# Canadian Railway and Marine World

## GENERAL INDEX
FOR 1918



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# STEAM RAILWAY DEPARTMENT AND GENERAL MATTER.

# ELECTRIC RAILWAY DEPARTMENT.

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# APPOINTMENTS AND BIOGRAPHICAL.

# Canadian Railway and Marine World

January, 1918.

## Oxy-Acetlyene and Electric Welding and Cutting Processes in Locomotive Shops.

By A. F. Dyer, General Foreman, Welding Department, Grand Trunk Railway, Montreal.

With the present prices of material, scarcity of labor, and difficulty of obtaining steel and iron, welding and cutting by both the above mentioned processes have proved a great boon and an almost indispensable factor in railway repair shops. Seven years ago we employed one man as an acetylene welder, and owing to failures, through his lack of experience, the process was nearly condemned, but as we gathered experience, both gas and electric welding developed, so that now instead of one man we employ 18 and have often to work them overtime.

The low pressure acetylene gas system is used, and the whole shops are piped for the acetylene, every other repair pit has a drop connection, in locomotive houses we use Prest-O-Lite dissolved acetylene in cylinders, which saves the expenses of a generator and piping where the process is only in use occasionally. There is a great difference in opinion as to the relative merits of high or positive pressure and low pressure gas, the manufacturers of pressure outfits contending that you save oxygen by using their type of generators and that you cannot get so near to a neutral flame with the low pressure gas as you can with the high. The makers of the low pressure outfits claim that by the use of an injector embodied in the torch or welding head, a neutral flame can easily be obtained. We find we can obtain a flame as nearly neutral as can be obtained, with the outfit we use, although with pressure gas you can obtain a much larger flame for the same sized head than with the low pressure. The principal factor, however, that made us decide on the low pressure outfit was the fact that our main supply pipes are carried overhead throughout the shops, and as nearly all, if not all, oil, steam and water pipes are overhead, we had to consider a very well known motto, viz., safety first, for if a man was working overhead and by mistake broke a joint of the gas pipe, his torch or candle might cause an explosion which might wreck the shop. Though we have been using acetylene gas for eight years, we have never had an explosion of any sort. Our low pressure generator went through a big fire two years ago, and we were enabled to repair it and use it for several weeks, till we received our new outfit.

There are many kinds of electric welding outfits on the market, and, of course, each one is claimed to be the best by its respective makers; each has its advantages and, whisper it, its disadvantages, and the old prejudice very often exists among operators that the machine they are using and are familiar with is the best, and they will stick to that opinion until they become accustomed to a new machine. A new equipment, using alternating current instead of the direct current, is now being put on the market, and only weighs 150 lb., and gives from 20 to 200 amperes, and is about 50% cheaper than any d.c. machine on the market. The electric welding outfit consists of two generators, each operating four welding circuits; the shops are wired and at convenient places connection boxes are placed, and only need a lead and ground wire connected to them and the work on which the welder is engaged. The outfit used has panel controls, which allow each man to control his amperes independent of the other welders.

The processes have proved themselves fit to be ranked amongst the greatest time and labor savers, and also we may safely say money savers, introduced for a long period. For instance, in the not very distant past, a locomotive with a broken frame had to stay several days in the shops before the men could strip down one side and remove the frame to the smith's shop, weld it and perhaps have it machined and then replaced. Now we drop the pair of wheels which may cover the break, cut out the crack with the cutting torch, to the shape of a double V, at an angle of 90°, clean off the oxide caused by cutting, and weld up with the metal electrode, using soft steel or Swedish iron, a frame 4 x 5 in. being cut and welded in under 14 hours, and it can be done in less time by having two operators on the frame at once, but the men do not like facing each other's arcs, as when they are changing their filling rods their eyes get sore.

Frames, when worn by brake gear and stays, are built up, and worn holes are plugged and welded, instead of reaming them out to a larger size and thereby weakening the frame. In rebuilding and superheating engines, the same boilers are seldom used on their original frames, and as in very few cases do the various holes in angle irons, furnace bearers, etc., come into alignment with frames or boilers, the holes are welded up and redrilled.

The present price of tool steel demands that none shall be wasted, therefore we use it down to the last inch, by welding it to tire steel. Twist drills, taps, and reamers, when broken near the socket end, are welded and put into use again. For this purpose we use either the electrode or gas, but in both cases we use vanadium steel filling rods, as we find this gives the best results. Spokes of driving wheels are welded, and flat spots on tires have been successfully welded up when it was necessary to do so.

We have not had much success on cast iron, with the iron electrode, although with the carbon you can make a fair job, but the gas is unquestionably the best for any of this material. We have successfully welded with the gas, steam shovel engine frames, slides and cylinders, by welding in patches of cast iron where worn or broken. When our contract for shells was completed and the lathes that were used for this purpose were being overhauled, it was found that most of the V slide beds were worn down by the tool carriers; these were built up with the gas, which saved machining these beds down in many cases ⅜ in.

Most of the boiler welding is done with the iron electrode, using a mild steel or Swedish iron as a filler. It is found that the electric process localizes the heat more than the gas does though it is the writer's opinion that gas makes a closer and neater weld, as all welds made by the electrode are more or less porous, unless hammered up. It pays better, whenever possible, to do so, to put quarter or half sides, in order to get out of the fire line, in preference to putting in a patch, for, as a rule, however well the patch is welded it generally gives out in from 12 to 18 months service, and the same applies to cracks, whereas the half or quarter side should last as long as the firebox.

When a nest of small cracks is found round the staybolts, the bolts are removed and the holes countersunk and welded up. This method has been found to be very successful. Corner patches are welded in by running the patch into the tube or back sheets, as the case may be, at the same time removing the flanges. If it is decided to do away with a number of tubes, plugs are welded in the holes, first countersinking the holes and having the plugs punched by a countersunk die which gives the proper bevel for welding.

A great deal of trouble was experienced in welding in the superheater flues and tubes when it was first started, but after a little experience much better success was arrived at. Some operators prefer the tubes belled, and others prefer them beaded; some prefer the water in the boiler and others do not. The operators I am connected with like the belled methods best and with the water in the boiler. This keeps the tube sheet from heating, especially round the smaller tubes. Tubes are set in with copper ferrules set back 1/32 in. and the flues are belled out 3/16 in. to 7/32 in. and the small tubes 3/16 in. The sheet is roughened all round the tubes and flues, and the oil is then burnt off with the oxy-acetylene flame and tubes, and flues welded in with electrode, using ⅛ in. mild steel or Swedish iron; the latter is preferred if caulking is needed.

A sample of an average day's work is as follows, for a gang of 12 men: 14 rivet holes in smokebox and 4 peg holes in foundation ring; 10 tubs holes in upper portion of firebox tube sheet; 2 air pipes which were worn through. In the tool room: 1 ratchet for jack (2 teeth replaced); 1 gear spindle built up; 1 chuck screw, key end built up; 1 boring shaft built up from 2½ to 2⅞ in.; 2 tool holders, rebuilt; 1 air hammer handle repaired; 6 teeth in lathe gear, built in; 1 cone, small end filled up solid; 2 1¼ in. holes in top rail of frame filled up; 4 cracks 18 in. long in right side sheet welded; 14 bottom tube holes built up for re-tapping in round head; cut out frame for welding and started welding same; welded bushes in pony truck stays; cut out 3 sets of boiler tubes; cut out one set of superheater flues; build up caulking edge of fire hole; heated corners of tube sheet for closing; welded broken superheater damper bracket; built up reversing lever where worn; built up 2 side rods where worn; cut out 48 flexible staybolts in firebox; welded 2 cracks in throat sheet. Air brake department: 1 broken flange of air brake cylinder. In addition to this list two men are engaged con-

tinuously on cutting around the shops.

For cutting steel and wrought iron, the oxy-acetylene process has practically no competitor, it being impossible with the carbon point to cut as fast, or as fine and neatly, as the gas torch, although for scrapping fireboxes and frames, the carbon point is cheaper, if time is no object and labor cheap.

The foregoing examples only enumerate a very small fraction of the uses to which the two methods of welding and cutting are being put in locomotive repairing and machine shops and fresh uses are being found for it every day. No locomotive house should be without an oxy-acetylene outfit, both for repair work and as a part of the wrecking outfit, many days are lost by locomotives being tied up through parts having to be sent to the nearest big shops for repair, which could be repaired on the spot with a welding and cutting outfit. All large locomotives houses should have both processes, as they would pay for themselves over and over again. Though there are many different opinions as to which is the best process, no shop is complete unless it has both equipments, although the gas has really the widest range, but, on the other hand, a heavy piece of steel or iron needs no preheating with the electrode but welding can be commenced as soon as your arc is drawn. Ninety-five per cent. of the failures which occur instead of being laid on the process should be placed on the shoulders of the operators.

Welding should not be treated as a side line of the machinists' or boilermakers' business, but as a trade in itself, as it really is, for it needs the entire concentration of a man's mind, careful study, plenty of practice and a conscientious man to make a welder. Wherever possible a separate building or suitable space should be provided for bench work, and should be equipped with a suitable furnace for heating and annealing castings, and also have plenty of floor room, to allow of charcoal fires being built for preheating cast iron jobs for welding.

The foregoing paper was read before the Canadian Railway Club in Montreal recently.

## Birthdays of Transportation Men in January.

Many happy returns of the day to:—

J. Abrams, Wharf Freight Agent, C.P.R., Vancouver, B.C., born at Manchester, Eng., Jan. 24, 1870.

W. U. Appleton, General Master Mechanic, Canadian Government Railways, Moncton, N.B., born there, Jan. 29, 1878.

R. Armstrong, Superintendent, Souris Division, Manitoba District, C.P.R., Souris, born at Kingston, Ont., Jan. 27, 1865.

L. E. Ayer, General Agent, Canadian Northern Ry., St. Louis, Mo., born at Henderson, Ia., Jan. 11, 1877.

F. X. Belanger, General Freight and Passenger Agent, Temiscouata Ry., Riviere du Loup, Que., born at Chlorydormes, Que., Jan. 20, 1876.

G. McL. Brown, European Manager, C.P.R., London, Eng., born at Hamilton, Ont., Jan. 20, 1866.

F. J. Buller, Cashier and Paymaster, Eastern Lines, Canadian Northern Ry., born at Lindsay, Ont., Jan. 30, 1874.

W. A. Cowan, A.M.Can.Soc.C.E., General Superintendent, Western Lines, Canadian Government Railways, Cochrane, Ont, born at Galt, Ont., Jan. 22, 1877.

J. E. Dalrymple, Vice President, G.T.R., G.T.P.R., and Central Vermont Ry., Montreal, born there Jan. 1, 1869.

A. Davidson, Commercial Agent, Grand Trunk Pacific Ry., and G.T.P. Coast Steamship Co., Vancouver, B.C., born at St. Henri, Montreal, Jan. 29, 1885.

G. J. Desbarats, C.M.G., Deputy Minister of Naval Service, Ottawa, Ont., born at Quebec, Que., Jan. 27. 1861.

J. E. Everell, Superintendent, Montmorency Division, Quebec Ry., Light and Power Co., Quebec, Que., born at Cap Rouge, Que., Jan. 1, 1863.

J. E. Giles, Locomotive Foreman, Canadian Northern Ry., Lucerne, B.C., born at Toronto, Jan. 18, 1882.

Gordon Grant, Chief Engineer, Quebec and Saguenay Ry., Ottawa, born at Dufftown, Scotland, Jan. 2, 1861.

G. F. Hichborn, formerly Agent, Great Eastern Fast Freight Line, New York, born at Boston, Mass., Jan. 13, 1875.

C. Hood, Local Freight Agent, C.P.R., Saskatoon, Sask., born at Edinburgh, Scotland, Jan. 20, 1864.

D. W. Houston, Superintendent, Regina Municipal Ry., Regina., Sask., born at Bathurst, N.B., Jan. 3, 1879.

Carl Howe, Traffic Manager, Michigan Central Rd., Chicago, Ill., born at Berrien Springs, Mich., Jan. 11, 1870.

H. J. Humphrey, Superintendent, Brownville Division, Quebec District, C.P.R., Brownville Jct., Me., born at Berrys Mills, N.B., Jan. 26, 1879.

W. C. Hunter, ex-Manager New Brunswick Coal and Ry. Co., now of Montreal, born at St. John, N.B., Jan. 4, 1865.

H. G. Kelley, President, G.T.R. and G.T.P.R., Montreal, born at Philadelphia, Pa., Jan. 12, 1858.

W. J. Lynch, General Manager, Quebec Ry., Light, Heat and Power Co., Quebec, Que., born there, Jan. 17 1882.

C. R. Mackenzie, General Manager's Assistant, Western Lines. Canadian Government Railways, Winnipeg, born at Toronto, Jan. 10, 1883.

John Macrae, Locomotive Foreman, C.P.R., Swift Current, Sask., born at Springburn, Glasgow, Scotland, Jan. 30, 1879.

P. A. Macdonald, Manitoba Public Utilities Commissioner, Winnipeg, born at Gananoque, Ont., Jan. 6, 1857.

William Phillips, Canadian Representative, Cunard Steamship Co., Montreal, born at Toronto, Jan. 31, 1870.

W. Pratt, General Superintendent, Sleeping and Dining Cars and Hotels, Canadian Northern Ry., Winnipeg, born at Sibbertoft, Northamptonshire, Eng., Jan. 18, 1870.

John Pullen, President, Canadian Express Co., Montreal, born at Shepton Mallet, Eng., Jan. 23, 1863.

Ralph M. Reade, Superintendent, City and Quebec County Railways, Quebec Railway, Light & Power Co., Quebec, born at Llanelly, Wales, Jan. 1, 1868.

L. J. Rouleau, Commercial Agent, G.T.R., Quebec, Que., born at Montreal, Jan. 6, 1879.

C. Senay, Assistant Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, born at St. Cesaire, Que., Jan. 31, 1873.

A. F. Stewart, M.Can.Soc.C.E., Chief Engineer, Eastern Lines, Canadian Northern Ry., Toronto, born at West Bay, N.S., Jan. 1864.

J. G. Sullivan, M.Can.Soc.C.E., Chief Engineer, Western Lines, C.P.R., Winnipeg, born at Bushnells Basin, N.Y., Jan. 11, 1863.

Ross Thompson, ex Chief Engineer, and Managing Director, St. John and Quebec Ry., Fredericton, N.B., born at Newry, Ireland, Jan. 1, 1865.

T. H. White, Chief Engineer, Canadian Northern Pacific Ry., Vancouver, B.C., born at St. Thomas, Ont., Jan. 27, 1848.

A. Wilcox, General Superintendent, Central District, Canadian Northern Ry., Winnipeg, born at Kincardine, Ont., Jan. 2, 1865.

## Strength of Oxy-Acetylene Welded Joints.

The Illinois University's Engineering Experiment Station has completed a series of tests of the strength of oxy-acetylene welded joints in mild steel plates. The tests were made in the laboratories at Urbana under three conditions of loading: (1) static load in tension, (in a testing machine); (2) repeated load (bending), and (3) impact in tension (in a drop testing machine).

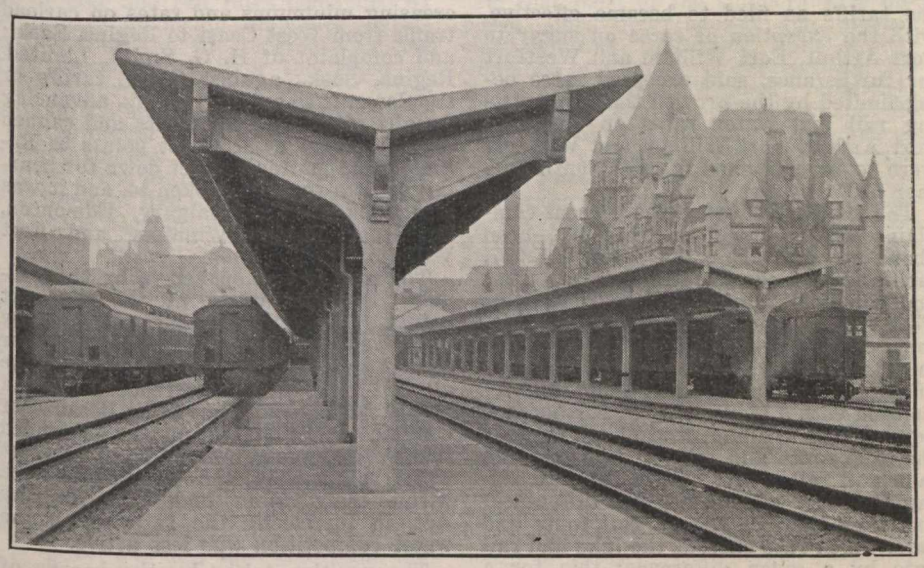
For joints made with no subsequent treatment after welding, the joint efficiency for static tension was found to be about 100% for plates ½ in. thick or less, and to decrease for thicker plates. For static tension tests, the efficiency of the material in the joints welded with no subsequent treatment was found to be not greater than 75%. The joints were strengthened by working the metal after welding and were weakened by annealing at 800 degrees C. For static tests and for repeated stress tests, the joint efficiency sometimes reaches 100%; the efficiency of the material in the joint is always less. This indicates the necessity of building up the weld to a thickness greater than that of the plate. The impact tests show that oxy-acetylene welded joints are decidedly weaker under shock than is the original material; for joints welded with no subsequent treatment, the strength under impact seems to be about half that of the material. In general, the test results tend to increase confidence in the static strength and in the strength under repeated stress of carefully made oxy-acetylene welded joints in mild steel plates.

The results of the tests have been published by the Engineering Experiment Station as Bulletin 98, copies of which may be obtained free by addressing C. R. Richards, Director, Urbana, Ill.

**Canadian Northern Ry. Vancouver Station Suit.**—Gibb & Co. have secured a verdict for $4,000 against Canadian Northern Construction Co. and Carter, Hall, Aldinger Co., for breach of contract. The plaintiffs were to supply certain stone for the building of the C.N.P.R. station at False Creek, Vancouver, for which work the other companies were the contractors. The question at issue was whether or not a contract, as contemplated by the Sales of Goods Act, existed. There was a verbal contract, and a document to which was appended the printed name of one of the defendant companies, with the rubber stamped name of the other, and these two names were connected by the written word "and," which the jury found had been written in by the secretary-treasurer of one of the defendant companies before it was handed to the plaintiffs. Justice Murphy, upon the motion to enter judgment for the $4,000, declined to give a decision upon the sufficiency of the document as a contract. This matter will be taken to a higher court.

# Umbrella Roofs at C.P.R. Stations at Montreal and Quebec.

The C.P.R. has completed recently umbrella roofs over four of its passenger platforms at Place Viger Station, Montreal, three being each 496 ft. long and one 403 ft. long. The baggage platforms which occur between each passenger platform are not covered. The umbrella roofs consist of reinforced concrete throughout. The posts are symmetrical 2-armed units, on which are supported reinforced concrete purlins, which in turn support the reinforced concrete roof slabs, which are waterproofed with the usual membrane and asphalt covering. This unit system of construction, constitutes a very interesting, and what is believed to be, an original method of construction.



Umbrella Roofs, Place Viger Station, Canadian Pacific Railway, Montreal.

The actual method of construction was as follows: The pedestals were first built in their proper locations, an oblong pocket 1 ft. x 1 ft. 10 in. being left in them for the reception of the posts, which were intended to be manufactured as units, and later to be inserted and grouted into the pockets. It was found, however, in some cases, more economical to erect the reinforcement as units in the pockets, clamp the forms around them, and then, when all adjustments had been made, to pour the concrete from a travelling crane platform. After the forms had been removed, the structural steel slings were put in place. In the meantime the purlins had been cast as units in the yard and they were erected from the same traveller. This having been accomplished, the reinforced concrete roof slabs were laid as if they were ordinary mill construction wood work. All reinforcement of the posts and purlins consisted of rails, bent where necessary, and securely attached to one another. This construction lent itself readily to a systematic and speedy erection. It allowed the work to be proceeded with without interfering with passenger traffic on the platforms, or with train operation on the tracks.

When the skeleton was erected the roof slabs were lifted up into place from the deck of a flat car by a light travelling crane. These roof slabs are of special construction known as Siegwart beams, a Belgian design. They are 4 x 12½ in. wide. They were specially manufactured with one end closed and all lower edges had a ½in. chamfer, which gives the impression of a series of V joints 12½ in. apart. This served to break up the surface and gives a very pleasing effect from below.

Where down pipes occur in the roof, the Siegwart beams were made of shorter length and trap castings were cast into a small section of solid concrete poured on the work. The rain water pipes are of Toncan metal and are located at every second panel, 62 ft. c. to c., and connect with the existing drainage system in the yard.

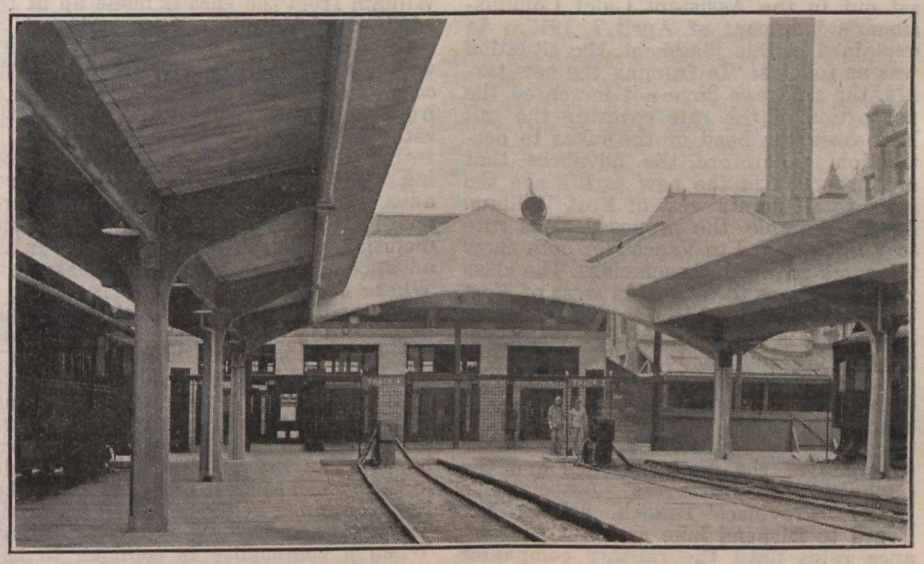
The roof covering consists of a membrane, composed of 5 ply roofing felt, laid in pitch, with a continuous galvanized iron reinforcing piece along the edge of the roof; the function of this reinforcing piece being to keep the membrane in contact with the end of the roof slab and prevent a tendency to curl up. In addition to this it provides a uniform drip edge which extends ¾ ins. below the lower surface of the slab. Details of the manner in which the first layer of roofing material was folded back and attached to the upper side of the membrane are clearly shewn on the plans. The upper surface of the membrane is protected against abrasion by snow shovelling, by a layer of asphalt.

The surface finish of the whole work was done immediately the forms were taken off, by rubbing down with sand and wooden floats. The structural steel hangers were manufactured previously in a structural shop, and after erection they were painted to match the general color of the concrete.

The wiring for the whole structure is laid in standard conduit work, with the necessary outlet boxes. The conduits pass through pre-cast holes in the posts, and two lights per panel are attached to fixtures on the lower side of the centre purlins. This gives ample light at night, and the fact that the outer edges of the roof slabs are 18 in. above the top of cars, provides ample light during the day, even when both tracks adjacent to a platform are occupied by trains.

Similar work was carried out at the Union Station, Quebec, in substantially the same manner as described above for Place Viger, with a few exceptions, one of which was that a few of the posts were poured on their sides, and were lifted up later and grouted into the pockets already referred to in the pedestals. Generally, however, the posts were cast in a vertical position, after the reinforcement had been put together and stood up in its final vertical position. This method was found more convenient, from the point of view of maintenance of traffic on platforms. The roof slabs are of mill construction, 3 in. thick timber instead of Siegwart beams as at Place Viger.

The accompanying illustrations show the general appearance of the finished work, including the connection of the new platform covers with the existing midway space at Place Viger station. This consists of 1½ in. mortar work, floated on expanded metal reinforcement attached to the existing structural steel work, which gives a pleasing appearance, as can be seen from the illustrations, from both inside and outside of the midway.



Umbrella Roofs, Place Viger Station, Canadian Pacific Railway, Montreal.

The work at both Montreal and Quebec was executed under the supervision of J. M. R. Fairbairn, Assistant Chief Engineer, the designs being made by P. B. Motley, Engineer of Bridges, and the work was carried out by J. E. Beatty, District Engineer. The Atlas Construction Co. were the contractors for the Montreal work, and the Byers Construction for the Quebec work.

# Increased All Rail Freight Rates from Eastern Points to Port Arthur and the West.

Canadian Railway and Marine World for July published general order 210, passed by the Board of Railway Commissioners, dismissing complaints of Winnipeg, Calgary, Regina, and Saskatoon Boards of Trade and the Canadian Manufacturers Association, against Tariffs C.R.C. 3 and 4, effective Sept. 1, 1917, filed on behalf of the railway companies by the Canadian Freight Association's Manager, providing increased all rail freight rates from Eastern Canada to points west of and including Port Arthur. Following is the full text of the judgment, given by Commissioner McLean, and concurred in by the Assistant Chief Commissioner, D'Arcy Scott.

Judgment was given by the board on March 29, 1917, finding that certain increases proposed on local lake and rail rates from stations in Canada to Fort William and other lake ports were reasonable, and said rates were allowed to become effective April 2, 1917. The relation of the lake and rail rates, which were thus allowed to become effective, to the water rates are set out in the judgment as follows: "The new lake and rail rates will so far as is known be the following number of cents per 100 lb. over the maximum all water rates for the season of 1917 in the classes mentioned: 1st class, 5c; 2nd class, 4c; 3rd class, 4c; 4th class, 3c; 5th to 10th classes, inclusive, 2c. And the proposed rates will be under the present all-rail rates to Fort William, 45c per 100 lb. first class, and 12c per 100 lb. 5th class from Toronto; and 35c first class and 7c fifth class from Montreal."

Thereafter tariffs were filed by the Canadian Freight Association providing for increases in rail, lake and rail rates from points in Eastern Canada to points in Western Canada, to become effective April 23. The scope of these rates was set out in the Assistant Chief Commissioner's judgment of April 7, 1917. As explained in this judgment, the situation was as follows: "In framing the new tariffs, the railways have not increased the proportion of the rate covering the rail haul from the head of the lakes to destination. Therefore, the advances that are proposed in the new tariffs are the same to all points west of Fort William. As an example, the proposed class rate to Winnipeg and to Vancouver both show the same advance in each class. The class rates advances to all points west of Fort William are for 100 lb. 1st class, 6c; and, 3rd and 4th classes, 3c; 5th class, 2c; 6th to 10th classes, 1c. Advances ranging from 1c to 6c per 100 lb. in rates on different commodities are proposed in the commodity tariff."

Protests were received from the boards of trade of the western cities and the Canadian Manufacturers' Association's Prairie Provinces' Branch, asking the Board to suspend lake and rail furtherance rates until the railway companies had justified the proposed increases. The position taken by the railway companies was that the increases were concerned with a water competitive situation. The board was of opinion that the action in the local rail and lakes rates case above referred to should not be taken by the companies as a necessary justification for the increase in rail, lake and rail rates to western points; and the opinion was expressed that there might be principles applicable to the proposed western rates, or circumstances and conditions to be considered which had no application to the local rates to Fort William. The matter was suspended so that further representations of the parties interested could be hearing in the west. Sittings were held in different western cities: and thereafter general order 197 was issued permitting the tariffs as filed to become effective, with the exception of rates on sugar to Port Arthur, Fort William and Westfort for furtherance, said excepted rates being limited by the proviso that the existing rail and water rates on sugar to Port Arthur, Fort William and Westfort were to be continued in effect until further order by the board.

The subject matter of the present complaint relates itself to what has been above set out. Effective Sept. 1, 1917, tariffs were filed advancing all rail, class and commodity rates to points west of Fort William and Port Arthur. The history of the class rates involved is set out in detail later on. There are three sets of routes and rates involved in connectiontion with a movement for furtherance beyond Fort William; first of all, there is the lake route and rate; then comes the lake and rail route, with a rate exceeding the lake rate by a given difference; and then there is the all rail route and rate, which rate exceeds the lake and rail rate by a given difference; this for a period of years, as later explained, having been 25c. What is involved in the rates which are the subject matter of the present complaint is that the lake and rail rate for furtherance having been increased by 6c on 1st class, the all rail rate is increased by the hitherto existing differences between the lake and rail and all rail rates; i.e., the first class rate would become 81c instead of 75c as hitherto. The other classes scale in proportion. The rate to a point beyond Fort William from the east is made up of the addition of the all rail proportional, as referred to, to the rate from Fort William west. Increases are also set out in the case of commodity rates. In the case of iron ore, brick, charcoal, salt cake, the rates have been advanced 1c per 100 lb., 10th class. Other articles which are moving under commodity rates have also been advanced 1c, which is the advance proposed in the 7th class. Fifth class commodities have advanced 2c, which is the advance proposed in the 5th class rate. Where the same commodity is shown in both tariffs 3 and 5, 3 being the lake and rail and 5 the all rail, the same advance is made in the all rail rate as in the lake and rail, with the exception of bog iron ore, where no advance was made in the lake and rail rate, as last season's lake and rail rates were on the all rail basis. The list of commodities carried in the all rail tariff is more extensive than that contained in the lake and rail tariff. The general relation may be summarized. When a commodity is common to both tariffs, the increase in the all-rail does not exceed the lake and rail. When the all-rail tariff carries a commodity not contained in the lake and rail tariff, the increase, if any, has as its maximum the increase in the class in which the commodity is rated in the classification.

An application for suspension was made. The provisions of the board's regulations as to suspension of tariffs having in the board's opinion, not been met, it was decided that a prima facie case for suspension had not been made out. As to the procedure that the board has adopted in regard to suspension, reference may be made to the complaint against the proposed rate on canned goods and hardware consigned to points on the Pacific coast, also to the Regina Board of Trade's complaint against proposed tariffs increasing minimums and rates on carload traffic from West Coast to Regina, Sask.; and complaint of H. G. Smith, Limited, Regina, Sask., against C.P.R. tariffs or supplements to existing tariffs, advancing freight rates on dried fruits and canned salmon from Pacific Coast points to Regina. The matter was set down for hearing at Ottawa to be spoken to, and it was also spoken to at Calgary, Edmonton, Saskatoon, Regina, Winnipeg and Fort William.

The matter was spoken to by the railways' representatives at the different points. The general position taken by them was that the situation was a water competitive one. It was set out that the all rail rates had been reduced from a higher basis to a lower basis because of water competition; and it was contended that rates having been reduced to meet water competition, the companies were within their rights, under the Railway Act, in increasing the rates when the water competition was less active.

The position taken by the boards of trade was, in substance, that the increases proposed should be justified both from a cost and from a necessity basis. To the plea that a water competitive condition created a special set of circumstances, the boards of trade in general rejoined that the same conditions as to justification arose here as in regard to rates where water competition was not pleaded. The Edmonton and Fort William boards stated they had no protest to make. At Regina, it was stated on behalf of the Moose Jaw Board of Trade that the increases were so slight that no objection would be made by it. At the hearing at Winnipeg, the Manitoba Government was represented; and its counsel stated, in substance, that the plea as to competitive conditions on the lakes was untenable and that the rates charged had been so adjusted that there was no competition in effect.

The board has recognized the effect of water competition. In the decision in the Western Rates Case, 17 Can. Ry. Cas., 123, the board used the following language: "So far as water competition is concerned, it has been recognized over and over again that the extent to which water competition shall be met is in the discretion of the railway. The board has also held that it is the privilege of a railway in its own interest to meet water competition, and, further, that it is not the privilege of the shipper to demand less than normal rates because of such competition, unless the railway in its own interest chooses to meet it. The principle of water competition has been again recognized practically by all rate regulating commissions. Reference, however, may be made to the board's judgment in Canadian Oil Cos. v. G.T., C.P. and C.N.R. Cos., 12 C.R.C., 351, and the Blind River Board of Trade Case, 15 C.R.C. 146."

In the board's decision in the matter of lake and rail rates from stations in Eastern Canada to Fort William and other lake ports, above referred to, the following language was used: "The justi-

fication of the proposed increases submitted by the railway companies was that the rates sought to be increased were exceptionally low rates put in to meet water competition, which the companies had the right to cancel or increase at any time they decided to disregard the water competition, and that conditions had so changed that the railway companies did not desire any longer to meet water competition. * * * The board has no jurisdiction over the rates charged or the division of lake and rail rates demanded by the different steamship companies operating boats on the St. Lawrence or the Great Lakes, other than the rates on steamers operated by the C.P.R. I understand the steamship companies desire to charge higher rates during the coming season than they have been charging in the past. The extraordinary demand for ocean tonnage, due to the war, has caused the Canada Steamship Lines, the corporation which operates the largest number of boats on the lakes, to remove its largest and best lake boats and put them into ocean service. Doubtless other lake boat owners have done the same thing. The result is a scarcity of tonnage on the lakes. With increased water rates and a scarcity of lake tonnage, it is only natural that the railway companies should decide that the present was an opportune time to cancel their old water compelled rates. * * * As already indicated, the railway companies may in their discretion meet water competition if they see fit to do so, and may also determine the extent to which they shall meet it; and, therefore, the board cannot interfere with the tariffs filed."

The board's decision in the Western Rates Case recognized the pervasive spread of water competition east of Port Arthur and Fort William. It said: "In the matter of water competition, there can be no doubt at all as to the efficiency of the waterways spread through Eastern Canada, from its easterly coast, and terminating with the western limit of the most westerly division of the east—at Port Arthur and Fort William."

Again, it dealt in the same judgment with water competition in extenso, to which reference may be made. One sentence may be taken as indicative of what was set out: "There can be no doubt whatever, as I have already pointed out, of the fact that, generally speaking, water competition in the east is effective."

The board has thus recognized water competition as having a determinative effect in connection with rates east of Fort William. The position has been taken that competitive conditions as between rail and water carriers do not exist, and that this is evidenced by the fact that certain differences between the scales of rates concerned have since 1908 existed without change; and it was argued that even in normal times there was no effective water competition on the Great Lakes.

In the sittings of the House of Commons committee on the Railway Bill, evidence was given during May, 1917, regarding a proposition to give the board control over lake carriers, in addition to those which are at present subject to the board's jurisdiction, on the ground that they are owned, chartered, maintained, used or worked by railway companies. The position that there should be such control put in the board's hands was favored by various fruit and vegetable growers' associations in Ontario and British Columbia, and was also supported by the Grain Growers' Grain Co., the United Farmers of Alberta, and the Manitoba Grain Growers' Association. The measure was opposed by a considerable number of boards of trade, shippers' organizations and individual shippers. The Toronto Board of Trade opposed the proposition, on the ground that it wanted water competition to be as free and untrammelled as it was in the absence of the proposed legislation. The Chatham Board of Trade, in opposing the legislation, said it favored "free and unmolested traffic on inland waters." The Mayor of Chatham said that most of the shippers were opposed, since they thought the present elasticity was preferable. The Border Chamber of Commerce, representing the Ford, Walkerville, Windsor, Sandwich, and Ojibway Boards of Trade in submitting their opposition said the freedom of trade and competition on the waterways should remain free to every one. Opposition to the proposal was submitted by the Sarnia Board of Trade, which said the legislation would "cause undue and undesirable restrictions on the freedom of trade and competition on the waterways." The Hamilton Board of Trade, while not expressing a final opinion, as it had not had time to compile sufficient data, said it felt it would be "a mistake to hamper the present steamship arrangements." The Quebec Board of Trade, in opposing the proposal, said the result would be that "our shippers would lose the advantage of competition during the season of navigation." The Montreal Board of Trade, said that "the jurisdiction of the Board of Railway Commissioners would tend to limit competition between the water carriers themselves, which in turn would tend to decrease the competition between water carriers and railways;" and it also said that it did not believe that in respect of water borne traffic there should be any controlled rates. Mr. McMaster of the Steel Co. of Canada, who appeared as spokesman for the Montreal Board of Trade, was queried by the Minister of Railways as to the existing situation in which rates had increased because of scarcity of ships, and in reply, said: "That question would take care of itself. These waters are free; it only needs the investment in one, two or three steamers to enable a man to take part in that traffic, and if the rates are so promising and remunerative men will be willing to invest their capital in that enterprise; the traffic is open to anybody to take part in it." Mr. Tilston, who appeared for the Montreal Corn Exchange, expressed the opinion that "there was not the slightest doubt that the waterways do compete with the railways and influence the railway rates." The Kingston Board of Trade's marine committee expressed the opinion that competition on the lakes was necessary in the best interests of the Dominion. The Winnipeg Board of Trade, in protesting against the proposed control, telegraphed: "Proposed legislation place all water carriers plying between Canadian ports under jurisdiction of the Railway Commission in the matter of rates is measure so detrimental to interests of this country that Winnipeg Board of Trade desires to protest most emphatically against it. To us it looks as though parliament would say to shippers: 'There shall be no competition in rates for evermore.' Please have this bill killed at the earliest possible moment."

The position of the Canadian Manufacturers' Association, as presented at the hearing, was, in summary form, that the legislation as suggested would to a very large extent destroy competition. Mr. Walsh, on behalf of the association, said: "My argument has been against any interference at all with the waterways. We say they have been made free to the people of Canada for the purpose of affording some kind of competition, and I think if you place these carriers under the control of the Board of Railway Commissioners you are going to kill initiative to a very considerable extent and wipe out the smaller carrier." In answer to Mr. Armstrong he said, in substance, that the manufacturers whom he represented had their primary interests in the westbound movement. Representations were made by different shippers. The Dominion Glass Co. protested against any legislation which would "in any way interfere with the freedom of these boats to name such rates and charges as they see fit. * * * it would absolutely prevent the making of fair rates to such points as are most favorably located as far as water shipments are concerned." The Dominion Sugar Co., of Chatham, in opposing the legislation, said "So many varying conditions enter into water traffic that we believe waterways of Canada should be open and free to every one." The Western Salt Co., of Courtright, Ont., in opposing the legislation, said it would be detrimental to their interests and the interests of other shippers. The legislation was also opposed by the Thor Iron Works, of Toronto, and by the International Harvester Company. Protests against the legislation were made by various grain companies doing business in Winnipeg. Parrish & Heimbecker, while recognizing that there were very few boats left on the lakes, opposed the proposal to place the traffic under the commission, on the ground that it would restrict competition. The Canada Atlantic Grain Co. of Winnipeg said "Such an act would practically eliminate competition on the lakes in so far as the movement of grain between Canadian lake ports is concerned." What is said is of interest in showing the most recently recorded detailed opinion of shippers' interest in regard to the rate situation on the lakes and adjacent thereto as affected by water competition.

In dealing with a competitive rate situation, the board had before it in Dominion Millers' Association v. G.T.R. and C.P.R. Cos., 12 Can. Ry. Cas., 363, a condition where competitive joint rates and furtherance rates had been increased by the railways, the justification advanced for this increase being the lessening of competition; and it was recognized that it was within the discretion of the railways to vary their competitive joint rates or competitive joint furtherance rates within the limits fixed by the normal rates, subject, of course, to their meeting any attack made on any of the rates so changed on the ground that they are discriminatory.

Prior to 1908 and as far back as the board's records go, viz. to 1904, the spread between the lake and rail and all rail class rates to points west of Fort William was as follows:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 classes |
|---|---|---|---|---|---|---|---|---|---|
| From Toronto points . . . . | 40 | 33 | 22 | 11 | 10 | 5 | 10 | 10 | 10 cents |
| From Montreal points . . . . | 55 | 47 | 32 | 18 | 16 | 10 | 15 | 15 | 15 " |

In 1908, the all rail rates were reduced and were made the same from Toronto and Montreal points, the spread being as follows:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 classes |
|---|---|---|---|---|---|---|---|---|
| 25 | 20 | 14 | 10 | 6 | 5 | 5 | 5 | 5 cents |

This spread has been continued from 1908 into the present tariffs and that under review. The regular tariff from the head of the lakes west is common to both routes. The previous through lake and

rail rates were the sum of the Toronto-Fort William lake and rail rates and the current tariff from Fort William west, applied from both Toronto and Montreal points; in other words, the through rates were the combination of the locals on the Toronto basis. (The Fort William locals from Montreal were and are higher than Toronto, by 10c in the 1st class and 5c in the 5th.)

The new through lake and rail rates permitted to become effective by the Board's General Order 197 are not up to the full Toronto basis combination, so that, relatively speaking, they are lower than hitherto. The new Toronto-Fort William locals are

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 60 | 53 | 45 | 38 | 30c |

while the through rates are based on—

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 56 | 47 | 41 | 34 | 27c |

The through all rail rates, on the other hand, bear no relation to the all rail locals to Fort William; they are related to the lake and rail rates, the relationship being expressed by the spread above referred to. The all rail rates to Port Arthur and Fort William, for local deliveries, in force since 1908, and the proportionals to the same points on which the through rates are based, are shown below as "present," and those under review as "new"—

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 classes |
|---|---|---|---|---|---|---|---|---|---|
| Present locals | 105 | 85 | 70 | 50 | 42 | 36 | 36 | 35 | 35 cents |
| " proposals | 75 | 64 | 52 | 41 | 31 | 30 | 25 | 25 | 25 " |
| New locals .. | 111 | 89 | 73 | 53 | 44 | 37 | 37 | 36 | 36 " |
| " proposals | 81 | 67 | 55 | 44 | 33 | 31 | 26 | 26 | 26 " |

In order to determine whether the new local rates to Fort William are reasonable, compared with the rates allowed by the board in the Eastern Rates Case, predicated though they were on the lower so-called "town" or Schedule A scale, the longest single line haul available for the purpose is that from Windsor, Ont., to Megantic, Que., 726 miles. The most important, and the base, class is the 5th. The 5th class rate Windsor to Megantic is 38c. Tapering this rate in accordance with the approved Eastern Standard Mileage Tariff (the only one in true proportion) for the distance, Toronto to Fort William, viz., 814 miles, the result is 44c, which is the exact 5th class rate proposed from Toronto to Fort William. For the extreme distance from Montreal to Fort William, viz., 998 miles, the result would, of course, be greater, it would be 57c. Tapering the Fort William 5th class rate to the Toronto-Winnipeg distance of 1,233 miles, the result is 76c, while the proposed rate is 71c. In this instance, the result from Montreal would be the same, viz., 76c.

So far as the proportions west of Fort William are concerned, the rates west of Winnipeg to the Pacific Coast are in accordance with the scale prescribed by the board in the Western Rates Case. The board has more than once stated that comparisons with rates in United States territory are not conclusive of the reasonableness or otherwise of Canadian rates, unless the conditions are on all fours. Subject to this caution, reference to rates in similar U. S. territory, while not conclusive, may be informative. The 1st class lake and rail basing rate from Toronto to Fort William is 56c. This is the same as the all water rate from Buffalo to Duluth. The all rail rate from Buffalo to Duluth is not strictly comparable with the all rail rate from Toronto to Fort William, as in the former case the rate is made on Chicago, involving at least a two-line movement. Subject to this caution, it may be pointed out that the all rail rate form Buffalo to Duluth is $1.12; the all rail local rate from Toronto to Fort William is $1.11. The rate from Buffalo to Chicago, through dense traffic territory, is 62c first class for 536 miles. If this rate is tapered on the eastern standard tariff for 814 miles, in the same way as above set out, the result would show a rate of $1.04, as compared with 81c in the new tariff.

In dealing with the eastern rates situation as affected by water competition, it was said in the Western Rates Case, 17 Can. Ry. Cas., 159-160: "It should, however, be borne in mind that while water competition is urged as being a reason for a low rate standard in the east, the water rate wlth resultant low freight has probably played a greater part than any other factor in the prosperity of the West. The additions to water facilities which from time to time have been made are largely demanded by the necessities of providing the cheapest and quickest outlet for the ever-increasing productions of Western Canada. This affords but an additional instance of the fact that the interests of Eastern and Western Canada are closely interwoven, and that an enforced lower rate structure in the East is not as much productive of injury to the West as has been claimed."

In the Eastern Rates Case, the following language was used: "In general, a case for increase has been made out. Apart from the merits of the application, having regard to the situation in Eastern Canada alone, the general railway situation in Canada demands that eastern rates should be increased when the different industries can fairly and reasonably bear such increases. While, as has been set out at greater length in the Western Rates Case, differences of conditions do exist between Eastern and Western Canada, and while western freight rates have already been materially reduced, the general schedule there obtaining is still higher, notwithstanding the fact that certain western rates that may be instanced are lower. There is no doubt but what the act requires, and the general public interest of the country as a whole demands, that, if practicable, eastern rates should be advanced so that the different schedules may more nearly approach a parity. I am aware that an absolute parity is impracticable, but, as conditions become similar, a reasonable parity ought to be obtained."

