 30, arriving at Swanson Bay Oct. 2. It is expected that the salvage work will be long and tedious, and will probably necessitate rolling the ship to an upright position, and then probably building a coffer dam, before pumping operations can be undertaken. The damage will probably be some \$350,000. The interior fittings will probably require renewal, on account of being so long submerged, and damaged by fuel oil. An official investigation into the circumstances attending the wreck has been asked for.

Canadian Government Awards to Seamen.

The Dominion Government has awarded silver cups to Capt. Wilfred Fairchild Gore, Master; Gordon Grieve, Chief Of-



Steamship Empress of Canada, about 20,000 gross tons, being built for Canadian Pacific Ocean. This ship was fully described in Canadian Railway and Marine World for September, pg. 511.

entering the bay. As she was beached on a soft bottom, it was seen that no immediate danger would occur and such steps as were possible were taken to protect other than the damaged holds being filled. The rising tide, however, soon made it advisable that passengers and crew be landed, which was done without unusual discomfort, no casualties nor accidents occurring. At about 11 a.m., the tide had risen so high that the main deck became flooded through the hatches of holds 1 and 2 and as a result the after portions of the ship, including boiler and engine spaces, filled, and she sank rapidly, taking an awkward list of from 55 to 60° to starboard, and resting in that position, her stern being in about 70 ft. of water. Most of the mails, express, passengers' check baggage, and all the cargo, excepting some iron on deck, were submerged.

The Pacific Salvage Co.'s salvage steamship Algerine was ordered to proceed to the wreck, with all dispatch, and left Victoria on Sept. 30 at noon, with Capt. W. H. Logan, of the London Salvage Association, on board. She proceeded to Nanaimo, and left there for the north at 10 p.m. The steamship

ficer; W. A. Michie, Second Officer; Walter Greenwood, Third Officer, and Thomas Nicholson Littlewood, Chief Engineer, and a sum of money to Chang Ching, Storekeeper, of the s.s. British Isles of London, in recognition of their services to the shipwrecked crew of the s.s. Manxman of Montreal, which was abandoned in the North Atlantic Ocean on Dec. 18, 1919.

Silver cups have also been given by the Dominion Government to Capt. M. W. Mackay, Master, and J. D. Dryburgh, Chief Officer of the s.s. War Jandoll of London, for their services to the shipwrecked crew of the schooner B. B. Hardwick of Annapolis, N.S., which was abandoned in the North Atlantic on Oct. 6, 1919. Monetary awards have been made to C. W. Masson, Wireless Operator; Albert Hornby, Boatswain, and Jos. Schooler, Fireman of the War Jandoll.

Former Enemy Merchant Ships Sold. A London, Eng., press dispatch of Oct. 19 states that the British Government has sold 48 enemy steamships, aggregating 247,409 tons, to British purchasers, for £4,786,975.

Atlantic and Pacific Ocean.

The Cunard Line reopened its steamship service between London and Canada, Oct. 6, with the sailing of the s.s. *Caronia* from London, Eng., for New York, calling at Halifax, N.S.

Elder Dempster & Co.'s s.s. *Chama*, outward bound to African ports, ran aground on Bellechasse Island, 15 miles below Quebec, Oct. 21. She was released subsequently by the s.s. *Lord Strathcona*, without material damage.

The Fracanda Line's s.s. *Georgie*, which ran ashore in the St. Lawrence River, shortly after leaving Quebec for Montreal, Oct. 21, was released the following day and put back to Quebec, where, it was stated, some slight repairs would be made.

The s.s. *Lagerfos*, which docked at Montreal late in September, under the management of the Walford Shipping Co., is stated to be the first direct steamship to Canada from Iceland. She carried 34 first class and 39 second class passengers, mostly for Winnipeg, and stated to be natives of Iceland.

The Icelandic Steamship Co. is reported to be arranging for the establishment of a direct steamship line between Iceland and Canada, with Montreal as the summer port and Halifax for the winter. It is proposed to operate two steamships in the service, and attempts are being made to interest the Dominion Government in the project.

Furness Withy & Co.'s report for the financial year ended Apr. 30, published recently, shows a profit of £1,004,821, to which has been added £120,583, brought forward, giving an available surplus of £1,125,404, compared with £873,083 for the previous year. Of this surplus, £500,000 has been placed to depreciation, and £452,500 is being paid in dividends on preference and ordinary stock, that on the ordinary stock being at the rate of 10% free of income tax. A balance of £172,900 has been carried to the current year's accounts.

The s.s. *Kron Prinz Friedrich Wilhelm*, one of the German passenger steamships assigned to Great Britain, and loaned to Canadian Pacific Ocean Services for the purpose of deciding whether she could be suitably used in that company's service, has been returned to Great Britain as unsuitable. It is stated that although she was the largest passenger steamship which had come up the St. Lawrence, there were serious drawbacks. The third class accommodation planned on the German standard would have to be entirely remodelled to come up to the Canadian standard.

Maritime Provinces and Newfoundland.

The s.s. *Hugo Stinnes I*, which went ashore early in October, off Cape John, N.S., was refloated Oct. 6, and towed to Pictou for examination.

The Maggie Belle Shipping Co.'s shareholders met at St. John's, Nfld., Oct. 30, to receive and act on the report of the liquidator, G. Somerville.

The Reid Newfoundland Co. has restarted its Bonavista Bay steamship service, and added Bunyan's Cove as a calling place, instead of Broad's Cove, for its steamships Charlottetown and Watchful.

The suction dredge, which is owned and in use by the St. John Drydock &

Shipbuilding Co., on the Courtenay Bay development works at St. John, N.B., is the *Tornado*, not Toronto, as stated in Canadian Railway and Marine World for October.

The Dominion Public Works Department advised Canadian Railway and Marine World that plans and specifications had been prepared for the wharf at Sydney, N.S., for which \$100,000 was voted by the Dominion Parliament last session, and that tenders would probably be invited early in November.

The Minister of Customs and Inland Revenue, is reported to have stated at St. John, N.B., Oct. 7, that the extension of the Negro Point breakwater to Part-ridge Island would be commenced immediately and that an order had been issued for the transfer of stone from the site of the dry dock at Courtenay Bay, to protect any ships mooring at the new docks this winter.