While the class rates concerned are rates for a movement within the territory east of Fort William, they affect the west, because they are furtherance rates. The rates as charged are concerned with a movement through an area in which water competition exists, although because of altered conditions water competition is not so effective at present as it once was, and the difference in level of the rates as now before us is a measure of the difference in the efficiency of competition. As already pointed out, the board has laid down the position that a rate reduced to meet water competition may be brought up more closely to the normal level when the water competition becomes less effective. As tested by a tapering on the basis which the board has affirmatively approved as reasonable, the proposed rates meet the conditions of this basis. The rates may be permitted to continue.

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**Railway Smoke.**—The Windsor, Ont., City Council instructed the city solicitor recently to take proceedings against the Grand Trunk Ry. in order to have the smoke nuisance from its locomotive house abated. It is claimed that the smoke has caused a depreciation of $200,000 in the value of adjoining house property.

## Transportation and Storage of Grain.

A Dominion order in council passed in June and only promulgated recently, providing means whereby grain grown in Canada in excess of domestic requirements may be made available for purchase by the British and allied governments, and so that domestic requirements may be controlled in such a manner as to prevent any undue inflation or depreciation of values by hoarding supplies, or by other means. For this purpose the Board of Grain Supervisors of Canada, is established, consisting of not more than 12 members, who shall be paid travelling expenses while engaged on the board's duties, but shall receive no other remuneration.

The board shall make investigations from time to time to ascertain what supplies are, or will be. available, the location and ownership of such grain, the transportation and elevator facilities in connection therewith, as well as the conditions of marketing and the market price, and for such purposes shall have the powers of a commissioner under the Inquiries Act.

The board shall have power to fix the price at which grain stored in any elevator may be purchased, and the conditions and destination under which the grain may be moved, and also what grain may be sold to milling firms, what grain shall be sent to the United Kingdom and allied powers, and shall facilitate at all times the transportation and delivery of grain in excess of domestic requirements. Any prices fixed by the board are to be subject to the chairman's approval. The board may appoint an executive committee of not less than three, of whom the chairman shall be one, and may assign to the executive committee its duties and powers.

The board shall have power to receive offers for the purchase of grain from millers, and from the Wheat Export Co., Ltd., or from any other person or company referred to as "overseas purchasers," acting for the United Kingdom or the allied powers, and it shall fix the prices at which the grain shall be sold. It shall also have power to take possession of, and sell to millers or overseas purchasers, grain stored in any elevator, and to pay to the owners the proceeds of such sale after deducting the expenses of taking possession and of delivery, and as fas as possible shall fix a uniform price throughout Canada for grain of the same quality, and grade.

Notwithstanding anything in the Grain Act, or the Railway Act, the Board of Railway Commissioners shall have power to order any railway to provide cars and other transportation facilities for grain handled by the Board of Grain Supervisors. The word elevator in the order, covers any terminal, country, private, public and hospital elevator, and any elevator licensed by the Board of Grain Commissioners.

Power is also given to appoint representatives, clerical staffs, etc., and to create a fund for defraying the cost of carrying wheat in store, where no other provision is made to meet the cost, or for any other purposes, and in order to raise the necessary money the board may require millers, exporters, etc., to pay such sums as it may prescribe, not exceeding 4c a bushel.

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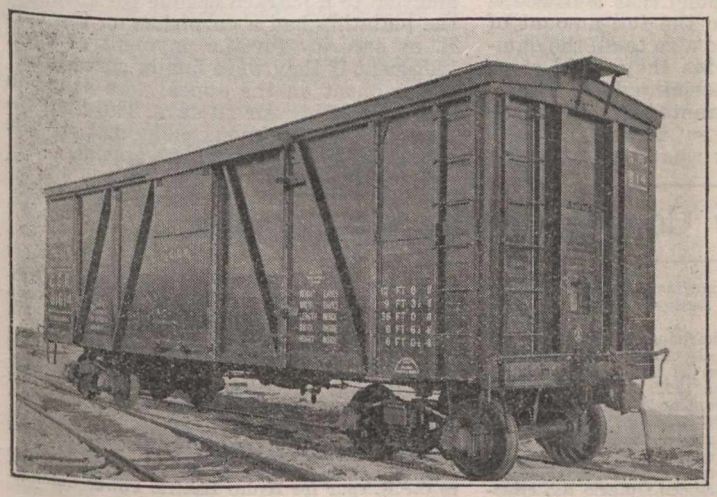
Railway time tables are being revised to eliminate unnecessary service.

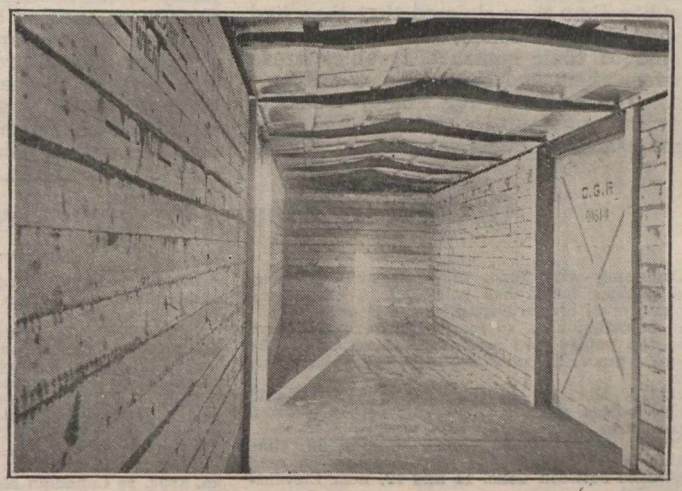
## Forty-Ton Box Cars for Canadian Government Railways.

The 5,000 forty-ton box cars which the Canadian Government Railways have ordered from Canadian Car and Foundry Co. during the past few weeks have the following general dimensions: Length inside, 36 ft.; width inside, 8 ft. 6½ in.; length inside, from pulling face of couplers, 40 ft. 1¼ in.; from centre to centre of truck, 26 ft. 10 in.; height from rail to top of running board, 13 ft. 4¾ in.

The cars are of the inside sheathed steel frame type, underframe consisting of two 15 in. channels and 8 in. side sill channels, having bolsters and crossbearers built up of pressed steel diaphragms, with top and bottom cover plates, together with Z bar floor supports, conveniently spaced; all of which in turn support Z bar stringers, running from end sill to end sill, forming support for wooden floor. The side framing is built up from structural shapes, securely riveted to side sill and side plate. The cars have an exceedingly strong end frame consisting of two 5 in. Z bars and two 3 in. Z bars, together with 5 x 5 in corner post; the Z bars being riveted to the inside face of end sill and top of the pressed steel end plate. All of the cars are being equipped with one rail end door, located 2 ft. 1½ in. from top of floor, to centre of door, facilitating easy loading of rails, also door at top of car at ends for loading lumber.

Four thousand of the cars will have a special application of brakes. The truck bottom connection, instead of passing under spring plank, as in ordinary cases, is connected to the centre hole truck lever connection, passing through the truck directly above the truck bolster tension plate. By this arrangement all the truck brake rigging is located above the bottom of the spring plank. This arrangement also allows for an adjustment of brakes to take place at the fulcrum lever instead of the old system at the top of the dead lever, and instead of having two points for adjustment, it will be only necessary to take up any slack or make any adjustments to the brakes at one point.





Forty-ton inside sheathed box cars for Canadian Government Railways.

**Oil Fuel on Indian Railways.**—The Indian Government has entered into a contract with the Anglo-Persian Oil Co., for a supply of fuel oil for locomotives on the Karachi section of the North Western Ry. Only a small percentage of the locomotives on this section have been converted into oil burners, but it is intended to convert all of them.

# Track Section Prize Competition on Eastern Lines, Canadian Pacific Railway.

For the past five years an annual track section prize competition has been carried out on the Eastern Lines. C.P.R., which has aroused a healthy spirit of rivalry and keen competition among the officers and section forces of the different divisions and districts. Sixty-two prizes are awarded in the competition, as follows:—A General Manager's prize to the foreman having done the best season's work on Eastern Lines. Four general superintendent's prizes, to the foreman on each district who has done the best season's work, exclusive of the winner of the General Manager's prize. Fourteen division superintendent's prizes, to the foreman on each division who has done the best season's work, exclusive of winners of higher prizes. Forty-three roadmaster's prizes, to the foreman on each roadmaster's territory who has done the best season's work, exclusive of winners of higher prizes.

Under this system no man can win more than one prize, and all foremen have an equal chance, as the quality of the work done throughout the season is the deciding factor, and not the actual physical condition of the section at the end of the season. The basis on which the sections are judged is entirely efficiency, and careful consideration is given throughout the season to the condition of, and work done on, ditches, gauge, spiking, line, surface, bolts, rail wear, so far as it can be controlled by the section forces, switches, sidings, right of way and station grounds, track signs, cattle guards and fences. The amount of work done and the hours of labor put in, both by regular force and extra gang, are also carefully considered, and the foreman accomplishing the best work with the least amount of labor—the physical condition of the section, as to grades, alignment, drainage, and character of roadbed being taken into consideration—wins the first prize.

The number of hours of regular labor and the number of hours of extra labor on the section are figured against the number of ties renewed, tie plates installed or changed, rails changed over on curves and ditching done, etc. The amount of track handled, right of way, spikes and bolts is fairly uniform on all sections, so that the condition with respect to these items at the end of the season is usually a criterion of the amount and quality of the work done thereon throughout the season. Where special conditions affect such work they are taken into consideration. Some idea of the care exercised in judging a foreman's work can be formed by following the work in connection with the selection of a prize section. Towards the end of the season, on each of the 43 roadmasters' territories, a section is picked out as the most deserving in point of work done during the season with the material and labor available. These are carefully inspected by the superintendent and resident engineer, who select the best one on each district for inspection by the general superintendent and division engineer. All divisions of a district are covered by these two officers, and the section selected which they consider eligible for the General Manager's prize. The judging for the General Manager's prize is done personally by the General Manager, the Engineer, Maintenance of Way, the Assistant Engineer, Maintenance of Way, and district officers.

The following are the successful section foremen for 1917: General Manager's prize, H. Hoyst, section 6, Havelock Subdivision, Ontario District. General Superintendents' prizes: New Brunswick District, Wm. Hunter, section 12, St. John Subdivision; Quebec District, T. Mattingly, section 3, Chalk River Subdivision; Ontario District, Geo. Muma, section 11, Galt Subdivision; Algoma District, J. Purich, section 6, White River Subdivision.

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

| | Acres. |
|---|---|
| Calgary and Edmonton Ry. | 2,560.00 |
| Canadian Northern Ry. | 478.00 |
| Canadian Pacific Ry. grants | 196.43 |
| Canadian Pacific Ry roadbed and station grounds | 3.03 |
| Edmonton, Dunvegan and British Columbia Ry. | 368.94 |
| QuAppelle, Long Lake and Saskatchewan Rd. and Steamboat Co. | 2,075.90 |
| Total | 5,682.30 |

The Board of Railway Commissioners has approved the Elgin and Havelock Ry. standard maximum freight mileage tariff C.R.C. 3, cancelling its C.R.C. 1.

## The Connaught Tunnel Construction Suit.

The British Columbia Court of Appeal gave judgment at Victoria Nov. 5, dismissing the appeal against Justice Clement's decision fixing the damages in the case of McIlwee & Sons vs. Foley, Welch & Stewart, at $575,595.78 and costs. The action arose out of an alleged breach of contract in connection with the boring of the C.P.R. tunnel at Rogers Pass, B.C.

The C.P.R. in 1913 let a contract to Foley, Welch & Stewart for the construction of a tunnel about five miles long, with lines connecting it with the C.P.R. main line, in order to secure a better gradient through Rogers Pass. In 1914 the general contractors let a subcontract to McIlwee & Sons, of Denver, Col., for boring the pioneer and heading tunnels. In addition to a general contract price for this work, the subcontract contained provision for the payment of a bonus of $1,000 a foot for every foot bored in excess of a stipulated amount per month, the limit being fixed at $250,000.

In Sept., 1914, after McIlwee & Sons had been at work on their contract for four months, and had proceeded with such rapidity that they claimed that they had earned $215,000 bonus, in addition to the profits of their contract, troubles arose between them and Foley, Welch & Stewart. The engineer for Foley, Welch & Stewart complained that the McIlwees were using too much compressed air for their machines and fans and hindering the other workmen. After considerable trouble and counter charges by the McIlwees that the chief contractors were purposely holding back the work, the McIlwees were ordered to stop work on the ground of disobedience of instructions given by the chief contractors' engineer. Later, after some six weeks of negotiations, Foley, Welch & Stewart offered to allow McIlwees to resume work. Instead of resuming work the McIlwees entered suit, claiming the full amount of the bonus and profits on the contract. After a protracted trial the judge decided that the McIlwees should have returned to work on Nov. 9, 1914, when invited to do so, and that their failure to return to work prevented them from obtaining damages for breach of contract. He disallowed the claim for bonus, and gave judgment for $32,000, which comprised damages at the rate of $600 a day unearned profits for the period from the time of stoppage of work until Nov. 9.

Both the plaintiffs and defendants appealed from the judgment and the B.C. Court of Appeal on Aug. 10, 1915, allowed the McIlwee appeal in full with costs and dismissed defendants' appeal. A majority of the court found that McIlwee & Sons were entitled to the full amount of the bonus claimed and also to all the damages for loss of profits they could show on reference to the trial judge. Subsequently leave was granted to amend the statement of claim in accordance with this finding and this was done, the total claimed for bonus and damages being put at over $800,000. Foley, Welch & Stewart then appealed to the Judicial Committee of the Imperial Privy Council, which unanimously sustained the B.C. Court of Appeal's judgment. The Privy Council's judgment was given in Canadian Railway and Marine World for July, 1916, pg. 275.

The case subsequently came up again in a British Columbia court for the purpose of fixing the amount of the damages for which judgment was to be entered. After a lengthy hearing judgment was finally given in favor of plaintiffs for $575,595.98 and costs. Notice of appeal against the judgment was at once given and as a condition of the consent the defendants were required to pay into court a marked cheque for $600,000 as security for the payment of the judgment in case the appeal was not sustained. As an additional precaution, the plaintiffs served a garnishee on the C.P.R., attaching the funds due on the contract, which it was stated had not been paid out. This action on the part of the plaintiff was opposed, and the garnishee order was refused by Justice Morrison. The application was then taken to the Court of Appeal and the garnishee order made. So that in addition to a marked cheque for $600,000, the plaintiffs had a garnishee on the C.P.R. as security for the payment of their judgment if they were finally successful.

Argument on the appeal was heard in Victoria lasting for 10 days. The final result was a unanimous judgment of the appeal court dismissing the appeal.

# 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 othere paper has done this.

26747. Nov. 19.—Authorizing G.T.R. to build bridge across main track at milepost 3.38 from Harrisburg, Ont.

26748. Nov. 15.—Extending to Dec. 15, time within which G.T.R. shall build crossing on road allowance between Cons. 11 and 12, near Stevensville, Ont.

26749. Nov. 19.—Ordering Great Northern Ry. to provide a weekly train service to and from Clayton Spur, via Cloverdale, B.C.

26750. Nov. 20.—Authorizing Railways and Canals Department to divert, temporarily, Lake Shore Road, and built two crossings, at grade, over Niagara, St. Catharines and Toronto Ry. near Ten Mile Creek, Ont.

26751. Nov. 20.—Relieving G.T.R. from providing further protection at Victoria St., Thamesville, Ont.

26752. Nov. 20.—Authorizing G.T.R. to build siding and spur for Ontario Sewer Pipe Co., East Flamborough Tp.

26753. Nov. 19.—Approving agreement Oct. 10, between Bell Telephone Co. and Innerkip Rural Telephone Co., Oxford County, Ont.

26754. Nov. 16.—Authorizing C.P.R. to build siding 3,393 ft. long from Sec. 5, Tp. 1, Range 7, West of 1st Meridian, to International Boundary in same section, near Windygates, Man.

26755. Nov. 17.—Dismissing application of E. S. Newman Co., Winnipeg, Man., for joint rates between C.P.R., G.T.R., and C.N.R., and Edmonton, Dunvegan & British Columbiai Ry.

26756. Nov. 19.—Rescinding order 20173, Aug. 26, 1913; and permitting G.T.R. to take up siding therein referred to, at Milton, Ont.

26757. Nov. 21.—Amending order 26615, Oct. 9, re handling of fish by express companies at St. Thomas, Ont.

26758. Nov. 22.—Further extending, ofr six months from date time during which Lake Erie & Northern Ry. pending installation of interlocking plant, may operate over crossing at Brantford, Ont.; crossing to be protected by L. E. & N. R. watchmen.

26759. Nov. 22.—Authorizing G.T.R. to build spur for David Christner, Kitchener, Ont.

26760. Nov. 21.—Authorizing C.P.R. to build spur for G. C. Goodfellow, Outremont, Que.

26761. Nov. 21.—Approving deviation of Essex Terminal Ry., as located but not built, at stake 582-95.16, Sandwich West Tp., Ont.

26762. Nov. 22.—Approving plan and specifications of drain under G.T.R. and across Cedar Rapids Transmission Co.'s lands in Charlottenburg Tp., Ont.

26763. Nov. 21.—Authorizing C.P.R. to build extension to spur from Rutley Lumber Co., Regina, Sask.

26764. Nov. 21.—Authorizing James Bay and Eastern Ry. (Canadian Northern) to open for traffic its line from Roberval to end of track at St. Felicien, Que., mileage 13.82 to 30.13.

26765. Nov. 23.—Exempting C.P.R. from submittin gplan, profile and book of reference of revision in line of its Shuswap Subdivision, near mileage 29, and approving same.

26766. Nov. 23.—Amending order 8755, Nov. 25, 1909, re Canadian Northern Ontario Ry. crossing of, and connecting with G.T.R. at Brooklin, Ont.

26767. Nov. 23.—Amending order July 21, 1905, re crossing of G.T.R. by James Bay Ry. (C.N.R.) in East Gwillimbury Tp., Ont.

26768. Nov. 23.—Ordering Canadian Northern Ry. to maintain former schedule of trains 9 and 10, between Deseronto and Toronto, as directed by order 25427, Sept. 15, 1916.

26769. Nov. 24.—Approving Michigan Central Rd. standard freight mileage tariff, C.R.C. 2725, cancelling C.R.C. 848.

26770. Nov. 23.—Amending order Nov. 12, 1906, allowing Canadian Northern Ontario Ry. to cross G.T.R. spur at rail level to Edwards mill's premises at Rockland, Ont.

26771. Nov. 26.—Approving Elgin & Havelock Ry. standard maximum freight mileage tariff, C. R.C. 3, cancelling C.R.C. 1.

26772. Nov. 23.—Extending for 60 days from date time within which G.T.R. shall erect freight shed at Beauharnois, Que.

26773. Nov. 24.—Ordering G.T.R. to lower culvert under its tracks at South River, Ont., and deepen water course by May 31, 1918.

26774. Nov. 23.—Ordering Town of Virden, Man., to pay C.P.R. $5,241.22, being half of progress estimate of subway required by order 25751, Nov. 29, 1916, and that security put up by the town be left undisturbed.

26775. Nov. 22.—Authorizing Hull Electric Co. to build spur for R. H. Wright, Aylmer, Que.

26776. Nov. 26.—Approving Northern Express Co. bylaw passed Oct. 13.

26777. Nov. 29.—Authorizing James Bay and Eastern Ry. to build Y at St. Felicieen, Que.

26778. Nov. 29.—Amending order 903, Jan. 27, 1906, re crossing of G.T.R. by James Bay Ry. (C. N. R.) near Wishago or Rama Island, Ont.

26779. Nov. 29.—Rescinding order 22132, July 2, 1914, in so far as it restricts Canadian Northern Ry. trains to 22 miles an hour over Vegreville-Calgary line, between bileage 48 and 75.

26780, 26781. Nov. 29.—Authorizing Crows Nest Southern Ry. to build spurs for Adolph Lumber Co., near Mott and near Baynes, B.C.

26782. Nov. 30.—Authorizing C.P.R. to build spur for C. C. Robins, in Lot 6, Sec. 20, Tp. 23, Range 4, east principal meridian.

26783. Nov. 30.—Authorizing Niagara, St. Catharines and Toronto Ry. to open for traffic its temporary diversion in Stamford Tp., Ont., as approved by ordeer 26710, Nov. 5,

26784. Nov. 29.—Extending, for six months from date time during which Lake Erie & Northern Ry. was authorized to operate over crossing in Brantford, Ont., pending installation of interlocking plant.

26785. Dec. 1.—Authorizing C.P.R. to remove station agent at Melville, Ont.

26786. Dec. 1.—Amending order 26722, Nov. 7, re C.P.R. spur for Hydro Electric Power Commission, Toronto.

26787. Nov. 30.—Authorizing C.P.R. to operate over G.T.R. sidings into Libby, McNeill and Lubby and Pittsburg DesMoines Co.'s premises, Chatham, Ont.

26788. June 21.—Extending to Dec. 31, 1917, time within which G.T.R. shall complete spur for W. H. Banfield & Sons, Toronto.

26789. Dec. 1.—Approving clearances at siding serving Dominion Canners, Ltd., St. Catharines, Ont.

26790. Dec. 1.—Authorizing Canadian Northern Ontario Ry. to build spur for Laforest & Clemow, Caipha, Ont.

26791. Dec. 1.—Relieving G.T.R. from providing further protection at crossing near Paynes station, Ont.

26792. Dec. 1.—Approving agreement between Bell Telephone Co. and Dunnville Consolidated Telephone Co., Haldimand, Lincoln, Welland, and Brant Counties, Ont., Nov. 6.

26793. Dec. 3.—Authorizing G.T.R. to build spur for National Shipbuilding Co., Goderich, Ont.

26794. Dec. 3.—Rescinding order 26036, Apr. 17, 1917, respecting certain supplements to G.T.R. and C.P.R. tariffs.

26795. Nov. 8.—Relieving G.T.R. from providing further protection at crossing of Albert St., West Hawkesbury Tp. (Wassons), Ont., in so far as its southbound trains are concerned; trees on northwest angle to be trimmed so as not to obstuct view.

26796. Nov. 30.—Ordering C.P.R., G.T.R., Canadian Northern Ontario Ry. and Toronto Ry. to pay City of Toronto $115,000, $30,000, $135,000, and $80,000, respectively, in addition to any amounts heretofore paid by them, if any, on account of cost of and damages incidental to the elimination of level crossing at Queen St., Toronto, under order 7813; without prejudice to contentions in regard to corerctness of accounts submitted, or any item therein.

26797. Dec. 4.—Authorizing C.P.R. to build highway diversion in s.w. ¼ Sec. 14, Tp. 11, Range 10, west 3rd meridian, and close diverted portion of road allowance; and rescinding order 21880, May 26, 1914.

26798. Dec. 4.—Ordering that each of crossings of Devonshire Road by G.T.R. and Pere Marquette

Ry., in Walkerville, Ont., be protected by gates, operated by day and night watchmen; both sets to be operated from same tower, and apportioning cost.

26799. Dec. 5.—Relieving C.P.R. from providing further protection at Millers Crossing, near Smithfield, Ont.

26800. Dec. 6.—Authorizing C.P.R. to build floating raft on north pier of bridge over McKellar River, Fort William, Ont.

26801. Dec. 6.—Authorizing Canadian Northern Ry. to cross and divert north and south government road allowance in Mistowasis Indian Reserve 103, Tp. 47, Range 5, west 3rd meridian.

26802. Dec. 6.—Ordering Kettle Valley Ry. to lay a culvert ,at least 12 in. diameter, on north side of road crossing in lot 104, Penticton, B.C.

26803. Dec. 6.—Authorizing Toronto, Hamilton and Buffalo Ry. to build spur, for National Abrasive Co., Hamilton, Ont.

26804. Dec. 6.—Authorizing Niagara, St. Catharines & Toronto Ry. to open for traffic its branch from Ontario and St. Paul Sts. to G.T.R. station, St. Catharines, Ont., 4,700 ft.

26805. Dec. 3.—Ordering that crossings of Walker Road, Walkerville, Ont., by G.T.R. and Pere Marquette Ry. be protected by gates, operated from a tower by day and night watchmen; and apportioning cost.

26806. Dec. 5.—Ordering Canadian Northern Ry. to install standard two-car pen at Rochester, Alta.; to be completed by July 1, 1918.

26807. Dec. 5.—Relieving G.T.R. from providing further protection at crossing between Lacolle and Henrysburg, Que.

26808. Dec. 5.—Authorizing C.P.R. to build spurs for Macdonald Crawford Co. and Kimball Lumber Co., Swift Current, Sask.

26809. Dec. 7.—Authorizing C.P.R. to build mining entries or ways under and adjacent to Canadian Northern Ry. right of way across Manitoba South Western Colonization Ry. Co.s mining lands, in Sec. 19, Tp. 2, Range 6, west 2nd meridian, Sask; plans to be first approved by Board's engineer.

26810. Dec. 6.—Authorizing C. P. R. to build spur for Coast Lumber Co., Moose Jaw, Sask.

26811. Dec. 7.—Extending to May 31, 1918, time within which G. T. R. shall complete sidings for Toronto Harbor Commissioners, in Toronto Harbor Industrial District, as authorized by order 25502. Oct. 5, 1916.

26812. Dec. 10.—Extending to June 30, 1918, time within which G.T. Ry. shall complete station at Lyster, Que.

26813. Dec. 4.—Authorizing Toronto, Hamilton & Buffalo Ry. to divert Phipps St., Thompson Rd., Bowen Rd., and road allowance between Cons. 3 and 4 in lots 8 and 9, Welland and Bertie Tps., Ont.; company to extend Thompson Road subway; and all companies concerned to divert their pole or pipe lines; and reserving apportionment of cost.

26814. Dec. 10.—Authorizing Quebec & Lake St. John Ry. to build bridge at crossing of St. Anne River at St. Raymond, Que.; and rescinding order 25155, July 13, 1916.

26815. Nov. 23.—Ordering C.P.R. forthwith to stop train 356 on afig at Terrebonne, Que., for passengers to points beyond Lanoraie.

26816. Dec. 11.—Relieving G.T.R. from providing protection at Third Concession crossing in Ops Tp, Ont.

26817. Dec. 11.—Approving plan showing interchange track to be built in Sec. 4, Tp. 39, Range 19, west 4th meridian, Alta.; and ordering Canadian Northern to complete same by Jan. 21, 1918; main line switches to be wire locked with distant signals of interlocking plant, and derails installed at each end of interchange track.

26818. Dec. 11.—Authorizing G.T.R. to rebuild bridge over track between Lots 5 and 6, Broken Front Concession, Nicol Tp., Ont.

26819. Dec. 13.—Exempting Vancouver, Victoria & Eastern Ry. & Navigation Co. and Northern Pacific Ry. from complying with conditions as to notice and consent of shareholders, and recommending to Governor in council for sanction, agreement dated Aug. 11, 1913, granting N.P.R. right to use V. V. & E. Ry. & Nav. Co. tracks, between Sumas, Wash., and Vancouver, B.C., subject to condition that unless otherwise extended by Parliament, contract shall continue for not exceeding 21 years from Aug. 11, 1913, as limited by Sec. 364 of Railway Act.

26820. Dec. 12.—Authorizing Greater Winnipeg Water District to lay pipe line under C.P.R. at St. Boniface yards, Man.

26821. Dec. 13.—Approving agreement, Sept. 25, between Bell Telephone Co. and Laurentide Telephone Co., Ottawa, County, Que.

26822. Dec. 12.—Approving plans of McKenney drain, to be built under G.T.R. between Lots 25 and 26, Con. 8, Malahide Tp., Ont.

26823. Dec. 12.—Authorizing Grand Trunk Pacific Ry. to build sidings for Edmonton Collieries, Ltd., North Alberta District, Alta.

26824. Dec. 12.—Authorizing C P.R. to divert road allowance on east boundary of Sec. 26, Tp. 8, Range 18, west 3rd meridian, Sask.; and close diverted portion within right of way limits.

26825. Dec. 14.—Limiting speed of Canadian Northern Ry. trains to 10 miles an hour over Bridge St., Bancroft, Ont.

26826. Dec. 14.—Authorizing C.P.R. to remove station agent at Edrans, Man., caretaker to be appointed to see to express and l.c.l. freight.

26827. Dec. 14.—Authorizing Town of Dunnville, Ont., to build crossings over G.T.R. at Centre and Helena Sts.

26828. Dec. 14.—Authorizing Crows Nest Southern Ry. to build spur for Adolphe Lumber Co., Dorr, B.C.

26829. Dec. 14.—Authorizing Canadian Northern Ry. to enter lands of J. E. Potvin, aproximately between mileage 691.91 and 692.41, north side of Vermilion Subdivision, Alta., for building a fire guard, in accordance with board's regulations.

26830. Dec. 15.—Limiting speed of Pere Marquette Ry. trains to 10 miles an hour over Lansdowne Ave., Kingsville, Ont.

26831. Dec. 14.—Rescinding order 26008, Apr. 12, directing Canadian Northern Ry. to file tariff showing rates from Toronto, by lake and rail, to stations west of Port Arthur, not to exceed published rates from points east of Toronto same destinations, via rail to Toronto and lake and rail to destination.

26832. Dec. 14.—Authorizing G.T.R. and Toronto Ry. to operate over joint crossing overhead, south of Eastern Ave.; and over crossing of T.R. and Don industrial spur across G.T.R. leading to Don industrial district at grade; trains and cras to stop at grade crossing and proceed only when signal has been received from watchman in charge that way is clear; reserving question of interlocking protection to be provided until G.T.R. spurs are moved to permanent location to the north.

## Grain in Store at Terminal Elevators, Interior Terminal Elevators and a Public Elevators in the East.

| Week ended Dec. 7— | Wheat, bushels. | Oats, bushels. | Barley, bushels. | Flax, bushels | Totals, bushels. |
|---|---|---|---|---|---|
| Fort William— | | | | | |
| C. P. R. | 360,684 | 320,873 | 86,399 | ..... | 767,956 |
| Consolidated Elevator Co. | 184,878 | 109,418 | 52,646 | 55,475 | 402,367 |
| Empire Elevator Co. | 160,093 | 368,934 | 58,903 | 76,416 | 664,346 |
| Ogilvie Flour Mills Co. | 281,559 | 51,448 | 60,970 | ..... | 393,977 |
| Western Terminal Elevator Co. | 82,659 | 99,345 | 12,787 | 154,117 | 348,908 |
| G. T. Pacific | 531,919 | 1,219,788 | 136,682 | 73,330 | 1,961,719 |
| Grain Growers' Grain Co. | 156,458 | 296,061 | 62,800 | ..... | 515,319 |
| Fort William Elevator Co. | 62,116 | 177,953 | 69,323 | 83,954 | 393,346 |
| Eastern Terminal Elevator Co. | 107,876 | 87,634 | 14,341 | ..... | 209,851 |
| Northwestern | 101,809 | ..... | ..... | ..... | 101,809 |
| Port Arthur— | | | | | |
| Port Arthur Elevator Co. | 445,544 | 769,339 | 288,126 | 49,742 | 1,562,751 |
| D. Horn & Co. | 75,908 | 71,373 | 23,792 | 69,975 | 241,048 |
| Canadian Government Elevator | 200,186 | 145,529 | 52,451 | 102,462 | 500,628 |
| Thunder Bay | 161,941 | 248,433 | 57,071 | 26,827 | 494,272 |
| Davidson & Smith | 307,882 | 233,975 | 64,417 | 282 | 606,556 |
| Total Terminal Elevators | 3,221,462 | 4,200,103 | 1,040,708 | 702,580 | 9,164,853 |
| Saskatoon Dom. Govt. Elevator | 2,992 | 684,620 | 1,288 | 104 | 689,004 |
| Moose Jaw Dom. Govt. Elevator | 43,305 | 402,573 | ..... | 1,066 | 426,944 |
| Calgary | 35,262 | 169,136 | 9,730 | 1,885 | 216,013 |
| Vancouver | 6,369 | ..... | 3,345 | ..... | 9,714 |
| Total Interior Terminal Elevators | 87,928 | 1,256,839 | 14,363 | 3,055 | 1,361,675 |
| Depot Harbor | 1,311,915 | ..... | ..... | ..... | 1,311,915 |
| Midland— | | | | | |
| Aberdeen Elevator Co. | 350,897 | 425,440 | 19,997 | ..... | 796,334 |
| Midland Elevator Co. | 697,683 | 178,663 | 67,595 | ..... | 943,941 |
| Tiffin, G. T. P. | 1,725,973 | 147,733 | 239,923 | ..... | 2,113,629 |
| Port McNicol | 3,259,110 | 414,323 | 125,045 | ..... | 3,798,478 |
| Collingwood | 95,317 | ..... | ..... | ..... | 95,317 |
| Goderich | 722,488 | 176,840 | 50,948 | 13,599 | 963,875 |
| Western Canada Flour Mills Co. Ltd. | 143,397 | ..... | ..... | ..... | 643,397 |
| Kingston— | | | | | |
| Montreal Transportation Co. | 432,555 | ..... | ..... | ..... | 432,555 |
| Commercial Elevator Co. | 1,932 | 32,103 | 1,633 | ..... | 35,668 |
| Port Colborne | 1,538,847 | 728,082 | 7,575 | ..... | 2,274,504 |
| Prescott | ..... | ..... | ..... | ..... | ..... |
| Montreal— | | | | | |
| Harbor Commissioners No. 1 | 919,892 | 198,890 | 12,655 | ..... | 1,131,437 |
| Harbor Commissioners No. 2 | 1,370,102 | 87,472 | 55,327 | ..... | 1,512,901 |
| Montreal Warehousing Co. | 1,947,391 | 18,309 | 1,240 | ..... | 1,966,940 |
| Quebec Harbor Commissioners | 1,855 | 12,442 | ..... | ..... | 14,297 |
| West St. John, N.B. | 406,131 | 15,821 | 211,890 | ..... | 633,842 |
| Halifax, N.S. | ..... | ..... | ..... | ..... | ..... |
| Total Public Elevators | 15,425,485 | 2,436,118 | 793,828 | 13,599 | 18,669,030 |
| Total quantity in store | 18,734,875 | 7,892,550 | 1,848,899 | 719,234 | 29,195,558 |

Statement, showing total quantities of each kind of grain shipped from Fort William and Port Arthur, from Sept. 1 to official closing of navigation, Dec. 14, 1917, in Canadian and U. S. vessels and to Canadian and U. S. ports.

| | Wheat. Bushels. | Oats. Bushels. | Barley. Bushels. | Flax. Bushels. |
|---|---|---|---|---|
| Canadian vessels— | | | | |
| 251 cargoes | 39,693,246.40 | 2,830,706.05 | 1,550,910.45 | 296,159.10 |
| U. S. vessels— | | | | |
| 218 cargoes | 47,312,845.30 | 4,720,892.23 | 676,867.46 | 1,545,216.11 |
| Total—469 cargoes | 87,006,092.10 | 7,551,598.28 | 2,227,278.43 | 1,841,375.21 |
| To Canadian ports | 46,376,480.00 | 4,917,382.33 | 1,601,528.15 | 296,903.25 |
| To U. S. ports | 40,629,612.10 | 2,634,215.29 | 626,250.28 | 1,584,471.52 |
| Total | 87,006,092.10 | 7,551,598.28 | 2,227,778.43 | 1,841,375.21 |

Statement, showing total quantities of each kind of grain shipped from Fort William and Port Arthur in Canadian and U. S. vessels during the 1917 season of navigation, as compared with the three previous seasons.

| | Wheat. | Oats. | Barley. | Flax. |
|---|---|---|---|---|
| 1917. | | | | |
| 622 Canadian vessels | 85,423,280.40 | 17,632,755.03 | 3,270,098.36 | 988,499.29 |
| 507 U. S. vessels | 79,476,033.00 | 19,256,198.13 | 1,906,245.57 | 4,704,690.53 |
| 1,129 cargoes | 159,899,313.40 | 36,888,973.16 | 5,176,344.35 | 5,693,190.26 |
| 1916. | | | | |
| 895 Canadian vessels | 97,288,766.10 | 44,015,292.25 | 6,235,464.38 | 1,715,590.52 |
| 565 U. S. vessels | 84,397,225.40 | 13,805,947.02 | 2,651,818.35 | 3,859,396.36 |
| 1,460 cargoes | 181,685,991.50 | 57,821,239.27 | 8,887,283.25 | 5,574,987.32 |
| 1915. | | | | |
| 687 Canadian vessels | 68,537,524.50 | 23,057,013.24 | 2,718,499.05 | 967,830.23 |
| 452 U. S. vessels | 98,827,699.00 | 4,174,796.12 | 2,074,004.44 | 1,436,547.43 |
| 1,139 cargoes | 167,365,223.50 | 27,231,810.02 | 4,792,504.01 | 2,404,378.10 |
| 1914. | | | | |
| 751 Canadian vessels | 64,881,194.03 | 22,473,825.00 | 4,026,886.46 | 1,793,747.50 |
| 138 U. S. vessels | 22,886,876.00 | 3,490,095.02 | 1,069,595.19 | 5,777,907.54 |
| 889 cargoes | 87,768,070.03 | 25,963,920.02 | 5,096,182.17 | 7,571,655.48 |

# Canadian Transportation Men, Engineers, Etc. in the War.

**Canadian Railway and Marine World is desirous of publishing all the information possible about the war work of Canadian transportation men, engineers, etc., and invites its readers to send in information for use in this connection. No doubt a large number of our readers receive many letters from the front, etc., extracts from which would prove of interest in these columns. We would be glad to be favored in this respect.**

**Canadian Pacific Ry. Ontario employes** have contributed $500 to the Toronto and York County Patriotic Association, being their 24th contribution, and making the total paid to the fund $21,225.

**Canadian Pacific Ocean Services' Employes.**—Up to Oct. 31, 1917, some 420 of the company's employes had joined the army or the navy. One, Lieut, R. N. Stuart of the s.s. Monmouth, has been awarded the V.C., the D.S.O., and a bar to the latter. The Distinguished Service Order has been conferred on Engineer-Commander J. Carmichael, chief officer of the s.s. Princess Margaret; Commander E. Outram of the s.s.. Alsatian; Second Engineer J. Quine of the Pacific service; and Engineer-Commander R. Wilson of the s.s. Alsation. The Distinguished Service Cross has been awarded to Lieut. H. J. Ferguson, first officer of the s.s. Montford; and Commander J. Turnbull of the s.s. Empress of Britain has been mentioned in dispatches. Second Lieutenant Mearnes has been awarded the Military Cross, and Sergt.-Major R. M. McLachlan of the Liverpool staff has received the Distinguished Conduct Medal. A Russian decoration has been awarded to Engineer E. Gordon, of the Pacific service.

**Canadian Railway Troops.**—The importance of the work being done by troops in France is indicated by a brief report through the Militia Department on Dec. 21, which states that part of their work consists in extending light railway systems to enable ammunition to be carried up to new gun positions. When an advance of any distance is made, necessitating a change of gun positions, the railways have to be extended accordingly. These light railway lines are frequently broken by hostile shell fire and have to be repaired by the troops. In addition to work on standard gauge and light railways, the railway troops are sometimes employed in constructing dugouts and gun positions, as well as sidings for hospitals, bakeries, garages and quarries. Work of very great importance has sometimes to be done under heavy German shell fire. The Director of Light Railways some time ago reported favorably on the work of the Canadian railway troops.

**James Carruthers' Airplanes.** — The British War Office is stated to have decided that the four battle planes presented by James Carruthers, President, Canada Steamship Lines, Ltd., Montreal, will be named Montreal, Toronto, Winnipeg, and Edmonton, respectively.

**The Light Railways Company's Work.** The Canadian Press Correspondent cabled from the Canadian front in Flanders, Dec. 24.—"Some day the full history will be written of the light tramways at the front, and figures will be given to show what they saved in animal power, in time, and in man power. German trucks of a 1916 pattern form not a little of the rolling stock. For the present I will only give the briefest of summaries based on the war diary of the Tramway Company for April—the Vimy show. In the first week, preparing for the advance on one section alone, 793 trucks covered 2,260 miles and hauled a total tonnage of 4,154. Five petrol tractors and 400 mules were used, 4 and 5 on a train. It was a period of continuous construction, mules being employed over the new rail sections. Time and again the line was torn by shell fire and repaired. On the night of April 9, the first attack, the tramways were preparing to advance with the infantry. Advance they did, laying their new track behind our attack. In 16 days, 4,600 metres of new track was laid in one section. During the battle operations this section alone supplied 80% of the field ammunition for one division, delivered to the batteries at a maximum rate of 1,200 rounds a day. The same section supplied 95% of trench mortar bombs and grenades for the same division. The tramways altogether hauled 234 trucks of water in the month, 1,463 ammunition, 212 rations, 829 steel, 73 ballast, 67 salvage and 77 trucks other material, making the total tonnage for the 30 days, 11,308. During the fighting special trains of two 9-ton trucks, holding 13 stretcher cases evacuated wounded from advanced dressing stations. In 4 days, 1,250 stretcher and 510 sitting cases were handled, 50 special trains being employed. Every day of the whole month the Tramway Company suffered casualties, sometimes heavy ones. But the work never ceased. The spirit of all was the spirit of one of their number, a private. He put out a fire in a truck of ammunition 'by drawing up to a shell hole and throwing water on to the truck by means of his steel shrapnel helmet,' as the heroic incident is recorded in the bald words of the war diary. Such in a sketchy form is the work of the tramways company, a fine service, the development of a decision reached by the Canadian Engineers in the salient in 1916, when it was decided to build tramways, and it was found that such an organization was necessary."

**Recruiting for Railway Construction** Corps, Engineers, etc.—A change has been made in the organization of the railway construction and forestry units for overseas esrvice, which has resulted in these services coming under the direct control of the Royal Canadian Engineers, and officer administering the engineers Lt. Col. Clyde Caldwell, has taken over the administration of the railway construction, skilled railway employes and forestry units men are required as under:

For skilled railway employes, men who are proficient in their trades. They will receive military training in Canada, and special rates of pay are authorized for certain trades, viz.: blockmen, shunters, locomotive men, firemen, fitters, steam crane men, painters, stationary engineers, pipe fitters, car rivetters, steel and wood car repairers, stationary firemen, blacksmiths helpers and helpers. Drafts will be sent overseas monthly.

For engineer drafts: Carpenters, bricklayers, plumbers, tinsmiths and tunnellers are required. Men who have worked on municipal works, sewer excavations, etc., would be enlisted as tunnellers.

For railway construction drafts, men can be enlisted in Category B, except unmarried men between the ages of 20 and 34.

For forestry: Millwrights, sawhammerers, sawlers, sawyers, setters, boggers, dredgemen, and engineers.

No. 3 Section Skilled Railway Employes is now being recruited with headquarters at the Engineer Training Depot, St. Johns, Que. For the present the Railway Construction Depot is in Toronto, the Forestry Depot at Brockville, Ont., and the Engineers Depot at St. Johns, Que.

## PERSONAL NOTES.

**H. H. Adams**, formerly General Manager, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., is in France in command of a battalion of U. S. engineers. He was born at Detroit, Mich., Aug. 13, 1876, and entered railway service in July, 1899, as rodman and draftsman, Michigan Central Rd. After service in various capacities in the Engineering Department, he was appointed Assistant Chief Engineer, Mar. 1902; secretary to the General Superintendent, Nov. 1902; Assistant Superintendent, Canadian Division, Jan. 1904; General Superintendent, Toronto, Hamilton & Buffalo Ry., Oct. 1909; General Manager, same road, Oct., 1910, resigning May 6, 1912, to become President, Kansas City Terminal Ry., Kansas City, Mo.

**Capt. W. H. D. Bennett**, who was killed in action recently was, prior to enlistment as a private, a car checker on the C.P.R. He was granted a commission some time ago, and obtained promotion for distinguished ability on active service.

**Capt. Michael Chapman**, British Grenadiers, who has been reported wounded, was formerly of Chapman & Walker, contractors, etc., Toronto.

**Capt. W. P. Hains**, of the Canadian Pacific Ocean Services' s.s. Miniota, has been awarded the Distinguished Service Conduct medal for going to the assistance of a U. S. vessel which was under attack by a German submarine.

**Lieut. C. S. Hall**, of Montreal, nephew of Grant Hall, Vice President and General Manager, Western Lines, C.P.R., was reported in Canadian Railway and Marine World for December as wounded and missing. He should have been referred to as Lieut. Terence S. Hall. Another nephew, **Lt. John S. Hall**, of the Reinforcement Depot, Tank Corps, B.E.F., has been slightly wounded and is in hospital.

**Capt. L. G. Johnson**, who was awarded the Distinguished Service Order recently in recognition of services in connection with submarines in the Atlantic, was formerly in Canada Steamship Lines' service.

**Major A. E. Lewis**, formerly Secretary, Toronto Harbor Commission, now of the 216th Battalion, has returned to Toronto on leave, in consequence of having been wounded in the hip.

**Lt. Col. D. S. MacInnes**, of the Royal Engineers, who has received the C.M.G. and the French Legion of Honor this year, and who has been mentioned in Sir Douglas Haig's recent dispatches, is a son of the late Senator MacInnes, who was a C.N.R. director, and is a brother of W. R. MacInnes, Freight Traffic Manager, C.P.R.

**Major Jas. McGregor**, formerly Superintendign Engineer, Halifax Ocean Terminals, Halifax, N.S., is now Chief Engineer, 3rd Battalion, Canadian Railway Troops, B.E.F. In writing Canadian Railway and Marine World from France he

says: "Enclosed is cheque in payment of my subscription to your most interesting and highly apprciated paper for the coming year."

**Lt. Col. C. H. Mitchell**, C.M.G., D.S.O., M.Can.Soc.C.E, of Toronto, who has won great distinction in the intelligence branch on the western front, has been appointed to the British Staff on the Italian front

**Major-General Herbert C. Nanton**, C.B., R.E., Chief Engineer attached to headquarters, who has been mentioned in Sir Douglas Haig's recent dispatches, is a brother of Sir Augustus Nanton, of Winnipeg, one of the C.P.R. directors and Vice President, Winnipeg Electric Ry.

**Sergt. W. L. Payne**, formerly of the C.P.R. publicity department, London, Eng., now in the B.E.F., writes that he has had some extraordinary meetings with friends in the various theatres of war—France, Salonika, and Egypt — in which he has been engaged since he joined up on the outbreak of hostilities. After two years of soldiering he ran into his young brother (who joined the C.E.F. in Calgary) in France, and had one hour to talk over their boyhood days. Then, in a dilapidated French village he one day spoke for a few seconds to Gough, who, previous to the war, had been in constant touch with him as chief clerk to a firm of printers and was then rushing around giving the fire alarm. In the wilds of Macedonia he came across the man who used to sell him a daily paper at the Dulwich tram terminals, and in the baths he met a long-lost cousin. From Salonika Payne went to Egypt, and one day, on the banks of the Suez Canal, he helped a derelict motor car and discovered in the car another relative.

**A. E. Philp**, chief engineer of the Canadian Pacific Ocean Services' s.s. Empress of Britain, has been awarded the fourth class order of the British Empire, for special services.

**Gunner C. W. Rand**, son of the late N. L. Rand, formerly Master Mechanic, Intercolonial Ry., Moncton, N.B., who has been on active service since Dec., 1916, has left a hospital after being in it for six weeks as the result of being wounded by an explosion.

**Lieut. R. S. Richardson**, of No. 13 Light Railway Operating Co., R.E., British Expeditionary Force, formerly Superintendent, Canadian Government Railways, Fort William, Ont., in writing from France on Nov. 28 to Acton Burrows, Managing Director, Canadian Railway and Marine World, said: "I visited your son's grave in Bapaume Post Military Cemetery on Nov. 25, exactly a year after he was killed. I was on my way to Amiens and travelled along the Bapuame-Albert road to Albert, where I obtained information as to the location of the cemetery and returned to it at once, about 1½ miles east of Albert on the Bapaume-Albert road. It is on high ground and quite close to the road. I had no trouble in locating the grave, which is no. 2 in the third row from the entrance. It is very nicely kept, the wooden cross and railing being white, as is, of course, also the chalk border around the grave. The lettering on the cross is very clear and fresh. I placed a waterproof wreath of green, with daisy trimmings, on the grave, to commemorate the first anniversary of his departure to another life."

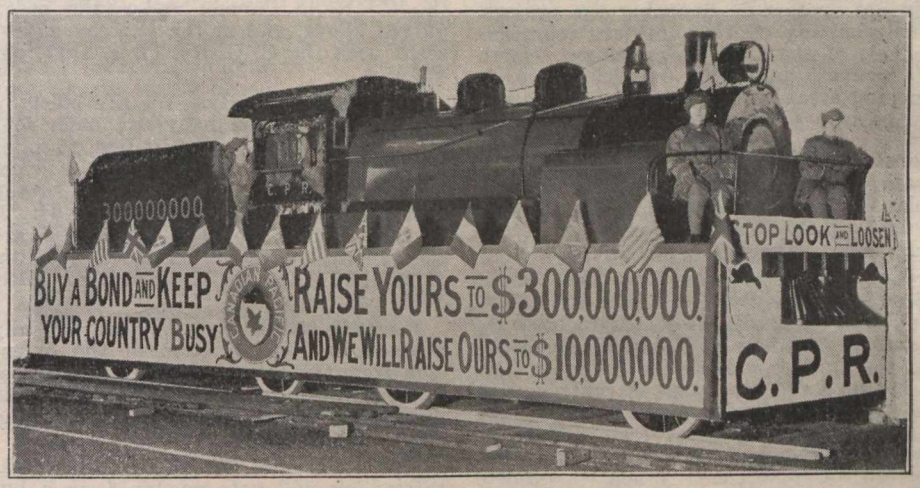
**Lieut. J. K. L. Ross, R.N.R.**, who has been actively associated with naval patrol service undertaken by the Canadian Naval Service Department since the commencement of the war, has been promoted to Commander. He is a director of the C.P.R.

**Lieut. R. H. Taylor**, who ras reported as missing several months ago, and who is now announced as having been killed in action, enlisted early in the war, while a student at McGill University. He lived in Montreal, and was son of Capt. H. Taylor, formerly of Bowring and Co.'s s.s. Cordelia, and latterly engaged in steamship service in connection with the Hudson Bay Ry., and a nephew of E. W. Taylor, Traffic Manager, Reid Newfoundland Co., St. John's, Nfld.

**Major-General Twining**, formerly of the Canadian militia, and now Director of Light Railways on the western front, who was mentioned in Sir Douglas Haig's ercent dispatches, was mentioned four times previously.

## Canadian Pacific Railway's Victory Loan Float.

The C.P.R. was represented in the Victory Loan parades in Montreal and Toronto, in November, by a large float, consisting of a reproduction of a full sized locomotive, which was built on two little giant trucks, to run on the streets in the same way as an ordinary motor truck. The float, an illustration of which is given on this page, was built at Angus shops, Montreal. in remarkably quick time. The request for it was received at the company's offices on a Thursday afternoon and the float was ready for the Montreal parade on the following Monday. The "locomotive" was manned by a locomotive man, fireman, and three women workers from the C.P.R. shops in overalls, and was accompanied in the parades by a number of C.P.R. police, mechanics and trainmen.




The Canadian Pacific Railway's Victory Loan Float.

**United States Railways Canadian Offices.**—The Chicago, Milwaukee & St. Paul Ry. is closing its office in Toronto. C. E. Hilliker, who has been Canadian Freight and Passenger Agent, will return to his old position as Division Freight and Passenger Agent, at Des Moines, Iowa. The Minneapolis, St. Paul & Sault Ste. Marie Ry. is also closing its Toronto office and it is said that H. T. Duffy, who has been General Agent, will probably be appointed District Passenger Agent at Duluth. It is said that the Chicago & Northwestern Ry. does not intend to disorganize its forces. and that it will maintain its Toronto office in charge of B. H. Bennett, General Agent.

## Railway Rolling Stock Notes.

Canadian Government Railways have received 7 Mikado locomotives from Canadian Locomotive Co.

Canadian Government Railways have ordered one second hand sleeping car from Hotchkiss Blue & Co.

The C.P.R. is reported to have built over 10,000 box cars during 1917, in addition to many ordered outside.

The Eastern Car Co. has delivered 900 box cars, 1,200 poods capacity, to the Russian Government, leaving 1,800 to be supplied on an order for 3,000.

The Essex Terminal Ry. has ordered 50 Hart convertible cars of 40 tons capacity from Hart-Otis Car Co. These will be built by Canadian Car and Foundry Co.

The French Government has ordered 1,000 steel underframe flat cars, and 850 steel underframe gondola cars, 23⅝ in. gauge, from American Car and Foundry Co.

The G.T.R. has received 4 Mikado locomotives from Canadian Locomotive Co., completing an order for 10, as previously mentioned. It has also received 2 snow ploughs from Russell Snow Plow Co., out of an order for 10.

Canadian Government Railways have received the following additions to rolling stock, since Nov. 16:—97 stock cars, 30 tons capacity; 20 steel frame box cars, 40 tons capacity, from Canadian Car & Foundry Co.; 7 mikado locomotives from Canadian Locomotive Co.; 24 mikado locomotives from American Locomotive Co.; 2 second hand baggage cars, from Hotchkiss Blue & Co.; 1 second hand 5-ton crane, 19 second hand coal cars, 35 tons capacity, 8 second hand coal cars, 30 tons capacity, and 9 second hand box cars, 30 tons capacity, from General Equipment Co.

**Sir William Van Horne's Will.**—Only some fragmentary information about the late Sir William Van Horne's will was available until early in December, when application was made to the surrogate court in Toronto, for ancillary probate, in connection with the portion of the estate in Ontario. The property schedules filed with the will show the total value of the estate as $6,331,374.

**The Canadian Society of Civil Engineers'** annual meeting will be held at 176 Mansfield St., Montreal, on Jan. 21, 22 and 23.

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

**Alberta and Great Waterways Ry.**—We are officially advised that at Nov. 30 track was laid to mileage 275.4, about 18 miles from McMurray, the objective at mileage 293. It was expected to complete laying this mileage by Dec. 31.

The company has under construction a branch line easterly from Derver, mileage 101.4 from Carbondale Jct., the starting point of the line on the Edmonton, Dunvegan and British Columbia Ry. This line known as the Egg Lake Branch, and the section under construction is 30 miles long.

J. D. McArthur, Ltd., Winnipeg, are the general contractors, and W. R. Smith, Edmonton, Alta., is the Chief Engineer. (Dec., 1917, pg. 470.)

**Burrard Inlet Tunnel and Bridge Co**—Application is being made to the Dominion Parliament for an extension of time within which the company may build its projected bridge, tunnel connecting railways and other projected works. The company has plans prepared for a bridge over the Second Narrows of Burrard Inlet, at North Vancouver, but did not succeed in financing the project. The company which comprises representatives of the City of Vancouver, North Vancouver, and other municipalities, is seeking a renewal of the charter in order to be in a position to realize something from a sale of the plans and rights to a construction company. The company has paid out $150,000 or more for surveys, plans, etc. R. F. Archibald, North Vancouver, B.C., is acting Secretary of the company. (Dec. 1917, pg. 470.)

**Canadian Northern Ry.**—The James Bay & Eastern Ry. is a C.N.R. subsidiary and was originally projected to have its easterly terminus at Roberval, Que., one of the Quebec & Lake St. John Ry. Terminii on Lake St. John. A contract was let to J. P. Mullarkey three or four years ago to grade 30 miles from Robervale westerly, which grading has been completed for some time. Track was laid to St. Felicien during 1917, and the line was passed for operation by the Board of Railway Commissioners at the end of November. A train service was placed in operation Dec. 3. The length of line authorized for traffic is 16.31 miles, to St. Felicien, on the Chamouchoun River. An order has also been made by the Board of Railway Commissioners for the installation of a Y at St. Felicien. The final objective of the railway is to reach James Bay, part of Hudson Bay, at the mouth of the Nottaway River.

Damage was done to the C.N.R. station at Port Arthur, Ont., Dec. 12, by fire to the extent of $15,000, and records of considerable value were destroyed in the basement.

Track has been laid on the Elrose-Eston branch for a further distance of 16.28 miles to Glidden, Sask.

In Alberta, the company has completed tracklaying on the Oliver-St. Paul de Metis branch for 44.51 miles.

On the Canadian Northern Pacific Ry. the only new work done during 1917 was on Vancouver Island, where track has been laid for eight-tenths of a mile, from Victoria Harbor to Alpha St. station, Victoria, and 7.35 miles of track have been laid on the Victoria-Alberni line, from the junction to Glen Lake. (Dec., 1917, pg. 470.)

**Cavalier County Ry.**—Under the Board of Railway Commissioners order of Nov. 16, 1917, the Canadian Pacific Ry. was authorized to construct, maintain and operate a siding from its line in Sec. 5, Tp. 1, Range 7 west of the 1st Meridian, to the International Boundary near Windygates, Man., in the same section, a distance of 3,395 ft., the siding to be built within six months. We are officially advised that the total length of the spur line will be about 1.5 miles, and that it will run southeasterly from the C. P. R., across the International Boundary at Windygates, to an elevator in North Dakota. The object in view in building the siding is that grain delivered to the elevator may be shipped in bond through Canada to Minneapolis and Detroit. As the C.P.R. could not build the line a separate company was formed by those interested with the title of the Cavalier County Ry. The company's offices are at Langdon, N.D., its capitalization is $25,000, and its officers are: President, G. Grimson, Langdon; Treasurer, S. G. Erickson, Elkwood, N.D.; Secretary, R. Robertson, Stillwell, N.D.; General Manager, R. P. Shelp, Maiden, N.D. This company will build the spur line, and it will be operated by the C.P.R. in Canada under the order quoted above, and in the U.S. by agreement with the C. C. Ry. (Dec. 1917, pg. 470.)

**Central Canada Ry.**—We are officially advised that the company has under construction an extension of its line, 15 miles long, from Peace River crossing, mileage 49, to mileage 64, and has under survey a 36 mile extension from mileage 64. J. D. McArthur & Co., Ltd., Winnipeg, are the general contractors, and W. R. Smith, Edmonton, Alta., is Chief Engineer. (Dec. 1917, pg. 470.)

**Essex Terminal Ry.**—We are officially advised that construction of the extension from Ojibway to Amherstburg is being gone on with. Track will not be laid until early in the spring. (Nov., 1917, pg. 433.)

**Grand Trunk Ry.**—Brantford, Ont., ratepayers will vote on Jan 1 on a by-law to provide debentures for $40,000 toward the cost of constructing a subway under the G.T.R. tracks at St. Paul Ave., there. This is part of the work agreed upon to be done in connection with the grade separation work which has been under discussion for nearly three years. (Dec., 1917, pg. 471.)

**The Grand Trunk Pacific Ry.** proposes provided that the Saskatchewan Government will consent, to incorporate a passenger station with its proposed hotel in Regina. The site of the station and hotel will be on the Wascana Park site, with freight terminals and sheds on the site ofg the present station. This proposal will necessitate the building of a tunnel under Albert St., to permit passenger trains to reach the station and hotel building. The province has guaranteed the bonds for the terminal buildings on the present site, and the proposal, if agreed to, will necessitate a rearrangement of the guarantee. (Dec. 1917, pg. 470.)

**Greater Winnipeg Water District Ry.**—We are officially advised that track has been laid on the extension from Deacon to St. Boniface, Man., 8.3 miles, and from a point on this line to Transcona, 1.5 miles. These pieces of line give this railway an independent line into St. Boniface, and a connection with the National Transcontinental Ry. at Transcona. (Nov. 1917, pg. 433.)

**Hudson Bay Ry.**—J. W. Porter, Chief Engineer, is reported to have stated in Winnipeg recently, that the bridge over the Nelson River at Kettle Rapids was expected to be completed by Dec. 31, that all the other grading was completed to Port Nelson, that track laying on this section of 92 miles will be started in the spring if the rails are on hand, that ballasting had been completed to the Kettle Rapids, and that the roadbed for 332 miles to that point is in good shape for any sort of traffic. (Nov., 1917, pg. 433.)

**Intercolonial Ry.**—Tenders are under consideration for the erection of a frame station at Belledune, N.B. (Dec., pg. 470.)

**Magdalen River Ry.**—The Quebec Legislature is being asked to extend the time to build this projected railway from its present anthorized terminus near the Magdalen River beyond Little Falls, both southerly and easterly to connect with the Atlantic, Quebec and Western Ry., and the Canada and Gulf Terminal Ry. at Gaspe, or any other point on either or both railways, also the power if the railway is built to Gaspe, to build wharves, docks and other deep water terminals. F. Murphy, New Carlisle, Que., is Secretary of the company. (Mar. 1916, pg. 107.)

**National Transcontinental Ry.** — We are officially advised, in connection with the report referred in Canadian Railway and Marine World for Dec., 1917, on pg. 471, that the Quebec Ry., Light and Power Co. directors have discussed the advisability of entering into negotiations with the Dominion Government with reference to the electrification of the National Transcontinental Ry. between Champlain Market, Quebec, and Sillery Cove. It has been decided that in view of the abnormally high cost of railway construction material, and labor, that this matter be left in abeyance. (Dec., 1917, pg. 471.)

**Quebec and Saguenay Ry.**—We are officially advised that track has been laid from Cap Tourmente, the starting point of the line, for 15 miles easterly. Sufficient rails have been obtained to lay track as far as Baie St. Paul, a further distance of about 10 miles, and it is expected to lay these rails before work is suspended for the season. Grading is now sufficiently completed between Baie St. Paul and Murray Bay for track laying. Provided that rails can be obtained early in the spring the line should be in operation through to Murray Bay, 54.45 miles, during next summer. O'Brien and Doheny are the contractors, and Gordon Grant is Chief Engineer in charge for the Department of Railways. (Dec. 1917, pg. 471.)

**Quebec Bridge.**—The new bridge over the St. Lawrence River near Quebec was opened for freight traffic, Dec. 3, when a train consisting of 16 freight cars, a caboose and an official car, having a weight of 1,245 tons, was hauled over the bridge from Levis by a Canadian Government Ry.'s locomotive weighing 241½ tons. There were present, either in the official car, on in the locomotive cab, the following officials:—F. B. Tapley, Assistant Engineer of Maintenance; J. E. Marazain, Superintendent; M. Brousseau, Resident Engineer; H. W. Sharpe, Master Mechanic; E. J. Desjardins, Assistant Superintendent; P. Lavery, Roadmaster; W. G. Moore, together with C. N. Monsarratt, Chairman of the Quebec Bridge Commission; G. F. Porke, Construction

Engineer, and others of the bridge construction staff. The movement of the train over the bridge was carefully watched, and tests were made to determine its effect on the different parts of the structure. It was stated there was no strain, practically no vibration, and that the expansion on the suspension span was barely 5/6th of an inch. A second train of similar weight was taken across the bridge from the Quebec side during the same afternoon.

There has since been a daily service of through freight trains across the bridge, and passenger trains have been run since Dec. 10. (Dec., 1917, pg. 484.)

**Roberval-Saguenay Ry.**—We are officially advised that the company has in contemplation the building of a line from Ha Ha Bay Jct. to St. Michael Mistassini, Que., approximately 63 miles. The surveys have not been completed. (April, 1916, pg. 139.)

**St. John and Quebec Ry.**—We are officially advised that surveys are in progress with the view of building an extension of the line from Centreville, the present northerly terminus, to Andover, N. B., 20 miles. C. O. Foss, Fredericton, is Chief Engineer. (Dec., 1917, pg. 471.)

# Dominion Government Payments on Canadian Northern Railway Account.

Sir Thomas White, Minister of Finance, issued the following statement on Dec. 9:—"Upon my return to my office this morning after a week's absence in the election campaign in Ontario, my attention was drawn to certain grossly inaccurate and misleading statements attributed by the press to Hartley Dewart, K.C., of Toronto, with reference to payments under the act of last session of Parliament, authorizing financial aid by the government to the Canadian Northern Ry. upon the acquisition of its common stock, as by the said legislation provided. With reference to these alleged statements I have the following observations to make:

"The statement that payment of $6,000,000 has been made to Mackenzie & Mann is wholly without foundation. There is no vote of parliament authorizing such payment, and no order in council has passed or been considered respecting any such payment.

"The advances which have been made under the Canadian Northern legislation of last session of parliament have been upon the certificate of the Financial Controller of the Railways Department under the authority of an order in council passed Nov. 1, 1917. They have been made in the manner in which payments to railways of subsidies, loans or the proceeds of guaranteed securities have been made in the past, and in strict accordance with the statute which authorized them.

"The certificate of the Financial Controller of the Railways Department, dated Nov. 16, 1917, authorized advances in payment of principal and interest indebtedness upon equipment account of $5,998,752.50, and for interest upon underlying securities of $7,155,111.29, making a total of $13,153,863.79. Against this certificate $12,500,000 was advanced. The Financial Controller's next certificates were dated Nov. 28, 1917, and covered the principal of a loan amounting to $1,670,453.95 maturing, due in New York, which could not be renewed there, also interest upon underlying securities and principal of equipment securities aggregating $869,958.

"The above are all the advances which have been made to date under the legislation in question. Demand notes of the Canadian Northern Ry. Co. and its subsidiary companies bearing interest at 6% have been received by this department in respect to these advances, and mortgages upon all their assets have been executed by the Canadian Northern and its constituent companies to His Majesty to secure the said advances.

"The five-sixths of the 600,000 shares of capital stock of the C.N.R. formerly held by private owners, have, as required by the statute, been vested in the Minister of Finance in trust for His Majesty, so that the Dominion Government is, under the legislation of last session, the sole proprietor of the C.N.R. system. It follows that any advances made by the government for interest upon underlying securities or principal or interest upon equipment bonds, or for the purpose of paying maturing obligations of the system, enures to the benefit of the government as proprietor and owner of the system. It was for this purpose and object that the legislation of last session was passed by parliament, and provision made by parliament for assistance in paying the indebtedness of the system.

"The suggestion that any part of the proceeds of the Victory Loan was required or used to make the payments herein mentioned is wholly without foundation."

## Meritorious Services by Canadian Pacific Railway Employes.

The educational bulletins issued by the general superintendents of the company's various districts record the following meritorious services performed by employes recentyl:—

A conductor on work train discovered broken flange on C. P. 367661 thereby averting a derailment.

A trainman, while examining his train at a station, discovered a piece broken out of a flange of wheel, and had the car set off.

While one of the transfers was passing an interlocking plant, the towerman noticed the brake rigging dragging. He immediately signalled the train crew, who stopped the train.

Trainman C. E. Towle when travelling as a passenger rendered commendable service in assisting to repair a broken drawbar on the mail car during a heavy downpour of rain.

Agent A. E. Hancox of Ste. Agathe, Que., while walking through yard noticed bolts on switch stand broken off. He immediately notified the sectionman who made necessary repairs. The close observation and promptness on the part of the agent prevented a possible accident.

Valuable service was recently rendered by conductor J. J. Maher and trainmen J. W. and M. D. Hogan, who, while running a mixed train, observed a tree which had blown down and lodged on the telegraph wires. Conductor Maher, with his two trainmen, held the train and with an axe cut the tree down and cleared the wires.

Section foreman J. Jones, Bowmanville, Ont., noticed a broken flange on a car which was on the east way-freight. He endeavored to attract the crew's attention, but failed. He immediately got his hand car, went to the station and informed the operator. The train was stopped at Newcastle and on examination it was found the flange was badly broken.

A trainman discovered a broken wheel under a freight car, nearing a siding; he stopped the train and with the assistance of the crew succeeded in skidding the car into the siding. No doubt his vigilance and watchfulness prevented what might have been a serious accident. This emphasizes the importance of close inspection being made by trainmen at every opportunity for any apparent defects in the running gear of the train.

Locomotive man J. Hull in charge of locomotive on train 382 noticed water undermining the track at trestle mileage 25.4 St. Maurice Valley Subdivision, and on arrival at the next station made a special report, with result that the section foreman immediately went to the point in question and a washout occurred within a few minutes afterwards, tying up traffic. The locomotive man's vigilance in detecting this condition is highly praiseworthy.

Bert Avery, agent at Waskada, Man., showed interest in the company's welfare when he protected from frost shipments of perishable freight which arrived at his station without heater protection. A car containing grapes and onions arrived on a Saturday night and he, knowing that unless heater protection was supplied during the week end, the contents would be frozen, borrowed a sufficient number of lanterns, placed them in the car, lighted and took care of them and thus prevented contents from freezing.

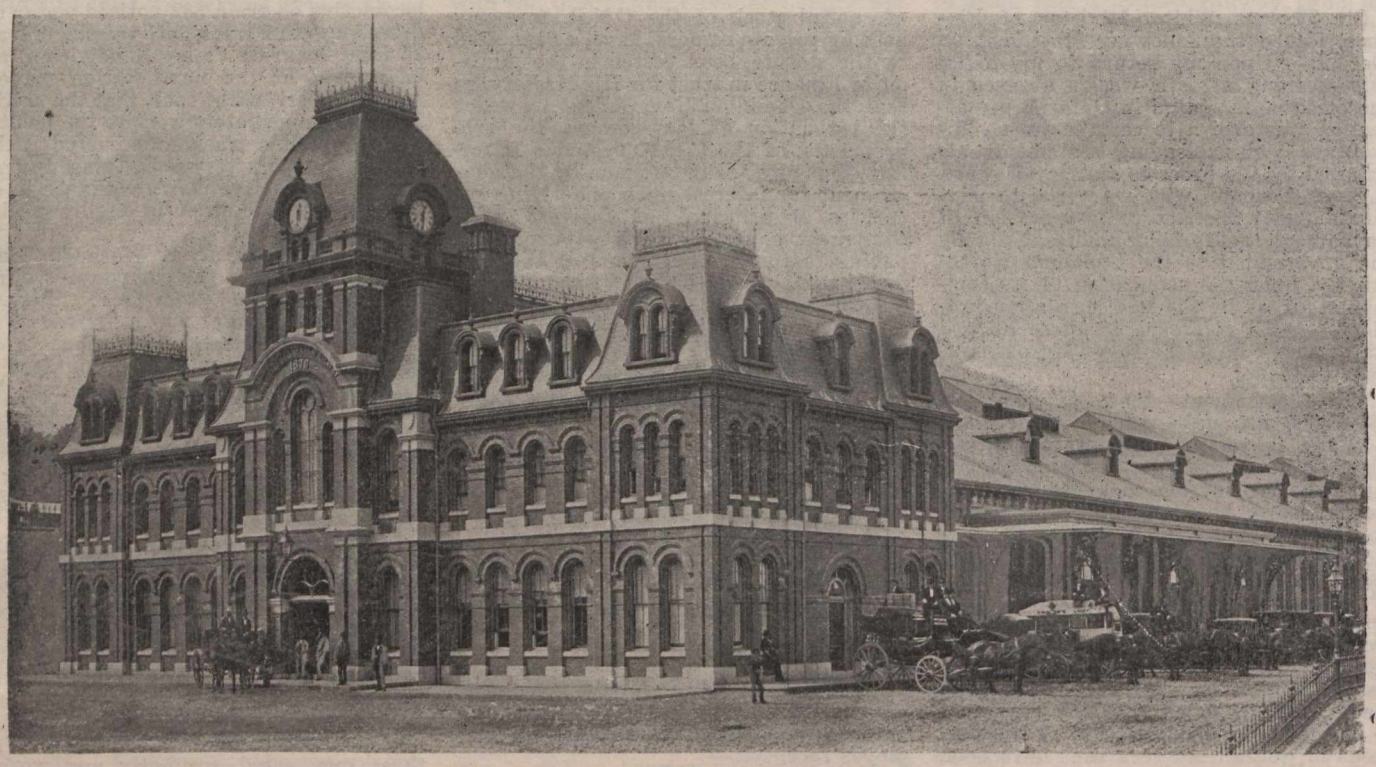
When an elevator took fire at Maryfield, Sask., night operator Thos. Allen sounded an alarm promptly and before assistance arrived he and assistant agent Colin McKillop moved a car loaded with grain out of danger and extinguished fire, which had started on roof of car. Section foreman F. R. Ford saved the water tank by climbing up to the roof and extinguishing fire, which had started there. All three men acted promptly and worked diligently in protecting the tank and station and removing cars to safety. There was a terrific wind blowing at the time.

Locomotive man J. Simpson, on an extra west on Ignace Subdivision, Manitoba District, observed what looked like a broken rail in the eastbound track. He stopped the train and sent head end trainman back to advise conductor, while he protected eastbound track. Conductor C. R. Simpson, when informed, went back and examined the track, finding a piece broken out of one of the rails and track unsafe. He left trainmen to protect it, cut off his locomotive and ran to nearest telegraph office, notifying section foreman on way, and advised dispatcher. No. 2 was just about due, but sectionmen were able to repair track in time to avoid delay to that train. The situation was admirably taken care of.

While a train was standing at a station recently waiting for a passenger train to pass, the conductor and trainman while inspecting the train, discovered fish plates and a piece of rail on the main track, which in all probability would have resulted in a derailment. Trainmen and other employes can accomplish a great deal by their vigilance in preventing accidents.

# Damage to Canadian Government Railways Property by Halifax Explosion.

Canadian Railway and Marine World is greatly indebted to C. A. Hayes, General Manager, Eastern Lines, Canadian Government Railways, for the following information, which was prepared by F. B. Tapley, Assistant Engineer, Maintenance of Way. We are under deep obligations to them for it, prepared as it was during a time of great stress, when the officials were working day and night to restore the damage and succour the wounded and other survivors. When the full story is available, it will be seen that the general officers at Moncton and a large number of local officials at other points on the Intercolonial Ry., particularly those contiguous to Halifax, performed heroic work under most difficult and trying circumstances.



North Street Station, Canadian Government Railways, Halifax, N.S., which was badly damaged by the explosion on Dec. 6.

The collision of the steamships Imo and Mont Blanc in Halifax harbor on Dec. 6, which caused the cargo of the Mont Blanc to explode, wrecked a considerable portion of the railway facilities in the vicinity of Richmond yard and North St. station, and damaged other facilities along the water front at Deepwater, which is farther south. The evidences on the ground would lead one to believe that the Mont Blanc exploded in the vicinity of piers 6 and 8, the greatest damage being done there and extending northeasterly toward Willow Park Jct., and southwesterly to the North St. station. Beginning at pier 9, which is just north of pier 8, and working southwesterly from there, a brief description of the damage to the railway property follows:—

Pier 9, which is the most northerly railway pier along the Halifax water front, was damaged by having a wooden shed so badly shaken by the force of the explosion that it collapsed in a heap. The substructure of this pier, so far as we have been able to carry our examination, has not been greatly damaged, but with the large amount of wreckage piled on it, we cannot be sure of its condition at the present writing. Pier 8, next down the water front, appears to have been destroyed from the water level up, although a portion of the old cribs below water may yet remain. The divers were too busy examining the substructure of more important piers farther down the harbor to permit of a complete examination below water to date. Pier 6, a wooden pile pier, without shed, was completely blown away, and no trace of it remains to mark the spot where it stood.

Richmond yard station, the car repair building, and cattle pens, were blown completely to atoms, while the switchman's shanties scattered throughout the yard were so badly wreck as to be unfit for repair. The housing under the bottom of the tank tub was partly blown down and the feed pipe broken off. A piece of metal, supposedly from the Mont Blanc, was blown through a tub stave, emptying the tank.

North St. passenger station sustained very heavy damage. The front and back thirds of the train shed roof were blown up by the blast of the explosion, and then they collapsed and fell down inside the brick walls. Thirteen of the roof trusses in the centre of the shed, with the roof boarding, framing and sash on them, remained standing, but were later pulled down for safety. The glass was blown out of all the side windows, and the doors blown out of the casings, but being weighted and hung to the side walls, many could be operated after the explosion. In the head house of the station, which is a solid brick structure, heavy damage was sustained. Downstairs all the doors, windows and fixtures were blown off, but the main partitions stood up under the force of the explosion, as did the brick walls. On the second floor, all doors and windows were blown off, and the plaster partitions bulged and broken. The damage to the third floor was practically the same as on the second floor, and a portion of the roof on the monitor was blown upward. Later, in the heavy storm of Dec. 9, this portion of the roof collapsed. The power plant and power house adjoining the station were damaged to the extent of broken pipe connections and a wrecked roof, all doors and windows being blown off as well.

The damage at Deepwater was heavy, but fortunately did not put the facilities entirely out of business. Still working in a southerly direction, or down the harbor, we come to pier 5, which was abandonded for shipping purposes last summer, and was given over for sanitary conveniences for troops. The latrines erected late in the autumn were demolished. Pier 4 is a wooden pile pier, with 2 outside tracks and a wood shed of the single deck type. Repairs were under way when the explosion occurred. The pier was unharmed, but the shed was completely wrecked. Pier 3 is a wooden pile pier, with single story wooden shed and 4 tracks, 2 outside and 2 inside the shed. The pier was not damaged; the roof trusses on the north half of the shed were all broken, and all the doors and windows blown off. The electric wiring fell down on to the floor. The south half of the shed frame is apparently in good condition. Old pier 2, an open wood pile pier with 2 tracks, was not damaged. New pier 2 is of reinforced concrete with double deck concrete shed; 4 tracks, 2 outside and 2 inside the shed. The shed and pier are practically undamaged. The doors were all blown off the north side of the pier, both upstairs and down, and over 70% of the glass was broken. South side was not so greatly damaged, although 8 of the large steel doors downstairs were completely blown off, and a number damaged. In the military hospital upstairs, the light wood partitions were badly damaged, and these in falling broke some of the radiators clear of the pipes, and carried down the temporary electric wiring which was fastened to them. The permanent electric wiring in iron conduit was practically undamaged.

The power plant was not damaged, although the building housing it was shaken up. The Deepwater local freight shed, a brick structure, was not greatly damaged, except for a short section of the roof next the office portion, which opened up along the ridge for 60 ft., and the loss of the glass in the office windows and transoms over the freight doors.

The 500,000 bushel grain elevator, which is of wood construction, had the roof over the bins so badly damaged that it will have to be renewed. All of the windows in the working house and shipping galleries were blown out, and a hole was blown in the northerly side of the house. The power plant was unharmed. Steam was put on in it the afternoon of Dec. 7. The grain handling machinery was not seriously damaged, the damage consisting of a bent main shaft and a broke tension idler on the main drive.

At Willow Park, where the locomotive cleaning and housing facilities are located, the doors and windows in the car shop, stores building, planing mill, oil house and locomotive house, were blown out. The roof of the locomotive house was badly damaged, and the greater portion of it collapsed. The power plant was out of business for a day of two, but was put in running order later. The power transmission line to North St. and Deepwater, which follows along the city's streets, was wrecked, and power is now obtained from the Nova Scotia Power Co.'s plant in the south end.

The telephone dispatching line between North St. station and Rockingham was put out of business, but was repaired and put in service again on Dec. 9. All automatic signals between North St. station and Willow Park Jct., a distance of 7,000 ft., were badly wrecked and were found to be not working. They will be restored as quickly as possible. Train movements are not being interfered with on this account.

No damage was done at the new ocean terminals at the south end, except for the loss of some glass and a few doors in the temporary sheds. Although the damage to the railway property was heavy, it was fortunate that the two main tracks leading to the North St. staion were not put out of business. Auxiliary cranes were started clearing the wreckage as soon as they arrived on the scene, and by noon on Dec. 8 the main lines to North St. station were clear. The standing portion of the train shed roof was taken down on the evening of Dec. 8, and trains were run into North St. on the evening of Dec. 9. On Dec. 10 full train service was resumed. During the time North St. station was out of business, the trains were run into the ocean terminals. The first train to leave North St. station after the explosion was a Dominion Atlantic for Kentville, which got out on Dec. 8 at 6 p.m.

Gangs of men were put on immediately to carry out the reconstruction work on new pier 2, pier 3, North St. station, Willow Park and Richmond, and the work of rehabilitation is now underway, and being pushed to the utmost. Arrangements have been made to erect additional sheds on the completed docks at the ocean terminals, to replace those lost at Richmond, and it is expected that by the end of January all space lost will be replaced, with something over to carry on the additional business expected. New pier 2 will be in shape by Jan. 1, pier 3 about a week later, and during January Willow Park will have been repaired and two temporary sheds 600 x 90 ft. will be completed at the ocean terminals. The remainder of the work will be completed as soon afterward as possible.

No close estimate of the monetary value of the loss sustained in the explosion can be given at present writing, as all surveys and examinations have not been completed. The loss to rolling stock was heavy, consisting of 97 sleeping, dining, commissary, hospital, tourist, first and second class and baggage cars. Repairs are now under way, and the cars will be back in service in from one to six weeks from the date of the explosion. The damage to the freight cars was heavier, 374 G.T.R. and foreign cars being damaged and destroyed. Of this number 304 can be repaired or converted into other types, and put back into service, and 70 will be a total loss. Five locomotives which were standing in the vicinity of the North St. station at the time of the explosion, were slightly damaged but will be in service again shortly.

# Compensation for Carriage of Mails by Railways.

For years Canadian railway companies have contended that the rates paid for the transportation of mails have been altogether inadequate and have urged that the matter be investigated by the Board of Railway Commissioners. In Feb. 1917, the Postmaster General reported to the Privy Council that the different railways have carried mails since Feb. 1, 1913, at the following rates per mile:—

| | |
|---|---|
| For full postal car | 16c |
| For half postal car | 9c |
| For baggage car service over 30 ft. space | 16c |
| For baggage car service 15 to 30 ft. space | 9c |
| For baggage car service, less than 15 ft. space | 4c |
| Special mail train ordered by P.O. Dept | $1.25 |
| Special mail train, when other cars are attached by railway | $1.00 |

The Postmaster General pointed out that it was claimed by the C.P.R. and G.T.R. that these rates are inadequate and he recommended that the question of remuneration to be paid the railways be referred to the Board of Railway Commissioners to determine as to the accuracy or inaccuracy of the claims made by the companies, and if it is found that the present rates are inadequate, to determine, as the result of evidence to be submitted by both parties, i.e., the P. O. Department and the different railways interested, what would be a fair rate of payment for the service. The Postmaster General's report was concurred in and the matter was referred to the Board.

On May 5, 1917, E. W. Beatty, Vice President and General Counsel, C.P.R., and W. H. Biggar, General Counsel, G.T.R., applied to the board at follows:—"The Canadian Pacific and Grand Trunk Railway Companies on behalf of themselves and all other railway companies carrying mails in Canada claim that the rates of remuneration established by order in council on Jan. 27, 1914, now in force, do not afford fair and reasonable compensation for the service rendered, and ask that fair and reasonable rates be determined by the Board pursuant to the reference contained in order in council of Mar. 7, 1917. They submit that the same principles that determine whether passenger rates or freight rates are fair and reasonable should be applied to the fixing of mail rates, that mails should not be carried at the expense of other traffic, but should bear their due proportion of the cost of railway operation, and the fair value of the capital employed therein, and that such due proportion should be determined by the nature of the traffic and the service rendered.

"The service rendered comprises:—The construction and maintenance of approved type of railway post office and apartment r.p.o. cars on high speed passenger trains; the haulage of 'storage' mail cars on high speed passenger trains; the carrying, waybilling and general handling of closed pouch mails and parcels post in baggage cars; the switching and spotting of r.p.o. apartment, r.p.o. and storage cars for convenient loading, unloading or transfer of mails and parcels post; the equipping of r.p.o. and apartment r.p.o. cars with bunks, mattresses, chairs, brooms, drinking tanks, stamp pads, cooking apparatus, and furnishing of gas for cooking; the lighting, cleaning and heating of r.p.o. and apartment r.p.o. cars; the carriage of from one to 10 or 11 mail clerks in r.p.o. and apartment r.p.o. cars; the providing, without charge, for the cars and storage of mails at junction points when such mails have to be held or stored for train connection, and are to be transferred from one train to another of the same company, the work of transferring mails being performed by the railway company, except in a few exceptional cases where the department has provided special staffs for the purpose; the furnishing, erection and maintenance of mail catching posts at stations where mail carrying trains do not stop; that mail shall be given preference over all other traffic, and the furnishing of space at the larger stations for mail sorting purposes or general handling. The department pays a small rental for such space, which rental the railways contend is not sufficiently compensatory.

Notwithstanding such special and preferential service, the present rates of remuneration for mail carriage are far below the authorized rates for express, passenger and freight traffic. The revenues from the carriage of mails upon any unit basis are far below the revenues upon any like basis derived from the carriage of other lines of traffic. The revenues from the carriage of mails are far below the cost of the service, calculated upon any of the conventional modes of dividing costs of operation. They are far below the rates paid by the United States Post Office Department for the same sehvice. The applicants claim that just and reasonable rates are not less than double the rates established by the order in council now governing the same, and ask that an early date be appointed for hearing the evidence in support thereof, as provided by the order in council of reference."

The matter was set down for hearing at Ottawa on Nov. 6 and is still before the board.

**Cleveland Railway Advances Fares:**—Effective Jan. 1, the Cleveland, Ohio, Ry. will increase its fares to 4c cash, three tickets for 10c, and 1c for a transfer, with no rebate. The advance was made necessary by abnormal prices and wage charges. The Street Railway Commissioner's records show that since 1910 salaries of employes have advanced from 27c and 30c an hour to 32c and 35c, the present scale. A further increase of 5c an hour has been offered employes, but the men have rejected it. Records also show that prices for all materials have advanced far beyond quotations for the decade previous to the outbreak of hostilities.

# Double Tracking the Canadian Pacific Railway from Leaside to North Toronto.

Present and prospective large increase in traffic have made it necessary to complete the double tracking of the C.P.R..'s North Toronto line at once. The rapid expansion of the City of Toronto to the north, and the recent completion of a handsome, modern passenger station at North Toronto have greatly increased the passenger traffic of this line, which also handles the heavy freight traffic between the east and the Buffalo and Detroit gateways. The two miles of signle track between the double track east of Leaside Jct., and west of North Toronto is a very busy piece of line at present and the increased traffic in immediate prospect necessitates prompt relief.

No material changes in grade or alignment are being made, as the new work will run to 0.4% for the former, and 3° for the latter. The grading is comparatively light, and this, together with all track work is being handled by the company's forces. It has, however, been necessary to replace two single track steel viaducts, the one over the Toronto Belt Line by a 2-track, and the one over Reservoir Park ravine by a 3-track structure. This is being done in reinforced concrete and is to be completed and ready for the heavy winter traffic which commences with the close of navigation on the Great Lakes.

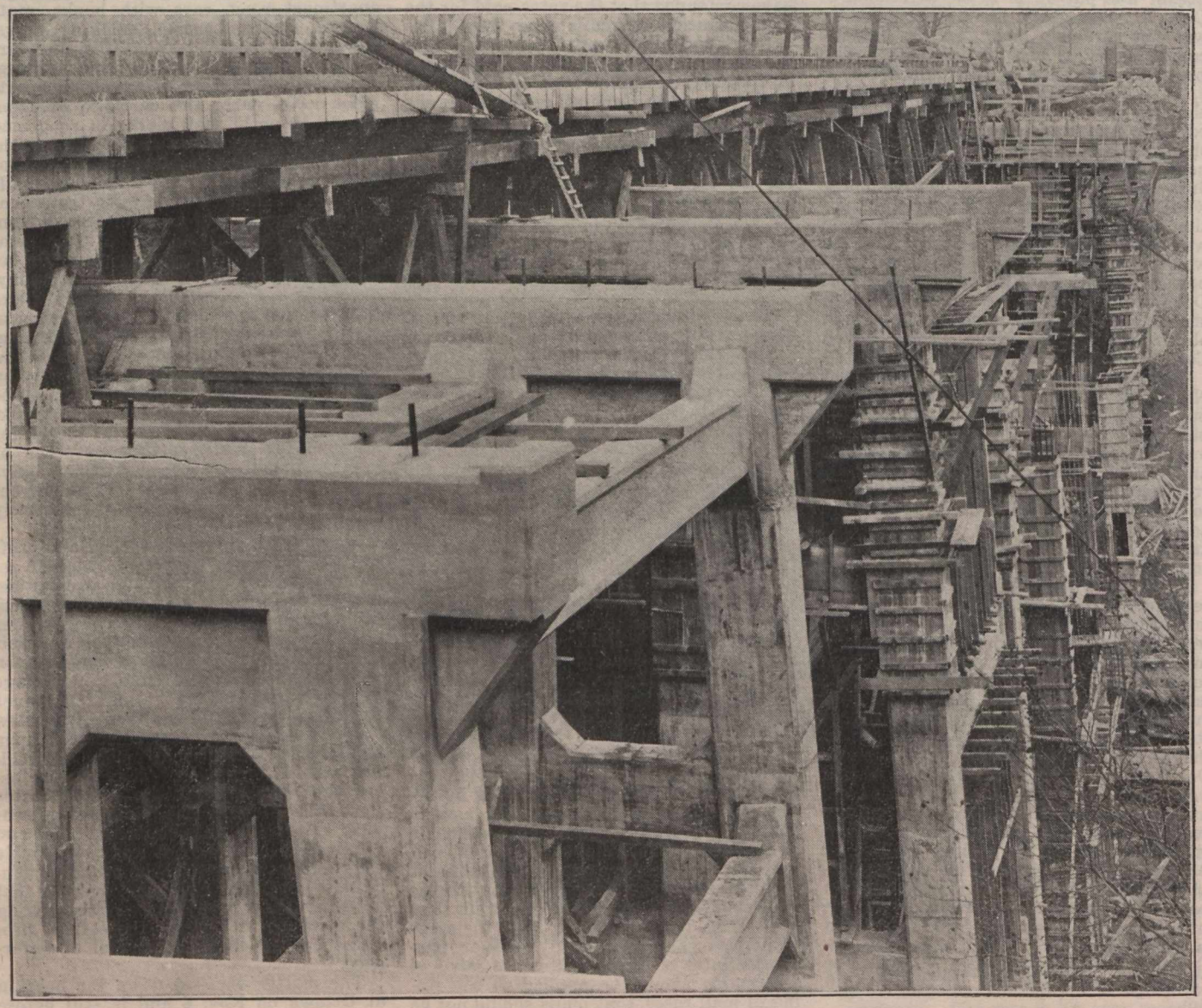
The bridge over the Reservoir ravine is known as 1.8 North Toronto Subdivision, and consists of a 3-track structure, located, with its south track approximately on the site of the existing main line, which will be used as a new switching lead, the other two tracks being used for eastbound and westbound traffic. The structure is 386 ft. long and 88 ft. high, supported on two abutments and five towers, which in turn support pre-cast T-beam floor spans of such design that when laid alongside one another, they form a complete deck to carry the ballast and track work. A narrow sidewalk for railway employes only is provided on each side, protected by a pipe hand-rail, attached to reinforced concrete posts.