The Reid Newfoundland Co.'s s.s. *Meigle* was drydocked at the company's plant at St. John's recently, for general over-

Dominion Marine Association.

President, A. E. Mathews, Managing Director, Mathews Steamship Co., Toronto.

First Vice President, H. W. Cowan, Director of Operation, Canada Steamship Lines, Montreal.

Second Vice President, A. A. Larocque, President, Sincennes - McNaughton Line, Montreal.

Executive Committee, W. E. Burke, Canada Steamship Lines, Montreal; T. R. Enderby, Montreal Transportation Co., Montreal; L. Henderson, Montreal Transportation Co., Montreal; W. J. McCormack, Algoma Central Steamship Line, Sault Ste. Marie, Ont.; G. J. Madden, George Hall Coal Co. of Canada, Montreal; E. W. Oliver, Niagara, St. Catharines & Toronto Navigation Co., Toronto; W. H. Smith, Ontario Car Ferry Co., Montreal; J. F. Sowards, Sowards Coal Co., Kingston, Ont.; J. F. M. Stewart, Point Anne Quarries Ltd., Toronto; Jno. Waller, Keystone Transportation Co., Montreal; Lorne C. Webster, Webster Steamship Co., Montreal; J. Wilkie, Imperial Oil Ltd., Toronto; A. A. Wright, honorary member, Toronto.

General Counsel, Francis King, M.A., Kingston, Ont.

Official Organ, Canadian Railway and Marine World, Toronto.

haul and repairs, and for the extension of her first class passenger accommodation. It is stated that it is the intention to utilize her in the regular passenger and freight service between St. John's, Halifax and Sydney.

Two steam trawlers and three drifters sailed from Halifax, N.S., Oct. 10, for Inverness, Scotland, and, on Oct. 14, one of the trawlers returned to port and reported the loss of two of the drifters during heavy weather off the Cape Breton coast. She brought the crews of both the drifters with her, and reported that the other trawler, when last seen, was headed for Sydney with the third drifter in tow. These ships are a part of a number of similar ones built during the war in Canadian shipyards for war purposes, and which are now being utilized in the British fisheries.

The Newfoundland Government has confirmed a contract entered into by it with the Susu Shipping Co. last year, for the operation of the s.s. *Susu*, between St. John's, Catalina, Greenspond, Wesleyville, Outer Wadham Islands, Musgrave Harbor, Ladle Cove, Fredericton, Gander

Bay, Cat Harbor, Inner Wadham Islands, Peckfords, Carmanville, Main Point, Victoria Cove, Indian Island, Tilting Harbor, Joe Batt's Arm, Change Islands, Horwood's (Dog Bay), Seldom Come By and Fogo. Nfld. in the postal mail service, commencing May 1, to the close of navigation in each year for seven years, for \$4,000 a month.

Province of Quebec Marine.

The water gauge at Montreal showed a depth of 28 ft. 9 in. in the St. Lawrence channel, Oct. 19, which is stated to be within an inch of the lowest mark ever reached.

Canada Steamship Lines' s.s. *Saguenay* ran ashore at Sillery Cove, near Quebec, Oct. 21, but refloated with high tide, without damage, and proceeded to Quebec.

A somewhat complicated suit respecting a steamship is in progress in the Quebec Admiralty Court, on claims against the s.s. *Maplecourt*, registered as owned by Davie Shipbuilding & Repairing Co. The history of the case commences with the purchase of the s.s. *North West* from the Northern Steamship Co., Buffalo, N.Y., and the cutting in two of the ship there, for the passage of the canals to Levis, where she was to be rejoined. It appears that the two parts of the ship were insured, on the understanding that if one of the sections became a loss, the full insurance was to be paid. One section did become a total loss, the other section arriving at Levis in safety, where a new section was added and she became the *Maplecourt*. Some seizures have been made on account of claims against the ship, and the matter has become greatly complicated.

Ontario and the Great Lakes.

The Great Lakes Transportation Co. will not moor a ship at Windsor, Ont., for hotel purposes, as stated in a recent press report. The company only operates freight ships.

Canada Steamship Lines' s.s. *Joyland*, which went ashore near Garden Island, opposite Kingston, early in October, with a cargo of grain for Montreal, was released by the Donnelly Wrecking & Salvage Co., Oct. 13, and proceeded to her destination.

The U.S. s.s. *Lakeport*, operating between Conneaut, Ohio, and Canadian ports, was tied up at Conneaut, recently, and the passports of the master, Capt. T. B. Greenway, taken away, and he was sent to Cleveland, Ohio, to appear on a charge of illegally transporting intoxicating liquors.

The Toronto Harbor Commissioners have deposited with the Public Works Department, Ottawa, a description of the site and plans of a breakwater to be built in Toronto harbor, extending northwesterly into Lake Ontario, from the westerly extremity of the northerly pier of the west entrance to Toronto Bay.

The new channel for down bound ships in the St. Clair River, which is being provided by the U.S. Government, will not, it is reported, be ready for the opening of navigation next spring, as was expected, but it is stated that every effort will be made to have it ready as early as possible, to accommodate the large increase of freight traffic which is anticipated next year.

The Steamship Julius Kessler Corpor-

ation, Montreal, has bought the s.s. Julius Kessler, built recently at Duluth, Minn., and has registered her in Canada, whence, it is said, she will be operated in the interests of the Pure Cane Molasses Co. She is screw driven by engine of 140 h.p., and has the following dimensions,—length 251 ft., breadth 43.7 ft., depth 22.2 ft.; tonnage, 2,456 gross, 1,472 net.

The s.s. James Davidson was launched at Wyandotte, Mich., Oct. 9, by the Detroit Shipbuilding Co., for G. A. Tomlinson, Duluth, Minn., the christening being performed by Mrs. G. A. Tomlinson, daughter of Capt. Jas. Davidson, after whom the ship was named, and who was present at the launching. This ship is the third of the type to be launched this year for the same owner, by the same building company. Her dimensions are,—length over all 600 ft., breadth 60 ft., depth 32 ft., with carrying capacity for 13,500 tons of iron ore. The propelling machinery will consist of triple expansion engine, with cylinders 24, 54.1 and 65 in. diam. by 42 in. stroke, supplied with steam by 3 Scotch boilers each 13.5 ft. diam. by 11 ft. 0½ in. long.

J. F. Sowards, of the Sowards Coal Co., Kingston, is reported to have bought the s.s. Maplegrove from Canada Steam-

ship pump wells and electric lighting. Her dimensions were,—length 324 ft., breadth 43¾ ft., depth 26 ft.; tonnage, 2,939 gross, 2,346 net. She was equipped with triple expansion engines with cylinders 18, 29½ and 48 in. diam. by 36 in. stroke, 1,079 h.p. at 81 r.p.m., and supplied with steam by 2 Scotch boilers, each 13¾ ft., by 10½ ft. at 180 lb.

British Columbia and Pacific Coast.

The Yukon River was reported closed by ice Oct. 17, the earliest date on record.

The Nanaimo Navigation Co. Ltd. has had its name removed from the register of companies incorporated under the British Columbia Companies Act.

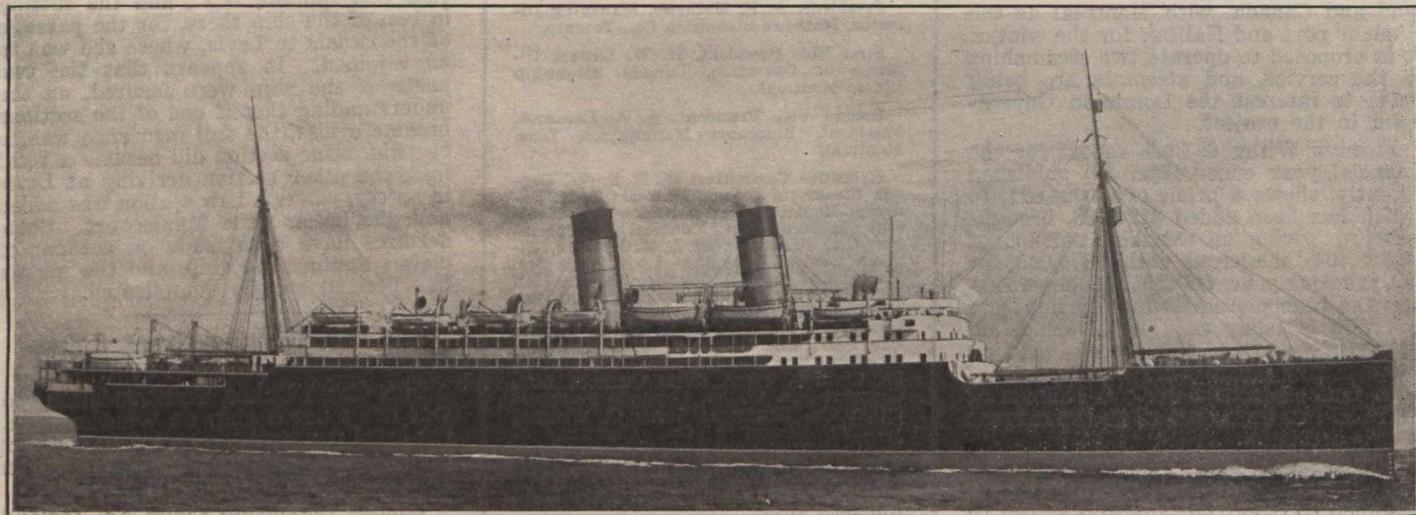
The C.P.R. s.s. Princess Victoria had a new mast stepped by the Victoria Machinery Depot, Victoria, recently. The one replaced had done duty since the ship was built in 1903. While she was out of service, her place was taken by the s.s. Princess Mary.

H.M.C.S. Rainbow, the hull of which was sold to Nieder & Marcus, Seattle, Wash., recently, for \$67,777, after all armament had been removed, will, it is said, be converted into an ore hulk at

engine of 50 h.p. Her dimensions were—length 118 ft., breadth 22 ft., depth 11.5 ft., tonnage 233 gross, 97 net.

Some anxiety was felt at Juneau, Alaska, towards the end of October, on account of the non arrival of the White Pass and Yukon Ry. steamships Casca, Nasutlin and White Horse, with passengers. The closing of the Yukon River by ice was very much earlier this year than before, and it was feared that the ships were stuck on a bar about 100 miles up stream from Dawson, and that they might be frozen in for the winter. The company's s.s. Washburn, which was sent out from White Horse, Oct. 20, to help the other ships over the Kirkman bar, struck a rock near Little Salmon on the Upper Yukon River, and sank, being regarded as a total loss. There was no loss of life.

Coal Exportation and the s.s. Lydia.—Mention was made in our last issue of the holding of the s.s. Lydia at Port Hastings, N.S., with her cargo of 4,500 tons of coal, which it was intended to export to Europe in contravention of the Board of Railway Commissioners' order prohibiting the export of Canadian coal, except to a Newfoundland or U.S.



Steamship Empress of Britain, Canadian Pacific Ocean Services Ltd.

A full description of this ship, as reconditioned after war service, was published in Canadian Railway and Marine World for August, pg. 459.

ship Lines, for the coal trade between Detroit, Oswego and Montreal. The Maplegrove was formerly the Cherokee, and was built at Marine City, Mich., in 1889, and underwent considerable repairs in 1913. She has an oak hull, and is of the well deck type, with diagonal strapping on the frames, steel arches, and with bow sheathed for operating in ice. Her dimensions are,—length 208 ft., breadth 35¾ ft., depth 14 ft.; tonnage, 1,177 gross, 636 net. She is equipped with fore and aft compound engine, with cylinders 25 and 50 in. diam. by 40 in. stroke, 575 i.h.p. at 86 r.p.m., and supplied with steam by a firebox boiler 11 ft. 4 in. diam. by 16 ft. long at 124 lb.

The s.s. G. R. Crowe, which was wrecked by an explosion, presumably of her oil cargo, at New York, Oct. 7, was owned formerly by the St. Lawrence & Chicago Steam Navigation Co., Toronto, and, in the early stages of the war, was sold to the Montezuma Transportation Co., Toronto, and equipped as an oil tanker for ocean service. She was built at Dundee, Scotland, in 1907, and was lengthened 72 ft. in 1910. Her hull was of steel, with steel tank tops where no wood ceilings are fitted, 3 watertight and 2 non watertight bulkheads, steel boiler house,

Seattle, for the transportation of ore from northern ports.