The towers are of unusual design, in that no diagonal bracing is used; but instead thereof, a system of horizontal struts, to reduce the stresses in the columns from the longitudinal and transverse horizontal forces. The immediate eight struts of one system are not in the same plane with the other, but at approximately the points of contraflexure; in this feature the structure is unusual.

The bents consist of four posts, of which the two outer ones are battered, and the interior ones are vertical. They are in turn supported on substantial piers which are continuous transversely across the bridge. The floor slabs, as above stated, are all pre-cast and are placed on the transverse caps of the towers by derricks. The deck will then be waterproofed in the usual manner, with a membrane and a protective layer of asphalt, after which the ballast and ordinary track ties will be laid.

In order to maintain traffic and build the new bridge on the correct line, it was found necessary to build a temporary trestle on the north side of the structure, and entirely remove the old steel work. This allowed the use of the most economical length of concrete spans and also ensured that the new concrete would not be disturbed by the vibrations due to traffic passing on the old bridge.

The nature of the reinforcement in the towers is not different from modern practice. It consists of vertical rods located



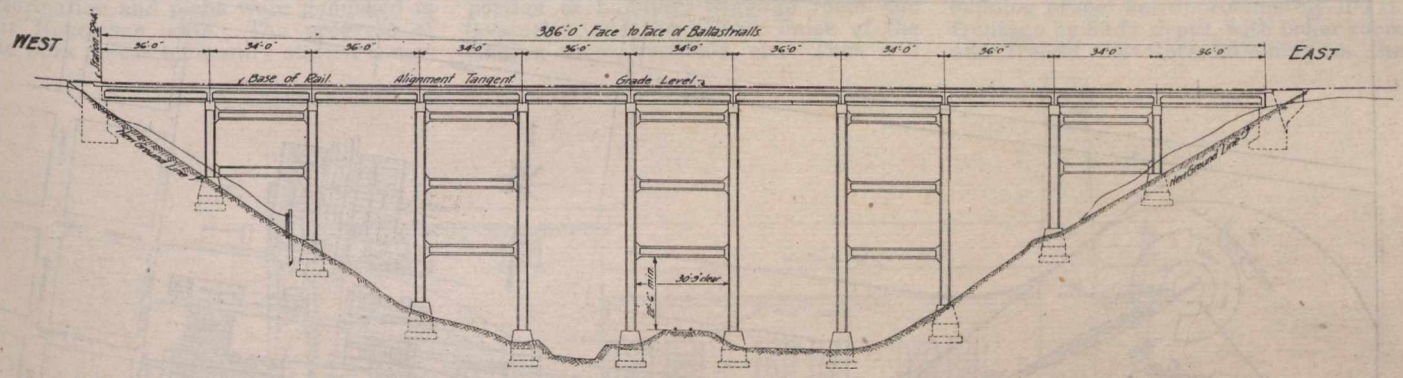
**Reservoir Ravine Bridge, North Toronto, Canadian Pacific Railway.**

in the rectangular post sections. These rods are securely tied across to opposite rods, at close intervals, by units composed of rods previously bent to suitable shapes.

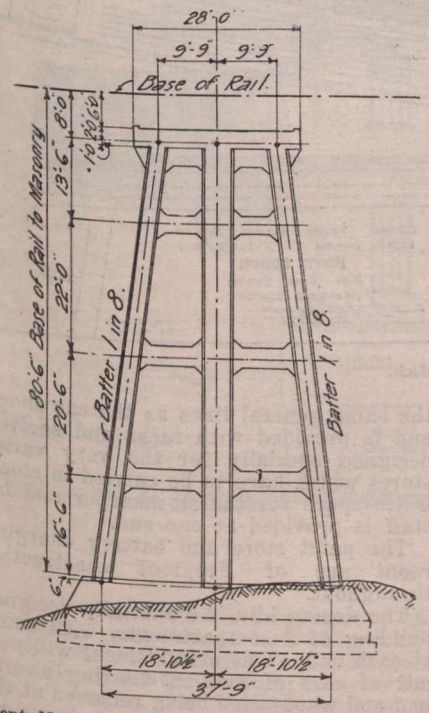
The towers were poured story by story and splices in reinforcing bars were located immediately above the horizontal struts. The length of the horizontal girder slabs was dictated by the size of the reinforcing bars, the maximum size of which was 1 5/16 in. diam., bent up in the usual manner to take care of shear. All ends of the rods were bent in hook form to give mechanical bond. Each of the finished slabs weighs approximately 57 tons, and this, as well as the size of the rods, was the controlling feature in deciding span lengths.

The bridge over the Toronto Belt Line Ry. is known as 0.9 North Toronto Subdivision, and is similar in general elevation to the Reservoir ravine bridge as well as in length and height. It has the same number of towers and abutments. It supports, however, only two tracks, instead of three. The bents consist of three posts, two outer-battered and one inner-vertical, and being a 2-track structure, the width is correspondingly narrower. There will be two narrow sidewalks for railway employes, protected by reinforced concrete posts and rail fence of same general character as other bridge.

Both works were executed under the supervision of J. M. R. Fairbairn, Assistant Chief Engineer, the designs being made by P. B. Motley, Engineer of Bridges, and the work was carried out under J. H. Barber, Engineer in Charge. The contractors of bridge 1.8 were Wells and Gray, Ltd., and for bridge 0.9 the Dominion Construction Co.




**Bridge over Toronto Belt Line Railway Ravine, on double track work, Canadian Pacific Railway, between Leaside and North Toronto.**




**Bent No. 7 of C.P.R. bridge over Toronto Belt Line Railway Ravine, Toronto.**

## The Railway Situation in Hamilton.

The Hamilton, Ont., City Council on Sept. 12 approved of proposal C, in the report of W. F. Tye, M.Can.Soc.C.E., and J. E. N. Cauchon, A.M.Can.Soc.C.E., on the railway situation in that city, as published in Canadian Railway and Marine World, Sept., 1917, pg. 342, and transmitted it to the Board of Railway Commissions as representing the city's views, and petitioned the board to adopt the recommendations, and to permit no new railway entrance into the city, and no extensions, additions, or changes in existing railway works there, unless they were in accordance with proposal C, and that the railways be asked to adopt the measures recommended in it. The application was heard at Hamilton, Oct. 22, together with an application by the Toronto, Hamilton & Buffalo Ry., for authority to take over, without the city's consent, certain undeveloped city land, 120 ft. wide, immediately south of the railway, from Sherman St. on the west, to Gage St. on the east, to enable the company to enlarge its Kinnear yard, so as to provide additional tracks for freight traffic.

The Chief Commissioner, Sir Henry Drayton, in giving judgment, Dec. 12, pointed out that the Tye-Cauchon report proposes to remove the T. H. & B. R. from the south district of Hamilton, and place it with the G.T.R. in the north. The T. H. & B. R.'s location was originally in the north end, but was changed to the south as a result of civic action, a city bonus bylaw affirmed by the ratepayers definitely approving of the present location. The bylaw having been ratified by the Dominion Parliament, and the Ontario Legislature, the Supreme Court of Canada held that the board had no jurisdiction to order a diversion of the T. H. & B. R. from its present site, to the north. The Chief Commissioner therefore decided that the board had no jurisdiction whatever to make an order adopting and carrying into effect the Tye-Cauchon recommendations and that the city's application must be refused.

The Chief Commissioner also held that it had been established that the proposed enlargement of the T. H. & B. R.'s Kinnear yard was both feasible nad convenient, and that the board's Chief Operating Officer had reported the land the company asked for as being necessary for its purpose, this having been confirmed by W. F. Tye, as the result of a special examination of the locality. The number of cars switched in Kinnear yard increased from 8,066 in 1906 to 17,764 in 1914, and to 34,363 in 1916, and it is evident the company's facilities there are inadequate. The board, therefore, had no alternative but to grant the application, unless an arrangement between the company and the city could be arrived at. The Chief Commissioner had suggested previously that, instead of an expropriation order being made, the city should allow the company to occupy the land for five years, without any provision for renewal, and at the end of that time the city and the railways might be in a position to finance the ultimate solution of the Hamilton railway problem in whatever form it might take. The city, however, did not act on the suggestion.

The Chief Commissioner announced that the formal order granting the T. H. & B. R.'s application would be held for seven days, viz., to Dec. 19, to give the city an opportunity of saying whether it would lease the land to the company for 5 years or whether it would prefer an expropriation order to go. In conclusion the Chief Commissioner said: "Mr. Tye is a railway engineer of eminence and of national standing. Full, fair and complete consideration ought to be given to the railway solution that he has endorsed. Everybody admits the present situation to be bad; the railway's remedy is to raise its tracks; Mr. Tye's remedy is to remove them altogether; but the parties interested, that is the different railways and the city, should, as I see it, refer the whole question to their respective engineers, with its instructions to work one with the other in an honest attempt to arrive at the best solution of what admittedly is a serious and difficult question."

Subsequently, on the request of the chairman of the Hamilton City Council's railway committee, the issuing of the order was further delayed until the city council's meeting, which was fixed for Dec. 26, and of the result of which we have no advice at the time of writing.

**Railway Lands Patented.**—Letters patent were issued during November, in respect of Dominion railway lands in Manitober, Saskatchewan, Alberta and British Columbia, as follows:—

| | Acres. |
|---|---|
| Calgary and Edmonton Ry. | 3,491.00 |
| Canadian Northern Ry. | 7,207.47 |
| Central Canada Ry. | 151.81 |
| Edmonton, Dunvegan & British Columbia Ry. | 6.31 |
| Grand Trunk Pacific Ry. | 160.06 |
| Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co. | 1,202.00 |
| Total | 12,218.59 |

# Grand Trunk Railway Car Shops at Port Huron.

The G.T.R. has practically completed the construction of a new plant at Port Huron, Mich., for the repairing of freight and passenger cars. The principal car repair plant for the lines west of the St. Clair and Detroit Rivers has been at Port Huron for many years, but was destroyed by fire in the winter of 1914-15. It was of limited capacity and was located at the terminus of the old line previous to the construction of the tunnel. After the fire, negotiations were carried on between the town and the company, resulting in the selection of the present site which is advantageously located near the new tunnel line and the locomotive house. The new plant will consist of:

| | |
|---|---|
| Power plant—Engine room ..... | 35½ x 70 ft. |
| Power plant—Boiler room ..... | 55 x 98 ft. |
| Large passenger car shop—15 cars capacity ..... | 134½ x 303½ ft. |
| Small passenger car shop—12 cars capacity ..... | 134½ x 240 ft. |
| Steel freight car shop—28 cars capacity ..... | 78 x 360 ft. |
| Wood freight car shop—28 cars capacity ..... | 78 x 360 ft. |
| Cabibnet shop—2 stories each .. | 73 x 250 ft. |
| Blacksmith shop ..... | 74 x 299 ft. |
| Machine shop ..... | 74 x 299 ft. |
| Woodmill ..... | 90 x 210 ft. |
| Dry lumber stores ..... | 35 x 149 ft. |
| General stores ..... | 59 x 153 ft. |
| General offices ..... | 59 x 63 ft. |
| Paint store ..... | 25 x 50 ft. |
| Dry kiln, 2 compartment ..... | 25 x 50 ft. |
| Battery charging house ..... | 25 x 50 ft. |
| Repair track yard, with 200 car capacity. | |

The arrangement of buildings was given special attention with a view to distribution of power; the possibility of extending the plant and to ensure materials being handled by direct movement from the stores to the finished product. The offices are at the city end of the site, fronting to 28th St., and standing back about 50 ft., thus allowing of a good tracks, occupy an area of approximately 55 acres and the total cost is estimated at about $700,000.

The power plant will consist of three 200 b.h.p. and three 150 b.h.p. return tubular boilers, the boiler pressure being 150 lb. per sq. in. The boilers will be fitted with superheaters, giving 150 degrees superheat when coal is used, and 200 degrees when wood refuse is used, and they will be adapted for handfiring, this arrangement being considered best, on account of the large amount of refuse varied in character, which will be burned. Other units will include two air compressors of 2,500 cu. ft. combined capacity of the cross compound type, specially adapted for use with superheated steam. The superheat of these air compressors may be controlled by proportioning their supply of wet steam. Boiler feed, vacuum and fire pumps and open type water heater will be installed. The boilers will be provided with brick stack 150 ft. high and 6½ ft. in diameter, connected with steel breeching. The heating requirements for the shops will be considerable, due to the large amount of special work, in the nature of painting and varnishing, and will be supplied by cast iron radiators of the wall type, and pipe coils distributed as required. Coal will be directly delivered to bunkers inside the power house, by hopper cars discharging through a steel trestle.

The passenger car shops are so planned that each car under construction or repair will occupy one bay of either building, with a liberal allowance all round for working. The two buildings are parallel to one another, with a space of 100 ft. between, which is occupied by a transfer table serving both. The roofs are designed with monitors, which run across the length of the building and so light and ventilate each individual bay.

The freight car shops are planned for the cars to enter at one end, and the construction is similar to that of the passenger car shops, except that the buildings are divided by a party wall only, instead of the space occupied by the trnasfer table.

The cabinet shop is two stories, the general construction being similar to that of the car shops.

The blacksmith and machine shops are planned in a similar manner to the freight car shops, with a fire wall dividing them.

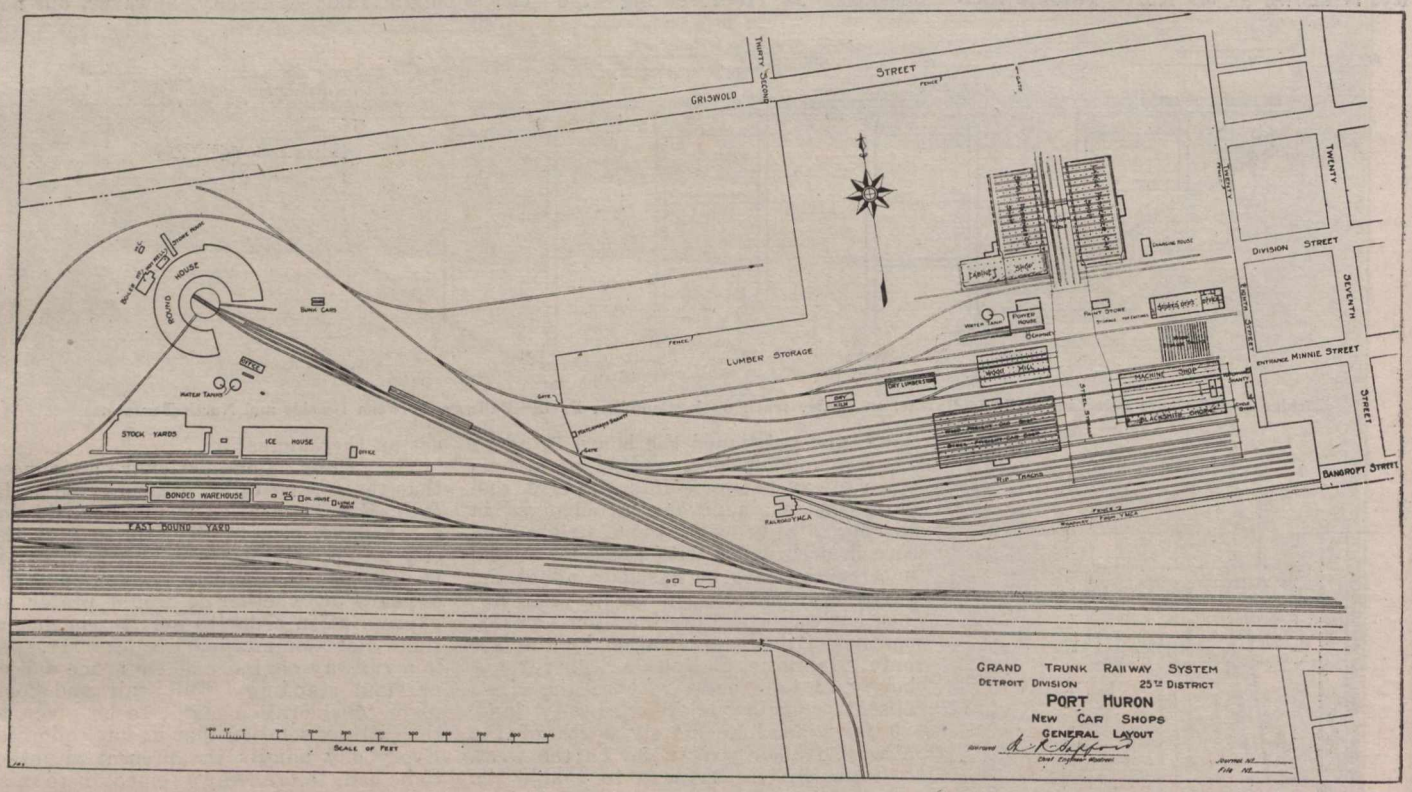
The woodmill, dry lumber store and less important buildings are of the usual type and contain no special features.

The stores building is constructed on the same general lines as the car shops, and is provided with racks and shelves, designed specially for the very varied stores which have to be carried in stock. Office space for the storekeeper and his staff is provided at one end.

The paint store and battery charging room are of fireproof construction throughout.

The drying kiln is a specially designed building of 2 compartments, with doors at each end. This arrangement will permit of cars of lumber entering at one end and when dried being removed at the other, no delay or inconvenience being occasioned through having to remove one car to get at or remove another. Each compartment is separate from the other and capable of being used independently. The heat will be supplied by means of steam pipes located below rail level and a special system of air ducts will provide ample air changes, which will be capable of regulation, and provision is also made for the introduction of steam. as required, to check too rapid drying. The walls and roof will be insulated by air cavities, so that even temperature may be maintained.

The general offices are attached to one end of the stores building, with a brick




General Layout, Grand Trunk Railway Car Shops, Port Huron, Mich.

firewall dividing. The interior is divided by terra cotta hollow block walls and the exterior walls are furred with the same material, all surfaces of walls and ceilings being plastered and painted.

Lavatories and lockers are provided in each building for a full complement of workmen. Ample storage spaces for steel, wheels, lumber, etc., have been allowed for and the layout generally has been planned with special attention to economical working. The transfer table is 80 ft. long, designed to carry a 96 ton car. It will be operated by electricity. Electrical energy for lighting and operation of machines will be supplied by the Port Huron Electric Power Co. Provision has been made for fire protection by the erection of a 100,000 gal. steel storage tank, 100 ft. above the ground line, with a complete system of piping and fire hydrants situated at convenient points.

The buildings have been planned and erected under the direction of the company's Chief Engineer, H. R. Safford, Montreal.

# Canadian Northern Railway Terminal Buildings in Montreal.

The temporary station being built by the Canadian Northern Ry. at the corner of Lagauchetiere and St. Monique Street, Montreal, was fully described and illustrated in Canadian Railway and Marine World for July, 1917, and some additional information and plans were published in our November issue. The progress of the work on the temporary station is now so far forward that a fair idea of the completed work can be had. The whole of the brick, tile, concrete and steel work is finished, and the building is ready for the plasterers, the finished wood work, painting, etc. Following is a resume of what has been done and what is required to complete the structure:

After excavating for the foundation and piers, which were carried down to a rock foundation, the reinforced concrete work was proceeded with. The whole of the structural parts, including the walls, floors and roof are formed of that material, making an absolutely fireproof building. The inside of the outer walls and dividing partitions are of fireproof tile, which are ready for the plaster finishing. The roughing for the plumbing and heating is completed, including all pipe mains, and all the conduits for electric wiring, etc. The heating will be on the vacuum principle and the waiting rooms and lavatories will be heated under thermostatic control.

The work remaining to be completed is the plaster work of the walls and ceilings, the cement plaster of train level portion of building, baggage room and lavatories ,and the plaster finish of the waiting room, vestibule, etc. Then will follow the carpenter trim, and the fixtures, which will be of Georgia pine throughout, finished with a fumed oak flat finish. The marble work, plumbing fixtures and radiators will be proceeded with immediately after the plaster work is completed, and the wiring for power and light, and electric fixtures, etc., and finally the finishing by the decorators. Beside the finish of the wood work, the waiting room and vestibule walls will be painted with lead and oil paint, and the ceilings and walls of baggage room, lavatories ,and train space will be treated with cement paint in suitable and harmonious colorings. Provision is being made for telephone and telegraph, and a system of time clocks controlled by the Great North Western Telegraph Co.

**Express Building, Garage and Boiler Room.**

The Canadian Northern Express Co.'s building being erected on Mansfield St. is also nearing completion, but owing to the retaining walls of the railway cutting not being ready, a portion of the rear of the building has to be left incomplete until the retaining walls are finished. The building proper has approximately 100 ft. frontage by 80 ft. depth, with boiler room and freight elevators adjoining in the rear. The building is divided into three parts, viz., express room, garage and boiler room. Facing Mansfield St. the building shows as one story and a half and basement, but on the rear appears much higher, owing to the deep cutting, which is 46 ft. below the level of Mansfield St. The main floor will be occupied as the express room, with shipping doors on the northwest side and there will be offices for the agent, clerks, records and also lavatory accommodation. Underneath the express room the whole space will be utilized as a garage for delivery trucks and will be approached by a driveway from Mansfield St. Connecting both express room and garage to the railway tracks will be two freight elevators, run by electric power and capable of carrying 4,000 lb. each. Adjoining the entrance to the elevators on the track level will be a car siding.


**Rear Elevation, Canadian Northern Express Co.'s Building, Montreal.**

The boiler room is on the level of the tracks, where coal trucks can run right alongside the coal bunkers and unload directly into them, and cinders can be loaded from boiler direct to cars. The boiler room will not only supply steam for heating the express building, but also for the terminal station, 300 ft. away, and will supply steam to car points for heating cars which will be disconnected from the steam locomotive at Cartierville and brought to the terminal by electric locomotives.

The building is being constructed of brick, with concrete foundations, reinforced concrete floor in express room and reinforced concrete ceiling of garage with flat timber roof. The exterior will be cement stucco plaster and have decorative flat pilasters and iron cornice. The shipping driveway will have an overhanging steel and corrugated iron roof.

The completion of the work may be looked for early in the new year. It is being carried out under the supervision of Geo. C. Briggs, Supervisor of Buildings, C.N.R.

# Railways Authorized to Advance Freight and Passenger Rates.

Sir Henry Drayton, Chief Railway Commissioner, delivered judgment Dec. 26, on the application of Canadian railways for a recommendation to the Governor in council, under the War Measures Act, for a general advance in freight and passenger rates. The judgment, which was concurred in by D'Arcy Scott, Assistant Chief Commissioner, Hon. W. B. Nantel, Deputy Chief Commissioner, and Commissioners McLean and Goodeve occupies 76 foolscap pages of typewritten matter. It is officially summarized as follows:

Subject to the limitations of the Crowsnest Pass agreement and to the specific limitations contained in the judgment, freight rates are permitted to be increased, in general, approximately 10% in the west and 15% in the east.

While the Grand Trunk Pacific and the Canadian Northern are not included in this agreement, they are to be treated as if included.

With a view to lessening the disturbances as between territories, now established, of western distributing centres, and having also in mind the increase in the all rail rate already allowed, a 15% increase west of Port Arthur, and a 10% increase on the eastern balance of the through rate is permitted, but again subject to the limitations worked by the Crowsnest agreement.

On coal, an increase of 15c a ton is allowed, it being considered that this will bear less harmfully on the consumer than a percentage increase. In the western hearings the evidence was that a flat increase was preferable to the percentage increase asked for by the railways.

An increase of 5c a ton is permitted on clay, gravel and crushed stone.

On grain to Lake Superior ports, an increase of 2c per 100 lb. is allowed; this is approximately 10%.

Grain and grain products, etc., in the west, other than for movement to Fort William, and also on the movement of these from Fort William east, are permitted an increase of 15% subject to a maximum of 2c per 100 lb.

The existing lumber rate basis in the west has been built up by agreement between the mills and the railways, the important matter bein gthe extent of the rate differences between different groups of producers. A percentage arrangement would create disparities. From British Columbia mills to the different groups increases of from 3 to 5c, according to distance, are allowed. From Northern Alberta and Saskatchewan spruce districts 15%, with a maximum of 3 to 4c, according to distance. From British Columbia to Eastern Canada, 10%. From Lake-of-the-Woods and Rainy River, 3 to 4c, according to distance. From Port Arthur west 3 to 5c, according to distance. Between points in Eastern Canada a 15% increase, which works out a maximum of 3c.

Transcontinental class rates may be increased 10%. No increase allowed in transcontinental commodity rates.

In British Columbia an increase of 10% on freight rates is allowed; no rates to be lower than the prairie rates, as increased.

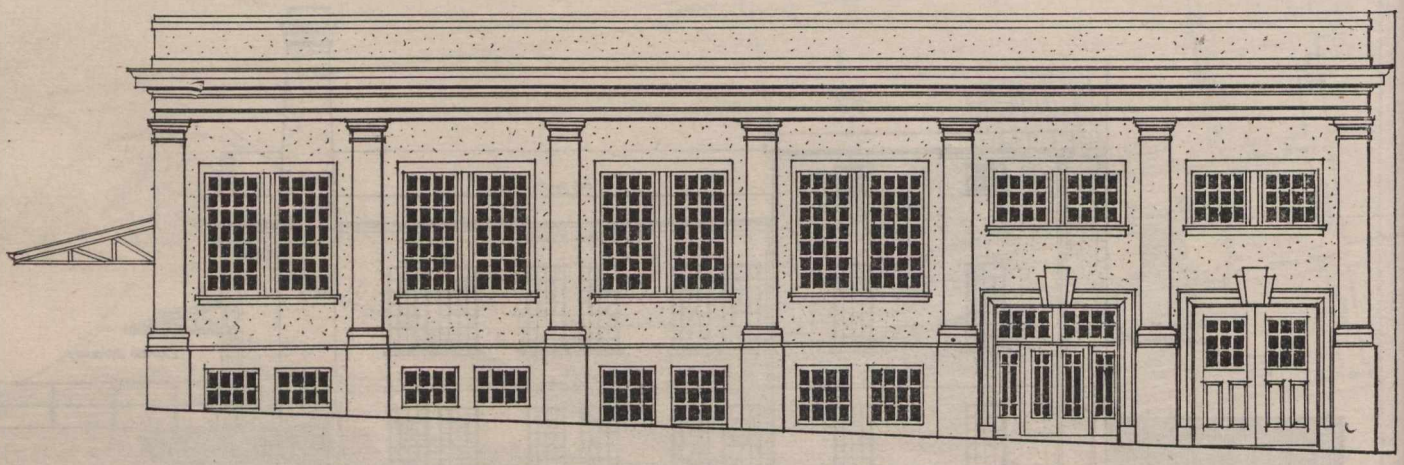
Railway tolls incidental to transportation, switching, demurrage, reconsignment, sleeping or parlor car accommodation, weighing, refrigeration, heating, car diversion, or other special services, are not allowed any increase.

No increase in passenger rates is allowed in British Columbia. A 15% increase is allowed in the territory where the maximum rate is 3c. It is at the same time pointed out that in the public interest, with a view to conserving coal, railway facilities and man power, that passenger travel should be as light as possible, so as to faciltate efficient freight movement.

It is set out that no greater profits will be obtained by the railways under the new rate scheduled than in the past. The increased rates allowed will certainly not equal the increase in costs to which the railways are subject. These increased costs are not in any way attributable to the railway management. They are very largely represented in wage increases, which have had the approval of the public at large. Public bodies and public sympathy have been with the men in the increases which they have obtained. No objection whatever has been made by any contestant on the ground that the railways have improvidently increased wages. The other items of cost increases are chiefly the result of today's prices of coal, steel material and railway supplies. The railways suffer in this regard in common with other users of these necessities. The increased cost can certainly not be said to be the railways' fault. While there was difference of opinion among trade organizations, a considerable number hold that reasonable increases, within the discretion of the board, were justifiable. As to the representations made regarding aid by loans, as well as change in ownership the board has no right to express an opinion, as its powers are concerned with rate matters.

Canadian Northern figures show a steadily declining net revenue. In Sept., 1917, the net revenue was 41% less than in 1916, October, with 6% increase in gross, shows 51% decrease in net. Maintenance charges have been cut down with a view to economy. As a result, efficiency has decreased and accumulated maintenance charges will have to be met later. At the same time, costs of labor, coal and materials, have been increasing. In September, the Canadian Pacific's net decreased 28.3%. In 10 months, ended Oct. 1917, the gross revenue of the Grand Trunk increased 11%, while expenses increased 22%. In October gross increased less than 2%, while net earnings decreased 49%.

It is found that there can be no question, in view of the actual results, that the railways require greater revenues, and must have them if proper efficiency is to be maintained, and the demands of the country for transportation at all adequately met.



**Mansfield St. Elevation, Canadian Northern Express Co.'s Building, Montreal.**

# Mainly About Railway People Throughout Canada.

**Frank Scott,** Vice President and Treasurer, G.T.R., Montreal, has been elected a director of the Guarantee Co. of North America.

**R. P. Wilson,** Division Engineer, Hudson Bay Ry., Pas, Man., has been elected an associate member of the Canadian Society of Civil Engineers.

**S. P. Brown M.Can.Soc.C.E.,** who resigned as Chief Engineer, Mount Royal Tunnel & Terminal Co., Montreal, recently, has been appointed Vice President and General Manager, Ford, Bacon & Davis, engineers, New York.

**L. Bonney,** who died at Winnipeg, Dec. 16, aged 59, was for some time in C.P.R. service, first as a lecturer in Scotland to induce emigration to Canada, and later in charge of an immigration office in Winnipeg. He was subsequently in charge of stores, at Whitewood and at Keewatin.

**William Walkden,** who was transferred from junior to associate member of the Canadian Society of Civil Engineers recently, has been in the office of Bridge Engineer, Western Lines, Canadian Northern Ry., Winnipeg, since 1912, and since the death of W. L. Mackenzie, on Feb. 6, 1917, has been in charge of that department.

**W. C. C. Mehan,** heretofore General Superintendent, Mountain Division, Grand Trunk Pacific Ry., Prince Rupert, B.C., who has been granted leave of absence, will spend some little time visiting relatives and friends in Ontario and Quebec, and in the central and southern United States, renewing friendships after an absence of ten years. His address for the present is St. Albans, Vt.

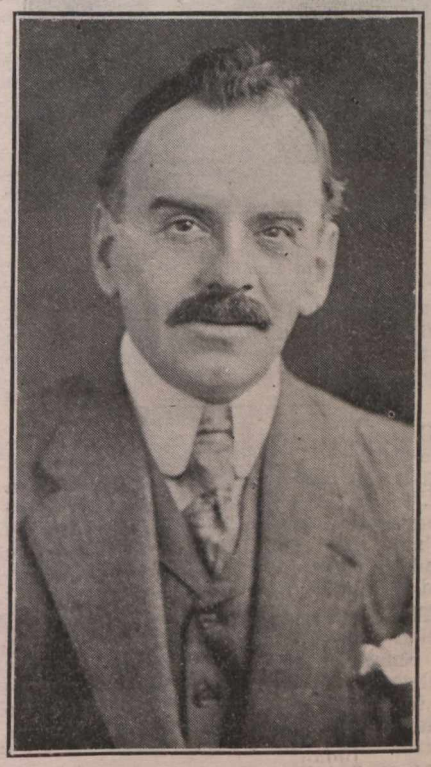
**A. H. Crawford,** who died at Toronto, Dec. 9, aged 78, was for some years in railway service, being secretary to the Freight Superintendent, G.T.R., when that position was held by the late P. S. Stevenson. He was later, G.T.R. Freight Agent at Kingston, Ont., and General Superintendent, Toronto Grey and Bruce Ry., and retired from railway service when that company was absorbed by the C.P.R.

**W. J. Mathison,** who has been appointed Assistant Superintendent. District 1, Intercolonial Division, Canadian Government Railways, Montreal, was born at Havelock, Ont., Dec. 12, 1877, and entered railway service with the C.P.R., subsequently transferring to the G.T.R., and in Nov., 1916, to the Canadian Government Railways, as Assistant Superintendent at Halifax, N.S., which position he held to Nov. 5, 1917, when he was transferred to Montreal.

**J. W. N. Johnstone,** General Passenger Agent, Reid Newfoundland Co., who has also been appointed Assistant to the President, 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 the 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., and was appointed General Passenger Agent, Aug. 21, 1906.

**George Cobb,** who has been appointed Assistant to General Superintendent, Reid Newfoundland Co., St. John's, Nfld., was born at Coupar Angus, Scotland, Apr. 21, 1885, and entered Reid Newfoundland Co.'s service, Nov. 14, 1901, since when he has been, to Sept. 27, 1903, telegraph operator; Sept. 27, 1903, to May 31, 1905, agent, Gambo, Nfld.; May 31, 1905, to

**J. A. Heaman, B.Sc., A.M.Can.Soc.C.E.**
Who has been appointed Assistant Chief Engineer, Grand Trunk Pacific Railway, succeeding H. A. Woods, resigned.



**J. A. Vallerand**
Superintendent and General Freight and Passenger Agent, Roberval-Saguenay Railway.

May 20, 1908, night dispatcher, St. John's; May 20, 1908, to Nov. 11, 1910, emergency dispatcher and agent, Bishops Falls; Nov. 11, 1910, to Jan., 1913, Chief Dispatcher, St. John's; Jan., 1913, to Dec. 1917, Superintendent, St. John's.

**O. M. Lavoie,** whose appointment as acting Superintendent of Car Service, Eastern Lines, C.P.R., Montreal, was announced in our last issue, was born at St. Cyrille de Wendover, Que., Oct. 16, 1884, and entered railway service Nov. 25, 1901, since when he has been, to Sept. 2, 1902, operator, Quebec, Montreal & Southern Ry., at various points; Sept. 2, 1902, to Apr. 25, 1910, operator, C.P.R., at various points on the Farnham Division; Apr. 25, 1910, to Jan. 6, 1915, dispatcher, C.P.R., Farnham, Que.; Jan. 6, 1915, to Mar. 27, 1917, Chief Dispatcher, C.P.R., Farnham, Que.; Mar. 27 to Nov. 23, 1917, Inspector of Transportation, Eastern Lines, C.P.R., Montreal.

**C. Price Green,** who, as announced in our last issue, has been appointed Industrial Commissioner, Canadian Northern Ry., at Toronto, on coming to Canada from England started work in the C.P.R.'s engineering deaprtment, was on location and construction for some years and was afterwards engaged in mining and meteorological work. He then went to the G.T.R., and after a short time in its operating department was transferred to its passenger department, remaining there until 1906, when he was appointed on the Canadian Northern Ry.'s passenger department staff at Toronto. For the past three years he has been General Agent on the Secretary's staff.

**J. Achille Vallerand,** whose appointment as Superintendent and General Freight and Passenger Agent, Roberval-Saguenay Ry., Chicoutimi, Que., was announced in our last issue, was born at Quebec, Que., Oct. 21, 1878, and entered railway service in June, 1895, since when he has been, to Dec., 1896, junior clerk, Quebec, Montmorency & Charlevoix Ry., Quebec; between Dec., 1896 and June, 1900, assistant agent, C.P.R., Garneau, Que., and Quebec & Lake St. John Ry., St. Tite, Que.; June, 1900, to May, 1904, station agent, Q. & L. St. J. R., Jonquiere, Que.; May, 1904, to July, 1908, station agent, same road, St. Anne de Beaupre, Que.; July, 1908, to June, 1910, clerk in Superintendent's office, Quebec Ry., Light & Power Co., Quebec; June, 1910, to Sept. 1917, Auditor, same road, and from Dec., 1912, also Freight Claim Agent, Quebec.

**George A. Hoag,** who has been appointed Superintendent, Superior District, Ontario Division, Canadian Northern Ry., was born at Walters Falls, May 31, 1866, and entered railway service June 8, 1884, since when he has been, to May, 1886, switchman, G.T.R.; May, 1886, to Jan., 1888, night operator, G.T.R.; Jan., 1888, to Jan., 1896, day operator, G.T.R., Lyn, Ont.; Jan., 1896, to Nov., 1899, agent, G.T.R., Lyn, Ont.; Nov., 1899, to Mar., 1901, agent, G.T.R., Trenton, Ont.; Mar., 1901, to Oct., 1905, Yardmaster, G.T.R., Belleville, Ont.; Oct.. 1905, to June, 1908, Trainmaster, Central Ontario Ry., Trenton, Ont.; June, 1908, to June, 1914, Superintendent, C.O.R., Trenton, Ont.; June to Dec., 1914, Superintendent of Car Service, Canadian Northern Ry., Toronto; Dec., 1914, to Oct. 31, 1917, Assistant Superintendent, C.N.R., Toronto.

**George N. Goad,** who has been appointed Assistant Superintendent, Toronto District, Ontario Division, Canadian Northern Ry., Rosedale, Toronto, was born at Toronto, Nov. 26, 1884, and entered rail-

way service in Sept. 1901, since when he has been, to July 1902, junior clerk, Division Freight Agent's office, G.T.R., Toronto; July 1902 to Sept. 1904, stenographer, same office; Sept. 1904 to Dec. 1905 chief clerk, Canadian Freight Agent's office, Lehigh Valley Rd., Toronto; Dec. 1905 to Mar. 1907, stenographer, Third Vice President's office, Canadian Northern Ry., Toronto; Mar. 1907 to Aug. 31, 1915, chief clerk to Superintendent, and General Superintendent, C.N.R., Toronto; Sept. 1 to Dec. 31, 1915, chief clerk to General Manager, Eastern Lines, C.N.R., Toronto; Dec. 31, 1915, to Jan. 10, 1917, Inspector of Transportation, Eastern Lines, C.N.R., Toronto; Jan. 10 to Dec. 1, 1917, Terminal Trainmaster, Toronto Terminals, C.N.R., Toronto.

## The Death of Joseph Hobson.

Joseph Hobson, M.Can.Soc.C.E., Consulting Engineer, G.T.R., who died at Hamilton, Ont., Dec. 19, after a prolonged illness, was an outstanding figure in railway engineering for very many years and was associated with four of the great works undertaken on the Great Western and Grand Trunk Railways, these being the International bridge over the Niagara River between Fort Erie and Buffalo, the St. Clair tunnel under the St. Clair River, connecting Sarnia, Ont., and Port Huron, Mich., the replacing of the suspension bridge across the Niagara River at Niagara Falls by the present arch structure, and the rebuilding of the Victoria bridge at Montreal.

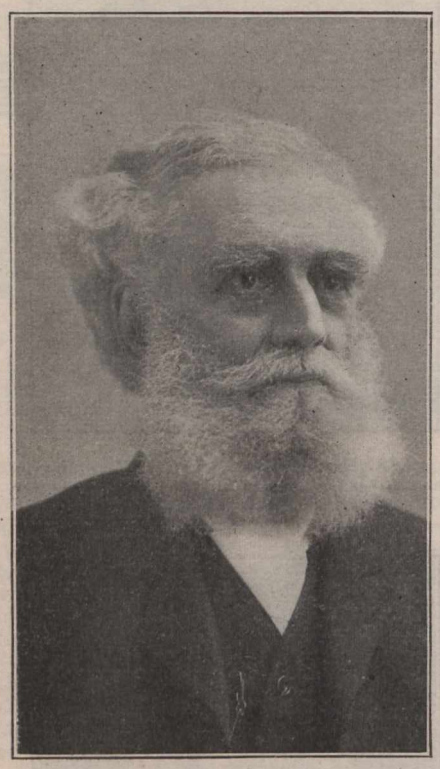
He was born in Guelph Tp., Ont., on Mar. 4, 1834, and educated in the local schools and at Toronto. He served an apprenticeship as an Ontario land surveyor at Toronto, and eventually qualified for both Ontario and the Dominion. He then entered the service of Gzowski & Macpherson, who had a construction contract on the G.T.R., between Toronto and Guelph, and later practiced as a land surveyor for some time, in Berlin (Kitchener) and Guelph. He returned subsequently to railway work, and until June, 1869, was engaged as assistant engineer on various lines in Nova Scotia, Ontario and Michigan. From June, 1869, to Apr. 1870, he was engineer on construction, Wellington. Grey & Bruce Ry.; Apr., 1870, to Nov., 1873, Resident Engineer, International bridge, Buffalo, N.Y.; Nov., 1873, to June, 1875, Chief Assistant Engineer, Great Western Ry., Hamilton, Ont.; June, 1875, to Feb., 1896, Chief Engineer, same road, Hamilton; on the absorption of the G.W.R. by the G.T.R. Aug. 22, 1882, he was appointed Chief Engineer, G.T.R. lines west of Toronto, Hamilton, Ont., and on Feb. 1, 1896, Chief Engineer, G. T. R. system, Montreal continuing to live in Hamilton, and retaining that position until Aug., 1907, when he became Consulting Engineer for the company.

As before stated, he was Resident Engineer on the International Bridge across the Niagara River between Fort Erie and Buffalo, he was Chief Enginee rof Western Lines, G.T.R., when the Sarnia, Port Huron tunnel was built and the bridges across the Niagara River at Niagara Falls and across the St. Lawrence River at Montreal were built, while he was Chief Engineer of the whole G.T.R.

He was one of the first members of the Canadian Society of Civil Engineers, of which he was councillor in 1888, 1891 and 1892. He was also a member of the American Society of Civil Engineers and of the Institution of Civil Engineers, Eng. Robert Hobson, President, Steel Co. of Canada, Hamilton, and J. I. Hobson, Treasurer, Canada Steamship Lines, Ltd., Montreal, are sons.

The funeral, which was private, took place at Hamilton, Dec. 21, and was attended by the following G.T.R. officials: U. E. Gillen, Vice President; H. R. Safford, Chief Engineer; M. S. Blaiklock, Engineer, Maintenance of Way; W. McNab, Engineer of Valuation, Montreal; H. E. Whittenberger, General Superintendent, Ontario Lines; E. G. Hewson, Division Engineer; G. A. Mitchell, Superintendent of Bridges and Buildings, and D. McCooe, Superintendent of Track, Toronto.

The Hamilton Spectator says:—"His life was full of the noblest and grandest conquests over the conditions and forces of nature. At a ripe old age, well earned repose came to him in comparative retirement; yet still the benefit of his accumulated knowledge and sound judgment was sought and cheerfully yielded. Most God-like among men are the rare spirits to whom is given in large degree a power approaching that of creation."



Joseph Hobson, M.Can.Soc.C.E., who died at Hamilton, Dec. 19, 1917.

**Colorado Railway Fares Advanced.** — The Colorado Public Utilities Commission has authorized the Denver & Salt Lake Rd. to increase its local passerger fares from 4½c a mile to 5 round trip fares to be at a rate of 10% less than this. The road is in the hands of receivers, and has had poor traffic for several years.

**The Shawinigan Water & Power Co.,** which owns the terminal electric railway at Shawinigan Falls., and the electric railway at Three Rivers, Que., is reported to have sold an issue of $4,500,000 two year 6% convertible notes in Boston, Mass.

**N. F. Judah,** Auditor, Edmonton, Dunvegan & British Columbia Ry., writes: "I would most certainly miss your valued publication, Canadian Railway and Marine World, if it did not reach me regularly."

## Gross Railway Earnings January 1 to November 30.

| | 1917 | 1916 | 1915 |
|---|---|---|---|
| C. P. R. | $134,833,000 | $124,231,000 | $93,542,000 |
| C. N. R. | 37,479,100 | 34,480,000 | 24,303,500 |
| G. T. R. | 60,573,539 | 54,971,385 | 45,509,088 |
| | $232,885,639 | $213,682,385 | $163,354,588 |

## Canadian Northern Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, or decreases, compared with those of 1916, from July 1, 1917:

| | Gross Earnings | Expenses | Net Earnings | Decrease |
|---|---|---|---|---|
| July | $3,844,900 | $2,940,000 | $ 904,900 | $ 292,500 |
| Aug. | 3,405,200 | 2,812,000 | 593,200 | 478,800 |
| Sept. | 3,341,700 | 2,915,800 | 1,924,000 | 306,700 |
| Oct. | 3,941,600 | 3,350,500 | 591,100 | 629,200 |
| Nov. | 4,050,200 | 3,295,500 | 754,700 | 495,300 |
| | $18,583,600 | $15,313,800 | $3,269,800 | $2,202,500 |
| Incr | $ 437,500 | $ 962,800 | ..... | ..... |
| Decr | ..... | ..... | $2,202,500 | ..... |

Approximate earnings for three weeks ended Dec. 21, $2,408,100, against $2,616,200 for same period 1916.

## Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, compared with those of 1916, from Jan. 1, 1917:

| | Gross Earnings | Expenses | Net Earnings | Increase or Decrease |
|---|---|---|---|---|
| Jan. | 10,158,307.86 | 7,726,829.36 | 2,431,478.50 | 341,070.27 |
| Feb. | 9,084,276.76 | 7,098,227.96 | 1,986,048.80 | x308,293.94 |
| Mar. | 11,846,542.98 | 7,909,225.16 | 3,937,317.82 | 516,987.46 |
| Apr. | 12,355,519.60 | 8,180,541.98 | 4,174,979.62 | 441,241.66 |
| May. | 14,355,149.63 | 9,803,426.84 | 4,551,719.79 | 179,436.88 |
| June | 13,556,979.69 | 9,641,073.49 | 3,915,906.20 | 226,273.09 |
| July | 13,377,850.55 | 9,617,853.33 | 3,760,007.22 | x257,084.51 |
| Aug | 12,414,537.25 | 8,596,998.76 | 3,817,538.49 | x1,650,248.36 |
| Sept | 12,244,341.69 | 8,497,190.83 | 3,747,150.86 | x1,382,608.30 |
| Otc. | 14,733,774.02 | 9,679,072.25 | 5,054,601.77 | x 620,037.60 |
| | $124,127,290.03 | $86,750,442.96 | $37,376,847.07 | x$2,514,263.36 |
| Inc. | $10,226,414.11 | $12,740,677.47 | ..... | ..... |
| Dec. | ..... | ..... | $ 2,514,263.36 | ..... |

x Decrease.

Approximate earnings for November, $14,942,000, and for three weeks ended Dec. 21, $9,248,000, against $13,157,000 and $9,224,000 for same periods respectively in 1916.

## Grand Trunk Railway Earnings.

Aggregate traffic receipts from Jan. 1 to Oct. 31, 1917 and 1916.

| | 1917. | 1916. | Increase. |
|---|---|---|---|
| G.T.R. ... .. | $43,396,555 | $39,127,270 | $4,269,285 |
| G.T.W.R. . .. | 8,004,931 | 7,781,671 | 223,260 |
| D.G.H. & M.R. | 2,788,094 | 2,761,787 | 26,307 |
| Totals . . . . | $54,189,580 | $49,670,728 | $4,518,852 |

Approximate earnings for November, $5,549,336, and for three weeks ended Dec. 21, $3,613,592, against $5,343653 and $3,520,136 respectively for same periods in 1916.

## Grand Trunk Pacific Ry. Earnings.

The approximate earnings of the Prairie Section, 916 miles, for November were $841,638, against $672 532 for November, 1916, and the aggregate earnings for five months ended Nov. 30 were $3,124,085, against $2,295,153 for November, 1916.

**The Grand Trunk Ry.'s annual inspection** of track was completed early in December, having occupied about six weeks and including a thorough examination of rails, ties, etc., on the 1,145 miles of main line, and on the branch lines. The inspection party travelled in a specially constructed car, fitted with electrically controlled devices for registering the efficiency marks gained by the various sections for excellence of track maintenance, which was described and illustrated in Canadian Railway and Marine World in previous years. There was the keenest competition between the various section gangs, foremen and supervisors, for the honors which are given to the section considered to represent the highest standard of maintenance work.

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NOTICE TO ADVERTISERS.

ADVERTISING RATES furnished on application.

ADVERTISING COPY must reach the publishers by the 10th of the month preceding the date of publication.

TORONTO, CANADA, JANUARY, 1918.

PRINCIPAL CONTENTS.



## Index to Canadian Railway and Marine World for 1917.

At the end of this issue is a very complete index to the contents of the volume for 1917 which as in former years, will doubtless be fully appreciated by the large number of subscribers who bind Canadian Railway and Marine World for reference purposes.

Even a casual glance over the pages of closely printed matter will show the tremendous range of subjects covered and the thorough manner in which this paper represents the entire transportation interests of the whole Dominion, steam railway, electric railway and marine, as well as the subsidiary express and telegraph interests, and railway and canal contracting work.

## Apportionment of Cost of Railway Crossings in London Ont.

The Board of Railway Commissioners passed order 26,833 Dec. 15 as follows:—Re crossings of Burwell, Adelaide, and Rectory Sts. by the G.T.R. in London; and the question of the apportionment of the cost of installing and maintaining the gates required to be installed at the said crossings by order 26527, Sept. 11, 1917. Upon reading what is filed on behalf of the London St. Ry., the G.T.R. and the City of London, it is ordered that 20% of the cost of installing the gates at the crossings of Adelaide and Burwell Sts. be paid out of the railway grade crossing fund, 60% to be paid by the G.T.R., and 20% by the City of London; the watchmen's wages to be paid by the G.T.R., and the remainder of the cost of maintenance to be borne and paid 70% by the G.T.R. and 30% by the City of London.

That 20% of the cost of installing the gates at Rectory St. be paid out of the railway grade crossing fund, 60% to be paid by the City of London, and 20% by the G.T.R.; the interlocking device at the crossing to be connected up with the tower, and the necessary additional levers, if any, installed, so that the half-interlocker may be operated from the tower, as well as the gates; such work to form part of the cost of installation.

That the London St. Ry. Co. pay the wages of the day and night watchman, as at present appointed at the crossing of Rectory st.; the remainder of the cost of maintenance to be borne and paid by the G.T.R.; and the London St. Ry. to continue to pay the same maintenance charges as provided for in the Railway Committee of the Privy Council's order, Nov. 15, 1896.

## Toronto, Hamilton and Buffalo Railway Yard at Bridgeburg.

We are officially advised that the Toronto, Hamilton & Buffalo Ry.'s new yard at Bridgeburg, Ont., which is estimated to cost approximately $500,000, is expected to be completed by Aug. 1. Its capacity will be about 1,000 cars, but it is being so laid out that tracks to accommodate an additional 1,000 cars can be laid when required.

The plans filed with the Board of Railway Commissioners show the work proposed to be done, and its relation to existing railway lines, pole lines, etc. Before tracks can be laid there is a considerable amount of preliminary work to be done. Bower Road is to be closed for a considerable distance and a new road made south of the Michigan Central Rd., while the present telegraph and telephone lines and gas mains are to be diverted to the north. The Michigan Central Rd.'s Niagara Division tracks will be diverted from a point at the Y and a new connection with the M.C.R. main line will be made on the John T. James property. The Canadian Niagara Power Co.'s pole line along the M.C.R.'s existing Niagara Branch will be diverted. It is also proposed to close up some other short pieces of road, and the small yard area owned by the Pere Marquette Ry. This is near the Thompson Road, which will be carried under the G.T.R. tracks. The main lead from the M.C.R. tracks will be at mileage 1.21 from Bridgeburg, and connection will be made with the same line at the other end of the yard at mileage 2.63. The yard tracks will be laid out on the most modern principles, for quick handling of cars.

## Steam Railway Track Laid in 1917.

A preliminary table of new track laid in 1917 by the steam railways throughout Canada, made up from official replies to Canadian Railway and Marine World's annual circular is given below. Included in the mileage given are 11 miles of track laid during 1916 on the Alberta & Great Waterway Ry.'s Egg Lake branch, of which we were not advised sufficiently early to include it in our revised table in the Feb., 1917, issue.

The total miles of new track laid is 242.16, compared with 285.94 miles laid during 1916. This mileage was laid on 8 railways, while track was laid on 15 railways during 1916. Of the mileage reported, the Canadian Northern Ry. laid 91.44 miles; the Alberta & Great Waterways Ry. 84.30 miles; and the Grand Trunk Pacific Ry. 24.86 miles. By provinces, track was laid as follows:—Alberta, 128.81 miles; Saskatchewan, 48.14; Quebec, 36.00; Manitoba, 9.80;; British Columbia, 9.41; New Brunswick, 8.50; Ontario, 1.50.

| | Miles | Miles |
|---|---|---|
| Alberta and Great Waterways Ry.— | | |
| Mileage 202.10 to 275.40 ..... | 73.30 | |
| *Egg Lake Branch, mileage 1 to 11. | 11.00 | |
| | | 84.30 |
| Canadian Northern Railway— | | |
| James Bay and Eastern Ry. | | |
| Roberval to St. Felicien ..... | 18.00 | |
| Montreal Tunnel line ..... | 3.00 | |
| Duncan to junction with C.P.R. at Donlands, Toronto ..... | 1.50 | |
| Elrose, Eston, to Glidden, Sask. .. | 16.28 | |
| Oliver towards St. Paul de Metis, Alta ..... | 44.51 | |
| Victoria, B.C., Harbor to Alpha St. Station ..... | 0.80 | |
| Victoria Jct. to Glen Lake, B.C. .. | 7.35 | |
| | | 91.44 |
| Canadian Pacific Railway— | | |
| Vantage to Congress, Sask. ..... | | 7.00 |
| Grand Trunk Pacific Railway— | | |
| St. Louis to Prince Albert, Sask... | | 24.86 |
| Greater Winnipeg Water District Ry.— | | |
| Deacon to St. Boniface, Man. .... | 8.30 | |
| From point on this line to Transcona | 1.50 | |
| | | 9.80 |
| Quebec and Saguenay Railway— | | |
| Cap Tourmente to Mileage 15 .... | | 15.00 |
| St. John and Quebec Railway— | | |
| Gagetown to Queenstown, N.B. .... | | 8.50 |
| Vancouver, Victoria and Eastern Ry.— | | |
| Extension to passenger station at False Creek, Vancouver ..... | | 1.26 |
| Total ..... | | 242.16 |

**Canadian Society of Civil Engineers,** Victoria Branch.—Following are the officers of the Victoria, B.C., branch, elected at the annual meeting, Dec. 12:—Chairman, R. W. Macintyre; Vice Chairman, R. Fowler; Secretary, E. G. Marriott; Treasurer, E. Davis; other executive members, W. K. Gwyer, E. P. McKie. The retiring chairman was D. O. Lewis, District Engineer in charge of construction and surveys. Canadian Northern Pacific.

# Transportation Appointments Throughout Canada.

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

**Canadian Government Railways.**—C. D. BOVARD, Assistant Superintendent, Districts 2 and 3, Intercolonial Division, is reported to have been appointed station agent at Moncton, N.B., during the illness of C. W. Price.

W. J. MATHISON, heretofore Assistant Superintendent at Halifax, N.S., has been appointed Assistant Superintendent, District 1, Intercolonial Division, in special charge of Montreal Terminals, with jurisdiction to and including Ste. Rosalie Jct.

J. H. DUFF has been appointed Assistant Superintendent, District 1, Transcontinental Division, vice H. A. Ryan, resigned. Office, Cochrane, Ont.

**Canadian Northern Ry.**—S. P. BROWN, B.Sc., M.Can.Soc.C.E.. Chief Engineer, Mount Royal Tunnel Terminal Co., Montreal, has resigned and removed to New York, where he has been appointed Vice President and General Manager, Ford, Bacon & Davis Corporation, general contractors.

W. C. LANCASTER, Electrical Engineer, Mount Royal Tunnel and Terminal Co., has resigned to become a captain in the United States Engineers.

G. N. GOAD, heretofore Trainmaster, Toronto District, Ontario Division, Toronto, has been appointed Assistant Superintendent, Toronto District, Ontario Division, vice G. A. Hoag, whose appointment as Superintendent, Superior District, Ontario Division, Hornepayne, Ont., was announced in our last issue. The position of Trainmaster, Toronto District, has been abolished. Office, Rosedale, Toronto.

H. LAMBKIN has been appointed Inspector of Sleeping and Dining Cars and News Service, Western Lines. Office, Winnipeg.

W. A. VANALSTINE has been appointed City Ticket Agent, Saskatoon, Sask., vice G. Swain resigned.

J. D. CAMERON has been appointed Travelling Freight Agent, Vancouver, B.C.

C. J. PIPER has been appointed Commercial Agent, Minneapolis, Minn., vice J. T. Whitelaw, resigned to enter private business.

**Canadian Pacific Ry.**—A. AITKEN, heretofore general yardmaster, Toronto, has been appointed Assistant Superintendent, Toronto Terminal Division, Ontario District, vice W. Garland transferred. Office, Toronto.

R. C. MORGAN, Superintendent Winnipeg Terminal Division, Manitoba District, is acting General Superintendent, Manitoba District, while C. MURPHY is engaged in labor negotiations. Office, Winnipeg.

E. HUMPHRYS, heretofore District Storekeeper, Manitoba District, Winnipeg, has been appointed Fuel Agent there.

A. S. MACDONALD, heretofore District Storekeeper, British Columbia District, Vancouver, has been appointed District Storekeeper, Manitoba District, vice E. Humphrys, appointed Fuel Agent. Office, Winnipeg.

W. E. PIMLOTT, heretofore Storekeeper, Fort William, Ont., has been appointed General Foreman, Stores Department, Winnipeg, vice F. G. Bannister, transferred.

F. G. BANNNISTER, heretofore General Foreman, Stores Department, Winnipeg, has been appointed District Storekeeper, British Columbia District, Vancouver, vice A. S. Macdonald.

C. Price-Green
Industrial Commissioner, Canadian Northern Railway.

H. McCall,
General Superintendent, Lines West of Edmonton, Alta., Grand Trunk Pacific Railway.

**Grand Trunk Pacific Ry.**—G. W. LOMAS has been appointed chief operator, Edmonton yard, Alta.

The following station agents have been appointed: Quinton, Sask., F. W. Finch; Attuand, Sask., J. A. Lavergne; Kelliher, Sask., D. J. Cullen; Balcarres, Sask., W. T. Ralston; Edson, Alta., H. V. Goodwin; Coalspur, Alta., W. R. Goodwin; Giscome, B.C., A. W. Bennett; Smithers, B.C., A. H. Forde; New Hazelton, B.C., G. D. Parent; Pacific, B.C., D. P. Herrin; Prince Rupert, B.C., A. L. Holtby. The station at Junkins, Alta., has been closed.

**Great Northern Ry.**—H. A. JACKSON, heretofore General Traffic Manager, Great Northern Steamship Co., San Francisco, Cal., has been appointed Export and Import Agent, G.N.R. Office, Seattle, Wash. This is a new position.

**Northern Pacific Ry.**—F. S. ELLIOTT, Soliciting Freight Agent, Vancouver, B.C., is reported to have been appointed Local Freight Agent there, with office at the union station.

**Reid Newfoundland Co.**—J. W. N. JOHNSTONE, General Passenger Agent, has also been appointed Assistant to the President. Office, St. John's, Nfld.

P. D. PARK has been appointed Assistant to the President, also Travelling Superintendent of train men (conductors, brakemen and baggagemen), reporting to the Superintendent; and also Travelling Superintendent of Motive Power Department, reporting to Superintendent of Motive Power. Headquarters, St. John's, Nfld.

E. W. TAYLOR, heretofore General Freight Agent, has been appointed Traffic Manager, and will also control time table schedules, movement of all motive power, rolling stock, steamships and all freight and passenger traffic. Office, St. John's, Nfld.

G. COBB, heretofore Superintendent, has been appointed Assistant to General Superintendent, St. John's, Nfld.

H. J. RUSSELL, heretofore Assistant to Superintendent, has been appointed Superintendent, vice G. Cobb promoted. Office, St. John's, Nfld.

W. FITZPATRICK has been appointed Assistant to the Superintendent, St. John's, Nfld.

T. J. ROLLS has been appointed Assistant to the General Freight Agent, St. John's, Nfld.

J. BAXTER, heretofore Travelling Passenger Agent, has been appointed Assistant to the General Passenger Agent, St. John's, Nfld.

T. P. CONNORS, heretofore Roadmaster, has been appointed Superintendent of Maintenance of Way of all lines east of Clarenville. Office, St. John's, Nfld.

A. COBB, heretofore Roadmaster, has abeen appointed Superintendent of Maintenance of Way of all lines west of Clarenville, and including the yard there. Office, St. John's, Nfld.

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The Regina Municipal Ry. is experimenting with a rearrangement of lights in its cars. Under the new plan the lamps are being placed in a line down the centre of the roof with reflectors over them, which diffuse the light throughout the car instead of being ranged round the sides of the cars without reflectors. There will be five fewer bulbs in each car than under the old system. If the new plan is successful a considerable saving in power will be effected.

# The Work of the Canadian Railway Association for National Defence.

**Chairmen of Committees.**—The following are the chairmen of the association's various committees:—Special committee on war and national defence, Lord Shaughnessy, President, C.P.R.; Western administrative sub-committee, Grant Hall, Vice President and General Manager, Western Lines, C.P.R.; Maritime Provinces sub-committee, H. C. Grout, General Superintendent, New Brunswick District, C.P.R.; Committee on passenger transportation, western lines, H. H. Brewer, General Superintendent, Grand Trunk Pacific; Committee on tariffs and statistics, Guy Tombs, Assistant Freight Traffic Manager, Eastern Lines, Canadian Northern. The chairman of the Ontario sub-committee has not yet been announced.

**Administrative Committee's Proceedings.**

At a meeting in Montreal Nov. 27 there were present U. E. Gillen, Chairman, Sir George Bury, D. B. Hanna, J. H. Walsh, S. R. Payne. The following matters were dealt with:—

Delay on the part of United States lines in returning empty box cars to Canada. The many telegraphic and mail communications addressed to the American Railway Association at Washington on the matter of increasing the movement of empty box cars to Canada to offset the excess Canadian owned cars in the U. S. not having brought forth the desired results, it was the sense of the meeting that a telegram be addressed to Fairfax Harrison, Chairman of the Executive Committee of the American Association, asking him to meet a delegation composed of three members of the administrative committee of Canadian Railway Association for National Defence in New York, December 5, so that the whole matter of car movements as between Canada and the United States might be gone into and an arrangement reached which would provide for the equalization of the interchange of cars between the two countries. The following telegram was forwarded to Mr. Harrison accordingly:—"Referring to telegram received from your Commission on Car Service data. Administrative Committee of Canadian Railway Association for National Defence in session this afternoon have been discussing very fully the whole car situation and having received assurances that United States railways as represented by American Railway Association will do best possible to increase movement empty box cars to Canada, fact remains that equipment not being received and situation has reached such a point that we feel it desirable to present our case in person. If you find you can make it entirely suitable to be in New York yourself, or your committee, the administrative committee of this association will go to New York to meet you on Dec. 5, with view to reaching some arrangement for alleviation present serious situation. Meantime Canadian lines continuing endeavors move maximum quantity newsprint, but sufficient cars not available to make much impression on great amount traffic offering."

In view of the serious shortage of cars for loading newsprint, pulp and other important commodities for U. S. points and which U. S. newspapers and other industries are urging Canadian shippers and railways to forward in the greatest possible volume in order to avoid suspension of publication of newspapers in U. S. cities, and having in mind the heavy waste of cars involved in the existing large movement of hay from Canada to the U. S. in loose bales, railways operating in Canada are instructed that in order to serve both Canadian and U. S. industrial interests to the best advantage, they shall until further notice, so far as practicable, avoid supplying box cars for shipments of hay in loose bales destined to other than Canadian points.

It having been pointed out that some lines in Canada are still using Canadian owned freight cars for loading to points in the U. S., notwithstanding the fact that over 60,000 Canadian owned cars are being used in the car pool in the U. S., as against 40,000 U. S. owned cars in Canada which are being loaded back to the U. S. with little if any delay, and in order to permit of the desired movement of war supplies, food stuffs and similar necessities between Canadian points, railways operating in Canada are hereby instructed that until further notice they shall not use freight cars of Canadian ownership for loading to points outside of Canada or beyond the tracks of owning line.

Reports from member lines indicate that further progress can be made in conservation of car supply by reducing the number of freight cars held under and waiting repairs and a communication is being addressed to all railways in Canada urging them to put forth extraordinary efforts to keep the number of cars out of service for repairs down to not more than 3% of the total freight cars on lines.

In view of the increase in demand for cars on Canadian lines that will come about during the ensuing winter due to close of lake and river navigation and for other reasons, it is necessary, if the desired quantity of war supplies and food stuffs is to be moved, that every car transported be given a load equivalent to its full public or weight carrying capacity. The sub-administrative committee at Winnipeg has been instructed to call a meeting of lumber, flour and grain shippers in Western Canada with a view to arranging for capacity loading of cars shipped from the west to the east during the coming winter and shippers and Dominion Government authorities in the east have been communicated with with a view to making similar arrangements so far as may be possible in Eastern Canada.

Reports having reached the association that certain member lines have operated special passenger trains in other than what be termed "cases of extreme emergency" during the present month, it is instructed that such companies be communicated with and the importance of adhering to the policy outlined impressed upon them, so that the necessary conservation of fuel supply may be accomplished.

It is the desire of the administrative committee that the committee on passenger transportation, in considering reduction in passenger service, give special attention to the lengthening of passenger train schedules, so that passenger trains under no circumstances will run at a greater speed than 50 miles an hour; this with a view to further conserving fuel and reducing expenditure of money, man power and material in the maintenance of track and equipment.

It is ordered that in the next issue of time tables member lines incorporate a rule governing the speed of light locomotives and freight trains reading as follows:—"No light engine or freight train shall run any one mile in less than two minutes."

The Fuel Controller for Canada having drawn the attention of certain Canadian railways to the possibility of their being asked to share their fuel supply with other lines of industry and for domestic use during the coming winter, it is the opinion of this committee that the Fuel Controller be advised that before any such course of action is taken all other means of providing fuel for industrial and domestic use should be exhausted. It is pointed out that, in certain places, coal is being used for the development of electricity where water power is available, and in many parts of the country if necessary, wood can be used for fuel instead of coal, and in view of the importance of the railways being permitted to maintain an uninterrupted transportation of car supplies and other materials, their fuel should not be used for other than their own purposes, except to prevent actual suffering.

This committee directs that the commission on car service give immediate consideration to the question of general adoption of "sailing day" system of handling less than carload freight.

**Conference at New York on Holding of Canadian Cars in the U. S.**

U. E. Gillen, Chairman of the administrative committee, Sir George Bury, Vice Chairman, C.P.R., and W. M. Neal, General Secretary of the Association, had a conference in New York, Dec. 5, with members of the American Railway Association in an endeavor to have the U. S. railways send to Canada the Canadian cars that are now in the U. S., or an equivalent number of cars owned by U.S. railways. They pointed out that there are 20,000 more Canadian owned cars in the U. S. than there are U. S. owned cars in Canada, and that, although promises have been made that Canadian or U. S. cars would be sent from time to time, yet in two months, notwithstanding several thousand U. S. owned cars have been sent to Canada, the Canadian roads had gained less than 900 cars. They also showed that shippers all over Canada, desirous of shipping newsprint, pulpwood, hay, lumber and other products, were in a bad way because the Canadian railways were only able to use U. S. owned cars for these shipments going to the U. S., otherwise Canada would be so drained of cars that they would be unable to move munitions and food supplies for the allies. As a result of the representations made, promise was secured that the U. S. railways would double their exertions to forward cars to Canada so that people in Canada desiring to ship to the U. S. might be ensured a reasonable car supply.

Immediately after the New York conference the General Secretary of the Canadian association wrote A. H. Smith, President of the New York Central and a member of the Canadian association's special committee on war and national defence, as follows:—"Since Oct. 1 there have not been less than 19,000 Canadian railway owned box cars on U. S. lines in excess of U.S. railway owned box cars on Canadian lines. Since the same date the Canadian railways have asked the American Railway Association's commission on car service to send them the number of cars due from U. S. lines. To date the number of cars received in Canada in excess of the number delivered to the U. S. is less than 900, notwithstanding the fact

that statements have frequently been made that 4,000 box cars have been forwarded to Canadian lines.

"To deal specifically with the four principal railway lines in Canada, that is, the C.G.R., the C.N.R., the C.P.R. and the G.T.R. From the attached statement you will observe that the C.G.R. has 3,760 cars on U. S. lines compared with the 2,309 U. S. railway owned box cars on the C.G.R. The C.N.R. has 3,485 box cars on U. S. lines compared with 2,348 U. S. box cars on C.N.R. The C.P.R. has 12,870 box cars on U. S. lines compared with 5,780 U. S. cars on C.P.R., and the G.T.R. has 21,939 of its box cars on U. S. lines compared with 14,692 U. S. owned box cars on its line. The above relates to box cars only. To consider all classes of freight cars, it is as follows:

| | Canadian owned cars on U.S. lines. | U.S. owned cars on Canadian lines. |
|---|---|---|
| "C.G.R. . . . . | 4,000 | 3,483 |
| "C.N.R. . . . . | 4,396 | 3,486 |
| "C.P.R. . . . . | 17,892 | 7,945 |
| "G.T.R. . . . . | 29,152 | 22,931 |

"Canadian railways are required to move many millions of bushels of grain each month for overseas, also to take care of home requirements, as well as handling volumes of hay, pulpwood, paper for newspapers, and lumber, etc., for U. S. points, a considerable proportion of which, particularly the lumber, is required by the U. S. Government, and we must have in Canada the box cars owned by the Canadian lines or an equivalent number to enable us to handle the business offered. We would prefer to have our own cars, but if this cannot be arranged then we must insist on an equivalent number of box cars owned by U. S. lines being sent to Canada to take care of our requirements and offset the number of Canadian owned box cars now on U. S. rails.

"In addition to ordering cars from the commission on car service at Washington, we have repeatedly addressed Fairfax Harrison on the subject, and his latest communication to us indicates that the matter has been referred to you as a member of our executive committee, and for this reason we address you as above, and submit the attached statements with an earnest hope that you will at once take the matter in hand with a view to giving us the assistance asked, and which we so badly need."

A. H. Smith then had the following message telephoned to Fairfax Harrison, Chairman U. S. Railroads War Board, at Washington:—"Canadian railway administrative committee called upon me today in view of your message to them. U. S. lines have 20,000 more Canadian owned cars than there are U. S. owned cars on Canadian lines. Your car service commission promised Canadian railways 5,000 empties since Oct. 1, and have delivered about one-half that amount. Canadian shippers are pressing for cars to load newspaper for U. S. dailies, hay and lumber, much of which is for the U. S. Government, pulpwood, etc. Canadian railways can supply only about 10% of cars needed, and unless relieved they advise they will be forced to embargo certain of such shipments to protect cars for munitions and food. As the two countries are working as allies they feel that your commission should equalize more fairly the car supply. Canadian railways having hard time keeping shippers mollified, and their efforts are made more difficult by information conveyed from Washington to Canadian shippers that cars have been sent to Canada, when as a matter of fact since Oct. 1 on the total exchange of cars, Canada has gained 875 cars, and the situation of the Canadian railways on Oct. 1 was well nigh desperate. It was desired, if possible, to keep the matter from the authorities entering into the question, and the committee are here and would be glad to receive information as soon as possible as to any definite directions that may be given, and what they are to be, as they want to return to Canada tonight. I suggest that some solid trains of box cars be made up, if possible, and moved to some Canadian junction points for the relief of the situation."

Fairfax Harrison wrote A. H. Smith in reply the same day as follows:—"Enclosed is a statement by the car service commission of what they have done for Canadian lines in the way of the return of empty cars. It seems to us that Canada has been treated fairly, and indeed, quite as fairly as some sections of the U. S. which present the same problem. I am sure that these gentlemen all realize that their railways are members of the American Railway Association and that the commission on car service has felt the responsibility of being as fair to them as it is to any other members of the American association. You know, of course, that there has been no deliberate withholding of cars for a selfish purpose. Our work during the past six months has demonstrated that certain producing sections of the continent are drained of cars into the eastern territory, where by reason of congestion they have been delayed in return, so that it has required the arbitrary orders of the commission on car service to promote the return flow of empties. The situation with respect to the Canadian roads on box cars has been aggravated recently by the large volume of traffic of newsprint paper, hay, etc., into the U. S., which has created a large balance of Canadian box cars on the south side of the International Boundary, but the Canadian roads will recognize the reason for this by their own experience with U. S. open-top cars carrying coal into Canada, which have been for many years the subject of claims by U. S. railways. We trust that you will be able to demonstrate to the Canadian roads on this report of the commission on car service that they are having fair treatment, and that we are doing all that is possible in their behalf. By the location statement, published by the commission or car service, it will be seen that the Canadian roads are no worse off than those in groups 4 and 5."

The letter of Chairman Sheaffer of the U. S. commission on car service, referred to in Fairfax Harrison's letter, is as follows:—"During October we directed to Canadian lines 1,500 box cars, on which orders 1564 were delivered. These orders covered in full all requests from Canadian lines to the commission on car service, which in our judgment were justified. There were requests for equipment from the Canadian Northern and Canadian Government roads which we declined, as reports from those lines showed excess box cars on line over ownership. Early in November requests were made through the Canadian Railway Association for additional box cars, some of which were for cars to excess lines as mentioned above, and we responded by directing the movement of 4,700 cars, of which 1,284 have been delivered. These figures include 1,300 box cars directed to the D. & H. with the understanding that that line would load with anthracite coal to Canadian points, averaging about 65 cars a day; this equipment being in excess of then existing movement and large per cent. of which was in open top equipment. I regret that we have not definite information from the D. & H. as to number of cars delivered. These figures also include 800 cars directed to the Grand Trunk, with instructions to load with salt and other commodities destined to and through Chicago gateway for western lines, of which 165 have been delivered. Thus far in December 1,000 box cars have been directed to Canadian lines; no report yet received showing deliveries. To indicate promptness of delivery, would state that of 200 cars directed Nov. 9, 194 have been delivered; another order Nov. 9, for 300 cars, 188 have been delivered; and third order, Nov. 9, for 300 cars, only 10 have been delivered. This last delay was occasioned by contention on the part of the originating line which has since been settled. 500 cars ordered Nov. 1, completed; 100 cars ordered Nov. 10, completed; 200 cars ordered Nov. 13, 117 delivered; 1,000 cars ordered Nov. 28, no deliveries as yet reported; 1,000 cars ordered Dec. 3, no deliveries yet reported.

"From our viewpoint reasonable requests Canadian lines were filled complete prior to Nov. 1, since which time we have

**Summary of Freight Car Location Nov. 23, 1917**

| ROAD | Number cars Owned | | Home cars on Can.-foreign lines | | Home cars on foreign lines | | Home cars on home lines | | Can. owned foreign cars on home line | | Owned foreign cars on home line | | Total cars on lines | | Percentage cars on line to number owned | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Box | Total | Box | Total | Box | Total | Box | Total | Box | Total | Box | Total | Box | Total | Box | Total |
| A. C. H. B. .... | 59 | 1067 | 5 | 195 | 23 | 179 | 31 | 693 | 199 | 378 | 99 | 316 | 329 | 1387 | 557.0 | 130.0 |
| A. E. R. ..... | 25 | 500 | — | — | 9 | 16 | 16 | 484 | 41 | 72 | 80 | 177 | 137 | 733 | 548.0 | 146.6 |
| C. G. R. ..... | 10530 | 15754 | 2425 | 2948 | 3760 | 4000 | 4345 | 8806 | 4653 | 5450 | 2309 | 3483 | 11307 | 17739 | 107.4 | 112.6 |
| C. N. R. ..... | 18510 | 26188 | 1598 | 2450 | 3485 | 4396 | 13427 | 19342 | 3346 | 3824 | 2348 | 3486 | 19121 | 26652 | 103.3 | 101.8 |
| C. P. R. ..... | 65426 | 87023 | 7888 | 9791 | 12870 | 17892 | 44668 | 59340 | 2353 | 3094 | 5780 | 7945 | 52801 | 70379 | 80.7 | 80.8 |
| D. A. R. ..... | 270 | 490 | 18 | 26 | 8 | 8 | 244 | 462 | 190 | 238 | 60 | 64 | 494 | 764 | 183.0 | 154.0 |
| Essex Term. . . . | — | — | — | — | — | — | — | — | 15 | 23 | 19 | 40 | 34 | 63 | — | — |
| G. T. R. ..... | 38113 | 57133 | 4456 | 5372 | 21939 | 29152 | 11718 | 22609 | 5309 | 6212 | 14692 | 22931 | 31719 | 51752 | 83.2 | 90.6 |
| Q. M. & S. ..... | 1375 | 1509 | 63 | 78 | 1285 | 1355 | 27 | 76 | 76 | 90 | 123 | 194 | 226 | 360 | 16.4 | 23.8 |
| Q. C. R. ..... | 302 | 1064 | 53 | 278 | 217 | 433 | 32 | 353 | 261 | 367 | 99 | 380 | 390 | 1100 | 129.8 | 103.4 |
| Q. R. L. & P. ... | 32 | 152 | 2 | 11 | 2 | 2 | 28 | 139 | 17 | 25 | 4 | 4 | 49 | 168 | 153.1 | 110.5 |
| T. H. & B. ..... | 1031 | 1383 | 51 | 100 | 975 | 1071 | 5 | 212 | 94 | 141 | 155 | 311 | 254 | 664 | 24.6 | 48.0 |
| Temiscouata . ... | 83 | 132 | 13 | 15 | 38 | 41 | 32 | 76 | 47 | 64 | 37 | 42 | 116 | 182 | 139.8 | 137.9 |
| T. & N. O. ..... | 144 | 641 | 5 | 46 | 86 | 177 | 53 | 418 | 234 | 347 | 115 | 162 | 402 | 927 | 279.2 | 144.6 |
| Total . . ..... | 135900 | 193042 | 16577 | 21310 | 44697 | 58722 | 74626 | 113010 | 16835 | 20325 | 25920 | 39535 | 117381 | 172870 | 86.4 | 89.5 |

directed to Canadian lines a total of 5,700 cars, out of a total ordered by this commission to U. S. lines and Canadian lines of 32,250; so that since we had indication of the heavy demand from Canadian lines equal to the demands from U. S. lines we have directed to them 17.6% of total ordered to all lines, which appears to us a fair proportion, in view of Canadian lines ownership of box cars approximating 11% of the total of 1,157,906 box cars owned by lines reporting to this commission. The reports as of Nov. 15 show Canadian lines reporting to this commission as having 85.69% box cars on line, compared with 84.85% on line Nov. 15, 1916, or about 980 cars excess. Of all cars owned by Canadian lines reporting to this commission they had 88.73% on line Nov. 15 compared with 94.07% same date in 1916."

### Conference in Washington on Car Situation.

A meeting was held at the American Railway Association's office in Washington, Dec. 7, at which the Canadian railways were represented by Messrs. Hatton, Duval, Lock, Crawford and Neal, the U. S. lines being represented by Messrs. Sheaffer, Barnes, McCauley and Monahan, the substance of the discussion and the conclusions reached being as follows:

The American Railway Association will hereafter consider the railways operating in Canada as a whole, instead of attempting to deal with the car situation on each line individually as heretofore. They will accept orders as placed on them by the Canadian association for empty box cars to be moved to Canadian lines, the understanding being thta such orders will be kept as low as possible, in view of the existing difficulty in moving cars on railways in the Eastern States, which is the only source of empty box car supply at present. The Canadian railways through the medium of the Canadian associations will distribute amongst themselves the empty cars received.

The chairman of the U. S. commission on car service stated that in operating the box car pool in the U. S. no distinction will be made between the Canadian owned and U. S. owned cars and that the former will be held in the pool, which covers cars belonging to all roads holding membership in the American association. Canadian railways, pending receipt of sufficient empty cars to enable them to fully take care of Canadian traffic and establishment of current return movement of empty box cars from the U. S., will continue present policy of restricting the use of Canadian owned cars to points in Canada. At the same time they will give preference to the supply of U. S. owned box cars for shipments offering for movement into the U. S.

Reference was made to the numerous requests received from the U. S. Government and others for an increased movement of hay from Canada to the U. S., and it was remarked by members of the U. S. commission on car service that according to their information the demand for hay at U. S. points had fallen off recently and at several large cities large quantities of hay were held in cars waiting disposition. They stated further that in so far as they could see, the only object in increasing the movement of hay to the U. S. at present would be to enable the producer to obtain a market for his product.

It was pointed out to the U. S. commission on car service that although they claim to have ordered and forwarded a considerable number of empty box cars to Canadian lines the general effect of the arrangements they have made has been to decrease the movement of empties to Canada via natural routes, as cars which would have been returned to Canada by U. S. lines voluntarily have been diverted to territories in the U. S., this being one reason for the shortage of cars in Canada and emphasizing the need of additional deliveries of empty cars in accordance with orders placed by the Canadian association.

The question of reports from Canadian railways to the U. S. commission on car service was discussed and it was suggested that the U. S. commission accept from Canadian lines copies of reports which the latter forwarded to the Canadian association. Decision on this point was reserved pending consideration by the American Railway Association.

It was agreed to by the U. S. commission on car service that in addition to accelerating movement of empty bov cars to Canada, they will see that advantage is taken of every opportunity to load box cars to Canadian lines, particularly with anthracite coal, certain of the U. S. railways having facilities for loading a larger number of box cars with coal than they are receiving at present.

### Underloading of Cars to be Prevented.

The Association has been advised that the movement of foodstuffs, particularly potatoes, apples and flour, is being interfered with on account of shortage of cars, and the Food Controller has been advised that the shortage of equipment in Canada is due almost entirely to the existing serious waste of cars resulting from light loading. It has been pointed out to the Food Controller that refrigerator cars having a capacity of 66,000 lb. are billed out with contents weighing anywhere from 7,000 to 30,000 lb. and that many box cars loaded with flour, having a capacit yof 94,000 lb., are loaded with 45,000 lb. The Food Controller has been asked to bring his influence to bear upon shippers of foodstuffs who waste cars and in order that he may be assisted in doing so, it is requested that members of the association furnish the names of all shippers of foodstuffs on their respective lines who do not load cars to capacity, and the average weight of their shipments, with the average capacity of the cars loaded.

The Food Controller replied as follows: "In order to alleviate the car shortage, I would be strongly in favor of urging upon the shippers and railways that instructions be issued to all agents that such foodstuff commodities as grain, salt, sugar, apples, potatoes, etc., be not accepted unless loaded to the full cubic or weight carrying capacity of the car. This, I feel sure, would tend to conserve the cars and move the maximum quantity of foodstuff, and thus help to alleviate the car shortage situation in Canada. I trust your association will be able to adopt this recommendation as quickly as possible."

It is urged that all railways operating in Canada renew their efforts to prevail upon shippers of foodstuffs to avoid waste of car space and thereby assist i alleviating the present serious situation.

### Increasing the Loading of Cars.

Following is a table embodying standards for loading certain commodities now in effect on a member line, and which it is considered should be adopted by all railways operating in Canada:—

FLOUR.

| | |
|---|---|
| 315 barrels of 214 lb. each | 67,410 lb. |
| 340 sacks of 196 lb. each | 66,640 lb. |
| 460 sacks of 140 lb. each | 64,400 lb. |
| 900 bags of 98 lb. each | 88,200 lb. |

Whenever possible the three first series should be shipped in 30 ton box cars in preference.

SUGAR.

| | |
|---|---|
| 228 barrels of 320 lb. each | 72,960 lb. |
| 930 bags of 100 lb. each | 93,900 lb. |

NAILS.

| | |
|---|---|
| 878 barrels, averages 107 lb. each | 93,950 lb. |

MUNITIONS.

| | |
|---|---|
| 4.5 in.—2 to a box—5 series | 92,500 lb. |
| 4.5 in.—3 to a box—5 series | 90,000 lb. |
| 4.5 in. brass cases—50 to box—39 series | 93,600 lb. |
| 6 in. mark 3—2 to a box—3½ series | 92,210 lb. |
| 6 in. mark 16—2 to a box—3½ series | 92,210 lb. |
| 8 in., 1 to a box—1½ series | 80,620 lb. |
| 9.2 in.—1 to a box—1 series | 76,250 lb. |
| 18 pounder—brass cases—25 to a box—19½ series | 93,600 lb. |
| Shrapnel—6 to a box—9 series | 93,700 lb. |

Supplementary circulars will be issued giving data as compiled showing the weights by which shippers should be asked to govern themselves in shipping carload freight.

### Shippers' Co-operation in Increased Loading.

A very interesting report has been received from one of the association's subcommittees outlining activities in the territory which it represents with a view to increasing car loading. It would appear that the same methods could be followed in other territories with good results. Following are extracts from the report:—

"Fifty-two shippers have been interviewed on the subject of capacity loading of cars with a view to relieving the car shortage. An examination of way bills covering carload shipments shows that there has been considerable improvement recently. All of the shippers expressed themselves as being in sympathy with ment r.p.o. cars; the haulage of r.p.o. cars the movement and promised their hearty co-operation.."

"A manager of a lumber company stated shipments from his mill are mostly mixed orders and in some cases have been light loaded. This firm is endeavoring to have consignees place orders for full carloads."

"A pulpwood shipper states he has always loaded his shipments to full capacity of cars and will continue to do so."

"A manager of a lumber company advised they were loading all cars to full capacity and would continue to do so in future. A car was examined while being loaded at the mill and it was found that the men were not making a good stowage of the load. The manager had them unload a portion of the car and reload in such a manner as would allow a greater quantity being put in cars."

"A potato shipper advises that since cold weather he has been loading cars to 45,000 lb. or over. Has promised to write shippers who supply him with fertilizer to ship to full capacity."

"A potato shipper upon being interviewed stated that his firm was loading all cars with 750 bush. per car, and had shipped several cars containing as many as 775 bush., but occasionally they received an order for Virginia for 650 bush. of seed potatoes, but in future would endeavor to get consignees to order at least 750 bush.

"A member of another firm of potato shippers stated he was loading all cars with from 45,000 to 48,000 lb., although there may have been an occasional car loaded lighter, same being seed stock for Virginia. Shipping bills were checked up and statements found to be correct."

"A manager of a canning company is very much interested in loading cars to maximum capacity and stated that his firm was loading on an average of 1,200 cases of sardines to a carload. A case of

sardines weighs 43 lb. This firm has also increased carload shipments of salt from 250 to 300 and 320 sacks. Salt weighs 200 lb. a sack. The manager is in favor of raising the minimum from 36,000 to 50,000 lb. on sardines and is willing to do all he can to help the car shortage. This firm controls 11 or 12 factories."

"A firm of canners has increased its load per car and has written its brokers that, owing to car shortage, it would be advisable for them to order 1,200 cases instead of light loads. It is also in favor of raising the minimum and gave assurance that it would do all in its power to help the situation.

"A firm of soap manufacturers now ships 700 cases of soap per car in its carload shipments. Cases weigh 75 lb. each. Formerly 500 cases constituted a carload. Present loading gives an increase of nearly 15,000 lb. a car."

"A manager of a fertilizer company states he is in perfect sympathy with the loading of cars to full capacity and will endeavor to have inward and outward shipments loaded to full capacity of cars."

### Cars for Paper, Pulp, Etc.

In view of the existing car shortage and the large volume of newsprint, pulp, pulpwood, etc., waiting movement, a conference of representatives of paper and pulp mills and members of the association's commission on car service, was held in Montreal Dec. 10 to decide upon arrangements for the supplying of cars for the commodities mentioned. After full discussion the representatives of the paper and pulp companies expressed the opinion that in the supplying of cars for the movement of their shipments, the railways, in so far as may be practicable, should supply cars in the following precedence: 1, Newsprint; 2, pulp, sulphite, sulphate and mechanical; 3, other papers and boards; 4, pulpwood. The railways are requested to endeavor to comply with the wishes of the shippers as above. It is understood that in ordering cars hereafter the shipper will specify the commodity for which cars are required.

### Instructions for Return of U. S. Cars.

Arrangements have been made whereby certain U. S. railway owned open top cars, other than self-clearing cars, which Canadian lines have held instructions to send home empty as soon as released of initial lading may now be used for return loading. In arranging loading, however, care should be taken to see that the cars are loaded only as follows: via a point on the home route, or to a point on the owning road, or to a point in the immediate direction of the owning road. It should be understood that, notwithstanding the foregoing, in the evening of a railway requesting empty returns of its open top cars, regardless of type, such cars must be sent home promptly as requested. All open top, self-clearing cars suitable for the handling of coal and coke, except as may be hereafter directed, are to be promptly sent hom empty. Open top, self-clearing cars suitable for the handling of coal and coke are those designated in M.C.B. regulations as follows: Class G—sub classes, GA, GC, GD, GE, GS. Class H.