A Victoria press dispatch states that the C.P.R. is considering the establishment of a tourist steamship service around Vancouver Island, on a weekly schedule, for next summer. It is stated that the s.s. Princess Maquinna, now running to Quatsino Sound, will be used for the purpose.

Contract no. 2, covering the erection of the pier and sheds of the Ballantyne pier on Burrard Inlet, Vancouver, is reported to have been awarded to the Northern Construction Co. for approximately \$4,000,000. The pier will be 1,250 ft. long and 340 ft. wide, with 4 concrete sheds, each approximately 500 ft. long, equipped with the most modern cargo handling appliances.

The s.s. James Carruthers, owned by the Canadian Fish & Cold Storage Co., Prince Rupert, B.C., collided with the U.S. s.s. Surveyor, Oct. 12, off Green Island, during a storm, cutting a hole in the Surveyor about 8 ft. above the waterline, after which she sank in deep water. Four of the crew of the James Carruthers were reported missing. The James Carruthers was built at Beverley, Eng., in 1912, and was of steel, screw driven, by

port. As then stated, the ship was released Sept. 10, after having given a \$10,000 bond, that the coal would be sold and delivered to a Canadian or Newfoundland port, or discharged and consumed at a U.S. port. It was announced at Ottawa, Oct. 20, that despite the fact of the bond having been given, the s.s. Lydia had arrived at Rotterdam with a cargo of Inverness coal.

Japanese Shipbuilding.—The United States Consul General at Yokohama reports that the shipbuilding programme of Nippon Yusen Kaisha, which called for the construction of 500,000 tons in five years, has been revised, owing to the recent depression in the shipbuilding business. Orders have already been placed for some 100,000 tons with Japanese and British shipyards. The decision is to suspend shipbuilding from the next financial year.

Gulf of St. Lawrence Shipping Co. Ltd. has been incorporated under the Dominion Companies Act, with \$500,000 authorized capital, and office at Montreal, to transport passengers, mail, freight, etc., on land and water, and to own and operate steam and other ships for such purposes, and for towing, wrecking and salvaging.

**The Royal Mail Steam Packet Co.'s
Canada-West Indian Service.**

Jno. Alsop, General Agent, R.M.S.P. Co., Halifax, N.S., is credited, in a press dispatch as having stated there recently that the company is losing \$15,000 to \$20,000 a trip on its Canada-West Indies service, and that if an increase in freight rates, for which it has applied to the Dominion Government, is not granted, it will have to discontinue the service. He attributes the loss to increased cost of operation, especially bunkering, and to a heavy slump in north bound freights from the West Indies.

The R.M.S.P. Co. operates the following steamships between Halifax and the West Indies, viz., Caraque, Chaleur, Chaudiere, and Chignecto, for which it receives a subsidy from the Dominion Government, the estimates for the year ending Mar. 31, 1921, having the following item, among mail subsidies and steamship subventions: "Canada and West Indies, or South America, or both, \$340,666." Under the subsidy agreement, the freight rates are subject to the Dominion Government's approval, and the R.M.S.P. Co. has applied for authority to advance them.

In this connection Sir Geo. Foster, Minister of Trade and Commerce, is reported to have said at Ottawa on Oct. 21: "In consequence of the fact that the Canadian Government Merchant Marine has placed ships on the different routes connecting with the West Indies, which to some extent interferes with the freight carryings of the R.M.S.P. Co., especially on the northbound passage during the slackness of the sugar season, and the fact that the freight rates of this company have been controlled by the Government, and the company has not been free, therefore, to take advantage of the

greatly increased rates during the war and since, and also owing to the great increase in the price of coal, as well as ship commodities, the company has made application for an increase in freight rates, which is being considered by the Trade and Commerce Department, as also by the St. John, N.B., and Halifax, N.S., Boards of Trade."

Newfoundland Steamship Services.

Canadian Trade Commissioner W. B. Nicholson writes from St. John's, Nfld., as follows:—"Transportation was retarded during the year ended June 30 by the shortage of sea tonnage and the run down condition of the railway system, which had been overworked and under-repaired during the period of the war. The volume of freight carried by the Reid Newfoundland Co.'s railway and steamships far exceeded that of previous years.

"The steamship service with the outside world showed some improvement during the year. The Furness-Withy Co. resumed sailings between Liverpool, Halifax and St. John's, and return, and an excellent passenger and freight steamship has been put on the New York, Halifax and St. John's route by the Red Cross Line, while the Canadian Government Merchant Marine has established an efficient line of freight steamships on the Montreal-St. John's, Nfld., route, which calls at Gulf ports for freight offering, and the steamship Sable I, Farquhar & Co., performs a weekly passenger and freight service between North Sydney and St. John's. The Nova Scotia Steamship Co. has two steamships running between Boston, Halifax and St. John's. It is the intention of the latter company to put two passenger and freight steamships on this route next

season, accommodating about 200 passengers, and a steamship from Halifax to develop Canadian trade in flour and other Canadian manufactures on the west coast of Newfoundland. A. E. Hickman Co., St. John's, are agents for the Nova Scotia Steamship Co."

**Removal of Shipping Offices from
the U.S. to Canada.**

London, Eng., Oct. 12.—Canada promises to benefit from some proposed discriminatory United States legislation, such as the Jones Shipping Act, and the reported taxation of the total profits of foreign companies with branches in the U.S. A director of George Wills & Sons, merchant shippers and London agents for the Holt Line, which is now putting on a new steamship service to the Far East in co-operation with the Canadian Government Merchant Marine, states that his company is considering transferring its office from New York to Montreal. This action is being taken partly because of the high costs in the U.S. ports and partly because of the discriminatory legislation referred to, although the director did not think that the latter would prove of any great benefit to the U.S. mercantile marine, which, in his opinion, is doomed to failure.—Copyright cable to Montreal Gazette.

The s.s. War Fundy, one of the war series of wooden steamships built in Canada for the British Government under orders from the Imperial Munitions Board, is reported to have been wrecked at Grundkellesgrund, in the Gulf of Bosnia, off the Adriatic, and to have become a total loss. She was built by Grant & Horne, St. John, N.B., had approximately 3,080 d.w. tons capacity, and was launched Aug. 24, 1918.