### Reduction of Passenger Train Service.

The committee on passenger transportation, eastern lines, at its meeting on Nov. 13, and reported in Canadian Railway and Marine World for December, took preliminary action towards effecting a reduction of passenger train service. Representatives of the association had a conference with the Board of Railway Commissioners in Ottawa early in December, at which it was decided to make further reductions in the passenger services in order to enable the railway companies to meet serious shortages in coal supplies, which coincides with a pressing need for an increase of transportation facilities for the movement of freight and munitions. The representatives left the Ottawa conference with tentative plans for the reduction of passenger services, and this was followed by a meeting of C.P.R. and G.T.R. operating and traffic officials at Montreal to work on a readjustment and reduction schedule. Similar action was taken by Canadian passenger officials at its headquarters in Toronto. The changes in all passenger schedules will becomes effective Jan. 6, and although the reductions will not be quite as drastic as the changes ordered by the Board of Railway Commissioners in 1'16, when 17 trains running out of Toronto were cancelled, many local services on branch lines will be suspended and about 10 of the trains now running out of Toronto will be cancelled. A heavy cut in parlor car services is being considered, and it is likely that with the exception of such cars as are doing double duty as dining and parlor cars, this travel luxury will be suspended.

The Canadian Railway Association for National Defence has issued the following explanatory notice and has requested all railways reducing service to print it in their time tables:—"From the very first Canada has been a most active participant in the world war. Since Aug., 1914, Canadian railways have been carrying troops, munitions and supplies for the allied armies and peoples. From time to time adjustments and curtailments in passenger service have been made by Canadian railways, in order that the most necessary traffic should have preference. The railways have succeeded not only in handling the special war traffic but also the normal domestic traffic as well. Today, the volume of overseas and domestic traffic due to the war stands at record height. Owing to the scarcity of materials and of labor, new equipment cannot be provided as rapidly as the traffic grows.. To this condition is now added the usual strain of winter weather, snow and low temperatures, reducing the power of the locomotives, and besides there is an unusually large demand for coal for industrial and domestic purposes.

"These conditions can all be overcome, provided the railways of Canada have the co-operation of the people, which will enable them to confine their energies to the carrying of only the most necessary traffic. Some savings in passenger train mileage have already been effected. New reductions are necessary during the winter. If this causes inconvenience to the travelling public, and loss in passenger receipts to the railways, it need only be remembered that every passenger train mile takes at least 100 lb. of coal. It is difficult to secure coal and that reeceived is not as efficient as formerly. The Canadian railways trust that the public will appreciate that reductions in service have been made at considerable sacrifice in revenue, and are arranged to bear as lightly as possible on all communities. One consideration only has led them to make these reductions, i.e., the pressing need of the nation and the empire. The railways feel confident, therefore, that travellers will accept whatever inconvenience is involved in the same spirit of patriotic self sacrifice as have the people in the British Isles."

## Death of John Taylor.

John Taylor, founder of Taylor & Arnold, Limited, railway, marine and aeroplane supplies, Montreal, died at the residence of his son-in-law, Thos. Arnold, Westmount, Montreal, Dec. 19, after a long illness. He had been failing in health for the last two years and had not left his room since May. He was born at Ayr, Scotland, Mar. 18, 1833, came to Canada in 1837, and had lived in Montreal ever since. After passing through the Montreal High School he commenced his business career in 1851 with Ferrier & Co., wholesale hardware merchants. After a few years he went to Morland, Watson & Co., another hardware firm, and became a partner. This firm organized the rolling mills which eventually became the Montreal Rolling Mills, and are now owned by the Steel Company of Canada. Upon the dissolution of Morland, Watson & Co., he went into business with his brother Homer in railway supplies, etc., but after a few years the partnership was dissolved and he continued in the railway supply business on his own account, Homer taking agencies in the same line. The latter was killed on Oct. 20, 1906, by falling from a C.P.R. train. Then John Taylor took his son-in-law, Thos. Arnold, into business with him, and the two businesses were merged into Taylor & Arnold, Limited. He is survived by one son, J. M. Taylor, of Regina, Sask., and Mrs. Thos. Arnold, of Montreal. He was one of the organizers and an honorary member of the Royal Montreal Golf Club in 1876, and was its first captain and gold medalist and one of the best known golfers in Canada. He was a past master of St. Paul's Masonic Lodge. Thirty-two years ago he became an elder of St. Paul's Presbyterian Church, and ranked as senior elder of the congregation. He served for many years with the heavy artillery in Montreal and had been a governor of the Montreal General Hospital for many years.

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**Transportation Club of Toronto.** — At the annual meeting on Dec. 15 the following officers were elected for the current year:—President, W. J. Langton, Superintendent, Dominion Transport Co.; Vice President, W. Fulton, Assistant District Passenger Agent, Rail Lines, C.P.R.; Secretary, W. A. Gray, Contracting Agent, Delaware, Lackawanna & Western Rd.; Treasurer, M. McDougald, Assistant Weighing Inspector, G.T.R. Chairmen of committees were elected as follows—Membership, J. J. Rose, General Agent, Union Pacific Rd.; entertainment, F. V. Higginbottom, City Passenger Agent, Canadian Northern Ry.; publicity, E. T. Boland, General Agent, Robert Reford Co.; reception, T. Marshall, Manager, Transportation Department, Toronto Board of Trade; sick, W. McIlroy, Chief Clerk, District Passenger Agent, C.P.R. W. A. Gray, Secretary, and M. McDonald, Treasurer, who have held those positions since the club's inauguration, were presented with diamond and pearl tie pins.

**Michigan Central Rd.** boiler makers, blacksmiths and machinists in Canada, who, it was announced, were to go on strike Dec. 13, decided to ask for a board of conciliation under the Industrial Disputes Investigation Act, to deal with their grievances. New conditions and a new wage schedule are asked for by a federation of the three organizations concerned.

## Traffic Orders by the Board of Railway Commissioners.

### Michigan Central Standard Freight Tariff.

26769. Nov. 24. Re application of Michigan Central Rd. under sec. 327 of the Railway Act, for approval of its Standard Freight Mileage Tariff, C.R.C. 2725, cancelling C.R.C. 848. Upon its appearing that the proposed tariff makes no change in the rates previously approved by the Board; and upon the report and recommendation of the Chief Traffic Officer it is ordered that the said tariff be approved.

### Elgin and Havelock Ry. Freight Tariff.

26771. Nov. 26, 1917.—Granting application of Elgin and Havelock Ry., under sec. 327 of the Railway Act. for approval of its Standard Maximum Mileage Freight Tariff, C.R.C., 3, cancelling C.R.C. 1.

### Hay and Straw Rates.

26791. Dec. 3, 1917.—Re complaint of Montreal Board of Trade against proposed cancellation by Canadian Pacific and the Grand Trunk Railways of joint commodity rates on hay and straw, carloads from stations in Ontario and Quebec to points in the Eastern United States; and order 26035, April 17, 1917. Upon its appearing from letters from the parties filed with the board that the Canadian Pacific and Grand Trunk Railways and the Montreal Board of Trade have agreed on a revised basis of rates on hay and straw, in carloads, from eastern Ontario and Quebec to points in the eastern United States, and Traiff C.R.C. no. E.3367 having been published and filed by the C. N. R. and Tariff C.R.C. no. E.3699 by the G. T. R., to come into force on Jan. 1, 1918, purporting to give effect to the said agreement. It is ordered that order 26035 be rescinded.

### Interchange Track Between Canadian Northern and C.P.R.

26817. Dec. 11, 1917.—Re order 22275, July 24, 1914, directing the Canadian Northern Ry. to construct, maintain, and operate a branch line, or spur, in Sec. 4, Tp. 39, Range 19, west 4th Meridian, in Alberta; the company to exercise the right, as it sees fit to use such part of the C. P. R. property as is necessary to make physical connection; and the right of way to be arranged between the parties. It is ordered that the plan showing the interchange track proposed to be constructed at the point in question, dated Nov. 28, 1917, be approved; and that the Canadian Northern Ry. be required to complete the interchange track by Jan. 21, 1916; the main line switches to be wire-locked with the distant signals of the interlocking plant, and derails to be installed at each end of the interchange track.

### Minimum Car Load Rates for Lumber.

General order 211. Dec. 10, 1917.—Re complaint of Canadian Lumbermen's Association and others against increased carload minimum weights for lumber, both domestic and export, published to take effect on varying dates since April 22, 1917: It is ordered that the carload minimum weights for lumber, for domestic consumption or for export, be as follows: For closed cars under 35 ft. long, inside measurement 35,000 lb.; except that when cars loaded to full capacity will not contain 35,000 lb., the minimum will be the actual weight, but not less than 30,000 lb.; for closed cars, 35 ft. and not over 36½ ft. long, inside measurement 40,000 lb.; except that when cars loaded to full capacity will not contain 40,000 lb., the minimum will be the actual weight, but not less than 35,000 lb. The term "full capacity" to permit a space of 12 in. between the top of the load and the carlines or rafters of the car. The schedules to give effect to this order to come into force not later than Jan. 1, 1918.

## Railway Finance, Meetings, Etc.

**Canadian Northern Ry.**—There has been deposited with the Secretary of State at Ottawa, duplicate originals of three mortgages dated Nov. 23, made to the Dominion Government by the Mount Royal Tunnel and Terminal Co., the Canadian Northern Western Ry. and the Duluth, Winnipeg and Pacific Ry. respectively, to secure advances made to these companies from loans authorized by the Dominion Parliament.

There has also been deposited with the Secretary of State duplicate originals of trust mortgage dated Nov. 16, between the company and the Dominion Government securing loans repayable on demand.

An issue of $1,750,000 five per cent. notes which fell due on Dec. 1 in New York City, is reported to have been paid off in cash. They were secured by $2,501,466 Mount Royal Tunnel and Terminal Co 1st mortgage rent charge 5% bonds due 1970.

**Canadian Northern Ry.**—An issue of $1,750,000 5% notes due Dec. 1, 1917, secured by Mount Royal Tunnel and Terminal Co.'s first mortgage rent charge 5% bonds, due 1970, was paid off in cash on that date.

**Central Vermont Ry.**—At a recent meeting of the board it was announced that the fiscal year has been changed to end Dec. 31 instead of June 30 as hitherto. The next report will cover the accounts and operation for 18 months ended

**Grand Trunk Ry.**—An issue of £1,000,000 of three year 6% notes is reported to have been oversubscribed on the London, Eng., market at 98½. It was made to retire notes falling due during the current month.

**The Grand Trunk Ry.** offered for subscription in London, Eng., from Dec. 8 to 13 at 98½ £1,000,000 three-year 6% secured notes dated Jan. 15, 1918, repayable at par Jan. 14, 1921, to redeem a similar amount of 5½% secured notes falling due Jan. 14, 1918. They will be secured by the deposit with the trustees of £1,700,000 G.T.R. perpetual 4% consolidated debenture stock.

**White Pass and Yukon Route.**—Gross earnings from Jan. 1 to Oct. 14, $1,791,585, against $1,779,406 for same period 1916.

**The False Creek Flats Injunction Suits.** The Vancouver City Council has decided to make application to appeal against the Supreme Court of Canada's decision in the False Creek Flats matter, in which Champion and White have been successful. This firm obtained an injunction against the city continuing the construction of the sea wall west of Main St. bridge, which injunction has been confirmed by the Supreme Court. The stoppage of the work on the sea wall will give a decided set back to the reclamation and development of the False Creek flats, in which the Canadian Northern Pacific Ry. and the Great Northern Ry. are largely interested.

## Freight and Passenger Traffic Notes.

The Canadian Northern Ry. opened its extension from Roberval to St. Felicien, Que., 17.8 miles, for freight and passenger traffic, on Dec. 3.

The Dominion Government will, it is reported, operate a train service from Pas to Kettle Rapids, Man., on the Hudson Bay Ry., until the end of February for the accommodation of fishermen, miners and others. What will be done after that date has not been announced.

The Canadian Northern Ry., which was ordered, in Sept. 1916, to maintain its existing schedule with trains 9 and 10 between Deseronto and Toronto, pending enquiry, has now been ordered by the Board of Railway Commissioners to continue the schedule.

The City of Hamilton's application to the Board of Railway Commissioners for an order directing the G.T.R. to restore passenger train service on the Northern and Northwestern Branch, between Hamilton, Burlington Beach and Burlington has been refused.

The steamship service between Prince Edward Island and New Brunswick and Nova Scotia was discontinued Dec. 11, and beginning Dec. 12 all traffic was routed by the ca rferry steamship between Cape Torincuture, N.B., and Port Borden, P.E.I.

By the British Government's order all passenger traffic from Australia to European ports has been discontinued in order to permit all vessel space to be used for war purposes. This will direct travel to the Pacific coast, and will benefit Vancouver and the Canadian transcontinental railways.

The Northern Pacific Ry. announces that it will start operating a direct freight and passenger service into the Great Northern Ry. terminals at False Creek, Vancouver, on Jan. 1. The service will be operated via Sumas, B.C.. and will consist of one passenger train each way daily, with such freight trains as are necessary. Heretofore the N. P. R. has handed over its Vancouver traffic to the C.P.R.

**Transportation Men in Parliament.**—Among the successful candidates at the general election on Dec. 17, the following particularly connected with transportation interests were elected in the constituencies named:—Hon. J. R. Reid, Minister of Railways and Canals, Grenville, Ont.; Hon. C. C. Ballantyne, Minister of Marine and Fisheries, St. Lawrence, Montreal, Que.; Hon. F. B. Carvell, Minister of Public Works, Victoria-Carleton, N.B.; Hon. F. Cochrane, ex Minister of Railways and Canals, Timiskaming, Ont.; Lt. Col. B. R. Hepburn, formerly President, Ontario & Quebec Navigation Co., Prince Edward, Ont.; Brig. Gen. H. H. McLean, ex President, St. John Ry., Royal, N.B.; F. N. McCrae, formerly President, Lotbiniere & Megantic Ry., Sherbrooke, Que.

**Plots Against Canadian Railways.**—One of the charges against Albert Kaltschmidt, who, with several others, was convicted at Detroit, Mich., Dec. 22, of conspiracy and sentenced to four years imprisonment and a fine of $20,000, was that he was engaged in a plot to destroy the G.T.R.-Sarnia Port Huron tunnel. Evidence was also introduced to show that it was intended to destroy the C.P.R. main line bridge at Nipigon, Ont. Franz Haehling testified that he had agreed to blow up the St. Clair tunnel.

# Electric Railway Department

## Report of the Commissioner on the investigation into the British Columbia Electric Railway Situation.

The British Columbia Government in July, 1917, appointed Dr. Adam Shortt, formerly Civil Service Commissioner at Ottawa, as commissioner under the Public Inquiries Act, to make a full investigation of the economic conditions and operations of the British Columbia Electric Ry. and subsidiary companies. The investigation was a thorough one, evidence on all matters being taken at considerable length in Vancouver, Victoria and New Westminster, and Mr. Shortt also made a close inspection of the company's power, electric lighting, railway and other plants. His report was handed to the government and was made public Nov. 19. A short summary of its recommendations was given in Canadian Railway and Marine World for Dec., 1917, on pg. 482. The British Columbia Electric Ry. has issued the report in full in a 60 page pamphlet, with an explanatory note, in which it says: "In presenting this report to the public, the company makes no comments, and is actuated solely by the desire to place all the facts with regard to its system before the communities it serves. The public has a right, as well as a duty, to know and understand its public utilities, and we are taking this opportunity of placing the whole report before them in the hope that it will receive the consideration it deserves."

The report refers to numerous documents, and tabulated statements filed in connection with the evidence, all of which were made use of by the commissioner. The report is divided into nine sections. Sec. 1 deals with the company's financial affairs, the grouping of the various utility properties, and the conditions which brought them into being, together with summaries of the several franchises and agreements under which the company operates. The underlying factors of community growth and their dependence upon a unified system of transportation are also detailed and discussed. Sec. 2 deals with the period of expansion and depression, showing that the reaction following the boom period, to 1913, seriously affected the company. The commissioner expresses some surprise that the company did not more seriously outrun with its extension of lines what transpired to be the permanent needs of the districts. The falling revenue consequent upon the period of depression, had an unfavorable effect upon the value of the company's property, which was further affected by jitney competition. In sec 3, the question of "jitney or street car" is discussed so far as the traffic in Vancouver is concerned, while in sec. 4, the question of the interurban jitney is taken up. His conclusions may be summarized as follows:

An open minded examination of the jitney service as it at present exists, should convince anyone that, while it may be a useful supplement to an electric railway service it cannot possibly take its place. It is possible for a trackless motor bus system to take the place of the present street cars, and such a changed system might be operated by the B.C. E. Ry., or by any other large corporation. This system, however, has nothing in common with the existing jitney service, except the one single feature that neither the jitneys nor the motor busses require tracks or trolleys. As is fully demonstrated in the origin and expansion of the jitney service it involves no rational foresight or organization, no special investment of capital in lines from which it cannot readily be withdrawn, no guarantee as to rates, and no special arrangements to meet the permanent needs of the public—in a word, no responsibility whatever, either personal or corporate, to continue in adequate form a service which has become one of the most permanent and vital requirements of a modern city. On the other hand, a street railway system in a large modern centre of population is the product of years of organization and investment of millions of capital in plant, in the greater part of which cannot be converted to other uses, and is therefore at once a very heavy guarantee for the performance of its obligations and the highest possible inducement to afford where possible an acceptable service to the public, on whose favor it entirely depends. Were the street cars forced to discontinue, the citizens would be entirely at the mercy of an irresponsible service, both as to numbers in operation and fares demanded.

Even should some form of motor service ultimately replace the electrical trolley, as argued by the jitney interests, it must be conducted, as experience everywhere proves, either by responsible joint stock companies or municipal corporations. In either case the independent individual jitney owner, in whose interests the whole argument before the commissioner was presented, must be eliminated. It is difficult to see what advantage there is in throwing out of employment that large and respectable class of citizens of Vancouver and Victoria and districts who constitute the employes of the B.C. E. Ry, merely to ensure the temporary support of a limited number of independent operators of jitney cars, who cannot guarantee, either for themselves or each other, that they will furnish a reliable service for the citizens of those districts, and who in turn must be supplanted by large and permanently responsible capitalist corporations. These in turn must develop other well organized systems with a body of employes under normal and satisfactory conditions with the customary regulations as to hours, rates and the many other terms embodied in agreements between employers and employes.

In sec. 5 the questions of fares, service and one-man cars are considered, the commissioner recommending the revision and simplification of fares; the holding of a conference between the company and the, municipal authorities as to fares transfers and service; the trial of one-man cars; the skip-stop plan of operation and through cars to New Westminster. Sec. 6, deals with conditions in Victoria and on Vancouver Island, where the commissioner finds the economic conditions similar to those in Vancouver. He points out that the company should be able to exist in order to give service; that jitneys must go from competitive routes, as the company cannot be expected to meet increased prices and diminishing revenues and have its most profitable business taken away; he also recommends a revision of the charter.

In sec. 8 the commissioner deals with the question of the apportionmentenact; the question of the appointment of a public utilities commission. All public services, he says, are necessarily faced with a great deal of criticism, much of which is unreasonable. The primary function of a public utilities commission would be, by a constant accumulation and an intelligent study of the facts, to determine what are and what are not reasonable and justifiable claims. Such a commission would find it necessary "not only to protect the public against the unjust and unnecessary encroachments of corporations, but to the end that the corporations may be able in the most efficient manner to meet the requirements of the public, to protect them against each other and against short-sighted and irresponsible sectional clamor, which if allowed to determine public policy, would cripple or destroy very essential enterprises involving large investments of wealth, the impairment of which would immediately react to the detriment of the community." Certain departmental officials should be appointed members of the commission together "with at least one person of good judgment and wide experience who could devote his whole time to acquiring and co-ordinating the necessary information as to the varied interests of the public involved in the more important utilities. If properly constituted the commission will be able to furnish well matured and just regulations and decisions alike, for the general administration of the various public utilities, as for the adjustment of special grievances and claims as to rates and conditions of service, in accordance with what may be most expedient in the public interest."

Sec. 9 contains the findings and recommendations, of which those affecting the company's street railway interests are appended.

"It is the decision of this commission that an efficient street car service in Vancouver and between Vancouver and New Westminster cannot be maintained under the present condition of competition with jitneys, or public automobile service."

It is recommended that until the financial returns of the street railway service materially improve, as may be determined by reference to any provincial public utilities commission which may be appointed, or by mutual agreement between the municipalities affected, and the street railway company, a city population area be determined within which fares and free transfers on the existing basis shall be maintained.

"That free transfers on the street cars to and from this city population area and the outlying districts of the street railway lines be discontinued, and that a conference be arranged between the official representatives of the municipalities affected and the management of the street railway company with a view to the adjustment of rates and service sched the adjustment of rates and service schedules on the lines beyond the city population area, as may be necessary to the maintenance of the best possible ser-

vice under the present and immediately prospective financial conditions.

"That subject to the approval of the parties to the same conference, on certain specified lines, the operation of one-man cars be given a fair trial with a view to reducing unnecessary costs and maintaining a better service on these routes than might otherwise be possible.

"That the B.C. E. Ry. be authorized to increase the speed limit and by skip-stop to improve the service by special through cars between Vancouver and New Westminster."

So far as Victoria and Vancouver are concerned the recommendations are: That jitney competition with street cars along the routes and in the districts served by them be eliminated, but that in the districts not served by the street cars jitneys and motor busses may freely operate, and that in order to reach the centre of the city they may ply along North Quadra St. to its junction with Yates St. and down Yates St. to Douglas St. It is recommended that the charter under which the B.C. E. Ry. operates in Victoria and district be amended so as to bring it into harmony with the charters granted to Vancouver and the adjoining municipalities, except as to the proportion of gross earnings to be paid to the City of Vancouver.

In the course of an interview after the publication of the report, George Kidd, General Manager B.C. E. Ry., is reported to have said. "We are prepared to carry out to the letter all the commissioner's recommendations as to the car service and the lighting service. We entered the investigation laying all our cards on the table and agreeing to whatever finding he might make. Now he has made his decision, we accept it without reservation, and we have no doubt this city, on its part, will do so also."

The jitneymen have expressed their disappointment at the report, and it is anticipated that they will largely disappear.

A delegation of street car men waited on the provincial government recently to express their disapproval of the suggestion in the report favoring the adoption of one-man cars.

A Vancouver press dispatch of Dec. 19 says:—"Amendments to the city by-laws adopted by the Vancouver City Council last night are expected to legislate the jitneys out of business, both in Vancouver itself and on the suburban runs out of Vancouver. The legislation takes effect April 1 next. This is in accordance with Adam Shortt's report upon his investigation of traffic conditions in this city."

**The Hull Electric Co.'s Franchise** in Aylmer, Que.—The Aylmer Town Council contends that the company's franchise in that town expired Dec. 1, and has stated conditions upon which a renewal would be granted. The company claims that its franchise is a perpetual one and is continuing its service. The council decided on Dec. 4, to call for tenders for lighting the streets and for the supply of power within the town. This matter is part of the same franchise. (Oct., 1917, pg. 407.)

**Hamilton St. Ry. Service.**—The Hamilton City Council's special street railway committee announced at a recent meeting that no report would be presented to council for the present, but that the new council would be asked to appeal to the Ontario Railway and Municipal Board for an order compelling the company to provide an improved service.

# Regina Municipal Railway Fares, Deficits and One-man Cars.

Following are extracts from City Commissioner Thornton's report for 10 months, Jan. 1 to Oct. 31, 1917:—

Transportation has been, and continues to be, afforded street railway patrons in Regina at less than actual cost. The fares are today the same as when the road was built in 1911, in spite of universal increases in expenses. It is altogether unfair to the ratepayer as such that he should be taxed for a service rendered to the railway patron as such. The principle is inequitably unsound, and if it continues to be applied will have most serious results. Every utility should be made to pay its way and this can only be effected by charging adequate rates for the service rendered. We have before the city council a recommendation that a straight 5c cash fare be adopted. We are firmly of the opinion that this rate is inevitable and feel it should be adopted at once.

Every legitimate means to reduce operating expenses should be adopted. In this connection there is now under consideration the question of one-man car operation. The present cars can be equipped for such operation at a moderate cost, about $200 a car. It is estimated that a reduction in expense of $30,000 a year can be effected by one-man car operation. The council has applied to the Saskatchewan Government for legislation to permit such operation, and it is hoped the amendment will be granted. The granting of the application would not mean that the system would be adopted but would mean that the council would be in a position to test out a system which, if it proves to be safe and to afford adequate service, should be put into effect at once.

The results of this department show a material improvement over 1916. The total deficit for 10 months is $55,000, compared with $13,000 in 1916. The surplus on operation is $24,000, compared with $13,000 in 1916, an increase of 84%. Operating expenses are, however, heavier than last year by $6,600, owing to an increase in wages of nearly 10% and an abnormal increase in the cost of material. As pointed out above, if this utility is to be put on a self supporting basis, radical measures must be adopted to increase the revenues and cut down expenditures. We believe that all reasonable reductions in expenses have been made under the present system of operation. There remains the one-man car system as a means to affect a radical reduction. By a comparison made recently between the Calgary one-man car system and our own, the following facts were ascertained. The results for one day were contrasted. In Calgary, for a total of 815 car hours operated, the revenue was $2.13 a car hour against 326 car hours in Regina with a revenue of $1.73 a car hour. This indicates that the traffic in Calgary is heavier than in Regina. The cost for operators' wages a car hour was 42c in Calgary, against 72c in Regina. In the 10 months period the Regina Municipal Railway has operated 87,500 car hours, which on the Calgary basis would represent a saving in operation expense of $26,250. The passenger revenues for the 10 months would have been $28,000 greater for the same passengers carried, on a basis of a straight 5c cash fare. These two sums added together almost exactly represent the deficit for the period. The following table indicates concisely the great improvement in the operating statement of this utility as compared with former years. The figures for 1914-1915-1916 are actual, those for 1917 are based upon the actual results for the 10 months increased proportionately to cover the whole year.

| | 1914. | 1915. | 1916. | 1917. |
|---|---|---|---|---|
| Revenue | $219,150.67 | $172,177.67 | $212,790,19 | $224,970,60 |
| Passengers carried | 4,677,505 | 3,661,177 | 4,671,402 | 4,954,972 |
| Operating expenses | $225,184.81 | $180,333.33 | $191,359.68 | $195,873.42 |
| Fixed charges | 89,718.28 | 101,599.35 | 97,575.54 | 96,066.66 |
| Total operating expenses | 314,903.09 | 281,932.68 | 268,935.22 | 291,940.08 |
| Operating surplus deficit | 6,034.14 | 8,155.66 | 21,430.51 | 29,097.22 |
| Total deficit | 95,752.42 | 109,755.01 | 76,145.03 | 66,979.48 |

We have referred previously to the many influences for community benefit, in the development of the outlying districts, the increase of business property values, the bringing in of large new areas under full assessment, the pavement on a portion of the streets, etc., for all of which the street railway is directly responsible and in respect to which its expenses largely increased and for which it receives no direct credit. The city's utility debenture debt is greater than its general debenture debt. Funds for utilities are no advanced on the security of the asset to be created, but on the general credit of the city. Our good credit is our greatest asset, our fundamental need. Since our credit is so largely involved in the ownership of utilities, if for no other reason, they should be operated on business principles only. The credit of any municipality which operates utilities at a loss is necessarily depreciated. The argument that rates are lower than charged elsewhere, or than would be charged by private ownership, while perhaps popular at home, carries no appeal whatever to the investor in securities, in fact as likely as not will create distrust. Rates should be charged for utility services sufficient to pay all expenses, including capital charges, depreciation, absolescence and taxes, as well as all ordinary operating expenses. We have every faith in our utilities. They can be made to continue to supply first class service to the citizen at minimum cost. They eliminate numerous evils attendant upon private ownership and control.

**Detroit Fares Advanced.**—The Detroit United Ry. on Dec. 1 abrogated its agreement with the city for the sale for seven tickets for 25c, except on the Sherman, Fourteenth, Crosstown and Harper lines, where franchise requirements provide for 8 for 25c and 6 for 25c fares. On the other lines a straight 5c fare is collected. In retaliation the city council passed a resolution requiring the company to pay $10,000 daily rental for the use of the streets on which franchises have expired, rescinded permission to operate skip stops, and authorized the Municipal Railway Commission to employ Barclay Parsons & Klapp, of New York, to investigate whether the fare increase is justified.

# Electric Railway Projects, Construction, Betterments, Etc.

**British Columbia Electric Ry.**—The North Vancouver District Municipality will vote at the January elections on a bylaw authorizing a grant of $2,500 to aid the company to lay its tracks on to the ferry wharf and to run its cars thereon. Before this can be done the North Vancouver City Councill's assent has to be obtained. (Dec., 1917, pg. 488.)

**Edmonton Radial Ry.**—The Edmonton Alta., City Council is considering the Street Railway Department's proposal to extend the 106th Ave. or Sutherland line, in order to connect the 97th St. (Namayo line) and the 101st St. line; the estimated cost is $650 for temporary line. The Superintendent states that a considerable saving in operation would be effected if the extension were built. (July, 1917, pg. 286.)

**Edmonton Radial Ry.**—A press report states that it is proposed to build a line across 106th Ave. between 97th and 105th streets at an early date, to enable another belt line to be established. (July, 1917, pg. 286.)

**Hydro-Electric Power Commission of Ontario.**—We are officially advised, with respect to the railway being constructed by the Hydro-Electric Power Commission of Ontario in connection with the Chippawa-Queenston power canal, that the railway will run from the Welland River, near Montrose, around Niagara Falls City to the Niagara River near Queenston, about 12 miles. The line will have two tracks, standard gauge, 70 lb. steel, ballasted with rock. About eight miles of construction have been completed at the northern end of the line. A recent press report states that about 350 men are on the work, which includes the erection of a number of bridges over ravines, and one concrete bridge, now being built over the Niagara, St. Catharines & Toronto Ry. in Stamford Tp. The earth removed in grading is being used to fill in ravines running to the Niagara River. The work is being done under the direction of F. A. Gaby, Chief Engineer of the Hydro-Electric Power Commission of Ontario, under the immediate supervision of H. G. Acres, Hydraulic Engineer, with J. B. Goodwin as works Engineer. The line will be operated by electric power, 550 volt, direct current, from an overhead system, of copper wire strung on wooden posts; electric locomotives being used. (Dec., 1917, pg. 471.)

**Kitchener & Waterloo Electric Ry.**—The Ontario Railway and Municipal Board held a sitting at Kitchener, Ont., Dec. 11, to consider an application to compel the commissioner in charge of the municipally owned electric railway to extend its line to Dominion Tanners' factory. This is a new industry, one of the inducements offered to locate in Kitchener being that the city would build an extension of its electric railway 0.6 of a mile long to the plant. The board adjourned the hearing until the Galt, Preston & Hespeler Ry. could be represented, that company being also interested in the provisional agreement.

**Niagara, St. Catharines & Toronto Ry.** The Board of Railway Commissioners has authorized the company to open for traffic a temporary diversion in Stamford Tp., Ont.; and also to open for traffic its branch line from Ontario and St. Paul St., to the G.T.R. station, St. Catharines, Ont., 4,700 ft. (Dec., 1917, pg. 488.)

**Nipissing Central Ry.**—Application will be made to the Dominion Parliament for an act to extend the time for the completion and putting into operation of the lines authorized by the company's act of incorporation and amending acts. The railway is now under the management of the Timiskaming & Northern Ontario Railway Commission, on behalf of the Province of Ontario. S. B. Clement, North Bay, Ont., is Chief Engineer and Superintendent of Maintenance.

**The Quebec Ry., Light and Power Co.** has, we are officially advised, completed a new piece of line 0.18 mile long from Fourth St. to connect with track on First Ave., at Charlesbourg Road, Quebec. (Nov., 1917, pg. 444.)

**Sandwich, Windsor and Amherstburg Ry.**—The question of the proposed Ferry St. stop in Windsor was discussed by the city council recently and an opinion was expressed that the city should build the loop and lease it to the company until 1922. No decision was reached. (Nov., 1917, pg. 444.)

**Toronto Suburban Ry.**—We are officially advised that the company proposes to build car barn and express shed at Guelph, Ont., the present terminus of its extension from Lambton. (Dec., 1917, pg. 488.)

**Toronto and York Radial Ry.**—We are officially advised that the company contemplates making considerable betterments on its Mimico division, the extent of which has not been fully determined. In connection with the construction of the Toronto-Hamilton highway, a question has been raised at New Toronto with respect to the location of the railway tracks, and the local board of trade has taken action against the highway commissioners to prevent any alteration being made. (Dec., 1917, pg. 488.)

## Electric Railway Finance, Meetings, Etc.

**British Columbia Electric Ry.**, and allied companies:—

| | Oct. '17 | Oct. '16 | 4 mths. to Oct. 31,'17 | 4 mths. to Oct. 31,'16 |
|---|---|---|---|---|
| Gross . | $491,964 | $445,263 | $1,842,476 | $1,695,659 |
| Exp. . | 393,508 | 351,845 | 1,551,321 | 1,401,856 |
| Net . . | 98,456 | 93,418 | 291,155 | 293,803 |

**Cape Breton Electric Co.**—

| | Oct. '17 | Oct. '16 | 4 mths. to Oct. 31,'17 | 4 mths. to Oct. 31,'16 |
|---|---|---|---|---|
| Gross | $43,397.19 | $36,466.20 | $163,386.85 | $138,393.73 |
| Exp. | 28,168.54 | 18,204.89 | 105,757.23 | 74,750.41 |
| Net | 15,228.65 | 18,261.31 | 57,629.61 | 63,643.32 |

**Calgary Municipal Railway**—

| | Oct. 1917. | Oct. 1916. |
|---|---|---|
| Gross . . . . . | $49,316.87 | $53,721.69 |
| Expenses . . . . . | 30,924.27 | 36,336.84 |
| Net revenue . . . . . | 18,392.60 | 17,384.85 |
| Fixed charges . . . . . | 17,248.36 | 17,030.48 |

**Edmonton Radial Ry.**—The Mayor of Edmonton, Alta., stated on Nov. 30, at a public meeting to consider civic affairs that the E. R. Ry. showed a deficit for the ten months ended Oct. 31, of $144,118.31 against $96,863.43 for the same period of 1916. The increased deficit was explained by the fact that at the beginning of 1917 wages of motormen and conductors were increased about $20,000 a year, and there had also been two very heavy damage claims against the railway. Up to the date mentioned $14,289.27 had been expended for claims against the railway, against $2,581.06 in 1916. A considerable saving had been made by the use of one-man cars and it was hoped that by next summer the department would be in a position to operate its full service with one-man cars with the assistance of extra cars during the rush hours.

**Fort William Electric Ry. Deficits.**—Application is to be made to the Ontario Legislature for the confirmation of a bylaw authorizing the issue of $225,000 of debentures to take care of the deficits in connection with the city's electric street railway. The bylaw gives the deficits as: 1914, $29,162.54; 1915, $64,270.1'; 1916, $64,827.68; 1917, $65,746.59.

**Regina Municipal Ry.**—The City commissioners of Regina, Sask., in their annual report on the city's finances which was discussed at a recent public meeting, stated that steps must be taken to make some provision for the outstanding loss on the street railway system up to 1914 by the negotiation of a loan covering this loss, which amounts to over $100,000, from property sales account. The only other alternative, in their opinion, is to cover the loss by a tax levy, or by an increase in the fares. The latter, they state, is more or less impracticable and the former would be more or less unjust to the ratepayer of today.

**Toronto Civic Ry.**—Total receipts for November, $24,850.69, against $19,051.66 for Nov. 1916. The number of passengers carried during November was 1,481,471 against 1,135,958 during Nov. 1916.

**Toronto Ry.**—Gross for Nov., $537,505, against $489,987 for Nov. 1916, the percentage paid to the city being $55,823 and $48.890 for the same periods respectively. The totals for 11 months ended Nov. 30, are $5,623,235 for 1917, and $5,356,110 for 1916, the city percentage being $896,850 and $846,843 for the same periods respectively.

The regular quarterly dividend of 2% has been declared for the quarter ended Dc. 31.

**Toronto Ry., Toronto & York Radial Ry.**, and allied companies.—

| | Oct. '17 | Oct. '16 | 10 mths. to Oct. 31,'17 | 10 mths. to Oct. 31,'16 |
|---|---|---|---|---|
| Gross | $1,043,886 | $907,460 | $9,934,998 | $8,913,224 |
| Exp. | 599,073 | 469,837 | 5,331,378 | 4,557,490 |
| Net | 444,813 | 437,623 | 4,603,620 | 4,355,734 |

**Winnipeg Electric Ry.** and allied companies.—

| | Oct. '17 | Oct. '16 | 10 mths. to Oct. 31,'17 | 10 mths. to Oct. 31,'16 |
|---|---|---|---|---|
| Gross . | $301,722 | $278,817 | $2,733,516 | $2,740,271 |
| Exp. . | 209,761 | 182,574 | 2,071,428 | 1,765,145 |
| Net . . | 91,961 | 96,243 | 662,088 | 975,126 |

## Electric Railway Track Laid in 1917.

There was practically nothing doing in the way of new construction on electric railways in Canada during 1917. Only three lines have reported any new work done, the total of new track being 1.56 miles. Construction has been started on a line to be operated by electricity, and eight miles of grading have been completed by the Hydro Electric Power Commission of Ontario in connection with the building of the power canal in the Niagara peninsula.

| | Miles |
|---|---|
| Niagara, St. Catharines & Toronto Ry.— Ontario and St. Paul St. to G.T.R., St. Catharines, Ont. 4,700 ft. . . . . | 0.89 |
| Quebec Ry. Light and Power Co.— 4th St. to 1st Ave., Charlebourg Road. Quebec . . . . . | 0.18 |
| Toronto Civic Ry.— Quebec Ave. to Runnymede Rd. Bloor St. extension . . . . . | 0.49 |
| Total miles . . . . . | 1.56 |

## One-Man Cars in Saskatchewan.

A bill amending the Saskatchewan Railway Act was introduced into the legislature Dec. 8. It proposed to add a new section, to be numbered Sec. 237a, and to give cities and towns the power to declare that the provisions of secs. 236 and 237 of the act, which require two men to be in charge of electric cars, shall not apply in such cities or towns during the currency of such bylaw. It would also give the council power to repeal any such bylaw, upon a majority vote of the ratepayers, on the last revised list of voters for the municipality, the provisions of the city act and the town act as to bylaws to govern where they were not inconsistent with the provisions of the present measure. When the bill was introduced on Dec. 8 it was explained that its object is to enable the councils of cities and towns in which electric railways are being operated to pass bylaws providing for the operation of one-man cars. Under the Saskatchewan Railway Act it is required that two men, a motorman and a conductor, shall be in charge of each car. It is not proposed to repeal this porvision but to add a section to the act under which the councils, with the assent of the ratepayers, may pass bylaws. The bill was before the standing committee on Dec. 12, when a decision was reached not to report it to the House, on the ground that the committee had not sufficient information before it to reach a decision.

## The Street Railway Situation in St. John, N.B.

At a meeting of a committee of the city council, Dec. 3, Commissioner Fisher proposed that it is desirable that the city should own and operate the gas and electric lighting and the street railway service in the city and vicinity, the chief objects being reduction of rates, improvement and extensions of services and the obtaining of a larger contribution toward street surface maintenance, and that the City Solicitor be requested to advise the council as to the best method to be pursued in acquiring the lighting and railway franchises and the properties of the New Brunswick Power Co., particularly so as to avoid paying more than the actual value for same.

With reference to the paving of the track section of streets, the Commissioner reported that he had had several interviews with the City Solicitor in an endeavor to prepare a recommendation which would have his support, but the latter had charged his attitude in regard to the proposal submitted to the company by the council in September, when he advised that the city had a good case to take to the legislature. He now expresses the opinion that the company should not be asked to pay for any paving, basing this advice on the company's contention that it should not be obliged to pay directly for any street surface maintenance. At the same time the City Solicitor expressed the opinion that the company is not paying sufficient to the city and that its taxation should be adjusted so as to cover its use of and injury to the streets. The Commissioner considered that, as matters stood, it would be useless to make any further request to the company for payment for paving, or to go to the legislature for redress, but to wait for the possible relief under the new assessment act, or pressure of public opinion, resulting in the acquirement of the properties by the city. In the meantime the Commissioner thinks that the council should temporize with the street surface in the track sections, and not build any foundations under the tracks, as the entire cost of the latter should be paid by the company, the amount of $5,000 a mile for such foundations mentioned being insufficient. If the council should decide on temporizing with the surface in the track sections, the method of laying permanent paving would probably be to lay it on the sides of the streets only, and to stop at 18 in. from the rail in each case. The 18 in. space could then be surfaced with a thin layer of mixed asphalt and stone, graded and rolled, leaving the spaces between the rails for temporary treatment with gravel and broken stone. No action was taken on the resolutions, it being decided to take the matter up again at a later date.

## International Railway Power Equipment.

The International Ry. of Buffalo, N.Y., which operates the Niagara Park & River Ry. in Canada, has made recently, or has under way, a number of important power equipment additions. In its Niagara St. power station there have been installed a 5500-kw. Westinghouse turbine and 15 Babcock & Wilcox boilers equipped with underfeed stokers, new open heaters and boiler feed pumps. The new Niagara Falls substation contains two 1000-kw. and four 400-kw. General Electric rotary converters. The new River Road substation, containing two 400-kw. General Electric rotary converters, has also been completed, and by the middle of January it is expected to have two other new substations ready for operation, the North Division substation, containing three 2000-kw. General Electric rotary converters, and the Hertel Ave. substation, containing two 1000-kw. and three 400-kw. General Electric rotary converters. With these additions the total substation rating of the system will be 36,300 kw.; the steam station rated capacity, 10,200 kw., and the Canadian hydraulic station, 4000 kw.

## Toronto and York Radial Railway Rights on Yonge Street.

The Toronto & York Radial Ry. asks the City of Toronto $1,860,000 for the physical assets, franchises, rights, privileges, etc., of the portion of its Metropolitan Division, on Yonge street, within the city limits. The statement of claim is as follows:—

"Value of franchises, rights and privileges to be taken, i.e., the company's exclusive right to operate a street railway on Yonge St. within the city limits for 35 years from Feb. 3, 1894, with rights of renewal for further future periods, and compensation for the taking thereof pursuant to the provisions of the Ontario statute, 1917, chap. 92, sec. 4, less value of running rights to be granted by the city to the railway in return. Value of physical property to be taken, being structures, sub-structures, and superstructures on the highway, according to inventory already prepared and delivered to the city: $1,860,000."

The city's commissioners and solicitor, in transmitting the claims to the City Council said: "The foregoing was accompanied by certain explanations and figures, insufficient to enable us to form a fair judgment as to the reasonablness of the company's demands. We therefore repeatedly requested information as to the basis upon which the statement was compiled, but have not succeeded in procuring same. We know that the value set upon the physical assets for which the city has been negotiating approximates $110,000, which leaves a valuation of valuation of $1,750,000 for the franchises, rights, and privileges which the company purports to sell, as set out in sec. 1 of its statement. This amount, it claims, gives credit for the running rights which the city proposes to accord. It is essential, to a fair consideration of the claim, that we should be acquainted with the details and reasons upon which it is based. We beg to recommend that the question be submitted to the judgment of the Ontario Railway and Municipal Board as per the terms of the special legislation in that behalf."

The City Board of Control acted on the recommendation given and decided to refer the matter to the Ontario Railway and Municipal Board.

## Increased Electric Railway Fares Authorised in New York and Long Island.

The Public Service Commission of the Second District (up State) of New York has granted an increase in fares to six out of the nine electric railway companies whose petitions have been heard. The companies serve Northport, Amityville, Glen Cove, Sea Cliff and Huntington, L. I.; Hornell, Canisteo, Ithaca, East Ithaca, Newburg, Walden, Peekskill and Ossining. The Hudson River and Eastern Traction Co., operating in Peekskill, is allowed to raise it fares to 7c. The other companies are allowed to raise their fares to 6c.

The commission decided the above cases after argument at length on these points raised by the opposition to the increased fares: (1) That, as the old state railway law limits fares to be charged on street cars within municipal limits to 5c, the commission has no power to raise the rate. (2) That franchises or municipal consents, limiting a fare to 5c constitute contracts, and the commission has no power to raise the fare. The commission overruled these points and held that it has the necessary rate making power. The increased rates of fare, the commission stated, may be reduced, if later on it be shown that they are no longer necessary.

Three other companies have been heard on their petitions for increased fares—the Peekskill Lighting and Rd. Co., which operates about 10 miles of track in and near Peekskill, N.Y.; the Putnam and Westchester Traction Co., a road of about three miles in and near Peekskill, N.Y.; the Glen Cove Rd. Co., which operates about three miles of track in and near Sea Cliff and Glen Cove and Hempstead Harbor, L.I. More than 20 other companies have petitioned for increased fares and it is expected these cases will now be rapidly disposed of. Each company has to make out a case on its own account.