Ships Registered in Canada During July, 1920.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing ships of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc. N.h.p.	Owners or managing owners
138467	A. J. Lowe	Sault Ste. Marie, Ont.	Killarney, Ont. 1920	64.5	15.0	7.0	20	14	11 Sc.	A. J. Lowe, Killarney, Ont.
138456	Argenteuil	Sorel, Que.	Sorel, Que. 1916	94.0	21.0	7.0	165	83	16 Sc.	Minister of Marine, Ottawa, Ont.
141769	Canadian Hunter	Montreal	Lauzon, Que. 1920	331.0	47.7	23.2	3610	2169	231 Sc.	Minister of Marine, Ottawa, Ont.
141768	Charlemagne	"	Charlemagne, Que. 1920	94.3	21.6	6.9	141	26	38 Sc.	St. Maurice Paper Co., Montreal.
150231	Cicora	Midland, Ont.	West Superior, Wis. 1903	241.0	41.0	16.3	1676	999	86 Sc.	Great Lakes Transportation Co., Midland, Ont.
138458	Coal Barge no. 6	Sorel, Que.	Sorel, Que. 1915	160.5	32.0	11.4	595	350	72 Sc.	Minister of Marine, Ottawa, Ont.
138457	Detector	"	" 1915	140.0	35.0	13.1	584	281	32½ Sc.	Steamship Julius Kessler Corporation, Montreal.
141837	Julius Kessler	Montreal	Duluth, Minn. 1920	251	43.7	22.2	2546	1472	140 Sc.	T. M. Kirkwood, Montreal.
141459	Laura A. L.	Halifax, N.S.	Sorel, Que. 1917	84.0	19.2	10.0	113	14	24 Sc.	Minister of Marine, Ottawa, Ont.
138459	Lavaltrie	Sorel, Que.	" 1912	84.5	21.7	10.8	195	84	40 Sc.	Minister of Marine, Ottawa, Ont.
141742	Leon L. (1)	Quebec	" 1920	188.8	36.2	15.1	866	646	15 Sc.	Transportation & Shipping Co., Quebec.
141836	Monalo	Montreal	Cleveland, Ohio 1890	249.7	42.0	21.3	2404	1333	191 Sc.	Montreal Transportation Co., Montreal.
141458	Mary Francis Whalen	Halifax, N.S.	Montreal 1917	84.0	19.2	10.0	113	14	24 Sc.	T. M. Kirkwood, Montreal
138274	Opeco (1)	St. Catharines, Ont.	Milwaukee, Wis. 1918	104.3	14.7	9.3	105	55	22 Sc.	Ontario Transportation & Pulp Co., Thorold, Ont.
141575	Rozana Burton (1)	Weymouth, N.S.	Grosses Coques, N.S. 1920	120.0	27.7	10.0	202	130	49½ Sc.	J. Burton, North Sydney, N.S.
141767	Sapin (2)	Montreal	Noank, Conn. 1901	68.3	15.1	4.9	42	15	13½ Sc.	Port Aux Quilles Lumber Co., Montreal.
117528	Stella Maris	Windsor, N.S.	London, Eng. 1882	124.5	23.6	12.2	229	54	70 Sc.	Farquhar & Co., Halifax, N.S.

(1) Motor ships. (2) Formerly, Vega.

SAILING.

No.	Name	Port of Registry	Rig	Where and when built	Length	Breadth	Depth	Gross Tons	Tons Reg.	Owner or Managing Owner.
141625	B. R. Tower	Parrsboro, N.S.	Schr.	Diligent River, N.S. 1920	140.0	33.0	10.9	379	343	J. N. Pugsley, Parrsboro, N.S.
141642	General Trenchard	Liverpool, N.S.	"	Allendale, N.S. 1920	106.5	26.2	10.4	184	149	G. C. Harris, Grand Bank, Nfld.
141821	M. W. W. No. 3	Vancouver, B.C.	Scow	Victoria, B.C. 1911	90.0	30.0	7.6	173	173	McNeill, Walsh & Wilson, Ltd., Vancouver, B.C.
141787	M. W. W. VIII	New Westminster	Scow	New Westminster, B.C. 1920	91.3	30.0	7.3	171	171	J. Crane, New Westminster, B.C.
141693	Mary L. Oxner	Lunenburg, N.S.	Schr.	Chester Basin, N.S. 1920	120.0	28.0	11.0	218	169	W. Duff, M.O., Lunenburg, N.S.
141626	Whitebells	Parrsboro, N.S.	"	Parrsboro, N.S. 1920	172.0	27.4	13.0	615	572	C. T. White & Son, Sussex, N.B.

Mainly About Marine People.

John Barnsley, heretofore Assistant Manager, has been appointed Manager, Union Steamship Co. of British Columbia. He was for some years with the Boscowitz Steamship Co., before it was taken over by the Union Steamship Co. of British Columbia.

Sir Alfred Booth, Chairman, Cunard Steamship Co., was in Quebec, Oct. 21, prior to going to New York, whence he sailed for England on the s.s. Aquitania. He expects considerable development in the Canadian steamship service for next year.

J. Chesley, Agent, Marine Department, St. John, N.B., is acting as Superintendent of Pilots, St. John pilotage district, for the present.

Lieut. Commander C. P. Edwards, General Superintendent, Radiotelegraph Branch, Naval Service Department, Ottawa, has been attending a meeting of representatives of Great Britain, the United States, France, Italy and Japan, in Washington, to discuss international wire and wireless communications.

R. S. Elworthy, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Chicago, returned home early in October from Europe, after a business trip on the continent.

H. E. A. Hawken, heretofore Assistant Deputy Minister of Marine, has been appointed acting Deputy Minister of Marine, consequent on the resignation of Alex. Johnston. He was born Sept. 28, 1879, and entered the civil service Jan. 7, 1902, and prior to Mar. 31 was Chief Registrar of Shipping. On the latter date he was appointed acting Assistant Deputy Minister of Marine and Assistant Deputy Minister of Marine, in July.

Capt. Hose, R.N., acting Director, Canadian Naval Service, is reported to have been named as Director, Canadian Naval Service, effective Jan. 1, 1921, vice Admiral Sir Charles Kingsmill, R.N., at present on leave of absence, prior to retirement.