**Sandwich, Windsor and Amherstburg** Ry. Franchise.—The Windsor, Ont., City Council decided, Dec. 5, to submit a question at the municipal elections Jan. 1, asking the ratepayers to state their views upon a proposed extension of the company's franchise, or the purchase of the system.

# Electric Railway Notes.

The Toronto and York Radial Ry. is negotiating for the purchase of four cars.

Winnipeg Electric Ry. Company's officials state that the chief difficulty in giving an adequate service is the difficulty in obtaining men.

The Sarnia Street Ry. resumed its car service to the Pere Marquette station in Sarnia, Ont., Dec. 13, which it discontinued some monhts ago.

The Toronto ratepayers are voting Jan. 1, as to whether they are, or not, in favor of the city taking over the Toronto Ry. on the expiration of the franchise in Sept. 1921.

The Sandwich, Windsor & Amherstberg Ry. has added to its rolling stock recently 3 single truck p.a.y.e. cars built in Canada and 2 double truck steel cars built in the United States.

The Brantford & Hamilton Ry. has opened a ticket agency at the corner of Colborne and Market Sts., Brantford, Ont., for the sale of through tickets to Hamilton. Tickets for intermediate points can only be had on the cars.

At the Hamilton, Ont., City Council meeting Dec. 12 the special street railway committee was directed to consider matters relating to the service on certain of the Hamilton St. Ry.'s routes, and delays occasioned to traffic on other lines.

The Toronto Works Commissioner has recommended that the city enter into a two years agreement with the Toronto Civic Ry. employes to confirm the existing rate of wages and working conditions.

The Calgary, Alta., Municipal Ry., owing to increasing traffic, has increased the number of cars being operated on several of its lines, and has rearranged the routes of the Sunnyside cars by making it a one-way route over the Louise bridge and back over Centre St. bridge.

In order to speed up Winnipeg Electric Ry. cars the city works committee has authorized the company to eliminate the waiting platforms at Garry, Smith and Donald Streets, and to stop only on the near side going west on these streets, and on the far side when going east.

A Hamilton St. Ry. official is reported to have stated in an interview Dec. 17 that it would not be a matter of surprise if the service at present being given by the company in the city should be reduced. The matter of power is a very serious one, owing to the munition plants' demands.

F. Hoover, business agent of the Street Railway Men's Union in Vancouver, is preparing a report on one-man cars for presentation to the British Columbia Government in connection with the recommendations on the matter in the Shortt report, which is summarized on another page of this issue. The "report" will doubtless take the form of a protest against the use of one-man cars.

The Toronto Suburban Ry. placed in effect, from Dec. 1, 1917, a special express tariff over its line between West Toronto and Guelph, Ont. The rates are graded from 30c to 40c per 100 lb., with special rates for market produce, etc. The rates include collection and delivery at agent points, viz., Toronto, Georgetown and Guelph. F. Butcher has been appointed in charge of the express department, with office at 2896 Dundas St., West Toronto.

The short supply of coal in Hamilton, Ont., is said to be the cause of the cars on the Hamilton St. Ry. being inadequately heated. E. P. Coleman, General Manager, stated recently that orders for coal were placed in April last, but there had been no deliveries. The company was getting what coal it could, and was making the most economical use of it until the prospects of getting a sufficient supply were brighter. The use of electric heaters was not feasible, owing to the demands for electric power for the munition plants.

In connection with the elimination of the level crossing of railway tracks by the Toronto Ry., on Queen St., Toronto, near Don station, the Board of Railway Commissioners has ordered the C.P.R., G. T.R., Canadian Northern Ontario Ry. and Toronto Ry. to pay in addition to amounts already paid, if any, to the City of Toronto $115,000, $30,000 $135,000, and $80,000 respectively, in respect of damages incidental to the work, without prejudice to the correctness or otherwise of accounts submitted.

Lethbridge Municipal Ry. employes state that the report that they are being paid at the rate of 37½c an hour is incorrect. They say they are receiving 30c an hour with a war bonus of $1.75 a week if they work every day, which works out to 33 1/5c an hour. They further claim that while clerks and other city employes received an increase of pay, the manner in which the street railway men's pay is worked out has actually reduced their pay by about $7.80 a month, equal to one hour's pay per day.

## Mainly About Electric Railway People.

**R. H. Long**, heretofore Electrical Superintendent, Winnipeg Electric Ry., has been appointed Power Superintendent.

**George Garrett**, heretofore Master Mechanic, Winnipeg Electric Ry., has been appointed Superintendent of Rolling Stock.

**W. M. Fraser**, Electrical Superintendent, British Columbia Electric Ry., Vancouver, is reported to have been given full charge of operating.

**F. S. Easton**, Hydro Electric Engineer, British Columbia Electric Ry., Vancouver, is reported to have been given full charge of its producing plants.

**G. A. Mills**, heretofore Electrical Engineer, Waterloo, Cedar Falls & Northern Ry., Waterloo, Iowa, has been appointed Electrical Engineer, Winnipeg Electric Ry.

**Jas. O. Heyworth**, M.A.Soc.C.E., general contractor, Chicago, who has been appointed in full charge of wooden shipbuilding for the Emergency Fleet Corporation, United States Shipbuilding Board, is President of the International Transit Co. of Sault Ste. Marie, Ont.

**W. C. Hawkins**, Vice President and Managing Director, Dominion Power and Transmission Co., Hamilton, Ont., who has been a director of the Southern Canada Power Co. for some little time, has been elected President of that company, which includes among its subsidiaries the Sherbrooke Railway & Power Co., operating at Sherbrooke, Que.

**M. E. McCormick**, whose appointment as Assistant to General Manager, New Brunswick Power Co., which operates the St. John, N.B., street railway, was announced in our last issue, was in the Bangor Railway and Electric Co.'s service at Bangor, Me., for 20 years, working up from service in the car house to Assistant General Manager.

**G. D. Archibald**, Superintendent, Saskatoon Municipal Ry., who while out duck shooting on Oct. 8 received a gun shot wound which necessitated the amputation of two toes, is able to be out again, and to get around on crutches, after being in a hospital for several weeks. During his absence from duty, H. Swail, Assistant to Superintendent, is acting as Superintendent.

## The Sherbrooke Railway & Railway Co's Directorate, Etc.

W. C. Hawkins, Vice President and Managing Director, Dominion Power & Transmission Co., Ltd., Hamilton, Ont., has been elected President of the Southern Canada Power Co., Ltd., succeeding C. J. McCuaig, of Montreal. This company operates in the Province of Quebec, south and east of the St. Lawrence River and owns and controls the following properties:—Southern Canada Power Co., South Shore Power & Paper Co., La Cie De Gaz, Electricite & Pouvoir, St. Johns Electric Light Co., Brome Lake Electric Power Co., Richmond County Electric Co., Sherbrooke Railway & Power Co., Lennoxville Light & Power Co., Eastern Townships Electric Co., Stanstead Electric Light Co., Burorughs Falls Power Co. and International Electric Co. of Vermont.

The Sherbrooke Railway & Power Co.'s annual meeting was held in Montreal Dec. 13. It does not issues a separate report, its figures being included in the Southern Canada Power Co.'s report with other subsidiary companies. The officers for the current year are:—President, W. C. Hawkins; Vice President, F. W. Teele, Vice President, Southern Canada Power Co., formerly General Manager, Porto Rico Ry. Co.; General Manager, J. B. Woodyatt. General Manager, Southern Canada Power Co.; Secertary Treasurer and Purchasing Agent, L. C. Haskell, Secretary Treasurer, Southern Canada Power Co.; other directors, C. J. McCuaig, S. H. Ewing, S. W. Ewing and Grant Johnston. Charles Johnstone is Assistant Secretary Treasurer and Controller.

## London and Port Stanley Railway Operating Results.

The report for the year ended June 30, 1917, shows as follows:

EARNINGS.

| | | |
|---|---|---|
| Passenger | | $147,470.44 |
| Baggage | | 1,080.10 |
| Parlor, sleeping and special cars | | 264.47 |
| Mails | | 1,042.80 |
| Express | | 3,298.04 |
| Milk | | 157.10 |
| Freight | | 121,023.03 |
| Switching | | 26,685.14 |
| Miscellaneous transportation | | 118.55 |
| Storage | | 29.85 |
| Demurrage | | 2,653.00 |
| Rent of tracks and facilities | | 6,071.92 |
| Rent of buildings and other property | | 3,257.03 |
| Miscellaneous | | 3,533.74 |
| | | $316,685.21 |
| Operating expenses | | $207,356.08 |
| Gross income | | $109,329.13 |
| Taxes | $ 3,166.25 | |
| Interest | 48,667.28 | |
| Rental of line | 20,000.00 | |
| Sinking fund | 10,914.12 | |
| | | $ 82,747.65 |
| Net income | | $26,581.48 |

# Marine Department

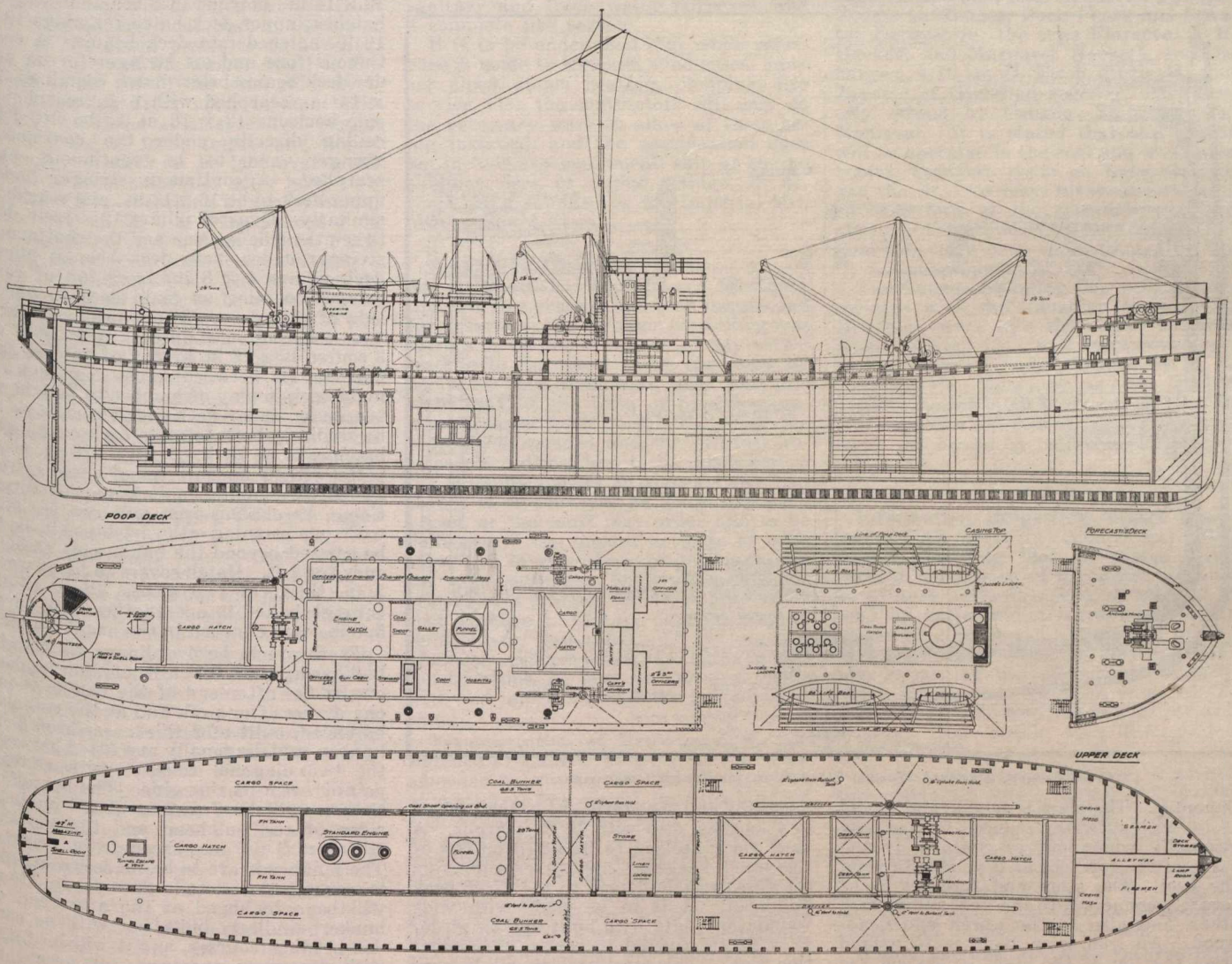
## Specifications and Plans of Standard Wooden Steamships for British Government.

Following is a summary of the specifications for standard wooden steamships for the British Government, which have been prepared by the Imperial Munitions Board's shipbuilding department at Ottawa, and under which the 46 vessels, which have been ordered at different points from Nova Scotia to British Columbia, are being built. The details of construction, fastening, etc., are such as will meet in general with the approval of Lloyd's and the board's technical advisers, but nothing in the specifications will relieve the contractor from the responsibility of employing a skilled staff to work out detail drawings and submit proposals for such details to the Classicfication Society and to the board's advisers, who will, however, give all assistance in their power to help contractors, without accepting responsibility for the proper carrying out of the contract. The vessels are to be built to Lloyd's requirements for A1 classification and to the British Board of Trade requirements as far as necessary for cargo steamers. The hull's dimensions are to be as follows:—

| | |
|---|---|
| Length between perpendiculars | 250 ft. |
| Length over all | 259 ft. |
| Breadth, extreme | 43½ ft. |
| Breadth, molded | 42½ ft. |
| Depth, molded | 25 ft. |
| Depth over keel | 27 ft. |
| Draft for displacement | 22 ft. |
| Draft over keel | 21 ft. |
| Deadweight on 20 ft. max. draft to Lloyd's summer freeboard, approx. | 2,500 tons |
| Deadweight on 21 ft. max. draft, approx. | 2,800 tons |

The vessels are to be of the single deck cargo type, built principally of Douglas fir, with hold beams, wood deck houses and rails, elliptical stern with long poop deck aft, and raised forecastle forward; 5 hatches; 1 deep ballast tank with longitudinal divisions; 6 watertight wooden bulkheads; 1 watertight bunker bulkhead; 1 screen bulkhead and 1 watertight door between engine room and tunnel. Officers' accommodation is to be in deckhouses on the poop deck, with a bridge and bridge house at the forward end. There will be six cargo winches, one to to be a warping winch, and the windlass on the forecastle head is to be suitable for handling anchors and full scope of chain, also to be arranged for warping, as usual. The forepeak and after peak to be fitted for fresh water with filling pipes, suctions, etc. The vessels are to be driven by single screw, with engine shaft amidships, but the builders of the hulls have no responsibility in connection with the installation of the machinery, except in the putting in of foundations for the main engines and auxiliaries, deck gear, and for piercing the hull for sea cocks, valves, etc., as directed by the board's representative, and also in the fastening of the deck machinery, fittings and windlass.

All lumber used is to be Douglas fir, unless otherwise specified, and all material is to be to the satisfaction of the board's inspectors. Long lengths are to be used in the keels, keelsons, planking and ceiling, and all decking to be edge grain. Fastenings to be treenails, screw bolts and drift bolts of galvanized and black iron. Builders are to supply the board with hulls built in a workmanlike manner, satisfactory for ocean service and fitted in all respects for the safe handling of freight. Drawings and plans

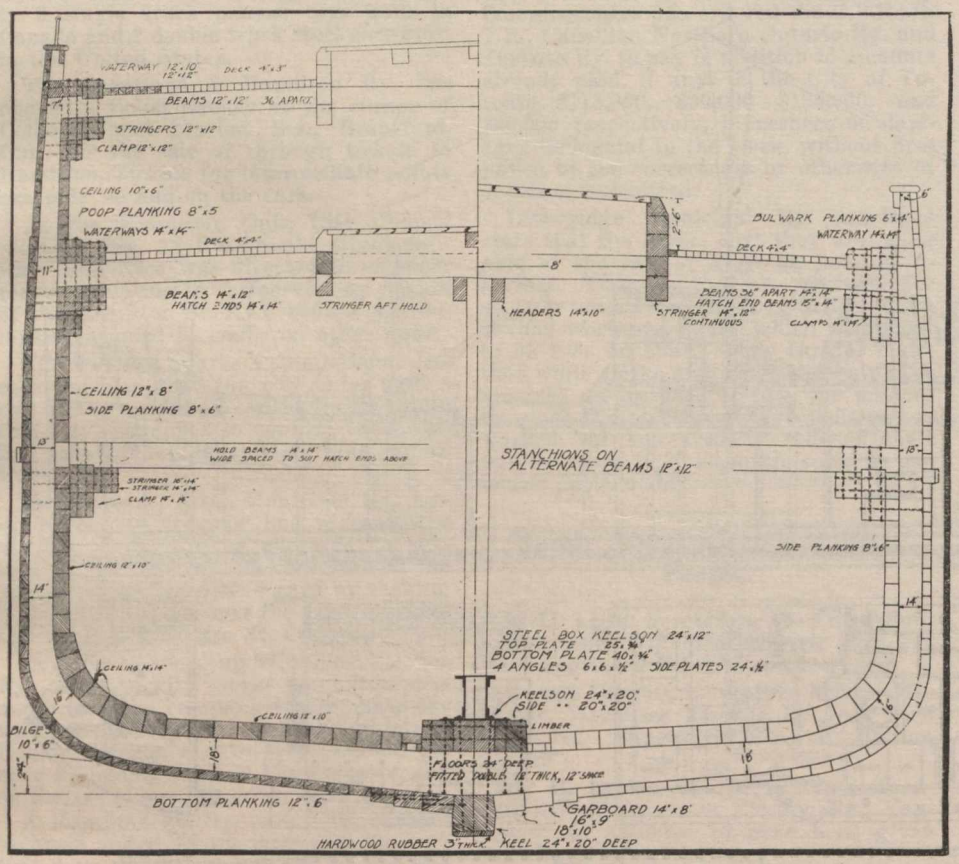



**Standard Wooden Steamships being built in Canada for British Government.**

to be used will be supplied by the board during the progress of the work, and if the contractor is in doubt as to the method of construction or fastening, he is to call upon the inspector, who will at once see that he is provided with the necessary details. Fore and aft peaks will be tested with a head of water, a sinstructed by Lloyd's and the British Board of Trade's inspectors.

The keel is to be sided 24 in., moulded 20 in., to be in 4 lengths, scarphs 12 ft. long, copper painted before fastening, scarph nibs to be 4 in. deep, and all fastened with 1 in. galvanized button head screw bolts with heads sunk below flush for cementing before shoe is fitted; the ends of the scarphs to be spiked. The shoe is to be of 3 in. fir approximately 24 ft. lengths, fastened with 8 by 7/16 in. galvanized spikes, 15 in. centres and staggered, with heads set in about ½ in. and cemented. The stem is to side and mould 18 in. with cutwater reduced to 5 in. and gradually widen out to conform to the curve of the forefoot as it widens to meet the keel. The stem and forefoot to be securely connected to the keel and to each other, and also to the apron and deadwood. An iron stem band is to extend from the top of the stem to beyond the keel scarph connecting the forefoot, and to widen out to suit the forefoot, which is to be scarphed from stem to keel. Apron to side 24 and mould 28 in., to extend down till it dies in the forefoot. Propeller post to mould 30 and generally side 24 in., and in the way of the shaft tube to swell out to 32 in., to be tenoned into keel and skid log. The knee fastening keel to propeller post to be a natural crook, both arms to be not less than 7 ft. and fitted the full 7 ft. along the keel, the other arm to be fitted to suit height of shaft logs. Deadwood forward and aft to be generally 24 by 24 in., fastened to knee aft and forefoot forward and to come about 3 in. above face of ceiling. Rudder post 24 x 24 in., tapering to 12 in. at top of keel. Frames to be double to side 12 in. and mould 24 in. at keel, 18 in. at long floor futtock, 16 in. at turn of bilge, 14 in. in way of top of thick ceiling, 13 in. in way of hold bears, 11 in. at deck and 7 in. at upper deck. The double frames to be efficiently fastened to one another with fir treenails.

In way of the well a single frame to be run up, forming a bulwark stanchion. In the way of the poop and forecastle the double frames will be run up, the ends of the top timbers to be left long to accommodate the covering board. Above the knuckle, the framing at stern will be of the rim type stern, the rim extending forward to frame 2. Three keelsons, the centre being 24 x 20 in., the sister keelsons being 20 x 20 in. The centre keelson to be in 4 lengths and scarphed with 10 ft. scarphs, the port sister keelson in 3 lengths and the starboard sister keelson in 4 lengths, also with 10 ft. scarphs. A steel rider keelson to be fitted on top of the wood keelsons, and to extend from the forespeak bulkhead to the after peak bulkhead. It is to be made with wide foundation plate with built up box girder 12 x 24 in. riveted to centre of foundation plate. This steel keelson will be supplied to the contractors.




**Cross Section, Standard Wooden Steamships, for British Government.**

The bottom ceiling to be 12 x 10 in. in lengths, with limber strake fitted adjacent to the sister keelsons. Ceiling in way of bilge to be 14 x 14 in., and ceiling directly above bilge ceiling to 12 x 10 in., the remainder to the under side of main deck stringers to be 12 x 8 in., and 'tween decks 10 x 6 in. Hold beam stringers and clamps to be 16 x 14 and 14 x 14 in. respectively; main deck stringers and clamps 14 x 14 in.; waterways on main deck 14 x 14 in.; upper deck stringers and clamps 12 x 12 in. A 3 in. air course is to be fitted for one-fifth the entire length of the vessel each end, between keelson and hold beam clamps, and also under the hold beam clamps. Between main and upper deck beams, 5 in. chocks are to be fitted, leaving air spaces. In the outside planking, the first garboard is to be 18 x 10 in., with 5 ft. scarphs; second garboard 16 x 9 in. and third garboard 14 x 8 in.; bottom planking 12 x 6 in.; bilge planking 10 x 6 in.; side planking 8 x 6 in., up to guard; top side planking 8 x 5 in., the 8 x 6 and 8 x 5 planking to be fastened double and single. Guard to be 16 x 9 in., covering board 5 x 18 in. grooved on under side to receive projecting heads of frames. Rail in way of bulwarks 6 x 20 in., grooved on under side to receive heads of stanchions. Hold beams 14 x 14 in.; main deck beams 14 x 14 in. at 'midships, running to 10 x 14 in. at ends, 5 in. worked and 4 in. sprung, spacing 36 in., to have a camber of 9 in. 'midships; upper deck beams 12 x 12 in., 36 in. centres; main deck hatch coamings 12 x 14 in., notched into beams in way of hatches; upper deck hatch coamings 12 x 12 in. notched into deck beams. A continuous fore and aft stringer to run under deck beams below hatch coamings, 12 x 14 in., scarphed with 5 ft. scarphs; 2 side keelsons 12 x 16 in. to be fitted to ceiling directly under the continuous stringer, and to be continuous and scarphed. A continuous stringer under upper deck to be 10 x 12 in., and scarphed similarly. Quarter pillars 12 x 12 in. between the side keelson and the continuous stringer under main deck beams; upper deck pillars 4 x 8 in. from top of continuous coaming on main deck to under side of stringer on upper deck. Continuous coaming on main deck to be built of 3 course 12 x 12 in. in way of hatches and two courses between; cross coamings on main deck in way of hatches to be laid on top deck; upper deck hatch coamings to be similarly built to main deck coamings; hatchways to be lined with 1/8 in. steel plate with 2 in. half round chafing iron at bottom running in fore and aft direction. As chafing iron will not register with one running athwartships, it is to be carried beyond the hatch ends at both ends for 2 ft. Hatch covers to be of wood 3 in. thick, of two pieces 3½ x 13 in. through bolted to one another with three 5/8 in. bars clinched in the usual manner.

There are to be 4 ordinary watertight bulkheads, one forward of the bunker, one at the after end of the engine room, one at the after peak and at the collision bulkhead, built of 2 thicknessses of 3 in. lumber, laid diagonally and fitted between the two diagonal courses with canvas, painted with marine glue. The boundary timbers will be 7 x 7 in. fitted on both sides of the bulkhead and the vertical stiffeners 3 x 5 in. spaced 18 in. centres. The bulkheads are to be made watertight to construction details furnished. There will be a bulkhead at the after end of bunker, similarly built, but with no canvas between courses, and it will be fitted with necessary openings for access to coal, the vertical stiffeners being spaced 30 in. instead of 18 in. There will also be 2 special bulkheads, fitted as a deep tank and built of 2 thicknesses of 4 in. lumber laid diagonally with canvas between, 7 x 7 in. boundaries on both sides and 6 x 4 in. stiffeners spaced 18 in. centres. In the deep tank a fore and aft centre line bulkhead will be built of 8 in. lumber with lightening holes. The main deck planking will be 5 x 5 in., and the upper deck 4 x 4 in., finishing about half an inch less in each case. The planking is to be in lengths 20 and 40 ft., averaging 30 ft., the edges to be bevelled for caulking, the bevels leaving the vertical grain upward. Two sets of pointers for-

ward and 2 sets aft to be suitably located to give strength, and to be 12 x 18 in. to mould suitably, and to be connected at heels with a natural crook. Knees will be fitted at head of hold pillars, and to be 8 in., one arm 2 ft. long and another 3 ft.; similar sized knees to be fitted as lodging knees in way of all openings, and other similar ones, both hanging and lodging, fitted at bulkhead in way of continuous stringer under deck; hanging knees to be fitted under the forecastle deck beams at ends, to be 10 in., with one arm 3 ft. and other 4 ft. Knightheads in way of stem and stern for approximately 6½ ft., and 2 horn timbers to extend from deadwood to after end of vessel, each 12 x 12 in., fastened to skid log, rudder post and frames.

Regarding the construction in way of engine and boiler room, the spaces between the floors in engine room and part of boiler room will be filled in solid from long floor to long floor timber, the lower edge of the filling pieces to be bevelled, and the fore and aft timber fitted to the height of the top of the steel rider keelson, extending from after bunker bulkhead to bulkhead at after end of engine room, these to form engine and thrust seatings. A deck to be laid over shaft tunnel to form bottom of after hold, 10 x 4 in. with 2 in. sheathing in way of hatch; deck beam to be 6 x 6 in., spaced 3 ft. and supported on 6 x 6 in. pillars, 1 pillar on every beam and 4 rows of pillars to be fitted if possible. The bulkhead at forward end of poop to be of solid 5 in. lumber, as also the bulkhead at after end of forecastle. Casing round engine and boilers to be of solid 4 in. lumber.

All outside planks are to be caulked with hand picked oakum, in the proportion of one strand of oakum to each inch thickness of plank. Outside plank seams up to 18 ft. water line to be cemented, balance to be puttied. Deck planks to be similarly caulked and ceilings to be caulked so as to be watertight. Two pole masts or derrick posts to carry sets of derricks capable of handling 5 tons; mast partners to be fitted in way of masts and filled in solid 5 ft. on each side, end pieces being let into the adjacent beams. Ventilators, 15 in., to be fitted in cargo holds and in way of deep tank, with swan neck ventilators where directed. Beds for windlass, winches, steering engine and auxiliary machinery to be laid as directed. A steel rudder to be fitted, with steel stock, with steel gudgeons and pintles, gudgeons lined with lignum vitae.

The accommodation for the crew in the forecastle to be plainly but substantially built, with open iron berths and with lockers. All plumbing to be substantial and executed with great care. Accommodation for officers, with dining room and pantry, all to be in good cargo boat style, with spring berths, hardwood front, upholstered settee, desk, drawers and folding lavatory, and floors laid with linoleum and carpet runner. Dining room panelled in hardwood, with tables, swivel chairs, sideboards, etc., usual for vessels of this class. In the way of engine room casing are to be the galley, crew's mess room, store room, ice house, officers', engineers' and petty officers' bath rooms and lavatories, wireless telegraph room, and accommodation for petty officers, cook and boy.

Two class A life boats to be fitted to the British Board of Trade requirements, one on each side of the vessel, each capable of taking the whole crew, and a service boat to the Board of Trade's class X requirements, to be supplied. The boats are to be supported in davits to the Classification Society requirements and fitted with all necessary gear and rigging for handling same. The boats will be furnished by the Imperial Munitions Board. Vessel to be fitted with stockless, self tripping type of anchor, with cables of the stud link type. The steering engine of approved make to be arranged directly over the rudder, with all necessary pulleys, chains, quadrants, etc., and fitted with suitable hand gear, and with control rods laid from the steering engine to the steering wheel on bridge. A house is to be built over the steering engine aft, of suitable construction to carry gun seating on deck. Wireless telegraph aerials and leads to wireless telegraph room to be fitted to approval. Vessel to be equipped with an efficient system of heating, and an electric lighting system of 7½ k.w. capacity driven by a turbine to be installed. Complete pumping system for sanitary and fresh water purposes, and a complete fire service.

It is to be understood that while reference is made to winches, windlasses, hawser pipes, steam heating, pumping, fire service, etc., the contractors will only do the necessary work to allow of their being installed, and the specification does not include any equipment, ship or engine supplies, deck or engine fittings, all fittings being supplied by the Imperial Munitions Board.

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**Respecting Deserting Seamen.**—An order in council has been passed providing that where a seaman has been imprisoned for desertion, and signifies his willingness to sign on as one of a crew of any vessel trading to European ports, the court by which he was committed, may, notwithstanding that the term of his imprisonment has not been completed, order the sentence suspended and the prisoner released, and direct him to be taken before the shipping master to sign articles and thence to be conveyed on board any such vessel, or the court may order him to be delivered to the master or mate of such vessel, or to any officer of the navy, for the same purpose. Before directing the release of a seaman the court may order that any fine or penalty imposed may be remitted or suspended. If the seaman after his release fails to observe the court's order, he may be arrested forthwith and imprisoned for the uncompleted term.

**Transportation of Explosives.** — The Defence of Canada Order 1917 has been amended to provide that the management or master of any vessel, notwithstanding any statute or order to the contrary, may be authorized, upon the requisition of a competent naval authority, to carry ammunition and explosives, from, to, or between, any places within or without Canada, provided they are packed and stored in accordance with Admiralty regulations, and any provisions of any statutes or orders conflicting with this are suspended.

**An Agile Torpedo.**—In writing of what is stated to be a practically unsinkable steamship, which has been designed in England recently, an exchange says that if a torpedo hit her in three places she would still float. It is not stated what would happen if the torpedo continued business and hit her in a fourth place.

**The Beaver Trading & Transportation** Co., Ltd., has been incorporated under the Dominion Companies Act, with $3,000,000 capital and office at Toronto, to carry on a general trading and transportation business. The incorporators named are connected with a legal firm in Montreal.

## A Lake Shipping Amalgamation.

The George Hall Coal and Transportation Co., of Ogdensburg, N.Y., Frontier Trading Co., Ogdensburg, and Canada Shipping Co., Montreal, have amalgamated their interests in a number of vessels operated on the St. Lawrence River and Lake Ontario, and these are now being operated under the name of the first mentioned company. The new fleet comprises the steamships Adrian Iselin, A. D. MacTier, F. P. Jones, Fred Mercur, George L. Eaton, Hecla, John Rugee, Lucius W. Robinson, Phenix, and the barges Kendall and Walter A. Sherman, all of U.S. register, and formerly owned by the George Hall Coal Co., the tug Seymour, formerly owned by the Frontier Trading Co., Ogdensburg, N.Y., and the steamships Cabotia, Compton, John B. Ketchum 2nd, James W. Follette, Robert R. Rhodes, Rock Ferry and Senator Derbyshire; the tugs Florence, J. H. Hackett and Margaret Hackett, and the barges, A.D., F. D. Ewen, Katie H., and Zapotec of Canadian register, and formerly owned by Canada Shipping Co., Montreal. It is stated that the vessels will be operated in the coal and wood pulp trades between ports on Lake Ontario and the St. Lawrence River. It is reported that four of the steamships named above as being owned by the George Hall Coal Co., have been requisitioned by the U. S. Government.

The Canada Shipping Co., which is associated with the Canadian Import Co., Montreal, went into the vessel business largely during 1917, and acquired a number of vessels formerly owned by F. E. Hall and Co., Montreal; and the Quebec Transportation and Forwarding Co. It still retains a number of vessels, most of which are owned by individual subsidiary companies.

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**Information Respecting Vessel Movements.**—An order in council has been passed providing that no person shall, without permission of a competent naval or military authority, send, or attempt to send by cable, radiotelegraphy or other means of electric communication, to any vessel, or place overseas, any information respecting the movements of merchant ships, not being ships engaged exclusively on lake or river service, or any message from which such information can be deduced.

**Compagnie Furness (France) Ltd.,** has been organized with a capital of 2,500,000 francs, and office in Paris, France, to carry on a general transportation business, and general commercial, industrial and financial enterprises. Lord Furness, head of Furness, Withy & Co., who is also associated with Canada Steamship Lines, Ltd., is chiefly concerned.

**Woods Limited** has been incorporated under the Manitoba Companies Act with a capital of $25,000 and office at Teulon, Man., to carry on a general business, in connection with which it is authorized to own and operate steam and other vessels, to build wharves, piers and warehouses, and to act as wharfingers, forwarders and public carriers.

**Grain Shipments from Head of Lakes.** Port Arthur, Ont., press dispatch Dec. 22. —In spite of various conditions which were expected to militate against the movement of grain from Port Arthur and Fort William, the season of 1917 proved to be the second best in total of shipments in the history of these ports. A total of 207,721,403 bushels was shipped.

# Shipbuilding Activities Throughout Canada.

## STEEL AND WOODEN STEAMSHIPS BUILDING FOR BRITISH GOVERNMENT.

**British Columbia Wooden Shipbuilding.**—In response to enquiries as to the probable dates for launching any of the wooden steamships being built in British Columbia under the Imperial Munitions Board's orders, R. P. Butchart, Director of Wooden Shipbuilding for British Columbia, is reported to have stated that machinery was being waited for from the east, and until it arrived it would not be possible to undertake any launchings. He stated that several hulls were ready for the machinery, but it would be inadvisable to float them, as there was still a good deal of work to be done on them which could better be done on the stocks. It is the intention to fix in the main shafts and propellers before launching the hulls, the other machinery being installed at the Ogden Point assembling plant, Victoria, to which the hulls will be towed. It was anticipated that several hulls would be launched before the end of December.

**Cameron-Genoa Mills Shipbuilders Ltd.**—The hull of the first of the wooden steamships under construction on the Pacific coast for the Imperial Munitions Board, was to be launched at this company's Victoria yards in December. The keel was laid July 18. The company has a contract for four of these vessels, and these are in various stages of progress, the keel of the last one having been laid at the end of November.

**J. Coughlan & Sons**, Vancouver, B.C.—The Imperial Munitions Board has ordered 4 additional steel steamships from this firm, making a total of 9 of these vessels to be built at these yards. They are to be of 8,800 tons capacity, and are included in the statement of shipbuilding for the British Government given in this issue on another page. Another similar steel steamship is under construction for Norwegian interests and it was expected to have this launched by the end of the year.

**The William Lyall Shipbuilding Co.'s** management is reported to have stated recently that the first wooden hull for the Imperial Munitions Board had been ready for launching for several days, but was held up pending the arrival of the tail shaft, propeller, rudder, etc., and the launching could not take place until these were installed. The second hull was expected to be ready by the end of December, subject to similar delay.

**New Westminster Construction and Engineering Co.**—Work is reported to be proceeding satisfactorily on this arrangement of this company's yards at New Westminster, B.C., for the construction of the hulls of four wooden steamships for the Imperial Munitions Board. The first vessel is being planked and will be ready for the beams shortly. The launching ways are under construction, and it is expected that the launch of the first hull will take place about Feb. 1. The second and third vessels are also proceeding, and the keel for the fourth has been laid.

**Victoria, B.C., Assembling Shed.**—The large shed which is being built on pier 2, Ogden Point, for the assembling and installation of the engines and machinery in the wooden hulls which are being built for the Imperial Munitions Board along the British Columbia coast, is proceeding rapidly. Several of these hulls are now approaching completion, and when launched they will be towed to Ogden Point. It is expected that the shed will be ready early in the year. The area between the concrete walls of pier 2 has been filled in, and a depressed railway track running the entire length of the shed has been laid.

**Western Canada Shipyards Ltd.**—The first of the wooden hulls under order from the the Imperial Munitions Board, to be built by this company at Vancouver, was announced to be ready for launching Dec. 10, with the exception of the rudder and screw. Two other hulls are advancing, one having the inside sheathing about completed and the planking well under way.

## GENERAL SHIPBUILDING NOTES.

**E. E. Armstrong**, Hantsport, N.S., launched a completely rigged three masted schooner there recently.

**Canada West Coast Navigation Co.** It is reported that the company has sold to French interests 9 of the 12 auxiliary powered vessels, which it had built at Vancouver and Victoria recently. H. W. Brown, General Manager, was stated to have been in Montreal recently in connection with the probable ordering of more vessels of this type, but on his return is reported to have stated that reports as to the sale to French interests were incorrect except as regards the Mabel Brown and Esquimalt.

**Canadian Vickers, Ltd.**, Montreal, during 1917, built and delivered 12 submarines for the allied governments; built 8 steel trawlers, complete with machinery and boilers; built 9 steel trawler hulls and installed the machinery and boilers supplied to them; built 29 wooden drifter hulls, and installed machinery and boilers in 16 drifters, all the trawlers and drifters being for the Naval Service Department; built one 7,000 ton cargo boat, Porsanger, which is described and illustrated on another page of this issue; and docked and repaired 30 vessels during the navigation season, with a gross tonnage of 109,450 tons. The company has completed all its shell contracts and has reconstructed the shop for the manufacture of deck machinery, of which it is turning out a considerable amount for cargo steamships.

**The Clare Shipbuilding Co.**, Meteghan, N.S., has commenced work on a second schooner of the same type and size as the Racewell, the launching of which was mentioned in our last issue. She will be 135 ft. long and 350 tons register.

**G. A. Cox**, Shelburne, N.S., launched a 320 ton schooner there, Dec. 1. She has been named Bachelor, and will be used in the builder's service for the foreign trade.

**Ernst Shipbuilding Co.**, Mahone Bay, N.S.—A two masted schooned, named Agnes D. McGlashen was launched in November. Her dimensions are, length 130 ft., beam 26,8 ft., depth of hold 10.8 ft.

**The R. H. Howes Construction Co.**, New York, is reported to have taken a seven year lease of the shipyard at Meteghan, N.S., formerly controlled by the late James Cosman. It is stated that schooners of about 350 tons register are to be built there, and that the keel for the first has been laid. It is also stated that the company has purchased the Blackadar mills, and incorporated them with the Meteghan plant, after equipping them with up to date machinery for shipbuilding.

**International Shipbuilding Corporation, Ltd.**—The remodelling of the lumber mill at Nordin, N.B., formerly owned by the Rosebank Lumber Co., is proceeding rapidly, notwithstanding a fire which destroyed some portion of the property recently. A shed is being erected for the building of ships under cover, so that the men will be protected from the weather. The building will be lighted by electricity. The keel of the first vessel, a four masted schooner rigged ship of about 550 tons, is expected to be laid shortly.

**The Kingston Shipbuilding Co.**, Kingston, Ont., launched on Dec. 22 the first of several steel trawlers which it is building for the Naval Service Department.

**The Marine Construction Co., Canada, Ltd.**, is reported to have taken over the shipbuilding business of D. H. Saker & Co., St. John, N.B. An auxiliary powered schooner is under way, and will be named Dorphontein, when launched. The plant is located on the Warner mill site. The vessel's dimensions are, length 185 ft., beam 40 ft., depth moulded 18 ft. There will be four masts and the auxiliary power will be supplied by a semi Diesel engine of 8,000 h.p. The construction is in charge of J. Densmore, formerly of Boston, Mass., as superintendent, and the management is in the hands of D. H. Saker.

**W. C. McKay & Son**, Shelburne, N.S., launched a 140 ton schooner there, Dec. 1. Her dimensions are: length 130 ft., breadth 26½ ft., depth 11 ft. Capt. A. Ritchey, Riverport, N.S., is managing owner.

**M. Mahaffy**, Toronto, is reported to have leased the shipyard at Mahone Bay, N.S., formerly operated by McLean Bros. The yard is being enlarged for the simultaneous building of three schooners. The frame for the first vessel is erected. and keel has been laid for the second one, larger than the first.

**Montreal Shipbuilders, Ltd.**—The incorporation of this company under the Dominion Companies Act, with an authorized capital of $300,000, was mentioned in Canadian Railway and Marine World for December. The directors are: President, W. Rutherford, of Wm. Rutherford & Sons Co., Ltd., manufacturers of sashes, doors, etc.; Vice President, E. Peck, Vice President, Peck Rolling Mills; Managing Director, C. M. Morssen, President and Manager, Atlas Construction Co.; other directors, Thos. Hall, of Hall Engineering Works, J. A. Caron, of Caron Bros. The Secretary is Arthur Jarvis. The company's principal object is the building of concrete ships, and it is said that it has taken over the business of the Atlas Concrete Shipbuilding Co., which is building a concrete steamship in Montreal.

**Nova Scotia Shipbuilding Co.**, Bristol, N.S.—The three-masted schooner Ruby W., which was launched at these yards recently, is to be equipped with auxiliary driven by oil fuel. Her dimensions are, length, keel, 118 ft., beam 33 ft., depth of hold 12 ft. Another three masted schooner is in frame, for an Australian owner, and orders are on hand for another three-masted schooner and a two masted schooner.

**Polson Iron Works, Toronto.**—Two more steam trawlers for the Naval Service Department were launched at this company's yards, Dec. 25. These vessels are numbered T.R. 16 and 17, three other similar vessels, numbered 13, 14, and 15, having been launched previously by the company. The vessels are each 130 ft. long.

**Polson Iron Works, Toronto.**—A fire occurred at these works, Dec. 6, completely destroying the building containing the pattern and carpenter shop and pattern storage, with all contents. This building was located at the south end of the plant, and considerable damage was done to one of the cargo steamships on the stocks close by, as well as to the shipyard plate shop building. A new building, to house the pattern and carpenter shop, is being erected immediately, and it will be located on the western side of the property, thus removing risk of damage to vessels under construction should a similar fire occur. A new pattern storage building will also be built as soon as possible. None of the patterns concerned with vessels on order, or under construction, were in the store at the time of the fire. A delay of possibly six weeks will occur in the launching of the cargo steamship which was damaged, but it is expected that she will be ready for launching early in the year.

**J. N. Rafuse & Son,** Conqueral Bank, N.S., launched a three masted schooned, named Integral, there recently. She is the second of four similar vessels being built there for J. O. Williams & Co. She is of 375 tons register, and is of the following dimensions, keel 122½ ft., beam 32 ft., depth 12 ft.

**Rexton, N.B.**—It is reported that a shipbuilding yard is being prepared for operation for the building of wooden ships, and that orders are in hand for four vessels of about 700 tons each. It is stated that the yard is under the control of a Montreal shipbuilding company.

**The Saulnierville Shipbuilding Co.** is reported to have commenced shipbuilding operations at Saulnierville, N.S.

**Sorel Shipbuilding.**—The shipbuilding yards at Sorel turned out considerable work during 1917, including the following: Dominion Government Shipyard, 3 steel trawlers and 3 drifters; H. H. Sheppard, 5 drifters; Leclaire & Sons, 6 drifters; Sorel Shipbuilding & Coal Co., 6 drifters. These were all for the Naval Service Department. Sincennes-McNaughton Line, Ltd., built 3 large tugs.

**Southern Salvage Co.,** Halifax, N.S.—A two masted schooner was launched in the company's yards, during November, and named Win the War. Her dimensions are, length 137 ft. overall, beam 26.2 ft., depth of hold 11.6 ft.; tonnage, 187 gross.

**Wallace Shipyards, Ltd.,** North Vancouver, B.C.—Work on a steel freight steamship was being pushed rapidly during December, the double bottom being reported as having been completed. The company is reported to be arranging a second berth alongside, with the view of laying another keel early in January, so that work may be carried on simultaneously on both vessels. All the steel for both vessels has been received, and the engines for the first vessel have been completed, the boilers being practically complete. The company is building three sets of engines for other steamships under order at other plants for the Imperial Munitions Board.

**The Yarmouth Shipbuilding Co.,** Yarmouth, N.S., has a schooner on the stocks practically finished, and as soon as she is launched, the keel for another will be laid.

## Mainly About Marine People.

**H. B. Brownell,** Division Freight Agent, Canada Steamship Lines, Winnipeg, has resigned to engage in private business.

**W. Murdoch,** from Lloyd's staff at Seattle, Wash., has been appointed acting surveyor for Lloyd's at Vancouver, B.C., on account of the death of T. G. Mitchell. A permanent appointment will be made later.

**F. B. O'Connor,** heretofore agent at Nome, Alaska, has been appointed agent, Pacific Steamship Co., Vancouver, B.C., vice S. B. Stocking, who is reported to have been appointed chief clerk in the General Manager's office at Seattle, Wash.