Alex. Johnston, Deputy Minister of Marine and Fisheries, is resigning from the Dominion Government's service, and it is said that he will enter the British Empire Steel Corporation's service, an Ottawa press dispatch stating that he will be General Assistant to the President, at a salary of \$18,000 a year. Canadian Railway and Marine World was advised, Oct. 25, that no definite conclusion had been reached as to the exact nature of the work he will undertake, that no consideration had been given to the question of title, that he will not enter on his new duties until Jan. 1, and that his headquarters had not been decided on, but that he will not be removing from Ottawa for the next year.

Major A. C. Lewis, formerly Secretary, Toronto Harbor Commission, and now Secretary, Canadian Deep Waterways & Power Association, has been nominated as the Conservative candidate at the ensuing by-election for the representation of Northeast Toronto in the Ontario Legislature.

Thos. Long, President Thos. Long & Co., general merchants, Collingwood Ont., at one time a director of the Northern Navigation Co. of Ontario, and a former President of the Collingwood Shipbuilding Co., died at his house in Toronto, Oct. 7, aged 84.

W. McLaurin, of the C.G.S. Stadacona,

Esquimalt, B.C., a returned soldier, has been appointed Dock Yard Foreman, Halifax Dockyard, N.S. Naval Service Department, at an initial salary of \$2,400 a year. Particulars of duties, classifications, etc., were given in Canadian Railway and Marine World for October, page 578.

Miss Hilda Murphy, daughter of the late Dennis Murphy, formerly President, Ottawa Transportation Co., was married at Ottawa, Oct. 24, to Lt. Col. K. M. Perry, D.S.O., son of Commissioner Perry of the Royal Canadian Mounted Police.

J. W. Norcross, President and Managing Director, Canada Steamship Lines Ltd., and Mrs. and Miss Helen Norcross, sailed from Quebec, Oct. 6, on the s.s. Empress of France, for England.

Thos. Robb, Manager, Shipping Federation of Canada, left Montreal at the end of October, to attend the first meeting of the advisory committee on maritime matters, of the League of Nations, at Geneva, Switzerland, Nov. 8.

Capt. John C. Shaw, master of the Dominion Government s.s. Sheba, died suddenly, Oct. 9, on board his ship, whilst en route from Levis, Que., to Sydney, N.S. He had been engaged in coast navigation for several years, and before entering the Dominion Government's service, was first officer of the s.s. Oruro, operated by Pickford & Black Ltd., to the West Indies.

Richard Welsford has been appointed Managing Director, Union Steamships Co. of British Columbia, Vancouver, B.C., succeeding E. H. Beazley, who lost his life recently in an aeroplane accident. He is a son of J. H. Welsford, of J. H. Welsford & Co., Liverpool, Eng., which firm controls the Union Steamship Co. of British Columbia, and he has been in that company's service for several years. He was in Vancouver recently, and returned to England, and will assume his new duties in Vancouver about Jan. 1, 1921.

Manchester Liners Ltd. report for the year ended June 30, shows that after providing for depreciation and all charges, including debenture interest, preference dividends, excess profits, corporation and income taxes, there is an amount available of £181,096, including £13,911 brought forward. Of this amount, £100,000 is placed to reserve, and a dividend of 15% free of tax paid on the ordinary shares, leaving £14,316 carried forward to this year's accounts.

The U.S. Emergency Fleet Corporation's office in Montreal will be closed at the end of the St. Lawrence navigation season. This office was opened during the war, for the accommodation of business connected with the passage of a number of steamships from the Great Lakes to the ocean. During the current year about 60 have passed out, and it is expected that two or three more will pass before the season closes.

U. S. Shipbuilding.—An enormous decrease has taken place in ship tonnage under construction in the U.S. during the last 18 months. At the end of May, 1919, 4,185,523 tons were actually building in the U.S., but by the end of September, 1920, that total was reduced by 58%.

British shipbuilders are reported to have offered to build tankers for the United States at \$157.50 a ton, which is said to be \$10 lower than a French offer, and \$32.50 lower than U.S. prices.

Great Lakes Levels.

The U.S. Lake Survey reports the monthly mean stages of the Great Lakes for September, 1920, in feet above mean sea level, as follows:—Superior, 602.81; Michigan-Huron, 580.87; St. Clair, 575.44; Erie, 572.39; Ontario, 245.47.

Lake Superior was 0.12 ft. lower than August, 0.28 ft. higher than a year ago, 0.17 ft. above the average September stage of the last 10 years, 1.27 ft. below the high stage of Sept. 1869, and 1.32 ft. above the low stage of Sept., 1879.

Lakes Michigan and Huron were 0.14 ft. lower than August, 0.06 ft. higher than a year ago, 0.20 ft. above the average September stage of the last 10 years, 2.56 ft. below the high stage of Sept., 1876, and 1.21 ft. above the low stage of Sept., 1911. During the last 10 years the September level has averaged 0.2 ft. lower than the August level and 0.2 ft. higher than the October level.

Lake Erie was 0.26 ft. lower than August, 0.36 ft. lower than a year ago, 0.02 ft. below the average September stage of the last 10 years, 1.55 ft. below the high stage of Sept., 1876, and 1.11 ft. above the low stage of Sept., 1895. During the last 10 years the September level has averaged 0.2 ft. lower than the August level, and 0.3 ft. higher than the October level.

Lake Ontario was 0.15 ft. lower than August, 1.39 ft. lower than a year ago, 0.72 ft. below the average September stage of the last 10 years, 2.14 ft. below the high stage of Sept., 1862, and 1.47 ft. above the low stage of Sept., 1895. During the last 10 years the September level has averaged 0.4 ft. lower than the August level, and 0.4 ft. higher than the October level.

Increased Shipbuilding Costs in Britain.—The Westminster Gazette, in commenting upon the increased shipbuilding costs in Great Britain as a result of higher wage demands, pointed out recently that many orders with British shipbuilders were being cancelled, and added: "Lord Weir has sized up the situation in the engineering line, and is rapidly developing his interests in Japan and Canada; while the action of the Yarrow's a considerable time ago showed even then how the wind was blowing, and is likely to continue to blow."

New Zealand Harbor Improvements.—Plans are well under way for the completion of wharves and sheds at Auckland, as well as the construction of three more wharves to meet the demands of the constantly increasing commerce of that city. Frequently the wharves are so badly congested that shipping must wait its turn. The Auckland Harbor Board has been authorized to place a loan of \$4,866,500 for the developments mentioned, and the chairman of the board has announced that work will be pushed as rapidly as possible.

H.M.S. Shearwater.—The Naval Service Department will receive tenders to November 10, for the purchase of H. M. S. Shearwater, now lying at Halifax, N. S. She was built in England in 1899, with steel hull, wood sheathed, and is fitted with single screw, two bladed propeller, triple expansion, convertible, surface condensing, reciprocating engines of 1,400 i.h.p., and 4 water tube Belleville boilers with a working pressure of 260 lb. Her dimensions are,—length 300 ft., beam 33 ft., draft 12.5 ft., displacement 980 tons.

Radiotelegraph and Other Electric Aids to Navigation.

As detailed in Canadian Railway and Marine World from time to time recently, the Dominion Naval Service Department's Radiotelegraph Branch has established several wireless telegraph direction finding stations which have been operated very successfully on the Atlantic coast and another one is being erected at St. John, N.B.

The U.S. Commerce Department's Navigation Bureau is studying the determination of ship location by radio signal. The system in use at present by the U.S. Navy employs radio compass stations on shore which measure the angle from which the signal is sent by the vessel to be located. By a system of triangulation two or more stations working together can determine the location of a vessel. The new system under test by the Department of Commerce reverses the operations by sending the signals from shore stations and doing the radio compass work aboard ship. Recent tests on this system are reported to have been very successful, but further investigation both as to apparatus and methods of manipulation are anticipated before any extensive application will be commended.

In connection with the radio location of ships the U.S. Navy Department has under consideration the establishment of a large number of additional radio compass stations. These will be placed along the western seaboard and on the Great Lakes. It is anticipated that they will find extensive use in directing the merchant marine, though they will be designed primarily for naval service. It is said that stations will be established on the Great Lakes at Detour, Grand Marais, Whitefish Point, Eagle Harbor, Thunder Bay Island, Wind Point or Grosse Point, and several other points.

A Paris cablegram says that the French Ministry of Marine has decided as soon as possible to lay down in all French ports and across the Channel, in collaboration with the British Admiralty, electric cables which will enable ships to steer safely into port in the densest fogs. The invention which is to be used is that of the French engineer, Loth, which, it appears from the account given at the Academy of Sciences by Admiral Fournier, resembles in its general principles that recently experimented with in America. An electric cable along which a current of alternative frequency is passed is submerged in the fairway. Secondary currents which such a cable induces at a distance are picked up by ship's instruments and, according to the distance of the sound, the pilot can judge whether he is in the middle or at the outskirts of the fairway. Even an aeroplane fitted with receiving instruments can follow the submerged cable, and the proposal is made that the sea cable should have an overland connection to the aerodromes, to enable pilots to steer through fog.

The United States Navy Department is reported to be completing a series of tests in New York harbor on a system using what is called a "radio piloting cable." This system was first tried by the Navy Department nearly a year ago but the first tests were not successful, due to damage of the cable by fishing operations. A new cable designed by the Radio Division of the Bureau of Engineering of the Navy Department has, however, proved successful and recent tests are reported to be exceedingly encouraging. The work requires a cable

energized by a low frequency alternating current laid along the center of the channel through which vessels are to be guided. The magnetic waves from this cable are picked up by any one of several types of receiving equipment aboard the ship and the pilot lays his course in accordance with the relative intensity of the signals from the right or the left receiving units. A full report upon this work will be available on completion of the present tests.

The Cunard Co.'s Canadian Services.

London, Eng., Oct. 13.—The Cunard Co. will probably supplement the partial service to Canada now being provided by the Saxonia and the Caronia with several of the 13 ships now under construction for the company. As the new ships will all be oil burners, of approximately 20,000 tons each, the Cunard Co. expects to become serious competitors of the Canadian Pacific Ocean Services. The sailings will be from London to Halifax and New York. The British offices of the Cunard Co. refuse to confirm the report that the company will put a passenger fleet on the Pacific Ocean to compete with the C.P.O.S. there, using the Canadian National Rys. across Canada.—Copyright cablegram to Montreal Gazette.

Francis King on the Proposed St. Lawrence River Improvements.

At a sitting of the International Joint Commission at Kingston, Ont., Oct. 11, Francis King, M.A., Chairman of the Kingston Board of Trade's marine committee, stated that, as General Counsel for the Dominion Marine Association, he had at Buffalo, N.Y., on Mar. 1 last, explained the attitude of Canadian ship owners towards the proposals so far as their position was indicated by the Association's records. They had made no declaration then and had made on declaration since on the question whether transportation would benefit by the adoption of the proposed scheme of improvement, but they had asked for some such plan as a solution of their difficulties in relation to power development. They had objected to the present system of parceling the river out to private individuals, and to corporations, with the result that navigation was imperilled and that the Government was in danger of losing control of the stream. Mr. King stated that the Association and mariners themselves recognize that power is a very important factor, and that the demand for more of its must be met soon. The Association therefore asked the Government for a scheme which would protect navigation interests and at the same time permit the development of power. To that extent the Association agreed on the proposals, and in spite of other differences among individuals, such as those engaged in freight and passenger traffic, those with ships of large size and those with ships which can already navigate the canals, those who have strong views on the non adaptability of lake ships for ocean trade, or ocean ships for lake trade, and those who believe a new type might develop or that transshipment would in any event take place at Montreal; in spite of these differences the Association believes that some scheme must be adopted, and the one before the Commission seems practical and might be decided upon.

Mr. King said the Association should

go farther, and suggested that if the change must come, dams and slack water lakes in the river would be preferable to canals. Speaking for Kingstonsians, he pointed out that in advocating the St. Lawrence waterway, on account of the need of power, they were quite unselfish, as when the Welland Canal deepening was proposed, it was felt that it would make the foot of Lake Ontario the end of deep water navigation and build up Kingston. With the deepening of the St. Lawrence this advantage would be gone, but they believed the good of the greatest number must be considered and must prevail.