**Capt. J. J. Murchison,** formerly master of the car ferry steamship Prince Edward Island, has been appointed dock master at Port Borden, P.E.I., in connection with the operation of the Canadian Government Railways' car ferry service between Cape Tormentine and Port Borden.

**James Yorston,** a well known builder of wooden ships, died at Pictou, N.S., recently, aged 70. He was a partner in J. & J. Yorston, who operated the marine railway, etc., at Pictou, and was also engaged in the fishing business. His son, L. Yorston, is now Manager, Pictou Marine Railway.

**F. J. Warren,** who has been appointed Division Freight and Passenger Agent, Canada Steamship Lines, Ltd., Winnipeg, was for several years in C.P.R. service as a freight claims investigator, and was subsequently Soliciting Freight Agent, Inland Lines, Ltd., and Canada Steamship Lines, Ltd., at Montreal, and since Apr., 1915, City Freight Agent for the latter company at Winnipeg.

**James Carruthers,** President, Canada Steamship Lines, Ltd., has offered to the British Government four aeroplanes for use on the western front. The British Air Board in accepting the gift expressed its warm appreciation of so generous a contribution. Mr. Carruthers had previously given three aeroplans to the Canadian authorities.

**Capt. J. A. Murray,** harbor master, Quebec, Que., was one of the victims of the disastrous explosion at Halifax, N.S., Dec. 6, being there on special duty in connection with shipping affairs. Prior to his appointment as harbor master at Quebec, he was in C.P.R. service for many years, and for some time prior to her loss, was master of the company's s.s. Empress of Ireland. He was Lieutenant-Commander of the Royal Canadian Naval Volunteer Reserves, and also a Lieutenant, R.N.R.

**T. G. Mitchell,** one of Lloyd's surveyors at Vancouver, B.C., died there, suddenly, Dec. 8. He had lived in British Columbia for several years, going there about 35 years ago as chief engineer of the s.s. Amelia, owned by the People's Navigation Co., transferring to a similar position on the s.s. Premier, now s.s. Charmer. He was for some time in C.P.R. service on the B. C. coast vessels, and in 1902 superintended the construction of the s.s. Princess Victoria in Great Britain for the company. On his return to Canada he was appointed Lloyd's surveyor, which position he held until his death. Since the outbreak of war, he has also acted as superintendent of construction under Lloyd's, for steel vessels under construction in the province for the British Government.

## Atlantic and Pacific Ocean Marine.

The Norwegian s.s. Kristianiafjord, which was wrecked off Cape Race a few months ago, is reported to have been completely broken up during a severe storm on Nov. 29.

The Nova Scotia schooner Maple Leaf, 251 tons, is reported to have been lost at sea. The captain and crew were rescued by a Russian schooner and transferred to a British vessel.

The Royal Mail Steam Packet Co. has denied the report that it intended abandoning the call at St. John N.B., with its vessels on the West Indies route. The s.s. Caraquet, which stranded at Trinidad recently, is being overhauled, and as soon as she is ready for service she will again be placed on the St. John route.

The France and Canada Steamship Co. during 1917 purchased fourteen U.S. schooners for general service. These are of various types, four, five and six masted, and have a total deadweight capacity of about 50,000 tons. The name and tonnage of each are as follows: Camilla May Page, 1,035 tons; Carl F. Cressy, 1,347; Cora F. Cressy, 3,748; Dorothy Palmer, 4,079; Edward J. Lawrence, 5,025; Evelyn W. Hinkly, 1,047; Governor Brooks, 3,942; Jane Palmer, 4,707; Malcolm Baxter, Jr., 2,598; Martha P. Small, 3,267; Oakley C. Curtiss, 3,561; Ruth E. Merrill, 4,504; Singleton Palmer, 4,288; Wyoming, 5,950.

## Maritime Provinces and Newfoundland.

The ferry superintendent at St. John, N.B., stated to the city council, Dec. 4, that it cost $27,000 more than the receipts, to operate the St. John ferry, during 1917.

The U.S. Government is reported to have purchased three of the Eastern Steamship Corporation's steamships for $4,725,000, and in addition, to have chartered two others.

The operation of lights and fog alarms in the Bay of Fundy, on the south coast of New Brunswick, each of Quaco Head, will be discontinued from about Jan. 10 to about April 1, in each year, without any special notice being given.

The Russian s.s. Edininie, formerly the steam yacht Cyprus, which was damaged by an explosion recently, was sold by tender during December, as she lies at Sydney, N.S. Her dimensions are, length 262 ft., beam 28 ft., depth 27 ft., draft 12.14 ft., 1,600 gross tons. She is equipped with engine of 3000 h.p. driving twin screws.

Canada Steamship Lines, Ltd., has entered action in the Admiralty Court, Hali tered action in the Admiralty Court, Halifax, N.S., claiming $200,000 for salvage and damages against the s.s. Northern King. The claim covers damage incurred in collision and salvage services rendered to the vessel in Halifax harbor, Dec. 7, following the disastrous explosion of a munitions vessel there. The Northern King is one of the steamships owned by the Great Lakes Transit Co., which was cut in two recently for passage through the Welland Canal, for ocean service.

The s.s. Tuscarora was reported, Dec. 26, to have been wrecked and lost, near

Cape Breton Island, N.S. She was built at Cleveland, Ohio, in 1890, was owned by the Lehigh Valley Transportation Co., and was one of a number of U. S. lake vessels to be cut in two for passage through the Welland Canal for ocean service. Her dimensions were, length 291 ft., breadth 40 ft., depth 22 ft.; tonnage, 2,386 gross, 1,679 register, and she was equipped with triple expansion engines with cylinders 24, 38 and 61 ins. diar. by 42 ins. stroke, 1,500 i.h.p. at 85 r.p.m.

## Province of Quebec Marine.

While proceeding from Montreal to Quebec, Dec. 3, a small drifter vessel was caught in the ice and jammed close to shore under the Quebec bridge on the Quebec side. It was feared that the vessel would be crushed. The five or six of the crew were removed from the vessel by a cage lowered from the bridge, to which they were hoisted safely. The vessel was cleared from the ice later in the day.

## Ontario and the Great Lakes.

The Montreal, Ottawa and Georgian Bay Canal Co. will apply at the next parliamentary session for an extension of time for commencing and completing the construction of canals as authorized by its act of incorporation, and for other purposes.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for November, as follows: Superior, 602.46; Michigan and Huron, 581.16; St. Clair, 575.76; Erie, 572.97; Ontario 246.6. Compared with the average November levels for the past ten years, Superior 0.05 ft. below; Michigan and Huron 1.02 ft. above; Erie 1.26 ft. above, and Ontario 1.17 ft. above.

The United States Engineer Office has issued a notice to vessel masters, requiring that when vessels anchor in channels connecting the Great Lakes, they shall select for such anchorage deep water as near the bank as possible, leaving the largest practicable clear channel for the passage of other vessels. In no case shall they lie so as to endanger through traffic. This has special reference to anchorage near the head of St. Clair River, near Port Huron, Mich.

## British Columbia and Pacific Coast.

The Alaska Steamship Co.'s s.s. Mariposa, which was wrecked on Strait Island, about 50 miles west of Wrangell, Alaska, late in November, has been broken up during the severe weather experienced along the coast. Attempts at salving the vessel, which had a valuable cargo of gold and copper, have been abandoned.

The Grand Trunk Pacific Coast Steamship Co. will, according to press reports, keep its vessels on the northern route in service throughout the winter, on account of heavy traffic to Prince Rupert and Alaska ports. The s.s. Prince George was to be docked at Prince Rupert for a general overhaul at the end of December, and she will replace the s.s. Prince Rupert about the end of January, which in turn will be overhauled, also at Prince Rupert.

Canada West Coast Navigation Co.'s auxiliary powered schooner Margaret Haney, which sailed from Vancouver, May 1, 1917, for Bombay, with lumber, completed the voyage in 85 days, on which arrangements were made with the owning company that she be retained for service in Indian waters. Recent advices state that on her maiden voyage, when approaching Bombay, she ran on a mud shoal, and after being released ran over a submerged rock and tore away part of her keel and rudder. Repairs were made at Bombay.

The car ferry for the Canadian Northern Ry.'s service between the Fraser River and Patricia Bay, Vancouver Island, which is under construction by the Davie Shipbuilding and Repair Co., Levis, Que., is expected to be completed and ready for operation in the spring. She has been designed with a capacity of 20 cars. The following are the chief dimensions: Length over all 308 ft., breadth 52 ft., depth 20½ ft.; tonnage approximate gross 5,000; net 3,000. Capacity no. 1 hold, 40,000 cub. ft., no. 2 hold 30,000 cub. ft., area of main deck 13,000 sq. ft. She will be equipped with four cylinder, triple expansion engines 2,200 i.h.p., supplied with steam by four Scotch boilers each 11½ ft. diar., at 175 lbs. working pressure.

The C.P.R. British Columbia Coast Service schedule is reported as being arranged for the winter. It is stated that the s.s. Princess Royal, which has been thoroughly overhauled, will be placed on the route from Vancouver to Prince Rupert, calling at way ports, including Rivers Inlet and Ocean Falls, replacing the steamships Princess Beatrice and Princess May, which have been dividing service on that route. Both of the latter vessels will, it is said, be laid up for two months for overhaul, after almost a year in continuous service. The s.s. Princess Victoria has been withdrawn from the triangular route, for her annual overhaul, and the service on that route will be continued by the steamships Princess Adelaide and Princess Charlotte. The night service between Victoria and Vancouver will, it is reported, be undertaken by the steamships Princess Beatrice and Princess Mary.

**Licensing Shipments for the Allies.**—An order has been issued that, provided shippers secure an export license from the Food Controller's office at Ottawa, shipments via U.S. ports may be sent forward without license from the War Trade Board at Washington, if consigned to Great Britain, France or Italy and their possessions and protectorates. Shippers must continue to use the U.S. customs carriers' manifest, but in duplicate instead of one copy only as heretofore, so that the U.S. collector of customs may send one copy to the War Board of Trade at Washington.

**Imperial Oil Ltd.** has been incorporated under the Dominion Companies Act, with $50,000,000 and office at Toronto, to take over the business in Canada and Newfoundland, hitherto carried on by the Imperial Oil Co. Ltd. The Imperial Oil Co. has added considerably to its steamship, dock and other transportation facilities recently, five steel tank steamships having been built by the Collingwood Shipbuilding Co.

**The Ogdensburg Coal and Towing Co.,** Dominion Companies Act, with $1 500,000 Ltd., has been incorporated under the capital and office at Montreal, to carry on a general coal, timber and merchandise business, and to own and operate steam and other vessels for the transportation of passengers and freight. throughout Canada and elsewhere.

## The Halifax Steamship Collision and Explosion.

The terrible catastrophe at Halifax, N.S., on Dec. 6, has been dealt with at great length in the daily papers, but most of the matter published has been of a very fragmentary nature. The main facts are that on Dec. 6, the Cie Generale Transatlantique s.s. Mont Blanc, with explosives, inward bound for convoy, from New York, and the Norwegian s.s. Imo, outward bound with grain for Belgian relief purposes, collided in the mouth of the Narrows near Bedford Basin, Halifax harbor, causing a tremendous explosion, doing immense damage both on land and water, and causing the death of approximately 1,500 persons and injury to several thousands. The damage has been so great, that it has been practically impossible to obtain any reliable figures as to losses, either of lives or property, and so far as the loss of life is concerned, it may be taken for granted that the exact total of deaths will not be ascertained at any time. Various estimates have been made as to the cost of replacement of buildings and other property, these generally being in the neighborhood of $40,000,000.

The s.s. Mont Blanc was a single screw steamship of 3,121 tons gross, 320 ft. long, 44 ft. beam and 15¼ ft. deep, and was built at Middlesbrough, Eng., in 1899. The s.s. Imo was built at Belfast, Ireland, in 1881, and was formerly the s.s. Runic, and owned by the White Star Line, being purchased a few years ago by the Southern Pacific Whaling Co., of Christiania, Norway. Her dimensions are, length 430 ft., beam 45 ft. 2 ins., depth 30¼ ft., tonnage 5,043 gross.

The s.s. Mont Blanc, A. Lamadoc, master, sailed from New York, with a cargo of gun cotton, benzol and t.n.t., under orders to proceed to Halifax to await convoy, and was being taken into Bedford Basin, under charge of a local pilot, Frank Mackay. The s.s. Imo left New York about Nov. 28 and was ordered to Halifax for examination, etc., and was outward bound in charge of pilot Wm. Hayes, who was killed by the explosion.

Apparently owing to mistaken signals, or from other causes, which are being enquired into, the vessels collided near pier 8, the Imo piercing the Mont Blanc and setting fire to the benzol cargo on deck. When it became clear that an explosion was inevitable, the machinery was stopped and the vessel abandoned by the crew. There was, however, a certain amount of way on the vessel, and she headed for pier 8 close to which the explosion occurred. The Imo was eventually beached on the Dartmouth shore.

An official enquiry was opened at Halifax, Dec. 13, before Justice Drysdale, Judge in Admiralty, with Capt. L. A. Demers, Dominion Wreck Commissioner, and Capt. Hawes, R.N., as nautical assessors. At the time of writing, Dec. 29, the enquiry is still proceeding, so that the matter will be more fully dealt with when judgment has been pronounced.

When the s.s. Imo started out on her voyage, which has ended so disastrously, she had just left a repair yard in Philadelphia, and was on her way down the river, when she was libelled by those undertaking the repairs, and was only overtaken by the use of a fast tug boat. She was eventually released on depositing a bond for $11,000 pending settlement of the claims against her.

Particulars of the damage to the Canadian Government Railways property are given on another page of this issue.

# The White Pass and Yukon Railway's Navigation Operations.

The White Pass & Yukon Ry.'s report for the year ended June 30, 1917, which was presented at the annual meeting in London, Eng., on Dec. 17, embraced the accounts, etc., of the local companies forming the White Pass & Yukon Route for the year ended Dec. 31, 1916. Following are extracts from President F. C. Elliott's report on the River Division for 1916:—

Through navigation to Dawson was opened on the river at White Horse with the sailing of the Casca on June 5, and closed with the arrival of the Dawson and Nasutlin on Oct. 23. Through navigation to points below Dawson opened with the sailing of the Yukon from White Horse for Fairbanks on June 6, and closed with the sailing of the Alaska from Nenana Oct. 5 for White Horse, which she reached on Oct. 19.

In addition to the usual amount of work done on the boats to put them in proper condition for service, we constructed permanent ways at Atlin, for the purpose of hauling out and wintering the steamboat Scotia and the barge Atlin. Experience has shown the indavisability and danger of wintering our steamboats in the water at Dawson. Hence the ways at Dawson were put in condition to receive barges, and arrangements were made with the Northern Light, Power & Coal Co. to secure the use of its ways, which were put in condition to receive steamboats.

The operating expenses of the River Division, between White Horse and Dawson, and Carcross and Atlin, show an increase of $47,551.74. The principal items of increase are: Boat maintenance, $32,373.87; boat service, $2,563; boat supplies, $5,652.46; longshoring, $4,087.07.

The increase in maintenance account is due to extensive repairs to steamboats, Dawson, Canada, Nasutlin and Gleaner, and the repair work on the different shipyard plants. During last year there was a considerable increase in the cost of repair material, the material used in the White Horse shipyard last season costing approximately $10,000 more than it would have cost in the previous season. The increase in boat service account is due to boats remaining in commission longer, also to the necessity of importing men to take the places of strikers. We had to pay the transportation of these men from the coat to White Horse and return. Boat supplies increase is due to cost of additional lifesaving equipment placed on all boats in accordance with the Canadian Government requirements, extra number of passengers carried, and increased cost of food stuffs and other commodities. The food supplies issued from the White Horse store cost approximately $3,000 more than they would have cost in the previous season. Longshore increase is due to extra tonnage handled and also to strikes and labor disturbances at White Horse.

We were handicapped all season on account of shortage of good deck hands and firemen between White Horse and Dawson, as many of our regular men had gone to the front. We also experienced considerable trouble and delay through strikes of longshoremen and crews, but only once were we nearly at a standstill, namely, when the Dawson was without a crew at the time she was due to sail from White Horse. However, this difficulty was overcome by a volunteer crew, consisting of our Superintendent Engineer and our Fuel Agent, who worked as firemen, and a number of citizens of White Horse, who acted as deck hands. While these troubles did not stop the movement of freight, they contributed to the increased cost of handling, especially the item of longshoring.

The tourist traffic during 1916 assumed proportions making it worthy of special note. The total revenue amounted to approximately $102,000, which is about double that of 1915, and the latter up to that time was the best tourist year we had had. To meet this increased tourist business we purchased two second hand cars to be converted into parlor cars, thus giving us four parlor cars, and various changes were made in the accommodation on the steamboats Gleaner, White Horse and Casca. At Lake Atlin we were confronted with the utterly inadequate facilities for the accommodation of tourists. Consequently, we proceeded to construct a hotel. The plans were designed, materials purchased and shipped north, but owing to the late opening of navigation and low water, the ground was not broken for the hotel until June 10. However, it was completed ready for guests on July 15. The hotel and its management have been commended by everyone, and some have stayed longer than planned, and have declared their intention of returning for a whol summer's sojourn.

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**The car ferry steamship Leonard,** which has been operated between the Quebec and Levis shores of the St. Lawrence River, since Sept. 1914, awaiting the completion of the Quebec Bridge, has been removed from that route, as it is no longer required there. The disposition of the vessel is under consideration by the Railways Department, and some reports state that it is probable she will be placed in operation on the Strait of Canso. She was built at Birkenhead, Eng., in 1914, her dimensions being, length 326 ft., beam 55 ft., mean draft 15 ft. Trains are carried on a tidal deck above the main deck on three tracks each 272 ft. long. The tidal deck rests on gunmetal nuts, working up and down on 10 vertical lifting screws on each side, supported on columns, and the lifting gear is arranged to left the tidal deck at the rate of 1 ft. a minute when fully loaded, to a height of 18 ft., thus allowing trains to run on at any stage of the tide. There was considerable delay in the building of the vessel, and it was feared that the outbreak of war would prevent her from crossing the ocean, but though she did not leave England until after, she arrived on this side safely, Aug. 18, 1914, crossing under her own steam without incident.

**Tide tables and information on currents** for the eastern coasts of Canada including the river and gulf of St. Lawrence, the Atlantic Coast, the Bay of Fundy, and Northumberland and Cabot Straits, and for the Pacific Coast of Canada, including Fuca and Georgia Straits and the northern coasts, with data for slack water in the navigable passes and narrows, have been issued in two separate books by the Naval Service Departments tidal and current survey and will be mailed free on request to the department.

## Wreck Commissioner's Investigations and Judgments.

### Striking of s.s. Scandinavian.

An investigation was concluded at Montreal, Dec. 1, into the striking of a submerged obstacle by Canadian Pacific Ocean Services' s.s. Scandinavian, in the St. Lawrence River, Nov. 17. The court consisted of Capt. L. A. Demers, Dominion Wreck Commissioner, and Capts. F. Nash and C. Lapierre, nautical assessors. After hearing the evidence, which the court considered as of the greatest importance as regards the reputation of Canada's fairway from Quebec to Montreal the pilot, master and officers of the vessel were exonerated from all blame for the casualty. The evidence showed that there was a depth of 30 or 31 ft. of water in the channel, and that the vessel was drawing 24 ft. 8 ins. aft. The anchors mooring the buoys are of the stockless type, 3 to 4 ft. high from the bottom. The Superintending Engineer of the Ship Channel stated that he gave instructions to sweep the place or part of the river between buoys 90Q and 92Q, where the vessel is stated to have struck. The sweeper detector was laid up, but a scow with roller appliance was sent on, under the supervision of two engineers, and in tow of the tug Frontenac. When they arrived at the spot it was found that owing to the fracture of a part of the machinery no work could be performed. Another scow was requisitioned and the first dragging was made just one week after the casualty, and continued for two days until the scow sprang a leak. Some doubt was created as to the effectiveness of the endeavor to sweep the channel, and it was admitted that owing to the ice causing the scow to leak, the staff had to return without completing the work with the thoroughness the occasion demanded. The court commented on the unreliable and unsatisfactory manner in which, according to the evidence, the sweeping was done, and considered it elementary for shipping men, owners, agents and underwriters, to trust that throughout the season, up to the time the last vessel had left the St. Lawrence, immediate help would be at hand. The attempt to assure the public that the channel was clear, or not clear, was not conclusive. An evidence of real effective effort to sweep the channel from bank to bank, would have gone far toward helping the court to arrive at a solution of the case and to offset the evil consequences of a report to Lloyd's, and broadcast, to the effect that a boulder was struck in the ship channel late in the season, practically at the close, with a dozen or more vessels still to pass. In conclusion, the court stated that the evidence was there, and in the face of it, it could not arrive at any other decision than to accept the preponderance of the testimony of the Scandinavian officers, and exonerate them from all blame, and to add that the nature of the obstacle which caused the damage to the hull had not been reevaled nor ascertained.

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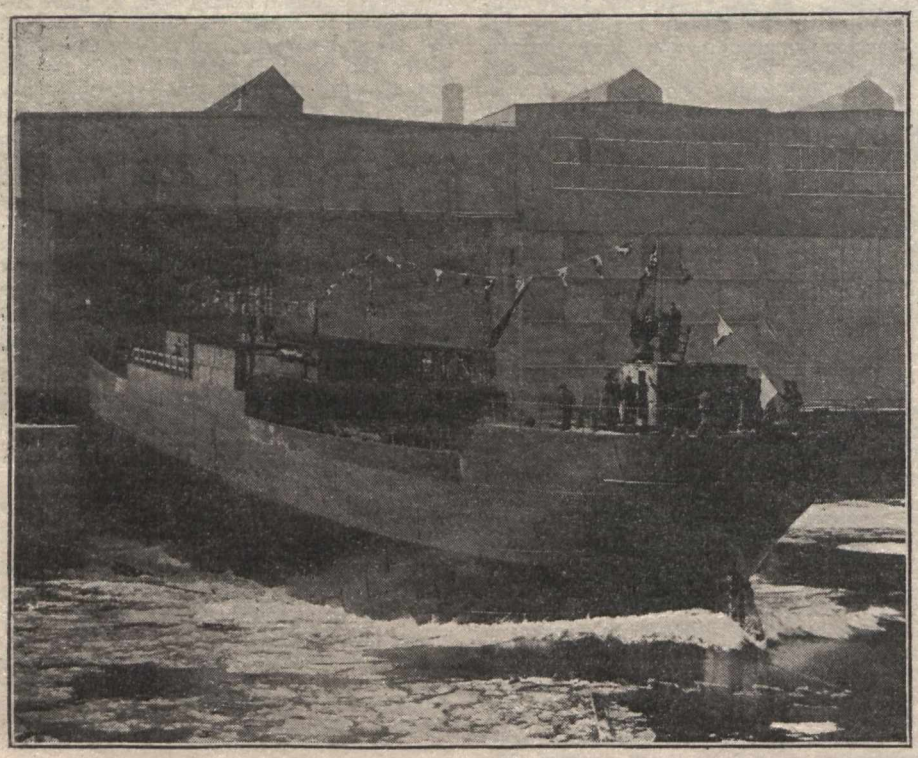
**Canadian Marine and Commercial Co.,** Ltd., has been incorporated under the Dominion Companies Act, with $500,000 authorized capital and office at Montreal, to carry on business as steamship agents, ship brokers and forwarders, and as agents for placing and procuring marine insurance, etc., also to design, build, own and operate steam and other vessels, wharves, docks and other transportation facilities.

## Launch of the s.s. Porsanger at Montreal.

A steel freight steamship was launched by Canadian Vickers, Ltd., at Montreal, Nov. 29, and was christened Porsanger, by Mrs. W. H. Lynch, wife of the company's Managing Director. The vessel was launched stern on, instead of the sideway launch customary in Canadian waters. She has been built under Government permit for Norwegian owners, and classed 100 A1 at Lloyd's and Det Norske Veritas. Her dimensions are, length over all 394½ ft., breadth extreme 49¼ ft., depth moulded 30 ft.; deadweight tonnage 7,000; gross tonnage, 4,670; load draft, 24 ft. The hull is fitted with double bottom fore and aft, subdivided into 14 separate water tight compartments, with total water ballast capacity of 1,630 tons. The officers' accommodation is in deck houses in the bridge, and the crew are berthed in the poop deck in separate two-berth rooms. All accommodation is large and roomy and well ventilated and lighted. The vessel is provided throughout with Chadburn's ship telegraphs, manufactured by Taylor and Arnold, Ltd., Montreal. The propelling machinery consists of triple expansion engines, 2 main boilers and large donkey boiler. There are 5 large cargo hatches, 11 steam winches, powerful steam windlass, steam and hand steering gear, 2 steel masts, the topmasts being made telescopic to suit bridges across the Manchester (Eng.) ship canal. It is stated that the work of equipping the hull will not be proceeded with during the winter, owing to the difficulty of working in the open, but it is expected that the vessel will be ready for service by May.

In launching vessels in Great Britain, there is a custom of presenting the sponsor with some article of personal jewelry, but the lady who acted in the present case, did so on the understanding that this would be a donation for the Y.M.C.A. Hut Fund (France), which was made $750.



Launching of s.s. Porsanger at Montreal, Nov. 29, 1917.

## United States Government Shipbuilding, Etc.

The following table shows the vessels under contract and pending contract, and vessels which had been requisitioned by the Emergency Fleet Corporation, U. S. Shipping Board, up to Nov. 30.

| Type of vessels. | No of vessels | Total deadweight capacity |
|---|---|---|
| Wood | 375 | 1,330,900 |
| Composite | 58 | 207,000 |
| Steel | 451 | 3,186,400 |
| Total contracted for | 884 | 4,724,300 |
| Contracts pending | 99 | 610,000 |
| Total | 983 | 5,334,300 |
| Total requisitioned (all types)* | 426 | 3,029,508 |
| Grand total | 1,409 | 8,363,808 |

* This total includes requisitioned vessels completed and released—33 vessels; 257,575 tons, that is requisitioned vessels completed, accepted by the corporation and turned over to the U.S. Shipping Board for operation; requisitioned vessels completed and accepted, but later reconveyed to former owners prior to completion and acceptance by the corporation.

Chairman Hurley, of the U. S. Shipping Board, in testifying before the Senate investigating committee in Washington, Dec. 1, read a statement showing among other things, 1,427 ships of 8,573,108 deadweight tons under construction, and contract; 74 new shipyards established in the U. S. since Jan. 1, 1917; 149,270 workmen on merchant ships on Dec. 8, an increase of 45.2% in nine weeks.

Chas. Piez, of Chicago, has been appointed General Manager, Emergency Fleet Corporation, U. S. Shipping Board, succeeding Rear Admiral A. R. Harris, who resigned after having only occupied the position a few weeks in succession to Rear Admiral W. A. Capps. Naval Constructor, U.S.N., who resigned on account of ill health. J. O. Heyworth, M.Am.Can.Soc.C.E., general contractor, Chicago, and President of the International Transit Co., of Sault Ste. Marie, Ont., has been appointed in full charge of wooden steamship building and Chas. Day has been appointed Manager of the Production Department.

## Loss of the Dominion Government s.s. Simcoe.

The Dominion Government s.s. Simcoe, which sailed from Quebec about the beginning of November, to remove buoys from the lower St. Lawrence, was lost with the entire crew, about Dec. 6,, during a severe storm. A wireless message was received from Fame Point, Dec. 5, that the vessel was in distress and sinking, after which no further message was received. Early on Dec. 5, a message had been received that she had called at Bird Rock, Magdalen Islands, and as she had completed her buoy work in that neighborhood, was bound for Prince Edward Island.

She was built at Newcastle upon Tyne, Eng., in 1909, and was designed and built specially for lighthouse and buoy work. She was classed 100 A1 at Lloyd's for Canadian lake service, and was constructed with water ballast and double bottom fore and aft, and was capable of being navigated through solid ice 12 in. thick. The hull was designed with straight stem and elliptical stern, with seven water tight bulkheads, and two steel masts, the forward one carrying heavy derrick and gear for buoy service, capable of lifting 27 tons. She carried, when built, a steam launch, 2 surf boats and 2 dinghys.

**The s.s. Turbinia,** owned by Canada Steamship Lines, Ltd., is reported to have been sold to French interests for salt water navigation, for $300,000. She was built at Newcastle upon Tyne, Eng., in 1904 and is stated to have cost $220,000. She was the first steamer of the turbine type to be operated on the Canadian lakes, also the last. The operation of turbine driven steamships on the Great Lakes cannot be a success, as the benefits of the use of the turbine are apparent only in cases of high speed and long distances. By operating turbines at the low speeds necessary for safe navigation on the lakes, and on the comparatively short distances run, there is a large waste of fuel, and useless wear and tear. It has been proved that, up to the present at any rate, for general lake navigation, with its attendant manoeuvering in and out of harbors, and for canal traffic the reciprocating engine is the best. The Turbinia, since arriving on the lakes, has passed through several hands, and for some time, was operated in the West Indies service under charter. As a financial venture on the lakes, she was not a success.

**The Lake Carriers' Association,** acting on the approval of members holding 85% of the tonnage represented in the association, has voted for the mobilization of the Great Lakes steamships next season, for its operation under a single management, on a similar plan to that already adopted by the railways. A committee of management has been selected, consisting of H. Coulby, President, Pittsburg Steamship Co., Cleveland; J. S. Ashley, Manager, Hanna & Co., Cleveland; H. S. Wilkinson, Manager, Great Lakes Steamship Co., Syracuse; C. D. Dyer, Vice President, Shenango Steamship Co., Pittsburg, and C. L. Hutchinson, Manager, Pioneer Steamship Co., Cleveland.

The Coastwise Steamship and Barge Co. has purchased the four masted schooner Coquitlam City, which has been converted into a barge. She was the first vessel to be built by the Coquitlam Shipbuilding and Marine Railway Co., at Coquitlam in 1913.

## Steamship Building in Canada for British Government and for Norwegian Orders.

Canadian Railway and Marine World has been favored with the following official information as to orders for steamships to be built in Canada placed by the Imperial Munitions Board at Ottawa for the British Government.

Up to Dec. 3, 1917, the Board has ordered 44 steel steamships, of which 4 had been delivered. The individual carrying capacity of these vessels is from 1,800 tons to 8,800 tons d.w. each. The total carrying capacity of the 44 is 213,000 tons.

The total number of wooden steamships ordered by the board up to Dec. 3, 1917, was 46, of which 27 are being built in British Columbia, and 19 in Eastern Canada. The individual carrying capacity of these wooden steamships is 2,500 tons d. w. each. The total carrying capacity of 46 is 115,000 tons.

The total number of steamships of all classes ordered by the board is 90, and the grand total carrying capacity of all steamships ordered is 328,600 tons.

The steel steamships are being built at New Glasgow, N.S.; Montreal, Que.; Toronto, Welland, Midland, Collingwood and Port Arthur, Ont.; Vancouver and North Vancouver, B.C.

The wooden steamships are being built at Liverpool, N.S.: St. John, N.B.; Isle of Orleans, Quebec, Three Rivers and Cote St. Paul (Montreal), Que.; Toronto, and Fort William, Ont.; Coquitlam, New Westminster, Vancouver North Vancoucer and Victoria, B.C.

In addition to the above mentioned steamships ordered by the Imperial Munitions Board, 22 steel steamships, of 3,500 ton d.w. capacity each, have been ordered by outside companies for Norwegian account, with a total tonnage of 77,000 tons, which, in addition to the 328,600 tons ordered by the board, makes a grand total under contract in Canada of 405,600 tons. The money value of this total tonnage exceeds $80,000,000.

A full description and plans of the hulls of the standard wooden steamships are given on another page of this issue.

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**Water Transport for United States Mails:**—The U. S. Post Office Department has established coastwise parcel post water routes, primarily to facilitate service for the various army cantonments, which will operate to relieve the war time railway congestion and expedite service for the general public. In the present congested condition of transportation, practically as prompt service is to be obtained by water routes to certain points as by rail, and the railways may by that means be considerably relieved. Steamship routes for parcel post have been established from Boston to Norfolk, and Savannah; New York to Norfolk, Charleston, Jacksonville, Savannah, New Orleans and Galveston; Philadelphia to Savannah and Jacksonville, Baltimore to Savannah and Jacksonville.

**Improvement in sea transportation** was discussed at the London, Eng., Chamber of Commerce, Dec. 5, when Lord Dabernon emphasized the need of bigger ships of great speed after the war. He suggested the government should start the provision of big harbors. About $20,000,000 would provide for vessels of 38 ft. draft at practically all the leading harbors from Great Britain to the furthest dominions.

## Shipbuilding in the United Kingdom.

Recent statements in the British House of Commons show that the number and gross tonnage of vessels built in the United Kingdom for British firms during the years from 1913 to, and including, the first half of 1917, are as follows: 1913, 678 vessels, 1,406,415 tons; 1914, 682 vessels, 1,326,589 tons; 1915, 377 vessels, 76,530 tons; 1916, 312 vessels, 527,824 tons; 1917 (6 months), 211 vessels, 629,850 tons.

Up to Oct. 25, 1917, five of the standardized type of steamships had been put into service, and one had been lost. It was expected that 18 more of these vessels would be in service between Oct. 25 and Dec. 31. On the former date there were 1,000,000 tons of this type of vessel under construction in the United Kingdom.

Three new national shipyards are under construction on the Severn River, and it is expected that the first keels will be laid there early this year, and that the vessels so built will be more highly standardized than any attempted hitherto. A great deal of the steel work will be done in bridge yards, and a considerable part of the labor will be performed by prisoners of war and unskilled help. These yards will provide 34 shipbuilding berths and the approximate cost will be £3,887,000.

The First Lord of the Admiralty stated recently that in 1913, Great Britain launched 2,282,000 tons of shipping of which 1,920,000 tons was merchant shipping. This was the highest output in any one year, and, he continued, if the output for December was as good as that in November, the tonnage launched in 1917 would reach that of 1913.

Regarding the salvaging and repairing of torpedoed vessels, it was announced that since June, only three vessels torpedoed in home waters had been abandoned, and there was only one which it had been decided not to repair for the present. In June, 27% of the total salved tonnage was under repair, and early in December, 80% were being put into condition for further service. Since August repairs in dry docks had increased 48%, and repairs afloat 45%.

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## Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during December, 1917.

| ARTICLES. | | Can. Canal. | U.S. Canal. | Total. |
|---|---|---|---|---|
| **Eastbound** | | | | |
| Flour | Barrels | 116,800 | 763,890 | 880,690 |
| Wheat | Bushels | 4,439,102 | 13,985,084 | 18,424,186 |
| Grain | Bushels | 1,362,550 | 5,646,536 | 7,009,086 |
| Copper | Short tons | ..... | 2,585 | 2,585 |
| Iron Ore | Short tons | 45,696 | 1,141,291 | 1,186,987 |
| Pig Iron | Short tons | ..... | ..... | ..... |
| Lumber | M. ft. B. M. | ..... | 2,271 | 2,271 |
| General Merchandise | Short tons | 10,213 | 3,675 | 13,888 |
| Passengers | Number | 19 | 3 | 22 |
| **Westbound.** | | | | |
| Flour | Barrels | ..... | ..... | ..... |
| Grain | Bushels | ..... | ..... | ..... |
| Coal, hard | Short tons | ..... | 51,741 | 51,741 |
| Coal, soft | Short tons | ..... | 495,685 | 495,685 |
| Iron Ore | Short tons | ..... | ..... | ..... |
| Manufactured Iron | Short tons | 400 | ..... | 400 |
| Salt | Barrels | ..... | ..... | ..... |
| General Merchandise | Short tons | 10,163 | 9,767 | 19,930 |
| Passengers | Number | 8 | ..... | 8 |
| **Summary.** | | | | |
| Vessel passages | Number | 120 | 460 | 580 |
| Registered Tonnage | Net | 217,500 | 1,365,260 | 1,582,760 |
| Freight— | | | | |
| Eastbound | Short tons | 224,854 | 1,767,528 | 1,992,382 |
| Westbound | Short tons | 10,563 | 557,193 | 567,756 |
| Total Freight | Short tons | 235,417 | 2,324,721 | 2,560,138 |

### STATEMENT FOR 1917.

| | | | | |
|---|---|---|---|---|
| **Eastbound.** | | | | |
| Flour | Barrels | 3,344,438 | 5,105,511 | 8,449,949 |
| Wheat | Bushels | 65,148,093 | 120,751,356 | 185,899,449 |
| Grain | Bushels | 18,369,851 | 49,045,944 | 67,415,795 |
| Copper | Short tons | 8,624 | 110,188 | 118,812 |
| Iron Ore | Short tons | 11,107,205 | 50,201,456 | 61,308,661 |
| Pig Iron | Short tons | ..... | 10,624 | 10,624 |
| Lumber | M. ft. B. M. | 8,558 | 342,051 | 350,609 |
| General merchandise | Short tons | 68,635 | 196,203 | 264,838 |
| Passengers | Number | 12,541 | 6,339 | 18,880 |
| **Westbound.** | | | | |
| Flour | Barrels | 10 | 80 | 90 |
| Grain | Bushels | ..... | 8,185 | 8,185 |
| Coal, hard | Short tons | 172,750 | 2,389,449 | 2,562,199 |
| Coal, soft | Short tons | 1,088,087 | 14,648,567 | 15,736,654 |
| Iron Ore | Short tons | 18,563 | 46,866 | 65,429 |
| Manufactured Iron | Short tons | 13,145 | 78,313 | 91,458 |
| Salt | Barrels | 117,229 | 452,727 | 569,956 |
| General Merchandise | Short tons | 300,789 | 926,087 | 1,226,876 |
| Passengers | Number | 13,808 | 5,651 | 19,459 |
| **Sumnary.** | | | | |
| Vessel passages | Number | 5,349 | 17,536 | 22,885 |
| Registered Tonnage | Net | 11,893,426 | 53,413,807 | 65,307,233 |
| Freight— | | | | |
| Eastbound | Short tons | 13,841,966 | 56,204,519 | 70,046,485 |
| Westbound | Short tons | 1,610,082 | 18,157,331 | 19,767,413 |
| Total Freight | Short tons | 15,452,048 | 74,361,850 | 89,813,898 |

The Canadian canal was opened April 25 and closed Dec. 17, 1917, season 237 days.

The U.S. canal was opened April 24 and closed Dec. 17, 1917, season 238 days.

## Proposed New Ferry Service for Detroit River.

The Windsor, Ont., City Council Dec. 14 consented to the granting of a patent for a water lot at the foot of Brock St., to be used as a landing for a new ferry line between Windsor and Detroit. The application was made by C. Miller, Barrister, of Toronto, on behalf of a syndicate said to be working in connection with the G.T.R. The application was granted with the stipulation that the property be used only for an international ferry, and when it ceases to be used for that purpose it is to be conveyed to the City of Windsor. If the syndicate fails to carry out its plans within two years the water lot is to be handed over to the city. There is a protective clause that the city is to take possession if any attempt be made to transfer the rights to the Detroit and Windsor Ferry Co. It was stated that the syndicate intends to expend from $500,000 to $1,000,000 in the erection of buildings, and in providing double ended ferry boats, but there is no definite information in this connection.

## Telegraph, Telephone and Cable Matters.

C. A. Radford has been appointed chief operator, Grand Trunk Pacific Telegraph Co., Edmonton, Alta.

A Vogel has been appointed city manager, Grand Trunk Pacific Telegraph Co., Calgary, Alta., vice G. Moore, resigned.

The British Columbia Telephone Co. is laying submarine telephone cables in False Creek across the draw span of the Connaught bridge, Vancouver.

J. Stevens has been appointed acting city manager, Grand Trunk Pacific Telegraph Co., Saskatoon, Sask., vice J. E. Grace, transferred to Winnipeg.

J. E. Grace, heretofore city manager, Grand Trunk Pacific Telegraph Co., Saskatoon, Sask., has been appointed city manager, Winnipeg, vice R. M. Hicks resigned.

E. E. Hiscock, heretofore electrical inspector, Grand Trunk Pacific Telegraph Co., has been appointed Electrical Engineer, Central Division, Winnipeg, reporting to the Division Superintendent.

The Great North Western Telegraph Co. has opened offices at Alderdale, Ont., Galahad, Heisler and Lyalto, Alta., and has closed its offices at St. Ulric, Riviere Blanche, Que., and Beaumaris and Mowat, Ont.

J. O. Pilon has been appointed city manager, Grand Trunk Pacific Telegraph Co., Edmonton, Alta., vice R. M. MacMillan, whose appointment as Division Superintendent at Winnipeg, was announced in our last issue.

The Western Union Telegraph Co.'s property along the Great Northern Ry. right of way between St. Paul, Minn., and Seattle, Wash., is reported to have been taken over by the G.N.R., thus cancelling the operating contract between the companies. The property is valued at about $2,000,000.

Robert MacDonald MacMillan, whose appointment as Division Superintendent, Grand Trunk Pacific Ry. Telegraphs, Winnipeg, was announced in our last issue, was born at Cape George, N.S., Oct. 17, 1887, and entered telegraph service in Mar. 1904, since when he has been to May, 1906, messenger and clerk; May, 1906 to Apr. 1907 operator; Apr. 1907 to June 1910, city manager, Western Union Telegraph Co., Sydney, N.S.; June 1910 to Sept. 1911, assistant manager, same company, Halifax, N.S.; Sept. 1911 to Aug. 1912, operator, C.P.R. Telegraphs, Winnipeg; Aug. 1912 to Jan. 1913, night manager, Grand Trunk Pacific Ry. Telegraphs, Winnipeg; Jan. 1913 to Mar. 1914, graphs, Winnipeg; Jan. 1913 to Mar. 1914, city manager, same company, Regina, Sask.; Mar. to Nov. 1914, city manager, same company, Calgary, Alta.; Nov. 1914 to Nov. 1917, city manager, same company, Edmonton, Alta.

## Among the Express Companies.

The Canadian Ex. Co. has opened offices at Gray, Estlin and Quinton, Sask., and Skagway, Alaska.

The Dominion Ex. Co. has opened offices at Clarenceville, Henryville, Noyan Jct., and Sabrevois, Que.

H. E. Race, heretofore correspondent, Canadian Northern Ex. Co., Winnipeg, has been appointed agent at Humbolt, Sask., vice W. R. Russell, transferred.

The Board of Railway Commissioners have approved a Northern Ex. Co.'s by-law authorizing E. W. Bennett, Traffic Superintendent, St. Paul, Minn., to file tariffs for the company in Canada. The Northern Pacific Ry. Commences operating jointly with the Great Northern Ry., over the line between Sumas, Wash., and Vancouver, B.C., and the Northern and Great Northern Ex. Co's will also be operated over the same territory, in connection therewith.

The Interstate Commerce Commission held a hearing, Dec. 7, on the application of express companies to file tariffs providing for increased express rates on all classes of express matter, of 10%, between all points in the U.S. and between points in the U.S. and points in adjacent countries. Amongst the companies associated with the application are, the Dominion, Canadian and Canadian Northern Ex. Cos., the Halifax and South Western Ry. Express Department, and the Newfoundland Ex. Co.

**The Malahat Motor-Ship Co., Ltd.,** and The Ship Esquimalt Co., Ltd., which were incorporated during 1917, under the British Columbia Companies Act, with offices at Vancouver, are being wound up voluntarily, with Knox Walkem, Vancouver, as liquidator. The companies were subsidiaries of H. W. Brown & Co., Ltd., with H. W. Brown, General Manager, Canada West Coast Navigation Co., Ltd., as Managing Director. The companies owned the auxiliary powered schooners Malahat and Esquimalt, respectively, which, on completion, were placed under the management of Canada West Coast Navigation Co., Ltd. The latter vessel has since been reported as sold to French interests.

**The International Mercantile Marine** Co. has declared a cash dividend of $10 a share on the preferred stock, against an accumulated dividend of 82%. It is announced that the directors consider any plan for funding the accumulated dividends inexpedient for the present.



## 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.

**Commercial Acetylene Welding Co.,** Inc., has removed its Toronto office to 18 Toronto St.

**Lyman Tube & Supply Co., Ltd.**—R. Bruce Bennett has been appointed acting manager of the company's Toronto office, succeeding A. Lorne Flaws, who has received a commission as second lieutenant in the Royal Flying Corps.

## Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Association for National Defence, W. M. Neal, General Secretary, 263 St. James St., Montreal.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Canadian Society of Civil Engineers—F. S. Keith, 176 Mansfield St., Montreal.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Nova Scotia Society of Engineers—A. R. McCleave, Halifax, N.S.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Ship Masters' Association of Canada—Capt. E. Wells, 45 St. John Street, Halifax, N.S.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver.—C. E. Blaney, 2337 Third Ave. West, Vancouver, B.C.

Twin Cities Local Freight Agents' Association—E. J. Travers, Fort William, Ont.

Winnipeg Traffic Club—James Gehrey, Bannatyne Avenue, Winnipeg, Man.