Marine Public Works Contracts.

The Dominion Public Works Department has awarded the following contracts:—Repairs to checkwater pier, Cobourg, Ont., York Construction Co., Toronto, Sept. 15, schedule of rates. Repairs to public wharf, Owl's Head, N.S., Naugle & Hiltz, Lawrencetown, N.S., Sept. 14, schedule of prices. Dredging in deep water berths, St. John, N.B., J. A. Gregory, West St. John, N.B., Sept. 20, class B, 32c. a cu. yd. scow measure. Wharf, Thetis Island, B.C., Vancouver Pile Driving & Contracting Co., Vancouver, B.C., Sept. 15, schedule of prices. Reconstruction of superstructure of west pier, Pelee Island, Ont., Border Cities Construction Co., Windsor, Ont., Sept. 22, schedule of prices. Repairs to wharf, Campbell River, B.C., W. Greenlees, Vancouver, B.C., Sept. 23, schedule of prices. Construction of wharf, Lyall Harbor, B.C., Vancouver Pile Driving & Contracting Co., Vancouver, B.C., Sept. 23, schedule of prices. Renewal of wharf, Moresby Island, B.C., Vancouver Pile Driving & Contracting Co., Vancouver, B.C., Sept. 23, schedule of prices. Reconstruction of wharf, Owen Sound, Ont., E. Conroy, Peterborough, Ont., Sept. 27, schedule of prices. Ice breakwater, St. Joseph de Sorel, Que., A. Lacroix and H. Gravel, Montreal, Oct. 1, \$2,800. Public floating wharf, Princess Creek, B.C., F. Cogle and H. Perryheake, Proctor, B.C., Sept. 27, \$7,980. Reconstruction of 466 ft. of superstructure of east pier, eastern channel to Toronto harbor, Toronto, C. S. Boone Dredging & Construction Co., Toronto, Oct. 12, schedule of prices.

Wreck Commissioner's Enquiries and Judgments.

Investigations have been held and judgments delivered in connection with the following casualties:—

Stranding of s.s. Edward Pyke.

Held at Quebec, Oct. 7, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and J. Couette, as nautical assessors, into the stranding of the steam tug Edward Pyke, near Pointe a Pizeau, Quebec harbor, Sept. 5, while towing the sailing ship Grand Duchess Maria Nicolaeroc.

The court found that the master of the tug, Capt. A. Larsen, and the pilot, A. Arcand, failed to exercise the prudence required by their respective positions and responsibilities. The fact that the casualty was trivial in a monetary sense was no concern of the court, but on the principle involved the court held that the action of each of the parties brought the tug and her tow into danger, and ordered Capt. A. Larsen to pay the costs of the enquiry, and fined the pilot, A. Arcand, \$150, to be paid by Nov. 1. With respect to E. deVillers, pilot of the sail-

ing ship, although his ship did not come to grief, he was severely reprimanded, and cautioned to remember that, if only from a humanitarian point of view, it was his duty to "warn his servant that he was running into danger."

A rider was added to the court's finding, stating that a very important point was brought out, viz., that each pilot was under the impression that he had no instructions to give or receive from the other, that each was caring for his own charge, and felt that neither one had any concern for the other. The court held this to be a wrong and dangerous principle. If pilots intend, as the court was informed, each separately to pilot a tug and her tow, and the powers that be permit it, stringent instructions and regulations must necessarily be issued at once, in view of the foregoing, to prevent dual control, which can only be destructive of any policy, and dangerous to St. Lawrence navigation.

Trade and Supply Notes.

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

The Barrett Co., with Canadian offices at Sydney and Halifax, N.S., St. John,

N.B., Montreal, Toronto, Winnipeg and Vancouver, has issued "Roof Flashing Handbook, Details and Specifications," dealing with standard flashings, which are fully described and illustrated, many of the illustrations being in blue print form.

Davis-Bournonville Co., Jersey City, N.J.—"Autogenous Welding," this company's house organ, for October, deals further with the performance of its Pyrograph, in the fabrication of flange boiler plates, in shipyards. The setting up of portable welding equipment is also described and illustrated, step by step.

Davis-Bournonville Co., Jersey City, N.J., has issued a booklet of instructions for the use of the Radiograph, a portable machine for cutting to straight and curved lines, using grooved track to guide for straight cutting, and a radius bar and center point for circular cutting. The illustrations show cutting on oval opening in a marine boiler combustion chamber head; ship plate cutting and trimming a ship plate to a straight line.

Dominion Oxygen Co. has opened a charging plant at Hillcrest Park, Toronto, where a supply of Dominion oxygen, in loaned cylinders of standard sizes, will be carried at all times.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:
American Association of Port Authorities. M. P. Fennell, Jr., 57 Common St., Montreal.

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pinkston, Belleville, Ont.

Canadian Car Demurrage Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—A. Eastman, 70 Bond Street, Toronto.

Canada Freight Association (Eastern lines)—G. C. Ransom, 909 Shaughnessy Bldg., Montreal.

Canadian Freight Association (Western Lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Board of Adjustment No. 1—R. Chapple, 263 St. James Street, Montreal.

Canadian Railway Club—W. A. Booth, 131 Charron St., Montreal. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Traffic League, A. H. Thorpe, 25 Balsam Ave., Toronto.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—C. M. Strange, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—A. E. Storey, 310 G.T.R. General Offices, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, 89 Chatham Ave., Buffalo, N.Y.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Harbor Commissioner's Office, Quebec, Que.

Railway Association of Canada—C. P. Riddell, Montreal.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacramento Street, Montreal.

Transportation Club of Toronto—W. A. Gray, 257 Roxton Road, Toronto.

Transportation Club of Vancouver—C. E. Blaney, Travelling Passenger Agent, Canadian Pacific Ocean Services Ltd., Vancouver, B.C.

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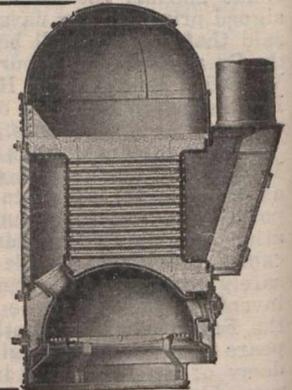
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